

RETHINKING EMERGING MARKETS

Advisors May Need a New Framework for Allocations in Emerging Markets

By Peter Marber, PhD

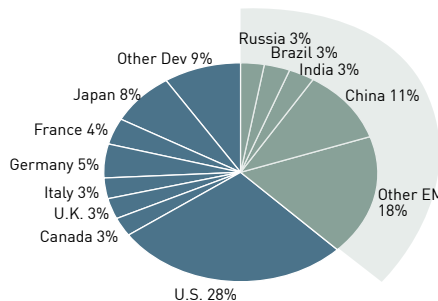
The macro case for investing in emerging markets (EM) from Asia, Africa, Latin America, the Middle East, and the former Soviet Union always has been strong: These countries comprise some 85 percent of the world's population and a growing percentage of the world's economic activity and financial assets. As figure 1 notes, EM countries reflect 38 percent of global gross domestic product (GDP), but this is set to grow to 60 percent by 2035. Moreover, the EM labor force is expected to double to 5 billion people through 2035; developed market (DM) countries will experience a small decrease, to less than 1 billion in the labor force, as their citizens live longer and have lower birth rates.

In the face of growing EM importance, most institutions and individual investors remain conspicuously underweight in EM assets. EM stocks and bonds combined represent some 25 percent of global financial markets according to McKinsey Global Institute (up from 7 percent in 2000), but less than 10 percent in popular investment benchmarks (see Lund et al. 2013). This may be a missed opportunity. EM countries are part of the most powerful megatrend of our time: globalization, the worldwide movement toward greater economic, financial, and social integration. They also have generated higher returns in U.S.-dollar terms than their DM equivalents in both equities and fixed income and have offered some diversification benefits to portfolios (see table 1).¹

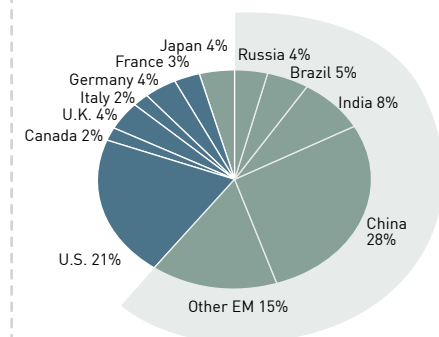
Figure 1

CHANGING COMPLEXION OF GLOBAL GROSS DOMESTIC PRODUCT, 2017–2035E

2017 Estimate (E)
EM 38% of World Economy



2035 Estimate (E)
EM 60% of World Economy



Source: World Bank

But with 100+ countries offering credit, currency, and equity opportunities—with varying population sizes and socio-economic maturation—how should an investor think about building EM exposure?

DEFINITIONAL DEFICITS

One of the most basic barriers to EM investment may be an overly simplistic definition of what constitutes “emerging markets.” The term, coined by the World Bank’s Antoine van Agtmael in 1989, is tied to countries’ wealth as determined by per capita national income figures. As of July 2017, the World Bank classifies economies as “high-income” (gross national income per capita of \$12,235 or more), “middle-income” (gross national

income per capita between \$1,006 and \$12,235), and “low-income” (gross national income per capita of \$1,005 or less). Countries qualify as EM when they are tagged as having a “low-income” or “middle-income” by the World Bank for at least one of the past three years, based on data lagged one year.² Although these definitions provide useful reference points and will be used in this article, they remain mono-dimensional, blunt tools that reveal limited information for investment allocation in an age of abundant data. EM indexes lump together some of the fastest-growing, best-managed economies in the world with some of the worst. Why shouldn’t investors separate and categorize them better for portfolio allocations?

Table
1

EMERGING MARKET VS. DEVELOPED MARKET ASSET CLASSES
CORRELATION OF MONTHLY RETURNS, JANUARY 2007–DECEMBER 2016

	EM USD Sov	EM Local Sov	EM USD Corp	EM HY Corp	EM USD IG Sov	EM Equity	Global Agg	U.S. Agg	U.S. HY Corp	U.S. Equity
EM USD Sov	–									
EM Local Sov	0.81	–								
EM USD Corp	0.93	0.73	–							
EM HY Corp	0.89	0.73	0.97	–						
EM USD IG Sov	0.97	0.79	0.85	0.78	–					
EM Equity	0.72	0.82	0.72	0.78	0.63	–				
Global Agg	0.66	0.72	0.55	0.47	0.73	0.48	–			
U.S. Agg	0.60	0.44	0.51	0.35	0.72	0.18	0.74	–		
U.S. HY Corp	0.77	0.65	0.78	0.86	0.57	0.76	0.37	0.23	–	
U.S. Equity	0.58	0.62	0.61	0.67	0.48	0.78	0.29	0.02	0.73	–

Source: J.P. Morgan, BofA Merrill Lynch, and Morningstar as of December 31, 2016. EM USD Sovereign represented by J.P. Morgan EMBI Global Diversified Index. EM Local Sovereign represented by J.P. Morgan GBI-EM Global Diversified. EM USD Corporate represented by J.P. Morgan CEMBI Broad Diversified. EM HY represented by BofA Merrill Lynch Diversified High Yield US Emerging Markets Corporate Plus Index. EM USD IG Sov represented by the J.P. Morgan EMBI Global Diversified IG Index. EM Equity represented by MSCI Emerging Markets NR Index. US HY Corporate represented by the Bloomberg Barclays US Corporate High Yield Bond Index. Global Aggregate represented by Bloomberg Barclays Global Aggregate Bond Index. US Aggregate represented by the Bloomberg Barclays US Aggregate Bond Index. US Equity represented by the S&P 500 Index.

HOME BIAS AND RECENT MEMORIES

Part of investors’ underweight position in EM assets is a dominant “home country bias,” a common worldwide phenomenon that tends to limit cross-border allocations (Coval and Moskowitz 1999; Cooper and Kaplanis 1991). Some suggest this bias is rooted in cognitive anchoring, our entrenched mental perceptions that may not change in the face of new information (Tversky and Kahneman 1974).

These perceptions are not wholly unwarranted. As figure 2 highlights, for most of human history economies were largely national: cross-border trade constituted perhaps 2-5 percent of all global economic activity. After surging to 20-30 percent in the late 19th century following the Industrial Revolution, international trade fell to less than 10 percent by the end of World War II and languished for decades. The postwar period offered little optimism about the future of what was frequently called the “Third World.” From the late 1940s through the 1970s, many of the countries that were viewed as less-developed or backward experienced political, social, and economic chaos brought on by famine, overpopulation crises, and

military dictatorships. Most were closed off from trade, relying on a mix of import substitution and high tariffs to protect inefficient state-owned enterprises that employed large portions of their populations. Productivity suffered and fell behind the “First World.” It would not have been a mistake to believe that EM countries occupied the periphery of global affairs, with advanced countries at the core.

Even by the early 1980s, the prospect of the Soviet Union or Communist China integrating economically with the West, or of strongman regimes in Latin America or Asia abandoning central planning, seemed farfetched. The possibility of these countries making meaningful socioeconomic progress and attaining Western standards of living appeared utterly unrealistic.

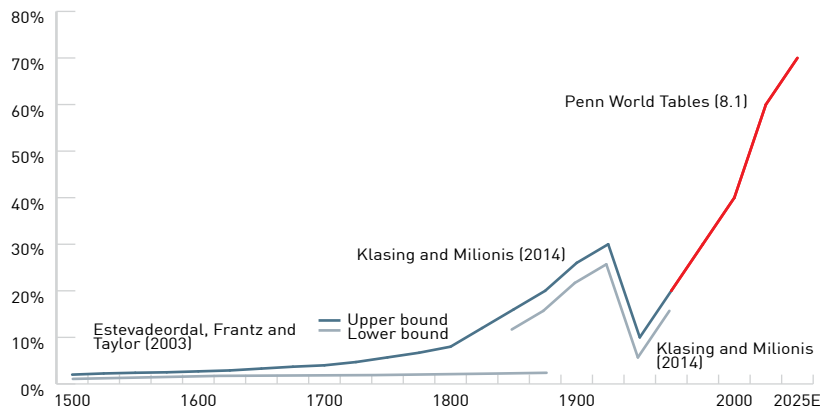
Yet the forces of globalization already were at work, and a decade later all began to change. The Soviet Union splintered back into more than a dozen nations, China pivoted toward a market economy, and dozens of smaller developing countries structurally reformed to join the global trade system.³ But economic and financial success was not immediate. For much of the 1990s,

many Latin American and Asian economies struggled with the right policy mix, with some falling victim to various currency and credit crises—mostly linked to pegged exchange regimes.

Most developing countries bounced back from their respective crises. By adopting floating exchange rates, enhancing fiscal discipline, reducing reliance on foreign borrowing, and building out local financial markets, many of the largest EM nations reduced their vulnerability to external macro shocks. Over the past two to three decades, these structural reforms have been largely successful. The World Trade Organization was formed, global supply chains have expanded, and trade has exploded as more countries, workers, consumers, and investors have grafted onto the global economy and capital markets. As of 2018, cross-border trade comprises more than 60 percent of global economic activity—a record high, and twice the percentage in 1975. Furthermore, World Bank data now shows EM countries are net creditors in the world versus debtors at the end of the 20th century.

Investors need to examine whether their perceptions of EM countries are vestiges

Figure 2 CROSS-BORDER TRADE AS A PERCENTAGE OF GLOBAL ECONOMIC ACTIVITY, 1500-2025E



Data sources: Klasing and Milionis (2014), Estevadeordal, Frantz, and Taylor (2003), and the Penn World Tables Version 8.1. The interactive data visualization is available at OurWorldinData.org; there you find the raw data and more visualizations on this topic. Licensed under CC-BY-SA by the author Max Roser.

of the past or reflect current realities. It is heartening to note the demonstrated resiliency of countries traditionally thought of as EM in the face of the global financial crisis of 2008 and the more recent collapse of commodity prices. Amid these significant global challenges, many EM central banks swiftly insulated their economies without depleting reserves, and policymakers from Asia to Latin America demonstrated world-class management.

FASTER EMERGING MARKETS GROWTH

The result of EM reforms since the late 20th century is faster growth in what might be called the “great economic catch-up.” Lower-income countries operating within an efficient market framework are closing socioeconomic and productivity gaps with higher income countries in what Nobel-winning economist Robert Barro calls “conditional convergence.” Poorer nations can enhance their economic growth rates with better education and health policies that lead to longer life expectancy, lower fertility rates, improved rule of law, lower inflation, and improvements in productivity and trade. The lower the GDP a country has, generally speaking, the higher the growth rate potential (Barro 1996). As figure 3 notes, this has certainly been the case for the past few decades as EM countries have outpaced the growth of wealthier DM. Indeed, EM nations now represent some 38 percent of global GDP based on market exchange rates but more than 50 percent based on purchasing power parity (Cheung 2009), as discussed below (see figure 4).

THE IMPORTANCE OF PURCHASING POWER PARITY

International financial institutions such as the World Bank produce a wide range of regional and global economic statistics that are invaluable for investors. But these figures may present a flawed picture of global wealth because they are computed in U.S. dollars based on year-end market prevailing exchange rates.

Figure 3 EFFICIENT FRONTIER FOR GLOBAL EQUITIES, 1970-2016

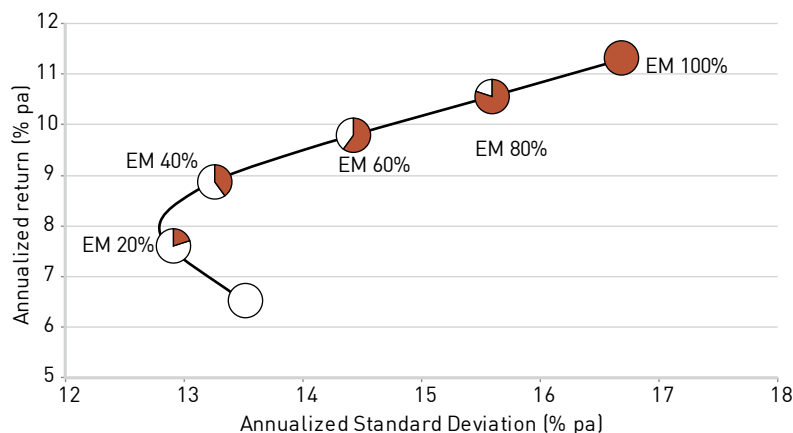
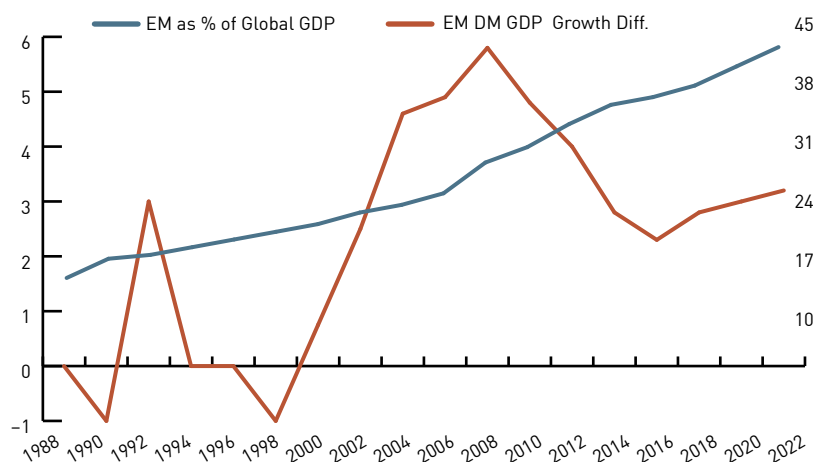


Figure 4 EMERGING MARKET GROWTH OUTPACING DEVELOPED MARKETS, 1988-2022E



This should immediately raise red flags—every investor knows that exchange rates can fluctuate wildly from year to year. This can dramatically distort a country’s economic size and socioeconomic statistics.

One methodology to overcome such distortions is purchasing power parity (PPP), the exchange rate at which the currency of one country would have to be converted into that of another country to buy an equal amount of goods and services in each country. Many investors have been exposed to the PPP through *The Economist* magazine’s “Big Mac” index, which calculates PPP exchange rates based on the McDonald’s burger that sells in nearly identical form around the world. If a Big Mac costs €4 in Paris and \$4 in New York, this would imply a PPP exchange rate of 1 euro per 1 U.S. dollar (USD). However, if the prevailing market exchange rate is 1.25 euros per 1 USD, PPP would suggest the euro is undervalued (or the USD is overvalued).

Based on market exchange rates noted in the appendix, most countries are “emerging” by World Bank definitions. But on a PPP basis, they have currencies whose market rates look undervalued. Simply put, a country’s economic activity based on USD exchange rates may be understated because a USD exchanged at a market rate tends to buy more in most EM countries versus developed countries. Anyone who has travelled to an EM country has probably experienced PPP: A restaurant meal or taxi ride in Guatemala City is much cheaper than in San Francisco or London, and the price of a haircut in Manila is likely to be less costly than in New York. Because wages tend to be lower in poorer EM countries, labor-intensive services in these countries may be especially inexpensive compared to higher-income countries. Investors who fail to acknowledge PPP undoubtedly will underestimate the economic activity and purchasing power of consumers in EM—or overestimate it in DM.

Table 2

THE WORLD’S LARGEST ECONOMIES (BASED ON PPP), 1820–2050E

1820	1870	1950	2015	2050E
China 33%	China 17.2%	U.S. 27.3%	China 16.8%	China 28.1%
India 16%	India 12.2%	U.S.S.R. 9.6%	U.S. 16.1%	India 21.9%
France 5.5%	U.K. 9.1%	U.K. 6.7%	India 7.1%	U.S. 21.7%
Russia 5.4%	U.S. 8.9%	Germany 6.5%	Japan 4.3%	Indonesia 5.5%
U.K. 5.2%	Russia 7.6%	China 5.0%	Germany 3.4%	Brazil 4.4%

Source: Bloomberg, PwC, author’s estimates

Consequently, PPP can be a more useful lens than GDP when comparing countries’ socioeconomic levels and thinking about long-term investment allocations. When comparing advanced economies, market and PPP rates tend to be fairly close. But the difference in USD market-based exchange rates and PPP rates widens significantly when comparing DM and EM countries or when comparing different EM countries. The percentage of the world economy that China and India comprise, for example, is far greater using PPP versus market-based weights. As table 2 illustrates, China has regained its position as the world’s largest economy on a PPP basis, one it has held for 18 of the past 20 centuries. China’s economy is comparable in size to that of the United States or the European Union. And in the coming decades four of the world’s five largest economies will be EM countries. In short, using economic statistics based solely on USD market exchange rates may contribute to investors being structurally underexposed to EM financial assets.

INVESTMENT INDEXES OBFUSCATE OPPORTUNITIES

In addition to entrenched memories of past EM troubles and flawed economic statistics, investor perceptions of EM also have been distorted by various index providers that use contrasting methodologies. For example, many popular index creators for EM credit and currencies have idiosyncratic philosophies in sharp contrast to developed market indexes. They often combine investment grade, high yield, and even distressed countries in the same index. As such, bond and currency investors

following such benchmarks often mix very risky countries with stable ones versus separating them like most traditional developed market indexes. Investors who require “investment grade” opportunities often feel these indexes are too risky and junk bond investors feel the benchmarks lack yield. Such distinctions have been made in DM indexes—why not in EM?

In addition, EM investment indexes often have very different country mixes based on market capitalizations of assets. Hard currency sovereign bond indexes, for example, have less than 5 percent combined China and India exposure because those countries borrow little in hard currency—a sound macroeconomic policy. Yet those two countries are (and will continue to be) among the largest EM economies—larger than all others combined. Local currency indexes, too, offer little China and India exposure because of those countries’ currency convertibility limitations—even though they are among the largest local bond markets in the world. Following such indexes creates inadvertent structural country underweights and overweights versus economic size, and these misallocations may grow over time.

EM equity benchmarks also obfuscate opportunities. Certain countries such as South Korea and Taiwan constitute 25 percent of popular EM stock indexes—even though both countries have per capita income figures well in excess of the World Bank’s threshold for EM.

China’s size actually raises an even bigger question. The country’s economy is

to economic statistics, what data are available to identify EM opportunities they might otherwise miss? Sovereign credit ratings are a good starting point.

Three decades ago, fewer than 10 countries—all with high income—had sovereign ratings. But today, more than 125 countries (and thousands of companies) are rated by the three major credit agencies—Moody’s, Standard & Poor’s, and Fitch. Credit ratings normally are linked to default analysis, but they also offer a wealth of reliable research and information and provide an elegant framework to analyze countries for both debt and equity investing. As Moody’s methodology shows in table 3, sovereign credit ratings are quantitative and qualitative algorithms reflecting dozens of socioeconomic data points.

Moody’s, Standard & Poor’s, and Fitch sovereign ratings are the most followed, although the list of new rating agencies, such as Kroll and Dagong from China, is growing. Table 3 shows Moody’s methodology, but studies have shown that several critical factors are common to most credit ratings including: (1) economic growth rates, which allows a country to service debt more easily through higher tax collection and greater liquidity; (2) per capita growth, a country wealth indicator, in which a larger tax base increases a government’s ability to repay debt, and also can serve as a proxy for a country’s political stability; (3) inflation, which signals sound fiscal and monetary policy, which in turn promotes greater economic stability and

greater predictability; and (4) total external debt, which can be a problem if it becomes unmanageable (Cantor and Packer 1996).

Good credit ratings reflect and lead to a virtuous circle of economic development: Better sovereign ratings can reduce inflation risk, ensure political stability, and make it cheaper to borrow money when needed. As a result, countries can attract more capital and grow their economies, all in a self-reinforcing, positive progression.

Moreover, sovereign credit ratings help a country’s corporations in their quest to grow and prosper. One feature of most ratings agencies’ sovereign methodology is the “country ceiling” philosophy, one in which no corporation can have a higher rating than its government, regardless of its own financial condition. The country ceiling theoretically captures the risk of capital or exchange controls that could prevent a private company’s ability to access foreign currency to pay external creditors. The better the sovereign rating, therefore, the better access to global capital that country’s companies will have. Studies show that an investment-grade sovereign rating reduces borrowing costs and also increases the potential investor base for that country’s stocks and bonds (Jaramillo and Tejada 2011).

The unintended consequences of the sovereign ceiling and blended investment-grade/high-yield index assets may be the source of an

interesting EM investment anomaly. As table 4 illustrates, EM companies in the same credit rating categories effectively offer 50–80 percent more risk premium than their DM equivalents—often with less duration risk. According to data from JP Morgan, this anomaly has been around for nearly 20 years, perhaps due to sovereign ceilings and blended indexes leading to weak price discovery in bond markets.

The 2000s have seen largely positive credit migration by EM countries, with dozens achieving investment-grade status and paving the way for trillions in debt and equity market development around the world. Although some larger economies have lost investment-grade status as commodity prices have collapsed—notably Russia and Brazil—there are many investment-grade EM, as noted in the appendix.

As a starting point for investing overseas—whether in developed or emerging countries—sovereign credit ratings frame the broad risks for allocating capital. It seems intuitive that investors should compare and cluster countries based on this factor. Why shouldn’t investors consider allocating equal amounts of capital to assets from Mexico and Spain, given they’re both rated BBB+? Why shouldn’t investors think more about South Korea (rated AA) or Taiwan (AA-) than Japan (A+)? Looking at the appendix, most investors might start analyzing countries individually versus broadly grouping them together along outdated definitions.

Table 4

DEVELOPED VS. EMERGING MARKET HARD CURRENCY CORPORATE CREDIT COMPARISON

	Duration US Corp (years)	Duration EM Corp (years)	YTM US Corp (%)	YTM EM Corp (%)	Spread US Corp (BPS)	Spread EM Corp (BPS)	Number of US Corp Issuers	Number of Issuers EM Corp
A	7.6	5.2	2.9	3.7	79	153	312	86
BBB	7.4	5.7	3.4	4.3	126	202	608	205
BB	4.3	4.3	4.4	5.2	203	303	329	156
B	3.4	4.1	6.0	6.5	339	444	440	106
CCC	2.9	3.3	9.2	11.7	629	963	255	17

Sources: JP Morgan; Bloomberg Barclays. EM Corporate universe represented by JP Morgan Corporate Emerging Market Bond Index Broad Diversified. US Credit universe represented by Bloomberg Barclays Corporate Credit Index ex EM holdings, Bloomberg Barclays High Yield Index ex EM holdings. Data as of September 30, 2017.

OTHER DATA FOR COUNTRY ALLOCATION

Credit ratings provide a sound basis for country allocations, but they are not everything. Each investor may need to perform a unique multifactor analysis—perhaps starting with sovereign ratings—based on their own risk tolerances and reward objectives. In today’s data-rich environment, a wealth of information is available for sophisticated analysis of EM opportunities.

For example, does it make sense to allocate the same amount of capital to Chile with an A+ rating as it does to China, which is also rated A+? Not really. With a population of only 17 million, Chile is less than 2 percent of China’s 1.3-billion population. And population size does matter: over time, it essentially determines how large an economy will be, how large financial markets will be, and possibly per capita wealth.

However, countries with similar populations actually may have extremely different economies. Chile, the Netherlands, Guatemala, and Burkina Faso all have roughly the same populations at 17 million. Yet Chile’s credit rating is A+ and its annual GDP is about \$247 billion (\$429 billion on a PPP basis); the Netherlands is rated AAA and has GDP of \$770 billion (\$866 billion on a PPP basis); Guatemala is rated BB with a GDP of \$69 billion (\$131 billion on a PPP basis); and Burkina Faso is rated only B-, with only a \$12 billion economy (\$32 billion on a PPP basis)—a fraction of the Netherlands output. So population size is only one factor to be considered in asset allocation.

A nation’s population composition is also important for global investing because age structure provides indications of country growth potential. In this regard, median age is often revealing: It is a single statistic that summarizes the age distribution of a population—half the people are younger than the median, and half are older. For the countries cited above, there are huge age gaps:

The Netherlands’ median age is 42, Chile’s is 34, Guatemala’s 21, and Burkina Faso’s only 17. Development scholars have noted how higher fertility rates often have led to a “demographic dividend” as age structures mature and a larger share of the population enters the workforce (Bloom et al. 2003). Economic growth may be enhanced as the proportion of youth and working-age adult populations rise compared to the proportion of dependents—children age 0-14 and adults age 65+.

Lower median age alone, however, is not a guarantee of growth and not all young countries can convert their populations into productive workforces. Economies can only reap the benefits of the demographic dividend if they have (1) prepared populations with sound human capital policies in health, education, training; and (2) built a well-functioning labor market. As a result, investors might also examine a country’s Human Development Index (HDI) to qualify its economic potential. HDI is a composite statistic of life expectancy, education, and per capita income, established in 1990 by the United Nations Development Program. A higher HDI score denotes longer lifespan, higher educational levels, and higher income—reflecting a variety of national policies that provides insights into a country’s human capital and economic potential.

LOOKING FORWARD, NOT BACKWARD

Many emerging countries have closed socioeconomic gaps and converged with developed ones, and it is now difficult to determine where emerging ends and developed begins. Historic assumptions and monikers are unreliable guides. Fortunately, global investors now have many more tools than a basic World Bank classification of EM or an index provider’s idiosyncratic definition to make allocation decisions.

A country’s credit rating may act as a starting point for investors to begin their homework. The granularity of most

credit-rating systems allows investors to better compare countries relative to their macro risks and socioeconomic maturation. With just a few extra data points—such as population size, PPP, HDI, and median age—investors may be surprised what they see when thinking about asset allocations.

How should investors use this data? That will certainly depend on the investor and its respective objectives and constraints. For rating-regulated bond investors such as banks and insurance companies—credit ratings can be used for better capital optimization rather than an EM or DM label. Individual investors, too, might think about bond allocations based on credit ratings versus simply buying index-hugging products that combine high-yield and investment-grade countries. For equities, the growing ability to buy countries individually through exchange-traded funds or indexes now allows greater customization of stock exposure than ever before.

If investors analyzed countries with a dashboard of a few socioeconomic indicators—versus outdated classifications and market capitalization indexes—returns potentially could be enhanced worldwide. Dozens of indicators in addition to or instead of those mentioned here also could be used, and most would tell the same story: EM countries have largely improved and converged with many DM nations and they deserve larger allocations than most investors have made in the past. Armed with data and a fresh perspective, investors can personalize exposures and perhaps find their Holy Grail: adding diversified assets to their home-biased portfolios while reducing portfolio risk. ●

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already the world's largest (based on PPP), and it is roughly the size of all other EM economies put together minus India. Its banks and technology companies such as Alibaba are among the world's most valuable based on market capitalization. China is already 25 percent of the EM equity index (and would be even more if not limited by

certain methodologies), but if Taiwan and South Korea were eliminated, China would begin to dwarf all other EM index countries. To some extent, it might be wiser for investors to begin contemplating a China-specific investment allocation—the way many investors began making separate allocations for Japan when it emerged in the late 1980s

as one of the world's largest economies—because China is woefully misrepresented in virtually all indexes.

CREDIT RATINGS: BASIS FOR MORE INFORMATIVE ANALYSIS

Once investors educate themselves to reduce bias against EM, look critically at indexes, and consider PPP adjustments

Table 3

MOODY'S SOVEREIGN RATINGS METHODOLOGY

Broad Rating Factors	Rating Sub-Factor	Weighting (Towards Factor)	Sub-Factor Indicator
Factor 1: Economic Strength	Growth Dynamics	50%	Average Real GDP growth
			Volatility in Real GDP Growth
			WEF Global Competitiveness Index
	Scale of Economy	25%	Nominal GDP (US\$)
	National Income	25%	GDP per capita (PPP, US\$)
Factor 2: Institutional Strength	Institutional Framework and Effectiveness	75%	Diversification
			Credit Boom
			World Bank Government Effectiveness Index
	Policy Credibility and Effectiveness	25%	World Bank Rule of Law Index
			World Bank Control of Corruption Index
	Adjustment Factor	1-6 scores	Inflation Level
Factor 3: Fiscal Strength	Debt Burden	50%	Inflation Volatility
			Track Record of Default
	Debt Affordability	50%	General Government Debt/GDP
			General Government Debt/Revenues
	Adjustment Factors	1-6 scores	General Government Interest Payments/Revenue
			General Government Debt/GDP
			Debt Trend
Factor 4: Susceptibility to Event Risk	Political Risk	Max. Function	General Government Foreign Currency Debt/General Government Debt
			Other Public Sector Debt
	Government Liquidity Risk	Max. Function	Public Sector Financial Assets or Sovereign Wealth Funds/GDP
			Domestic Political Risk
	Banking Sector Risk	Max. Function	Geopolitical Risk
			Fundamental Risk
			Market Funding Stress
	External Vulnerability Risk	Max. Function	Strength of Banking System
Size of Banking Size			
Funding Vulnerabilities			
			(Current Account Balances + FDI)/GDP
			External Vulnerability Indicator (EVI)
			Net International Investment Position/GDP

ENDNOTES

- Any return data is dependent on time periods examined. For bond and currency investing, one can compare JP Morgan's Emerging Market Bond and Global Bond Indices, as well as the Bloomberg Barclays family of indexes, to see the outperformance since the early 1990s. For global equities, MSCI's datasets are considered the most comprehensive for comparison. However, as this article highlights, these returns are based on a variety of index definitions and methodologies that are imprecise, frequently altered, and often unique.
- For the World Bank's most recent communiqué, see <https://blogs.worldbank.org/opendata/new-country-classifications-income-level-2017-2018>.
- For comprehensive analyses of global statist to market transitions, see Marber (1999), Friedman (2000), and Yergin and Stanislaw (2002).

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APPENDIX
SELECT COUNTRY INDICATORSTable
A1

Country	Credit Rating*	Population	GDP (millions USD)	GDP per capita (current USD)	GDP, PPP (millions USD)	GDP per capita, PPP (in USD)	UN HDI Rank**	Median Age
Australia	AAA	24,127,159	1,204,616.44	49,927.82	1,128,908.01	46,789.93	2	37.4
Canada	AAA	36,286,425	1,529,760.49	42,157.93	1,597,516.52	44,025.18	10	40.5
Denmark	AAA	5,731,118	306,142.94	53,417.66	284,813.45	49,695.97	5	41.6
Germany	AAA	82,667,685	3,466,756.88	41,936.06	4,028,362.43	48,729.59	4	45.9
Luxembourg	AAA	582,972	59,947.78	102,831.32	61,726.10	105,881.76	20	39.3
Netherlands	AAA	17,018,408	770,845.05	45,294.78	866,204.44	50,898.09	7	42.1
Norway	AAA	5,232,929	370,556.67	70,812.48	310,321.43	59,301.67	1	39.2
Singapore	AAA	5,607,283	296,965.71	52,960.71	492,631.13	87,855.58	5	40.0
Sweden	AAA	9,903,122	510,999.80	51,599.87	486,984.68	49,174.86	14	40.9
Switzerland	AAA	8,372,098	659,827.24	78,812.65	526,449.75	62,881.46	2	42.2
Hong Kong	AA+	7,300,000	320,912.24	43,960.58	430,043.00	58,910.00	N.A.	43.2
Austria	AA+	8,747,358	386,427.79	44,176.52	438,048.73	50,077.83	24	43.2
Finland	AA+	5,495,096	236,785.05	43,090.25	236,578.87	43,052.73	23	42.5
United States	AA+	323,127,513	18,569,100.00	57,466.79	18,569,100.00	57,466.79	10	37.6
Abu Dhabi, UAE	AA	1,145,000	467,892.80	40,864.00	N.A.	N.A.	N.A.	N.A.
European Union	AA	511,497,415	16,397,979.82	32,058.77	20,270,384.62	39,629.50	N.A.	N.A.
France	AA	66,896,109	2,465,453.98	36,854.97	2,773,931.83	41,466.27	21	41.2
Kuwait	AA	4,052,584	114,041.21	28,158.32	N.A.	69,670.00	51	33.4
New Zealand	AA	4,692,700	185,017.32	39,426.62	183,290.73	39,058.69	13	37.3
South Korea	AA	51,250,000	1,637,000.00	31,941.46	1,848,587.50	36,070.00	18	34.0
United Kingdom	AA	65,637,239	2,618,885.69	39,899.39	2,796,731.83	42,608.92	16	40.2
Czech Republic	AA-	10,561,633	192,924.59	18,266.55	366,607.83	34,711.28	28	41.5
Estonia	AA-	1,316,481	23,136.74	17,574.69	38,658.10	29,364.72	30	41.6
Qatar	AA-	2,569,804	152,468.68	59,330.86	327,708.27	127,522.67	33	31.3
Taiwan	AA-	23,555,000	519,100.00	22,042.46	1,129,929.00	47,980.00	N.A.	39.6

*Credit ratings supplied by Standard & Poors as of 4Q 2017.

**UN HDI, latest data available as of 4Q 2017.

SELECT COUNTRY INDICATORS, CONTINUED

Country	Credit Rating*	Population	GDP (millions USD)	GDP per capita (current USD)	GDP, PPP (millions USD)	GDP per capita, PPP (in USD)	UN HDI Rank**	Median Age
Chile	A+	17,909,754	247,027.90	13,792.93	429,122.52	23,960.27	38	33.7
China	A+	1,378,665,000	11,199,145.16	8,123.18	21,417,149.86	15,534.70	90	37.0
Ireland	A+	4,773,095	294,053.60	61,606.48	328,784.52	68,882.88	8	36.9
Israel	A+	8,547,100	318,743.69	37,292.61	323,946.60	37,901.35	19	30.2
Japan	A+	126,994,511	4,939,383.91	38,894.47	5,266,443.92	41,469.85	17	46.3
Slovakia	A+	5,430,000	89.56	22,184.46	119.11	29,506.00	40	39.2
Slovenia	A+	2,064,845	43,990.64	21,304.57	67,901.48	32,884.54	25	43.0
Iceland	A	334,252	20,047.41	59,976.94	17,180.19	51,398.93	9	36.0
Botswana	A-	2,250,260	15,274.86	6,788.04	37,657.77	16,734.85	108	24.4
Latvia	A-	1,960,424	27,677.39	14,118.06	51,031.81	26,031.00	44	42.5
Lithuania	A-	2,872,298	42,738.88	14,879.68	86,071.65	29,966.13	37	42.7
Malaysia	A-	31,187,265	296,359.12	9,502.57	863,287.47	27,680.77	59	27.7
Malta	A-	436,947	10,949.09	25,058.17	16,559.95	37,899.21	33	40.9
Saudi Arabia	A-	32,275,687	646,438.38	20,028.65	1,756,793.44	54,430.86	38	29.8
Trinidad and Tobago	A-	1,364,962	20,989.16	15,377.10	43,552.90	31,907.78	65	33.9
India	BBB+	1,324,171,354	2,263,522.52	1,709.39	8,702,900.01	6,572.34	131	26.7
Mexico	BBB+	127,540,423	1,045,998.07	8,201.31	2,278,072.03	17,861.57	77	27.5
Peru	BBB+	31,773,839	192,093.51	6,045.65	413,759.49	13,022.02	87	27.5
Poland	BBB+	37,948,016	469,508.68	12,372.42	1,055,353.93	27,810.52	36	39.7
Spain	BBB+	46,443,959	1,232,088.19	26,528.49	1,686,372.92	36,309.84	27	43.2
Thailand	BBB+	68,863,514	406,839.68	5,907.91	1,164,928.29	16,916.48	87	37.8
Colombia	BBB	48,653,419	282,462.55	5,805.61	688,817.30	14,157.63	95	30.1
Panama	BBB	4,034,119	55,187.70	13,680.24	92,844.00	23,014.69	60	28.4
Philippines	BBB	103,320,222	304,905.41	2,951.07	806,539.48	7,806.21	116	24.1
Uruguay	BBB	3,444,006	52,419.72	15,220.57	74,477.56	21,625.27	54	34.9
Hungary	BBB-	9,817,958	124,342.94	12,664.85	261,948.95	26,680.59	43	41.7
Indonesia	BBB-	261,115,456	932,259.18	3,570.29	3,032,090.01	11,612.07	113	28.0
Kazakhstan	BBB-	17,797,032	133,657.08	7,510.08	449,620.84	25,263.81	56	29.3
Morocco	BBB-	35,276,786	101,445.00	2,832.43	280,718.79	7,837.90	123	27.9
Portugal	BBB-	10,324,611	204,564.70	19,813.31	316,182.69	30,624.17	41	43.9
Romania	BBB-	19,705,301	186,690.60	9,474.13	465,564.79	23,626.37	50	41.3
Italy	BBB	60,600,590	1,849,970.46	30,527.27	2,312,559.33	38,160.67	26	45.9
Oman	BB+	4,424,762	66,293.37	14,982.36	165,286.98	37,355.00	52	29.0
South Africa	BB+	55,908,865	294,840.65	5,273.59	739,419.18	13,225.44	119	26.1
Azerbaijan	BB+	9,762,274	37,847.72	3,876.94	168,431.01	17,253.26	78	30.3
Bahamas	BB+	391,232	9,047.00	23,124.39	9,066.03	23,173.03	58	32.5
Bulgaria	BB+	7,127,822	52,395.16	7,350.80	136,847.56	19,199.07	56	43.5
Cyprus	BB+	1,170,125	19,801.66	23,324.20	27,659.90	32,580.35	33	34.9
Russia	BB+	144,342,396	1,283,162.35	8,748.36	3,397,368.44	23,162.63	49	38.7
Bolivia	BB	10,887,882	33,806.40	3,104.96	78,785.69	7,236.09	118	24.1
Brazil	BB	207,652,865	1,796,186.59	8,649.95	3,141,333.11	15,127.81	79	31.3
Croatia	BB	4,170,600	50,425.33	12,090.67	98,410.50	23,596.24	45	42.6
Guatemala	BB	16,582,469	68,763.26	4,146.74	131,777.09	7,946.77	125	21.3
Paraguay	BB	6,725,308	27,440.63	4,080.20	64,405.33	9,576.56	110	24.9
Turkey	BB	79,512,426	857,748.99	10,787.61	1,927,693.21	24,243.92	71	29.9

SELECT COUNTRY INDICATORS, CONTINUED

Country	Credit Rating*	Population	GDP (millions USD)	GDP per capita (current USD)	GDP, PPP (millions USD)	GDP per capita, PPP (in USD)	UN HDI Rank**	Median Age
Bahrain	BB-	1,425,171	31,858.51	22,354.17	63,357.40	44,456.00	47	31.2
Bangladesh	BB-	162,951,560	221,415.28	1,358.78	583,479.69	3,580.69	139	25.6
Costa Rica	BB-	4,857,274	57,435.51	11,824.64	80,699.18	16,614.09	66	31.4
Dominican Republic	BB-	10,648,791	71,583.55	6,722.22	161,956.54	15,208.91	99	26.1
Georgia	BB-	3,719,300	14,332.88	3,853.65	37,181.60	9,996.94	70	38.0
Jordan	BB-	9,455,802	38,654.73	4,087.94	85,575.69	9,050.07	86	22.1
Macedonia	BB-	2,081,206	10,899.58	5,237.15	31,470.44	15,121.25	82	37.4
Serbia	BB-	7,057,412	37,745.11	5,348.29	102,415.69	14,511.79	66	40.0
Vietnam	BB-	92,701,100	202,615.89	2,185.69	595,524.27	6,424.13		30.4
Albania	B+	2,876,101	11,926.89	4,146.90	34,307.68	11,928.54	75	36.2
Honduras	B+	9,112,867	21,516.92	2,361.16	43,177.49	4,738.08	130	23.0
Kenya	B+	48,461,567	70,529.01	1,455.36	152,941.82	3,155.94	146	19.0
Montenegro	B+	622,781	4,173.26	6,701.00	10,496.24	16,853.83	48	37.7
Nicaragua	B+	6,149,928	13,230.84	2,151.38	34,078.46	5,541.28	124	25.2
Papua New Guinea	B+	8,084,991	16,928.68	2,093.77	N.A.	N.A.	154	21.7
Senegal	B+	15,411,614	14,765.46	958.07	39,573.95	2,567.80	162	18.3
Sri Lanka	B+	21,203,000	81,321.88	3,835.39	261,139.63	12,316.16	73	32.3
Suriname	B+	558,368	3,620.70	6,484.43	7,898.87	14,146.34	97	28.4
Argentina	B+	43,847,430	545,866.16	12,449.22	874,071.00	19,934.37	45	30.8
Angola	B	28,813,463	89,633.16	3,110.81	187,260.63	6,499.07	150	16.4
Bosnia and Herzegovina	B	3,516,816	16,559.70	4,708.72	42,464.68	12,074.75	81	41.0
Cameroon	B	23,439,189	24,204.45	1,032.65	77,014.88	3,285.73	153	18.3
Ecuador	B	16,385,068	97,802.21	5,968.98	184,924.73	11,286.17	89	26.6
Ethiopia	B	102,403,196	72,374.25	706.76	177,661.17	1,734.92	174	18.6
Jamaica	B	2,881,355	14,027.15	4,868.25	25,456.25	8,834.82	94	29.4
Nigeria	B	185,989,640	405,082.68	2,177.99	1,091,227.63	5,867.14	152	17.9
Pakistan	B	193,203,476	283,659.98	1,468.19	1,014,180.70	5,249.29	147	22.5
Rwanda	B	11,917,508	8,376.05	702.84	22,802.98	1,913.40	159	19.4
Uganda	B	41,487,965	25,527.91	615.31	76,702.40	1,848.79	163	15.8
Zambia	B	16,591,390	19,551.09	1,178.39	65,076.99	3,922.34	139	17.1
Belarus	B-	9,507,120	47,433.44	4,989.25	171,702.51	18,060.41	52	39.6
Burkina Faso	B-	18,646,433	12,115.16	649.73	32,074.13	1,720.12	185	17.0
Congo, D. R.	B-	78,736,153	34,998.64	444.51	63,048.10	800.75	135	16.8
Congo, Republic	B-	5,125,821	7,833.51	1,528.24	29,313.49	5,718.79	176	18.9
Egypt	B-	95,688,681	336,296.92	3,514.49	1,065,179.27	11,131.72	111	24.7
El Salvador	B-	6,344,722	26,797.47	4,223.58	54,685.59	8,619.07	117	25.8
Ghana	B-	28,206,728	42,689.78	1,513.46	121,107.64	4,293.57	139	20.4
Greece	B-	10,746,740	194,558.65	18,103.97	287,830.20	26,783.02	29	43.3
Iraq	B-	37,202,572	171,489.00	4,609.60	645,594.06	17,353.48	121	19.4
Lebanon	B-	6,006,668	47,536.80	7,914.00	84,067.24	13,995.65	76	28.5
Mongolia	B-	3,027,398	11,160.36	3,686.45	36,995.99	12,220.39	92	27.1
Ukraine	B-	45,004,645	93,270.48	2,185.73	352,977.53	8,271.78	84	40.3
Barbados	CCC+	284,996	4,587.55	16,096.89	4,792.37	16,815.57	54	38.5
Venezuela	CCC	31,568,179	N.A.	N.A.	N.A.	N.A.	71	27.4
Belize	CC	366,954	1,765.26	4,810.57	3,100.04	8,448.04	103	23.5
Mozambique	D	28,829,476	11,014.86	382.07	35,088.68	1,217.11	181	17.2