

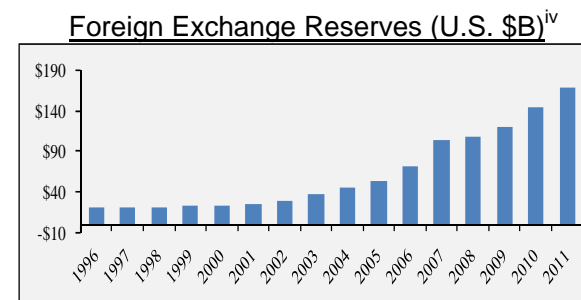
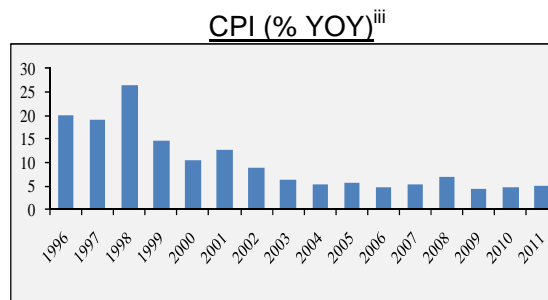
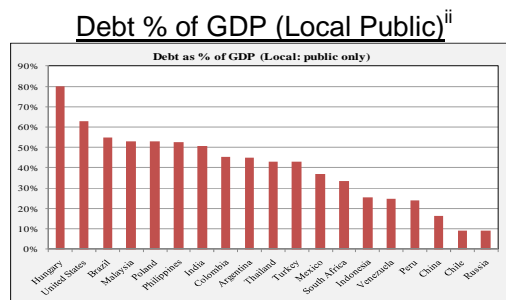
# Fourth Quarter 2011 Knowledge College

## Emerging Market Bonds

Emerging Market Bonds are a growing sub-sector of the foreign debt market. Though currently accounting for less than 5 percent of the world's bond issuance, emerging market countries are growing faster than the developed world. Their capital markets are also increasing in size. While Emerging Market Bonds may have greater political risks, the countries' lower debt levels, lower trade deficits (often surpluses), higher savings rates, and younger population arguably put them in better fiscal positions than many of their developed market counterparts, especially following the 2008 financial crisis.

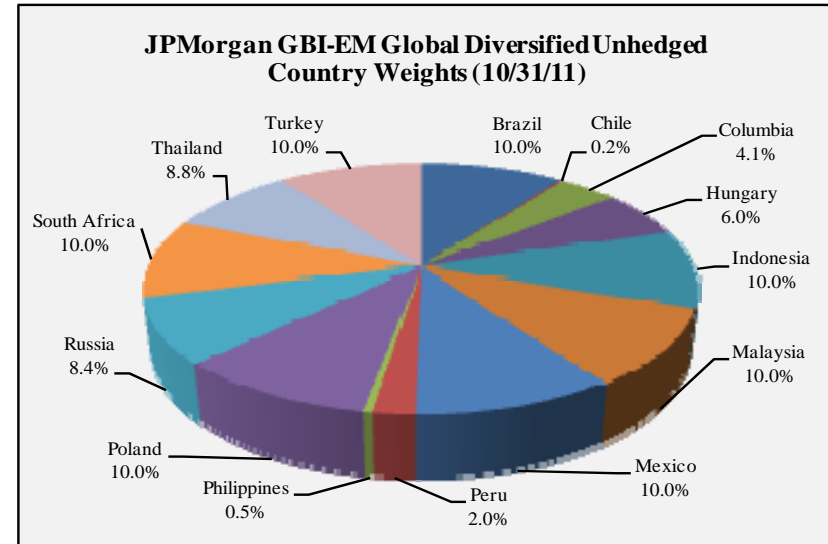
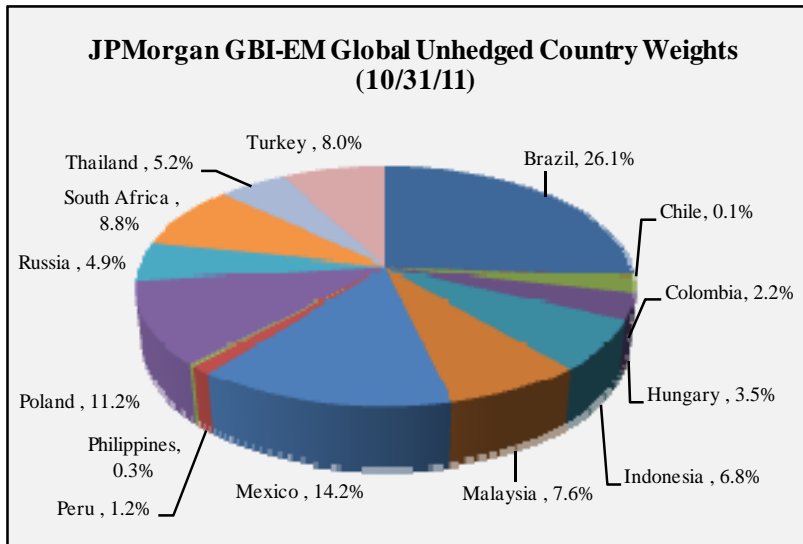
In the 1980s and early 1990s, the tradable market for emerging market fixed income was largely external and denominated in USD. Bonds denominated in local currency began to take hold in the late 1990s. Rapid expansion over the last decade has brought the market's size from \$600 billion in the mid 2000s to approximately \$2.1 trillion at the end of 2010.<sup>i</sup>

As governments and businesses of Latin America, Eastern Europe, and Asia (ex-Japan) borrow money to finance fiscal deficits, infrastructure projects and business growth, they issue bonds. These bonds encompass three categories—external, local currency and corporate debt. External debt is issued in currencies such as the USD or euro; the yield of these bonds includes a risk premium based on the issuing government's creditworthiness. The largest risk to external emerging market debt is a default or stress caused by currency fluctuations. For example, if the USD appreciates against the Brazilian real, Brazil's USD-denominated interest expense rises imposing a greater financial burden on the Brazilian government. In contrast, local currency debt is issued in the country's home currency. This adds currency and interest rate risk for U.S. based investors, but also indicates a more responsible and stable local government policy. Since the late 1990s, emerging market countries have continued to stabilize and mature. This new regime has seen most emerging market countries reduce the risk of a currency crisis by transitioning to more flexible or even floating exchange rate approaches, which are less prone to sudden devaluations. The charts below show relative Debt-to-GDP, Inflation (CPI) and Foreign Exchange Reserves for relevant emerging market countries. While relative debt for emerging market countries is clearly less of an issue compared to their developed counterparts, inflation and foreign exchange reserves management has also markedly improved.



Volatility in local economies as well as political instability are significant risks to the asset class. However, the risks are accompanied by higher yields, and the asset class has proven to be quite resilient during stress periods experienced by other asset classes. While approximately 70% of local currency emerging market debt is held by local participants, this composition is slowly migrating abroad as the asset class matures and continues to generate interest from various foreign institutional investors.

- As of 12/31/2011, the JPMorgan GBI-EM Global Diversified Index had a YTM of 6.57%, duration of 4.44, and remaining life of 6.52 years.
- The Emerging Market Bond asset class has over 40 countries in its universe; however, not all are easily investable or issue debt in local currency terms. The JPMorgan GBI-EM Global Diversified Index is comprised of 14 countries whose weights are capped at 10% to avoid bias to more debt-laden countries. The exhibits below illustrate the impact of this constraint relative to the float-weighted “Global” version of the JPMorgan GBI-EM Index (left side).



### Emerging Market Bonds in the Frontier Engineer™ Framework

- Emerging Market Bonds returned an annualized 11.1% from 1994 - 2011, second best of all asset classes (MLPs). Over the same time, they exhibited a standard deviation of 14.1%.
- Since 1997, which includes the extreme emerging markets volatility in 1998, skewness and excess kurtosis for Emerging Market Bonds was -2.33 and 13.67, respectively.
- When adjusting the short-term return stream to a longer comparable return stream (i.e., relative to High Yield Bonds 1984 - 1994 and U.S. Bonds 1979 - 1984), standard deviation goes from 14.1% to 16.9%.
- From 1997 - 2011, Emerging Market Bonds outperformed all other fixed income asset classes (TIPS, U.S. Bonds, Foreign Developed Bonds) 54% of the time on a calendar year basis.

### Volatility, Return, Fat Tails and Diversification Benefits

- Since 2003, Emerging Market Bonds have exhibited a standard deviation of 11.9%. Currency movements accounted for roughly two-thirds of this total realized volatility.
- Over this same period, currency accounted for just over half of the Emerging Market Bond total return.
- Emerging Market Bonds have nearly double the negative skew and 1.5x the excess kurtosis of High Yield Bonds (1997 - 2011).
- Since 2003, skewness and excess kurtosis of local currency bonds have been more muted at -0.95 and 3.38. This compares to High Yield Bonds which exhibited skewness and excess kurtosis of -1.44 and 9.10 over the same period.
- The fat tails can be directly related to the asset class exhibiting two historical drawdowns of over 25% (1994 and 1998). Double-digit (positive and negative) monthly returns are not rare either. However, it is important to note that Emerging Market Bond fat tails are diversifying to those of other asset classes (i.e., 2000 - 2002 and 2007 - 2009).

### Skewness & Kurtosis

	Cash	TIPS	US Bonds	Int'l Bond	HY Bond	EM Bonds	Large Cap US	Mid Cap US	Small Cap US	REITs	Int'l Equity	Em. Mkts. Equity	Commodity Futures	Hedge Fund Portfolio	Private Equity	MLPs	Muni (3-7)
Skew	-	-0.86	-0.39	0.07	-1.23	-2.33	-0.56	-0.70	-0.43	-0.69	-0.63	-0.77	-0.95	-0.66	-0.43	-0.46	-0.36
Kurt	-	5.54	1.29	0.40	8.72	13.67	0.64	1.70	0.67	7.05	1.14	1.58	4.14	3.71	0.67	2.11	1.00

### Historical Correlations

	Cash	TIPS	Muni Bond	US Bond	For. Dev. Bond	HY Bond	EM Bond	LC US Equity	MC US Equity	SC US Equity	REITs	Int'l Equity	EM Equity	Commod. Fut.	HF's Portfolio	MLPs	Private Equity
Cash	<b>1.00</b>	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
TIPS	0.00	<b>1.00</b>	0.54	0.74	0.55	0.28	0.30	0.03	0.07	0.00	0.19	0.09	0.11	0.56	0.10	0.10	0.00
Muni Bond	0.00	0.54	<b>1.00</b>	0.72	0.45	0.20	0.20	0.09	0.09	0.03	0.10	0.08	0.00	0.05	0.09	<b>0.19</b>	0.03
US Bond	0.00	0.74	0.72	<b>1.00</b>	0.51	0.27	0.29	0.22	0.21	0.12	0.19	0.16	0.00	0.32	0.07	0.12	0.12
For. Dev. Bond	0.00	0.55	0.45	0.51	<b>1.00</b>	0.09	0.24	0.04	0.00	-0.04	0.06	0.40	0.07	0.25	-0.01	0.04	-0.04
HY Bond	0.00	0.28	0.20	0.27	0.09	<b>1.00</b>	0.53	0.58	0.65	0.61	0.62	0.52	0.56	0.28	0.48	0.54	0.61
EM Bond	0.00	0.30	0.20	0.29	0.24	0.53	<b>1.00</b>	0.59	0.60	0.57	0.47	0.59	0.73	0.40	0.59	0.33	0.57
LC US Equity	0.00	0.03	0.09	0.22	0.04	0.58	0.59	<b>1.00</b>	0.94	0.83	0.62	0.66	0.67	0.26	0.53	0.36	0.83
MC US Equity	0.00	0.07	0.09	0.21	0.00	0.65	0.60	0.94	<b>1.00</b>	0.94	0.71	0.64	0.70	0.28	0.59	0.42	0.94
SC US Equity	0.00	0.00	0.03	0.12	-0.04	0.61	0.57	0.83	0.94	<b>1.00</b>	0.72	0.59	0.68	0.23	0.57	0.39	1.00
REITs	0.00	0.19	0.10	0.19	0.06	0.62	0.47	0.62	0.71	0.72	<b>1.00</b>	0.50	0.47	0.26	0.30	0.34	0.72
Int'l Equity	0.00	0.09	0.08	0.16	0.40	0.52	0.59	0.66	0.64	0.59	0.50	<b>1.00</b>	0.69	0.31	0.53	0.36	0.59
EM Equity	0.00	0.11	0.00	0.00	0.07	0.56	0.73	0.67	0.70	0.68	0.47	0.69	<b>1.00</b>	0.31	0.66	0.38	0.68
Commod. Fut.	0.00	0.56	0.05	0.32	0.25	0.28	0.40	0.26	0.28	0.23	0.26	0.31	0.31	<b>1.00</b>	0.41	0.30	0.23
HF's Portfolio	0.00	0.10	0.09	0.07	-0.01	0.48	0.59	0.53	0.59	0.57	0.30	0.53	0.66	0.41	<b>1.00</b>	0.32	0.57
MLPs	0.00	0.10	0.19	0.12	0.04	0.54	0.33	0.36	0.42	0.39	0.34	0.36	0.38	0.30	0.32	<b>1.00</b>	0.39
Private Equity	0.00	0.00	0.03	0.12	-0.04	0.61	0.57	0.83	0.94	1.00	0.72	0.59	0.68	0.23	0.57	0.39	<b>1.00</b>

### Ways to Invest

- Foreign Developed, Core Plus and/or Hedge Fund managers allocate to Emerging Market Bonds opportunistically.
- Strategically allocate to Emerging Market Bonds with a strict bias to local currency.

### Summary

- Benefits:
  - ✓ Higher return potential through yield premium to most developed markets.
  - ✓ Diversifying return stream, especially during other asset classes' extreme events.
  - ✓ Direct exposure to growth, social development, and currency appreciation of emerging market economies, which are in a better long-term position compared to most developed countries.
- Concerns:
  - ✓ Volatile asset class (on par with U.S. Equities) driven in large part by currency oscillation and exacerbated by extraordinary fat tails.
  - ✓ Elevated currency, fiscal and geopolitical policy risks, including emerging market contagion.

### Conclusion

Emerging Market bonds can serve a key purpose within a diversified portfolio. Many institutional and individual investors have ambitious spending requirements. While emerging market bonds have unique risks, they can improve overall risk-adjusted performance.

If you would like more information about investing in emerging market bonds, ask your DiMeo Schneider & Associates, L.L.C.'s investment consultant or visit our [Research & Resource Center](#) at [www.dimeoschneider.com](http://www.dimeoschneider.com) for a copy of our comprehensive paper: [Emerging Market Bonds: An Asset Class Primer](#).

<sup>i</sup> JP Morgan, *EM Debt as an Asset Class*, January 2004; JP Morgan DataQuery. PineBridge Investments, *The Rise and Rise of Emerging Market Debt*, January 2011.

<sup>ii</sup> *The World Factbook*.

<sup>iii</sup> Standish and JPMorgan. *Market Cap weighted averages for countries in the JPMorgan GBI-EM Global Diversified Index*.

<sup>iv</sup> Standish and JPMorgan. *Market Cap weighted averages for countries in the JPMorgan GBI-EM Global Diversified Index*.