



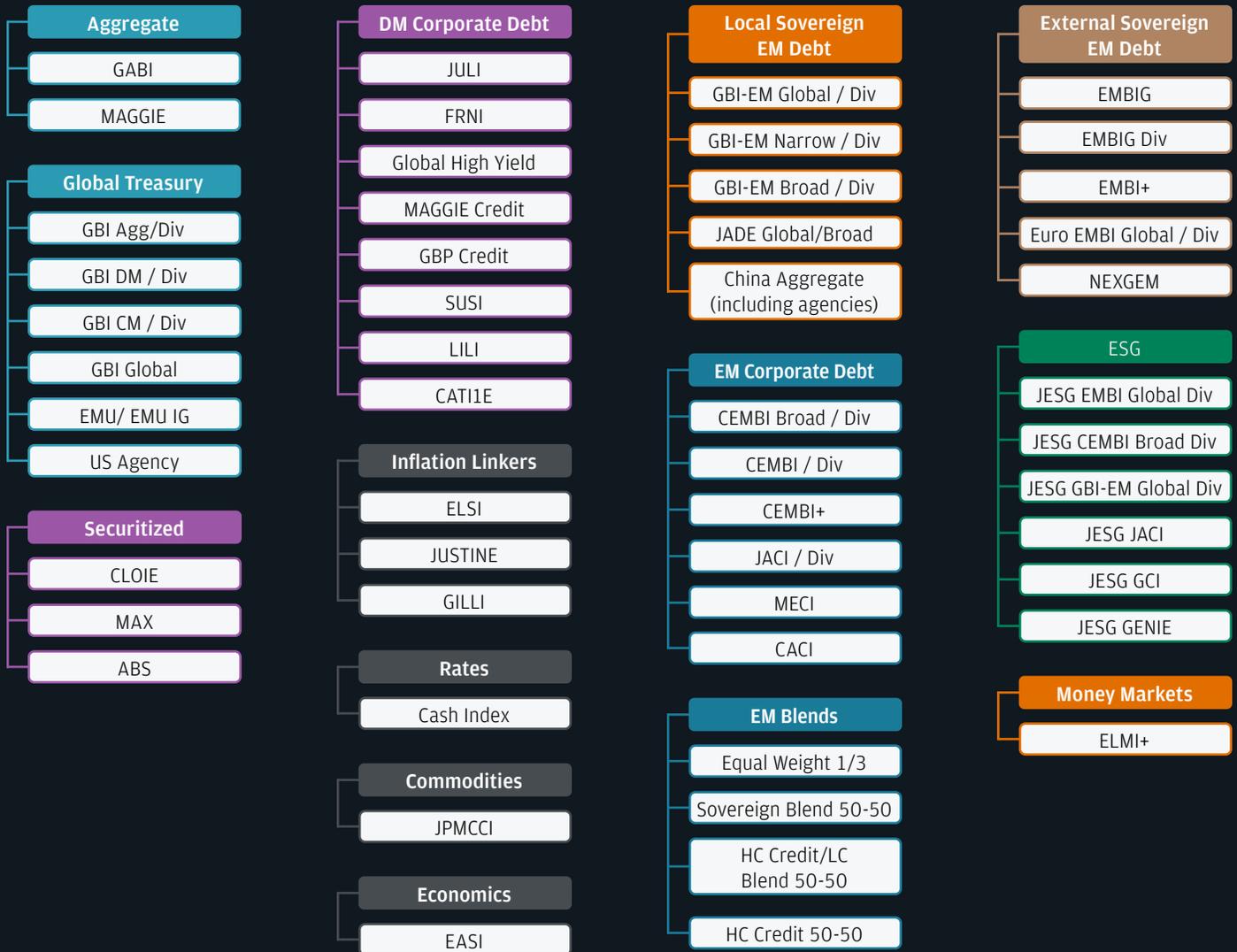
J.P. Morgan
Index Product Guide
Global Index Research

J.P.Morgan

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J.P. Morgan Index Product Suite



Index	Description
ABS	US Dollar-denominated Asset-Backed Securities
CACI	US Dollar-denominated bonds from Central America and the Caribbean region
CATIE	Additional Tier One (AT1) issuances in USD, EUR and GBP currencies
CEMBI	US Dollar-denominated Emerging Market Corporates external debt
CLOIE	US Dollar-denominated, broadly syndicated, arbitrage CLO Market
ELMI+	Local currency denominated money market instruments (FX forwards) in Emerging Market countries
ELSI	Euro-denominated Government inflation-linked bonds
EMBI	US Dollar-denominated Emerging Market Sovereigns external debt
EMU	Euro-denominated Government bonds in the Western Eurozone region
EURO EMBIG	Euro-denominated Emerging Market Sovereigns external debt
FRNI	US Dollar-denominated High Grade Floating-Rate Notes
GABI	Multi-currency, Cross-asset Global Aggregate Benchmark
GBI Global/DM	Local currency denominated Developed Market government bonds
GBI-AGG	Local currency denominated government bond aggregate index covering both Developed and Emerging Markets
GBI-EM	Local currency denominated Emerging Market government bonds
GBP Credit	Sterling-denominated bonds issued by Corporate, non-UK sovereign and Agencies
GENIE	Multi-currency Green bond aggregate index
GCI	Multi-currency Global Corporates across Investment Grade and High Yield debt as well as Developed and Emerging markets.
GILLI	Sterling-denominated Government inflation-linked bonds
JACI	US Dollar-denominated bonds from Asia ex-Japan region
JADE	Local currency denominated government bonds from Asia ex-Japan region
JEMB	Blended Emerging Market bond index
JESG	Environment, Social, and Governance (ESG) suite of fixed income indices
JULI	US Dollar-denominated High Grade Corporate bonds
JUSTINE	US Dollar-denominated Government inflation-linked bonds
MAGGIE	Euro-denominated IG Government, Credit and Jumbo pfandbriefe bonds
MAX	Fixed-rate, single family US MBS pools
MECI	US Dollar-denominated bonds from the Middle East region
NEXGEM	US Dollar-denominated external sovereigns debt from frontier markets
SUSI	Euro & Sterling denominated liquid Subordinated credit bonds

Index Research – New York

Shaku Pithavadian, MD

(1-212) 834-2944
shaku.pithavadian@jpmorgan.com

Preetham Nanda, ED

(1-212) 834-2944
preetham.k.nanda@jpmorgan.com

Kumaran Ram, ED

(1-212) 834-4685
kumaran.m.ram@jpmorgan.com

Komal Patel, VP

(1-212) 834-3178
komal.r.patel@jpmorgan.com

Jacqueline E Rachaf, VP

(1-212) 834-2349
jacqueline.rachaf@jpmorgan.com

Ye Kyung Lee, VP

(1-212) 834-2007
yekyung.lee@jpmorgan.com

Kwok W Sze-To, VP

(1-212) 834-7037
kwok.w.sze-to@jpmchase.com

Syed Shah, VP

1-212-622-1200
syed.ma.shah@jpmorgan.com

Brian Fagan, VP

1-212-622-5052
brian.fagan@jpmchase.com

Tingting Du, VP

(1-212) 834-5648
tingting.du@jpmchase.com

Chonghua Wu, VP

(281) 772-8509
chonghua.wu@jpmorgan.com

Ankit Goyal, VP

(212) 270-0560
ankit.x3.goyal@jpmchase.com

Maria Aklilu, Assoc

(1-212) 834-4077
maria.a.aklilu@jpmchase.com

Igor Chuburkov, Assoc

(1-212) 622-3761
igor.chuburkov@jpmchase.com

Cesar Sanchez, Assoc

(1-212) 622-1182
cesar.x.sanchez@jpmorgan.com

Mayur Mahesh, Assoc

(1-212) 622-1008
mayur.mahesh@jpmorgan.com

Peiyong Yu, Assoc

(1-212) 270-0662
peiyong.yu@jpmchase.com

Anthony Raimondo, Assoc

(1-212) 622-8707
anthony.m.raimondo@jpmchase.com

Ethan Ross, Analyst

1-212-622-5281
ethan.ross@jpmchase.com

Raj Rao, Analyst

1-212-622-1000
raj.rao@jpmchase.com

Timothy McCarthy, Analyst

(1-212) 622-8343
timothy.mccarthy@jpmorgan.com

Index Research – London

Sanjay Rao, ED

(44-20) 7742-9930
sanjay.rao@jpmorgan.com

Shrirang Deshmukh, ED

(44-20) 3493-0910
shrirang.x.deshmukh@jpmorgan.com

Lydia Harvey, ED

(44-20) 3493-1626
lydia.harvey@jpmorgan.com

Amit Thakur, VP

(44-20) 7134-2515
amit.s.thakur@jpmorgan.com

Carl Jenkins, VP

(44-20) 7134-5979
carl.r.jenkins@jpmchase.com

Rupert Rink, VP

(44-20) 3493-1679
rupert.rink@jpmorgan.com

Giovanni Parravicini, Assoc

(44-20) 7134-8599
giovanni.parravicini@jpmorgan.com

Khushil D Nathoo, Assoc

(44-20) 7742-6421
khushil.d.nathoo@jpmchase.com

Eleonora Di Veroli, Analyst

(44-20) 7134-3654
eleonora.diveroli@jpmorgan.com

Viquar Shaikh, ED

(91-22) 6157-3349

viqar.shaikh@jpmorgan.com

Ravindra Bhandari, VP

(91-22) 6157-3306

ravindra.x.bhandari@jpmorgan.com

Pallav Poddar, Assoc

(91-22) 6157-3997

pallav.poddar@jpmorgan.com

Neel Kasat, Assoc

(91-22) 6157-4198

neel.kasat@jpmchase.com

Parth Badiany, Assoc

(91-22) 6157- 5173

parth.m.badiany@jpmorgan.com

Jagdeep Smagh, Assoc

(91-22) 6157-3018

jagdeep.s.smagh@jpmchase.com

Soumya Nema, Assoc

(91-22) 6157-3616

spardha.nevatia@jpmorgan.com

Spardha Nevatia, Assoc

(91-22) 6157-3674

spardha.nevatia@jpmorgan.com

Nihal Chandak, Analyst

(91-22) 6157- 3032

nihal.chandak@jpmchase.com

Rishi Radia, Analyst

(91-22) 6157-3569

rishi.radia@jpmchase.com

Aalokita Ash, Analyst

(91-22) 6157-5164

aalokita.ash@jpmchase.com

Dinesh Reddy, Analyst

(91-22) 6157-4227

dinesh.reddy@jpmchase.com

Diksha Jain, Analyst

(91-22) 6157-4198

diksha.jain@jpmchase.com

Pricing & Index Sales

International

Fadie Shamoan, ED

(44-20) 7742-4346

fadie.shamoan@jpmorgan.com

Theodore Wackerman, Assoc

(1-212) 622-5616

theodore.wackerman@jpmchase.com

Marc-Antoine Chiaradia, Assoc

(44-20) 7742-2444

marc-antoine.chiaradia@jpmorgan.com

North America

Mike O'Mealey, ED

(1-617) 310-0756

michael.s.omealey@jpmorgan.com

Danielle Agrapides, ED

(1-212) 272-0879

danielle.agrapides@jpmorgan.com

Dana Bassiacos, ED

(1-212) 272-5636

dana.bassiacos@jpmchase.com

Lance Kisling, ED

(1-212) 272-7792

lance.d.kisling@jpmorgan.com

Christopher Kim, VP

(1-212) 272-4731

christopher.kim@jpmorgan.com

To hear more about our custom index solutions please contact Teddy Wackerman at theodore.wackerman@jpmchase.com

The J.P. Morgan Index Product Guide offers a brief overview of the J.P. Morgan suite of indices. Our benchmarks provide comprehensive coverage of the entire fixed income investment spectrum, ranging from credit, rates and securitized asset classes across developed and emerging markets.

Developed Market Indices

The J.P. Morgan index product suite includes extensive coverage of Developed Markets spanning Global Treasury (GBI and EMU family), High Grade credit (JULI - USD-denominated, MAGGIE - EUR denominated and GBP Credit) and Securitized Markets (CLOIE, ABS, MAX, and Pfandbriefe).

J.P. Morgan's Global Government Bond Index (**GBI**) suite was first launched in 1989 and has since grown to include developed and emerging markets. The GBI Global was designed to include only the core local government bond markets offering the highest levels of market depth and liquidity.

The GBI-AGG Diversified, launched in October 2016, provides investors with a comprehensive, investable benchmark that spans across all liquid, local government markets in both developed and emerging Market countries. The benchmark applies a unique currency diversification scheme which softens the excess weight skew of larger countries in the benchmark.

The EMU Government Bond Index (EMU), launched in 1998, is a primary indicator of Eurozone fixed income performance and supplements the coverage of global government bonds. In 2009, the EMU IG index was launched, which includes IG-only countries. As the EMU markets evolve, the EMU IG serves to maintain a high quality and liquid composition of Eurozone countries.

The EMU IG index is also a key component of J.P. Morgan's Euro Aggregate Index, the MAGGIE, which enables investors to track Corporate, Government and Pfandbriefe Investment Grade Euro-denominated debt.

The J.P. Morgan US Liquid Index (**JULI**) measures the performance of the US dollar Investment Grade corporate bond market and in conjunction with other J.P. Morgan credit benchmarks provide comprehensive indexing capabilities across the global corporate bond market.

The **J.P. Morgan Global High Yield** Index is designed to mirror the investable universe of the Global High Yield corporate debt market.

With the rising debt stock of Additional Tier 1 (AT1) issuance, we introduced the Composite Additional Tier 1 Index (**CATIE**) in 2017. The index tracks AT1 issuance in USD, EUR and GBP currencies, giving investors a comprehensive, investable benchmark.

J.P. Morgan also offers a range of indices covering inflation linked government securities. Created in 2004, the **JUSTINE** index acts as a benchmark for US Treasury inflation linked products (TIPS). The **ELSI** index, also created in 2004, tracks inflation linked bonds issued by Eurozone governments. The **GILLI** index, introduced in 2012, tracks the performance of UK Government inflation linked gilts.

The DM index suite also includes US Agency Index, Sterling Credit Indices (GBP Credit), and Euro/Sterling subordinated debt indices (SUSI) as well as various Cash indices that provide an effective cash deposit rate using different interpolated rates ([link](#)).

As coverage was expanded to the Securitized space, J.P. Morgan launched the Collateralized Loan Obligation Index (CLOIE) in July 2014, the Asset- Backed Securities Index (ABS) in November 2015, and the MBS Agency Index (MAX) in July 2017.

As the first US CLO index of its kind, the CLOIE tracks floating-rate broadly syndicated, arbitrage CLO debt securities. The ABS Index, launched shortly afterwards, covers nearly 75% of the US ABS debt stack, tracking over 240 issuers with a market value close to half a-trillion dollars. The latest addition, the MAX is an efficient and in-depth measure of the US MBS market's largest and most traded fixed rate agency program. In this all-encompassing benchmark, the MAX combines 30-year, 15-year, and now 20-year MBS in an index that covers almost 90% of the US agency market (as of December 2021).

Launched in March 2018, the **J.P. Morgan Global Aggregate Bond Index (GABI)** is a global fixed income benchmark which unifies all J.P. Morgan bond indices under a single platform. The GABI was designed using a top-down approach by asset class, leveraging J.P. Morgan's flagship indices such as EMBI®, GBI, GBI-EM and CLOIE which are industry standards in their respective asset classes.

Emerging Market Indices

The flagship Emerging Market index products include the **Emerging Markets Bond Index (EMBI)** family, **Corporate Emerging Market Bond Index (CEMBI)**, and **Government Bond Index - Emerging Markets (GBI-EM)**.

The first EM index launched was the EMBI, a Brady- only benchmark in July 1993. As the EM market evolved, our index suite extended to feature the EMBI+ in July 1995, adding EM Sovereign Eurobonds to the EMBI.

The EMBI Global and the EMBI Global Diversified followed four years later in July/August of 1999 to expand the coverage to include Quasi-sovereigns. Currently, the EMBI Global Diversified is the most widely used benchmark within the USD External Sovereign index offering.

Euro-denominated versions of the EMBI Global, the **EURO EMBIG and EURO EMBIG Diversified**, were introduced in March 2001 following the introduction of the Euro.

To supplement the EMBI series, the GBI-EM family was introduced in 2005 as the first comprehensive Local EM debt benchmark.

Since the launch, allocation to EM local markets within EM mandates has increased steadily as investors looked for diversification and higher yields while EM governments turned to their domestic markets for funding.

The **CEMBI**, which is the corporate EMBI series, was launched in December 2007 just as USD denominated EM Corporate debt was on the verge of achieving mainstream status.

In 2017, the **CEMBI+** suite (CEMBI IG+ and CEMBI HY +) was launched; catering to investors with rating sensitive mandates while complementing the existing market capitalization weighted IG & HY indices.

The **Emerging Local Markets Index Plus (ELMI+)** tracks total returns for local currency denominated money market instruments ((FX forwards) in emerging market countries. Launched in November 1997, the ELMI+ has made enhancements to better reflect the investable FX market along with providing regional and country level breakouts.

The **Next Generation Markets index (NEXGEM)** launched in December 2011, is designed to help investors identify the future growth opportunities in EM by focusing on smaller markets within the EMBI universe.

Launched in November 2018, the **J.P. Morgan Emerging Markets Blended (JEMB)** suite of indices is an aggregate EM fixed income benchmark that blends US dollar and Local currency denominated Sovereign, Quasi-sovereign and Corporate bonds. JEMB aims to be the benchmark of choice for blended EM bond portfolios and is geared towards investors seeking diversified emerging market debt exposure across asset type (sovereigns/corporates), country, region or FX.

ESG Aligned Indices

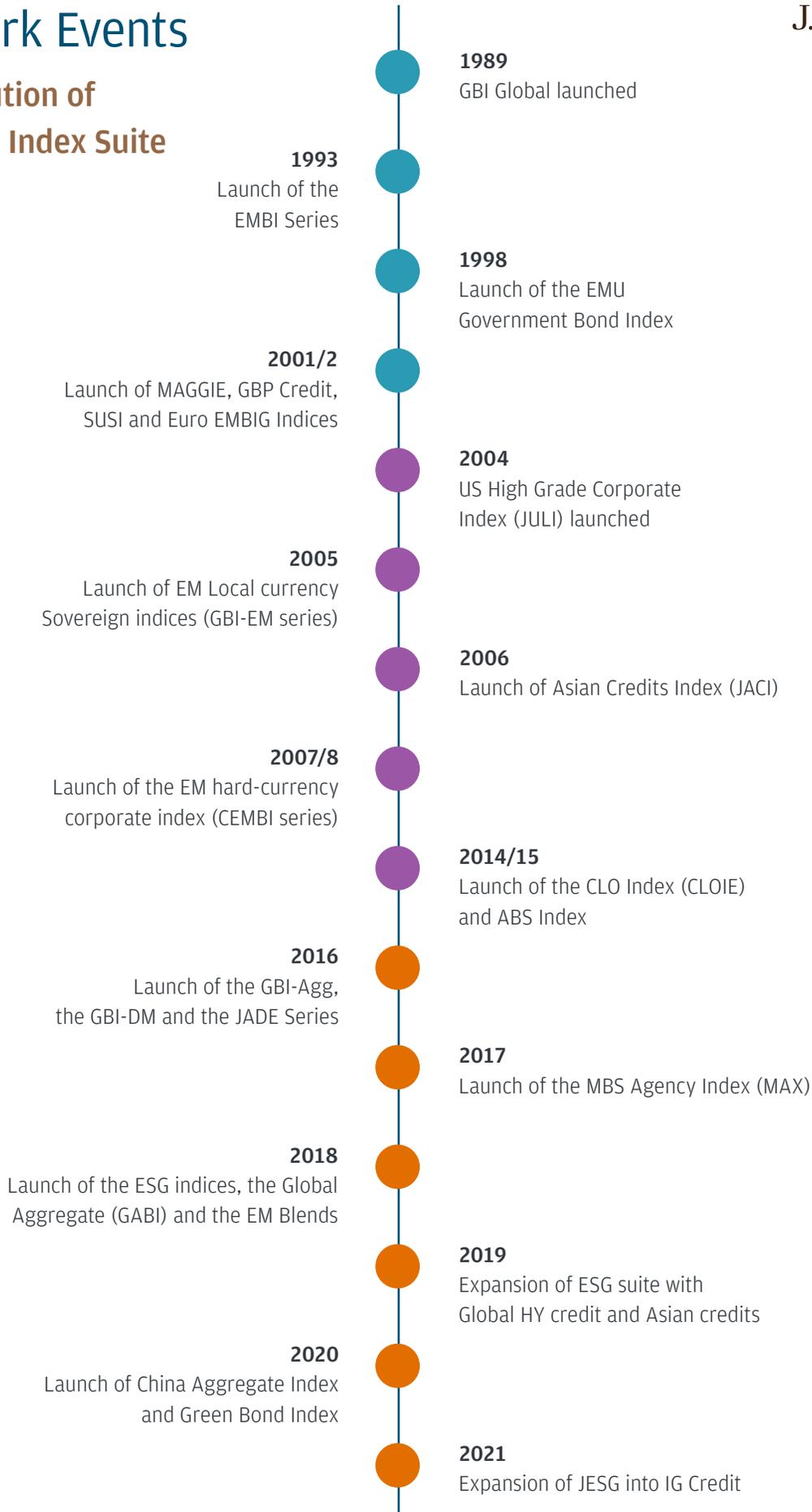
The J.P. Morgan ESG (JESG) index suite, launched in 2018, is a global fixed income index family that integrates environmental, social, and governance factors in a composite benchmark.

Built on the established methodology of the conventional J.P. Morgan indices, JESG offers a familiar baseline for fixed income investors to incorporate ESG integration, a best-in-class approach, and negative screening of controversial sectors in their investment process. Daily JESG index scores are calculated using both fundamental ESG assessments and high-frequency reputational risk factors for 6000+ companies and 170+ countries. ESG versions of our conventional indices are available for:

- EM Sovereign Bonds (JESG EMBI)
- Local Markets (JESG GBI-EM)
- EM Corporate Bonds (JESG CEMBI, JESG JACI)
- Green Bonds (JESG GENIE)
- Global Corporate Credits (JESG GCI)

Landmark Events

In the evolution of J.P. Morgan Index Suite



Index Snapshot

(As of Dec 2021)

Index	Market Cap (In billion)	Number of Instruments	Number of Countries	Yield (%)	Duration	Average Life	Average Rating
GABI	\$63,343	30,335	122	1.7	7.2	11.4	Aa3/AA-/AA-
GBI-AGG	\$37,679	1,478	41	1.2	8.0	9.5	Aa3/AA-/AA-
GBI-DM	\$35,050	1,185	21	1.0	8.2	9.7	Aa2/AA/AA
GBI Global	\$33,303	1,003	13	0.9	8.2	9.7	Aa2/AA/AA
JESG GCI	\$9,275	16,383	88	3.2	6.2	8.2	BBB+/Baa1/BBB+
JULI (USD Credit)	\$8,185	8,665	20	2.8	8.6	11.6	A3/A-
MAX	\$7,728	532	1	1.9	4.9	5.4	Aaa/AAA/AAA*
GBI-EM Broad	\$3,960	379	22	4.7	5.4	7.6	Baa1/BBB+/BBB
EMBI Global	\$1,365	961	72	4.9	8.2	12.8	Ba1/BB+/BB+
JADE	\$1,316	293	7	3.5	6.6	8.6	A2/A/A
CEMBI Broad	\$1,342	2,120	60	4.6	4.7	6.3	Baa3/BBB-/BBB-
JACI	\$1,226	1,988	17	4.2	5.1	8.3	Baa1/BBB+/BBB+
JESG GBI-EM	\$915	293	20	5.6	5.2	7.2	Baa1/BBB+/BBB
CLOIE	\$644	8,275	1	3.5	2.8	2.7	Aa1/AAA/AA-*
JESG GENIE	\$577	719	50	1.6	10.0	12.8	A+/A1/A+
JESG JACI	\$482	1,338	16	3.6	5.1	8.0	Baa1/BBB+/BBB
ABS	\$463	2,935	1	1.9	2.5	2.6	Aa1/AA/AA+*
GBP Credit	\$403	618	25	1.9	7.2	8.6	A1/A+
JESG EMBI	\$382	695	60	4.8	8.4	12.8	Baa3/BBB-/BBB-
JESG CEMBI	\$298	1,621	56	4.2	4.9	8.1	Baa3/BBB-/BBB-
Euro EMBI Global	\$263	244	36	1.9	7.3	9.1	Baa2/BBB/BBB
NEXGEM	\$132	151	36	8.0	5.8	9.8	B2/B/B

(*) The CLO and ABS indices offer rating indices across the debt capital structure



Environmental,
Social & Governance Indices (JESG)



- The J.P. Morgan ESG (JESG) suite of indices is a global fixed income index family that integrates environmental, social, and governance factors in a composite benchmark.
- Built on the established methodology of the conventional J.P. Morgan indices, JESG offers a familiar baseline for fixed income investors to incorporate ESG integration, a best-in-class approach, and negative screening of controversial sectors in their investment process. Daily JESG index scores are calculated using both fundamental ESG assessments and high-frequency reputational risk factors for 6000+ companies and 170+ countries.

Overview

The initial set of JESG indices were launched for the leading J.P. Morgan Emerging Markets index suite (EMBI Global Diversified, GBI-EM Global Diversified and CEMBI Broad Diversified) in April 2018. It was expanded in 2019 to include global high yield corporate bonds (GHYCI), Asian credits (JACI) and green bonds (GENIE). In 2021, it was further expanded to cover the IG credit space with the launch of the JESG GCI.

- Our proprietary JESG scores are calculated daily, using data from RepRisk, Sustainalytics and the Climate Bonds Initiative (CBI) as inputs.
- These inputs are based on event-driven signals that leverage big data techniques, as well as long-term views based on in-depth fundamental research. JESG index scores are available for over 6000 corporate, quasi-sovereign, and sovereign issuers across more than 170 developed and emerging market countries.
- JESG index construction takes into account environmental and socio-ethical factors by excluding issuers generating any revenue from thermal coal, tobacco, weapons, and/or oil sands.

- The exclusion criteria also encompass a corporate sustainability aspect by filtering issuers in violation of the UN Global Compact (UNGC) principles.
- Notably, the methodology assigns an overweight to green bonds (as per CBI) to incentivize sustainable financing aligned with climate change solutions.

ESG investing approaches vary from the exclusion of potential investments on ethical grounds to the integration of ESG scores without negative screening of issuers. The JESG methodology utilizes both approaches by following an integration methodology in combination with positive and negative screening.

JESG Methodology

The JESG methodology starts with the baseline benchmark criteria of the underlying index. Once the baseline index is selected, the following five step approach is applied to determine the JESG scores and constituent level weights:

1. Define the Data Inputs

ESG factor valuations for each issuer are sourced from two industry-leading data providers: RepRisk and Sustainalytics.

2. Establish JESG Index Score

ESG scores from each ratings provider are normalized on a scale from 0 to 100, and a simple average of the two scores is computed to determine the daily JESG score. The final JESG index score is a three-month rolling average of the daily JESG score of the issuer.

3. Apply Integration Mechanics

Each issuer is then bucketed into bands 1-5.

- i. Band 1: JESG score equal to or greater than 80
- ii. Band 2: JESG score equal to or greater than 60, less than 80
- iii. Band 3: JESG score equal to or greater than 40, less than 60
- iv. Band 4: JESG score equal to or greater than 20, less than 40
- v. Band 5: JESG score less than 20

Each band functions as a scalar/multiplier that is utilized in the ESG integration approach.

- Issuers in Band 1 will inherit 100% of their baseline index market value.
- Issuers in Band 2 will inherit 80% of the base index market value.
- Issuers in Band 3 will inherit 60% of the base index market value.
- Issuers in Band 4 will inherit 40% of the base index market value.
- Issuers in Band 5 will be excluded and will not be eligible for the next 12 months thereafter.

4. Consider Ethical Factors and Exclusions

- Issuers that are non-compliant with the UNGC principles are excluded from JESG indices.
- Issuers in Band 5 are excluded from JESG indices.
- Issuers that generate any revenue from thermal coal, tobacco, weapons, and/or oil sands are excluded from JESG indices.

5. Calculate New JESG Weights

- The remaining eligible instruments are assigned their respective ESG band weights (pursuant to Step 3 above), with green bonds receiving a one-band upgrade relative to conventional bonds from the same issuer.
- The total index weight is normalized back to 100%.

JESG Rebalancing

JESG band updates and corresponding index weight changes will be reflected on a quarterly basis to prevent excessive band changes or ‘flip-flop’ situations, in which an issuer continuously oscillates between two JESG bands.

Note that this quarterly rule change only applies to ESG band changes. Composition and reference data changes in the underlying conventional index as a result of capital market activity (e.g. new bonds, taps, tenders, etc.) will be reflected on a monthly basis.

JESG Overlay	JESG EMBI	JESG GBI-EM	JESG CEMBI	JESG JACI	JESG GCI	JESG GENIE
ESG score and green bond label providers	RepRisk & Sustainalytics (Sovereigns, Quasi-Sovereigns, Corporate) and CBI (Green bonds)					
JESG Scoring Methodology	The absolute index scores are an amalgamation of RepRisk & Sustainalytics on an equal weight basis. The scores range from 0 - 100, with 100 classified as the best possible score.					
JESG Integration Methodology	Issuers with better overall ESG scores are assigned larger weights compared to the baseline indices					
Green bond treatment	Increased weight allocation compared to a conventional bond from same issuer.					Certified green bonds receive a one band upgrade
JESG Ethical Exclusions & Negative Screening	Issuers with derived revenue from the following sectors are excluded: Thermal Coal, Tobacco, Weapons, Oil Sands. In addition, issuers violating UNGC principles are also excluded. Lastly, issuers with JESG scores less than 20 are excluded and are not eligible for 12 months once excluded.					Issuers with derived revenue from the following sectors are excluded: Tobacco, Weapons. In addition, issuers violating UNGC principles are also excluded.
JESG Index Scores	51.9 (+18.5% over benchmark)	56.3 (+5.1% over benchmark)	53.8 (+14.7% over benchmark)	50.6 (+27.1% over benchmark)	59.9 (+10.1% over benchmark)	72.4 (+7.1% over benchmark)

Source: J.P. Morgan, as of December 31st, 2021

JESG Returns

Year	GBI-EM GD	JESG GBI-EM GD	CEMBI BD	JESG CEMBI BD	EMBIG Div.	JESG EMBI	JACI	JESG JACI	GCI IG	JESG GCI IG	GCI HY	JESG GCI HY
2013	-9.0%	-8.0%	-0.6%	-0.2%	-5.3%	-5.0%	-1.4%	-1.0%	1.2%	1.5%	7.2%	7.5%
2014	-5.7%	-6.1%	5.0%	4.1%	7.4%	8.8%	8.3%	8.3%	3.7%	3.3%	0.8%	0.8%
2015	-14.9%	-15.4%	1.3%	1.5%	1.2%	1.1%	2.8%	2.9%	-3.2%	-3.3%	-4.5%	-4.0%
2016	9.9%	9.6%	9.7%	8.8%	10.2%	8.8%	5.8%	5.5%	3.7%	3.4%	15.3%	15.0%
2017	15.2%	15.6%	8.0%	7.7%	10.3%	10.7%	5.8%	5.8%	9.1%	9.3%	10.3%	10.3%
2018	-6.2%	-5.9%	-1.6%	-1.4%	-4.3%	-3.8%	-0.8%	-0.9%	-3.3%	-3.3%	-3.4%	-3.7%
2019	13.5%	11.9%	13.1%	12.8%	15.0%	15.9%	11.3%	11.2%	11.1%	11.0%	13.6%	13.3%
2020	2.7%	4.0%	7.1%	7.1%	5.3%	5.8%	6.3%	6.2%	10.3%	10.2%	7.6%	7.8%
2021	-8.7%	-9.5%	0.9%	0.8%	-1.8%	-2.3%	-2.4%	-2.8%	-3.0%	-3.2%	1.3%	1.5%
Annualized Return	-0.9%	-1.0%	4.6%	4.5%	4.0%	4.2%	3.9%	3.8%	3.2%	3.1%	5.1%	5.2%
Annualized Volatility	11.2%	11.0%	5.8%	5.7%	7.9%	7.5%	4.1%	4.1%	5.1%	5.1%	7.1%	7.1%
Sharpe Ratio	-0.15	-0.16	0.66	0.65	0.40	0.45	0.75	0.74	0.46	0.44	0.61	0.61

Source: J.P. Morgan, as of December 31st, 2021

JESG EMBI Global Diversified

Baa3/BBB-/BBB-

- The JESG EMBI builds on the widely followed J.P. Morgan EMBI Global Diversified (EMBI GD) to provide investors with an ESG benchmark that offers exposure to the EM asset class with representative countries, investable instruments (sovereign and quasi-sovereign), and transparent index rules.
- The EMBI Global Diversified includes only USD-denominated sovereign and quasi-sovereign bonds within the emerging markets asset class. Market capitalization is used to determine the preliminary constituent weights, but a diversification overlay is then applied that reallocates index weight from larger countries to smaller countries.
- The JESG EMBI was launched in April 2018 with daily historical index levels and statistics backfilled to December 2012.

Overview

The J.P. Morgan EMBI Global Diversified (JESG EMBI) is a comprehensive fixed income benchmark that applies our environmental, social and governance methodology to tilt capital toward higher ESG performing issuers. The JESG overlay incorporates ESG integration, a best-in-class approach and ethical screening in the baseline EMBI GD to provide a benchmark for ESG investors.

Given the strict benchmark criteria of the JESG EMBI, not all emerging market countries and instruments are represented. Quasi-sovereign issuers with exposure to oil sands, thermal coal, tobacco, or weapons, as well as those lacking adherence to the United Nations Global Compact (UNGC) principles, are excluded. Additionally, sovereign and quasi-sovereign issuers that fall within the lowest quintile (Band 5) of our proprietary ESG scores are excluded.

Index Facts	
Inception Date	December 2012
Launch Date	April 2018
Rebalancing Date	ESG rank rebalancing is done quarterly on the last business day of the month
Holiday Calendar	Follows US bond market calendar set by Emerging Markets Traders Association (EMTA)
Pricing Source	Bid-price from third party evaluation vendor (PricingDirect)
FX Spot/Forward Rate	WM Reuters 4pm London Rate
Coupon Reinvestment	All coupons received are immediately reinvested back into the index
Benchmark Criteria	
Country/Region	A country's GNI per capita must be below the Index Income Ceiling (IIC) for 3 consecutive years OR the Index Purchasing-Power-Parity Ratio (IPR) must be below the IPR threshold for 3 consecutive years
Issuer	Only sovereign and quasi-sovereign entities are eligible
Minimum Face Amount Outstanding	USD 500mn
Instrument Type	All fixed, floaters, amortizers and capitalizing bonds
Maturity requirement for initial entry	At least 2.5 years until maturity
Remaining Maturity	At least 6 months until maturity
Liquidity Criteria	Daily available pricing from PricingDirect

An overweight (via a one-band upgrade) is applied to green bonds, as labelled by the Climate Bonds Initiative (CBI), to incentivize sustainable financing aligned with climate change solutions.

Credit Rating

The index does not exclude countries based on credit ratings and therefore spans both Investment Grade and High Yield bonds across emerging market countries. For index purposes, S&P, Moody's, and Fitch ratings are considered. Credit rating is determined based on the following rules:

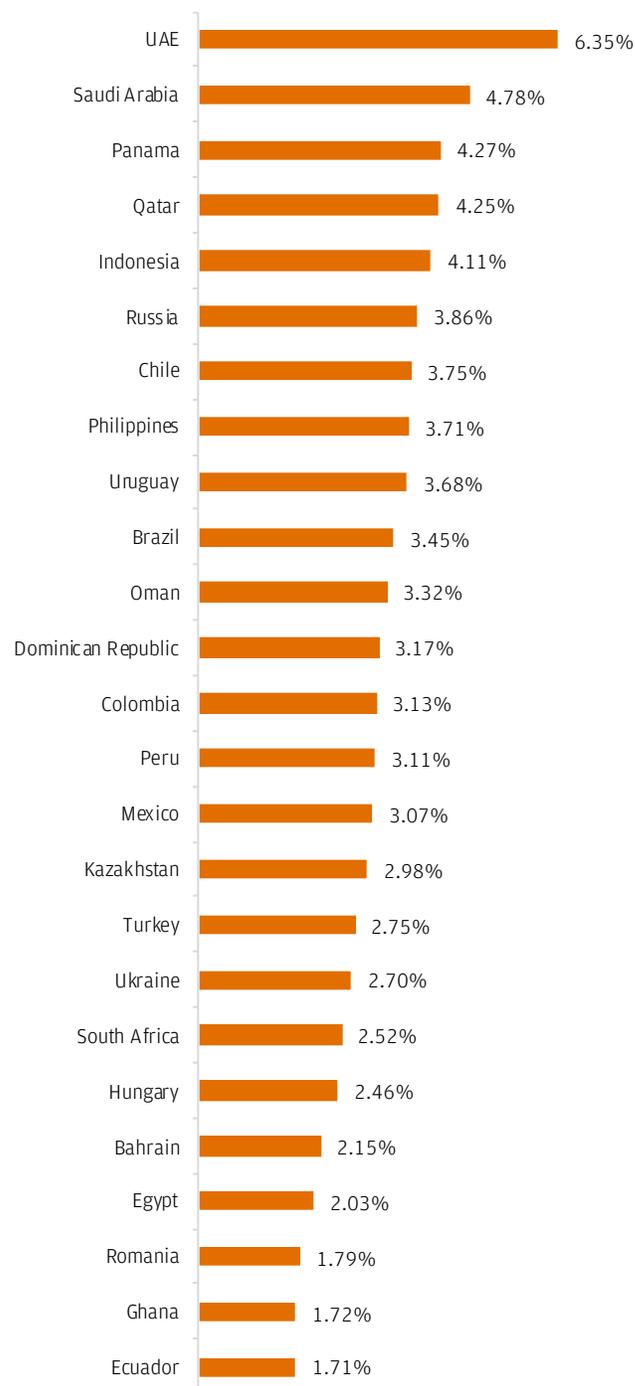
- The middle rating of the Moody's, S&P, and Fitch ratings
- The lower rating when only two ratings are available
- The sole rating when only one rating is provided
- NR bonds are classified under HY bucket.

JESG Rebalancing

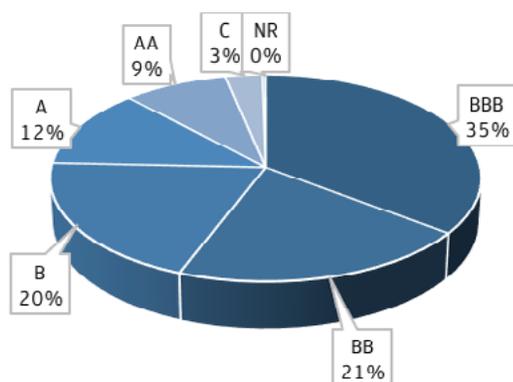
JESG band updates and corresponding index weight changes will be reflected on a quarterly basis to prevent excessive band changes or 'flip-flop' situations, in which an issuer continuously oscillates between two JESG bands.

Note that this quarterly rule change only applies to ESG band changes. Composition and reference data changes in the underlying conventional index as a result of capital market activity (e.g. new bonds, taps, tenders, etc.) will be reflected on a monthly basis.

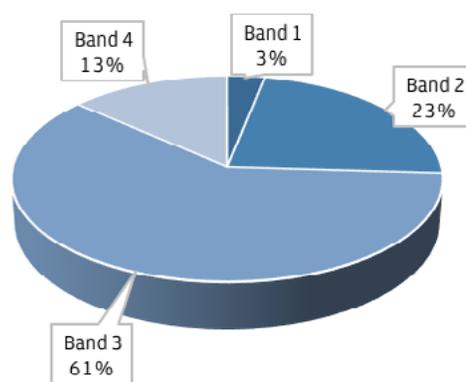
JESG EMBI Global Diversified - Top 25 Countries (As of Dec. 2021)



Credit Rating (As of Dec. 2021)



Bands (As of Dec. 2021)



Where to find the JESG EMBI?

Bloomberg

JPMX <GO> → ESG → JESG EMBI

DataQuery

www.jpmm.com (Research → Analytics → Data Query → Indices → Emerging Markets → JPM ESG Index (JESG) → JESG EMBI)

Morgan Markets

www.jpmm.com (Research → Index → J.P. Morgan ESG)

Contains downloadable files of daily and historical country and instrument returns, statistics and compositions.

JESG GBI-EM Global Diversified

Baa1/BBB+/BBB

- The JESG GBI-EM builds on the widely followed J.P. Morgan GBI-EM Global Diversified (GBI-EM GD) to provide investors with an ESG benchmark that provides exposure to the EM asset class with representative countries, investable instruments (sovereign only), and transparent index rules.
- The JESG methodology currently retains all countries of the baseline GBI-EM Global Diversified as none of the countries fall in the lowest JESG band, which would require exclusion.
- The index was launched in April 2018 with daily historical index levels and statistics backfilled to December 2012.

Overview

The JESG GBI-EM Global Diversified (JESG GBI-EM) is a comprehensive fixed income benchmark that applies our environmental, social and governance methodology to tilt capital toward higher ESG performing issuers. The JESG index is built over the GBI-EM GD, which is the most widely tracked index within the GBI-EM suite due to its diversification weighting scheme.

As a feature of the baseline index, the JESG GBI-EM only includes government bonds. The JESG overlay incorporates ESG integration, a best-in-class approach and negative screening in the baseline GBI-EM GD to provide a benchmark for ESG investors. An overweight (via a one-band upgrade) is assigned to green bonds, as labelled by the Climate Bonds Initiative (CBI), to incentivize sustainable financing aligned with climate change solutions.

Index Facts	
Inception Date	December 2012
Launch Date	April 2018
Rebalancing Date	ESG rank rebalancing is done quarterly on the last weekday of the month
Holiday Calendar	Calculated on every weekday
Pricing Source	Mid-price from third party evaluation vendor (PricingDirect)
FX Spot/Forward Rate	WM Reuters 4pm London Rate
Coupon Reinvestment	All coupons received are immediately reinvested back into respective local market
Benchmark Criteria	
Country/Region	A country's GNI per capita must be below the Index Income Ceiling (IIC) for 3 consecutive years OR the Index Purchasing-Power-Parity Ratio (IPR) must be below the IPR threshold for 3 consecutive years
Issuer	Local currency denominated government bond (Global Bonds are eligible)
Minimum Face Amount Outstanding	USD 1bn for Local issued bonds and USD 500mn for Global bonds
Instrument Type	Fixed Rate and Zero-coupon bonds
Maturity requirement for initial entry	At least 2.5 years until maturity
Remaining Maturity	At least 6 months until maturity
Liquidity Criteria	Daily available pricing from PricingDirect

Credit Rating

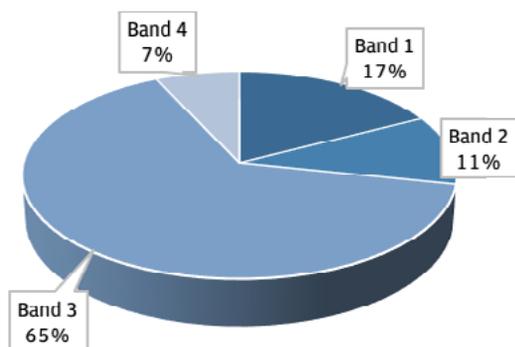
The index does not exclude countries based on credit ratings and therefore spans both Investment Grade and High Yield local currency government bond markets. For rating-sensitive buckets, the middle of the three ratings is taken (S&P, Moody’s & Fitch).

JESG Rebalancing

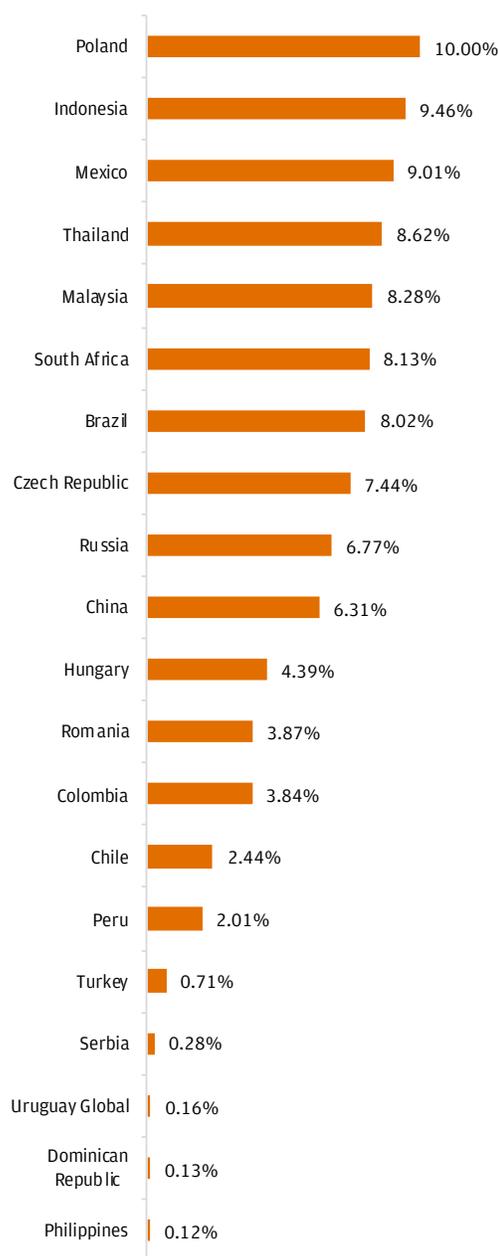
JESG band updates and corresponding index weight changes will be reflected on a quarterly basis to prevent excessive band changes or ‘flip-flop’ situations, in which an issuer continuously oscillates between two JESG bands.

Note that this quarterly rule change only applies to ESG band changes. Composition and reference data changes in the underlying conventional index as a result of capital market activity (e.g. new bonds, taps, tenders, etc.) will be reflected on a monthly basis.

Bands (As of Dec. 2021)



JESG GBI EM Global Diversified Profile (As of Dec. 2021)



Where to find the JESG GBI-EM?

Bloomberg

JPMX <GO> → ESG → JESG GBI-EM

DataQuery

www.jpmm.com (Research → Analytics → Data Query → Indices → Emerging Markets → JPM ESG Index (JESG) → JESG GBI-EM)

Morgan Markets

www.jpmm.com (Research → Index → J.P. Morgan ESG)

Contains downloadable files of daily and historical country and instrument returns, statistics and compositions.

JESG CEMBI Broad Diversified

Baa3/BBB-/BBB-

- The JESG CEMBI builds on the widely followed J.P. Morgan CEMBI Broad Diversified (CEMBI BD) to provide investors with an ESG benchmark that provides exposure to the EM asset class with representative countries, investable instruments (corporate), and transparent index rules.
- The JESG overlay incorporates ESG integration, a best-in-class approach and ethical screening in the baseline CEMBI BD to provide a benchmark for ESG investors. Given the benchmark criteria of the JESG CEMBI, not all emerging markets countries and instruments are represented.
- The index was launched in April 2018 with daily historical index levels and statistics backfilled to December 2012.

Overview

The JESG J.P. Morgan CEMBI Broad Diversified (JESG CEMBI) is a comprehensive fixed income benchmark that applies our environmental, social and governance methodology to tilt capital toward higher ESG performing issuers.

The JESG process incorporates ESG integration, a best-in-class approach and ethical screening in the baseline CEMBI BD to provide a benchmark for ESG investors. Issuers with exposure to oil sands, thermal coal, tobacco, and/or weapons, as well as those lacking adherence to the United Nations Global Compact (UNGC) principles, are excluded. Additionally, corporate issuers that fall within the lowest quintile (Band 5) of our proprietary ESG scores are excluded. An overweight (via one-band upgrade) is assigned to green bonds, as labelled by the Climate Bonds Initiative (CBI), to incentivize sustainable financing aligned with climate change solutions.

Index Facts	
Inception Date	December 2012
Launch Date	April 2018
Rebalancing Date	ESG rank rebalancing is done quarterly on the last business day of the month
Holiday Calendar	Follows US bond market calendar set by Emerging Markets Trader Association (EMTA)
Pricing Source	Bid-price from third party evaluation vendor (PricingDirect)
FX Spot/ Forward Rate	WM Reuters 4pm London Rate
Coupon Reinvestment	All coupons received are immediately reinvested back into the index
Benchmark Criteria	
Country/Region	Countries in Africa, Asia ex Japan, Latin America, Eastern Europe, and Middle East are eligible
Issuer	1) Headquartered in an EM country or, 2) 100% of the issuer's asset are within EM economies or, 3) 100% secured by assets within EM economies.
Minimum Face Amount Outstanding	USD 300mn
Instrument Type	All fixed, floaters, amortizers and capitalizes
Maturity requirement for initial entry	At least 2.5 years until maturity
Remaining Maturity	At least 6 months until maturity
Default treatment	Defaulted bonds are excluded
Liquidity Criteria	Daily available pricing from PricingDirect
Jurisdiction	Local law instruments are not eligible; Euroclearable or settled through another institution outside issuing country

Credit Rating

Both IG and HY rated securities are included. For index purposes, S&P, Moody's, and Fitch ratings will be considered. Credit rating will be determined based on the following rules:

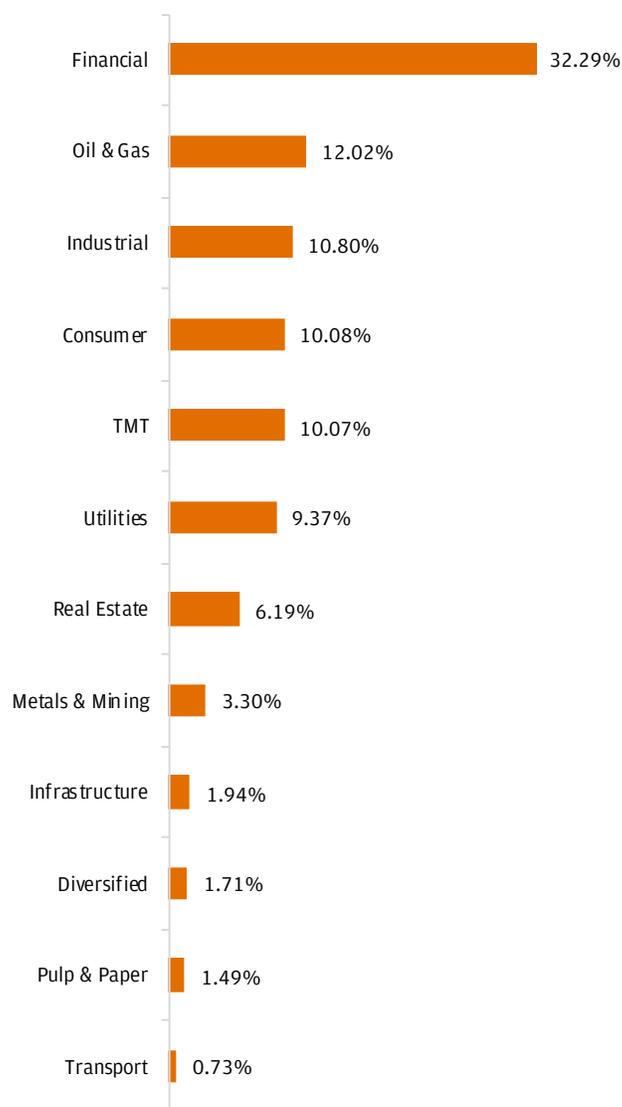
- The middle rating of the S&P, Moody's, and Fitch ratings.
- The lower rating when only two ratings are available.
- The sole rating when only one rating is provided.
- Unrated bonds are bucketed into High Yield segment.

JESG Rebalancing

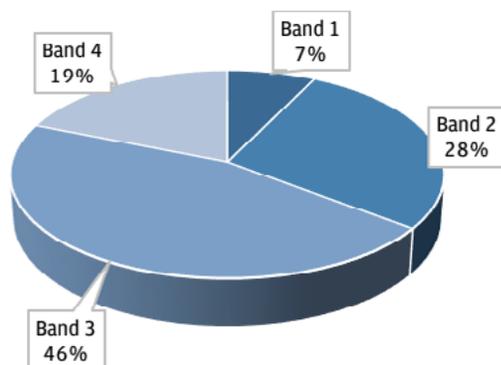
JESG band updates and corresponding index weight changes will be reflected on a quarterly basis to prevent excessive band changes or 'flip-flop' situations, in which an issuer continuously oscillates between two JESG bands.

Note that this quarterly rule change only applies to ESG band changes. Composition and reference data changes in the underlying conventional index as a result of capital market activity (e.g. new bonds, taps, tenders, etc.) will be reflected on a monthly basis.

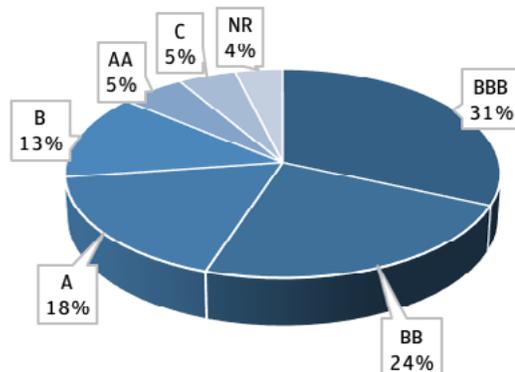
**JESG CEMBI Broad Diversified- Sector Weights
(As of Dec. 2021)**



Bands (As of Dec. 2021)



Credit Rating (As of Dec. 2021)



Where to find the JESG CEMBI?

Bloomberg

JPMX <GO> → ESG → JESG CEMBI

DataQuery

www.jpmm.com (Research → Analytics → Data Query → Indices → Emerging Markets → JPM ESG Index (JESG) → JESG CEMBI)

Morgan Markets

www.jpmm.com (Research → Index → J.P. Morgan ESG)

Contains downloadable files of daily and historical country and instrument returns, statistics and compositions.

JESG JACI

Baa1/BBB+/BBB

- The JESG JACI builds on the widely followed J.P. Morgan Asia Credit Index (JACI) to provide investors with an ESG benchmark that tracks US dollar denominated debt instruments in the Asia ex-Japan region.
- The JESG overlay applies a multidimensional approach to ESG investing for fixed income investors. The methodology incorporates ESG score integration, positive screening, and exclusion of both controversial sectors and UN Global Compact violators.
- The JESG JACI provides returns and statistics since December 31, 2012.

Overview

The J.P. Morgan ESG Asia Credit Index (JESG JACI) is a comprehensive Asia fixed income benchmark that applies our environmental, social and governance methodology to tilt capital toward higher ESG-performing issuers. The benchmark tracks liquid instruments across the Asian fixed income asset class, including floating, perpetual, and subordinated bonds across sovereign, quasi-sovereign (including municipal) and corporate issuers. The JESG JACI was designed to incorporate liquid, replicable US dollar denominated bonds from Asian issuers.

The JESG overlay incorporates ESG score integration, a best in-class approach and ethical screening in the baseline JACI to provide a benchmark for ESG investors. Non-sovereign issuers with exposure to oil sands, thermal coal, tobacco, or weapons, as well as those lacking adherence to the United Nations Global Compact (UNGC) principles, are excluded. Additionally, issuers that fall within the lowest quintile (Band 5) of our proprietary ESG scores are excluded.

An overweight is assigned to green bonds, as labelled by the Climate Bonds Initiative (CBI) to incentivize sustainable financing aligned with climate change solutions.

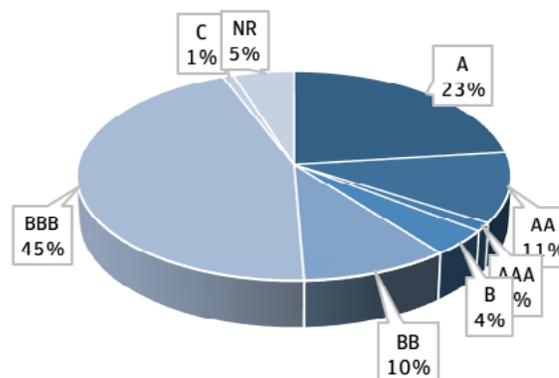
Index Facts	
Inception Date	Dec 2012
Launch Date	Nov 2019
Rebalancing Date	ESG rank rebalancing is done quarterly on the last business day of the month
Holiday Calendar	Follows US bond market calendar
Pricing Source	Bid-price from third party evaluation vendor (PricingDirect)
FX Spot/Forward Rate	WM Reuters 4pm London Rate
Coupon Reinvestment	All coupons received are immediately reinvested back into the index
Benchmark Criteria	
Country/Region	Asia (ex-Japan)
Issuer	Corporate, Sovereign and Quasi-Sovereign (including Municipal) bonds
Minimum Face Amount Outstanding	USD 300mn
Instrument Type	All fixed, floaters, amortizers and capitalizers
Maturity requirement for initial entry	At least 2.5 years until maturity
Remaining Maturity	At least 6 months until maturity
Default treatment	Defaulted corporate bonds are excluded. Defaulted bonds by other issuers remain in index.
Liquidity Criteria	Daily available pricing from PricingDirect
Jurisdiction	International Law

Credit Rating

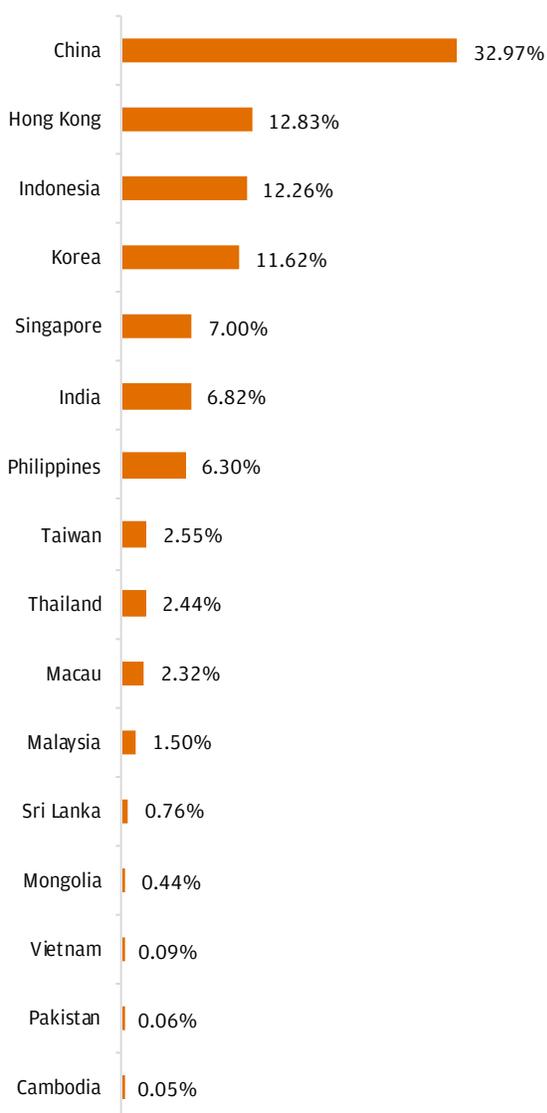
Both IG and HY rated securities are included. For index purposes, S&P, Moody's, and Fitch ratings will be considered. Credit rating will be determined based on the following rules:

- The middle rating of the S&P, Moody's, and Fitch ratings.
- The lower rating when only two ratings are available.
- The sole rating when only one rating is provided.
- Unrated bonds are bucketed into High Yield segment.

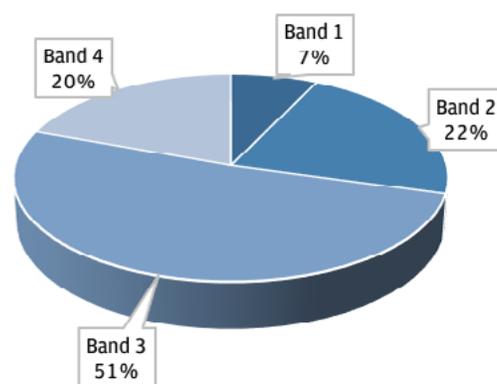
Credit Rating (As of Dec. 2021)



JESG JACI Profile (As of Dec. 2021)



Bands (As of Dec. 2021)



Where to find the JESG JACI?

Bloomberg

JPMX <GO> → ESG → EM Corporates → JESG JACI

DataQuery

www.jpmm.com (Analyze-Cross-Asset → Data Query → Indices → JESG → JPM ESG Index)

Morgan Markets

http://www.jpmm.com (Research → Index → J.P. Morgan ESG Index)

JESG GCI

BBB+/Baa1/BBB+

- The J.P. Morgan ESG Global Corporate Index (JESG GCI) is among the first environmental, social and governance benchmarks to cover the global corporate debt market. JESG GCI is a comprehensive benchmark that tracks investment grade and high yield corporate debt across US Dollar, Euro, and Pound Sterling currencies in both developed and emerging markets.
- The JESG applies a multidimensional approach to ESG investing for fixed income investors. The methodology incorporates ESG score integration, positive screening (green bonds), and exclusions of both controversial sectors and UN Global Compact violators.
- The JESG GCI provides historical index levels and statistics since December 31, 2012.

Overview

As the latest expansion to the JESG index suite, the J.P. Morgan ESG Global Corporate Index (JESG GCI) is [\(link\)](#) a composite benchmark that integrates environmental, social, and governance factors into the Investment Grade and High Yield credit markets. Following the JESG GCI HY index launch in 2019 [\(link\)](#), we introduce the JESG GCI (aggregate) and JESG GCI IG to offer a full suite of ESG credit benchmarks across the US Dollar, Euro, and Pound Sterling denominated debt universe.

The broad-based benchmark provides investors with customizable portfolio attribution, with over 7,000 sub-indices available by JESG band, denominated currency, credit rating, market classification, geographical region, corporate sector, maturity bucket, registration types, seniority and more.

JESG GCI also offers expansive tailored solutions, including fine tuning of discretionary ESG criteria, controversial issuer exclusion, and green bond weight adjustment.

Index Facts	
Inception Date	December 2012
Launch Date	November 2021
Rebalancing Date	ESG rank rebalancing is done quarterly on the last business day of the month
Holiday Calendar	All Weekdays
Pricing Source	Mid-price from PricingDirect
FX Spot/Forward Rate	WM Reuters 4pm London Rate
Coupon Reinvestment	All coupons received are immediately reinvested back into the index
Benchmark Criteria	
Country/Region	All countries across developed and emerging markets
Issuer	Exclude: sovereign and quasi-sovereign issuers (100% government-owned or guaranteed)
Minimum Face Amount Outstanding	USD - 250 million, EUR - 250 million, GBP - 150 million
Instrument Type	fixed rate, floating rate, step-up, PIK, toggle, amortizers, perpetuals, Sukuk, Tier 2, non-contingent convertible T1 capital, non-registered securities, and all subordinated financial bonds except AT1 or RT1
Maturity requirement for initial entry	At least 24 months until maturity
Remaining Maturity	At least 6 months until maturity
Default treatment	Defaulted bonds are excluded
Liquidity Criteria	Daily available pricing from PricingDirect

Credit Rating

Both IG and HY rated securities are included. For index purposes, S&P, Moody's, and Fitch ratings will be considered. Credit rating will be determined based on the following rules:

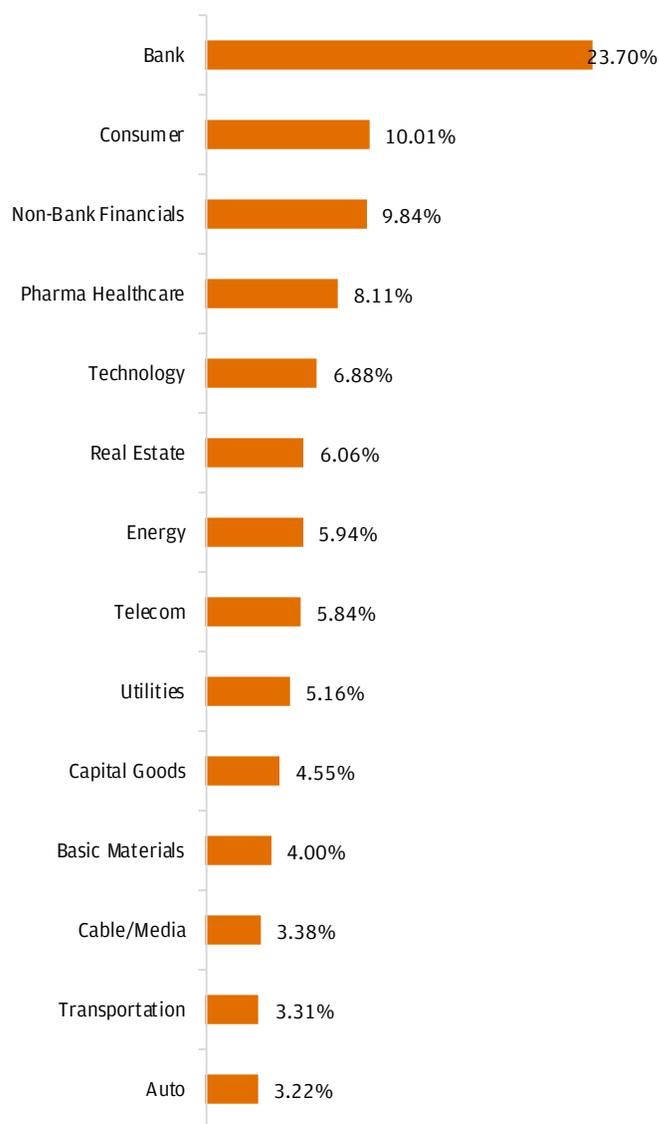
- The middle rating of the Moody's, S&P, and Fitch ratings
- The lower rating when only two ratings are available
- The sole rating when only one rating is provided
- Bonds unrated at bond and issuer level, are excluded

JESG Rebalancing

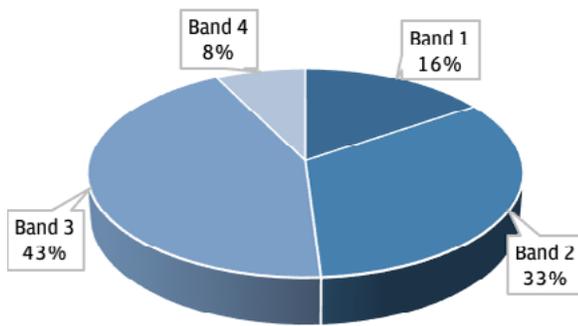
JESG band updates and corresponding index weight changes will be reflected on a quarterly basis to prevent excessive band changes or 'flip-flop' situations, in which an issuer continuously oscillates between two JESG bands.

Note that this quarterly rule change only applies to ESG band changes. Composition and reference data changes in the underlying conventional index as a result of capital market activity (e.g. new bonds, taps, tenders, etc.) will be reflected on a monthly basis.

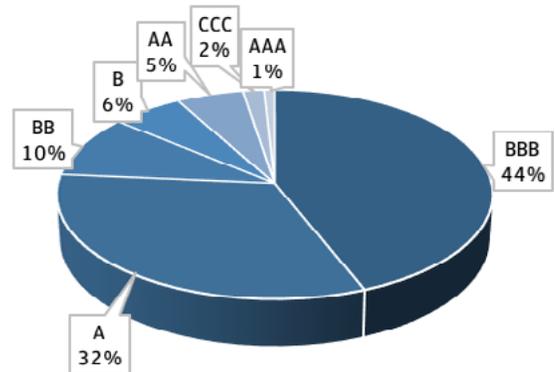
JESG GCI Profile (As of Dec. 2021)



Bands (As of Dec. 2021)



Credit Rating (As of Dec. 2021)



Where to find the JESG GCI?

Bloomberg

JPMX <GO> → ESG

DataQuery

www.jpmm.com (Research → Analytics → Data Query → Indices → Emerging Markets → JPM ESG Index (JESG) → JESG GCI)

Morgan Markets

www.jpmm.com (Research → Index → J.P. Morgan ESG)

Contains downloadable files of daily and historical country and instrument returns, statistics and compositions.

JESG GENIE

A+/A1/A+

- The JESG index suite expanded in November 2020 to include the J.P. Morgan ESG Green Bond Index (JESG GENIE), which takes into account the environmental, social, and governance factors of green bonds issuers.
- The JESG GENIE applies a multi-dimensional ESG-aligned overlay to the universe of the baseline GENIE. The methodology incorporates ESG score integration, positive screening for certified climate bonds, and exclusions of both controversial sectors and UN Global Compact (UNGC) violators.
- The JESG GENIE provides returns and statistics from December 31, 2014 onward.

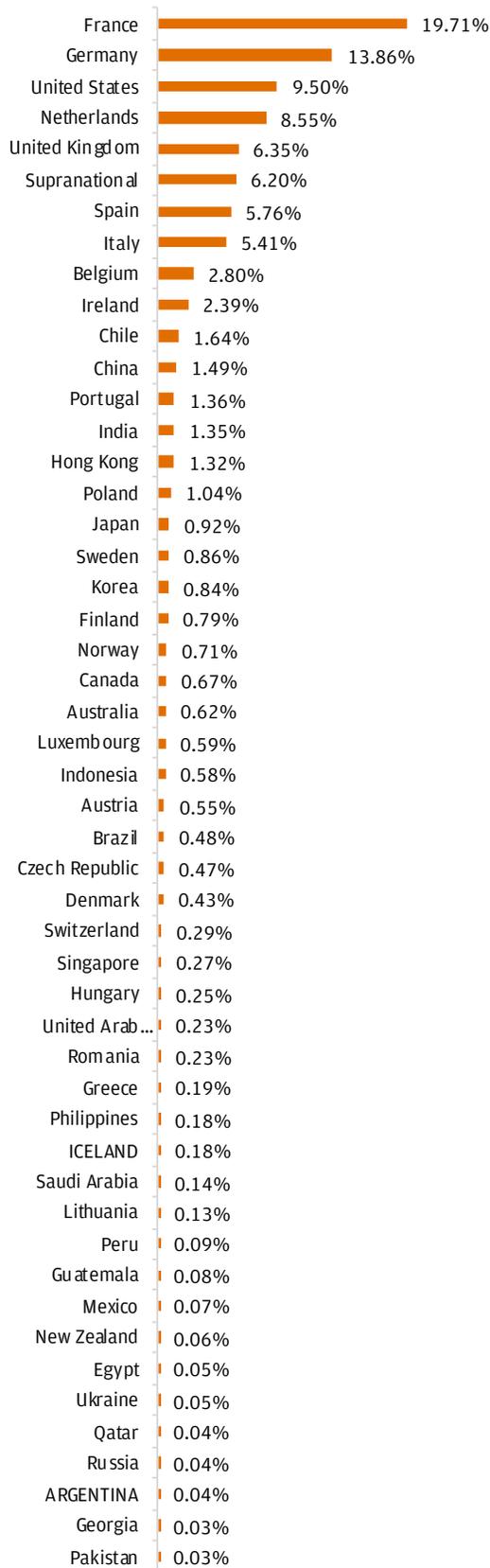
Overview

The JESG GENIE covers green debt across hard currency (USD, EUR, and GBP) sovereign, quasi-sovereign, supranational, and corporate bonds, as well as local currency green government bonds across 41 eligible currencies. Certified Climate Bonds are verified to be aligned with the Climate Bonds Standard, which contains strict criteria that are consistent with the two degrees Celsius warming limit set in the 2015 Paris Agreement. In order to encourage sustainable solutions that align with the Agreement’s goals, Certified Climate Bonds are overweighted relative to conventional green bonds issued by the same issuer. The JESG overlay also tilts capital toward more sustainable green bond issuers by assigning issuers with higher J.P. Morgan ESG (JESG) scores a larger weight than in the baseline index.

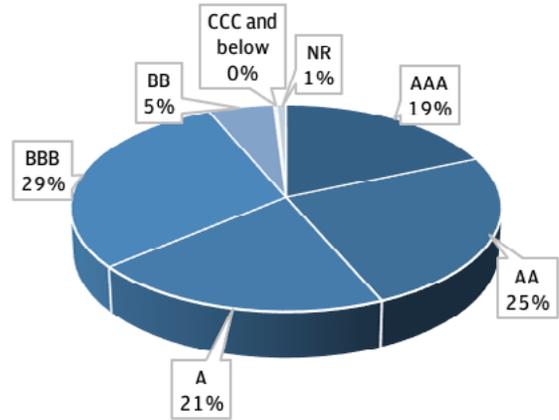
The JESG scores are determined based on fundamental research-driven scores from Sustainalytics and algorithmic real-time event-driven scores from RepRisk. Issuers with exposure to tobacco or weapons, as well as those lacking the adherence to the United Nations Global Compact (UNGC) principles, are excluded.

Index Facts	
Inception Date	December 31st, 2014
Launch Date	Nov 2020
Rebalancing Date	ESG rank rebalancing is done quarterly on the last weekday of the month
Holiday Calendar	Index levels will be available on all weekdays. Bond analytics (e.g. accruals) will follow the respective currency holiday calendar (USD: SIFMA & EMTA, EUR/GBP: SIFMA)
Pricing Source	Mid-price from third party evaluation vendor (PricingDirect)
FX Spot / Forward Rate	WM Reuters 4pm London Rate
Coupon Reinvestment	All coupons received are immediately reinvested back into the index
JESG Overlay	
Labelling Scheme for Green Bonds	Climate Bonds Initiative (CBI) Labelled Green Bonds
ESG Data Provider	Sustainalytics, RepRisk, CBI
JESG Scoring methodology	The absolute index scores of RepRisk & Sustainalytics are normalized and then blended on an equal weighted basis. The scores range from 0 - 100, with 100 classified as the best possible score.
JESG Integration methodology	Issuers are assigned into quintiles (bands) based on their scores. Those with better ESG scores are assigned over weighted compared to the baseline benchmark
Treatment for Certified Climate Bonds	Certified green bonds will receive one band upgrade (unless they are already in Band 1)
Ethical screening	Green bonds by issuers directly earning revenue from Tobacco, or Weapons, or not in adherence with UNGC principles will not be eligible

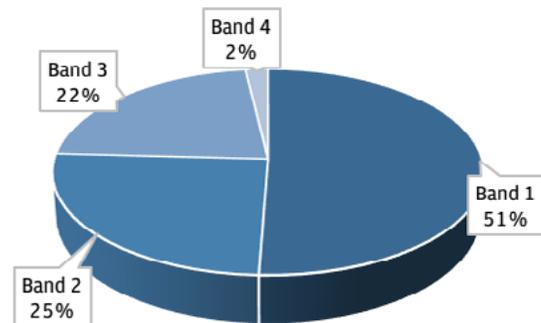
JESG GENIE Profile (As of Dec. 2021)



Credit Rating (As of Dec. 2021)



Bands (As of Dec. 2021)



Where to find the JESG GENIE?

Bloomberg

JPMX <GO> → ESG → Green Bonds
→ JESG Green Bond Index

DataQuery

www.jpmm.com (Analyze-Cross-Asset → Data Query
→ Indices → JESG → Green bond Index)

Morgan Markets

http://www.jpmm.com (Research → Index
→ J.P. Morgan ESG Index)



Developed Markets Indices



J.P.Morgan

Global Aggregate Bond Index (GABI)

Aa3/AA-/AA-

- The J.P. Morgan Global Aggregate Bond Index (GABI) is a global fixed income benchmark which unifies all J.P. Morgan bond indices under a single platform.
- The GABI was designed using a top-down approach by asset class, leveraging J.P. Morgan's flagship indices such as the EMBI®, GBI-EM, GBI and CLOIE which are industry standards in their respective asset classes.
- Launched in March 2018, the GABI indices have daily historical index levels and statistics starting from December 1987.

Overview

The GABI is a comprehensive fixed income benchmark suite which integrates all of the existing flagship J.P. Morgan bond indices under one unified platform. The benchmark tracks liquid instruments across the fixed income arena, integrating both investment grade and high yield securities.

Complementing the global benchmark is the US only GABI which is a holistic gauge for the entire USD denominated fixed income market.

Overall, the GABI and GABI US indices offer a more replicable representation of the global fixed income debt stock, coupled with an unprecedented level of portfolio customization.

Components

The GABI benchmark can be segmented as below:

- **Government Bonds:** tracks local government bond markets that are freely accessible by the international institutional investor base, across both emerging and developed market.
- **Credit:** follows global credit products, including investment grade and high yielding corporates, hard currency sovereigns, and quasi-sovereigns.

Index Facts	
Inception Date	December 1987
Launch Date	March 2018
Rebalancing Date	Last weekday of the month
Holiday Calendar	Calculated on every weekday
Pricing Source	Bid/Offer prices from third party evaluation vendor (PricingDirect)
FX Spot/Forward Rate	WM Reuters 4pm London Rate
Coupon Reinvestment	All coupons received are immediately reinvested as per the criteria of respective asset classes

- **Securitized:** measures the performance of pooled debt, including Mortgage Backed Securities, Collateralized Loan Obligations, Asset Backed Securities, and Pfandbriefe.
- **Public Finance:** covers issuers whose debt repayments are backed by the faith and credit of a government, including Agency and Taxable Municipals.

Country Eligibility

The GABI index eligibility is not restricted by country or currency. In addition, the inclusion or exclusion of specific countries is not limited to an annual governance review. Rather, market eligibility is determined on a continuous basis.

Market Classification

To classify the type of market (Developed or Emerging) across the various global asset classes and instruments in the GABI, a regional approach is used to simplify the classification across multiple complex instruments. Emerging Markets is defined as the set of countries in Africa, Asia (excluding Australia, Japan and New Zealand), Eastern Europe, Latin America, and the Middle East. Instruments issued by countries within U.S. & Canada, Western Europe and Australia, Japan, and New Zealand are classified as Developed Markets.

Credit Rating

There is no credit rating criterion for instrument inclusion in the GABI.

For rating sensitive buckets, the middle rating of the S&P, Moody's and Fitch ratings is used to determine the aggregate credit designation for each instrument.

When a rating from only two agencies is available, the lower is used and when only one agency rates a bond, that rating is used.

Credit quality sub-indices are determined at rebalance. If a credit event occurs intra-month, the security will remain within the original credit quality sub-index designated during the prior month-end rebalance.

However, if a rating action results in a bond shift from a credit bucket sub-index to another, this activity will be reflected at the following month-end rebalance.

Index	Min Issue Size	Min Maturity	Coupon	Eligible Currency	Eligible Country
GABI Government (Local Currency)					
Onshore/Global	\$1 billion/ \$500 million	Entry: Minimum 2.5 years till maturity To remain: Minimum 6 months till maturity	Fixed	Local	All
GABI Corporates					
Corp DM IG (\$)	\$300 million/ issue and \$1 billion/issuer	Entry: Minimum 24 months till maturity To Remain: 6 months till maturity	Fixed	USD	U.S. & Canada, Western Europe, Asia (Australia, Japan, New Zealand)
Corp DM IG (€)	€250 million		Fixed	EUR	All
Corp DM IG (£)	£100 million		Fixed	GBP	All
Corp DM HY (\$)	\$200 million	Entry: Minimum 3 years till maturity To remain: Minimum 6 months till maturity	Fixed/ Float	USD	U.S. & Canada, Western Europe, Asia (Australia, Japan, New Zealand)
Corp DM HY (€)	€200 million	Entry: Minimum 3 years till maturity To remain: Minimum 6 months till maturity	Fixed/ Float	EUR	U.S. & Canada, Western Europe, Asia (Australia, Japan, New Zealand)
Corp DM HY (£)	£100 million	Entry: Minimum 3 years till maturity To remain: Minimum 6 months till maturity	Fixed/ Float	GBP	U.S. & Canada, Western Europe, Asia (Australia, Japan, New Zealand)
Corp EM (\$)	\$300 million	Entry: Minimum 2.5 years till maturity To remain: Minimum 6 months till maturity	Fixed/ Float	USD	Africa, Asia (ex Australia, Japan, New Zealand), Eastern Europe, Latin America, Middle East
GABI Sovereigns (External Currency)					
Sov EM (\$)	\$500 million	Entry: Minimum 2.5 years till maturity To remain: Minimum 6 months till maturity	Fixed/ Float	USD	Africa, Asia (ex Australia, Japan, New Zealand), Eastern Europe, Latin America, Middle East (GNI per capita must be below the Index Income Ceiling (IIC)* for 3 consecutive years OR IPR** below threshold for 3 consecutive years)
Sov EM (€)	€500 million	Entry: Minimum 2.5 years till maturity To remain: Minimum 6 months till maturity	Fixed/ Float	EUR	Africa, Asia (ex Australia, Japan, New Zealand), Eastern Europe, Latin America, Middle East (GNI per capita must be below the Index Income Ceiling (IIC)* for 3 consecutive years OR IPR** below threshold for 3 consecutive years)
Sov DM (€)	€250 million	Entry: Minimum 24 months till maturity To Remain: 6 months till maturity	Fixed/ Float	EUR	All
Sov DM (£)	£100 million		Fixed/ Float	GBP	All
GABI Securitized					
MBS	US\$500 million	>12 months WAM	Fixed	USD	United States
ABS	Senior: US\$25 million; Subordinate: US\$1 million	>0.3 WAL	Fixed/ Float	USD	United States
CLO	None	None	Float	USD	United States
Pfandbriefe	€500 million	>= 24 months	Fixed	EUR	All
GABI Government-Related					
Agencies	US\$ 1 billion	>6 months	Fixed	USD	United States
Taxable Municipals	US\$300 million	>6 months	Fixed	USD	United States

GBI-AGG / Diversified

Aa3/AA-/AA-

- The J.P. Morgan Government Bond Index- Aggregate Diversified (GBI-AGG Div) provides investors with a comprehensive, investable benchmark that spans all liquid, local currency government bond markets in both developed and emerging market countries.
- The GBI-AGG Div benchmark applies a currency diversification scheme that evolves dynamically based on the index debt profile.
- The GBI-AGG/ Diversified are comprised of 34 currencies, across 41 countries and capture nearly US\$ 35 trillion of the global government bond stock.
- Launched in October 2016, the GBI-AGG/Diversified indices have daily historical index levels and statistics starting from Dec. 31, 2001.

Overview

The GBI-Aggregate/Diversified Index is an all-encompassing global government bond index which tracks liquid and investable local government bond markets that are accessible by the international institutional investor base. The GBI-AGG Div is suitable for global government bond managers looking to increase their allocation to emerging markets as a way to pick up yields and diversify their holdings.

As a base premise of inclusion, markets must be accessible to foreign investors; additionally the GBI- Aggregate/ Diversified index excludes countries with explicit capital controls or countries where significant constraints exist on:

- The amount of holdings of government bonds by a foreign investor, or
- The purchase or sale of government bonds by a foreign investor, or
- The purchase or sale of spot FX by a foreign investor

The index does not exclude countries based on credit ratings and therefore includes both investment grade and high yield local currency government bonds.

Index Facts	
Inception Date	December 2001
Launch Date	October 2016
Rebalancing Date	Last weekday of the month
Holiday Calendar	Calculated on every weekday
Pricing Source	Mid-price from third party evaluation vendor (Pricing Direct)
FX Spot/ Forward Rate	WM Reuters 4pm London Rate
Coupon Reinvestment	All coupons received are immediately reinvested in 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	
Country Criteria	
Market Accessibility	Markets must be open to foreign investors
Capital Controls	Countries with capital controls are not eligible
Instrument Criteria	
Instrument Type	Fixed coupon and Zero coupon bonds are eligible
Remaining Maturity	Bonds must have a remaining maturity > 6 months
Pricing	The index uses mid prices. Daily pricing available
Liquidity	Bonds must have sufficient trade volumes, bid ask spreads and screen sizes to be considered for inclusion into the index
Issuance size	Bonds must have over US\$1 billion equivalent (or US\$500 million for global bonds) to enter / remain in the index

Current Face Amount Outstanding

Only instruments with a current face amount outstanding of US\$1 billion equivalent for onshore local currency bonds and US\$500 million equivalent for global bonds (offshore currency linked bonds) or more will be considered for inclusion. Once included in the benchmark, the size eligibility criteria will only be examined for buybacks and exchanges.

Liquidity

A key feature that distinguishes our indices from other index products is the strict enforcement of liquidity criteria in the selection of instruments. While the notion of liquidity may differ from market to market, J.P. Morgan indices include only securities which an investor can gain access and for which firm prices exist, subject to the following considerations:

- Pricing: Bonds must trade with enough frequency to prevent stale price quotations.
- Availability: A reasonable two-way market must exist for the instrument to be included in the index portfolio.
- Replication: Investors should be able to replicate the index without incurring excessive transaction costs.

Currency Diversification

Methodology

The diversification methodology anchors on the average size (debt stock) of currencies in the index and the debt stock of the largest currency in the index. All currencies are converted to USD in order to apply diversification. To calculate the diversified (adjusted) face amount for each currency, we define:

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

Based on the ICA, the diversified face amount for any currency in the index is derived. Diversified Currency Face Amount =

$$\begin{cases} \text{ICA} * 2 & , \text{if } \text{FA}_{max} \\ \text{ICA} + \frac{\text{ICA}}{\text{FA}_{max} - \text{ICA}} * (\text{Currency FA} - \text{ICA}) & , \text{if } \text{Currency FA} > \text{ICA} \\ \text{Currency FA} & , \text{if } \text{Currency FA} \leq \text{ICA} \end{cases}$$

Where Currency FA represents the non-diversified currency face amount and FAm_{ax} represent the face amount of the largest currency.

For currencies with multiple issuers (e.g. the EUR), the face amount post-diversification for each country is based on their relative sizes pre-diversification.

Credit Rating

These indices do not exclude countries based on credit ratings and therefore span both Investment Grade and High Yield local currency government bond markets across developed and emerging markets.

Credit ratings sensitive sub-indices of the GBI-AGG series will be determined using the median rating of local currency issuer debt ratings from Moody's, S&P and Fitch.

GBI Aggregate/Diversified Rebalancing

Rebalancing takes place monthly on the last weekday of each month, regardless of any local holiday. On rebalance day, new bonds will enter the index at the close-of-business, and bonds which fail to comply with the index criteria will be removed. Any additional taps or buybacks that occur during the month will also be reflected at this time.

Re-entry of an Excluded Country

Once a country is excluded from the index due to a specific event (e.g. capital controls), the country will not re-enter it for at least 12 months.

Country Profile (As of Dec. 2021)

J.P.Morgan

Country	GBI Agg Div	GBI Agg
United States	19.01%	41.20%
Japan	13.03%	16.34%
United Kingdom	11.48%	6.22%
China	9.41%	3.11%
Canada	5.75%	1.83%
Korea	5.41%	1.73%
Australia	4.79%	1.53%
France	3.90%	5.83%
Italy	3.49%	5.22%
Germany	2.62%	3.92%
Spain	2.27%	3.39%
Indonesia	1.86%	0.59%
Brazil	1.35%	0.43%
Mexico	1.31%	0.42%
South Africa	1.20%	0.38%
Thailand	1.09%	0.35%
Malaysia	1.05%	0.34%
Singapore	0.94%	0.30%
Belgium	0.90%	1.35%
Denmark	0.90%	0.29%
Poland	0.86%	0.28%
Russia	0.86%	0.27%
Netherlands	0.74%	1.11%
New Zealand	0.71%	0.23%
Austria	0.57%	0.86%
Czech Republic	0.57%	0.18%
Sweden	0.55%	0.18%
Colombia	0.49%	0.16%
Israel	0.49%	0.16%
Hungary	0.42%	0.13%
Romania	0.37%	0.12%
Portugal	0.36%	0.54%
Ireland	0.31%	0.47%
Peru	0.26%	0.08%
Finland	0.24%	0.36%
Chile	0.23%	0.07%
Turkey	0.13%	0.04%
Serbia	0.04%	0.01%
Dominican Republic	0.02%	0.01%
Uruguay Global	0.02%	0.005%
Philippines Global	0.02%	0.005%

Where to find the GBI-AGG index?

Bloomberg

JPMX <GO> → GBI-Aggregate → GBI-Aggregate

DataQuery

www.jpmm.com → Data Query → Indices
→ GBI-Aggregate Index Family → GBI-AGG

Morgan Markets

www.jpmm.com (Research → Index → GBI Aggregate
Index Family → GBI-Aggregate/Diversified Index)

GBI-DM / Diversified

Aa2/AA/AA

- The GBI Developed Markets Index is a developed markets local government bond benchmark.
- Both traditional market capitalization weighted and currency diversified versions are available.
- Launched in October 2016, the GBI-DM/ Diversified indices have daily historical index levels starting from December 31, 2001.

Overview

The GBI-Developed Markets Index leverages the existing JPM rules and criteria widely used in the GBI-EM series to establish a dynamic standard for investors looking to track performance in developed market domestic debt. The benchmark consists of fixed-rate developed markets local government bonds. We exclude floating rate notes, perpetuals, and bonds with less than six months to maturity from the index.

The GBI-DM benchmark only includes countries with GNI per-capita (published by the World Bank) must be above the JPM defined Index Income Ceiling (IIC) for three consecutive years or the country’s cost of living (purchasing power) is above the JPM defined threshold (IPR) for three consecutive years. In addition to meeting these requirements, countries must also meet one of the following criteria:

- The local currency credit rating of a country must be A-/A3/A- or above from all the three rating agencies (S&P, Moody’s and Fitch) for three consecutive years, or
- The local currency government debt size of a country (published by the World Bank) must be above the JPM defined Index Debt ceiling (IDC) for three consecutive years.

Index Facts	
Inception Date	December 2001
Launch Date	October 2016
Rebalance Date	Last weekday of the month
Holiday Calendar	Calculated on every weekday
Pricing Source	Mid-price from third party evaluation vendor (Pricing Direct)
FX Spot/Forward Rate	WM Reuters 4pm London Rate
Coupon Reinvestment	All coupons received are immediately reinvested in 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	
Country Criteria	
Market Accessibility	Markets must be open to foreign investors.
Capital Controls	Countries with capital controls are not eligible
Index Income Ceiling / Index PPP Ratio	Must be above IIC or IPR for 3 consecutive years
Index Debt Ceiling	Must be above IDC for 3 consecutive years; OR meet the credit rating criteria
Credit Rating	Must be above A-/A3/A- for 3 consecutive years; OR meet IIC/ IPR criteria
Instrument Criteria	
Instrument Type	Fixed coupon and Zero coupon bonds are eligible
Remaining Maturity	Bonds must have a remaining maturity > 6 months
Pricing	The index uses mid prices. Daily pricing available
Issuance size	Bonds must have over US\$1 billion equivalent (or US\$500 million for global bonds) to enter/remain in the index

Demystifying the Concepts of IIC and IDC

The J.P. Morgan “Index Income Ceiling” (IIC) is a measure of relative per capita income designed to reflect changes in the world economic landscape. The income level is adjusted annually by the growth rate of the World GNI per capita, provided by the World Bank using the Atlas method. Once a country has GNI per capita above the IIC level for three consecutive years, the country will be eligible for the GBI-DM Index. The base IIC level, established in 1987, is set to the World Bank High Income threshold at US\$6,000 GNI per capita.

The J.P. Morgan “Index Debt Ceiling” (IDC) measures the total sovereign debt within a country. The IDC is adjusted every year by the growth rate of the world’s average sovereign debt sourced from the World Bank and IMF. A country’s outstanding sovereign debt needs to be above the Index Debt ceiling (IDC) for three consecutive years to qualify as meeting one of the two for inclusion in the GBI-DM Index, given the country’s GNI per capita is also above the IIC level for three consecutive years.

Credit Rating

The local currency rating of a country must be A-/ A3/A- or above from all the three rating agencies, S&P, Moody’s and Fitch, for three consecutive years for the country to be eligible for the GBI-DM Index.

For rating sensitive buckets, the index uses middle of the three ratings for rating bucket classification (S&P/Moody’s/Fitch).

Currency Diversified Weighting Methodology

The diversification methodology anchors on the average size (debt stock) of currencies in the index and the debt stock of the largest currency in the index.

To calculate the diversified (adjusted) face amount for each currency, we define:

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

Based on the ICA, the diversified face amount for any currency in the index is derived. Diversified Currency Face Amount =

$$\begin{cases} \text{ICA} + 2 & , \text{if } \text{FA}_{\text{max}} \\ \text{ICA} + \frac{\text{ICA}}{\text{FA}_{\text{max}} - \text{ICA}} * (\text{Currency FA} - \text{ICA}) & , \text{if } \text{Currency FA} > \text{ICA} \\ \text{Currency FA} & , \text{if } \text{Currency FA} \leq \text{ICA} \end{cases}$$

Where Currency FA represents the non-diversified currency face amount and FAm_{ax} represent the face amount of the largest currency.

For currencies with multiple issuers (e.g. the EUR), the face amount post-diversification for each country is based on their relative sizes pre-diversification.

GBI-DM/ Diversified Rebalancing

Rebalancing takes place monthly on the last weekday of each month, regardless of any local holiday. On rebalance day, new bonds will enter the index at the close-of-business, and bonds which fail to comply with the index criteria will be removed.

Any additional taps or buybacks that occur during the month will also be reflected at this time.

Current Face Amount Outstanding

Only instruments with a current face amount outstanding of US\$1 billion equivalent for onshore local currency bonds and US\$500 million equivalent for global bonds (offshore currency linked bonds) or more will be considered for inclusion. Once included in the benchmark, the size eligibility criteria will only be examined for buybacks and exchanges.

Re-entry of an Excluded Country

Once a country is excluded from the index due to a specific event (e.g. capital controls), the country will not re-enter for at least 12 months.

Country Profile (As of Dec. 2021)

Country	GBI DM Div	GBI DM
United States	30.83%	44.29%
Japan	19.75%	17.56%
United Kingdom	12.81%	6.68%
France	6.02%	6.27%
Italy	5.38%	5.61%
Germany	4.04%	4.21%
Canada	3.78%	1.97%
Korea	3.56%	1.86%
Spain	3.50%	3.65%
Australia	3.15%	1.64%
Belgium	1.39%	1.45%
Netherlands	1.14%	1.19%
Austria	0.89%	0.92%
Singapore	0.61%	0.32%
Denmark	0.59%	0.31%
Portugal	0.56%	0.58%
Ireland	0.48%	0.50%
New Zealand	0.47%	0.24%
Finland	0.37%	0.38%
Sweden	0.36%	0.19%
Israel	0.32%	0.17%

Where to find the GBI-DM index?

Bloomberg

JPMX <GO> → GBI-Aggregate → Related GBI-Agg Indices → GBI-DM

DataQuery

www.jpmm.com (Analyze-Cross-Asset → Data Query → Indices → GBI Aggregate Index Family → GBI-DM)

Morgan Markets

www.jpmm.com (Research → Index → GBI Aggregate Index Family → GBI Aggregate/Diversified Index)

GBI-CM / Diversified

Aa2/AA/AA

- The GBI-Cross Markets Index is a fixed rate predominantly developed market local treasury benchmark with exposure to the larger/ more advanced emerging markets.
- The GBI-CM/Diversified indices have daily historical index levels and statistics starting from December, 1987.

Overview

The GBI-Cross Markets Index is a hybrid benchmark, which primarily tracks fixed-rate developed market local government bonds with exposure to advanced emerging markets.

To be eligible for the index, a country must satisfy two out of the three criteria listed below:

- The country’s GNI per-capita (published by the World Bank) must be above the JPM defined Index Income Ceiling (IIC) for three consecutive years or the country’s cost of living (purchasing power) is above the EM threshold (IPR) for three consecutive years.
- The local currency credit rating of a country must be BBB-/Baa3/BBB- or above from all the three rating agencies (S&P, Moody’s and Fitch)
- The local currency government debt size of a country (published by the World Bank) must be above the JPM defined Index Debt ceiling (IDC) for three consecutive years.

Demystifying the Concepts of IIC and IDC

The J.P. Morgan “Index Income Ceiling” (IIC) is a measure of relative per capita income designed to reflect changes in the world economic landscape. The income level is adjusted annually by the growth rate of the World GNI per capita, provided by the World Bank using the Atlas method. The base IIC level, established in 1987, is set to the World Bank High Income threshold at US\$6,000 GNI per capita.

Index Facts	
Inception Date	GBI-CM: 1987, GBI-CM Div: 2001
Launch Date	GBI-CM: December 1997
	GBI-CM Div: October 2016
Rebalance Date	Last weekday of the month
Holiday Calendar	Calculated on every weekday
Pricing Source	Mid-price from third party evaluation vendor (Pricing Direct)
FX Spot/Forward Rate	WM Reuters 4pm London Rate
Coupon Reinvestment	All coupons received are immediately reinvested in 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	
Country Criteria	
Market Accessibility	Markets must be open to foreign investors.
Capital Controls	Countries with capital controls are not eligible
Index Income Ceiling / Index PPP Ratio	Must be above IIC or IPR for 3 consecutive years; OR meet both IDC / ratings criteria
Index Debt Ceiling	Must be above IDC for 3 consecutive years; OR meet both IIC / IPR / ratings criteria
Credit Rating	Must be above Baa3/BBB-/BBB- for 3 consecutive years; OR meet both IIC/ IPR / IDC criteria
Instrument Criteria	
Instrument Type	Fixed coupon and Zero coupon bonds are eligible
Remaining Maturity	Bonds must have a remaining maturity > 6 months
Pricing	Two way daily pricing available
Issuance size	Bonds must have over US\$1 billion equivalent (or US\$500 million for global bonds) to enter / remain in the index

The J.P. Morgan “Index Debt Ceiling” (IDC), another criterion of country eligibility, measures the total sovereign debt within a country. The IDC is adjusted every year by the growth rate of the world’s average sovereign debt sourced from the World Bank and IMF.

Credit Rating

For a country to enter or remain in the index, one of the two criteria is that the country local currency rating must be BBB-/Baa3/BBB- or above by all three rating agencies (S&P, Moody’s, Fitch).

The inclusion threshold for the GBI-CM index is three notches below the GBI-DM index criteria; this allows a broader set of countries to be included in the hybrid benchmark.

For rating sensitive buckets, the index uses middle of three ratings (Moody’s/S&P/Fitch).

Diversified Version Weighting Methodology

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

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

Based on the ICA, the diversified face amount for any currency in the index is derived.

$$\begin{cases} \text{ICA} * 2 & , \text{if } FA_{max} \\ \text{ICA} + \frac{\text{ICA}}{FA_{max} - \text{ICA}} * (\text{Currency FA} - \text{ICA}) & , \text{if Currency FA} > \text{ICA} \\ \text{Currency FA} & , \text{if Currency FA} \leq \text{ICA} \end{cases}$$

Diversified Currency Face Amount =

Where Currency FA represents the non-diversified currency face amount and FAm_{ax} represent the face amount of the largest currency.

For currencies with multiple issuers (e.g. the EUR), the face amount post-diversification for each country is based on their relative sizes pre-diversification.

GBI-CM/ Diversified Rebalancing

Rebalancing takes place monthly on the last weekday of each month, regardless of any local holiday. On rebalance day, new bonds will enter the index at the close-of-business, and bonds which fail to comply with the index criteria will be removed. Any additional taps or buybacks that occur during the month will also be reflected at this time.

Current Face Amount Outstanding

Only instruments with a current face amount outstanding of US\$1 billion equivalent for onshore local currency bonds and US\$500 million equivalent for global bonds (offshore currency linked bonds) or more will be considered for inclusion. Once included in the benchmark, the size eligibility criteria will only be examined for buybacks and exchanges.

Re-entry of an Excluded Country

Once a country is excluded from the index due to a specific event (e.g. capital controls), the country will not re-enter it for at least 12 months.

Country Profile (As of Dec. 2021)

Country	GBI CM Div	GBI CM
United States	26.75%	42.55%
Japan	17.50%	16.87%
United Kingdom	13.32%	6.42%
China	6.66%	3.21%
France	5.30%	6.02%
Italy	4.74%	5.39%
Canada	3.93%	1.89%
Korea	3.70%	1.78%
Germany	3.56%	4.04%
Australia	3.27%	1.58%
Spain	3.08%	3.50%
Belgium	1.22%	1.39%
Netherlands	1.01%	1.14%
Mexico	0.90%	0.43%
Austria	0.78%	0.89%
Singapore	0.64%	0.31%
Denmark	0.61%	0.30%
Poland	0.59%	0.28%
Portugal	0.49%	0.56%
New Zealand	0.49%	0.23%
Ireland	0.43%	0.48%
Sweden	0.38%	0.18%
Israel	0.33%	0.16%
Finland	0.32%	0.37%

Where to find the GBI-CM index?

Bloomberg

JPMX <GO> → GBI-Aggregate → Related GBI-Agg Indices → GBI-CM Div

DataQuery

(Analyze → Cross-Asset → Data Query → Indices → GBI Aggregate Index Family → GBI-CM

Morgan Markets

www.jpmm.com (Research → Index → GBI Aggregate Index Family → GBI-Aggregate/Diversified Index)

- The Government Bond Index (GBI) Global tracks the performance of fixed-rate, local currency treasury bonds issued by a fixed list of 13 core developed markets.
- The indices have daily historical index levels and statistics starting from Dec. 31, 1987.

Overview

The GBI Global Index is a core developed market subset of the flagship GBI-Aggregate Index which is an all-encompassing developed market government bond index tracking the performance of liquid and investable local government bond markets that are accessible by the international institutional investor base.

The index excludes floating rate notes, perpetual, bonds with less than six months to maturity, and bonds that target the domestic market.

The GBI Global Index is designed to measure the performance of treasury securities issued by the most liquid developed markets. It has maintained a fixed list of 13 countries since inception. Securities are market capitalization weighted in the GBI Global Index.

Country Eligibility

The GBI Global Index currently tracks a fixed list of 13 core developed markets, namely Australia, Belgium, Canada, Denmark, France, Germany, Italy, Japan, Netherlands, Spain, Sweden, United Kingdom, and United States.

Index Facts	
Inception Date	December 1987
Launch Date	December 1989
Rebalance Date	Last weekday of the month
Holiday Calendar	Calculated on every weekday
Pricing Source	Mid price from third party evaluation vendor (PricingDirect)
FX Spot/Forward Rate	WM Reuters 4pm London Rate
Coupon Reinvestment	All coupons received are immediately reinvested in 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	
Instrument Type	Fixed coupon and Zero coupon bonds are eligible
Remaining Maturity	Bonds must have a remaining maturity > 6 months
Pricing	The index uses mid prices. Daily pricing available.
Issuance size	Bonds must have over US\$1 billion equivalent (or US\$500 million for global bonds) to enter / remain in the index

Current Face Amount Outstanding

Only instruments with a current face amount outstanding of US\$1 billion equivalent for onshore local currency bonds and US\$500 million equivalent for global bonds (offshore currency linked bonds) or more will be considered for inclusion. Once included in the benchmark, the size eligibility criteria will only be examined for buybacks and exchanges.

GBI Global Rebalancing

Rebalancing takes place monthly on the last weekday of each month, regardless of any local holiday. On rebalance day, new bonds will enter the index at the close-of-business, and bonds which fail to comply with the index criteria will be removed. Any additional taps or buybacks that occur during the month will also be reflected at this time.

Country Profile (As of Dec. 2021)

Country	WEIGHT (%)
United States	46.61%
Japan	18.48%
United Kingdom	7.03%
France	6.60%
Italy	5.90%
Germany	4.43%
Spain	3.84%
Canada	2.07%
Australia	1.73%
Belgium	1.52%
Netherlands	1.25%
Denmark	0.32%
Sweden	0.20%

Where to find the GBI GLOBAL?

Bloomberg

JPMX <GO> → Developed Markets → Sovereigns → GBI Global

DataQuery

www.jpmm.com (Analyze → Cross-Asset → Data Query → Indices → Government/Agency → Index Levels and Stats)

Morgan Markets

www.jpmm.com (Research → Index → Government Bond Index (GBI))

Publication

Developed Markets Monitor, Index Quarterly Attribution

EMU & EMU-IG

A1/AA-/A+ & A1/AA-/A+

- The J.P. Morgan European Monetary Union Index (EMU) provides a measure of euro-denominated domestic government debt issued by Western Eurozone countries.
- The EMU has gained extensive traction, serving as the flagship benchmark for managers investing in government bonds in the Western Eurozone.
- The Investment Grade-only subset of the EMU, the EMU IG, includes local government bonds issued by Western Eurozone countries with investment grade local currency long term ratings.
- The EMU Index was launched in 1998 and the EMUIG Index followed in 2010.

Overview

The EMU Index includes liquid, bullet, fixed-rate local debt issued by Western European governments where the euro is the official currency. The index currently includes government bonds issued by Austria, Belgium, Finland, France, Germany, Ireland, Italy, Netherlands, Portugal, and Spain.

For a country to be eligible for inclusion in the EMU IG index or any other rating sensitive sub-index, uses median rating of local currency issuer debt ratings from S&P, Moody's and Fitch. Any change in a country's eligibility due to a rating action will be reflected at the rebalance in the subsequent month.

The EMU and EMU IG Index returns are available in both unhedged and hedged terms in a variety of foreign currencies to help clients manage currency exposure. Additionally, ex-country dices are also available (e.g. EMU ex-Peripheral).

Index Criteria	
Instrument Type	Fixed coupon and Zero coupon bonds are eligible
Remaining Maturity	Bonds must have a remaining maturity > 6 months
Pricing	The index uses mid prices. Daily pricing available.
Credit Rating (EMU IG only)	Credit ratings sensitive sub-indices of the GBI-EMU series will be determined using the median rating of local currency issuer debt ratings from Moody's, S&P and Fitch
Issuance size (EMU IG only)	Countries must have at least €20 billion eligible debt in issue to be considered for inclusions; bonds must have a minimum amount outstanding size of €1 billion to be eligible.
Index Facts	
Inception Date	January 1995
Launch Date	March 1998 (EMU); June 2010 (EMU IG)
Rebalance Date	Last weekday of the month
Holiday Calendar	Last weekday of the month (including local holidays)
Pricing Source	Mid price from third party evaluation vendor (PricingDirect)
FX Spot/Forward rate	WM Reuters 4pm London Rate
Coupon Reinvestment	All coupons received are immediately reinvested in respective local market
Hedging Strategy	Assume a 1-month currency forward position that begins on rebalance day and ends on next rebalance day

Country Eligibility

There is no rule governing the inclusion of instruments based on a minimum size requirement for the standard EMU Index. However, the EMU IG does maintain a minimum country and instrument size criteria. For a country's issue to be considered for inclusion within the EMU IG Index, the country must have a total outstanding amount of eligible debt in issue of at least €20 billion. Post index launch, each issue within the EMU IG Index must have a minimum amount outstanding size of €1 billion.

If an existing Eurozone country leaves the EMU, the country would be excluded from the EMU index family.

EMU Rebalancing

Rebalancing takes place monthly on the last weekday of each month, regardless of any local holiday. On rebalance day, new bonds will enter the index at the close-of-business, and bonds which fail to comply with the index criteria will be removed. Any additional taps or buybacks that occur during the month will also be reflected at this time.

Credit Rating

The EMU Index does not exclude countries based on credit ratings and therefore span both Investment Grade and High Yield local currency government bond markets across Western Eurozone countries.

For inclusion in the EMU IG Index, median of the three rating agencies is used (S&P, Moody's and Fitch).

Country Profile (As of Dec. 2021)

Country	EMU	EMU IG
France	25.31%	25.31%
Italy	22.65%	22.65%
Germany	17.00%	17.00%
Spain	14.73%	14.73%
Belgium	5.84%	5.84%
Netherlands	4.80%	4.80%
Austria	3.73%	3.73%
Portugal	2.36%	2.36%
Ireland	2.03%	2.03%
Finland	1.55%	1.55%

Where to find the EMU/ EMU-IG indices?

Bloomberg

JPMX <GO> → Developed Markets → Sovereigns
→ EMU/ EMU IG

DataQuery

www.jpmm.com (Analyze → Cross-Asset
→ Data Query → Indices → Government/Agency
→ Index Levels and Stats → EMU)

Morgan Markets

www.jpmm.com (Research → Index
→ Government → EMU)

Publication

Developed Markets Monitor,
Index Quarterly Attribution.

US Agency

Aaa/AA+/AAA

- The J.P. Morgan US Government Agency Index is designed to track the performance of bullet, fixed-rate bonds issued by the US government agencies.
- The US Agency Index currently includes bonds from five agencies: Fannie Mae (FNMA), Freddie Mac (FHLMC), Federal Home Loan Bank (FHLB), Federal Farm Credit Bank (FFCB), and Tennessee Valley Authority (TVA).
- Launched in October 2002, the US Agency Index has daily historic index levels and statistics starting from December 1998.

Overview

The US Agency index tracks the performance of US Agency bond market which stands at US\$172 billion as of Dec 2021. The US Agency index is market capitalization-weighted and only includes the most liquid instruments in this space.

Current Face Amount Outstanding

Only instruments with a current face amount outstanding of US\$1 billion will be considered for inclusion. Once included in the benchmark, the size eligibility criteria will only be examined for buybacks and taps.

Agency Eligibility

Bonds issued by the following five agencies, namely Fannie Mae (FNMA), Freddie Mac (FHLMC), Federal Home Loan Bank (FHLB), Federal Farm Credit Bank (FFCB), and Tennessee Valley Authority (TVA), are eligible for inclusion provided they meet other index criteria.

Index Facts	
Inception Date	December 1998
Launch Date	October 2002
Rebalance date	Last business day of the month
Holiday	Follows US bond market calendar
Pricing Source	Mid-price from third party evaluation vendor (PricingDirect)
FX spot/forward rate	WM Reuters 4pm London Rate
Coupon Reinvestment	All coupons received are immediately reinvested back into the index
Hedging Strategy	Assume a 1-month currency forward position that begins on rebalance day and ends on next rebalance day
Index Criteria	
Instrument Type	USD-denominated, bullet, fixed-rate Agency bonds are eligible. Callable bonds are excluded.
Issuance size	Bonds must have at least US\$1 billion outstanding to enter/ remain in the index.
Remaining Maturity	Bonds must have a remaining maturity > 6 months to remain in the index.

Remaining Maturity

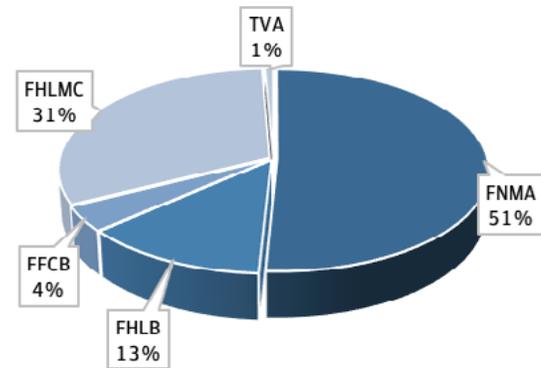
Eligible instruments must have at least two years remaining to maturity to be added to the index. Existing index bonds must have no less than 6 months remaining to maturity to remain eligible.

US Agency Rebalancing

The US Agency Index is rule based and rebalances monthly on the last weekday of each month, regardless of a US holiday. On rebalance day, new bonds will enter the index at the close-of business, and bonds which fail to comply with the index criteria will be removed.

Any re-categorization between maturity buckets or rating groups during the month will also be reflected at this time.

US Agency Profile (As of Dec 2021)



Where to find the US Agency index?

DataQuery

www.jpmm.com (Data Query → Indices
→ Government/Agency → US Agency Index)

Morgan Markets

www.jpmm.com (Research → Index
→ Developed Markets → US Agency Index)

US High Grade Corporate Index (JULI)

A3/A-

- The J.P. Morgan US Liquid Index (JULI) measures the performance of the investment grade US dollar denominated corporate bond market, with the goal of including all fixed rate bullet instruments.
- The JULI incorporates not only developed markets corporate bonds but also emerging markets corporates.
- Sub-indices, that provide detailed performance by industry sector, sub-sector, rating and maturity, are calculated each day.

Overview

The JULI provides a range of quantitative and performance information on the U.S. high grade corporate bond market. At its initial launch, the index limited eligible bonds to only those issued by companies domiciled in developed markets.

Over time however, the JULI expanded its coverage to include emerging market issuers as well.

This cross-over is also represented in the CEMBI IG, the emerging markets corporate index.

The JULI utilizes the credit rating of the issuing company, not restricted by the issuer’s domicile, as a better definition of the high grade bond market. The credit rating is based on Moody’s, S&P and Fitch where available.

The credit must be rated Investment Grade by at least two of three agencies when three ratings are available, by both agencies when two ratings are available and by the sole agency if only one rating is available to qualify for inclusion in the index.

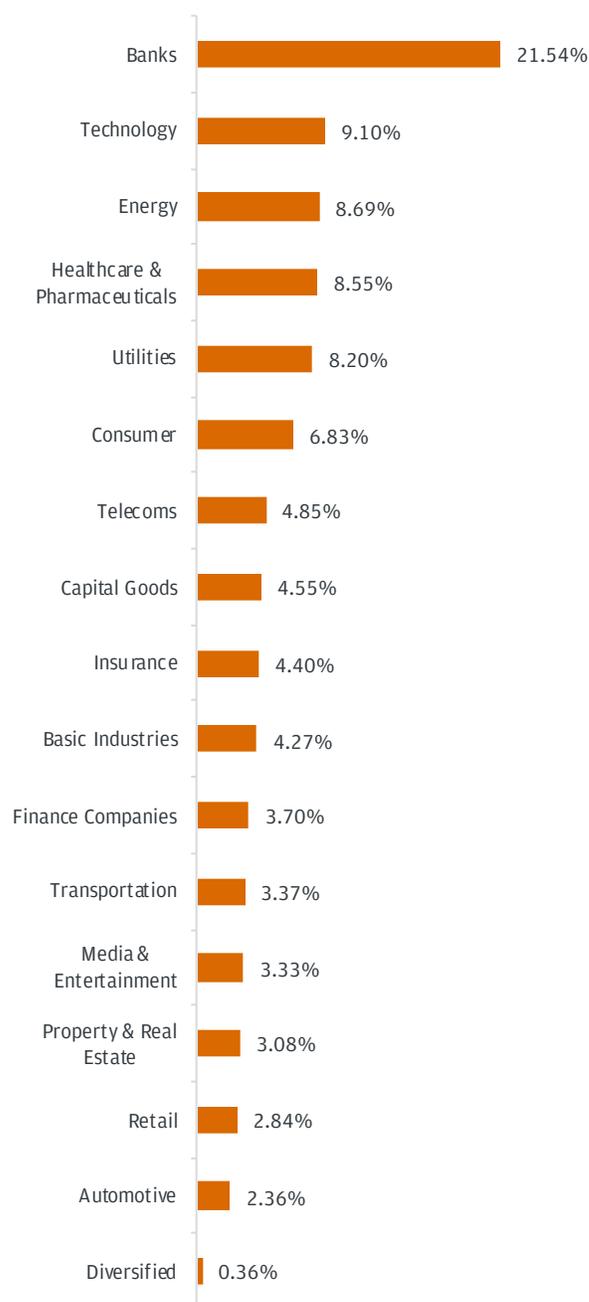
The JULI can be differentiated from other bond indices in a number of important ways. The JULI offers greater granularity of bond details such as domicile, capital seniority, surplus notes, secured type, change of control, market and registration rights. The JULI index also includes additional index and sub-index level analytics such as portfolio spreads to both UST and Swaps and trading volume metrics.

Index Facts	
Inception Date	December 1999
Launch Date	June 2004
Rebalance date	Last business day of the month
Holiday	Follows US bond market calendar
Pricing Source	Bid/offer price from third party evaluation vendor (PricingDirect)
Coupon Reinvestment	All coupons received are immediately reinvested back into the index
Index Criteria	
Instrument Type	Fixed rate/bullet USD corporate bonds, bank callables are priced to call date
Remaining Maturity	Bonds must have a remaining maturity > 13 months to remain in the index.
Currency	USD
Credit Rating	Investment Grade only
Issuance size	Bonds must have at least US\$300 million outstanding.

JULI Rebalancing

The JULI rebalances at the last U.S. business day of each month based on stated rules. Likely reasons for a given bond to be removed from the index include a credit rating downgrade out of IG, maturity coming within 13 months. The anti-churn rule built into the index states that if a bond is removed due to credit rating or issue size considerations, it may be reinstated into the index only after a period of six months, assuming it continues to meet all inclusion criteria.

JULI Sector Profile (As of Dec 2021)



Where to find the JULI?

Bloomberg

JULI<GO>

DataQuery

<https://markets.jpmorgan.com/#dataquery> (Credit → US Corporates → JULI)

Morgan Markets

https://markets.jpmorgan.com/#research.bond_index (Index → Credit → JULI)

- The J.P. Morgan US Floating Rate Note Index (FRNI) to track the performance of USD-denominated, investment grade, floating rate notes traded in the US markets.
- It is the floating rate companion to the fixed rate J.P. Morgan US Liquid Index (JULI).

Overview*

The FRNI index includes the largest and most active issuers in the US corporate floating rate note market. The index is rule based which ensures that it captures the most liquid floating rate securities while still providing a cross-section that is representative of this diverse market.

** Note: LIBOR will be replaced with SOFR once the transition takes place. Please contact index.research@jpmorgan.com for latest update on SOFR based FRNI.*

Instrument Type

Eligible coupon benchmarks include:

- One-month LIBOR
- Three-month LIBOR
- Prime
- Fed Funds effective
- Fed Funds open
- Fed Funds effective prior day

Index Facts	
Inception Date	December 2003
Launch Date	November 2006
Rebalance date	Last business day of the month
Holiday	Follows US bond market calendar
Pricing Source	Bid/offer price from third party evaluation vendor (PricingDirect)
Coupon Reinvestment	All coupons received are immediately reinvested into the index.
Index Criteria	
Instrument Type	USD denominated floating rate notes. Qualifying medium-term notes and Rule 144a securities permitted.
Min Face Amt Out	300 million
Maturity	>1 year till maturity to enter. Exit on rebalance date preceding the last coupon date prior to maturity.
Credit Rating	Instruments should be rated IG by both Moody's and S&P.
Eligible Coupon benchmarks	One-month LIBOR, Three-month LIBOR, Prime, Fed Funds effective, Fed Funds open, Fed Funds effective prior day.

Liquidity

To ensure only the most liquid floating-rate securities are included in the FRNI, a variety of adjustable-rate corporate securities are excluded from the index.

Among the securities excluded are:

- Eurobonds
- Extendable MTNs
- Convertibles
- Perpetuals
- Taxable municipal bonds
- Floating-rate commercial paper
- Structured notes, range floaters, or other securities with embedded options
- Securities indexed to constant-maturity Treasury (CMT), constant maturity swap (CMS) or similar indices
- Securities issued pursuant to “league table” trades

Current Face Amount Outstanding

Only instruments with a current face amount outstanding of US\$300 million will be considered for inclusion. Once included in the benchmark, the size eligibility criteria will only be examined for buybacks and exchanges.

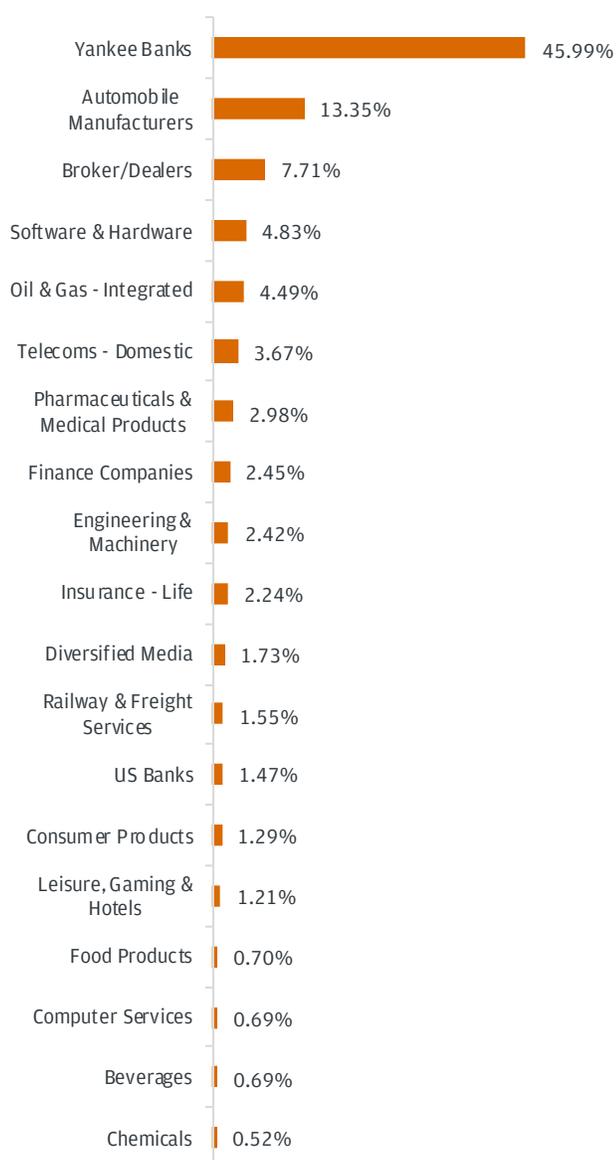
Credit Rating

For inclusion in the FRNI, securities need to be rated IG by Moody’s and S&P.

FRNI Rebalancing

The FRNI is rebalanced monthly on the last business day of the month. FRNs issued in one month but settling in the following month will be included in the following month on the rebalance date. As for securities approaching maturity, the general rule is that securities will be removed from the index on the rebalance date preceding the last coupon date prior to maturity. For example, FRNs indexed to one-month Libor will remain in the FRNI until the rebalance date prior to the last payment date before maturity, which will usually equate to one to two months prior to maturity. Likewise, FRNs indexed to daily reset benchmarks (e.g., fed funds or prime) that pay on a quarterly cycle will remain in the FRNI until the rebalance date prior to the last coupon payment date prior to maturity. In these cases, removal will be effectuated three to four months prior to maturity.

FRNI Profile (As of Dec 2021)



Where to find the FRNI?

Bloomberg

JPMX<GO> → US& European Credit
→ High Grade → FRNI

DataQuery

<https://jpmm.com/#dataquery> (Indices → Credit
→ USD → High Grade → FRNI)

Morgan Markets

<https://jpmm.com> (Research → Index → Credit
→ FRNI Indices)

J.P. Morgan Global High Yield Split BB (B1/BB-)

- The J.P. Morgan Global High Yield Index is designed to mirror the investable universe of the US dollar high yield corporate debt market.
- The index is comprised of issuers domiciled across the global markets. The international component of the index is comprised of emerging market and developed market domiciled issuers.
- The index was established in January 1994 with daily historical index levels and statistics beginning in January 1999. Prior to that, only weekly and monthly data and analytics were available.

Overview

The Global High Yield Index is a widely followed USD high yield index within our suite of high yield indices.

The Global High Yield Index is broken down into sub-indices, allowing clients to track specific high yield market segments, such as rating, industry, country, issue size, duration, and percent of par, security type, and seniority. Data and analytics are available at the index, sub-index, and constituent level, and include yield to worst, yield to maturity, current yield, and spread to worst, modified duration, years to worst date, average rating, and price volatility.

Performance data include total return, principal return, interest return, and index values (on the index and subindex levels only).

Issue size: The minimum amount outstanding for issues to be added to the index is \$75mn (par value). Indexed issues that fall below \$50mn outstanding are removed from the index.

Security type: Only fixed rate corporate debt securities, PIKS (pay-in-kind), step-ups, and deferred coupon bonds are eligible for inclusion in the index. Convertible bonds, preferred stock, and floating-rate, fix-to-float, and variable rate bonds are excluded.

Credit rating: The common rating among Moody's, S&P and Fitch must be double-B or lower.

Index Facts	
Inception Date	January 1994
Launch Date	January 1994
Rebalancing	Daily
Calendar	Follows US bond market calendar
Pricing Source	Bid/offer price from third party evaluation vendor Pricing Direct
Coupon Reinvestment	All coupons received are immediately reinvested into the index
Index Criteria	
Min Par Amount out	\$75mm at initial index inclusion; \$50mm or below are removed from the index
Security type	Only fixed rate corporate debt securities, PIKS (pay-in-kind), stepups, and deferred coupon bonds are eligible for the index. Convertible bonds, preferred stock, and floating-rate, fix-to-float, and variable rate bonds are excluded.
Credit rating	The common rating among Moody's, S&P and Fitch must be double-B or lower. Non rated bonds are included in the index.
Defaults	Defaults remain in the index, yet no defaulted bonds will be added to the index
Currency	US dollars only
Maturity	Minimum 12 months to maturity

Defaults: Indexed issues that default remain in the index. Defaulted bonds will not be added to the index. For example, if a fallen angel defaults prior to the completion of its seasoning period, it will not be added to the index.

Currency: Issues must be denominated in US dollars.

Country regions: The index is comprised of issuers domiciled across the global markets. The international component of the index is comprised of emerging market and developed market domiciled issuers. All sovereign and quasi-sovereign issues are excluded.

Issue type: Issues must be publicly registered or must be issued under rule 144A. Securities issued under rule 144A are eligible for index inclusion regardless of whether a Reg S statement is attached. Thus, 144A “forlife” bonds are included.

Maturity: The number of years from trade date to maturity for each issue must be greater than or equal to one year. Bonds with perpetual maturities are excluded.

Another Defining Characteristic of the Global High Yield Index is that it is constrained to the two largest (most liquid) issues per main issuer. The bond selection process is as follows: If an issuer has more than two issues outstanding, the two largest are selected for inclusion in the index. If the difference between issue size (face amount) is less than or equal to 20%, bonds are chosen by first differentiating between security type, second by differentiating between seniority, third by selecting the more recently issued bond, and fourth by selecting the longer dated maturity.

Finally, the Global High Yield Index has rules regarding fallen angels and rising stars.

Fallen angels are added to the index subject to: 1) the new-issue criteria; except that market value is used instead of par value, and 2) a seasoning period of approximately 90-days. Bonds will be added to index on the first business day of the month closest to 90 days following the downgrade to high yield. Specifically, downgrades occurring during the first 15 days of a month will enter the index in approximately two-and-a-half months, while downgrades occurring on or after the 16th day of a month will enter the index in approximately three-and-a-half months. Rising stars are removed from the index when they are upgraded to high grade.

Global High Yield Index Rebalancing

Index rebalancing occurs daily. Bonds are added or removed as follows:

Removals: 1) a bond is called, tendered, or repurchased in the open market, either in full or when a partial reduction lowers the bond’s par amount outstanding below \$50 million; 2) a bond is upgraded to investment grade; 3) the time to maturity for a bond declines below one year; 4) pricing no longer becomes available; 5) a new issue comes to market that, based on the bond selection process previously described, replaces an existing issue.

Additions: 1) new issues are added upon issuance, assuming they qualify given the aforementioned bond selection process; 2) replacement issues will be added to the index simultaneously with a bond removal (in the event of a removal as described above);

3) Fallen angels are added on the first business day of a month, based on the aforementioned fallen angel criteria.

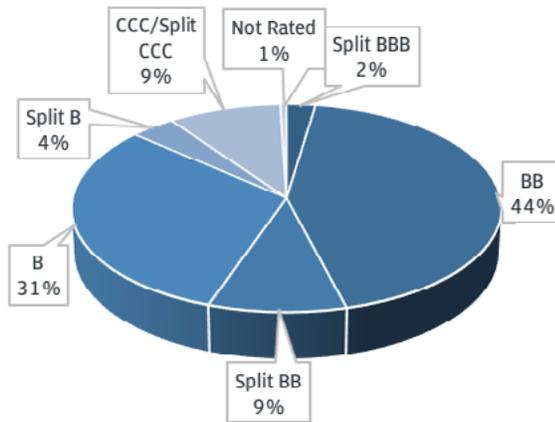
Two Other Primary High Yield Indices

There are two other primary high yield bond indices that are subsets of the Global High Yield Index.

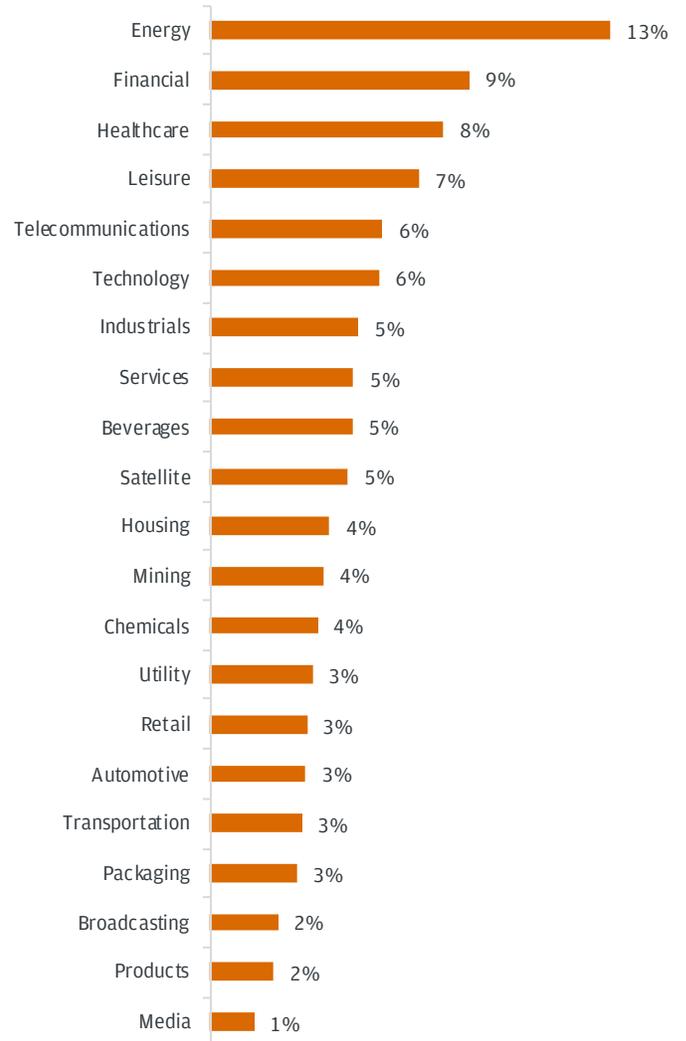
The J.P. Morgan Developed High Yield Index (JPDV) is designed to mirror the investable universe of the US dollar developed high yield corporate debt market, including US and developed market international issues. Emerging market issues are excluded. The J.P. Morgan US High Yield Index (JPDO) is designed to mirror the investable universe of the US high yield corporate debt market, including issues of US and Canadian domiciled issuers.

Note: Rating breakdown is based on the “common” rating among the three agencies; Moody’s, S&P, and Fitch.

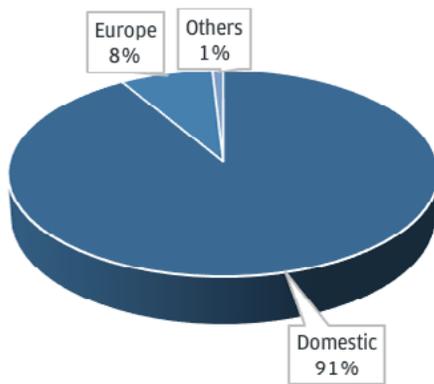
Credit Rating (As of Dec 2021)



Global High Yield Profile (As of Dec 2021)



By Region (As of Dec 2021)



Where to find the Global High Yield Index?

Bloomberg

- CHHY (main menu of all high yield indices)
- CHYI (to go directly to Global HY menu page)
- JPDO (to go directly to US HY menu page)

Credit → High Yield → High Yield Index

Publications

Daily High Yield Update → Credit Strategy Weekly → High Yield Market Monitor

Additional High Yield Indices

- In addition to the Global, Developed, and US indices detailed above, our suite of high yield benchmarks also includes five European indices, two Liquid indices, and two higher rated indices.
- The European indices were incepted in January 1999. The Liquid and higher rated indices were launched in 1995. Daily historical index levels and statistics for all indices are available beginning in January 1999. Prior to that, only weekly and monthly data and analytics were available.

European indices: All of our European indices are designed to mirror various portions of the European high yield corporate bond market. The Euro High Yield Index (CHYE) tracks the Euro denominated market, the Sterling High Yield Index (CHYP) tracks the Pound Sterling denominated market, and the US Dollar European High Yield Index (CHYD) tracks the US dollar denominated European market. The European Currency High Yield Index (JPEY) is a multi-currency index that tracks the Euro and Sterling denominated market. Finally, the European Aggregate High Yield Index (JPEA), our most broad European index, tracks the Euro, Sterling, and USD European high yield market.

Overview

All of our High Yield Indices have specific inclusion rules which help define each market they are designed to mirror.

European indices	CHYE	CHYP	CHYD	JPEY	JPEA
Currency	Euro	Sterling	USD	Euro, Sterling	Euro, Sterling, USD
Region	Global	Global	Europe	Global	Global
Credit rating	The common rating among Moody's, S&P and Fitch must be double-B or lower.				
Defaults	Included	Included	Included	Included	Included
Rebalance	Daily	Daily	Daily	Daily	Daily
Constraint	2 issues per issuer	2 issues per issuer	2 issues per issuer	2 issues per issuer; the largest bonds by currency will be selected	2 or 3 issues per issuer; the largest bonds by currency will be selected

Liquid indices: Both of our Liquid indices are designed to track the most liquid portion of the high yield bond market, thereby providing a more accurate proxy for real time market performance. The High Yield 100 Index (JHYT) selects a subset of the 100 largest bonds in the broader Global High-Yield Index, while the High Yield Liquid Index (JHLI) selects a subset of the 200 largest bonds in the broader market. Both indices are limited to only one bond per issuer.

Higher rated indices: Both of our higher rated indices exclude some portion of the lower rated high yield bond market, and are designed to mimic the investment styles of institutional investors who do not typically invest in the riskiest portion of the high yield market. The Developed BB High Yield Index (JPBB) tracks the USD developed, higher-quality high yield market, excluding bonds rated “2B” or below. The Institutional High-Yield Index (JINS) tracks the US higher-quality high yield market, excluding bonds rated CCC or below and those trading at distressed levels.

Liquid indices		
Currency	USD	USD
Country region	Global	Developed
Credit rating	The common rating among Moody’s, S&P and Fitch must be double-B or lower.	The common rating among Moody’s, S&P and Fitch must be double-B or lower.
Defaults	Excluded	Excluded
Rebalance	Monthly	Semi-annually
Constraint	100 largest issues in Global High Yield Index; 1 issue per main issuer	200 largest issues in the high yield market; 1 issue per main issuer

- The J.P. Morgan Leveraged Loan Index (LILI) is designed to mirror the investable universe of the USD institutional leveraged loan market.
- The index is comprised of issuers domiciled across the global markets. The international component of the index is comprised of developed market domiciled issuers only.
- The index was established in March 2012 with daily historical index levels and statistics beginning in January 2007.

Overview

The LILI is the largest and most widely followed leveraged loan index within our suite of loan indices. The LILI is broken down into sub-indices, allowing clients to track specific market segments, such as rating, industry, capital structure type, LIBOR floors, cov-lite, and country region. Data and analytics are available at the index and sub-index level, and include yield, spreads, discount margin, and duration.

These analytics are calculated to maturity, as well as 1-year, 2-year, 3-year, 4-year, and 5-year estimated takeout's. In addition, these analytics are calculated using both the forward curve and a flat curve. Other analytics include current yield, years to maturity, average rating, and performance, including total return, principal return, interest return, and pay down return.

The LILI has a specific set of inclusion rules, which pertain to tranche size, loan type, credit rating, defaulted loans, security, currency, country region, and maturity date. The specific rules are as follows:

Tranche size: Loans must be \$200 million or greater at issue and have a current amount outstanding of \$100 million or greater to be included in the index.

Loan type: Only institutional term loans and fully funded delayed draw term loans are eligible for inclusion in the index. Revolvers, Term Loan A's, Mezzanine loans, Letters of Credit, Bridge loans, and Second and Third lien term loans are excluded.

Index Facts	
Inception Date	January 2007
Launch Date	March 2012
Rebalancing	Daily
Calendar	Follows US bond market calendar
Pricing Source	Closing market bids are provided by Markit.
Loan Data Source	Loan reference data is provided by Wall Street Office.
Coupon Reinvestment	All coupons received are immediately reinvested into the index
Index Criteria	
Min par-amount out	\$200 million at issue; \$100million current amount
Loan type	Only institutional term loans and fully funded delayed draw term loans are eligible for inclusion in the index. Revolvers, Term Loan A's, Mezzanine loans, Letters of Credit, Bridge loans, and Second and Third lien term loans are excluded.
Credit rating	Based on Moody's and S&P rating agencies, issues must be rated "5B" or lower (Baa1/ BB+ or Ba1/BBB+). Some "6B" loans may be included if their parent ratings are "5B" or below. Non rated loans are included in the index.
Defaults	Defaults are excluded
Currency	US dollars only
Maturity	Minimum 1 year to maturity

Credit rating: Based on Moody's and S&P rating agencies, tranches rated "5B" or lower are eligible for inclusion in the index. We define "5B" ratings as those loans with a triple-B rating from one agency and a double-B rating from the other, and as such, the highest Moody's/S&P ratings are Baa1/BB+ or Ba1/BBB+. For loans rated "6B" (both Moody's and S&P designate a triple-B rating), the parent ratings will be used to determine inclusion eligibility.

Parent ratings of "6B" or higher are excluded, while parent ratings of "5B" or lower are included. If no parent ratings are available, or if they are not rated, the loans will be excluded from the index. Non-rated term loans are eligible for index inclusion. Eligibility will first be determined by the parent ratings. Parent ratings of "6B" or higher are excluded, while parent ratings of "5B" or lower are included. If parent ratings are also non-rated, inclusion into the index is next determined by its inclusion in the previous month's portfolio. If it was included in the previous month's portfolio it will be included, if it was excluded from the prior portfolio, then eligibility is determined by the third and final factor, its asset margin (stated spread over Libor).

Given the cyclical nature of asset margin in various environments, we use floating scale to determine the minimum asset margin. Specifically, if on the rebalance date the non-rated loan's asset margin is greater than the previous day's Split-BBB market-weighted asset margin * 0.8, it will be included in the index. For example, if the prior day's Split-BBB asset margin was L+200bp, then the non-rated loan's asset margin must be greater than L+160bp ($200 * 0.8 = 160$) to be eligible for inclusion in the index.

Defaults: Defaulted loans are excluded from the index. Specifically, only defaulted loans that do not remain current on their payments are excluded. If a borrower defaults, but remains current on its loan obligations throughout the default process, its loans will remain eligible for inclusion in the index. Indexed loans that default and do not stay current will be removed from the index upon default.

Security: Both secured and unsecured loans are eligible for inclusion in the index.

Currency: Only loans denominated in US dollars are eligible for inclusion in the index.

Country regions: The index is comprised of issuers domiciled across the global developed markets. Loans from emerging market borrowers are excluded.

Minimum term to maturity: The number of years from trade date to maturity for each loan must be greater than or equal to one year. Also, the number of years to maturity for each loan must be greater than one-and-a-half years from offer date.

The LILI does not have any issue, issuer, or weighting constraints.

LILI Rebalancing

Index rebalancing occurs daily. Qualifying new issues will be added upon issuance, assuming they qualify given the aforementioned inclusion criteria. Loans will be removed from the index if 1) a loan is paid down in the open market, either in full or when a partial reduction lowers the loan's par amount outstanding below \$100 million; 2) pricing is no longer available; 3) a loan is upgraded to investment grade; 4) the time to maturity for a loan declines below one year.

Other Loan Indices

The J.P. Morgan Liquid Loan Index (LQLI) selects the 200 largest loans in the broader Leveraged Loan Index, but is limited to only one loan per unique borrower. As such, the LQLI is intended to track the most liquid portion of the institutional loan market, thereby providing a more accurate proxy for real time market performance.

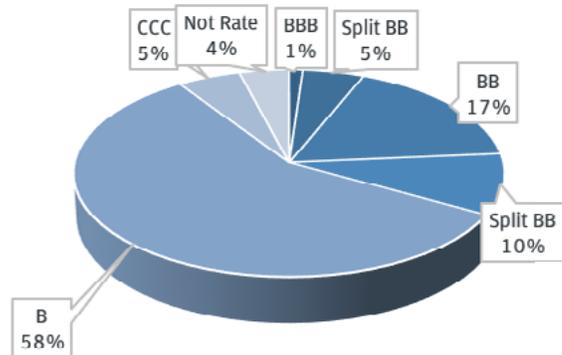
The J.P. Morgan Second Lien Loan Index (SLLI) is designed to mirror the investable universe of USD second lien loans.

The J.P. Morgan BB/B Leveraged Loan Index (BBLI) is designed to mirror the investable universe of USD institutional leveraged loans, excluding the most aggressively rated loans and non-rated loans.

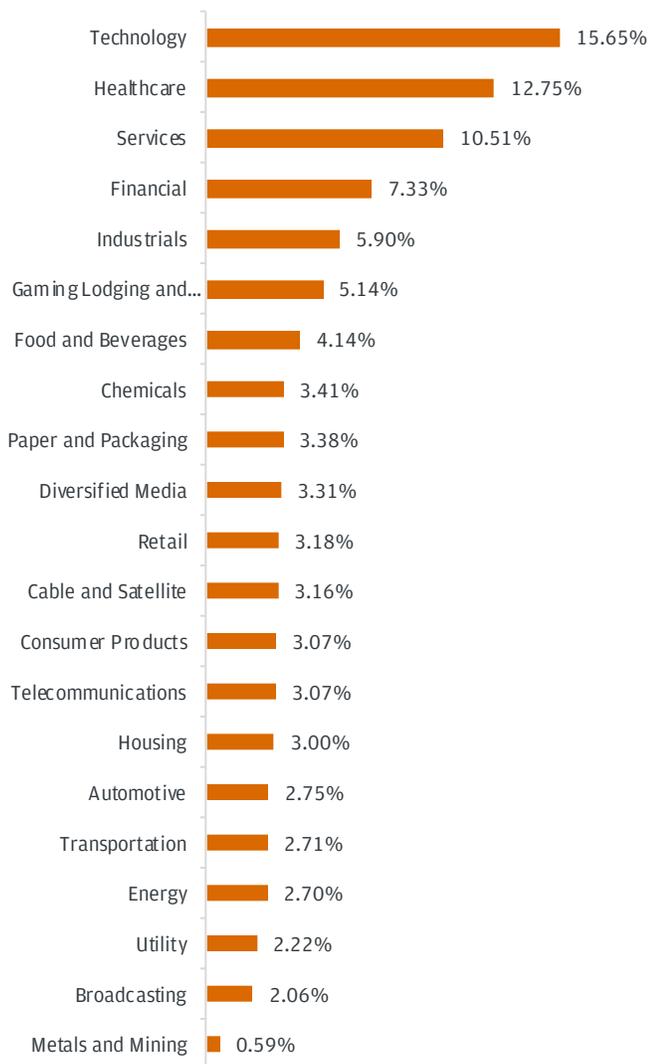
The BBLI follows all of the same inclusion rules, loan selection methodology and the rebalance process of LILI, with the sole exception being the tranche rating Based on Moody’s and S&P rating agencies, tranches rated between “5B” and “2B” are eligible for inclusion in the index.

The J.P. Morgan European Leveraged Loan Index (JELI) is designed to mirror the investable universe of the institutional European currency leveraged loan market. The index is a multi-currency index consisting of Euro and Sterling denominated institutional leveraged loans.

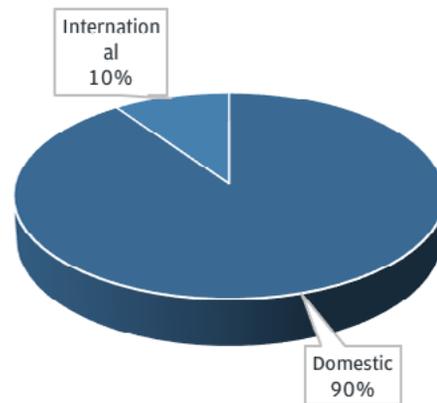
Credit Rating (As of Dec 2021)



LILI Profile (As of Dec 2021)



By Region (As of Dec 2021)



Where to find the LILI?

Bloomberg

- JLLI (main menu of all indices)
- LILI (to go directly to LILI menu page)

Data Query

Credit → High Yield → High Yield Index

Publications

- Daily Leveraged Loan Update
- Credit Strategy Weekly Update
- Leveraged Loan Market Monitor

Euro Aggregate (MAGGIE)

Aa3/AA-

- The J.P. Morgan Aggregate Index Euro (MAGGIE) tracks the market for liquid, investment grade, EUR-denominated government bonds, Euro- bonds and Pfandbriefe.
- The Maggie index is comprised of three main indices: the J.P. Morgan Euro Credit Index, the J.P. Morgan EMU investment grade government bond index and the Pfandbriefe index.

Overview

The Maggie index is a key benchmark to track the euro currency bond market. It allows users to analyze the structure and performance of the euro government bond market, the euro credit market and the Pfandbriefe market. The index is a market capitalization-weighted index and only investment grade securities are eligible.

Components of MAGGIE

The EMU Government Bond Index is a subset of the flagship J.P. Morgan GBI-Agg Index. It tracks the liquid government debt issued by Western EMU countries.

The Euro Credit Index tracks the performance of EUR denominated, bullet bonds issued by both corporate, non-EMU sovereigns and agencies.

The Pfandbriefe Index tracks Jumbo Pfandbriefe with at least €500 million outstanding, including International Pfandbriefe.

Current Face Amount Outstanding

Securities must have a minimum current face amount outstanding of €250 million and €500 million to be considered for inclusion in the Euro Credit Index and the Pfandbriefe Index, respectively.

Index Facts	
Inception Date	January 1998
Launch Date	January 2001
Rebalance Date	Last weekday of the month
Holiday	Follows TARGET bond market holiday calendar
Pricing Source	EMU uses mid-price, whereas Credit & Pfandbriefe uses Bid-price from third party evaluation vendor PricingDirect
Coupon Reinvestment	All coupons received are immediately reinvested back into the index
Holiday Calendar	TARGET holiday calendar
Bloomberg Tickers	JPMMAG01, JPMMAG11, JPMMAG12, JPMMAG10
Index Criteria	
Instrument Type	EUR-denominated government, corporate and Jumbo Pfandbriefe, fixed-rate bonds
Maturity Requirement	Greater than 6 months to maturity
Issuance Size	€250 million for Euro Credit and €500 million for Jumbo Pfandbriefe
Credit Rating	For a bond to be eligible for Euro Credit, the lower of the two ratings (S&P and Moody's) should be IG. If only one rating is available then it's taken as it is

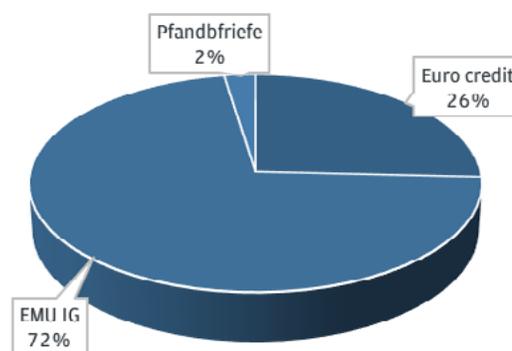
Credit Rating

For a bond to be eligible for the Euro Credit Index, the lower of the two ratings (S&P & Moody's) must be investment grade. If only one rating is available, then in that case that rating will be used.

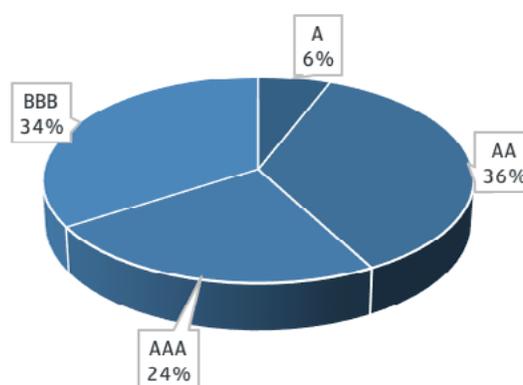
MAGGIE Rebalancing

Rebalancing takes place monthly on the last business day of each month. On rebalance day, new bonds will enter the index at the close-of-business, and bonds which fail to comply with the index criteria will be removed. Any additional taps or buybacks that occur during the month will also be reflected at this time.

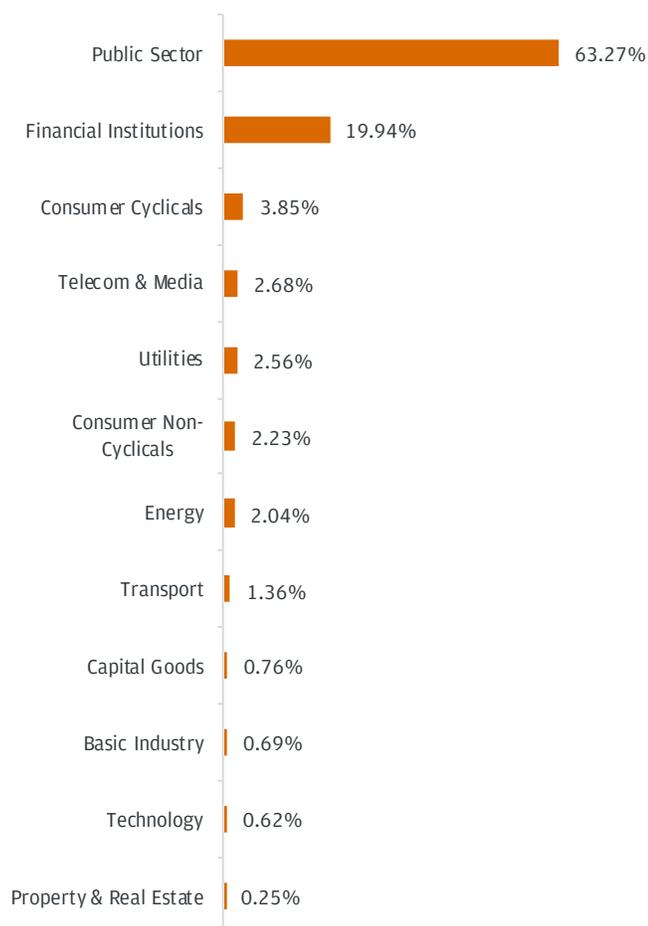
Sub Index Category (As of Dec 2021)



Credit Rating (As of Dec 2021)



MAGGIE Sector Profile (As of Dec 2021)



Where to find the Maggie?

Bloomberg

JPMX <GO> → US & European Credit
→ High Grade → Maggie

Data Query

www.jpmm.com (Analyze → Cross-Asset
→ Data Query → Indices → Credit → Euro → Maggie)

Morgan Markets

www.jpmm.com (Research → Index
→ Credit → Maggie)

Global AT1 (CATIE)

Ba1/BB/BBB-

- The J.P. Morgan Composite Additional Tier 1 Index (CATIE) provides investors with a comprehensive, investable and global benchmark that captures Additional Tier 1 (AT1) issuances in USD, EUR and GBP.
- The CATIE index requires constituents to be Basel III compliant and have a minimum of 300 million amount outstanding in USD, EUR or GBP currencies. These currencies collectively account for more than 80% debt stock of the asset class.
- Launched in November 2017, the CATIE index has daily historical index levels and statistics starting from December 31, 2013.

Overview

The J.P. Morgan Composite Additional Tier 1 Index (CATIE) provides investors with a comprehensive, investable and global benchmark that captures Additional Tier 1 (AT1) issuance denominated in USD, EUR and GBP currencies. The index is market capitalization weighted.

Instrument Type

Additional Tier 1 securities, also known as AT1, are capital-raising securities which allow for loss absorption in compliance with Basel III guidelines.

AT1 provisions include a write-down or conversion feature upon the occurrence of a trigger event or at the point of non-viability. For the scope of this index, Tier 2 instruments are not included (Figure 1).

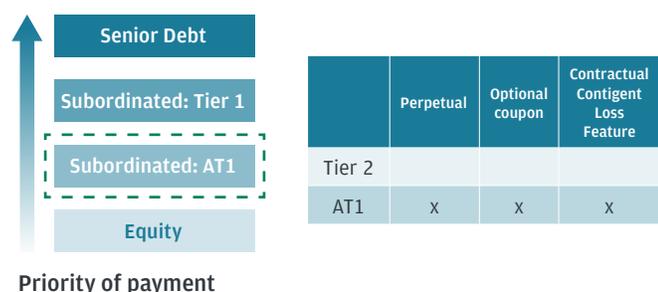


Figure 1 Tier 2 differs from AT1 segment in many ways as it ranks higher in capital structure

Index Facts	
Inception Date	December 2013
Launch Date	November 2017
Rebalance Date	Last weekday of the month
Holiday Calendar	Follows market convention of the respective bond market (USD, EUR, GBP)
Pricing Source	Bid prices on a security level for the indices is sourced from a third-party vendor (i.e. Pricing Direct)
FX Spot/Forward Rate	WM Reuters 4pm London Rate
Coupon Reinvestment	All coupons received are immediately reinvested back into the index
Hedging Strategy	Assume a 1-month currency forward position that begins on rebalance day and ends on next rebalance day
Index Criteria	
Instrument Type	Additional Tier 1 instruments that are either convertible into ordinary shares or that can be written down on either a permanent or temporary basis
Currency	USD, EUR and GBP denominated
Min Face Amount Outstanding	300 million in their denominated currency
Maturity	Additional Tier 1 instruments are perpetual. However, the issuer can call the bond only five years after the bond is issued. If a bond is called, it will be removed from the index at next month rebalance date
Liquidity	Liquidity is subject to the following considerations: pricing, accessibility, availability and replicability
Trigger Event	If a trigger is activated, leading to a loss absorption mechanism then the instrument will be removed from the index at next rebalance date

Current Face Amount Outstanding

Securities must have a minimum current face amount outstanding of USD300 million, EUR300 million, or GBP300 million to be considered for inclusion provided they meet other index criteria.

Credit Rating

Credit rating is not a criterion for inclusion into the CATIE index and is only used for classifying credit buckets for attribution and sub index purposes.

The CATIE uses two out of the three rating agencies (Moody's, S&P, and Fitch) in order to identify credit segment classifications.

If a security is rated by two agencies, the lower of the two ratings will be used.

If a security has only one rating, the single rating will be used.

Unrated securities will fall under HY category.

CATIE Rebalancing

The indices are rebalanced at the close-of-business on the last weekday day of each month. A new issue that meets the CATIE inclusion requirements is added to the index at month-end, provided its settlement date falls on or before month-end rebalance date of the same month.

An exception to this rule concerns Reg S securities. An instrument that is issued purely in reliance on Regulation S of the US Securities Act of 1933 and not pursuant to Rule 144A will be ineligible for inclusion in the index until it is seasoned (that is, until the expiration of the relevant Regulation S restricted period, which usually lasts 40 days).

Country Profile (As of Dec 2021)

	Weight (%)	# of bonds
Currency		
USD	67.86%	178
EUR	24.98%	84
GBP	7.16%	19
Country		
United Kingdom	21.29%	45
China	11.26%	14
Switzerland	9.82%	21
Spain	8.75%	28
France	8.58%	21
Italy	5.82%	19
Netherlands	4.96%	13
Germany	4.69%	13
Hong Kong	2.82%	10
Brazil	2.80%	7
Russia	1.95%	9
UAE	1.72%	6
Austria	1.63%	8
Sweden	1.54%	8
Denmark	1.25%	5
Finland	1.25%	4
Mexico	1.21%	7
Korea	0.88%	6
Ireland	0.86%	4
Canada	0.79%	3
Belgium	0.77%	3
Kuwait	0.74%	4
Thailand	0.67%	4
Australia	0.63%	2
Singapore	0.55%	2
Norway	0.55%	2
India	0.52%	2
Portugal	0.35%	2
Turkey	0.24%	1
Indonesia	0.20%	1
Colombia	0.17%	1
South Africa	0.17%	1
Panama	0.13%	1
Bahrain	0.13%	1
Philippines	0.10%	1
Qatar	0.10%	1
Oman	0.09%	1

Where to find the CATIE index?**Bloomberg**

JPMX<GO> → US & European Credit
→ Additional Tier One

Data Query

www.jpmm.com (Analyze → Cross-Asset
→ Data Query → Indices → Credit → CATIE)

Morgan Markets

www.jpmm.com (Research → Index
→ Emerging Markets → Credit → J.P. Morgan
Composite Additional Tier One (CATIE))

GBP Credit

A1/A+

- The J.P. Morgan Euro-Sterling (GBP Credit) Index allows users to analyze the structure and performance of the Sterling credit market.
- Directly comparable to the JPM Euro Credit Index, the GBP Credit Index includes sterling denominated securities issued by corporate, non-UK sovereign and agencies.
- Launched in January 2001, the GBP Credit Index has daily historical index levels and statistics starting from January 1998.

Overview

The GBP Credit Index is designed to measure the performance of GBP-denominated, bullet bonds issued by corporate, non-UK sovereign and agency issuers, provided they meet other index criteria.

Current Face Amount Outstanding

Only instruments with a current face amount outstanding of £100 million will be considered for inclusion.

Credit Rating

For a bond to be eligible in the GBP Credit Index, it must be rated investment grade by both S&P and Moody's (uses lower of the two ratings). If only one rating is available then it's consumed as it is.

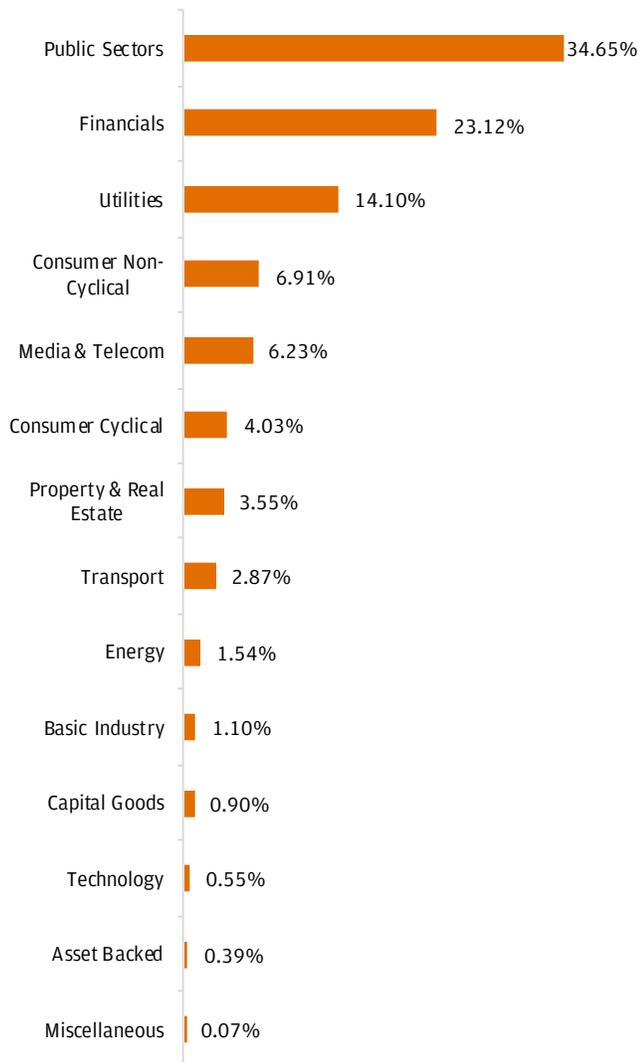
GBP Credit Rebalancing

Rebalancing takes place monthly on the last weekday of each month, regardless of any local holiday.

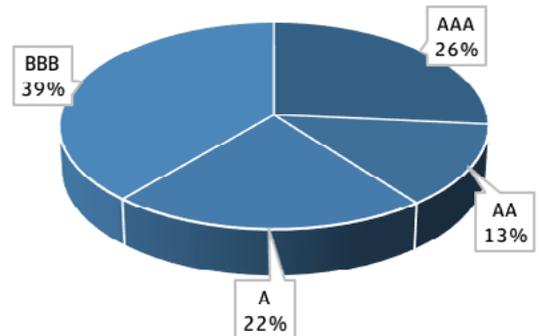
On rebalance day, new bonds will enter the index at the close-of-business, and bonds which fail to comply with the index criteria will be removed. Any additional taps or buybacks that occur during the month will also be reflected at this time.

Index Facts	
Launch Date	January 2001
Inception Date	January 1998
Pricing Source	Bid-price from third party evaluation vendor PricingDirect
Coupon Reinvestment	All coupons received are immediately reinvested back into the index
Rebalance Date	Last weekday of the month
Holiday Calendar	GBP holiday calendar
Index Criteria	
Instrument Type	GBP-denominated bullet bonds only, no callable bonds
Maturity	Inclusion: >= 24 months and <60 years Exclusion: at least 6 months to maturity on rebalance date
Min Face Amount Outstanding	£100 million
Credit Rating	For a bond to be eligible for GBP Credit, the lower of the two ratings (S&P and Moody's) should be IG. If only one rating is available then it's taken as it is

GBP Credit Profile (As of Dec 2021)



Credit Rating (As of Dec 2021)



Where to find the GBP Credit index?

Bloomberg

JPMX <GO> → High Grade → GBP Credit

Data Query

www.jpmm.com (Analyze → Cross-Asset → Data Query → Indices → Credit → GBP)

Morgan Markets

www.jpmm.com (Research → Index → Credit → Euro £ Index)

Subordinated Securities (SUSI)

€- Baa2/BBB £- Baa1/BBB

- The J.P. Morgan Financial Institution Subordinated Securities (SUSI) Index family provides a suite of benchmarks tracking the performance of liquid subordinated credit bonds denominated in Euro and Sterling currencies.
- Launched in July 2002, the SUSI indices have daily historical index levels and statistics starting from December 2000.

Overview

The J.P. Morgan SUSI index family provides a suite of benchmarks tracking the performance of liquid subordinated credit bonds denominated in Euro and Sterling currencies. The index family includes both investment grade and high yield securities that are of fixed or variable rates. Callable bonds are also eligible provided they meet other index criteria.

Instrument Type

Perpetual subordinated bonds with call features are eligible for the SUSI index family as well as standard fixed rate bullet bonds.

Current Face Amount Outstanding

Only instruments with a current face amount outstanding of € 400 million or £150 million are index eligible.

Credit Rating

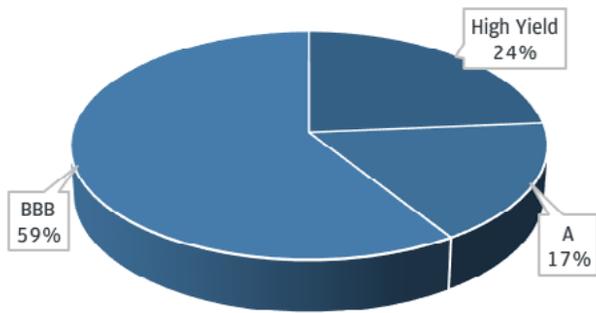
These indices do not exclude securities based on credit ratings and therefore span both investment grade and high yield subordinated bond markets.

Index Facts		
Launch Date	July 2002	
Inception Date	December 2000	
Pricing Source	Bid-price from third party evaluation vendor PricingDirect	
Coupon Reinvestment	All coupons received are immediately reinvested back into the index	
Rebalance Date	Last weekday of the month	
Holiday Calendar	TARGET holiday calendar for EUR bonds UK holiday calendar for GBP bonds	
Index Criteria		
	€ - SUSI	£ - SUSI
Instrument Type	€-denominated financial institution subordinated debt	£-denominated financial institution subordinated debt
Maturity	Inclusion: >=24months Exclusion: >6 months to maturity	
Min Face Amount outstanding	€400 million	£150 million
Liquidity	Two-way daily pricing available from PricingDirect	

SUSI Rebalancing

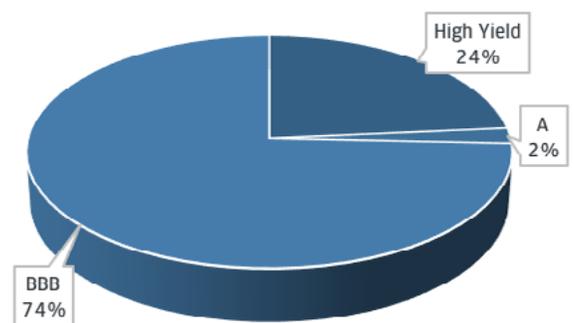
Rebalancing takes place monthly on the last weekday of each month. On rebalance day, new bonds will enter the index at the close-of-business and will remain in the index for a minimum of six months, and bonds which fail to comply with the index criteria will be removed. Any additional taps or buybacks that occur during the month will also be reflected at this time.

€ Credit Rating (As of Dec 2021)



€-SUSI (Banks 55%, Insurance 45%)

£ Credit Rating (As of Dec 2021)



£-SUSI (Banks 46%, Insurance 54%)

Where to find the SUSI?

Bloomberg

JPMX <GO> → US & European Credit → Subordinated

Data Query

www.jpmm.com (Analyze → Cross-Asset → Data Query → Indices → Credit → Euro/GBP → SUSI)

Morgan Markets

www.jpmm.com (Research → Index → Credit → SUSI)

US TIPS (JUSTINE)

Aaa/AA+/AAA

- The J.P. Morgan US TIPS Index (JUSTINE) is a total return index of USD-denominated government inflation linked-bonds (TIPS).
- This index provides investors with a benchmark for inflation-linked portfolios.
- Launched in June 2004, the JUSTINE index has daily historical index levels and statistics starting from March 1997.

Overview

The J.P. Morgan U.S. TIPS Index (JUSTINE) was launched in June 2004 in order to enable investors seeking inflation protected returns to track the growing market.

Current Face Amount Outstanding

New issues must have a minimum current face amount outstanding of \$500 million (non- inflation adjusted) to be considered for inclusion.

Instrument Type

The index contains U.S. government issued inflation- linked bonds (TIPS) where bond payments are linked to an underlying CPI Index (the non-seasonally- adjusted CPI-U). Corporate or quasi-government securities are not eligible.

At each payment date, the real coupon is multiplied by a factor that represents the cumulative change in the CPI series from when the bond was issued to derive coupon payments.

At maturity, the bond pays the final coupon plus the principal which is adjusted for inflation in the same way. Effectively, the coupons pay a fixed percentage of a principal that grows with inflation. Investors get paid a real coupon plus the realized inflation as well as the capital gains incurred by a change in real yields. The principal payment is floored at 100 to ensure that investors are protected against deflation over the life of the bond.

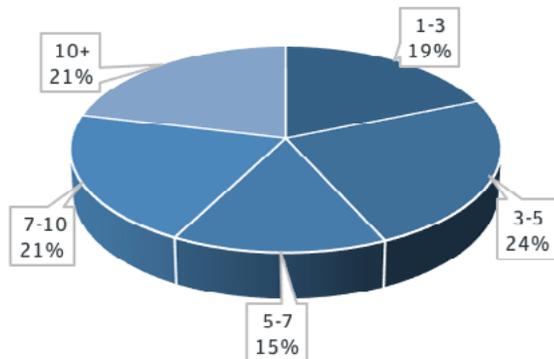
Index Facts

Inception Date	March 1997
Launch Date	June 2004
Pricing Source	Mid- Price from third party evaluation vendor (Pricing Direct).
Coupon Reinvestment	All coupons received are immediately reinvested back into the index
Rebalance Date	Last weekday of the month
Holiday Calendar	U.S. holiday calendar
Index Criteria	
Instrument Type	US TIPS
Maturity	> 6 months to maturity
Issuance Size	New issues must have at least \$500 million outstanding

JUSTINE Rebalancing

Rebalancing takes place monthly on the last weekday of each month. On rebalance day, new bonds will enter the index at the close-of-business, and bonds which fail to comply with the index criteria will be removed.

JUSTINE Profile (As of Dec 2021)



Where to find the JUSTINE?

Bloomberg

JPMX <GO> Developed Markets
 → Inflation Linked>Justine

Data Query

www.jpmm.com (Analyze → Cross-Asset
 → Data Query → Indices → Government/Agency
 → Index Levels → Inflation Linked)

Morgan Markets

www.jpmm.com (Research → Index
 → Government → Inflation-Linked Indices)

Euro Linker Securities (ELSI)

A1/A+/A+

- The J.P. Morgan Euro Linker Securities Index (ELSI) is a total return index of EUR-denominated government inflation-linked bonds.
- The index currently comprises of bonds from four euro zone countries, namely Germany, France, Spain and Italy.
- Launched in January 2004, the ELSI indices have daily historical index levels and statistics starting from January 2000.

Overview

The J.P. Morgan Euro Linkers Securities (ELSI) Index tracks EUR-denominated government inflation-linked bonds. There is no minimum credit quality for bonds to be eligible for inclusion in the ELSI. At present the index comprises of bonds from four different euro zone countries: Germany, France, Spain and Italy.

Current Face Amount Outstanding

New issues must have a minimum current face amount outstanding of €500 million (non-inflation adjusted) to be considered for inclusion.

Instrument Type

The index contains inflation-linked bonds where bond payments are linked to an underlying CPI Index (French CPI or euro area HICP ex-tobacco). Corporate or quasigovernment securities are not eligible.

At each payment date, the real coupon is multiplied by a factor that represents the cumulative change in the CPI series from when the bond was issued to derive coupon payments. At maturity, the bond pays the final coupon plus the principal which is adjusted for inflation in the same way. Effectively, the coupons pay a fixed percentage of a principal that grows with inflation.

Investors get paid a real coupon plus the realized inflation as well as the capital gains incurred by a change in real yields. The principal payment is floored at 100 to ensure that investors are protected against deflation over the life of the bond.

Index Facts	
Inception Date	January 2000
Launch Date	January 2004
Pricing Source	Mid-Price from third party evaluation vendor (Pricing Direct).
Coupon Reinvestment	All coupons received are immediately reinvested in respective local market
Rebalance Date	Last weekday of the month
Holiday Calendar	TARGET holiday calendar
Index Criteria	
Instrument Type	Inflation-linked government bonds
Maturity	> 6 months to maturity
Issuance Size	New issues must have at least €500 million outstanding
Credit Rating	This index does not exclude securities based on credit ratings.

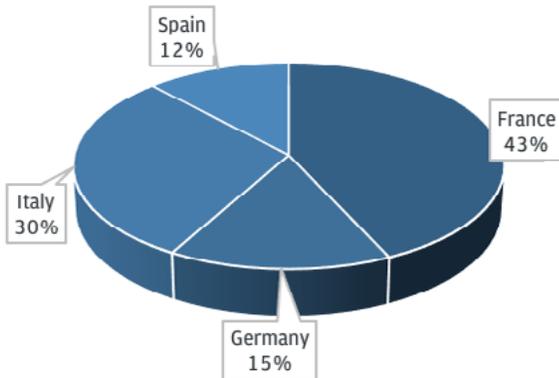
ELSI Rebalancing

Rebalancing takes place monthly on the last weekday of each month. On rebalance day, new bonds will enter the index at the close-of-business, and bonds which fail to comply with the index criteria will be removed. Any additional taps or buybacks that occur during the month will also be reflected at this time.

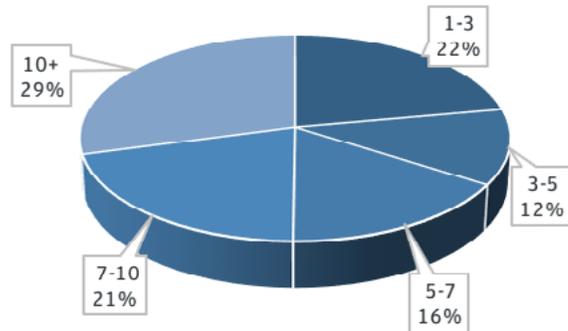
Credit Rating

The index does not exclude countries based on credit ratings and therefore span both Investment Grade and High Yield local currency government bond markets across countries.

ELSI Profile (As of Dec 2021)



ELSI Profile (As of Dec 2021)



Where to find the ELSI?

Bloomberg

JPMX <GO> Developed Markets → Inflation Linked → ELSI

Data Query

www.jpmm.com (Analyze → Cross-Asset → Data Query → Indices → Government/Agency → Index Levels → Inflation- Linked)

Morgan Markets

www.jpmm.com (Research → Index → Government → Inflation-Linked Indices)

Gilt Inflation Linked (GILLI)

Aa1/AA/AA

- The J.P. Morgan Gilt Inflation Linked Local Index (GILLI) is a total return index that tracks the performance of the UK Government inflation linked bond market.
- Bonds are sterling denominated and pay semiannual cash flows linked to the UK Retail Price Index (RPI).
- Launched in May 2012, the GILLI Index has daily historical index levels and statistics starting from January 2000.

Overview

The J.P. Morgan Gilt Inflation Linked Local Index (GILLI) tracks the performance of the UK Government inflation-linked bond market. The index allows investors to compare the performance of this asset class versus that of nominal Gilts.

The GILLI index complements the suite of other JPMorgan inflation linked indices: the ELSI which measures the performance of Euro area government inflation-linked bond markets and JUSTINE which measures the performance of US Treasury Inflation Protected Securities (TIPS).

Current Face Amount Outstanding

New issues must have a minimum current face amount outstanding of £500 million (non- inflation adjusted) to be considered for inclusion.

Instrument Type

The index contains inflation-linked bonds where bond payments are linked to the Retail Price Index (RPI). Corporate or quasi-government securities are not eligible.

Index Facts

Inception Date	January 2000
Launch Date	May 2012
Pricing Source	Mid-Price from third party evaluation vendor (Pricing Direct).
Coupon Reinvestment	All coupons received are immediately reinvested back into the index
Rebalance Date	Last weekday of the month
Holiday Calendar	UK holiday calendar

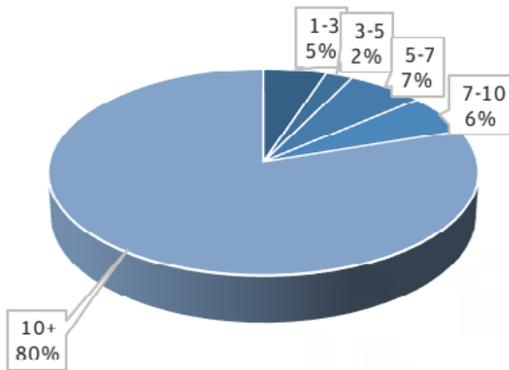
Index Criteria

Instrument Type	Inflation-linked government bonds
Maturity	> 6 months to maturity
Issuance Size	New issues must have at least £500 million outstanding
Credit Rating	This index does not exclude securities based on credit ratings.

GILLI Rebalancing

Rebalancing takes place monthly on the last weekday of each month. On rebalance day, new bonds will enter the index at the close-of-business, and bonds which fail to comply with the index criteria will be removed. Any additional taps or buybacks that occur during the month will also be reflected at this time.

GILLI Profile (As of Dec 2021)



Where to find the GILLI?

Bloomberg

JPMX <GO> Developed Markets → Inflation Linked → GILLI

Data Query

www.jpmm.com (Analyze → Cross-Asset → Data Query → Indices → Government/Agency → Index Levels and Stats → Inflation-Linked Indices)

Morgan Markets

www.jpmm.com (Research → Index → Government → Inflation-Linked Indices)

Commodity Curve (JPMCCI)

- The J.P. Morgan Commodity Curve Index (JPMCCI) seeks to track the performance of futures across the most investable parts of the commodity curve.
- At present the aggregate index is comprised of 33 commodity indices, grouped into five sectors - Energy, Industrial Metals, Precious Metals, Agriculture, and Livestock.
- Ex-Front Month, Energy Light and Ex-Front Month Energy Light versions of the indices are available.

Overview

JPMCCI commodities are represented by futures contracts from across the relevant commodity curve with a range of delivery dates. These contracts are weighted according to their open interest, by averaging the distribution of open interest in the same calendar month of the previous three years. This timeframe was selected in order to attempt to capture structural and cyclical shifts in liquidity and filter out any short term anomalies.

The ex-Front month indices are variations where the front contract is excluded from the composition of the index, providing that there are at least two monthly contracts in the composition. The Energy Light versions are also available where the weight of the energy sector is capped at 33 % at rebalance.

JPMCCI is a total return index, of which there are three components - price, roll and collateral return. The price return reflects changes in the price level of contracts. The roll return captures the return from rolling a long position through time. The collateral return tracks the return from investing cash in excess of margin requirements.

Index Facts

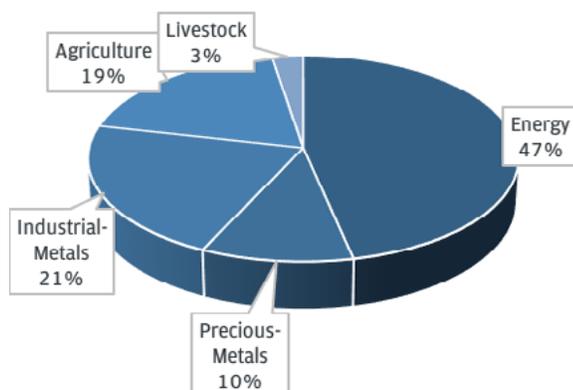
Inception Date	December 1989
Rebalance Date	Jan 1st (ACU's are calculated annually in November)
Market Capitalization	USD \$1.2 trillion

JPMCCI Rebalancing

JPMCCI is rebalanced annually; contract composition is published semi-annually. During the annual rebalance, effective in January with ACU's calculated in November, eligibility of new and existing commodities in the index is assessed. Rules for entry include: must trade on a US or UK exchange, be USD-denominated, trade for at least one year and have an estimated market size greater than \$250 million and no less than 10bps of the total estimated market size of all potential JPMCCI commodities. Potential entrants are referred for inclusion to the JPMCCI Index Supervisory Committee for review and approval. Existing commodities that have a market size under \$150 million or less than 6bps of the total estimated market size are flagged for removal.

Estimated market size is calculated as the three year historical average monthly open interest as reported by the Futures Industry Association (FIA), multiplied by the first nearby futures price as of the last business day in October.

JPMCCI Profile (As of Dec 2021)



Where to find the JPMCCI?

Bloomberg

JPMX <GO> → Commodities → JPMCCI

Data Query

www.jpmm.com (Analyze → Cross-Asset → Data Query → Indices → JPMorgan Commodity Curve Index)

Morgan Markets

www.jpmm.com (Research → Index → Aggregate- >JPMCCI)

- The J.P. Morgan Economic Activity Surprise Index (EASI) calculates a “balanced” diffusion index of economic activity indicators for G10 countries, China, and a GDP weighted aggregate.
- US EASI was introduced in the late 1990s. In 2014 it was expanded to the G10 and China.

Overview

The construction of EASIs starts with the selection of activity data for each country after excluding releases that do not unambiguously impact growth expectations (such as inflation and inventories). For example, in the US, this leaves us with 21 activity indicators ranging from payrolls to personal consumption. Using this data set, we define surprises as a 0.5 standard deviation of the actual release from consensus for all monthly and quarterly data, and a one standard deviation for weekly releases (i.e. jobless claims). We next calculate a “balanced” diffusion index of these surprises over the past six weeks, by taking the balance of positive surprises over that period (i.e. number of positive surprises minus negative surprises) and dividing it by the total number of data releases. The end result is the index by country which is then weighted by GDP to derive a Global EASI.

Note that the EASIs are not weighted to correlate with any particular market and are intended to measure pure growth surprises. Nonetheless, this equally-weighted measure periodically correlates with FX moves. For instance, the US-Japan EASI differential has a 6month correlation of 63% with USD/JPY. J.P. Morgan also offers economic activity surprise indices constructed with variable weights for a selection of countries, where the weights assigned to economic data vary based on their relative importance. For example, in the US such an index is optimized for interest rate markets using delivered volatility to drive the weighting scheme¹, while in the Euro area and UK, the data weights are calculated based on country and economic indicator weights.

Index Coverage	
Country/Region	Australia, Canada, China, Euro, Japan, New Zealand, Norway, Sweden, Switzerland, UK, US (G10 and China)
Economic Data	Activity data excluding inflation and inventories
Inception Date (Global EASI)	October 2008
Weighting	Global EASI: GDP Weighted Country/Region EASI: Equal Weighted

By their very nature, EASIs are mean reverting. For example, economic data usually beats consensus expectations for a few days and pushes the index well into positive territory before economic forecasts get revised up to match the pickup in momentum, at which point the EASI returns to neutral again.

Getting historical context of how long it typically takes for the EASIs to revert and comparing that to the length of period that the EASI has been negative/ positive already can help determine how mature the surprise cycle is in a particular country. JPMorgan had introduced the Economic Activity Surprise Index (EASI) for the US in the late 1990s. In 2014, EASI was expanded to the rest of G10 and China. A daily report and analytical tools also enable tracking of global indices and their impact on markets

Where to find EASI?

Bloomberg

Typing out ‘JPEASI’ on a Bloomberg screen will bring up the list of indices by country

Data Query

<https://jpm.com/#dataquery>
(FX → FX Research Models → EASI)

Publications

Daily Chart pack: www.jpm.com under Research → FX → Global FX Strategy → Daily/ Weekly Cash FX Analytics → Economic Activity Surprise Index Report

¹ [Introducing our new US Economic Data Surprise Index \(EDSI\)](#)

- The J.P. Morgan EM Economic Activity Surprise Indices (EM EASIs) are designed to complement our existing tools that look to capture shifts in macroeconomic conditions/growth momentum such as the forecast revision indices (FRI), EM growth newscasters and the set of EASIs that exist for developed markets.
- EASIs focus on the extent to which activity indicators (e.g. GDP growth, industrial production, exports etc.) are surprising consensus economists' expectations on either the upside or the downside.
- Regional EASIs and a global EM EASI are compiled using GDP-weighted aggregates of each country's EASI.
- Analysis shows a clear relationship between EM EASIs and EM FX performance.
- EM EASI was introduced in Jan 2018 with historical data available from 2007.

Overview

Understanding how economic data are evolving relative to market expectations can be important for gauging potential shifts in macro sentiment at the country, regional and global level, hence a suite of Economic Activity Surprise Indices (EASIs) for emerging markets have been introduced.

EM EASIs take consensus expectations from Bloomberg. A sufficient number of observations are needed in order to calculate a meaningful index for each EM economy and the threshold used was five. If there are fewer than five activity indicators that have consensus forecasts then an EASI is not generated for that particular economy. Only those data points are used that represent economic activity directly related to GDP growth.

- EM countries which meet this threshold are:
- EMEA EM: Russia, Turkey, South Africa, Hungary, Poland, and the Czech Republic.
- EM Asia: China, Korea, Taiwan, Singapore, Thailand and Indonesia.
- LATAM: Brazil, Mexico, Chile, Colombia and Argentina

Index Coverage	
Country/ Region	EM Asia: China, Korea, Taiwan, Singapore, Thailand and Indonesia. EMEA EM: Russia, Turkey, South Africa, Hungary, Poland, and Czech Republic. LATAM - Brazil, Mexico, Chile, Colombia and Argentina.
Economic Data	Activity data that represent economic activity directly related to GDP growth.
Inception Date	Jan 2007
Weighting	Global/Region EASI: GDP Weighted Country EASI: Equal Weighted

Constructing the Activity Surprise Index Per Country

For each activity indicator z score is computed for the 'surprise' (i.e. [actual data outcome- consensus forecasts]/ standard deviation of the historical surprise). If this score is >0.5 'signal' of +1 is assigned, if it is <-0.5 then -1 is assigned, while anything between +0.5 and -0.5 is given a zero signal.

Moving diffusion index is then calculated, the sum of the signals divided by the count of the signals over a 42-day period.

For example: if in the past 42 days we only had three data releases, all of which were >0.5 standard deviation surprises, the EASI reading would be: +3 divided by a count of 3 = +100%. The next day, we move the 42-day window forward and a new data point comes in line with consensus expectations (yielding a signal score of 0), leaving the EASI reading at: +3 divided by 4 = +75%.

Where to find EASI?

Bloomberg

Typing out 'ALLX JPEA<go>' on a Bloomberg screen will bring up the list of indices by country and regions

DataQuery

<https://jpmm.com/#dataquery>

(Asset Class → Emerging Markets → EM FX → EASI)

Cash Index

- The Cash Index complements the GBI, as a reliable performance benchmark for assessing the performance of a fund’s cash component.
- Daily cash indices are calculated using short term local benchmark rates.
- The Cash indices have constant maturities and are available 1, 2, 3, 6 and 12 month deposits.

Overview

J.P. Morgan Cash Index measures the total return of a rolling investment in a notional short-term fixed income instrument. To consistently measure index performance across all markets in terms of liquidity, maturity, and credit quality, the short term deposit rates used in the indices are based on the local reference rates.

The indices are calculated daily in one, two, three, six, and twelve-month maturities for Australia, Belgium, Canada, Denmark, France, Finland, Germany, Ireland, Italy, Japan, Netherland, New Zealand¹, Spain, Sweden, Switzerland, United Kingdom, and United States. In addition to the country indices, global and EU composite indices are also calculated.

Cash Index Calculation

Each index assumes that the corresponding deposit is rolled over on every index calculation day. The maturity or duration of this index is always equal to the term of the deposit; the actual number of days to maturity can vary due to settlement rules (i.e. the one-month index can vary from 28 to 33 days).

An alternate approach is to buy, for example, a three month deposit, hold it for one month, and then roll it over into the new three-month deposit. The maturity of this index would be three months at the beginning of the month and two months at the end of the month.

Our approach is more useful to attribute daily cash returns to particular maturities rather than confuse the measurement of returns by varying the maturity. At the aggregate level, the Cash Index is calculated as an equal weighted aggregate of the individual countries covered.

Index Facts	
Inception Date	December 1985
Launch Date	December 1992
Holiday calendar	Calculated on every weekday.
Short term Deposit Rates used*	Local deposit rates (formerly LIBOR for the respective currencies)
Maturities calculated	1M, 2M, 3M, 6M and 12M.

** At the time of this writing, various underlying reference rates (i.e. LIBOR) used in the J.P. Morgan Cash Index series have transitioned to their respective replacement rates² (e.g. USD LIBOR → SOFR). Please contact index.research@jpmorgan.com for the latest updates.*

Local Benchmark Rates

The J.P. Morgan Cash Index is based on local reference rates rather than domestic money market instruments as short-term money market instruments (e.g. T-bills, domestic deposits, bankers’ acceptances, etc.) can vary considerably by liquidity, maturity, and credit quality for local markets. Therefore, widely-used interest rates in local markets are used instead to calculate cash indices.

Various Usages of Cash Indices

Customized indices including both bonds and cash can be constructed to obtain a more representative benchmark. In addition, the indices can be used to historically test investment strategies that involve cash. Cash indices can be used in asset allocation studies to determine optimal asset class weights.

¹ New Zealand currently does not offer a 12m reference rate

² [J.P. Morgan Cash index transition timeline from LIBOR](#)

Yields (%) (As of Dec. 2021)				
Country	1M	3M	6M	12M
Australia	0.02	0.07	0.21	0.39
Belgium	-0.58	-0.57	-0.55	-0.50
Canada	0.11	0.16	0.17	0.17
Denmark	-0.34	-0.28	-0.18	-0.04
Finland	-0.58	-0.57	-0.55	-0.50
France	-0.58	-0.57	-0.55	-0.50
Germany	-0.58	-0.57	-0.55	-0.50
Ireland	-0.58	-0.57	-0.55	-0.50
Italy	-0.58	-0.57	-0.55	-0.50
Japan	-0.05	-0.08	-0.04	0.05
Netherlands	-0.58	-0.57	-0.55	-0.50
New Zealand	0.80	0.97	1.20	N/A
Portugal	-0.58	-0.57	-0.55	-0.50
Spain	-0.58	-0.57	-0.55	-0.50
Sweden	-0.08	-0.05	-0.02	0.08
Switzerland	-0.70	-0.71	-0.71	-0.72
United Kingdom	0.12	0.07	0.06	0.06
United States	0.10	0.21	0.34	0.58
GBI Global Cash	-0.28	-0.26	-0.21	-0.13
GBI Euro Cash	-0.58	-0.57	-0.55	-0.50

Where to find CASH INDEX?

Bloomberg

JPMX <GO> → Developed Markets → Sovereigns → Cash Index

DataQuery

www.jpmm.com (Analyze → Cross-Asset → Data Query → Indices → Government/Agency → Index Levels and Stats → Cash Indices)

Morgan Markets

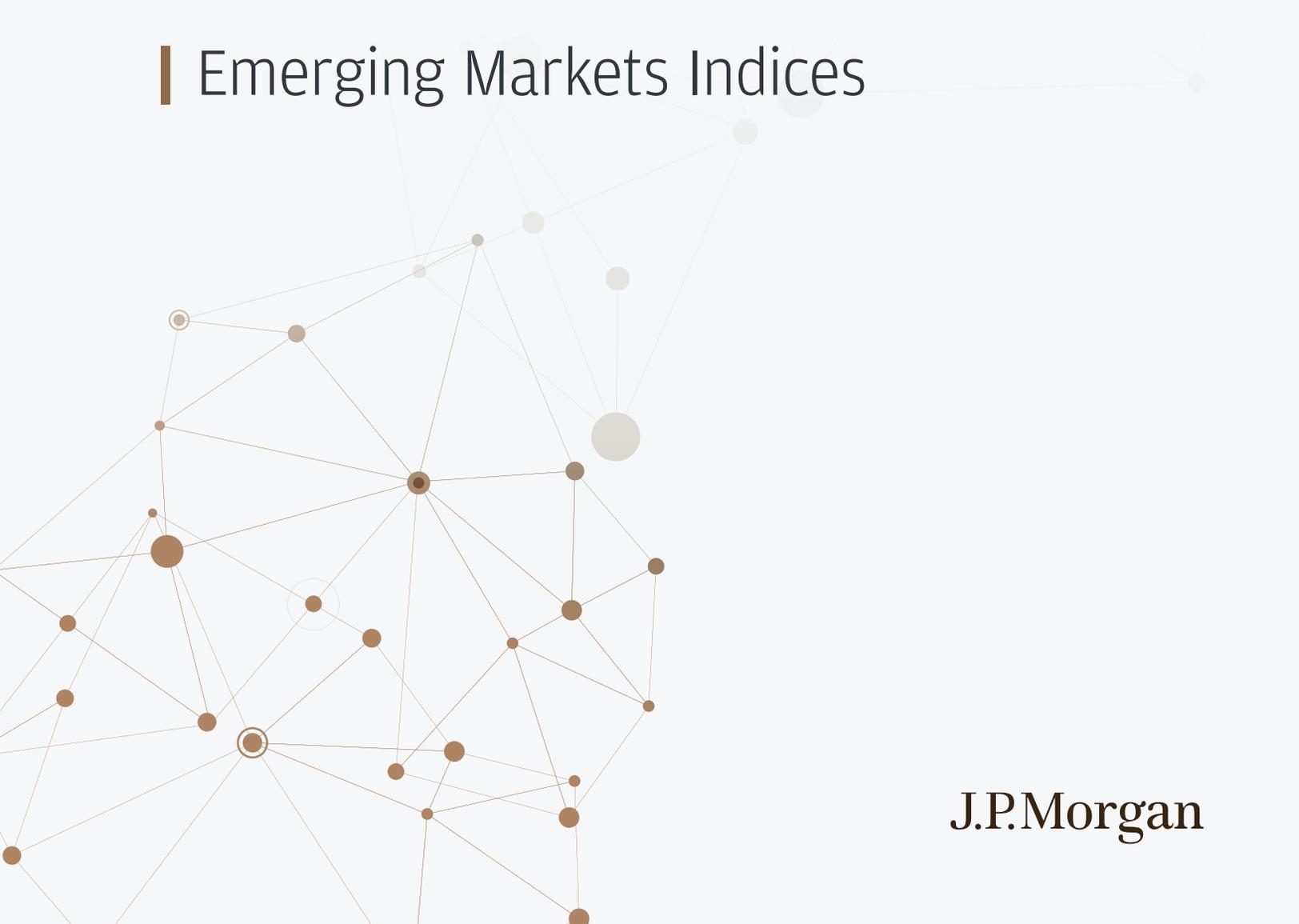
www.jpmm.com (Research → Index → Rates → Cash Index)

Publication

Developed Markets Monitor



Emerging Markets Indices



J.P.Morgan

EMBI Global

Baa3/BBB-/BBB-

- The Emerging Market Bond Index Global (EMBI Global) was the first comprehensive EM sovereign index in the market, after the EMBI+. It provides full coverage of the EM asset class with representative countries, investable instruments (sovereign and quasi-sovereign), and transparent rules.
- The EMBI Global includes only USD-denominated emerging markets sovereign/quasi-sovereign bonds and uses a traditional, market-capitalization weighted method for country allocation.
- The index was launched in July 1999 with daily historical index levels and statistics backfilled to December 1993.

Overview

The EMBI Global was created after the EMBI+, which had more stringent liquidity rules and restrictions. Given the strict nature of the EMBI+, not all emerging market countries and instruments were represented. To expand the coverage, the EMBI Global was created to capture a broader, more comprehensive universe of emerging markets issues. It is a traditional, market-capitalization weighted index which includes both fixed and floating rate instruments, including callable or puttable instruments, as well as capitalizing/amortizing bonds or loans denominated in USD. Only those bonds issued by sovereign and quasi-sovereign entities are eligible for index inclusion. Local law instruments are not eligible for the index.

For index purposes, a quasi-sovereign is defined as an entity that is 100% guaranteed or 100% owned by the national government, and resides in an index eligible country. Instruments issued by municipalities or provinces without a 100% guarantee from the sovereign are not eligible for inclusion.

Index Facts	
Inception Date	December 1993
Launch Date	July 1999
Rebalance date	Last business day of the month
Holiday	Follows US bond market calendar set by Emerging Markets Traders Association (EMTA)
Pricing Source	Bid-price from third party evaluation vendor (PricingDirect).
FX spot / forward rate	WM/Reuters 4pm London Rate
Coupon Reinvestment	All coupons received are immediately reinvested into the index.
Hedging Strategy	Assume a 1-month currency forward position that begins on rebalance day and ends on next rebalance day

EMBI Global Rebalancing

Index rebalancing occurs monthly on the last business day of each month. A new issue that meets the EMBI Global inclusion criteria will be assessed for inclusion at the month-end rebalance provided its settlement date falls on or before the month-end rebalance date of the same month. An exception applies to a new issue that is released as part of a debt exchange program.

At the month-end rebalancing date immediately following this event, the amount of debt retired in this exchange would be removed from the EMBI Global, and the new issue would be added to the index (provided official exchange results are made available in a timely manner). Additionally, an instrument that is issued purely in reliance on Regulation S will be ineligible for inclusion in the EMBI Indices until it is seasoned (that is, until expiration of the relevant Regulation S restricted period). The date at which the seasoning restriction is lifted will effectively be the new “settlement” date.

Once added, an instrument may remain in the index until six months to maturity.

For country inclusion, a country’s GNI per capita must be below the Index Income Ceiling (IIC) for three consecutive years to be eligible for inclusion to the EMBI Global OR the Index Purchasing-Power-Parity Ratio (IPR) must be below the IPR threshold for three consecutive years.

J.P. Morgan 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.

The IPR is calculated from the one-year lagged GDP data available in IMF’s World Economic Outlook publication. The EM IPR threshold is an indexed number which mimics the changes to the World IPR.

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 OR the Index Purchasing-Power-Parity Ratio (IPR) is above the IPR threshold for three consecutive years as well as the country’s long term foreign currency sovereign credit rating (the available ratings from all three agencies: Moody’s, S&P and Fitch) is A3/A-/A- (inclusive) or above for three consecutive years.

Index Criteria	EMBI Global	EMBIG Diversified	EMBI+
Country	GNI per capita must be below the Index Income Ceiling (IIC)* for 3 consecutive years OR IPR** below threshold for 3 consecutive years.	GNI per capita must be below the Index Income Ceiling (IIC)* for 3 consecutive years OR IPR** below threshold for 3 consecutive years.	GNI per capita must be below the Index Income Ceiling (IIC)* for 3 consecutive years OR IPR** below threshold for 3 consecutive years. An issuer must have at least US\$10 billion in debt outstanding in the EMBI Global series.
Liquidity	Daily available pricing from third party evaluation vendor	Daily available pricing from third party evaluation vendor	Daily available pricing from third party evaluation vendor
Instrument Type	All fixed, floaters, amortizers, capitalizers and loans	All fixed, floaters, amortizers, capitalizers and loans	All fixed, floaters, amortizers, capitalizers and loans
Min Face Amount Outstanding	US\$500 million	US\$500 million	US\$1.5 billion
Maturity required for initial entry	At least 2.5 years till maturity	At least 2.5 years till maturity	At least 2.5 years till maturity with an issue age less than 5 years
Maturity required to maintain inclusion	At least 6 months till maturity	At least 6 months till maturity	At least 6 months till maturity
Includes quasi-sovereign?	√	√	
Face Amount Diversification?		√	√

*J.P. Morgan 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

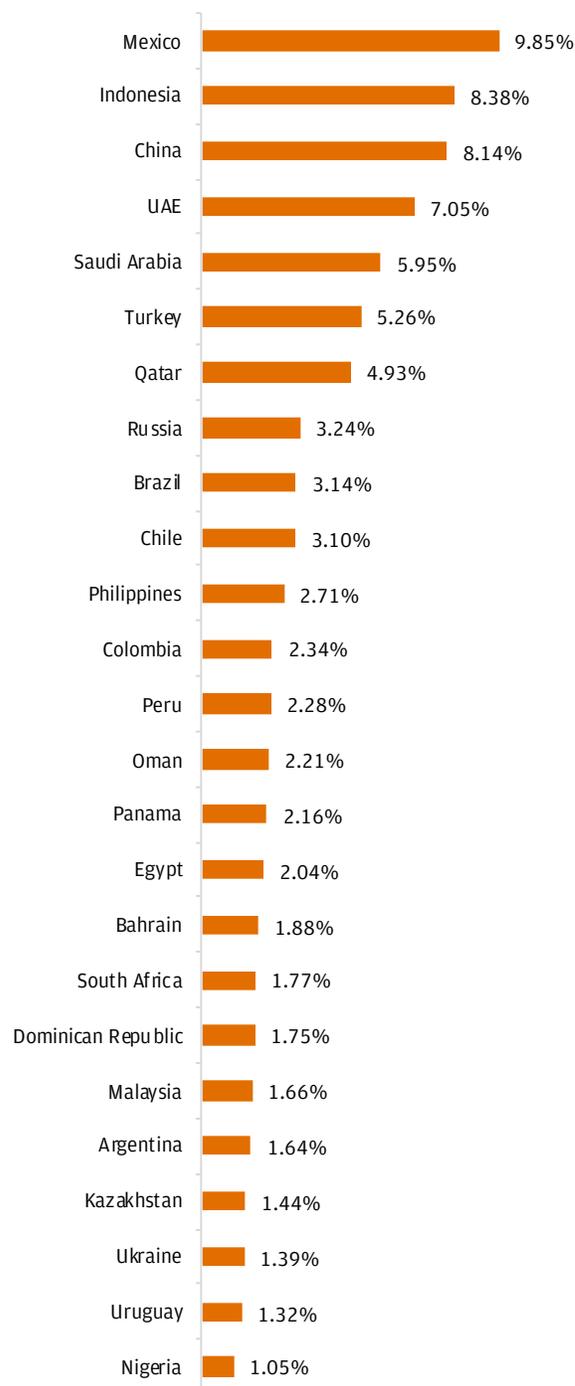
**The IPR is calculated from the one-year lagged GDP data available in IMF’s World Economic Outlook publication. The EM IPR threshold is an indexed number which mimics the changes to the World IPR.

Credit Rating

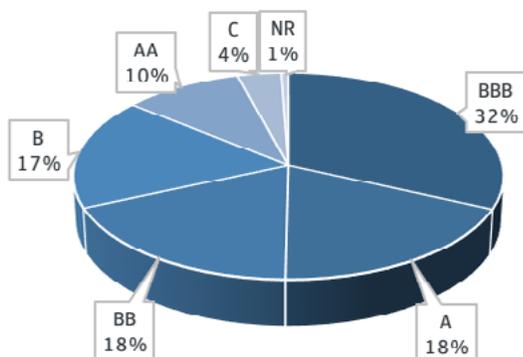
The index does not exclude countries based on credit ratings and therefore spans both Investment Grade and High Yield bonds across emerging market countries. For index purposes, S&P, Moody's, and Fitch ratings are considered. Credit rating is determined based on the following rules:

- The middle rating of the Moody's, S&P, and Fitch ratings.
- The lower rating when two ratings are available.
- The sole rating when only one rating is provided.
- NR bonds are classified under HY bucket.

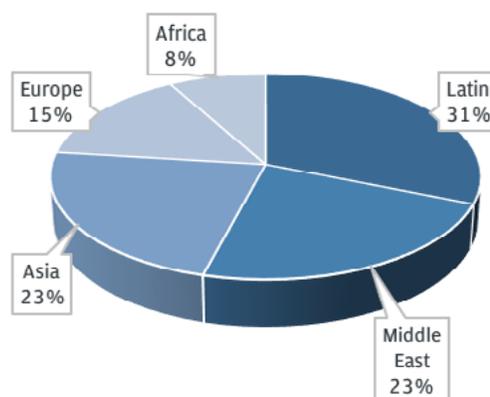
**EMBIG Profile- Top 25 Countries
(As of Dec 2021)**



Credit Rating (As of Dec 2021)



By Region (As of Dec 2021)



Where to find the EMBI Global?

Bloomberg

JPMX <GO> → Emerging Markets → External Sovereigns → EMBI Global

Reuters

Page EMBIO2-EMBI04 contains index and statistical data

DataQuery

www.jpmm.com (Analyze → Cross-Asset → Data Query → Emerging Markets → Indices → External Debt Indices → EMBIGLOBAL)

Morgan Markets

www.jpmm.com (Research → Index → Emerging Markets → Sovereign/Quasi-Sovereign → EMBIG)

Publication

Index Movers Daily; EMBI Monitor (Monthly), Index Quarterly Attribution

EMBI Global Diversified

Ba1/BB+/BB+

- The Emerging Market Bond Index Global Diversified (EMBIGD) is a uniquely weighted USD-denominated emerging markets sovereign and quasi-sovereign index.
- It has a distinct diversification scheme which allows for a more even weight distribution among the countries in the index.
- The EMBI Global Diversified has the same instrument composition as the market-cap weighted EMBI Global.
- The EMBI Global Diversified has become the most widely followed benchmark in its class. (AUM \$342bn as of December 2021).

Overview

The EMBI Global Diversified is the most widely followed USD EM sovereign index. The comprehensive composition and diversification amongst countries in the index provide users with an optimally balanced benchmark.

The diversification methodology constrains a country's weight by first adjusting the face amount outstanding and then applying an additional layer of maximum weight cap of 10%.

Diversified Version

Weighting Methodology

To calculate the diversified (adjusted) face amount for each country, we define:

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

Based on the ICA, the diversified face amount for any country in the index is derived.

Index Facts	
Inception Date	December 1993
Launch Date	July 1999
Rebalance date	Last business day of the month
Holiday	Follows US bond market calendar set by Emerging Markets Traders Association (EMTA)
Pricing Source	Bid-price from third party evaluation vendor (PricingDirect).
FX spot/forward rate	WM/Reuters 4pm London Rate
Coupon Reinvestment	All coupons received are immediately reinvested into the index.
Hedging Strategy	Assume a 1-month currency forward position that begins on rebalance day and ends on next rebalance day.

Diversified Country Face Amount =

$$\begin{cases} \text{ICA} \times 2 & , \text{if } \text{FA}_{max} \\ \text{ICA} + \frac{\text{ICA}}{\text{FA}_{max} - \text{ICA}} \times (\text{Country FA} - \text{ICA}) & , \text{if } \text{Country FA} > \text{ICA} \\ \text{Country FA} & , \text{if } \text{Country FA} \leq \text{ICA} \end{cases}$$

where Country FA represents the non-diversified country face amount and FAm_{ax} 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 Criteria	EMBI Global	EMBIG Diversified	EMBI+
Country	GNI per capita must be below the Index Income Ceiling (IIC)* for 3 consecutive years OR IPR** below threshold for 3 consecutive years.	GNI per capita must be below the Index Income Ceiling (IIC)* for 3 consecutive years OR IPR** below threshold for 3 consecutive years.	GNI per capita must be below the Index Income Ceiling (IIC)* for 3 consecutive years OR IPR** below threshold for 3 consecutive years. An issuer must have at least US\$10 billion in debt outstanding in the EMBI Global series.
Liquidity	Daily available pricing from third party evaluation vendor	Daily available pricing from third party evaluation vendor	Daily available pricing from third party evaluation vendor
Instrument Type	All fixed, floaters, amortizers, capitalizers and loans	All fixed, floaters, amortizers, capitalizers and loans	All fixed, floaters, amortizers, capitalizers and loans
Min Face Amount Outstanding	US\$500 million	US\$500 million	US\$1.5 billion
Maturity required for initial entry	At least 2.5 years till maturity	At least 2.5 years till maturity	At least 2.5 years till maturity with an issue age less than 5 years
Maturity required to maintain inclusion	At least 6 months till maturity	At least 6 months till maturity	At least 6 months till maturity
Includes quasi-sovereign?	√	√	
Face Amount Diversification?		√	√

*J.P. Morgan 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.

**The IPR is calculated from the one-year lagged GDP data available in IMF's World Economic Outlook publication. The EM IPR threshold is an indexed number which mimics the changes to the World IPR.

EMBI Global Diversified Rebalancing

Index rebalancing occurs monthly on the last business day of each month.

A new issue that meets the EMBI Global Diversified admission requirements will be assessed for inclusion at the month-end rebalance provided its settlement date falls on or before the month-end rebalance date of the same month.

An exception applies to a new issue that is released as part of a debt exchange program. At the month-end rebalancing date immediately following this event, the

amount of debt retired in this exchange would be removed from the EMBI Global Diversified, and the new issue would be added to the index (provided official exchange results are made available in a timely manner).

Additionally, an instrument that is issued purely in reliance on Regulation S will be ineligible for inclusion in the EMBI Indices until it is seasoned (that is, until the expiration of the relevant Regulation S restricted period). The date at which the seasoning restriction is lifted will effectively be the new “settlement” date.

For country inclusion, a country’s GNI per capita must be below the Index Income Ceiling (IIC) for three consecutive years to be eligible for inclusion to the EMBI Global Diversified OR the Index Purchasing-Power Parity Ratio (IPR) must be below the IPR threshold for 3 consecutive years.

J.P. Morgan 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.

The IPR is calculated from the one-year lagged GDP data available in IMF’s World Economic Outlook publication. The EM IPR threshold is an indexed number which mimics the changes to the World IPR.

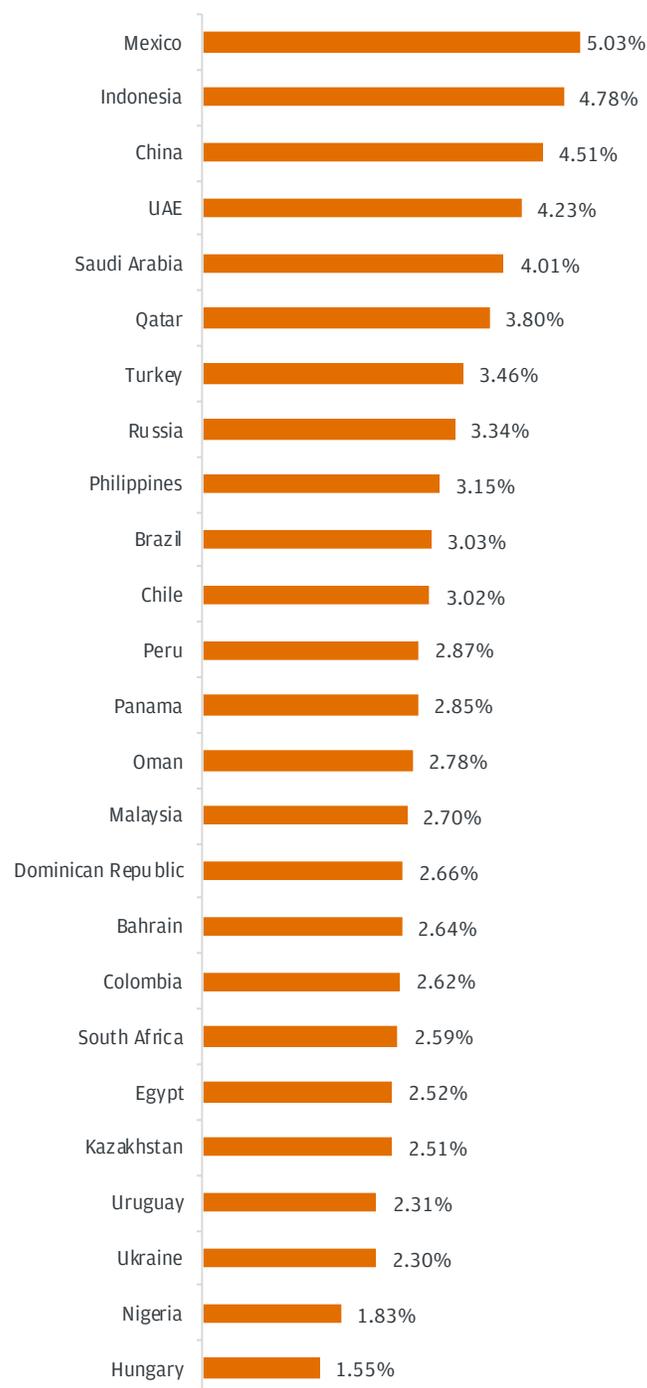
An existing country may be considered for removal from the index if its GNI per capita is above the Index Income Ceiling (IIC) for three consecutive years OR the Index Purchasing-Power-Parity Ratio (IPR) is above the IPR threshold for three consecutive years as well as the country’s long term foreign currency sovereign credit rating (the available ratings from all three agencies: Moody’s, S&P & Fitch) is A3/A-/A- (inclusive) or above for three consecutive years.

Credit Rating

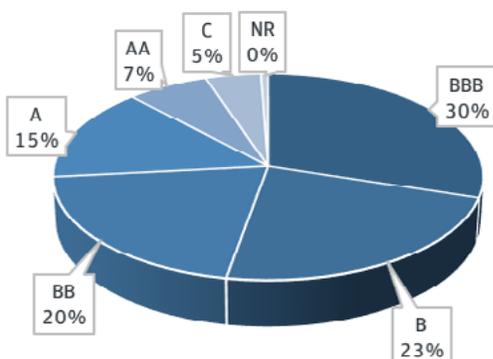
The index does not exclude countries based on credit ratings and therefore spans both Investment Grade and High Yield bonds across emerging market countries. For index purposes, S&P, Moody’s, and Fitch ratings are considered. Credit rating is determined based on the following rules:

- The middle rating of the Moody’s, S&P, and Fitch ratings.
- The lower rating when two ratings are available.
- The sole rating when only one rating is provided.
- NR bonds are classified under HY bucket.

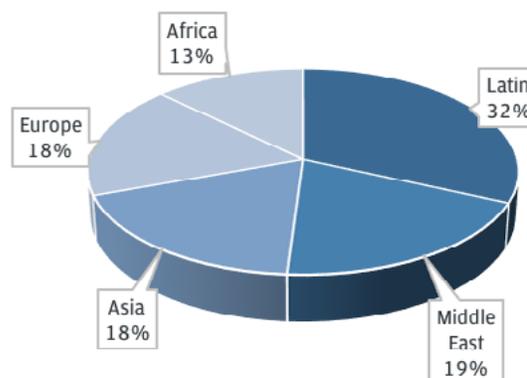
EMBIG Diversified Profile- Top 25 Countries (As of Dec 2021)



Credit Rating (As of Dec 2021)



By Region (As of Dec 2021)



Where to find the EMBI Global Diversified?

Bloomberg

JPMX <GO> → Emerging Markets → External Sovereigns → EMBIG Div

Reuters

Page EMBIO2-EMBI04 contains index and statistical data.

DataQuery

www.jpmm.com (Analyze → Cross-Asset → Data Query → Emerging Markets → Indices → External Debt Indices → EMBI Global Div.)

Morgan Markets

www.jpmm.com (Research → Index → Emerging Markets → Sovereign/Quasi-Sovereign → EMBIG Div)

Publication

Index Movers Daily; EMBI Monitor (Monthly), Index Quarterly Attribution

EMBI+

Ba1 / BB+ / BB+

- The Emerging Market Bond Index Plus (EMBI+) is a uniquely weighted USD denominated sovereign emerging markets index with a liquidity criteria to provide investors with the most liquid set of issues within the asset class.
- It was the first broad liquid EM index to be introduced to the market in 1995 after the Brady-only EMBI, and has since served as a flagship benchmark for EM investors.
- The EMBI+ applies transparent liquidity rules that are designed to ensure that the EMBI+ continues to cover the liquid emerging market sovereign issuers and adapt to evolving issuance patterns.

Overview

The EMBI+ is our liquid US-dollar denominated emerging market debt benchmark which includes both fixed and floating rate instruments, as well as capitalizing/ amortizing bonds.

The EMBI+ contains only bonds and/or loans issued by sovereign entities from index-eligible countries. Quasi-sovereigns are not eligible for the EMBI+. Instruments issued by municipalities or provinces are also not eligible for inclusion.

EMBI+ Rebalancing

Index rebalancing occurs monthly on the last business day of each month. A new issue that meets the EMBI+ inclusion criteria will be assessed for inclusion at the month-end rebalance provided its settlement date falls on or before the month-end rebalance date of the same month.

An exception applies to a new issue that is released as part of a debt exchange program. At the month-end rebalancing date, immediately following this event, the amount of debt retired in this exchange would be removed from the EMBI+, and the new issue would be added to the index (provided official exchange results are made available in a timely manner).

Index Facts	
Inception Date	December 1993
Launch Date	July 1995
Rebalance date	Last business day of the month.
Holiday	Follows US bond market calendar set by Emerging Markets Trader Association (EMTA).
Pricing Source	Bid-price from third party evaluation vendor (PricingDirect).
FX spot/forward rate	WM/Reuters 4pm London Rate
Coupon Reinvestment	All coupons received are immediately reinvested into the index.
Hedging Strategy	Assume a 1-month currency forward position that begins on rebalance day and ends on next rebalance day

An instrument that is issued purely in reliance on Regulation S will be ineligible for inclusion in the EMBI Indices until it has seasoned (that is, until the expiration of the relevant Regulation S restricted period). The date at which the seasoning restriction is lifted will effectively be the new “settlement” date.

Once added, an instrument may remain in the index until 6 months before it matures.

Index Criteria	EMBI Global	EMBIG Diversified	EMBI+
Country	GNI per capita must be below the Index Income Ceiling (IIC)* for 3 consecutive years OR IPR** below threshold for 3 consecutive years.	GNI per capita must be below the Index Income Ceiling (IIC)* for 3 consecutive years OR IPR** below threshold for 3 consecutive years.	GNI per capita must be below the Index Income Ceiling (IIC)* for 3 consecutive years OR IPR** below threshold for 3 consecutive years. An issuer must have at least US\$10 billion in debt outstanding in the EMBI Global series.
Liquidity	Daily available pricing from third party evaluation vendor	Daily available pricing from third party evaluation vendor	Daily available pricing from third party evaluation vendor
Instrument Type	All fixed, floaters, amortizers, capitalizers and loans	All fixed, floaters, amortizers, capitalizers and loans	All fixed, floaters, amortizers, capitalizers and loans
Min Face Amount Outstanding	US\$500 million	US\$500 million	US\$1.5 billion
Maturity required for initial entry	At least 2.5 years till maturity	At least 2.5 years till maturity	At least 2.5 years till maturity with an issue age less than 5 years
Maturity required to maintain inclusion	At least 6 months till maturity	At least 6 months till maturity	At least 6 months till maturity
Includes quasi-sovereign?	√	√	
Face Amount Diversification?		√	√

*J.P. Morgan 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.

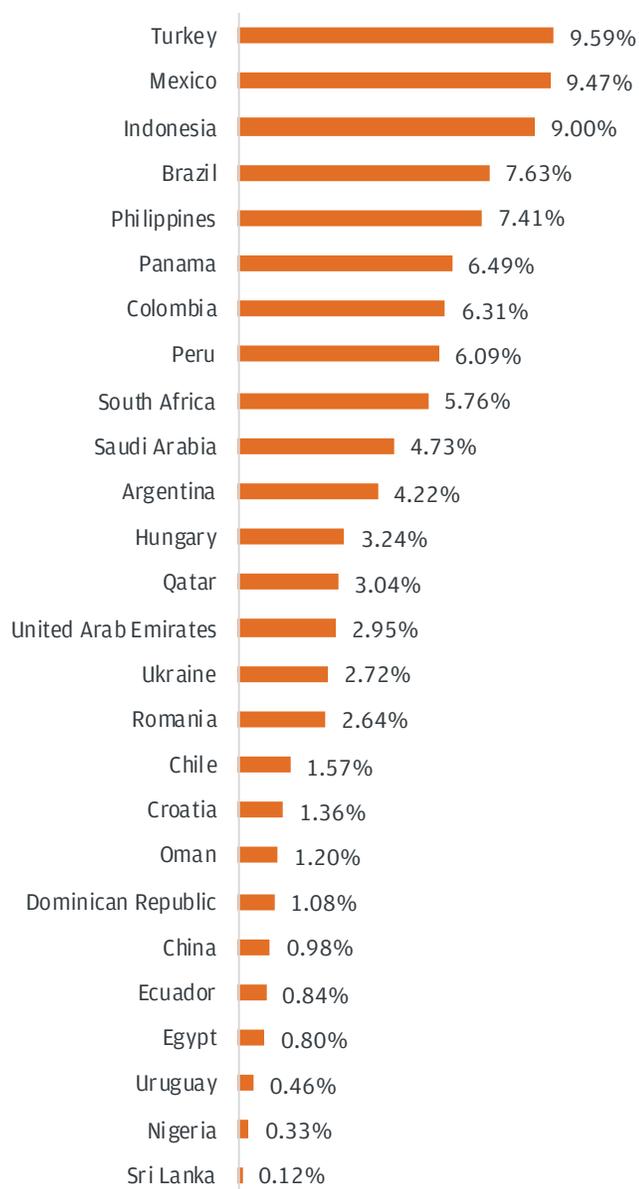
**The IPR is calculated from the one-year lagged GDP data available in IMF's World Economic Outlook publication. The EM IPR threshold is an indexed number which mimics

Credit Rating

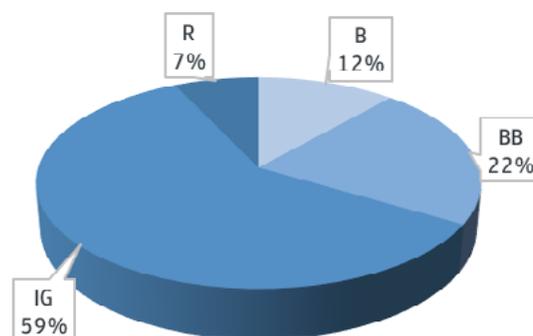
The index does not exclude countries based on credit ratings and therefore spans both Investment Grade and High Yield bonds across emerging market countries. For index purposes, S&P, Moody's, and Fitch ratings are considered. Credit rating is determined based on the following rules:

- The middle rating of the Moody's, S&P, and Fitch ratings
- The lower rating when two ratings are available
- The sole rating when only one rating is provided
- NR bonds are classified under HY bucket

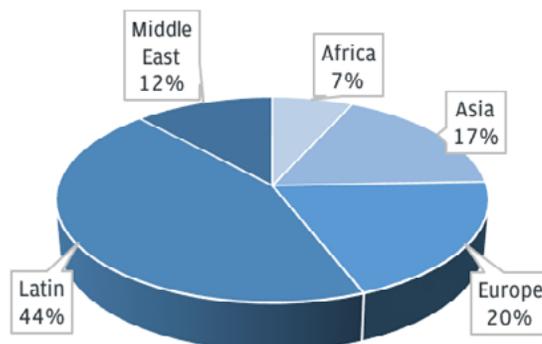
EMBI+ Profile (As of Mar 2022)



Credit Rating (As of Mar 2022)



By Region (As of Mar 2022)



Index profile is shown as of March 31, 2022 due to methodology changes, please see [here](#) for more information.

Where to find the EMBI+?

Bloomberg

JPMX <GO> → Emerging Markets → External Sovereigns → EMBI+

DataQuery

www.jpmm.com (Analyze → Cross-Asset → Data Query → Emerging Markets → Indices → External Debt Indices → EMBIPLUS)

Morgan Markets

www.jpmm.com (Research → Index → Emerging Markets → Sovereign/Quasi-Sovereign → EMBI+)

NEXGEM

B2 / B / B

- The Next Generation Markets Index (NEXGEM) countries are selected from the universe of EMBI Global Diversified countries.
- A unique set of country criteria exist for the NEXGEM to select only the smaller emerging countries of lesser credit quality.
- The index was launched in November 2011 with daily historical index levels and statistics available from Dec. 31, 2001.

Overview

NEXGEM follows a unique set of criteria that has been developed to most accurately represent markets that are just beginning to appear on the radar of traditional EM investors. The goal of this index is to capture the returns of new emerging countries in their infancy.

The following rules determine country eligibility:

- The country must have possessed a weight of less than 2% in the EMBI Global Diversified for the past 12 consecutive months.
- The country must have a rating of Ba1/BB+/BB+ or lower by all three rating agencies Moody's, S&P and Fitch. A country will no longer be eligible if it is rated IG by Moody's, S&P, or Fitch.
- The country cannot be a European Union member or be engaged in the process of seeking EU membership.

While the country inclusion criteria are unique, bond level selection, rebalancing activity and calculation methodology are consistent with the established EMBI Global Diversified.

The EMBI Global Diversified was selected as the basis for NEXGEM in order to ensure that only the smallest of emerging economies, post-diversification, are included in the index. As a result, NEXGEM is a market capitalization-weighted index with a natural diversification embedded in the fundamental methodology.

Index Facts	
Inception Date	December 2001
Launch Date	November 2011
Rebalance date	Last business day of the month
Holiday	Follows US bond market calendar set by Emerging Markets Trader Association (EMTA)
Pricing Source	Bid-price from an third-party evaluation vendor (PricingDirect)
FX spot / forward rate	WM/Reuters 4pm London Rate
Coupon Reinvestment	All coupons received are immediately reinvested into the index.
Hedging Strategy	Assume a 1-month currency forward position that begins on rebalance day and ends on next rebalance day.

Index Criteria	NEXGEM	EMBIG Diversified
Country	EMBIG/Div Index member Ba1/BB+/BB+ or lower by Moody's, S&P and Fitch Non-EU member or not seeking EU membership <2% weight in the EMBIG Div for past 12 consecutive months	GNI per capita must be below the Index Income Ceiling (IIC)* for 3 consecutive years OR IPR** below threshold for 3 consecutive years.
Liquidity	Daily available pricing from a third party valuation vendor	Daily available pricing from a third party valuation vendor
Instrument Type	All fixed, floaters, amortizers capitalizers, and loans	All fixed, floaters, amortizers, capitalizers and loans
Min Face Amount Outstanding	US\$500 million	US\$500 million
Maturity required for initial entry	At least 2.5 years till maturity	At least 2.5 years till maturity
Maturity required to maintain inclusion	At least 6 months till maturity	At least 6 months till maturity
Includes quasi- sovereign?	√	√
Face Amount Diversification?		√

*J.P. Morgan 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.

**The IPR is calculated from the one-year lagged GDP data available in IMF's World Economic Outlook publication. The EM IPR threshold is an indexed number which mimics the changes to the World IPR.

NEXGEM Rebalancing

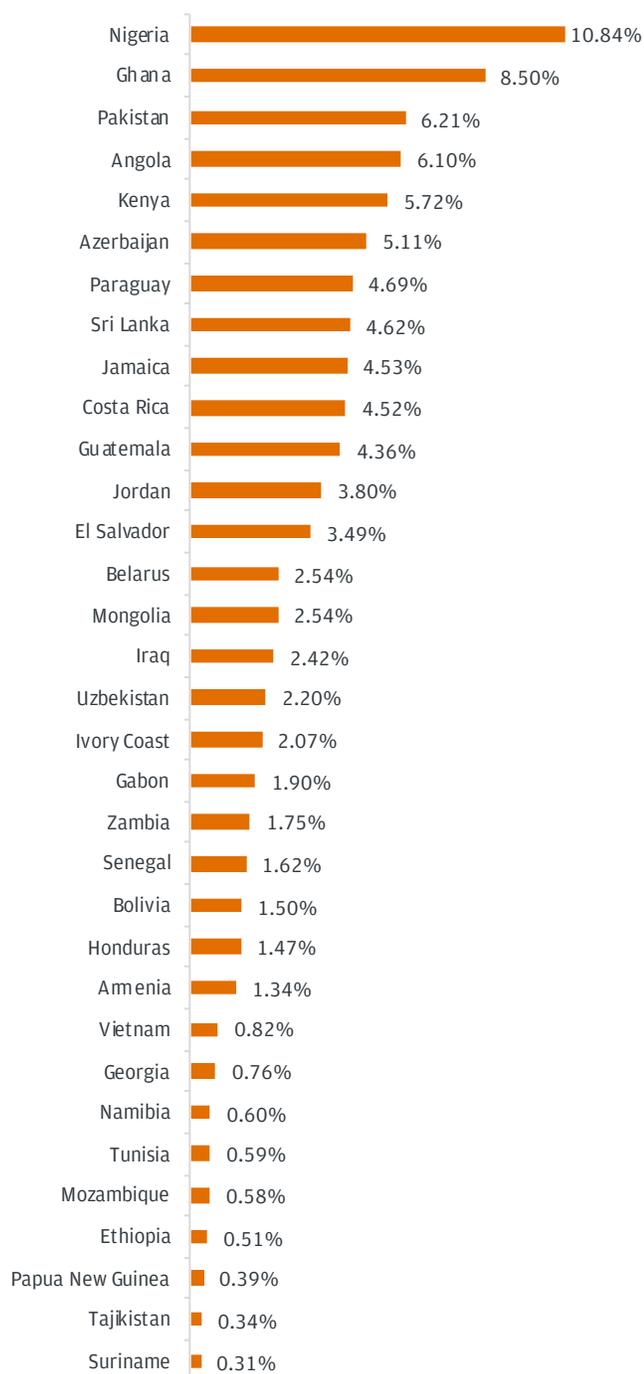
Index rebalancing follows that of the EMBI Global Diversified. It occurs on the last business day of each month. A new issue that meets NEXGEM's admission requirements will be assessed for inclusion at the month-end rebalance provided its settlement date falls on or before the month-end rebalance date of the same month.

An exception applies to a new issue that is released as part of a debt exchange program. At the month-end rebalancing date immediately following this event, the amount of debt retired in this exchange would be removed from the NEXGEM, and the new issue would be added to the index (provided official exchange results are made available in a timely manner).

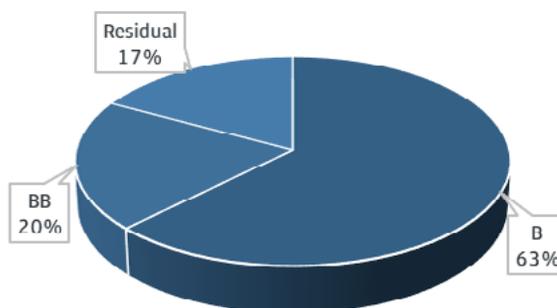
Additionally, an instrument that is issued purely in reliance on Regulation S will be ineligible for inclusion in the NEXGEM until it is seasoned (that is, until the expiration of the relevant Regulation S restricted period). The date at which the seasoning restriction is lifted will effectively be the new "settlement" date.

Once added, an instrument may remain in the index until 6 months before it matures.

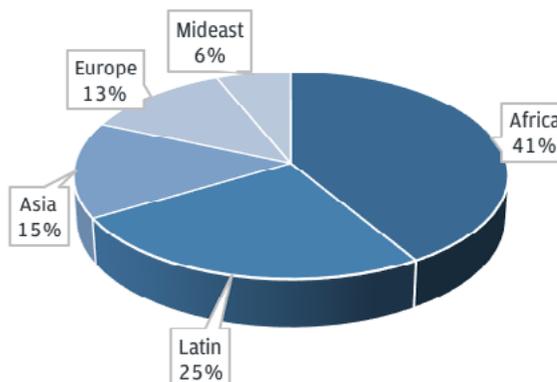
NEXGEM Profile (As of Dec 2021)



Credit Rating (As of Dec 2021)



By Region (As of Dec 2021)



Where to find the NEXGEM?

Bloomberg

JPMX <GO> → Emerging Markets
→ External Sovereigns → NEXGEM

DataQuery

www.jpmm.com (Analyze → Cross-Asset
→ Data Query → Emerging Markets
→ Indices → External Debt Indices)

Morgan Markets

www.jpmm.com (Research → Index
→ Emerging Markets → Sovereign/Quasi-Sovereign
→ NEXGEM)

EURO EMBIG

Baa2/BBB/BBB

- The Euro Emerging Markets Bond Index Global (EURO EMBIG) is a traditional, market capitalization weighted index which offers investors a definitive euro-denominated EM debt benchmark.
- The EURO EMBIG Diversified is a more evenly weighted version of the EURO EMBIG using the same composition. It employs a unique distribution scheme by reducing the weight of large countries and redistributing the excess to the smaller countries.
- The selection criteria for the above indices are similar to those of the USD EMBI Global series, with the exception of currency.

Overview

The EURO EMBIG index is a euro-denominated emerging market debt benchmark that includes bonds denominated in euro. Only those bonds issued by sovereign and quasi-sovereign entities from index eligible countries are eligible for index inclusion.

For index purposes, a “Quasi-sovereign” is defined as an entity that is 100% guaranteed or 100% owned by the national government. Instruments issued by Municipalities or provinces without a 100% guarantee from the sovereign are not eligible for inclusion.

**J.P. Morgan 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.*

***The IPR is calculated from the one-year lagged GDP data available in IMF’s World Economic Outlook publication. The EM IPR threshold is an indexed number which mimics the changes to the World IPR.*

Index Facts	
Inception Date	December 1998
Launch Date	March 2001
Rebalance date	Last weekday of the month
Holiday	Follows UK bank holiday calendar
Pricing Source	Bid-price from third party evaluation vendor (Pricing Direct)
FX spot/forward rate	WM/Reuters 4pm London Rate
Coupon Reinvestment	All coupons received are immediately reinvested into the index
Hedging Strategy	Assume a 1-month currency forward position that begins on rebalance day and ends on next rebalance day
Index Criteria	
Country	<p>Index Entry: A country’s GNI per capita must be below the Index Income Ceiling (IIC)* for 3 consecutive years OR its IPR** must be below the IPR threshold 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 OR its IPR is above the IPR threshold for 3 consecutive years as well as the country’s long term foreign 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>
Issuer	Sovereign or Quasi Sovereign Issuers
Instrument Type	All fixed, floaters, amortizers, capitalizers and loans
Min Face Amount Outstanding	EUR 500 million
Maturity	Inclusion: At least 2.5 years to maturity Exclusion: Less than 6 months to maturity
Law/ Settlement	Legal Jurisdiction that is domestic to a G-7 country; Euroclearable or settled through another institution outside issuing country

EURO EMBIG Rebalancing

Index rebalancing occurs monthly on the last business day of each month. A new issue that meets EURO EMBIG inclusion criteria will be assessed for inclusion at the month-end rebalance provided its settlement date falls on or before the month-end rebalance date of the same month.

The minimum outstanding amount of each bond in the index is EUR 500 million. If an issue's current face outstanding falls below this requirement, either due to a debt retirement by the sovereign or the amortization of principal, the issue will be removed from the index at the next month-end rebalancing date. The reverse also holds true: existing issues that, through reopening, increase in size to satisfy the minimum current face outstanding requirement are then considered for inclusion in the EURO EMBIG.

For country inclusion, a country's GNI per capita must be below the Index Income Ceiling (IIC) for three consecutive years to be eligible for inclusion to the EURO EMBI Global OR the Index Purchasing-Power Parity Ratio (IPR) must be below the IPR threshold for three consecutive years.

J.P. Morgan 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.

The IPR is calculated from the one-year lagged GDP data available in IMF's World Economic Outlook publication. The EM IPR threshold is an indexed number which mimics the changes to the World IPR.

An existing country may be considered for removal from the index if its GNI per capita is above the Index Income Ceiling (IIC) or the Index Purchasing-Power Parity Ratio (IPR) is above the IPR threshold for three consecutive years as well as the country's long term foreign 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.

Diversified Weighting Methodology

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:

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

Based on the ICA, the diversified face amount for any country in the index is derived.

Diversified Country Face Amount =

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

Where Country FA represents the non-diversified country face amount and FAm_{ax} 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.

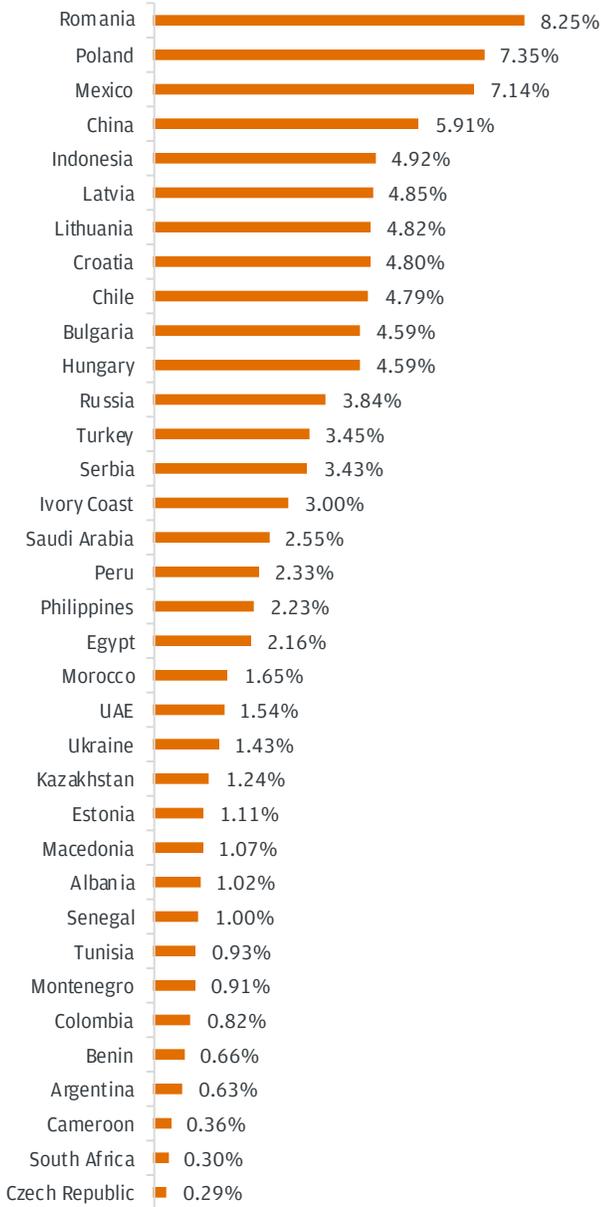
In addition, country weights are capped at 10%. Any excess weight above the cap is redistributed to smaller countries that are below the cap to limit concentration risk.

Credit Rating

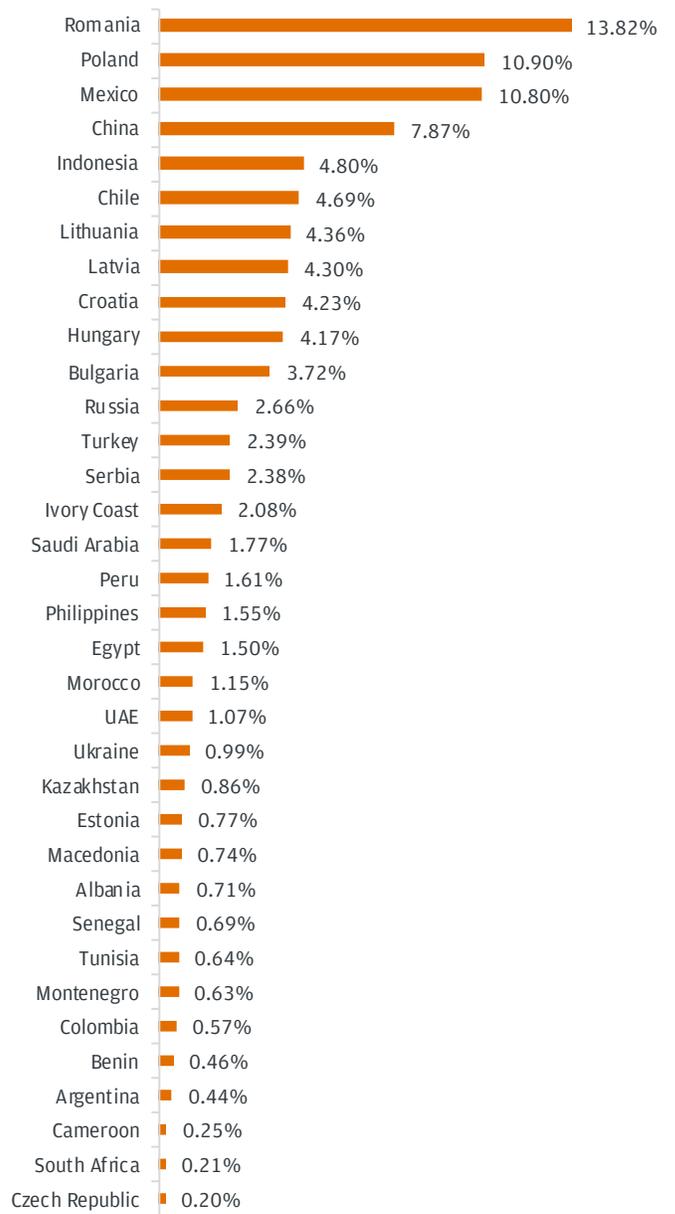
The index does not exclude countries based on credit ratings and therefore span both Investment Grade and High Yield bond markets across countries. For index purposes, S&P, Moody's, and Fitch ratings are considered. Credit rating is determined based on the following rules:

- The middle rating of the Moody's, S&P, and Fitch ratings.
- The lower rating when two ratings are available.
- The sole rating when only one rating is provided.
- NR rated bonds are classified under HY bucket.

EURO EMBIG Diversified Profile (As of Dec 2021)



EURO EMBIG Profile (As of Dec 2021)



Where to find the EURO EMBIG?

Bloomberg

JPMX <GO> → Emerging Market → External Sovereigns → Euro EMBIG

DataQuery

www.jpmm.com (Analyze → Cross-Asset → Data Query → Indices → Emerging Markets Index → External Debt Indices)

Morgan Markets

www.jpmm.com (Research → Index → Emerging Markets → Sovereign/Quasi-Sovereign → Euro EMBIG)

Publication

Index Movers Daily; EMBI Monitor (Monthly)

CEMBI

Baa3 / BBB- / BBB-

- The JPM Corporate Emerging Market Bond Index (CEMBI) series was launched in 2007 and was the first comprehensive USD corporate emerging markets bond index.
- Currently, it is the most widely followed benchmark in its class (AUM \$141 billion as of December 2021).
- There are two root versions of the CEMBI with a Diversified overlay for each version:
 - CEMBI / CEMBI Diversified
 - CEMBI Broad / CEMBI Broad Diversified
- The CEMBI Broad Diversified version is the most popular among the four versions largely due to its issuer coverage and diversification weighting scheme.

Overview

The size of the corporate emerging markets has grown significantly and is now a \$2.5 trillion market. The CEMBI Broad Diversified is the leading indicator of this market and in the short period since its launch has accumulated over \$104 billion in benchmarked assets under management as of December 2021.

Two Main Composite Indices

The CEMBI Broad is the more inclusive of the two variations, covering a larger universe of EM corporate bonds. By including smaller and shorter-dated bonds, it provides wider issuer coverage and risk diversification. CEMBI (Narrow) is a subset of the CEMBI Broad Index, with more stringent rules, that includes larger amount outstanding and lesser in individual issuers. It provides investors with an EM corporate benchmark that is more selective and liquid. However, given the current dynamics of the EM corporate market, the CEMBI Broad is still the favored version due to its wider issuer coverage as well as its sector and regional balance.

Index Facts		
Inception Date	December 2001	
Launch Date	December 2007 (Narrow series); January 2008 (Broad series)	
Rebalance date	Last business day of the month	
Holiday	Follows US bond market calendar set by Emerging Markets Trader Association (EMTA)	
Pricing Source	Bid-price from third party evaluation vendor (PricingDirect).	
FX spot / forward rate	WM/Reuters 4pm London Rate	
Coupon Reinvestment	All coupons received are immediately reinvested into the index.	
Hedging Strategy	Assume a 1-month currency forward position that begins on rebalance day and ends on next rebalance day	
Index Criteria	CEMBI Broad / Broad Div.	CEMBI / Div (Narrow)
Country/Region	Based on region: Asia ex Japan, Latam, Eastern Europe, Middle East/ Africa	
Issuer	Headquartered in an EM country or, 100% of the issuer's asset are within EM economies or, 100% secured by assets within EM economies	
Instrument Type	All fixed, floaters, amortizers and capitalizers	All fixed, bullets (only two largest instruments from any issuer)
Defaulted bonds are excluded		
Min Face Amount Outstanding	US\$300 million	US\$500 million
Maturity	Inclusion: at least 2.5 years to maturity; Exclusion: less than 6 months to maturity	
Law/ Settlement	Local law instruments are not eligible; Euroclearable or settled through another institution outside issuing country	

CEMBI Diversified Weighting Methodology

The CEMBI Diversified/CEMBI Broad Diversified uses a limited portion of the current face amount outstanding of larger countries within the index. 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:

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

Based on the ICA, the diversified face amount for any country in the index is derived.

Diversified Country Face Amount =

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

where Country FA represents the non-diversified country face amount and FAm_{ax} 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. Diversified indices of the CEMBI suite institute a 3% issuer cap.

Credit Rating

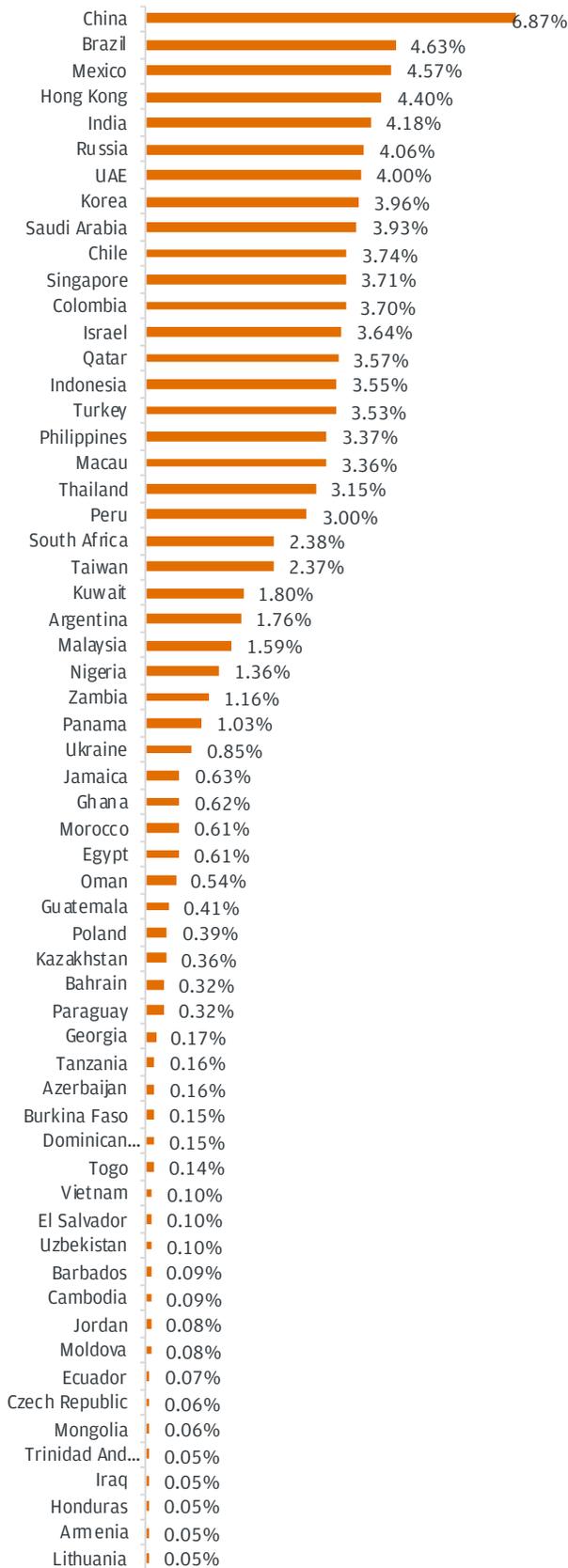
The index does not exclude issuers based on credit ratings and therefore span both Investment Grade and High Yield bond markets. For index purposes, S&P, Moody's, and Fitch ratings are considered. Credit rating is determined based on the following rules:

- The middle rating of the Moody's, S&P, and Fitch ratings
- The lower rating when two ratings are available
- The sole rating when only one rating is provided
- NR rated bonds are classified under HY bucket

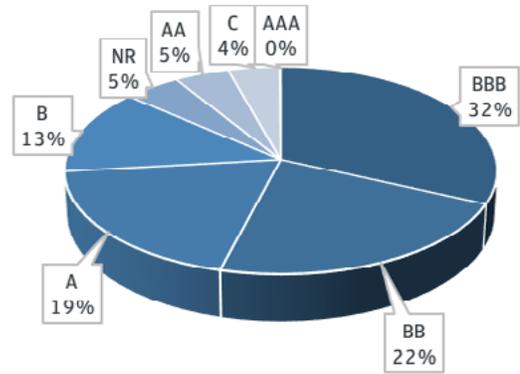
CEMBI Rebalance

Index rebalancing occurs monthly on the last business day of each month. Country and issuer inclusion/exclusion eligibility is reviewed each month before rebalance. New issues that meet the CEMBI inclusion criteria will be assessed for inclusion at the month-end rebalance provided its settlement date falls on or before the month-end rebalance date of the same month.

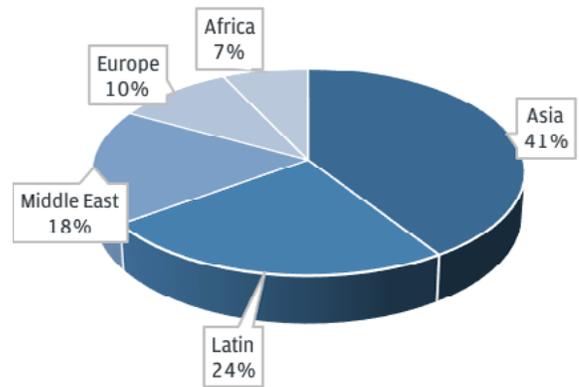
CEMBI Broad Diversified Profile (As of Dec 2021)



By Credit Rating (As of Dec 2021)



By Region (As of Dec 2021)



Where to find the CEMBI?

Bloomberg

JPMX <GO> → Emerging Markets → Corporate
→ CEMBI

DataQuery

www.jpmm.com (Analyze → Cross-Asset
→ Data Query → Emerging Markets
→ Indices → External Debt Indices)

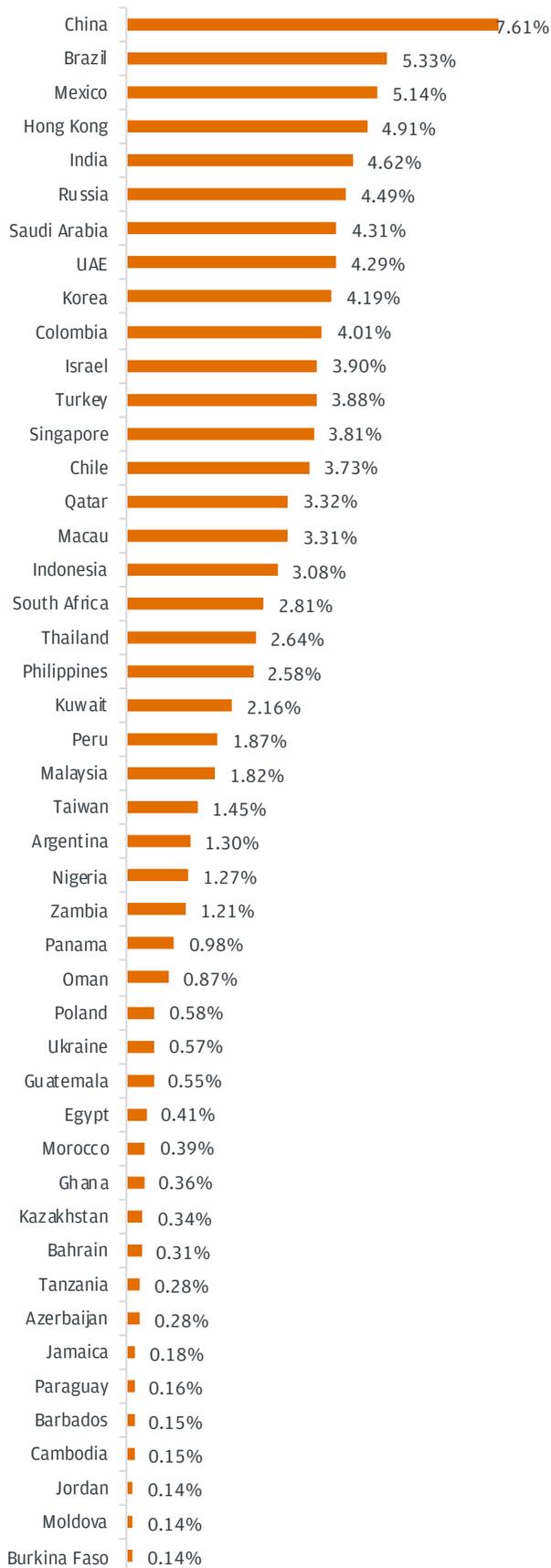
Morgan Markets

www.jpmm.com (Research → Index
→ Emerging Markets Credit → CEMBI)

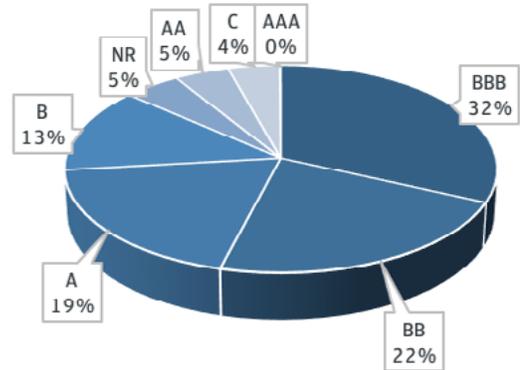
Publication

Index Movers Daily; EMBI Monitor (Monthly),
Index Quarterly Attribution

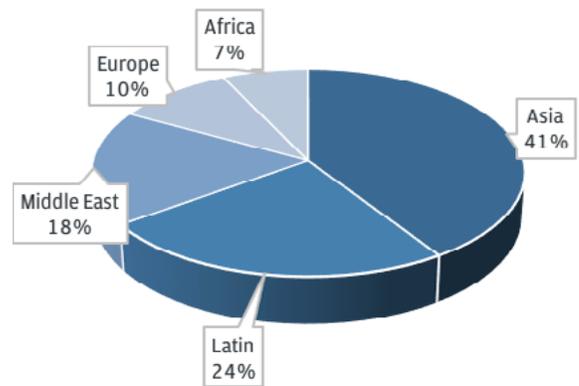
**CEMBI Diversified Profile
(As of Dec 2021)**



By Credit Rating (As of Dec 2021)



By Region (As of Dec 2021)



CEMBI+

IG-Ba1/BBB+/BBB HY-Ba3/BB-/BB-

The J.P. Morgan Corporate Emerging Market Bond IG/HY Plus Index (CEMBI IG/HY+) series is a uniquely weighted index family that tracks the USD-denominated emerging market corporate IG and HY debt.

- CEMBI IG+ and HY+ index adopts the same definition of credit segmentation and shares the same composition as the market-cap weighted CEMBI Broad IG and HY sub-index, respectively.
- CEMBI+ indices provide diversification at both the country (10% cap) and issuer (3% cap) levels within the IG and HY credit buckets of the CEMBI Broad index.
- Launched in July 2017, the returns and statistics of the CEMBI+ suite of indices are available since December 31, 2001.

Overview

CEMBI+ suite of indices, the latest addition to the CEMBI family of indices, caters to investors with rating sensitive mandates. CEMBI Broad Div IG and HY sub-indices apply diversification schema at the composite CEMBI Broad Div level and then normalize weights within each credit bucket. For the CEMBI+ suites, the diversified country weights are calculated based on the amount outstanding within the respective credit bucket.

The implementation of the issuer cap aligns the index series to dedicated managers' risk tolerance. Typically, most investors are subject to risk limits in order to remain compliant with the overall fund strategy and/or regulatory environment. As of December 2021, there are 418 and 460 issuers in the CEMBI IG+ and CEMBI HY+ indices, respectively.

Index Facts		
Inception Date	December 2001	
Launch Date	July 2017	
Rebalance date	Last business day of the month	
Holiday	Follows US bond market calendar set by Emerging Markets Trader Association (EMTA)	
Pricing Source	Bid-price from third party evaluation vendor (PricingDirect).	
FX spot / forward rate	WM/Reuters 4pm London Rate	
Coupon Reinvestment	All coupons received are immediately reinvested into the index.	
Hedging Strategy	Assume a 1-month currency forward position that begins on rebalance day and ends on next rebalance day	
Index Criteria	CEMBI IG/HY+	CEMBI Broad/Broad Div.
Country/Region	Based on region: Asia ex Japan, Latam, Eastern Europe, Middle East/Africa	
Issuer	Headquartered in an EM country or, 100% of the issuer's asset are within EM economies or, 100% secured by assets within EM economies	
Instrument Type	All fixed, floaters, amortizers and capitalizers	
Defaulted bonds are excluded		
Min Face Amount Outstanding	US\$300 million	
Diversification approach	Country level within IG and HY segments	Country level
Maturity	Enter when at least 2.5 years to maturity	
Exit Maturity	Exit when less than 6 months to maturity	
Law/ Settlement	Local law instruments are not eligible; Euroclearable or settled through another institution outside issuing country	

CEMBI+ Diversification Methodology

CEMBI+ adopts the same proprietary diversification methodology where only a portion of each instrument's current face amount outstanding is used in the calculation of index market capitalization.

The CEMBI+ indices use the debt amount outstanding within the respective IG and HY credit bucket as the basis for diversification so that the country market weight reflects the IG and HY-only debt stock.

The diversification methodology anchors on the average size (debt stock) 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:

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

Based on the ICA, the diversified face amount for any country in the index is derived.

Diversified Country Face Amount =

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

where Country FA represents the non-diversified country face amount and FAm_{ax} 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 will be capped at 10%. Next, the issuer weights will be capped at 3%. Any excess weight above the cap will be redistributed to smaller countries and/or smaller issuers that are below the cap to limit concentration risk.

Credit Rating

The index does not exclude issuers based on credit ratings and therefore span both Investment Grade and High Yield bond markets. For index purposes, S&P, Moody's, and Fitch ratings are considered. Credit rating is determined based on the following rules:

- The middle rating of the Moody's, S&P, and Fitch ratings
- The lower rating when two ratings are available
- The sole rating when only one rating is provided
- NR rated bonds are classified under HY bucket

CEMBI+ Rebalance

Index rebalancing occurs monthly on the last business day of each month. Country inclusion/ exclusion eligibility is reviewed each month before rebalance. A new issue that meets the CEMBI+ inclusion criteria will be assessed for inclusion at the month end rebalance provided its settlement date falls on or before the month-end rebalance date of the same month.

CEMBI+ Indices Profile (As of Dec 2021)

Country	CEMBI+ IG	CEMBI+ HY
China	10.00	5.33
Mexico	7.11	4.33
Hong Kong	6.66	4.47
Brazil	6.37	7.07
Korea	6.28	0.86
India	6.18	4.59
UAE	6.14	3.84
Russia	5.99	4.46
Chile	5.83	2.21
Singapore	5.77	0.91
Saudi Arabia	5.70	1.14
Qatar	4.51	0.50
Thailand	3.17	1.93
Indonesia	2.57	3.60
Peru	2.30	3.14
Malaysia	2.03	0.20
Kuwait	1.93	0.88
Macau	1.54	3.71
Israel	1.43	4.18
Philippines	1.33	3.97
Colombia	0.74	4.55
Egypt	0.72	0.17
Nigeria	0.68	2.11
South Africa	0.45	3.92
Panama	0.43	1.75
Poland	0.18	0.65
Turkey	0.10	4.42
Argentina	-	3.15
Armenia	-	0.11
Azerbaijan	-	0.39
Bahrain	-	0.79
Barbados	-	0.22
Burkina Faso	-	0.36
Cambodia	-	0.21
Dominican Republic	-	0.36

Country	CEMBI+ IG	CEMBI+ HY
Ecuador	-	0.17
El Salvador	-	0.25
Georgia	-	0.41
Ghana	-	1.52
Guatemala	-	1.02
Honduras	-	0.12
Iraq	-	0.12
Jamaica	-	1.54
Lithuania	-	0.11
Moldova	-	0.20
Mongolia	-	0.14
Morocco	-	1.50
Oman	-	1.33
Paraguay	-	0.78
Tanzania	-	0.39
Togo	-	0.34
Trinidad And Tobago	-	0.12
Ukraine	-	2.09
Uzbekistan	-	0.24
Vietnam	-	0.25
Zambia	-	2.85
Lithuania	-	0.11
Moldova	-	0.20
Mongolia	-	0.14

Where to find the CEMBI+ index?

Bloomberg

JPMX <GO> → Emerging Markets → Corporate
→ CEMBI IG+/ CEMBI HY+

DataQuery

www.jpmm.com (Analyze → Cross-Asset
→ Data Query → Emerging Markets → Indices
→ CEMBI IG/HY+)

Morgan Markets

www.jpmm.com (Research → Index
→ Emerging Markets → External Credit
→ CEMBI IG/HY+)

JACI

Baa1/BBB-/BBB+

- The J.P. Morgan Asia Credit Index (JACI) provides investors with a benchmark that tracks US dollar denominated debt instruments in the Asia ex Japan region.
- The JACI attempts to ensure an investable and liquid benchmark by providing exposure to Corporate, Sovereign and Quasi-Sovereign entities from the region.
- There are two versions of the index:
 - JACI
 - JACI Diversified
- The JACI Diversified shares the inclusion criteria and composition of the JACI, which is the traditional market cap weighted index.
- The Diversified version limits the weights of the large countries in the index by capping the amount of eligible debt outstanding.
- JACI has crossed the \$1 trillion debt outstanding milestone in its 15th year of existence from just \$128 billion at the time of inception.

Overview

JACI is the most widely followed benchmark index for US Dollar denominated bonds issued in the Asia ex Japan region. It has accumulated more than \$100 billion in assets under management as of December 2021. The JACI follows a traditional market capitalization technique similar to the EMBI and the CEMBI series.

JACI Diversified shares the inclusion criteria and composition of the JACI. However, the Diversified version limits the weights of larger countries in the index by capping the amount of eligible debt outstanding. This helps in reducing concentration risk within the benchmark.

The JACI Diversified closely follows the diversification scheme of the flagship EMBI and CEMBI series where the eligible country's amount outstanding is capped at double the average notional of all the countries in the index.

Index Facts	
Inception Date	September 2005
Launch Date	July 2006
Rebalance date	Last business day of the month
Holiday	Follows US bond market calendar set by Emerging Markets Trader Association (EMTA)
Pricing Source	Bid-price from third party evaluation vendor (PricingDirect) using 6pm HKT snap
FX spot / forward rate	WM/Reuters 4pm London Rate
Coupon Reinvestment	All coupons received are immediately reinvested into the index.
Hedging Strategy	Assume a 1-month currency forward position that begins on rebalance day and ends on next rebalance day
Benchmark Criteria	
Country/ Region	Asia (ex-Japan)
Issuer	Corporate, Sovereign and Quasi-Sovereign
Minimum Face Amount Outstanding	USD 300 million
Instrument Type	All fixed, floaters, amortizers and capitalizes
Maturity requirement for initial entry	At least 2.5 years until maturity
Remaining Maturity	At least 6 months until maturity
Default treatment	Defaulted bonds are excluded
Liquidity Criteria	Daily available pricing from PricingDirect
Jurisdiction	Local law instruments are not eligible; Euroclearable/ settled through another institution outside issuing country

JACI Div. Weighing Methodology

JACI Diversified adopts the same proprietary diversification methodology where only a portion of each instrument's current face amount outstanding is used in the calculation of index market capitalization.

The diversification methodology anchors on the average size (debt stock) 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:

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

Based on the ICA, the diversified face amount for any country in the index is derived.

Diversified Country Face Amount =

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

where Country FA represents the non-diversified country face amount and FAm_{ax} 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.

JACI Rebalancing

Index rebalancing occurs monthly on the last business day of each month. Country inclusion/exclusion eligibility is reviewed each month before rebalance. A new issue that meets the JACI inclusion criteria will be assessed for inclusion during the month-end rebalance period provided its settlement date falls on or before the month-end rebalance date of the same month.

For an existing issue in the index, any additional issuance or buyback will be reflected at the upcoming rebalance. Issues that are not already in the index due to their size, but become eligible due to taps will be treated as new issues. Defaulted bonds are excluded from the index.

Credit Rating

The index does not exclude countries based on credit ratings and therefore span both Investment Grade and High Yield bond markets across countries. For index purposes, S&P, Moody's, and Fitch ratings are considered. Credit rating is determined based on the following rules:

- The middle rating of the Moody's, S&P, and Fitch ratings
- The lower rating when two ratings are available
- The sole rating when only one rating is provided
- NR rated bonds are classified under HY bucket

JACI Profile (As of Dec 2021)

Country	JACI	JACI Div
China	46.18%	20.55%
Indonesia	11.34%	12.88%
Hong Kong	8.79%	11.49%
South Korea	8.68%	11.47%
India	6.97%	11.07%
Philippines	4.91%	8.87%
Singapore	3.79%	6.84%
Malaysia	2.77%	5.00%
Thailand	1.84%	3.32%
Macau	1.75%	3.17%
Taiwan	1.24%	2.23%
Pakistan	0.69%	1.25%
Sri Lanka	0.51%	0.91%
Mongolia	0.30%	0.55%
Vietnam	0.14%	0.26%
Cambodia	0.05%	0.08%
Maldives	0.04%	0.07%
By Credit Bucket	JACI	JACI Div
Investment Grade	80.76%	78.18%
Non-Investment Grade	19.24%	21.82%
By Sector	JACI	JACI Div
Corporates	63.36%	61.88%
Quasi-Sovereign	22.56%	19.91%
Sovereign	14.09%	18.21%

Where to find the JACI index?

Bloomberg

JPMX <GO> → Emerging Markets → Corporate → JACI

DataQuery

www.jpmm.com (Analyze → Cross-Asset → Data Query → Indices → Credit → JACI)

Morgan Markets

www.jpmm.com (Research → Index → Emerging Markets → External Credit → JACI)

Publication

JACI Monitor (Monthly)

MECI

A3/A-/A-

- The J.P. Morgan Middle East Composite Index (MECI) tracks USD-denominated debt issued by sovereign, quasi-sovereign and corporate issuers in the Middle East.
- The Middle East debt market is unique in terms of the domination of Government Related Entities (GRE), which represent nearly 75% of corporate bonds in the region.

Overview

J.P. Morgan Middle East Composite Index (MECI) is a benchmark that holistically captures the Middle Eastern USD-denominated debt market. While the EMBI Global and CEMBI Broad include many Middle East issuers, the MECI also incorporates Sovereign, Quasi-sovereign and corporate issuers not eligible for other flagship J.P. Morgan emerging market indices.

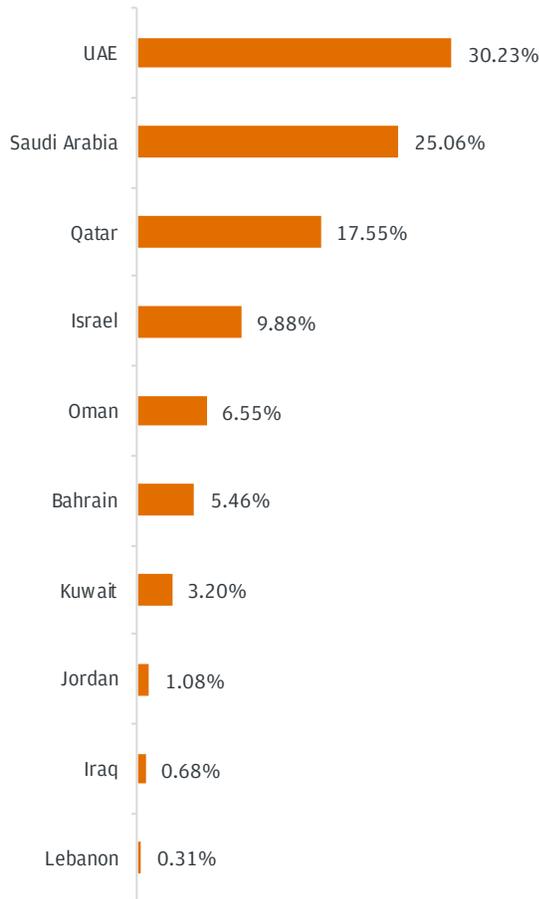
MECI Rebalancing

Index rebalancing occurs monthly on the last business day of each month. A new issue that meets the MECI inclusion criteria will be assessed for inclusion at the month-end rebalance, provided its settlement date falls on or before the month-end rebalance date of the same month.

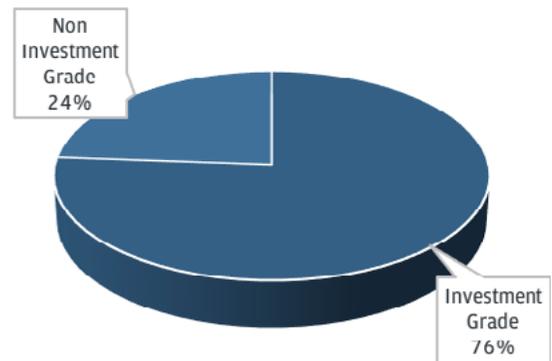
For an existing issue in the index, any additional issuance or buyback will be reflected at the upcoming month-end rebalance. Issues that are not already in the index due to their size but become eligible due to taps will be treated as if they are new issues.

Index Facts	
Inception Date	December 2001
Launch Date	October 2013
Rebalance date	Last business day of the month
Holiday	Follows US bond market calendar set by Emerging Markets Traders Association (EMTA)
Pricing Source	Bid-price from third party evaluation vendor (PricingDirect)
FX spot/forward rate	WM/Reuters 4pm London Rate
Coupon Reinvestment	All coupons received are immediately reinvested into the index
Hedging Strategy	Assume a 1-month currency forward position that begins on rebalance day and ends on next rebalance day
Index Criteria	
Country/Region	Middle East
Issuer	Sovereign, Corporate, Quasi-Sovereigns
Instrument Type	All fixed, floaters, amortizers and capitalizers and sukuk
Min. Face Amount Out-standing	US\$300 million
Currency:	USD
Maturity required for initial entry	At least 2.5 years till maturity
Maturity required to maintain inclusion	At least 6 months till maturity
Law/Settlement	Local Law instruments are not eligible

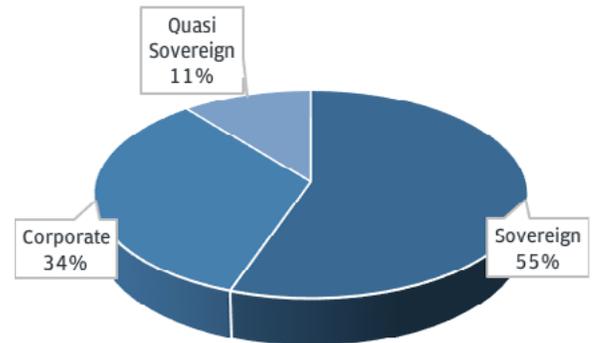
MECI Profile (As of Dec 2021)



By Credit Bucket (As of Dec 2021)



By Sector (As of Dec 2021)



Where to find the MECI?

Bloomberg

JPMX → Emerging Markets → Corporate → MECI

DataQuery

www.jpmm.com (Analyze → Cross-Asset → Data Query → Indices → Emerging Markets Index → External Debt Indices → MECI)

Morgan Markets

www.jpmm.com (Research → Index → Emerging Markets → Sovereign/Quasi Sovereign/Credit → MECI)

CACI

Ba2/BB/BB

- The J.P. Morgan Central America and Caribbean Index (CACI) tracks USD-denominated debt issued by sovereign, quasi-sovereign and corporate issuers in Central America and the Caribbean.
- CACI provides investors with a product that assists in the evaluation and observation of investment opportunities in US dollar-denominated bonds issued by Central American and Caribbean sovereign, quasi-sovereign and corporate entities.

Overview

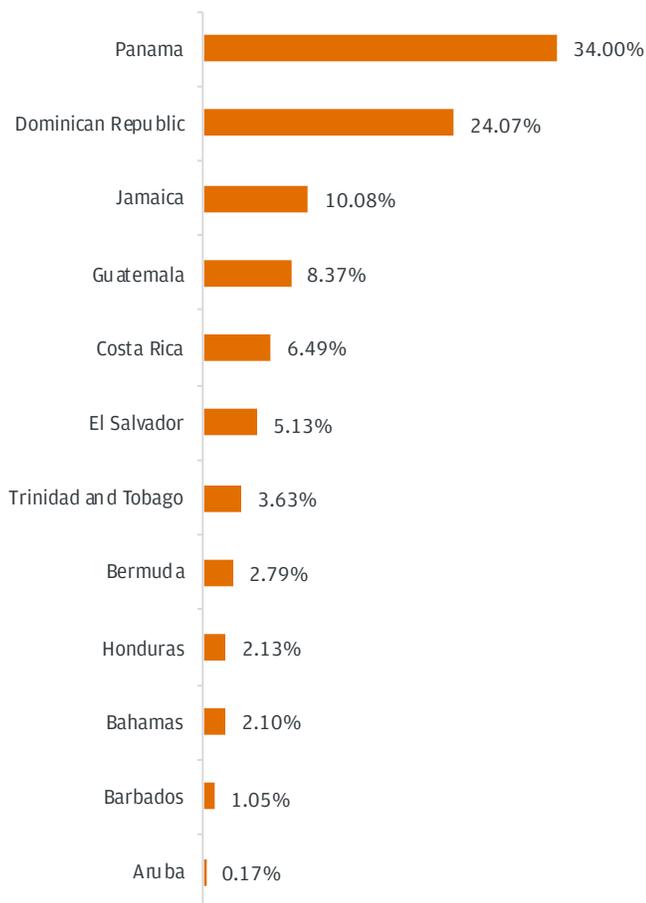
J.P. Morgan CACI Index is a benchmark that holistically captures the Central American and Caribbean USD-denominated debt markets. While the EMBI Global and CEMBI Broad include many Central American and Caribbean issuers, the CACI also incorporates sovereign quasi-sovereign, and corporate issuers not eligible for other flagship J.P. Morgan emerging market indices.

CACI Rebalancing

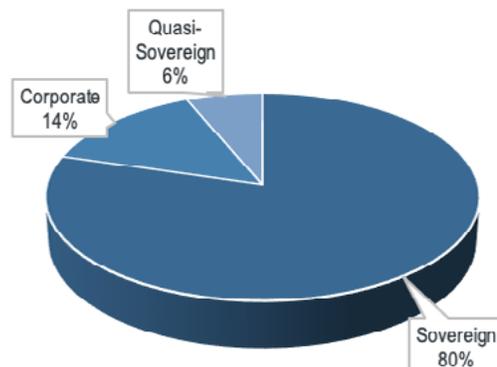
Index rebalancing occurs monthly on the last business day of each month. A new issue that meets the CACI inclusion criteria will be assessed for inclusion at the month-end rebalance provided its settlement date falls on or before the month-end rebalance date of the same month. For an existing issue in the index, any additional issuance or buyback will be reflected at the upcoming month-end rebalance. Issues that are not already in the index due to their size, but become eligible due to taps will be treated as if they are new issues.

Index Facts	
Inception Date	December 2002
Launch Date	October 2008
Rebalance date	Last business day of the month
Holiday	Follows US bond market calendar set by Emerging Markets Trader Association (EMTA)
Pricing Source	Bid-price from third party evaluation vendor (PricingDirect).
FX spot/forward rate	WM/Reuters 4pm London Rate
Coupon Reinvestment	All coupons received are immediately reinvested into the index.
Hedging Strategy	Assume a 1-month currency forward position that begins on rebalance day and ends on next rebalance day
Index Criteria	
Country/Region:	Central America and Caribbean
Issuer:	Sovereign, Corporate, Quasi- Sovereigns
Instrument Type:	All fixed, floaters, amortizers and capitalizers
Min Face Amount Outstanding:	US\$300 million
Currency:	USD
Maturity required for initial entry	At least 2.5 years till maturity
Maturity required to maintain inclusion	At least 6 months till maturity

CACI Profile (As of Dec 2021)



By Sector (As of Dec 2021)



Where to find the CACI?

Bloomberg

JPMX → Emerging Markets → External Sovereigns → CACI

DataQuery

www.jpmm.com (Analyze → Cross-Asset → Data Query → Indices → Emerging Markets Index → External Debt Indices → CACI)

Morgan Markets

www.jpmm.com (Research → Index → Emerging Markets → Sovereign/Quasi Sovereign/Credit → CACI)

Publication

Index Movers Daily; EMBI Monitor (Monthly) attribution Report.

GBI-EM

Baa1/BBB+/BBB

- The Government Bond-Emerging Market Index (GBI-EM) series, launched in June 2005, was the most frequently followed benchmarks in the EM local currency denominated government bond space, tracked by an estimated \$247 billion AUM as of December 2021.
- To cater to a wide range of investors, there are three root versions of the GBI-EM benchmarks 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 with AUM of \$222 billion as of December 2021.

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 of local emerging markets government bonds.

Three Categorizations of the GBI-EM

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.

Index Facts	
Inception Date	December 2002
Launch Date	June 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 4pm London Rate
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

Diversified Weighting Methodology

To calculate the diversified (adjusted) face amount for each country, we define:

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

Based on the ICA, the diversified face amount for any country in the index is derived.

Diversified Country Face Amount =

$$\begin{cases} \text{ICA} \times 2 & , \text{if } \text{FA}_{\text{max}} \\ \text{ICA} + \frac{\text{ICA}}{\text{FA}_{\text{max}} - \text{ICA}} \times (\text{Country FA} - \text{ICA}) & , \text{if } \text{Country FA} > \text{ICA} \\ \text{Country FA} & , \text{if } \text{Country FA} \leq \text{ICA} \end{cases}$$

where Country FA represents the non-diversified country face amount and FAm_{ax} 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. 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 OR its IPR must be below the IPR threshold for three consecutive years. J.P. Morgan 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. The IPR is calculated from the one-year lagged GDP data available in IMF’s World

Economic Outlook publication. The EM IPR threshold is an indexed number which mimics the changes to the World IPR.

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 AND the Index Purchasing-Power-Parity Ratio (IPR) is above the IPR threshold 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.

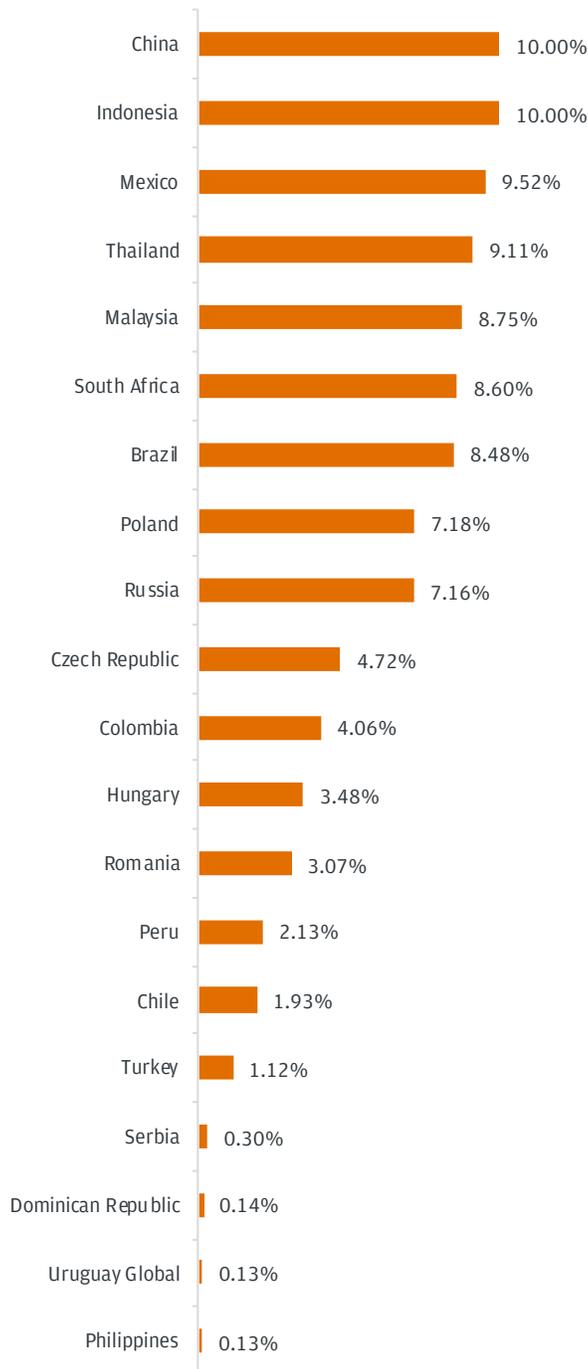
Countries having more than 10% allocation will follow the ‘10/10 rule’ for rebalancing. This rule states that inclusion, exclusion, or re-categorization of a country (or instrument type) holding a 10% or larger weight in any of the GBI-EM indices will be staggered over at least a 10-month period. At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

Index Criteria	GBI EM Broad/Div. (Broadest)	GBI EM Global/Div (Investable)	GBI EM Narrow/Div (Replicable)
Country			
Income status	Index Entry: A country’s GNI per capita must be below the Index Income Ceiling (IIC)* for 3 consecutive years OR its IPR** must be below the IPR threshold for 3 consecutive years. Index Exit: If a country’s GNI per capita is above the Index Income Ceiling (IIC)* or IPR, 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.		
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	\$1 billion for Local issued bonds and \$500 million for Global bonds		
Maturity	Inclusion: At least 2.5 years to maturity; Exclusion: Less than 6 months to maturity		
Liquidity	Two-way daily pricing should be available		

*J.P. Morgan 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.

**The IPR is calculated from the one-year lagged GDP data available in IMF’s World Economic Outlook publication. The EM IPR threshold is an indexed number which mimics the changes to the World IPR.

**GBI EM Global Diversified Profile
(As of Dec 2021)**



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 → Local Markets → GBI-EM)

Publication

Index Movers Daily → EMBI Monitor
→ Index Quarterly Attribution.

JADE

A2/A+/A

- The J.P. Morgan Asia Diversified (JADE) indices provide investors with a benchmark that tracks local-currency government bonds issued by emerging and developed Asian countries (excluding Japan).
- The JADE Index family provides a balanced diversification strategy tailored to the dynamics in Asian markets while leveraging the foundational local-market-focused methodology used in the well-established GBI/GBI-EM family of indices.
- The two main composite series are the JADE Broad and the JADE Global which provide Diversified exposure to the countries within the Asia region.
- Launched in March 2016, the JADE Broad/ Global indices have daily historical index levels and statistics starting from Dec 31, 2004.

Overview

The JADE Broad is an all-encompassing index.

All eligible countries within the region containing instruments that meet the index criteria will be included regardless of capital controls or taxation hurdles. However, countries that are not accessible by foreign investors will be excluded from the benchmark.

The JADE Global excludes countries with capital controls and those not accessible by foreign investors. Countries with taxation hurdles are eligible for the JADE Global.

Capital controls / significant constraints that would preclude inclusion in the index include the following:

- Restrictions on the holdings of government bonds by a foreign investor, or
- Restrictions on the purchase or sale of government bonds by a foreign investor, or Restrictions on the purchase or sale of spot FX by a foreign investor.

Index Facts		
Inception Date	December 2004	
Launch Date	March 2016	
Rebalance Date	Last weekday of the month	
Holiday Calendar	Calculated on every weekday	
Pricing Source	Mid-price from third party evaluation vendor (PricingDirect)	
FX Spot/Forward Rate	WM Reuters 4pm London Rate	
Coupon Reinvestment	All coupons received are immediately reinvested back into the index	
Hedging Strategy	Assume a 1-month currency forward position that begins on rebalance day and ends on next rebalance day	
Index Criteria	JADE Broad	JADE Global
Country Criteria	Emerging and developed Asian countries open to foreign investors (ex Japan)	Directly accessible emerging and developed Asia countries (ex Japan)
Capital Controls/ Taxes	Includes countries with capital controls and taxes	Does not include countries with capital controls but includes countries with taxes
Instrument Type	Fixed coupon and Zero coupon bonds are eligible	
Maturity	Enter: when at least 2.5 years to maturity Exit: when less than 6 months to maturity	
Liquidity	Including but not limited to availability of daily two-way pricing	
Issuance size	Minimum Face Amount > US\$1billion (local onshore bonds) /US\$500million (global bonds)	

Index Weighting Methodology

Both the JADE Broad and Global indices apply the same diversification methodology. For the JADE Broad, an additional restriction is placed on countries that have capital controls.

- Maximum exposure to any country in both the JADE Broad and Global indices will be capped at 20%.
- Additionally, countries that have capital controls in the JADE Broad will be restricted to 1) half their eligible debt stock exposure, or 2) a maximum of 10% in the benchmark (whichever is lower).

Diversified Weighting Methodology

JADE adopts the same proprietary diversification methodology where only a portion of each instrument's current face amount outstanding is used in the calculation of index market capitalization.

To calculate the diversified (adjusted) face amount for each country, we define:

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

Based on the ICA, the diversified face amount for any country in the index is derived.

Diversified Country Face Amount =

$$\begin{cases} \text{ICA} \times 2 & , \text{if } \text{FA}_{\text{max}} \\ \text{ICA} + \frac{\text{ICA}}{\text{FA}_{\text{max}} - \text{ICA}} \times (\text{Country FA} - \text{ICA}) & , \text{if } \text{Country FA} > \text{ICA} \\ \text{Country FA} & , \text{if } \text{Country FA} \leq \text{ICA} \end{cases}$$

where Country 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% or 20%, depending on capital controls. Any excess weight above the cap is redistributed to smaller countries that are below the cap to limit concentration risk.

JADE Rebalancing

Rebalancing takes place monthly on the last weekday of each month, regardless of any local holiday.

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.

On rebalance day, new bonds will enter the index at the close-of-business, and bonds which fail to comply with the index criteria will be removed. Country inclusion/ exclusion eligibility is reviewed each month before rebalancing. Any additional taps or buybacks that occur during the month will also be reflected at this time.

Liquidity

A key feature that distinguishes our indices from other index products is the strict enforcement of liquidity criteria in the selection of instruments. While the notion of liquidity may differ from market to market, J.P. Morgan indices include only securities which an investor can gain access to and for which firm prices exist, subject to the following considerations:

- Pricing: Bonds must trade with enough frequency to prevent stale price quotations.
- Availability: A reasonable two-way market must exist for the instrument to be included in the index portfolio.
- Replication: Investors should be able to replicate the index without incurring excessive transaction costs.

JADE Profile (As of Dec 2021)

Country	JADE Broad	JADE Global
China Broad*	20.0%	-
Korea	20.00%	20.00%
Indonesia	16.96%	20.00%
India	10.00%	-
Thailand	9.99%	12.09%
Malaysia	9.60%	11.62%
Singapore	8.54%	10.34%
Philippines	4.92%	5.95%
China*	-	20.0%

*JADE Broad includes China Broad whereas JADE Global includes liquid subset of China Broad.

Where to find the JADE index?

Bloomberg

JPMX<GO> → Emerging Markets → Local Markets
→ JADE → Global/JADE Broad

DataQuery

www.jpmm.com (Analyze → Cross-Asset
→ Data Query → Indices → Local Market Indices
→ JADE

Morgan Markets

www.jpmm.com (Research → Index
→ Emerging Markets → Local Markets
→ J.P. Morgan Asia Diversified Index

- The China Aggregate Index tracks the performance of CNY-denominated, fixed-rate bonds issued by the China Ministry of Finance (China Government Bonds), and the three policy banks, namely China Development Bank, Agricultural Bank of China, and Export and Import Bank of China (Policy Financial Bonds). Bonds must trade on the interbank market to be index eligible.
- This Index is a composite of the broad based GBIEM Broad China Index (CGB Broad) and the China Policy Bank Bonds Broad Index (PFB Broad).
- China Aggregate Index provides returns and statistics since January 01, 2008. JALBCALC Index <GO>

Overview

The J.P. Morgan China Aggregate Index family consists of two series, Broad and Liquid. The China Aggregate Broad is the all-encompassing index, including instruments with a minimum debt stock of CNY7 billion and pricing obtained by our third party pricing provider (Pricing Direct).

The China Aggregate Liquid is constructed by applying a set of quantitative criteria to identify the most traded portion of the onshore market: 1) minimum issue size of CNY50 billion (vs. CNY7 billion in the Broad series); 2) Benchmark tenor bonds only; and 3) tapped or issued in the past three years.

The J. P. Morgan China Aggregate Index Family only includes securities that satisfy liquidity considerations including but not limited to:

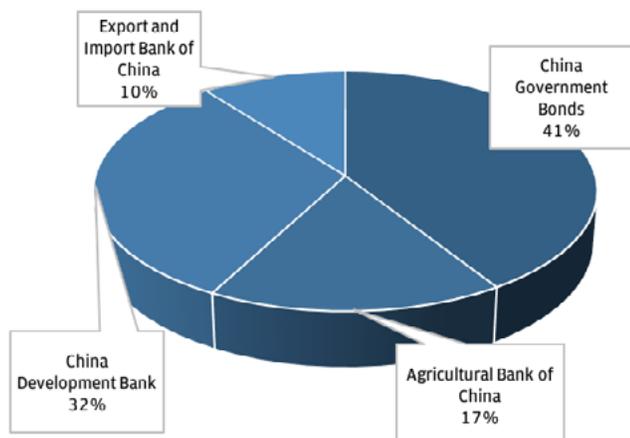
Pricing: bonds must trade with enough frequency to prevent stale price quotations.

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.

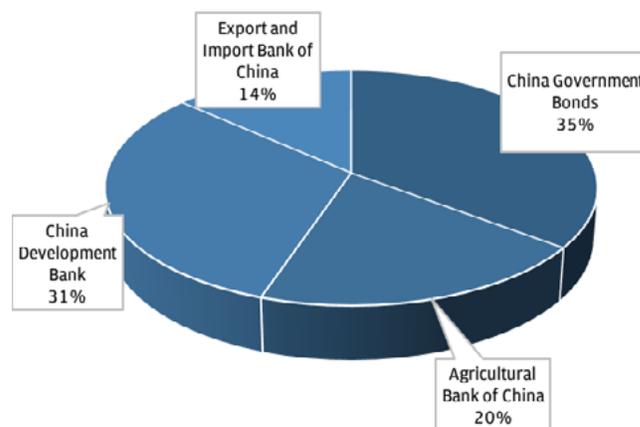
Replication costs: investors should be able to replicate the index without incurring excessive transaction costs.

Index Facts		
Inception Date	January 2008	
Launch Date	August 2020	
Rebalancing Date	Last weekday of the month	
Holiday Calendar	The index follows the China bond market holiday calendar	
Pricing Source	Mid-price from third party evaluation vendor (PricingDirect)	
FX Spot / Forward Rate	WM Reuters 4pm London Rate	
Coupon Reinvestment	All coupons received are immediately reinvested back into the index	
	China Aggregate Broad	China Aggregate Liquid
Minimum Issue Size	Government bonds: CNY 7billion Policy bank bonds: CNY 3billion	CNY 50billion
Instrument Type	Includes: Liquid, fixed-rate coupon bonds listed on the interbank market. Only senior bonds are eligible. Excludes: Floating-rate bonds, amortizing bonds, capital securities, convertibles, inflation-linked, retail saving bonds and subordinated bonds.	
Remaining Maturity	Entry: securities must have minimum 2.5 years	Entry: securities must have minimum 2.5 years and maximum 10 years remaining to maturity Exit: securities with less than 6 months remaining to maturity would be excluded from the index.
Issuers	Government bonds: the Ministry of Finance Policy bank bonds: China Development Bank, Agricultural Development Bank of China, and Export-Import Bank of China	
Exchange	Including but not limited to availability of daily two-way pricing	
Bloomberg Ticker	JALBCALC Index	JALBCLLC Index

China Aggregate Profile (As of Dec 2021)



China Aggregate Liquid Profile (As of Dec 2021)



Where to find the China Aggregate Index?

Bloomberg

JPMX<GO> Emerging Markets → Local Market

DataQuery

www.jpmm.com (Analyze-Cross-Asset → Data Query → Indices → Emerging Markets Index → Local Market Indices → China Aggregate).

Morgan Markets

http://www.jpmm.com (Research → Index → Emerging Markets → Local Markets → China Aggregate Index)

ELMI+

A3/A-/A-

- The Emerging Local Markets Index Plus (ELMI+) tracks total returns for local currency denominated money market instruments in emerging market countries.
- Enhancements to the index have occurred over the past several years to better reflect the investable FX market.
- In addition to the global ELMI+, regional and country sub-indices are available. For each, the daily total returns are measured in both local currency and U.S. dollars.
- A passive replication of ELMI+ returns is available in the form of a TRS on the J.P. Morgan EMCI index (Bloomberg ticker: JPFX, option 11).
- Launched in November 1997, the ELMI+ has daily historical index levels and statistics back filled to December 31, 1993.

Overview

The ELMI+ tracks total returns for local currency denominated money markets in index eligible emerging markets countries, using an approach that ensures the following index characteristics:

- A range-bound average life (duration);
- Performance that is independent of any specific transaction entry date or investment cycle; and
- Replicable performance, ensuring investors will have a means to attain index performance.

Since the time of launch, the ELMI+ has remained a reliable and relevant benchmark as enhancements have ensured that the index continues to accurately represent the asset class it was been designed to measure. As of December 2021, US\$23 billion in AUM was benchmarked against the index.

Index Facts	
Inception Date	December 1993
Launch Date	November 1997
Rebalance Date & Country	Quarterly on the last business day of March, June, September and December for index additions. Countries may also be removed due to changes in eligibility.
Holiday	Calculated on every weekday.
FX Spot / Forward rate	WM Reuters 4pm London Rate
Country Weighting	A liquidity-sensitive country weighting system is used to derive country weights, with a limit of a 10% cap level for index countries
Index Criteria	
Country Criteria	Countries in Asia ex-Japan, Latin America, Eastern Europe, Middle East and Africa will be eligible for inclusion. Any country with an explicit hard currency peg will not be eligible for index inclusion.
Issuer	Large, active emerging local markets accessible to foreign investors through onshore or offshore money market instruments
Instrument	FX forwards, whether deliverable or non-deliverable

Country Weighting Methodology

A liquid-sensitive country weighting system is used to derive the country weights in the ELMI+. The process is begun by taking the three-year average of a country's exports plus imports, followed by the assigning of an uncapped weighting based on a prorata share of these total figures.

After this step, a 10% cap is applied across each country and any excess weight is redistributed to countries that fall below the 10% cap. This results in a normalizing of the weights on a country level, consistent with our local GBI-EM Diversified index series methodology.

In summary, the following steps are used to derive the ELMI+'s country weights:

- Initial country allocations are derived by using a three-year rolling average of exports plus imports, lagged one year.
- The total excess weight amount (specifically, the difference between a country's trade weight and the 10% cap) is then proportionally reallocated among those countries to which no cap has been applied.

The resulting weights are reviewed to ensure that the reallocation of the excess weight amount has not pushed any uncapped country's weight above the 10% cap level. If this 10% level has been breached, step (2) is repeated.

Ladder Strategy

For each country sub-index, a "ladder" of three instruments is constructed by initially investing in one, two and, three-month instruments. Each month, the proceeds of the maturing instrument are then reinvested in a new three-month instrument.

ELMI+ Rebalancing

Until December 2017, country additions occurred semiannually. Following the 2017 Index Governance Review, the ELMI+ index now rebalances quarterly on the last business day of March, June, September and December. To be included in the index, daily, robust pricing from a reliable source (i.e. WM Reuters, J.P. Morgan traders, etc.) must be available. Countries may also be removed from the ELMI+ due to changes in eligibility; such deletions are executed at the end of any month. Country removals are allowed more frequently than country additions in order to ensure a high degree of replicability of the index.

Countries may also be removed, added or rebalanced on a staggered weighting approach, determined at the sole discretion of J.P. Morgan.

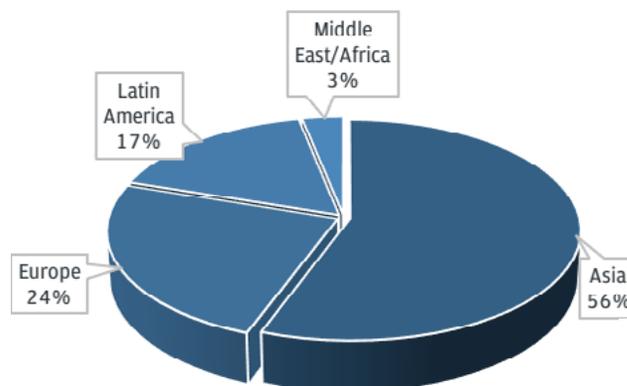
For all ELMI+ eligible countries, either deliverable or non-deliverable forward contracts (NDFs) are the instrument of choice.

For each country we monitor activity in the forward and NDF market in determining which instrument is more appropriately selected as a basis for ELMI+ inclusion. As these instruments tend not to be traded on an exchange, monitoring an observable amount outstanding or volume of transactions is not possible. Instead, we speak with market participants and the J.P. Morgan trading desk to get input determining which instruments are appropriate for index inclusion. Having the ability to use NDFs allows us to include countries where restrictions on foreign participation in the local market may exist, such as China and India. Should market conditions change, we will notify market participants of any necessary instrument change. These will typically occur on the pre-designated, quarterly rebalance dates. However, if necessary, we reserve the right to change instrument selection at any month end.

ELMI+ Profile (As of Dec 2021)



By Region (As of Dec 2021)



Where to find the ELMI+?

Bloomberg

JPMX → Emerging Markets → Local Market → ELMI+

Reuters

Page ELMIO1-ELMIO5 contains index and statistical data.

DataQuery

www.jpmm.com (Analyze → Cross-Asset → Data Query → Indices → Local Market Indices → ELMI+)

Morgan Markets

www.jpmm.com (Research → Index → Emerging Markets → Rate Indices → ELMI+)

Publication

Index Movers Daily → EMBI Monitor

The J.P. Morgan Emerging Markets Blended (JEMB) suite of indices is an aggregate EM fixed income benchmark that blends US dollar and local currency denominated sovereign, quasi-sovereign and corporate bonds.

The JEMB product suite is comprised of four blended indices:

- JEMB Equal Weighted:
($\frac{1}{3}$ GBI-EM GD, $\frac{1}{3}$ EMBIGD, $\frac{1}{3}$ CEMBI BD)
- JEMB Hard Currency / Local currency 50-50:
($\frac{1}{4}$ EMBIGD, $\frac{1}{4}$ CEMBI BD, $\frac{1}{2}$ GBI-EM GD)
- JEMB Sovereign-only 50-50:
($\frac{1}{2}$ EMBIGD, $\frac{1}{2}$ GBIEM GD).
- JEMB Hard Currency Credit 50-50:
($\frac{1}{2}$ EMBIGD, $\frac{1}{2}$ CEMBI BD)

Launched in November 2018, the JEMB has daily historical index levels and statistics back filled to December 31, 2002.

Overview

JEMB aims to be the benchmark of choice for blended EM bond portfolios and is geared towards investors seeking diversified emerging market debt exposure across asset type (sovereigns/corporates), country, region or FX.

Asset owners and investment consultants have increased flows into blended EM portfolios but were predominantly using bespoke performance benchmarks. JEMB offers a standardized benchmark with well telegraphed rules and methodologies to level the playing field.

The JEMB is constructed as four different asset mix combinations of the flagship J.P. Morgan EM Bond indices, namely the EMBI Global Diversified, GBI-EM Global Diversified and the CEMBI Broad Diversified.

Rules and methodology for each tranche is derived from the underlying foundational index.

Calculating Constituent Weights

The JEMB suite of indices use diversified versions of the flagship EM indices as building blocks for construction of the blended indices. The diversification formula in the individual flagship indices reallocates weights from larger countries within the index to smaller countries, while also capping the weight of any country within the index at 10%. As a result, any country with the blended index can only have a maximum weight of 10% at the time of month-end rebalance.

On every month-end weights of constituent indices is adjusted to match the desired fixed blending weights. However, these weights are free to float during the rest of month.

Where to find the EM-BLENDS?

Bloomberg

JPMX → Emerging Markets → EM Blends Suite

DataQuery

www.jpmm.com (Analyze → Cross-Asset
→ Data Query → Indices → Emerging Market Index
→ EM Blends Suite)

Morgan Markets

www.jpmm.com (Research → Index
→ Emerging Markets → Blended Indices → JEMB)

J.P. Morgan EM blend indices (JEMB)			
Inception Date	31st December 2002		
Criteria	EM USD Sovereigns	EM Local currency Sovereigns	EM USD Corporates
Minimum Issue Size	US\$500 million	Global: US\$500 million	US\$300 million
		Onshore Local: US\$1 billion	
Maturity	Entry: Minimum 2.5 years till maturity		
	To remain: Minimum 6 months till maturity		
Instrument Type	Include: All fixed, floaters, amortizers, capitalizers, and defaulted bonds	Includes: Fixed-rate and zero-coupon bonds	Include: All fixed, floaters, amortizers, and capitalizers
		Excludes: Floating-rate bonds, capitalizing/amortizing bonds, bonds with callable, puttable, or convertible features	Exclude: Defaulted bonds
Issuers	Sovereign and Quasi-Sovereign (defined as 100% owned or guaranteed by the national government)	Central governments	Corporate issuers that are:
			-Headquartered in an EM country, or
			- 100% of assets are within EM economies, or
			-100% guarantee within EM economies
Country of Domicile	GNI per capita must be below the Index Income Ceiling (IIC) for 3 consecutive years or PPP-based exchange rate below Index PPP-threshold (IPR) for 3 consecutive years		Regionally defined as Asia ex-Japan, Latin America, Eastern Europe, Middle East and Africa
	Country's long term sovereign credit rating remains A-/A3/A- or below for 3 consecutive years		
Reinvestment of Cash Flows	Immediately re-invested via the daily returns of the sub-asset class (country in the case of GBI-EM GD)		
FX source	WM/Reuters 4PM London Close		
Holiday Calendar	EMTA	Local market calendar	EMTA
Rebalance Date	Last business day of the month		
Price Source	PricingDirect		



| Securitized Products



J.P.Morgan

CLO Index

(CLOIE)

- The J.P. Morgan Collateralized Loan Obligation Index (CLOIE) is the first rule-based total return benchmark designed to track the USD-denominated, broadly syndicated, arbitrage US CLO market.
- The CLOIE sub-indices are categorized by six original rating buckets (AAA to B), three collateral manager bands by CLOIE debt AUM (Small AUM, Medium AUM, Large AUM), three origination periods (all vintages, post- and pre-crisis), and 11 Reinvestment Period buckets.
- Launched in July 2014, the CLOIE indices have daily historical index levels and statistics starting from December 31, 2011.

Overview

The J.P. Morgan Collateralized Loan Obligation Index (CLOIE) is the first rule-based benchmark designed to track the USD-denominated, broadly-syndicated, arbitrage US CLO market.

Launched in July 2014, the index is in its eighth year of service. The index offers extensive coverage, tracking approximately 93% of the US\$ 690 billion total US CLO debt stock as of December 31st, 2021. Representing the entire debt capital structure, the index spans over 1,300+ deals and 8,000+ tranches managed by 130+ CLO managers. The subscription of CLOIE has grown to over 10,000 individuals from 500+ firms, with an estimated \$75bn in assets tracked to the indices.

The CLOIE family contains 2,000+ sub-indices, categorized by six original rating buckets (AAA to B), three collateral manager bands by CLOIE debt AUM (Small AUM, Medium AUM, Large AUM), eleven reinvestment period buckets (Static, Post-Reinvestment, <1yr, 1-2yr, 2-3yr, 3-4yr, 4-5yr, ≥5yr, etc.), and original vintages from 2004 to current.

** The index offers distinction by origination period such as Pre-crisis which are available from inception to May 5th, 2021 when the final outstanding pre-crisis CLO tranche were paid down.*

Index Facts	
Launch Date	July 2014
Inception Date	December 2011
Rebalance Date	Last business day of the month
Holiday Calendar	US Bond Market Calendar
Pricing Source	Third-party pricing from PricingDirect
Pricing Quote (Timing)	Bid (NY Close)
Weight	Market-value weighted
Settlement Convention	T+2
Index Criteria	
Currency	USD
Minimum Size	None
Maturity requirement	No WAL limitation
Include	Floating-rate CLO debt (including Hybrid CBOs) from pre-crisis* and post-crisis, broadly-syndicated, arbitrage US CLOs, Junior AAA, and static deals.
Exclude	Equity tranches, infrastructure / project finance CLOs, middle market CLOs, opportunistic credit, revolvers, delayed draw, combo, fixed-rate, and step-up tranches.
Issue Date	Closing date on or after Jan 2004
Ratings	Lowest of the three (S&P, Moody's, Fitch)

Instrument Type

The CLOIE index is comprised solely of cash, arbitrage floating-rate collateralized loan obligations (CLOs) backed by broadly syndicated leveraged loans. CLOs that do not fit these criteria, such as Middle-Market CLOs, ABS CDOs, Emerging Market CLOs, Balance Sheet CLOs, and Infrastructure CLOs are ineligible for inclusion. Revolvers, delayed draw, equity, combo, fixed-rate, X tranches and step-up tranches are excluded.

Static deals and Junior AAAs became eligible for inclusion beginning October 2012 and December 2019, respectively.

Issue Date

To be considered for inclusion, a CLO must have a closing date that falls on or after January 1, 2004.

Reinvestment Period

There is no criteria for minimum remaining reinvestment period. Deals across the reinvestment lifecycle are eligible.

Currency Denomination

Only the domestic tranches denominated in USD are considered for inclusion. In case of CLOs containing tranches with multiple denominations, USD denominated tranches would be included in the index if the underlying collateral is primarily denominated in USD. European CLOs denominated in USD are ineligible.

Tranche Size

There are no minimum tranche size restrictions.

Maturity Requirement

There are no weighted average life (WAL) restrictions.

Rating Designation

To be considered for inclusion, a tranche needs to be rated by at least one of the three rating agencies: S&P, Moody's and Fitch.

Currently, we only include originally rated tranches from AAA/Aaa through B-/B3. The lowest of available ratings is used to derive original ratings sub-indices.

Beginning December 31st, 2019, the current ratings of CLOIE constituents were tracked to complement original ratings for compositional analysis

CLOIE Rebalancing

The CLOIE index is rebalanced at the close of the last business day of each month, following the US holiday calendar. New transactions that meet our inclusion criteria and are being priced by PricingDirect will be incorporated into the index on the next rebalancing date.

Removals occur on rebalance day. When bonds amortize in full, the instrument will remain in the index but have no outstanding balance or weight, and will not contribute to index calculations.

As CLO tranches amortize in-full or get called: the removal of instruments from the index will occur on the date that the notice of payment is received.

In the case of a refinancing/repricing: the index assumes the bond has been paid down and will be re-included into the index once pricing for the bond is resumed by PricingDirect.

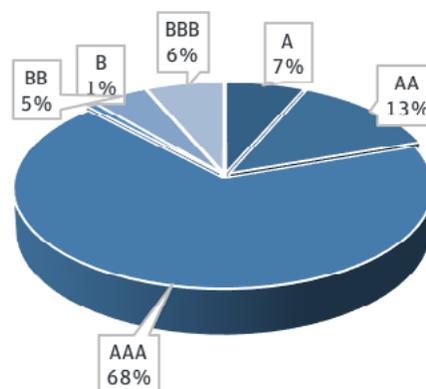
In the event of default: the instrument will be excluded from the index on the date that notification is received.

Pricing Assumptions

The bid-price of CLO bond is calculated on a daily basis by PricingDirect, a wholly owned subsidiary of J.P. Morgan Chase & Co. PricingDirect's assumptions are derived from secondary trading levels, new issue pricing, and deal/tranche characteristics.

PricingDirect adjusts the pricing assumptions based off market technical and as trading conditions change. Specifically, premium bonds are priced to call whilst discount bonds are priced to maturity with 20% CPR, 2% CDR and 50% Recovery Rate assumptions.

CLOIE Profile (As of Dec 2021)



Where to find the CLOIE?

Bloomberg

JPMX<GO> → Securitized → CLOIE

DataQuery

<https://jpm.com/#dataquery> (Indices → Securitized → USD → CLOIE)

Publication

CLOIE Monitor

MBS Agency (MAX)

- The J.P. Morgan MBS Agency Index (MAX) is an in-depth measure of the US MBS fixed-rate agency market. The all-encompassing benchmark combines 15-year, 20-year and 30-year MBS issued through standard FNMA, FHLMC (incl. UMBS) and GNMA programs, collectively tracking 90% of the Agency MBS market (as of Dec, 2021).
- MAX is an efficient and replicable benchmark that reduces tracking error with monthly agency factor updates from the 6th business day of the month, compared to delays up to the 16th business day for other index providers historically.
- Launched in July 2017, the MAX index has daily historical index levels and statistics starting from December 31, 1999.

Overview

The J.P. Morgan MBS Agency Index (MAX) is a broad benchmark incorporating the largest and most traded fixed-rate programs from mortgage agencies.

The index captures about 90% of the agency MBS market with a notional value of US \$7.5 trillion from fixed-rate 30-year, 20 year, and 15-year agency mortgage programs issued by FNMA, FHLMC (45-day and 55-day), GNMA, and GNMA II.

Eligible fixed-rate mortgage pools must be issued through standard FNMA, FHLMC (45-day and 55-day), GNMA I, and GNMA II programs. Following the Single-Security Initiative, MAX now provides the added flexibility to track the FHLMC 55-day and UMBS buckets.

The MAX Index brings forth an entirely rule-based structure backed by third-party valuations from PricingDirect and BondStudio platforms, which come together for the first time to contribute more than 50 years of product experience, exclusively for this MBS benchmark.

Index Facts	
Launch Date	July 2017
Inception Date	December 1999
Rebalance Date	Last business day of the month
Holiday Calendar	US Bond Market Calendar
Pricing Source	Third-party pricing from PricingDirect
Pricing Quote (Timing)	Bid (NY Close)
Weight	Market-value weighted
Settlement Convention	Same-Day Settlement
Index Criteria	
Instruments	Fixed rate, single family MBS pools
Agencies	FNMA, FHLMC (45-day and 55day), GNMA I, GNMA II
Min Aggregate WAM	12 months
Min. Aggregate Size	US\$500 million
Programs	30/20/15 years

Instrument Type

Eligible fixed-rate mortgage pools must be issued through standard FNMA, FHLMC (45-day & 55day), GNMA I, and GNMA II programs. MBS from these agencies will be eligible in half-percent coupon increments.

In order to accurately reflect the Agency MBS universe and to avoid double counting, we exclude mortgage related derivatives such as strips and CMOs. We exclude less liquid, smaller segments like hybrid ARMs and balloon mortgages.

Currency Denomination

Only US agency MBS pools denominated in US dollars are considered for inclusion.

Generic Aggregate Size

The generic aggregates must have a minimum outstanding of US\$500 million when factors are updated for the month.

The sum of both the 45-day and 55-day Freddie Mac outstanding balance will be used to satisfy the min. \$500 million outstanding index inclusion criteria.

Maturity Requirement

The aggregates must have a minimum Weighted Average Maturity (WAM) of 12 months at the time of rebalancing.

Rating Designation

There are no ratings rules specified for the index, as only securities from government owned (GNMA) and government sponsored mortgage agencies (FNMA and FHLMC) are eligible for inclusion.

Quoted Price Availability

MBS pools must have prices available from PricingDirect for inclusion. The lack of pricing prevents entry into the MAX Index.

MAX Rebalancing

Additions

The MAX index is rebalanced at the close of the last business day of each month, following the US holiday calendar. On rebalance day, new aggregates that meet our inclusion criteria and are being priced by PricingDirect will be incorporated into the index.

Removals

Removals occur on the rebalance day, with the composition remaining static between rebalances. As a result of the minimum 12-month WAM criterion, most instruments will exit the index before getting paid-off. In the event of an existing instrument getting paid-off mid-month, it will remain in the composition until the next rebalance at a zero weight with no contribution to the index performance.

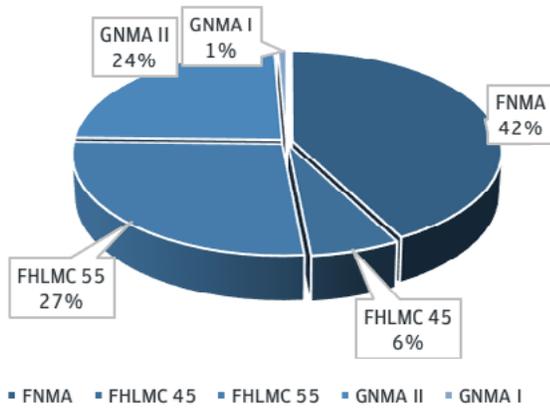
Balance updates

The MAX efficiently reflects factor updates from the 6th business day, which has historically been delayed to the 16th business day for other index providers. Our index timing brings a marked improvement for benchmarked investors who have previously encountered prolonged tracking errors.

Re-entry

When a generic aggregate that was previously removed becomes index eligible, the instrument will re-enter the index at the next rebalance date.

MAX Profile (As of Dec 2021)



Where to find the MAX index?

Bloomberg

JPMX<GO> → Securitized → MAX Index

DataQuery

<https://jpmm.com/#dataquery> (Indices → Securitized → USD → MBS Index (MAX))

Asset-Backed Securities (ABS)

- The J.P. Morgan Asset-Backed Securities (ABS) Index is a rule-based total return benchmark tracking the US ABS debt market.
- The ABS suite tracks both fixed-rate and floating-rate ABS, categorized by Auto and Equipment, Credit Card, FFELP Student Loan, Private Student Loan, Floorplan, Unsecured Consumer and Other ABS.
- Launched in November 2015, the ABS indices have daily historical index levels and statistics starting from June 2012.

Overview

The J.P. Morgan Asset-Backed Securities (ABS) Index is a rule-based total return benchmark, designed to track the USD-denominated ABS market.

The ABS index follows roughly US \$460 billion of floating and fixed-rate asset backed debt, nearly 75% of the total US ABS debt stock from 240+ issuers, 1100+ deals, and 2,900+ tranches as of December 2021. Sectors include Auto, Credit Card, Student Loan, Floorplan, Unsecured Consumer, and Other ABS.

The ABS Index Family contains 21 standard sub-indices categorized by industry sector (Auto and Equipment, Student Loan, Credit Card, Floorplan, Unsecured Consumer and Other ABS) as well as by fixed and floating coupon-type.

Currency Denomination

Only bonds denominated in US dollars are considered for inclusion.

Instrument Classification

Both fixed and floating US ABS bonds are eligible for index inclusion provided they meet further index criteria. Eligible securities are classified by sector, including Auto and Equipment, Credit Card, FFELP Student Loan, Private Student Loan, Floorplan, Unsecured Consumer and Other ABS. Note that the Other ABS sector may include ABS backed by timeshare, containers, franchise, settlement, stranded assets, tax liens, insurance premium, railcar leases, and other esoteric assets.

Index Facts	
Launch Date	November 2015
Inception Date	June 2012
Rebalance Date	Last business day of the month
Holiday Calendar	US Bond Market Calendar
Pricing Source	Third-party pricing from PricingDirect
Pricing Quote (Timing)	Bid (NY Close)
Weight	Market-value weighted
Settlement Convention	T+2
Index Criteria	
Currency	USD
Minimum Size	Senior tranches \$25million Subordinate tranches \$1million
Maturity Requirement	WAL \geq 0.3 years
Registration	SEC-registered or 144a. (excl. 2a-7)
Reinvestment of Cashflows	Immediate reinvestment into the respective tranche's daily return
Ratings	Based on lowest available of Moody's, S&P or Fitch: above CCC+
Fixed-rate	Eligible
Floating-rate	Eligible

Tranche Size

Senior and subordinate tranches must have a current outstanding balance of at least \$25million and \$1million, respectively.

Maturity Requirement

The weighted average life (WAL) of the instrument should be at least 0.3 years at rebalance.

Rating Designation

To be considered for inclusion, the lowest of the available ratings (S&P, Moody’s and Fitch) should be above CCC+. In case of split ratings, the lowest rating is applied.

Quoted Price Availability

All ABS bonds must have available prices from PricingDirect. Lack of availability of prices would prevent the inclusion of instruments into the index.

ABS Index Rebalancing

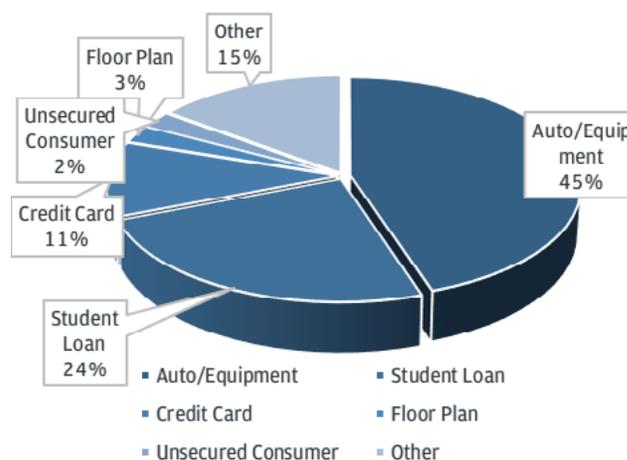
The ABS index is rebalanced at the close of the last business day of each month, following the US holiday calendar. New transactions that meet our inclusion criteria and are being priced by PricingDirect will be incorporated into the index on the next rebalancing date.

As ABS tranches amortize in full or get called, the removal of instruments from the index will occur on the date that notice of payment is received.

Pricing Assumptions

ABS bond pricing is calculated on a daily basis by PricingDirect, a wholly owned subsidiary of J.P. Morgan Chase & Co. PricingDirect’s assumptions are derived from secondary trading levels (such as reported in TRACE ABS), new issue pricing, and deal/tranche characteristics. Pricing assumptions evolve as trading conditions change.

ABS Profile (As of Dec 2021)



Where to find The ABS Index?

Bloomberg

JPMX<GO> → Securitized → ABS Index

DataQuery

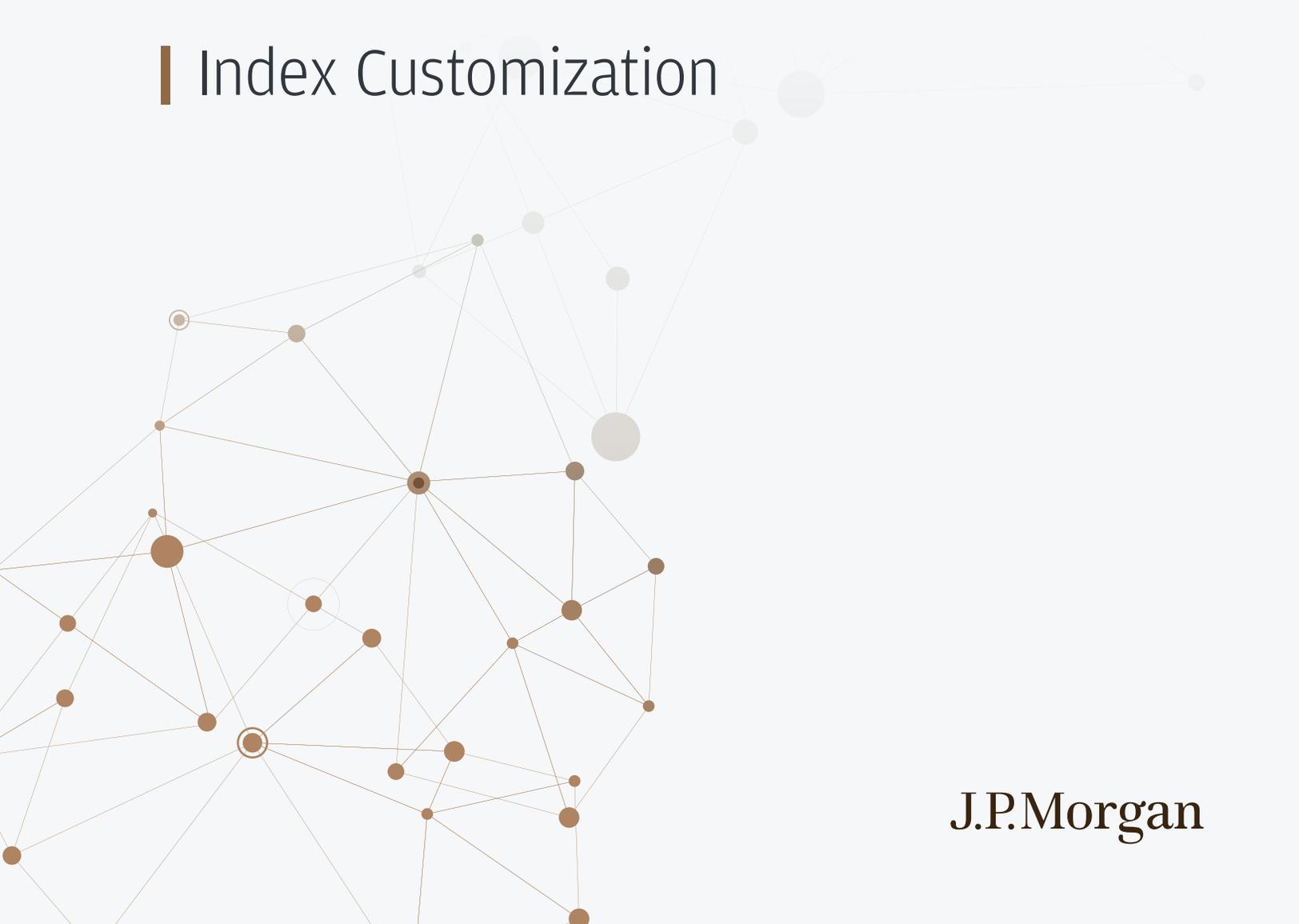
<https://jpmm.com/#dataquery> (Indices → Securitized → USD → ABS Index)

Publications

ABS Monitor



Index Customization



J.P.Morgan

Index Customization

The team provides customized client solutions and strategies optimized for bespoke investment requirements. This could be a custom benchmark for a new mandate or a solution to replicate the index performance either synthetically (e.g. CDS) or cash (e.g. Basket of bonds). The creation and maintenance of each custom index request requires a direct license to be in place with J.P. Morgan as well as appropriate license fees. License fees are charged to reflect the effort involved in the specific custom index request.

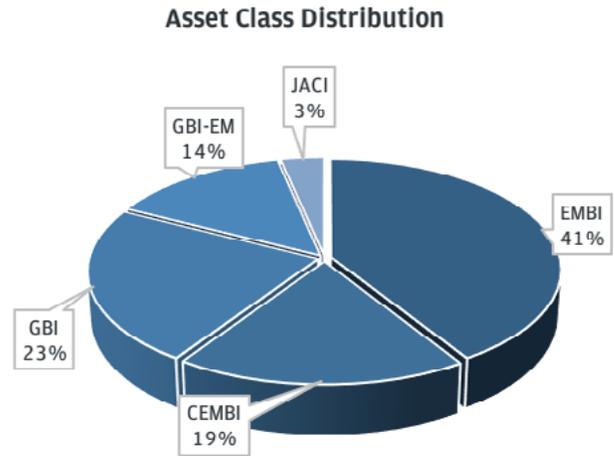
Frequently Used Customization Criteria

- Customized Rating Criteria
- Country Exclusions
- Maturity Bucket Exclusions
- Customized ESG indices
- Exclusions based on ESG Factors like Governance, Human Rights, and Freedom etc.
- New Weighting schemes e.g. GDP weighted, fixed weights
- Customized hedging/currency conversion methodologies
- Multi-Index Blends

Key Benefits of Index Customization

- **Flexibility** - Tailor-made solutions to cater to bespoke requirements
- **Transparency** - Well defined and consistent index rules and methodologies
- **Accessibility** - Access the expertise and technical know-how of the global Index team
- **Reliability** - Timely and efficient dissemination of information

Asset Class Distribution Across Custom Indices



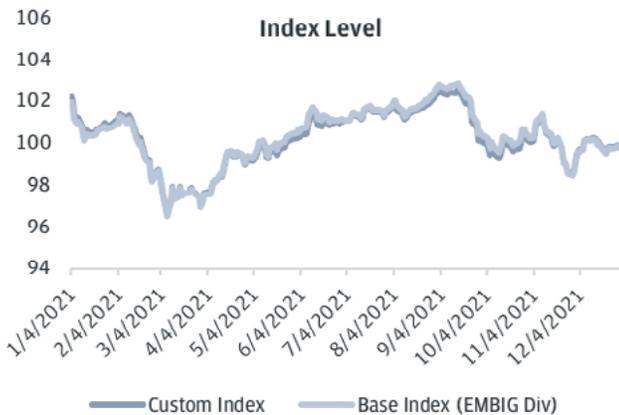
INDEX SUMMARY	
1. Name:	EMBI Global Diversified ex-CCC
2. Base Index:	EMBI Global Diversified
3. Constraints:	<ul style="list-style-type: none"> • Ratings - Exclude bonds rated B3 (or equivalent) and below • Maturity - None • Face OS - US\$500mn • Methodology - Market Capitalization • Inception Date: 31-Dec-1993

INDEX STATISTICS		
Statistic	Custom Index	EMBIGD
Avg Life To Worst	12.63	12.09
IR Duration to Worst	8.13	7.95
IR Convexity to Worst	130.39	125.75
Yield To Worst	4.59	5.27
STW (Trsy)	295	367
Z Spread To Worst	307	376
No. of Issues	883	961

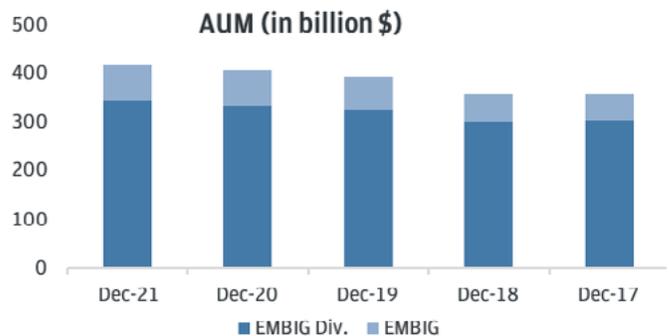
Index Description

The custom index builds on the existing flagship EMBI Global Diversified index and filters out all securities that lie below the threshold of B3 (or equivalent) across the three rating agencies namely Moody’s, S&P and Fitch. The index considers lowest of the three ratings.

2021 Index Performance



AUM Growth of the EMBI Series



Accessibility

Data Query: Times series data including index level performance metrics and analytics are available through our Data Query portal, <https://jpm.com/#dataquery>

File Delivery: Daily composition reports are delivered through email and FTP.

Bloomberg: We offer the flexibility of providing the index level data via Bloomberg tickers.

Index Announcements: For the latest index news and announcements please visit our Morgan Markets page on https://jpm.com/#research.bond_index

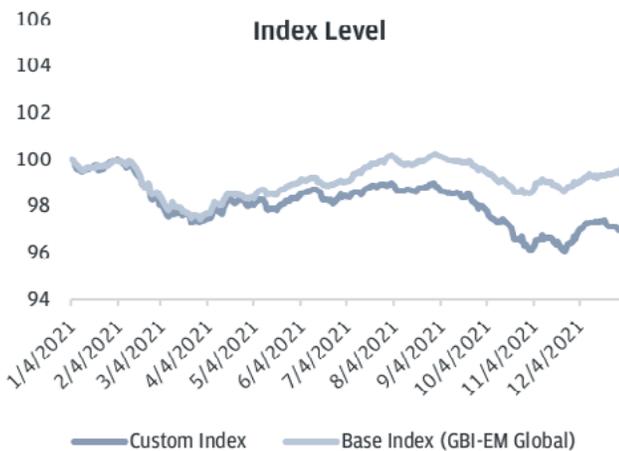
INDEX SUMMARY	
1. Name:	GBI-EM Equal Weighted Index
2. Base Index:	GBI-EM Global
3. Constraints:	<ul style="list-style-type: none"> • Countries: Brazil, Malaysia, Mexico, Poland, South Africa and Thailand • Maturity: 1 - 10 years only • Face OS: US\$1bn for GBI-EM Global • Methodology: On rebalance day, weights must be equally divided amongst the six countries. • Inception Date: 31-Dec-2001

INDEX STATISTICS		
Statistic	Custom Index	GBI-EM Global
Yield to Mat	5.53	4.67
Duration	3.85	5.29
Convexity	22.97	53.14
No. of Issues	75	293

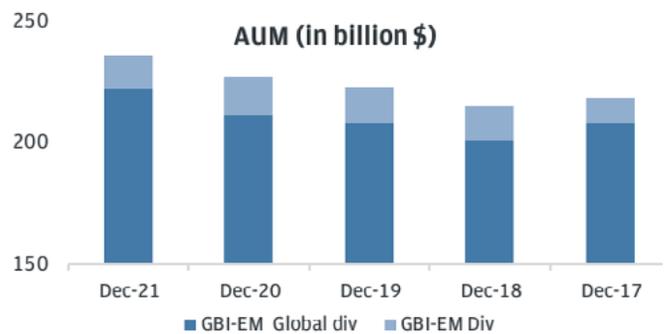
Index Description

Built on our local currency sovereign index, the GBI-EM Global, the index includes issues from Brazil, Malaysia, Mexico, Poland, South Africa and Thailand with a maximum maturity constraint of 10 years on rebalance day. The country weights are equally divided amongst these six countries.

2021 Index Performance



AUM Growth of the EMBI Series



Accessibility

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J.P. Morgan Index Research
Replication Strategies (IRR)

Strategic replication baskets to capture index data



J.P.Morgan

- The J.P. Morgan Index Research Replication (IRR) platform offers durable cash-based beta access solutions for replicating the performance of J.P. Morgan EM sovereign, local currency and corporate debt indices.
- The IRR platform focuses on constructing tradable bond and NDF baskets to mirror EM fixed income beta.
- IRR bond baskets are synthesized using permutations of stratified sampling and tracking error minimization by disaggregating various risk dimensions of a bond index.

Overview

The J.P. Morgan Index Research Replication Strategies (IRR) offers durable cash-based passive indexing strategies for investors looking to efficiently replicate the performance of the J.P. Morgan EM Bond suite of indices. The IRR platform aims to mitigate both the execution and coverage hurdles in unified solution.

- IRR replication strategies offer efficient access to EM fixed income beta and enables asset managers to swiftly bootstrap the beta component of their portfolios and focus their efforts on alpha generation.
- Optimized IRR baskets match the total return of the reference index within a few basis points while anchoring realized tracking error versus the benchmark.
- Baskets are typically constructed for a three to six month horizon which minimizes turnover costs compared to the monthly rebalance cycle of the benchmarks.

Enhancing Transactional Viability Through Liquidity Filters

Within the selected benchmark scope, narrowing the composition to an investable opportunity set is the key to ensuring the success of the IRR basket and minimizing transaction costs.

- First, the smallest countries/issuers with minimal contribution to risk/return are excluded from the opportunity set.
- The second step in the liquidity filter involves identifying frequently traded bonds with the tightest bid-offer spreads with the tightest bid offer spreads within each sample strata.
- The last step in the filtering process screens for market depth for efficient execution.

Stratified Sampling

The next phase of the IRR construction involves breaking down the reference index into a linear matrix along country, sector & issuer dimensions, and assigning representative securities for each cell from the liquidity opportunity set.

Security selection for each category mirror the risk factors such as duration, convexity, yield, term structure for the respective sub-component while maintaining the overall sector and credit rating exposure of the reference index.

Minimizing Turnover

Based on the liquid set of cash securities baskets are typically constructed for a 3-month horizon i.e. quarterly rebalance. This minimizes turnover costs compared to the monthly rebalance cycle of benchmark indices.

EM Indices	IRR	ETFs	TRS
Local currency Gov't Debt			
GBI-EM GD	√		
GBI-EM Core	√	√	
GBI-EM 10/1	√	√	
GBI-EM 15/4.5	√	√	
GBI-EM GD 15%	√	√	
Sovereign Debt			
EMBI+	√		√
EMBIG	√		
EMBIG Div	√		
EMBIG Core	√	√	√
Corporate Debt			
CEMBI Div	√		√
CEMBI Core	√	√	
CEMBI BD	√		
CEMBI+ IG	√		
CEMBI+ HY	√		
JACI Core	√	√	
ESG Indices			
JESG EMBIGD	√	√	
JESG GBI-EM GD	√		
JESG CEMBI BD	√		
JESG US IG	√	√	
JESG GBI Liquid	√	√	

Index Income Ceiling Explained

J.P. Morgan 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. A country's GNI per capita should be below the IIC for three consecutive years to be eligible for JPM's EM index suite, as per the GNI criteria.

Index PPP Ratio (IPR) Explained

The Index PPP Ratio (IPR) was introduced with the 2018 Index Governance Review as an additional metric to determine the eligibility of a country in our EM sovereign index suite.

Calculating the IPR: The IPR is calculated, as below, from the one-year lagged GDP data available in IMF's World Economic Outlook publication. The EM IPR threshold is an indexed number which mimics the changes to the World IPR.

IPR = GDP (current prices, USD) / GDP (current prices, PPP dollars) * 100

Eligibility criteria: A country will be eligible for the EM sovereign suite of indices if it either meets the GNI per capita-based IIC criterion or the PPP-based IPR criterion. The PPP-based IPR criterion states that a country's IPR should be below the EM threshold for three consecutive years, to be eligible.

EM Threshold	GNI per capita (in \$)			Index PPP Ratio (IPR)			DM/EM
	2019	2020	2021	2019	2020	2021	
	18,952	20,179	20,938	59.5	59.6	62.9	
Afghanistan	530	520	530	29.2	26.9	23.1	EM
Albania	4,290	4,860	5,220	36.3	39.3	36.6	EM
Algeria	3,950	3,980	4,010	26.6	26.6	33.2	EM
Angola	3,450	3,210	2,960	61.7	52.8	40.2	EM
Antigua and Barbuda	14,320	15,920	16,600	62.5	62.4	76.2	EM
Argentina	13,140	12,370	11,130	70.1	56.7	43.0	EM
Armenia	3,950	4,250	4,680	40.7	40.8	32.5	EM
Australia	51,560	53,190	55,100	110.7	107.7	103.1	DM
Austria	45,070	49,080	51,460	94.8	98.4	85.6	DM
Azerbaijan	4,090	4,060	4,480	23.9	26.2	31.9	EM
Bahrain	21,250	21,910	22,110	49.8	50.9	50.1	EM
Bangladesh	1,520	1,750	1,940	38.0	37.8	34.8	EM
Barbados	16,070	16,700	17,380	94.9	95.2	111.4	EM
Belarus	5,300	5,700	6,290	30.5	31.5	33.4	EM
Belgium	42,490	46,100	48,030	93.6	96.6	85.6	DM
Belize	4,390	4,450	4,480	58.4	57.2	65.9	EM
Benin	1,090	1,200	1,250	37.0	38.0	35.6	EM
Bhutan	2,800	2,970	3,140	33.2	33.8	28.1	EM
Bolivia	3,090	3,370	3,520	45.2	45.5	39.3	EM
Bosnia and Herzegovina	5,140	5,770	6,170	40.3	42.4	38.5	EM
Botswana	6,690	7,340	7,650	44.4	44.4	43.3	EM
Brazil	8,700	9,080	9,130	63.2	55.5	57.1	EM
Brunei Darussalam	29,800	29,390	32,230	35.9	39.1	48.0	EM
Bulgaria	7,640	8,560	9,570	38.0	40.2	40.3	EM

EM Threshold	GNI per capita (in \$)			Index PPP Ratio (IPR)			DM/EM
	2019	2020	2021	2019	2020	2021	
	18,952	20,179	20,938	59.5	59.6	62.9	
Burkina Faso	670	750	780	34.5	36.1	34.0	EM
Burundi	280	280	280	42.5	41.9	32.9	EM
Cabo Verde	3,080	3,400	3,630	47.2	48.9	48.2	EM
Cambodia	1,230	1,380	1,530	34.6	34.6	35.5	EM
Cameroon	1,340	1,450	1,500	39.1	40.6	39.5	EM
Canada	42,990	45,000	46,370	93.7	93.2	90.4	DM
Central African Republic	440	490	520	54.9	56.9	48.7	EM
Chad	640	680	700	34.7	36.2	41.4	EM
Chile	13,270	14,620	15,010	61.4	61.9	59.0	EM
China	8,740	9,600	10,410	52.1	52.9	61.6	EM
Colombia	5,930	6,260	6,510	44.0	44.5	41.9	EM
Comoros	1,280	1,380	1,400	48.0	49.9	43.8	EM
Costa Rica	11,150	11,590	11,700	69.9	68.5	60.1	EM
Cote D'Ivoire	2,030	2,180	2,290	39.2	40.2	41.9	EM
Croatia	12,680	14,080	14,980	54.1	56.6	49.8	EM
Cyprus	24,580	26,620	27,710	68.3	70.9	67.3	DM
Czech Republic	18,310	20,520	21,940	57.5	61.9	55.2	EM
Democratic Republic of the Congo	460	500	530	52.1	60.2	50.2	EM
Denmark	56,190	61,020	63,950	113.5	116.5	100.1	DM
Djibouti	2,990	3,260	3,310	53.7	52.5	59.7	EM
Dominica	7,060	7,710	7,920	70.7	69.9	63.6	EM
Dominican Republic	7,090	7,760	8,080	46.6	45.5	43.2	EM
Ecuador	5,860	6,090	6,090	54.1	54.1	52.2	EM
Egypt	3,030	2,790	2,690	19.7	19.3	24.6	EM
El Salvador	3,600	3,820	4,000	49.0	48.8	45.8	EM

EM Threshold	GNI per capita (in \$)			Index PPP Ratio (IPR)			DM/EM
	2019	2020	2021	2019	2020	2021	
	18,952	20,179	20,938	59.5	59.6	62.9	
Equatorial Guinea	6,510	6,650	6,460	39.8	46.0	45.0	EM
Eritrea	..	..	..	35.5	32.3	30.9	EM
Estonia	18,840	21,340	23,260	64.0	68.3	61.6	EM
Ethiopia	740	800	850	38.1	36.6	35.3	EM
Fiji	5,370	5,910	5,800	54.8	53.1	43.1	EM
Finland	44,830	48,280	50,010	102.5	106.7	96.2	DM
France	38,330	41,200	42,450	90.9	93.6	84.1	DM
North Macedonia	4,920	5,480	5,840	36.4	38.8	35.3	EM
Gabon	6,510	6,830	7,170	40.7	44.6	49.8	EM
Georgia	4,040	4,460	4,780	38.0	38.0	30.5	EM
Germany	43,570	47,050	48,580	87.8	91.0	82.7	DM
Ghana	1,890	2,130	2,220	33.5	34.1	39.0	EM
Greece	17,910	18,970	19,750	68.0	69.9	62.0	EM
Grenada	8,890	9,580	9,840	69.4	68.4	60.6	EM
Guatemala	4,090	4,390	4,610	54.8	53.8	51.3	EM
Guinea	820	850	930	36.2	39.2	40.4	EM
Guinea-Bissau	680	750	820	42.6	42.4	33.4	EM
Guyana	5,910	6,290	6,630	57.3	58.1	48.5	EM
Haiti	1,310	1,360	1,330	42.2	46.6	43.0	EM
Honduras	2,250	2,320	2,390	49.9	48.4	42.9	EM
Hong Kong SAR	46,390	50,060	50,800	75.0	75.5	78.1	DM
Hungary	13,190	15,020	16,500	48.2	51.7	48.5	EM
Iceland	60,530	67,890	72,850	134.7	133.2	115.1	DM
India	1,830	2,010	2,120	27.7	25.9	30.1	EM
Indonesia	3,530	3,850	4,050	31.3	29.2	33.6	EM

EM Threshold	GNI per capita (in \$)			Index PPP Ratio (IPR)			DM/EM
	2019	2020	2021	2019	2020	2021	
	18,952	20,179	20,938	59.5	59.6	62.9	
Iraq	4,880	5,060	5,740	29.7	33.5	51.4	EM
Ireland	53,480	59,640	64,000	95.6	98.4	87.5	DM
Islamic Republic of Iran	5,420	5,300	5,420	26.3	28.0	55.9	EM
Israel	37,550	40,860	43,110	110.9	109.8	104.3	DM
Italy	31,360	33,840	34,530	84.0	86.5	75.1	DM
Jamaica	4,750	5,010	5,320	56.8	57.1	52.9	EM
Japan	38,490	41,150	41,710	89.7	88.8	93.2	DM
Jordan	4,080	4,270	4,410	45.6	45.3	42.0	EM
Kazakhstan	8,040	8,070	8,820	34.1	34.0	35.7	EM
Kenya	1,420	1,600	1,750	48.2	49.4	40.2	EM
Kiribati	3,020	3,080	3,350	81.2	78.8	77.7	EM
Korea	30,300	32,730	33,790	76.4	77.0	71.4	DM
Kosovo	3,970	4,340	4,640	36.8	38.0	37.6	EM
Kuwait	31,400	33,590	31,400	40.6	46.5	61.9	EM
Kyrgyz Republic	1,110	1,220	1,240	33.3	33.0	24.0	EM
Lao P.D.R.	2,240	2,450	2,570	34.7	33.8	32.4	EM
Latvia	14,850	16,540	17,740	56.6	60.3	55.5	EM
Lebanon	7,470	7,720	7,380	61.3	63.0	50.6	EM
Lesotho	1,240	1,280	1,380	39.8	38.3	39.4	EM
Liberia	620	610	580	53.8	51.3	43.3	EM
Libya	5,410	6,800	7,640	49.4	54.8	42.7	EM
Lithuania	15,280	17,460	19,080	52.0	54.9	50.5	EM
Luxembourg	66,430	70,910	73,910	102.5	108.6	96.1	DM
Macao SAR	72,310	78,640	72,310	70.1	70.5	65.1	DM
Madagascar	470	500	520	28.8	28.2	30.5	EM

EM Threshold	GNI per capita (in \$)			Index PPP Ratio (IPR)			DM/EM
	2019	2020	2021	2019	2020	2021	
	18,952	20,179	20,938	59.5	59.6	62.9	
Malawi	340	350	380	27.8	29.2	37.6	EM
Malaysia	9,950	10,650	11,230	33.7	35.4	38.6	EM
Maldives	8,600	9,210	9,680	66.9	66.6	54.8	EM
Mali	770	830	870	37.3	38.9	36.2	EM
Malta	24,010	26,900	28,030	65.0	67.8	64.7	DM
Marshall Islands	4,460	4,860	4,460	105.1	102.9	109.7	EM
Mauritania	1,500	1,580	1,660	28.6	28.7	31.0	EM
Mauritius	10,980	12,270	12,900	47.0	47.4	46.6	EM
Mexico	8,920	9,180	9,480	47.0	47.5	47.9	EM
Micronesia	3,450	3,400	3,450	106.5	105.4	114.4	EM
Moldova	3,330	3,930	4,590	39.8	43.7	33.2	EM
Mongolia	3,230	3,630	3,790	28.7	29.9	33.5	EM
Montenegro	7,400	8,430	9,060	43.7	45.7	39.5	EM
Morocco	2,880	3,090	3,190	36.8	37.7	40.9	EM
Mozambique	470	460	490	34.0	36.7	37.5	EM
Myanmar	1,290	1,370	1,390	20.4	20.9	25.8	EM
Namibia	4,610	4,900	5,060	50.9	53.2	49.3	EM
Nauru	10,160	12,040	14,230	98.2	99.1	95.2	EM
Nepal	860	970	1,090	31.7	33.5	30.1	EM
Netherlands	47,140	51,300	53,100	90.3	94.2	88.2	DM
New Zealand	38,740	42,110	42,760	106.8	102.8	95.1	DM
Nicaragua	2,030	1,970	1,890	38.2	36.7	34.0	EM
Niger	520	570	600	37.2	39.0	43.4	EM
Nigeria	2,090	1,960	2,030	33.6	34.1	41.7	EM
Norway	76,210	80,640	82,500	104.4	109.7	113.7	DM

EM Threshold	GNI per capita (in \$)			Index PPP Ratio (IPR)			DM/EM
	2019	2020	2021	2019	2020	2021	
	18,952	20,179	20,938	59.5	59.6	62.9	
Oman	13,970	14,190	14,110	36.7	39.6	53.9	EM
Pakistan	1,400	1,480	1,410	28.8	27.5	25.9	EM
Palau	16,650	17,810	16,490	107.9	102.9	100.7	EM
Panama	13,750	14,420	14,950	62.1	61.0	48.0	EM
Papua New Guinea	2,590	2,600	2,750	70.6	72.3	71.8	EM
Paraguay	5,390	5,620	5,520	43.9	44.3	40.2	EM
Peru	6,060	6,470	6,740	49.8	49.2	52.2	EM
Philippines	3,530	3,710	3,850	35.8	34.7	37.5	EM
Poland	12,730	14,150	15,350	46.7	48.2	45.2	EM
Portugal	20,050	22,050	23,200	69.7	72.3	63.8	DM
Puerto Rico	20,000	21,030	21,970	80.5	80.2	88.7	DM
Qatar	56,920	58,830	61,180	49.2	54.3	66.2	EM
Republic of Congo	1,930	1,780	1,720	30.0	37.7	59.7	EM
Romania	10,110	11,430	12,630	43.7	46.4	41.3	EM
Russia	9,210	10,250	11,260	39.1	39.2	41.2	EM
Rwanda	740	780	830	36.8	34.4	34.6	EM
Samoa	4,060	4,020	4,190	73.9	73.3	72.9	EM
San Marino	..	..	..	78.4	81.1	75.4	DM
São Tomé and Príncipe	1,700	1,870	1,930	54.9	58.8	47.8	EM
Saudi Arabia	19,990	21,610	22,840	38.8	42.2	47.3	EM
Senegal	1,280	1,400	1,460	38.2	39.3	40.9	EM
Serbia	5,560	6,410	7,030	38.4	41.2	38.9	EM
Seychelles	14,310	15,670	16,900	55.2	54.6	56.3	EM
Sierra Leone	520	490	540	32.3	33.4	30.3	EM
Singapore	54,320	57,900	59,590	62.5	63.7	64.3	DM

EM Threshold	GNI per capita (in \$)			Index PPP Ratio (IPR)			DM/EM
	2019	2020	2021	2019	2020	2021	
	18,952	20,179	20,938	59.5	59.6	62.9	
Slovak Republic	16,620	18,350	19,210	53.4	55.7	56.6	EM
Slovenia	22,130	24,600	25,940	68.2	71.2	63.8	DM
Solomon Islands	2,220	2,370	2,390	96.8	97.6	96.3	EM
Somalia	..	..	..	39.3	39.1	35.4	EM
South Africa	5,410	5,750	6,040	45.7	46.6	46.1	EM
South Sudan	1020	1020	1020	17.8	23.5	42.8	EM
Spain	27,090	29,350	30,390	74.2	76.5	69.5	DM
Sri Lanka	3,870	4,040	4,020	31.9	30.5	28.3	EM
St. Kitts and Nevis	17,240	18,520	19,290	61.5	59.7	73.2	EM
St. Lucia	10,070	10,640	11,020	74.4	76.2	72.1	EM
St. Vincent and the Grenadines	6,970	7,340	7,460	62.7	61.4	57.3	EM
Sudan	1,320	840	590	25.9	19.3	18.6	EM
Suriname	5,390	5,210	5,420	35.9	38.4	36.9	EM
Sweden	53,010	55,580	55,780	103.2	101.3	93.0	DM
Switzerland	78,920	83,730	85,500	129.8	127.9	114.5	DM
Taiwan Province of China	..	..	..	48.3	47.1	48.6	EM
Tajikistan	1,010	1000	1030	25.2	24.1	24.7	EM
Tanzania United Republic Of	970	1020	1080	32.6	31.8	38.0	EM
Thailand	5,960	6,600	7,260	36.8	38.2	40.6	EM
The Bahamas	30,900	31,990	33,460	102.3	100.6	90.2	DM
The Gambia	660	720	750	27.5	27.3	33.4	EM
Timor-Leste	1,780	1,800	2,020	37.2	43.5	38.6	EM
Togo	600	660	690	36.9	38.3	40.8	EM
Tonga	4,590	4,800	5,000	79.1	79.1	83.9	EM
Trinidad and Tobago	16,040	16,020	17,010	51.5	50.7	63.3	EM

EM Threshold	GNI per capita (in \$)			Index PPP Ratio (IPR)			DM/EM
	2019	2020	2021	2019	2020	2021	
	18,952	20,179	20,938	59.5	59.6	62.9	
Tunisia	3,520	3,500	3,370	28.9	27.6	29.6	EM
Turkey	10,980	10,520	9,690	39.1	33.5	30.8	EM
Turkmenistan	6,380	6,740	6,380	36.6	36.2	47.0	EM
Tuvalu	4,810	5,430	5,620	95.2	95.5	95.9	EM
Uganda	740	750	780	29.7	29.0	34.6	EM
Ukraine	2,380	2,800	3,370	30.4	33.5	27.6	EM
United Arab Emirates	39,290	41,470	43,470	54.5	57.4	61.6	EM
United Kingdom	41,290	41,770	42,220	90.2	93.1	87.0	DM
United States	59,080	63,170	65,850	100.0	100.0	100.0	DM
Uruguay	15,150	15,910	16,230	76.3	73.5	72.9	EM
Uzbekistan	2,350	2,020	1,800	22.6	18.2	23.6	EM
Vanuatu	2,880	3,120	3,210	114.0	113.7	109.1	EM
Venezuela	..	..	..	38.8	31.6	31.3	EM
Vietnam	2,130	2,380	2,590	34.0	34.0	32.4	EM
Yemen	1,070	940	1,070	36.5	39.7	34.7	EM
Zambia	1,300	1,440	1,430	37.5	36.5	37.4	EM
Zimbabwe	1,360	1,530	1,390	54.5	49.3	43.3	EM

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