GBI-EM Net-of-Tax Analytics

Evaluating index returns adjusted for taxes on interest.

The GBI-EM Net-of-Tax Analytics is a cumulative total return series incorporating the impact of withholding taxes on interest income earned by global investors.

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J.P.Morgan

What is GBI-EM Net-of-Tax Analytics?

The GBI-EM[1] Net-of-Tax Analytics is a cumulative total return series incorporating the impact of withholding taxes on interest income earned by global investors. The new series provides supplementary analytics to the existing gross-of-tax return series of the J.P. Morgan GBI-EM index suite.

Net-of-Tax returns are calculated by deducting withholding taxes on interest income (WHT) from the headline (gross-of-tax) total return of the GBI-EM Global Diversified (GBI-EM GD) and other benchmarks. For each market in the GBI-EM series, the highest prevailing nominal withholding tax rate ("to-worst" tax rate) levied on offshore investors, irrespective of tax treaties, is used in the Net-of-Tax calculations. The "to-worst" tax rate is determined based on official government/tax authority sources, J.P. Morgan Tax Intelligence2 and investor consultations.

Why does Net-of-Tax matter?

Global fixed income investments in EM local markets may be subject to withholding taxes on interest (WHT) earned which negatively impacts investment performance. For example, the difference between Headline (gross) vs Net-of-Tax returns of the GBI-EM GD per year peaked at 84bps in 2004. The impact of taxes is expected to remain pertinent for GBI-EM benchmarked managers with higher global interest rates, and as more countries with WHT become benchmark eligible.

Figure 1: GBI-EM GD annual return difference between Gross-of-Tax vs Net-of-Tax (in USD)
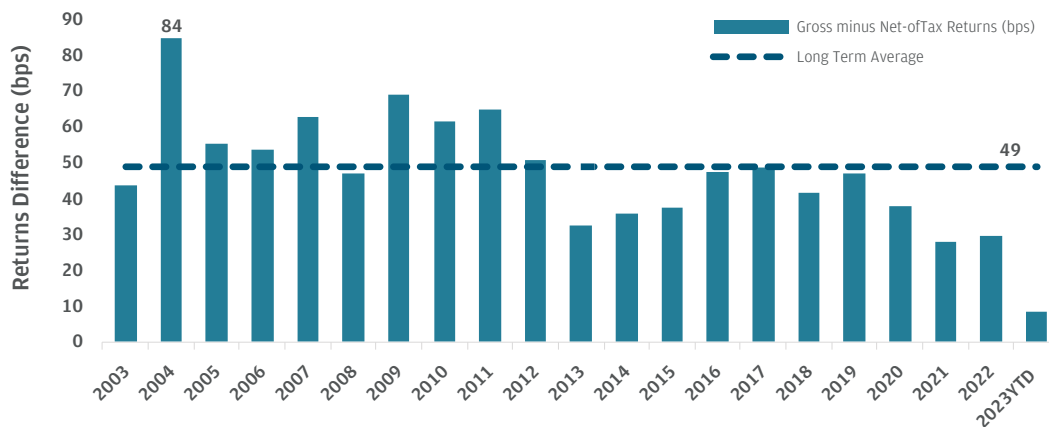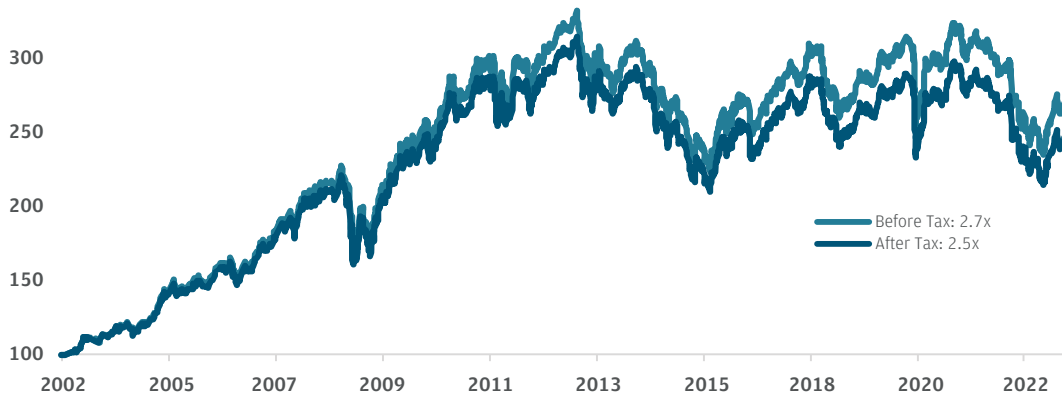

Source: J.P. Morgan. As of March 31st, 2023.

Looking at it from a different angle, the cumulative return of the GBI-EM GD on a Net-of-Tax basis (149%) is ~24% lower than the headline total return (173%) of the benchmark over the last 20 years since index inception (Jan 1st, 2003 to March 31st 2023).

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1 GBI-EM: Government Bond Index - Emerging Markets, a family of six local currency denominated emerging markets government bond indices including: GBI-EM (narrow), GBI-EM Global, GBI-EM Broad, and diversified versions of each. GBI-EM Global Diversified (GBI-EM GD) is the most widely tracked benchmark in the asset class.

2 Tax Intelligence is a proprietary tax services provided by J.P. Morgan Security Services.

**Figure 2: GBI-EM GD historical performance (in USD)**

Before Tax: 2.7x
After Tax: 2.5x

Source: J.P. Morgan. As of March 31st, 2023.

Assessing tax impact on investment returns

The top three countries with the highest tax impact3 from the index analytics perspective are Brazil, Indonesia and Czech Republic, respectively with an index weight of 10%, 10% and 5%, and WHT of 22.5%, 10% and 35%.

Figure 3: GBI-EM GD's country weights and "to-worst" WHT rate by country
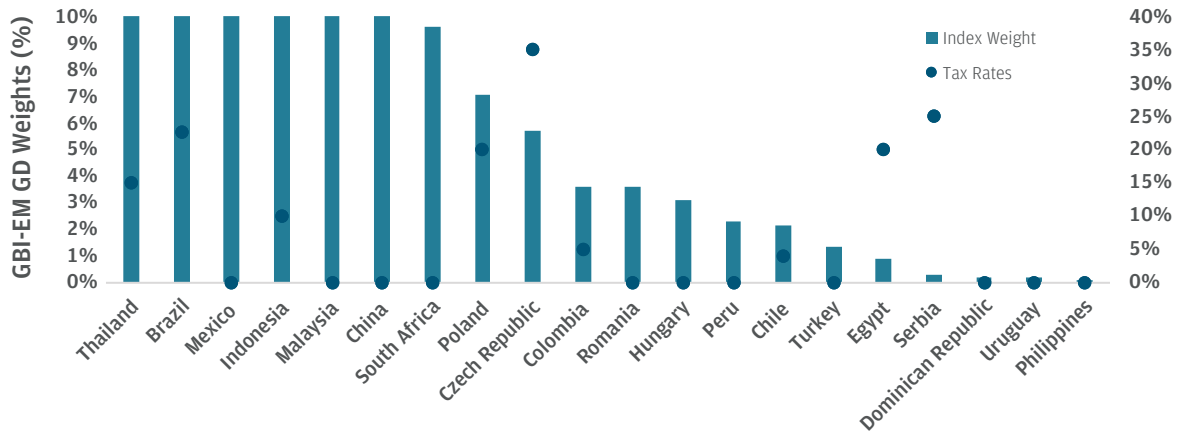
Source: J.P. Morgan. As of March 31st, 2023, Global bonds (offshore settled, local ccy. Linked)
– e.g. Philippines, Uruguay, Dom. Rep, Brazil Globals etc. are not subject to WHT.

To align benchmark to investor's returns, we calculated the GBI-EM GD implied tax rate. As of March the 31st 2023, nine government bond markets in the GBI-EM GD levy WHT on global (off-shore) investors, implying an index average WHT rate of 8.6% for the purpose of Net-of-Tax analytics. Historically, the weighted average index WHT rate has ranged from 6.3 to 10.5.

Figure 4: GBI-EM GD weighted average WHT rate

Source: J.P. Morgan. As of March 31st, 2023, Calculated as the index weight (%) times the "to-worst" WHT rate for each applicable market

Reference rates used in the Net-of-Tax Analytics

The "to-worst" tax rates used in the calculations is reviewed periodically and updated at appropriate intervals including but not limited to annual index governance consultations with investors, annual EM/DM market review classifications, based on changes in tax regimes or trading/settlement conventions evidenced from official sources.

Figure 5: Highest WHT rates ("to-worst") on local currency denominated government bonds

Country	Withholding Tax Rate (To-worst)	Historical Changes
Brazil	22.5%	20% (2003) → 22.5% (2005)
Chile	4.0%	No change since index inception in 2003
Colombia	5.0%	35% (2003) → 34% (2007) → 33% (2008) → 14% (2013) → 5% (2019)
Czech Republic	35.0%	15% (2003) → 35% (2013)
Egypt	20.0%	New addition to GBI-EM index in Jan 2022
India	20.0%	No change since index inception in 2003
Indonesia	10.0%	20% (2003) → 10% (Aug 2021)
Philippines	20.0%	No change since index inception in 2003
Poland	20.0%	No change since index inception in 2003
Serbia	25.0%	0% (2003) → 25% (2019)
Thailand	15.0%	0% (2003) → 15% (2010)

Source: J.P. Morgan. As of March 31st, 2023. Only non-zero tax rates are shown; global bonds are not taxable.

3 Tax impact measured as country weight * coupon * tax rate

Accessing the Net-of Tax Analytics

The Net-of-Tax Return Series is available as a discrete time series from January 1st, 2003, supplementing the current gross-of-tax return series. The new series and FX conversion is available in more than 30 currencies for all six flagship GBI-EM indices and country sub-indices: GBI-EM (Narrow), GBI-EM Global, GBI-EM Broad and the respective Diversified versions. The Net-of-Tax analytics are accessible through multiple channels in the form of time series data and reports on J.P. Morgan Markets, DataQuery, FTP as well as third-party market data platforms.

Figure 6: DataQuery and Bloomberg tickers for Net-of-Tax total return in local currency and USD

Index Name	Total Return in LOC		Total Return in USD	
	DataQuery Expression	Bloomberg Ticker	DataQuery Expression	Bloomberg Ticker
GBI EM	DB(BIGI,GBI_EM,TRADED,TR_TAX,,LOC)	JGENJBXG	DB(BIGI,GBI_EM,TRADED,TR_TAX,,USD)	JGENTAMU
GBI EM Diversified	DB(BIGI,GBI_EM_DIV,TRADED,TR_TAX,,LOC)	JGENJBSG	DB(BIGI,GBI_EM_DIV,TRADED,TR_TAX,,USD)	JGENDUUG
GBI EM Global	DB(BIGI,GBI_EMGLOBAL,TRADED,TR_TAX,,LOC)	JGENJBNG	DB(BIGI,GBI_EMGLOBAL,TRADED,TR_TAX,,USD)	JGENLUAA
GBI EM Global Diversified	DB(BIGI,GBI_EMGLOBAL_DIV,TRADED,TR_TAX,,LOC)	JGENJBIG	DB(BIGI,GBI_EMGLOBAL_DIV,TRADED,TR_TAX,,USD)	JGENKUAA
GBI EM Broad	DB(BIGI,GBI_EMBROAD,TRADED,TR_TAX,,LOC)	JGENJBDG	DB(BIGI,GBI_EMBROAD,TRADED,TR_TAX,,USD)	JGENBUBU
GBI EM Broad Diversified	DB(BIGI,GBI_EMBROAD_DIV,TRADED,TR_TAX,,LOC)	JGENJAYG	DB(BIGI,GBI_EMBROAD_DIV,TRADED,TR_TAX,,USD)	JGENJUAG

Source: J.P. Morgan. As of March 31st, 2023.

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