Overview

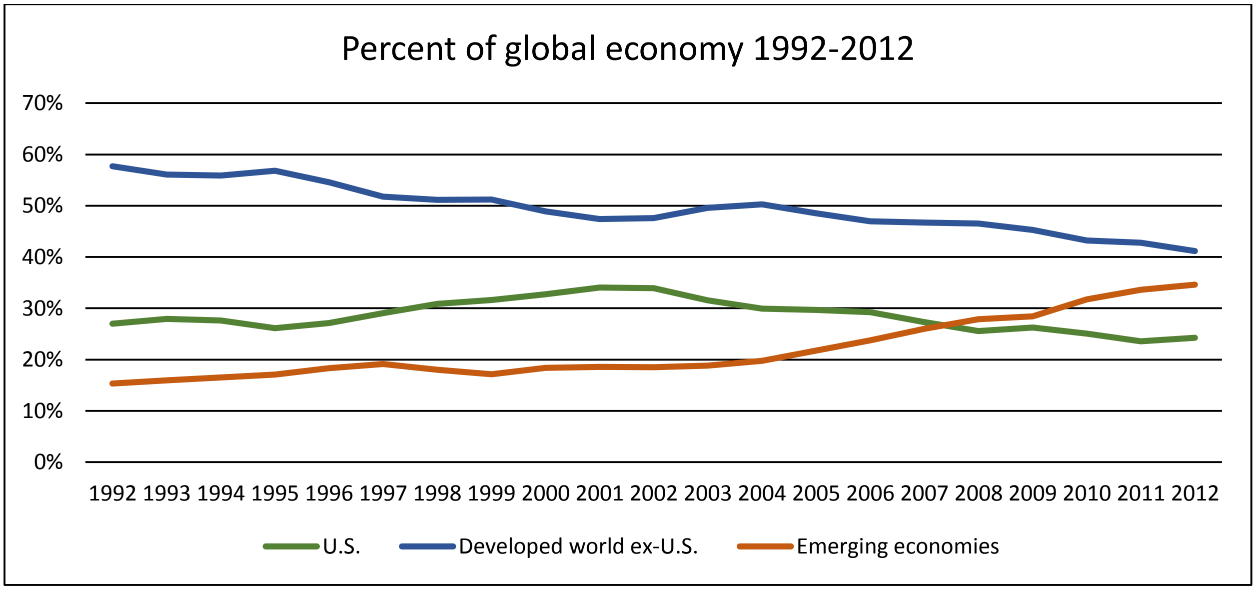
Although the world economy and global financial markets have seen dramatic changes over the past 20 years, many U.S. institutional investors have been slow to adjust their portfolios to the new global reality. This report will analyze where the world stands in terms of globalization of financial markets and the degree with which institutional investors' portfolios are global.

Globalization of the world economy and financial markets

Over the past 20 years the global economy has been transformed by the rapid growth in emerging economies[1]. According to the World Bank, gross domestic product (GDP) data of 1992 major emerging economies only represented 15.3% of the global economy.[2] Today, emerging countries' economies represent more than a third of global GDP. Emerging economies have grown at a 9.6% annual pace over the past two decades, while developed economies have grown at a slower 3.9% rate.

China has been the main driving force in the rapid growth of emerging markets. The Chinese economy grew to more than $8 trillion in 2012, up from $423 billion in 1992, for an annual growth rate of 16%. China currently represents 36.8% of emerging economies' GDP and 12.7% of the world's GDP. China's economy is second in size only to the U.S. After China, Brazil and Russia were the second and third largest emerging economies, with about $2 trillion each in annual GDP. India and Mexico rounded out the top five.

Developed economies found growth more challenging. Germany, Japan and Italy all had annual growth rates below 2.6% from 1992 through 2012. Australia and Singapore grew the fastest, with annual growth rates of 8% and 9% respectively. The U.S. grew at a healthy 4.7% over the 20-year period ended Dec. 31, 2012. At the end of 2012, the U.S. represented about 24% of the world's GDP, down from around 27% in 1992.



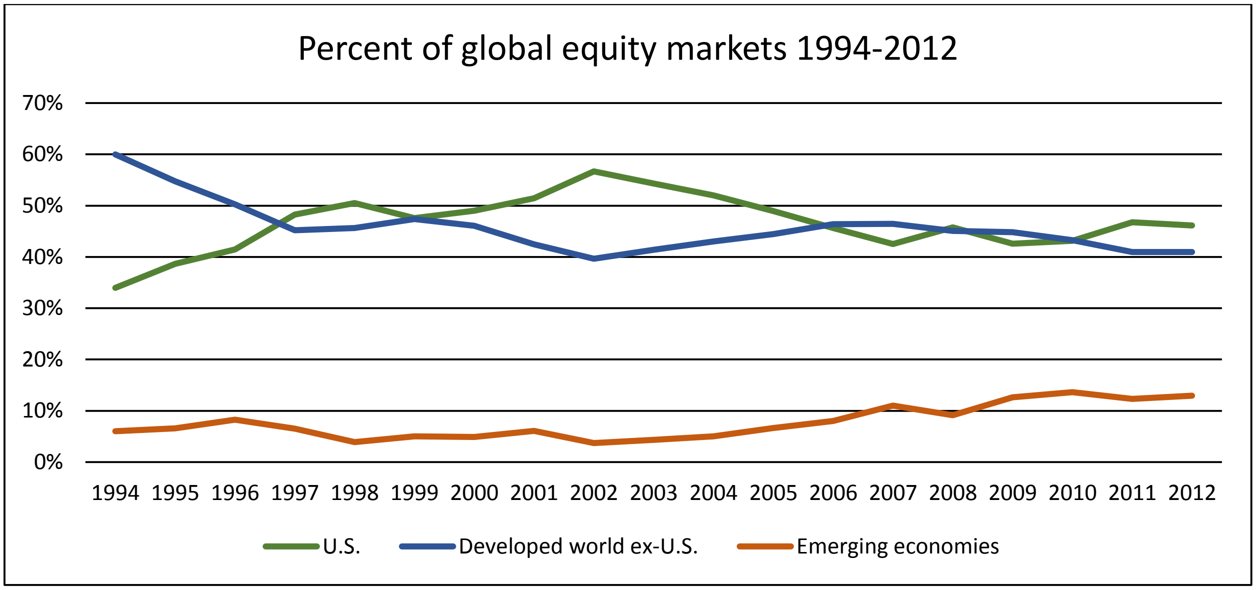
Source: The World Bank Group

[1] Emerging economies included in the analysis include Argentina, Brazil Chile, China, Colombia, Czech Republic, Egypt, Hungary, India, Indonesia, Jordan, South Korea, Malaysia, Mexico, Morocco, Pakistan, Peru, Philippines, Poland, Russia, South Africa, Thailand and Turkey.

[2] Global economy as defined as the sum of emerging economies and Australia, Austria, Belgium, Canada, Denmark, Finland, France, Germany, Greece, Hong Kong, Ireland, Israel, Italy, Japan, Netherlands, New Zealand, Norway, Portugal, Singapore, Spain, Sweden, Switzerland, United Kingdom and United States.

U.S. influence on investible developed and global financial markets has persisted and even grown since 1995. In 1995, the U.S. represented 38.7% of the MSCI ACWI IMI index. At the end of 2012, the U.S. percentage grew to 46.1% of the index. The decline of Japan's weighting represents the biggest change since 1995. Japan now represents 7.6% of the index, down from 23.7% at the end of 1995.

The influence of developed countries excluding the U.S. fell around 4.5 percentage points. Weighting gains in Canada and Australia offset some of the losses from Japan.



Source: MSCI Inc.

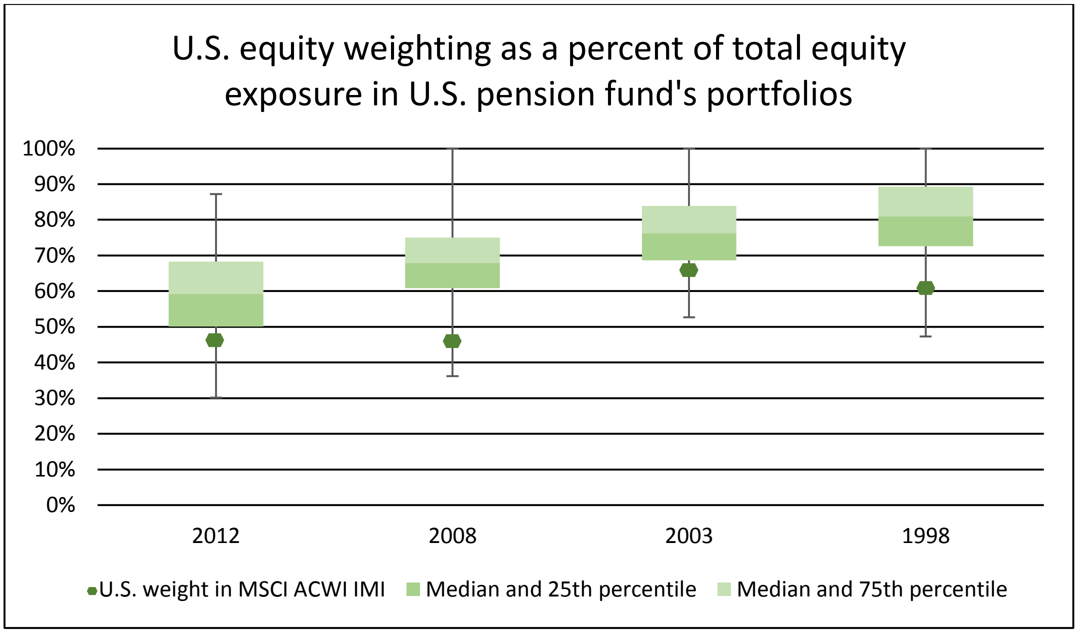
Emerging economies have continued to grow in importance to the global investible equity market. In 1995, emerging economies represented 6.6% of the MSCI ACWI IMI index. That number grew to 12.9% at the end of 2012. But growth of the financial markets of emerging economies has not been fully realized because of governmental controls on foreign ownership of securities. This can be seen most clearly with China's A shares. Because of restrictions on non-Chinese investors, the full market capitalization of A shares is not included in most global benchmarks and investor portfolios. Loosened restrictions on foreign ownership would significantly increase China's weighting in emerging markets and global equity benchmarks and portfolios.[3]

Developed markets continue to dominate fixed-income allocations, representing more than 95% of the Barclays Global Aggregate index. The U.S. weighting declined modestly over the past 10 years, down to about 36% at the end of 2012 vs. 42% at the end of 2002.

Globalization of U.S. institutional investor portfolios

U.S. defined benefit pension funds have significantly overweighted U.S. equities in the past 15 years, but the magnitude has decreased as plans have steadily globalized their portfolios. In 1998, the DB plans had an aggregate 78.5% in U.S. equities, an overweight of 28.4 percentage points against the MSCI ACWI IMI index. In 2008, the overweight to U.S equities was 21 percentage points. And by 2012, the overweight to U.S. equities was about 13 percentage points.

[3] Providers prep for China A shares' impact in emerging market indexes, *Pensions & Investments*, July 8th, 2013



Sources: *Pensions & Investments* and MSCI Inc.

But the allocation to emerging markets equities has not kept pace with their rapid rise over the past 15 years. In 1998, emerging markets equities represented about 1.8% of U.S. defined benefit plans' equity portfolio. By 2012, the allocation rose to about 8.7%. However, the weighting of emerging market equities in the MSCI ACWI IMI index was 12.9%, up from 3.9% at the end of 2008. In 2009, the first year *Pensions & Investments* began tracking the information, about 86% of emerging markets equity allocations went to active mandates; by 2012, the amount had fallen to 78.5%.

While U.S. defined benefit plans have globalized their equity portfolios, there has been relatively little investment in non-U.S. fixed income. In 1998 the median allocation to U.S. fixed income was 100%. In 2012, the median allocation decreased to 98.5%. Emerging markets debt allocations remain modest, rising to about $18 billion in 2012 from $3.2 billion in 1998. Even with the rapid growth, emerging markets debt allocations remain modest, at about 2% of fixed-income allocations. All emerging markets fixed-allocations were in active mandates at the end of 2012.

U.S. defined benefit investment in real estate and private equity remains mostly domestic. In 2012, 91% of real estate and 82.1% of private equity investments were based in the U.S.

U.S. defined contribution plans

U.S. defined contribution plans still have a significant home-country bias. Excluding company stock, the average large U.S. DC plan had more than 80% in U.S. equities. The significant overweight has remained relatively unchanged since 2006, when *P&I* first started tracking the information.

Defined contribution investment in international fixed income appears to be quite small. Most information providers including *P&I* do not break out international fixed-income allocations. But *P&I* does track the information in its survey of mutual funds most used in defined contribution plans. Pacific Investment Management Co. listed $128 billion in domestic fixed income and $1.1 billion in global and international fixed-income funds.

Average equity allocation of large U.S. defined contribution plans

	2012	2011	2010	2009	2008	2007	2006
Domestic equity	31.1%	31.2%	33.4%	32.3%	29.7%	34.9%	36.5%
Non-U.S. equity	6.8%	6.8%	8.4%	8.7%	6.8%	8.5%	7.1%
% U.S.	82.057%	82.031%	79.834%	78.873%	81.276%	80.407%	83.731%

Source: *Pensions & Investment*

The lack of financial acumen on the part of individual DC participants' is often given as the reason for less than academically optimal portfolio allocations. However, home-country bias can also be seen with target-date strategies as well. In *P&I's* annual survey of target-date money managers, the average 2030 series had an international equity exposure of 32.3% for all equities. Russell Investments was the only target-date money manager that did not have a home-country bias.

Case study: Masco Corp.

For many years, Masco had a relatively simple asset allocation. Most plan assets were invested in U.S. equities. In 2004, the company was targeting 85% to equities, 5% to fixed income and 10% to other investments. The company tweaked its asset allocation several times from 2004 through 2008 lowering the percentage in equities and increasing the allocation to fixed income.

In March 2009 the board of directors approved freezing the U.S. defined benefit plans as of Jan. 1, 2010. This freeze was one reason the company revised target asset allocation to 45% equities, 25% fixed income, 15% global assets and 15% alternative investments.

The new target allocations resulted in a significant decrease in the portfolio's previous home-country bias.

Masco's defined benefit asset allocation

	2012	2011	2010	2009	2008	2007	2006	2005	2004	2003
Domestic equity	32%	32%	30%	40%	56%	51%	51%	64%	58%	52%
International equity	21%	23%	18%	15%	16%	14%	10%	14%	11%	10%
% domestic equity	60%	58%	63%	73%	78%	78%	84%	82%	84%	84%
	2012	2011	2010	2009	2008	2007	2006	2005	2004	2003
Domestic fixed income	22%	20%	25%	15%	9%	9%	7%	0%	2%	10%
International fixed income	10%	8%	3%	0%	0%	0%	0%	0%	0%	0%
% domestic fixed income	69%	71%	89%	100%	100%	100%	100%	NA	100%	100%

While Masco's defined benefit investments have seen dramatic change, the company's defined contribution assets have remained relatively constant. Masco plan participants, like most other U.S. DC plan participants, have a strong home-country bias.

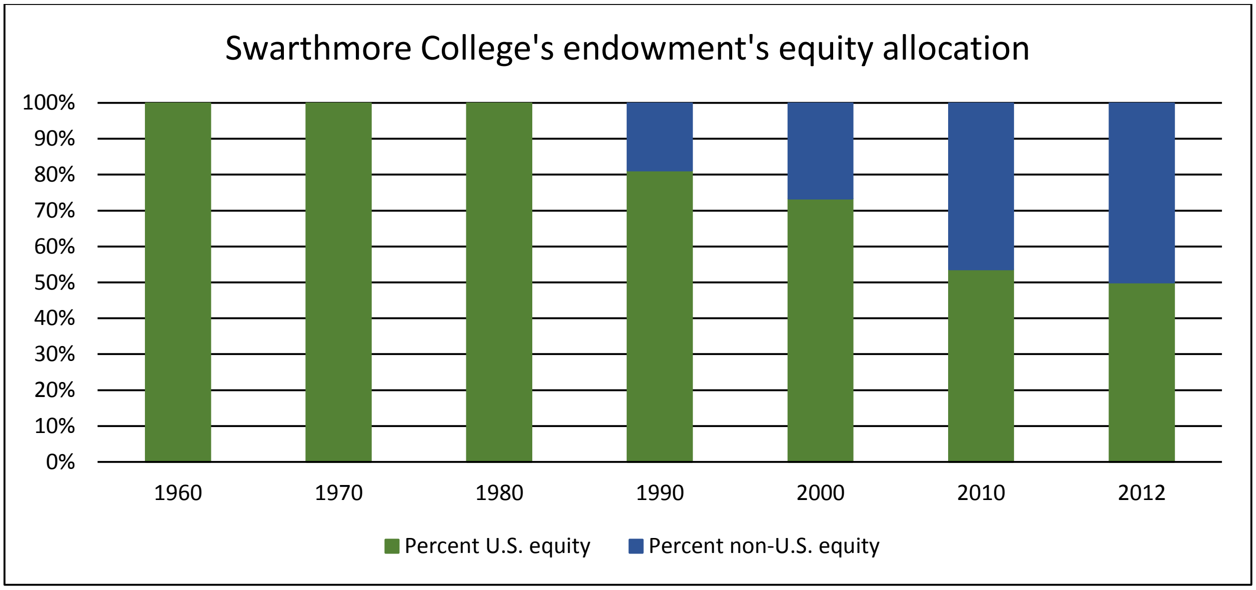
Masco's defined contribution asset allocation

	2012	2011	2010	2009	2008	2007	2006
Domestic equity	45%	42%	68%	67%	67%	71%	59%
International equity	7%	7%	8%	8%	9%	11%	9%
% domestic equity	87%	86%	89%	89%	88%	87%	87%

About a quarter of plan assets are invested in Fidelity's target-date series, which still has a home-country bias. Fidelity typically targets about 30% of the equity allocation to non-U.S. equities.

U.S. endowments and foundations

As a group, large endowments have the least home-country bias in their equity portfolios. According to the 2012 NACUBO-Commonfund study of endowments with more than $1 billion in assets, international equities were 55.5% of the portfolio, which represents a neutral country weighting. Some endowments actually have a non-U.S. bias. The target allocation for Michigan State University's endowment is 16% U.S. equity, 10% developed global ex-U.S equity and 8% emerging markets equity. The progression of international investment can be seen in Swarthmore College's $1.5 billion endowment. Starting in the 1990s, the endowment began significant international equity investment and now has no home-country bias.



Source: Swarthmore College

Foundations on average have a slight home-country bias. According to the 2012 Commonfund study, equity portfolios had a 62% allocation to U.S. equities and 38% to non-U.S. equities. However, allocations can vary significantly; as of Dec. 31, 2012, only 36.4% of the Kresge Foundation's equity assets were U.S.-based.

International pension plans

For U.S. pension plans, the roughly 50% U.S. allocation to global markets limits home-country bias. Other developed nations such as Australia and Canada represent less than 5% of the investible global equity market, which can lead to extreme home country bias.

The largest Australian superannuation funds, with almost A$800 billion in assets, are more diversified than their U.S. counterparts but have substantially more home-country bias. As of June 30, 2012, Australian equities were 54.2% of the total equity portfolio. Since Australian equities only represent about 3% of the global equity markets, the substantial home-country bias is evident.

Large Canadian defined benefit pension funds have done a better job of limiting home-country bias in recent years. The average large Canadian defined benefit plan's allocation to Canadian equity securities as a percent of their total equity portfolio is about one-third.

The Ontario Teachers' Pension Plan has gone from a 40-percentage-point overweight in Canadian equities to an overweight in the midteens. The decrease was driven by substantial allocations to non-Canadian equity investments and a doubling in Canada's weight in the MSCI ACWI IMI index.

Ontario Teachers' Pension Plan home country bias

	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
Percent Canadian equities	44%	42%	43%	43%	43%	45%	33%	28%	17%	20%	20%	21%	19%
Canada's weight in MSCI ACWI IMI	2%	2%	2%	3%	3%	3%	3%	4%	3%	4%	5%	5%	4%
Home country bias	42%	39%	40%	41%	40%	42%	29%	24%	14%	16%	15%	16%	15%

Source: Annual reports and MSCI Inc.

Return impact of equity weightings

Although U.S. asset owners were significantly overweight in U.S. equities over the past 15 years, the returns on their listed equity investments were not too adversely impacted. For the 15-year period ended Dec. 31, 2012, U.S. stocks as measured by the Russell 3000 index returned 4.8% annually. Non-U.S. equities as measured by the MSCI ACWI IMI ex-U.S. index returned 4.3% annually. Additionally, U.S. equity returns had a lower standard deviation over the period. Emerging market equities did have substantially higher returns but also had almost twice the volatility of U.S. equities.

The long-term bull market in U.S. fixed income produced super returns at a lower volatility.

15-year returns and standard deviations

	U.S. equities	Non-U.S. equities	Emerging markets equities	Global equities	U.S. fixed income	Global fixed income
Return	4.8%	4.3%	9.1%	4.0%	6.0%	5.9%
Standard deviation of return	18.4%	24.8%	36.1%	21.8%	3.1%	5.8%

Source: Bloomberg LP and author calculations

Outlook

The economic forces of modest growth in developed economies and more rapid growth in emerging economies seem inevitable over the next decade. While the degree to which emerging markets' financial markets integrate with global capital markets is less certain, most accounts point toward continued integration.

U.S. defined benefit pension funds should continue to diversify their equity holdings, with many adopting a truly global allocation. Their fixed-income holdings should begin to reflect a more global perspective. U.S. endowments and foundations should see more modest changes as their portfolios generally are reflective of the current global economic and financial markets backdrop.

As defined contribution plans become the primary retirement savings vehicle for more Americans, a better focus on investment lineups and participant education should eliminate some of the home-country bias. Additionally, target-data strategy money managers seem to be more inclined to decrease the home-country bias in their portfolios.

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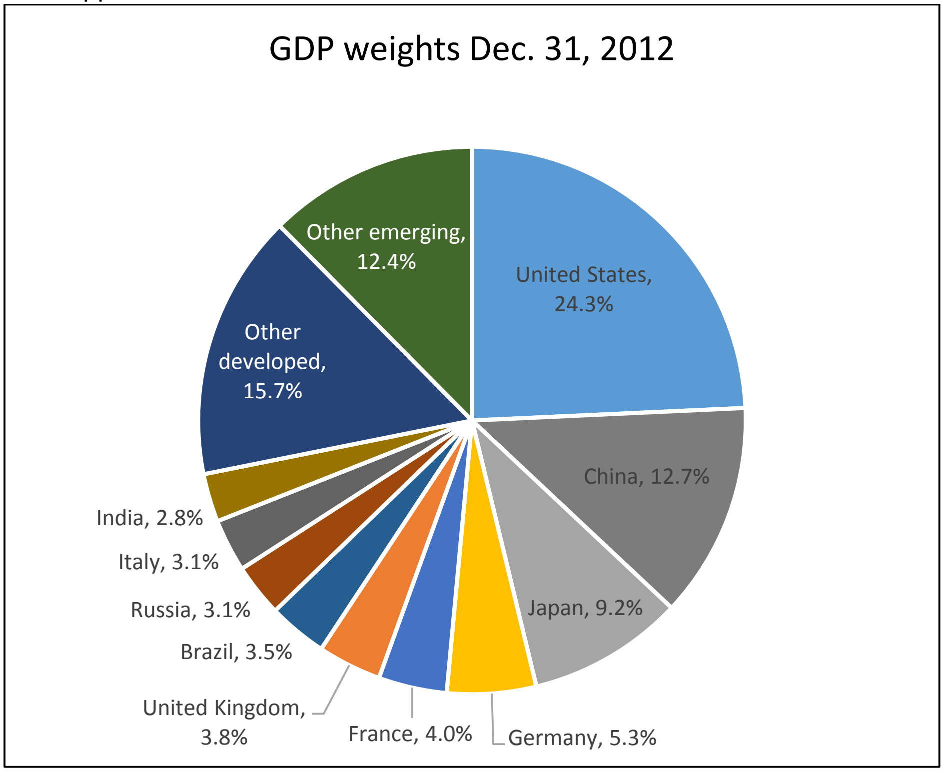
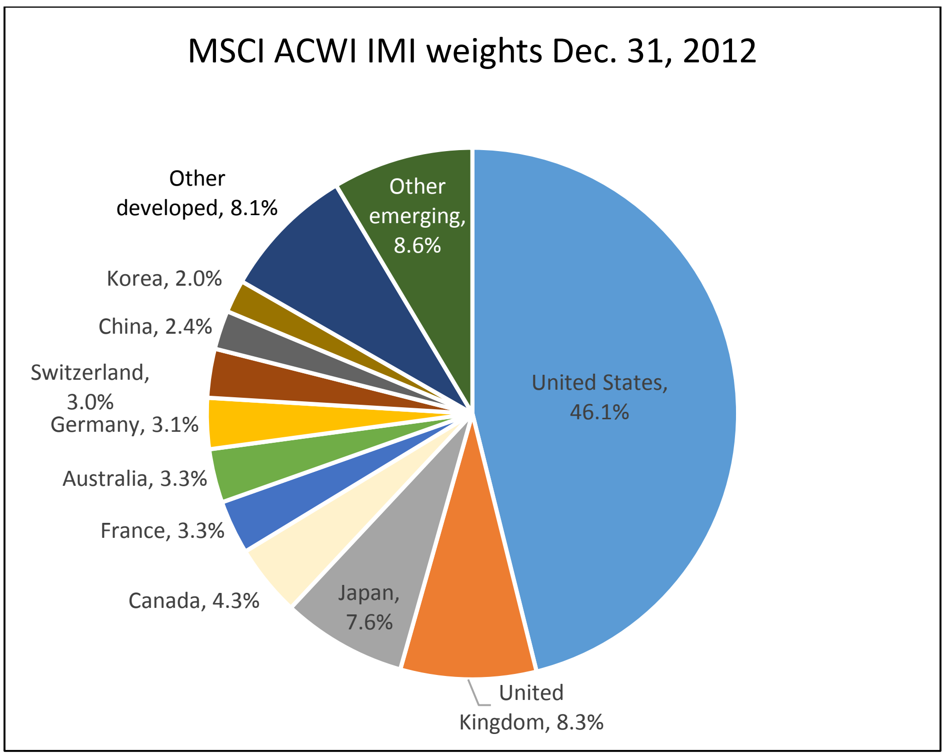
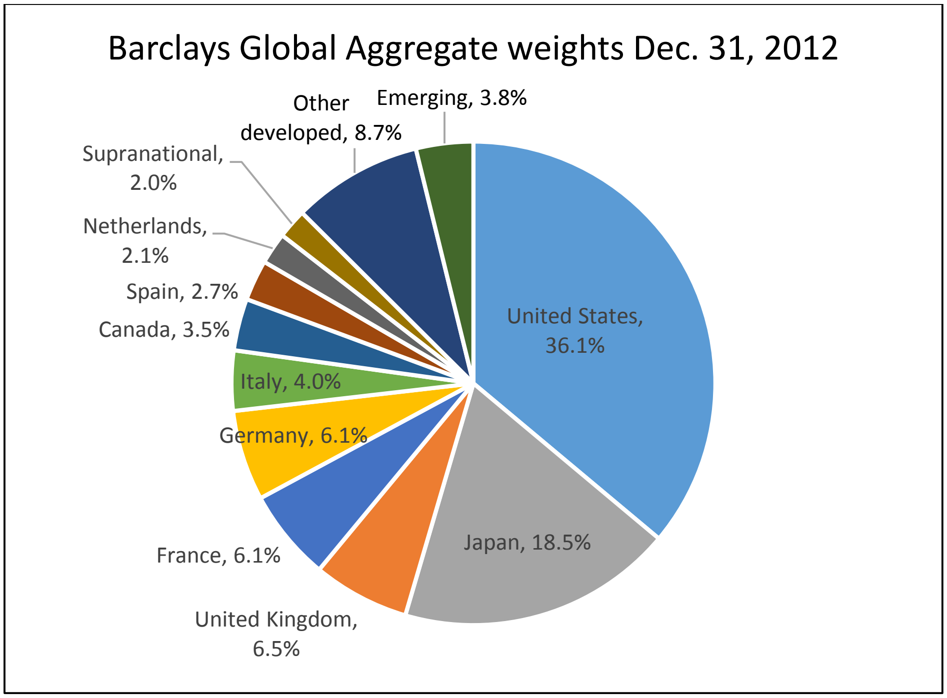
Data appendix



Source: The World Bank Group



Source: MSCI Inc.



Source: Barclays Bank PLC

2030 target-date strategy equity allocations

	Domestic equity	International equity	% U.S. equity
Putnam Investments	58.9%	13.3%	81.641%
American Century Investments	51.6%	11.8%	81.452%
Manning & Napier Inc.	48.0%	16.0%	75.000%
Prudential Financial	27.0%	10.0%	72.973%
J.P. Morgan Funds	47.7%	17.9%	72.723%
BMO Global Asset Management	58.5%	22.0%	72.671%
T. Rowe Price Group Inc.	55.0%	23.0%	70.513%
Fidelity Investments	44.7%	18.7%	70.505%
Vanguard Group Inc.	54.7%	23.0%	70.399%
TIAA-CREF	52.9%	22.7%	69.974%
Wells Fargo & Co.	46.0%	22.0%	67.647%
MFS Investment Management Inc.	52.0%	26.0%	66.667%
State Street Global Advisors	50.1%	25.6%	66.182%
Principal Global Investors	46.3%	27.8%	62.500%
Northern Trust Global Investments	36.8%	25.1%	59.460%
BlackRock Inc.	36.6%	28.1%	56.558%
Pacific Investment Management Co. LLC	27.3%	22.6%	54.709%
Russell Investments	27.6%	37.2%	42.625%

Source: *Pensions & Investments*

Largest Canadian public funds' equity exposure

	Canadian	Non-Canadian	% Canadian
CPP Investment Board	7.2%	25.0%	22.4%
Ontario Teachers' Pension Plan	8.2%	29.6%	21.6%
Ontario Municipal Employees Retirement System	8.2%	21.4%	27.7%
Quebec Government & Public	12.6%	24.2%	34.2%
Public Service Pension Plan	20.3%	32.6%	38.3%
Quebec Pension	12.6%	24.2%	34.2%
B.C. Municipal	15.7%	34.5%	31.3%
Local Authorities Pension Plan	12.2%	28.3%	30.1%
B.C. Teachers	15.9%	32.2%	33.1%
Canada Post	22.1%	36.2%	37.9%

Source: Annual reports

Largest Australian superannuation funds' equity exposure

	Australian	Non-Australian	% Australian
AMP Superannuation Savings Trust	31.7%	27.5%	53.5%
AustralianSuper	34.0%	20.0%	63.0%
Colonial First State FirstChoice Superannuation Trust	27.4%	24.6%	52.7%
State Public Sector Superannuation Scheme	20.3%	18.5%	52.3%
Retirement Wrap	36.2%	34.5%	51.2%
The Universal Super Scheme	35.0%	38.0%	47.9%
First State Superannuation Scheme	25.2%	27.9%	47.5%
Unisuper	36.0%	20.0%	64.3%
OnePath Masterfund	28.9%	20.1%	59.0%
Retail Employees Superannuation Trust	25.2%	24.9%	50.3%

Source: Australian Prudential Regulation Authority