Research

FTSE Russell

FTSE GDP Weighted Indexes

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GDP-weighted indexes

From time to time the weighting of certain countries within capitalisation-weighted equity indexes may diverge significantly from those countries' share of global GDP.

An example of a dramatic divergence between a country's global equity market footprint and its economic importance comes from late-1980s Japan. In 1989, according to the International Monetary Fund (IMF), Japan's share of world economic output, based upon a purchasing power parity (PPP) valuation of global currencies, was just under 10 percent.

But Japanese stocks reached a collective share of over 40 percent of the FTSE World Index during the same year, reflecting significantly higher stock company valuations at the time in Japan than in other global stock markets.

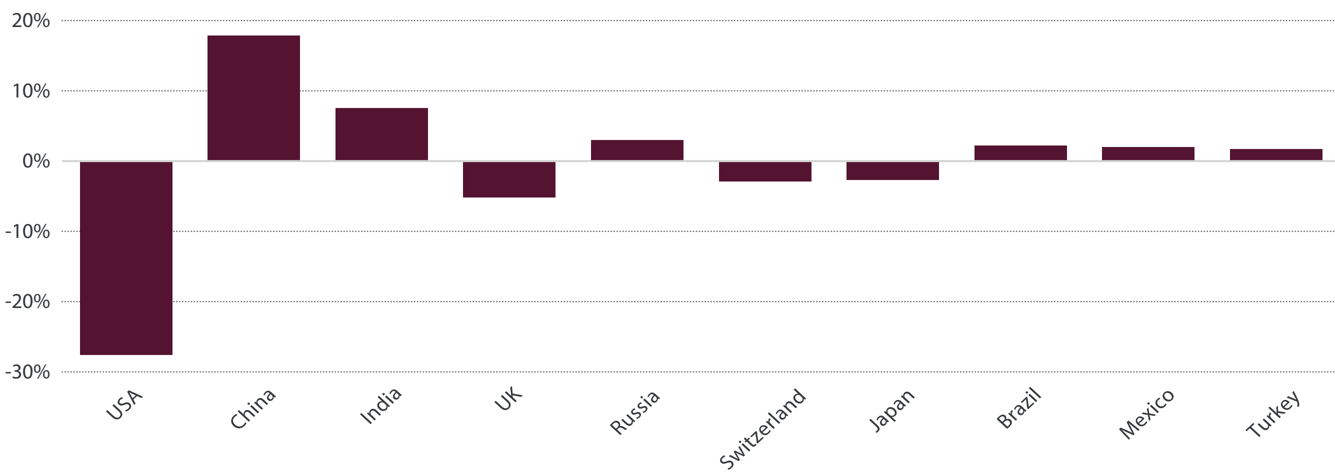
GDP-weighted equity indices break the link between country weightings and market size by setting country weightings in proportion to GDP, rather than the aggregate of individual companies' (and therefore countries') market capitalisations.

For example, FTSE's GDP Weighted indices use the IMF's five-year GDP forecasts, based upon PPP, as the basis for each country's share within a global or regional index. The FTSE All-World GDP Weighted Index includes developed and emerging segments.

Weighting differences

The difference between a GDP-weighted and a capitalisation-weighted approach can be seen in the bar chart below, which shows the top ten country weighting differences between the FTSE All-World GDP Weighted Index and the capitalisation-weighted FTSE All-World Index.

Top Ten Country Weighting Differences: FTSE All-World GDP Weighted vs. FTSE All-World



Source: FTSE, Data as at 30 June 2014

Significant changes result if the GDP-based weightings are applied to the starting set of countries within the FTSE All-World Index. The weightings of the US, UK, Switzerland and Japan fall by 27.58%, 5.17%, 2.86% and 2.68%, respectively, compared with the capitalisation-weighted versions.

The GDP-weighted approach allocates higher weightings to a number of emerging market countries, notably China (+17.83%), India (+7.53%), Russia (+3.00%) and Brazil (+2.20%).

Largest Country Weightings and Weighting Differences: FTSE All-World vs. FTSE All-World GDP Weighted

Country	FTSE All-World Index Weighting	FTSE All-World GDP Weighted Index Weighting	Weighting Difference
USA	48.29%	20.71%	-27.58%
China	1.88%	19.71%	17.83%
India	0.98%	8.51%	7.53%
UK	7.88%	2.72%	-5.17%
Russia	0.55%	3.55%	3.00%
Switzerland	3.28%	0.42%	-2.86%
Japan	8.02%	5.33%	-2.68%
Brazil	1.22%	3.42%	2.20%
Mexico	0.54%	2.49%	1.95%
Turkey	0.17%	1.90%	1.73%

Source: FTSE, Data as at 30 June 2014

Applying the GDP-weighted methodology only to the developed countries within the FTSE All-World Index (i.e., to the FTSE Developed Index) results in a reduction in weighting for the US, UK, Switzerland and Australia. Germany, Italy, Korea, Japan, Spain and France see their country weightings increase by a switch from a capitalisation-weighted to a GDP-weighted approach.

Largest Country Weightings and Weighting Differences: FTSE Developed vs. FTSE Developed GDP Weighted

Country	FTSE Developed Index Weighting	FTSE Developed GDP Weighted Index Weighting	Weighting Difference
USA	53.20%	42.21%	-10.99%
Germany	3.67%	7.13%	3.46%
UK	8.68%	5.54%	-3.15%
Italy	1.03%	4.09%	3.06%
Switzerland	3.61%	0.85%	-2.76%
Korea	1.80%	4.49%	2.69%
Japan	8.83%	10.87%	2.04%
Spain	1.49%	3.21%	1.72%
France	3.83%	5.10%	1.27%
Australia	3.22%	2.49%	-0.73%

Source: FTSE, Data as at 30 June 2014

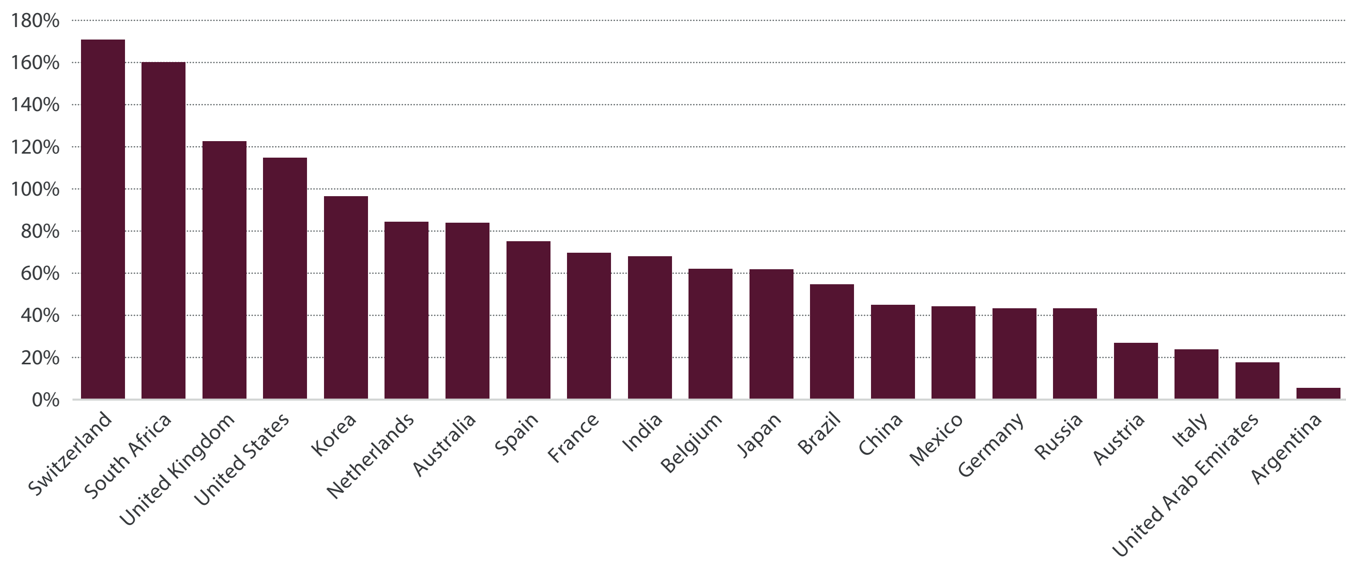
Stock markets vs. GDP

Differences in country weightings within a capitalisation-weighted equity index reflect differences in the aggregate sizes of individual countries' equity markets. Such differences reflect several factors: the extent to which a country's economic activity is represented by publicly listed (as opposed to privately owned) companies, the aggregate earnings of those companies and the valuation attached by the average investor to each unit of earnings.

Other things being equal, in countries where the equity market has traditionally played a significant role in providing a source of finance for economic activity, the ratio of the local market's capitalisation to GDP is likely to be higher than in a country where local companies have historically relied on other sources of finance: for example, bank loans or retained earnings.

The chart below, which uses data from the World Bank, reveals significant differences in the ratio of individual countries' equity market capitalisations to the size of their economies, measured via GDP.

Stock Market Capitalisation as % GDP

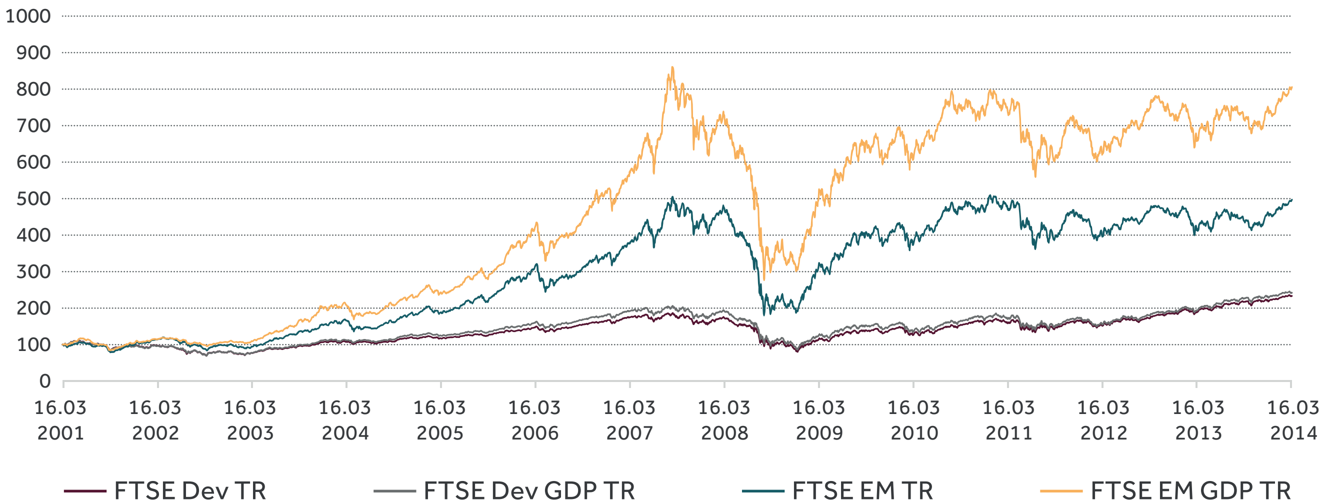


Source: World Bank, 2012 data

Performance of GDP-weighted indexes

In the chart below we show the historical cumulative returns of the FTSE Developed and FTSE Emerging total return indexes, compared to their GDP-weighted equivalents.

FTSE Developed, FTSE Emerging Indexes vs. GDP-weighted Equivalents: Total Return



Source: FTSE, data as at June 30 2014. Index value at 16 March 2001=100. Past performance is no guarantee of future results. The performance history of the GDP-weighted indices prior to their launch date (17/9/2013) is based on a retroactive application of the index rules, and accordingly the returns reflect hypothetical historical performance.

Over the period since 16/3/2001, the start of the FTSE GDP Weighted indexes' history, the FTSE Developed GDP Weighted and Emerging GDP Weighted indexes both performed higher than their capitalisation-weighted counterparts.

The performance of the FTSE Emerging GDP Weighted index (relative to the capitalisation-weighted FTSE Emerging index) was significantly greater than the relative performance of the FTSE Developed GDP Weighted index.

An attribution analysis shows that the primary contributing factor to the outperformance of the FTSE Emerging GDP Weighted Index over the period was the GDP Weighted index's overweight position in China. To a lesser extent, the GDP Weighted index's relative overweight position in other emerging markets, such as India and Indonesia, also contributed to its performance.

Uses of GDP-weighted indexes

In the same way as equal-weighted indices, GDP-weighted indexes may be used by those interested in overcoming perceived concentration risks in capitalisation-weighted indices.

GDP-weighting also provides an intuitive link between a global or regional index's country allocations and the relative economic importance of the countries represented by the index.

However, by contrast with a capitalisation-weighted approach, where countries with larger index weightings have more sizeable and liquid equity markets, in a

GDP-weighted index there is no automatic link between country weightings and individual equity markets' capacity and liquidity. An increased country allocation based on GDP-weighting may also not reflect the access challenges faced by global investors.

For example, on the basis of GDP-weighting, China achieves a much higher weighting in regional and global equity indexes than if market capitalisation is taken into account, whereas China's domestic equity market is open to non-resident investors only under a restrictive quota system (for further detail, see our *FTSE Briefing* on China and Global indexes).

Nevertheless, within the overall category of alternatively weighted indexes, GDP-weighted indexes are attracting increased interest from market participants.

For more information about our indexes, please visit ftserussell.com.

About FTSE Russell

FTSE Russell is a leading global provider of benchmarking, analytics and data solutions for investors, giving them a precise view of the market relevant to their investment process. A comprehensive range of reliable and accurate indexes provides investors worldwide with the tools they require to measure and benchmark markets across asset classes, styles or strategies.

FTSE Russell index expertise and products are used extensively by institutional and retail investors globally. For over 30 years, leading asset owners, asset managers, ETF providers and investment banks have chosen FTSE Russell indexes to benchmark their investment performance and create ETFs, structured products and index-based derivatives.

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