

# Quantifying the Cost of Home Bias – A Japan Perspective

*A fresh look at the equity allocation policy of Japanese institutional investors*

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Chin Ping Chia

## Introduction

The motivations for investing outside one's home country include the ability to take advantage of the broader investment opportunities presented by a global investment universe and the potential diversification benefits from exposures to different geographical regions, countries, industries, and currency movements.

For many years, Japanese institutional investors have commonly pursued an equity policy allocation of approximately 60% domestic and 40% international equities, even though Japanese stocks have accounted for only 8-12% of the global investable opportunities set<sup>1</sup> since the late '90s. The international equity portion is often benchmarked against the MSCI Kokusai (World ex Japan) Index, while the domestic equity portion is typically measured against the TOPIX. This equity allocation has been closely associated with the 5-3-3-2 asset allocation rule from the Ministry of Health and Welfare for Employee Pension Funds. However, even after this investment restriction was abolished, few Japanese institutional investors have moved away from this asset allocation.

Home bias is not unique to Japan, but it has potentially huge implications for the investment returns of Japanese investors. Our study shows that the 60/40 equity allocation has significantly underperformed a market-cap-based global portfolio, represented by the MSCI All Country World Investable Market Index (MSCI ACWI IMI), by a cumulative return of 81% over the last 15 years, while incurring tremendous active risk. Although the bulk of the underperformance was registered prior to the relaxation of the 5-3-3-2 rule, when Japanese institutional investors were not free to pursue an alternative allocation mix, there is still a significant opportunity cost as well as market-timing risk associated with a home bias asset allocation approach.

Today, the differences between domestic and global equities are increasingly blurred due to increased integration of the global economy and generally improved market accessibility. A partitioned domestic/international approach to equity allocation is a suboptimal starting point, as combining "best-of-region" portfolios may not result in a "best-of-world" portfolio. Increasingly, leading international institutional investors are adopting an integrated view of global equities to facilitate a consistent investment process and improve portfolio construction efficiency.

This paper reviews the evolution of the equity allocation policy of Japanese institutional investors. We discuss how globalization has altered the global equity landscape and created the basis for a major rethinking of the investment process of global investors. We present the key rationales for an integrated global equity investment process, and we explore potential implementation paths for Japanese institutional investors. We conclude the paper with some parting thoughts.

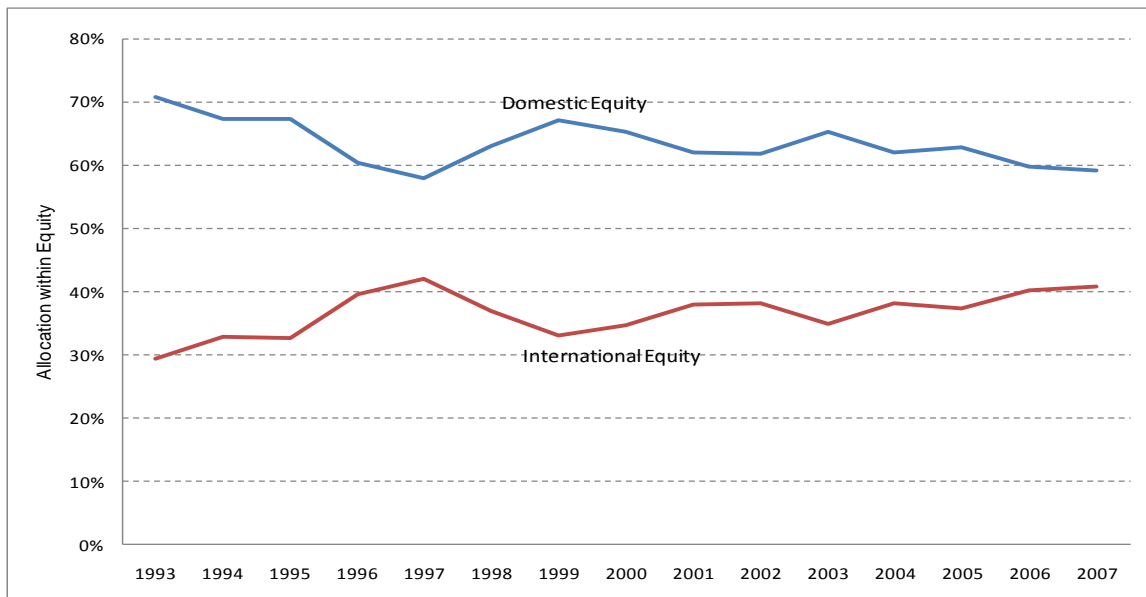
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<sup>1</sup> Measured by the free-float market capitalization of Japan in MSCI ACWI.

### Evolution of the Asset Allocation Policy of Japanese Pension Funds

For many years, Japanese institutional investors have been pursuing an equity policy allocation of approximately 60% domestic and 40% international equities<sup>2</sup> (Figure 1). This 60/40 asset-allocation policy is often historically associated with the 5-3-3-2 rule from the Ministry of Health and Welfare for Employee Pension Funds. The regulation stipulated that Japanese institutional investors should allocate 50% or more to principal-guaranteed assets, 30% or less to domestic stocks, 30% or less to foreign currency, and 20% or less to fixed properties. The 5-3-3-2 rule was abolished in 1997 and replaced by the prudent-man principle<sup>3</sup>.

Figure 1: Historical Equity Allocation Trend of Japanese Pension Funds



Source: Pension Fund Association of Japan, Survey of 1088 Pension Plans, 2007

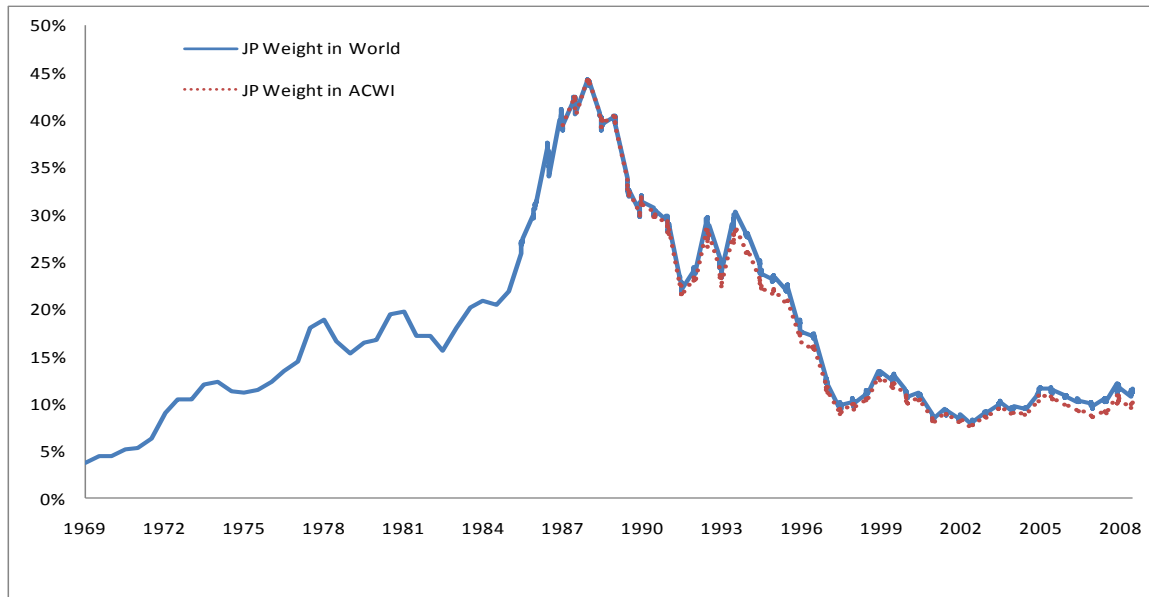
While the relaxation in pension regulations provided latitude for Japanese institutional investors to pursue different asset allocation strategies, including higher allocations to international equities and international bonds, the home-biased allocation within equities remains pronounced. Allocation to domestic equities accounts for about two-thirds of the equity investments of Japanese investors even after the 5-3-3-2 rule was abolished in 1997.

<sup>2</sup> Based on the 2007 survey conducted by the Pension Fund Association of Japan covering 1088 pension plans.

<sup>3</sup> A common fiduciary standard, widely adopted in many countries, that requires a pension fund to act in the same manner as a prudent man.

Compared to the weight of Japan in the MSCI World Index or MSCI ACWI, the 60/40 asset allocation represents a significant overweight in domestic equities as Japan's weight drifted from its high of 40% in the late '80s toward a more stable range of 8-10% in recent years.

Figure 2: Share of Japan in the MSCI World and MSCI ACWI Indices



## Quantifying the Cost of Home Bias

The International CAPM postulates that allocating 60% to a market that represents only 10% of the global investable opportunity set cannot be justified as the natural starting point of an optimal allocation for a rational investor. Using equity allocation ratios based on the findings based on Figure 1, we simulated a typical Japanese equity portfolio and compared it to MSCI ACWI, which represents the global investable opportunity set of large- and mid-cap stocks. The 60/40 asset allocation significantly underperformed the MSCI ACWI portfolio due to the poor relative performance of Japanese stocks during the observed period. The 60/40 portfolio registered a cumulative return of 14.8% over the 15 years ending July 2009, while MSCI ACWI returned a cumulative of 91.7% (both measured in Japanese Yen) during this period. This amounted to a return differential of 76.9%. If global small cap were included in the ACWI portfolio, the cumulative return differential would have been 81.2%.

The home-biased asset allocation policy cost Japanese asset owners dearly during the observed period. Figure 3 shows the annualized returns for one-year, three-year, five-year, and fifteen-year horizons ending July 2009, and the returns since the 5-3-3-2 rule was abolished. The 60/40 portfolio consistently underperformed the MSCI ACWI and MSCI ACWI IMI, except last year.

**Figure 3: Comparison of Portfolio Returns**

	60/40 TOPIX / MSCI Kokusai	MSCI ACWI	MSCI ACWI IMI
1-year return, annualized	-27.9%	-30.5%	-30.1%
3-year return, annualized	-12.7%	-10.3%	-10.2%
5-year return, annualized	-1.5%	0.2%	0.5%
15-year return, annualized	0.9%	4.4%	4.6%
Since the abolishment of 5-3-3-2 rule	1.5%	2.2%	5.5%

Notes:

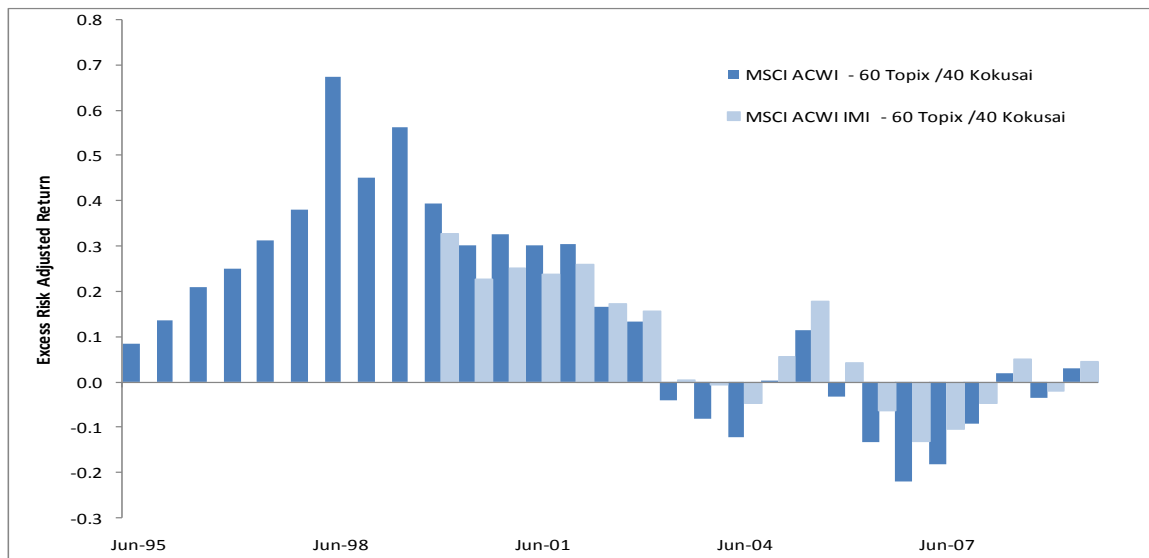
1. Total index return in Japanese yen ending July 2009
2. Actual TOPIX / Kokusai allocation ratio, based on PFA survey
3. The 5-3-3-2 rule was abolished in December 1997.

### Home-Biased Allocation Is an Active Bet

Figure 4 shows that the 5-year excess returns of well diversified global portfolios (as represented by MSCI World, MSCI ACWI and MSCI ACWI IMI) over a 60/40 allocation have been mostly positive on a risk-adjusted basis.

Japanese institutional investors who invest with a 60/40 allocation, by deviating from the investable country weights in the MSCI ACWI IMI, have taken on a very sizable asset-allocation bet that Japanese equities will outperform global equities. A diversion from a market-cap-based global portfolio is essentially an active investment decision.

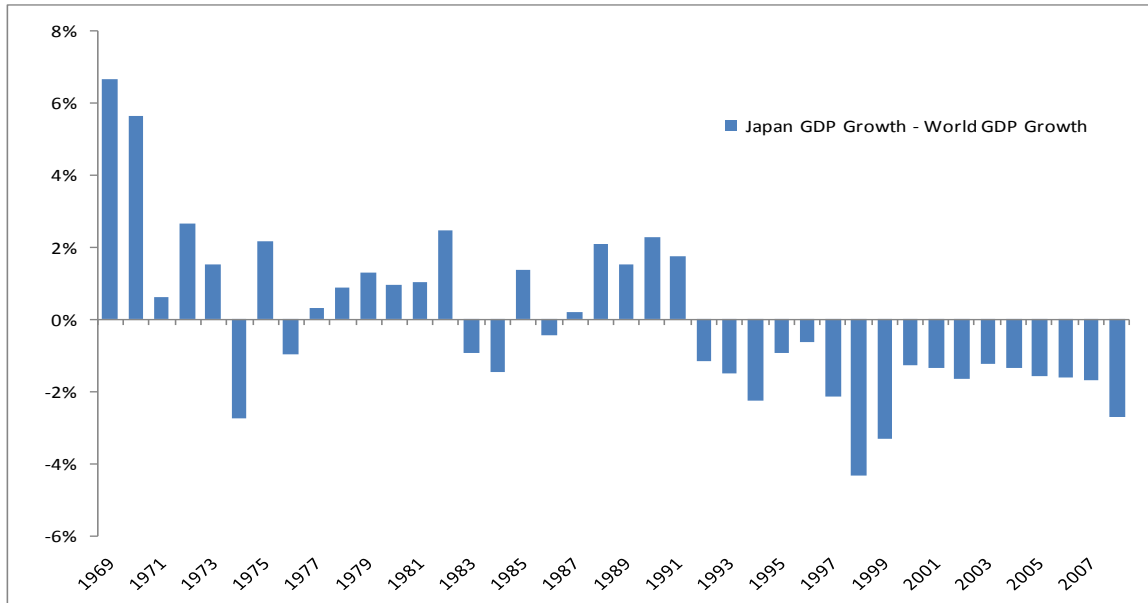
**Figure 4: Excess Risk-Adjusted Return Over 60/40 Japan/MSCI Kokusai Allocation**



Source: MSCI Barra and Bloomberg. Risk-adjusted returns are calculated based on 5-year annualized data

Investors typically make active investment decisions based on certain investment rationales and assumptions. For example, GDP growth of a country is often used as a basis, or reference, for asset allocation. In this context, it is interesting to note that Japan's GDP growth has lagged persistently behind GDP growth of the world since the early '90s, primarily due to shrinking domestic consumption and slow market reforms (figure 5).

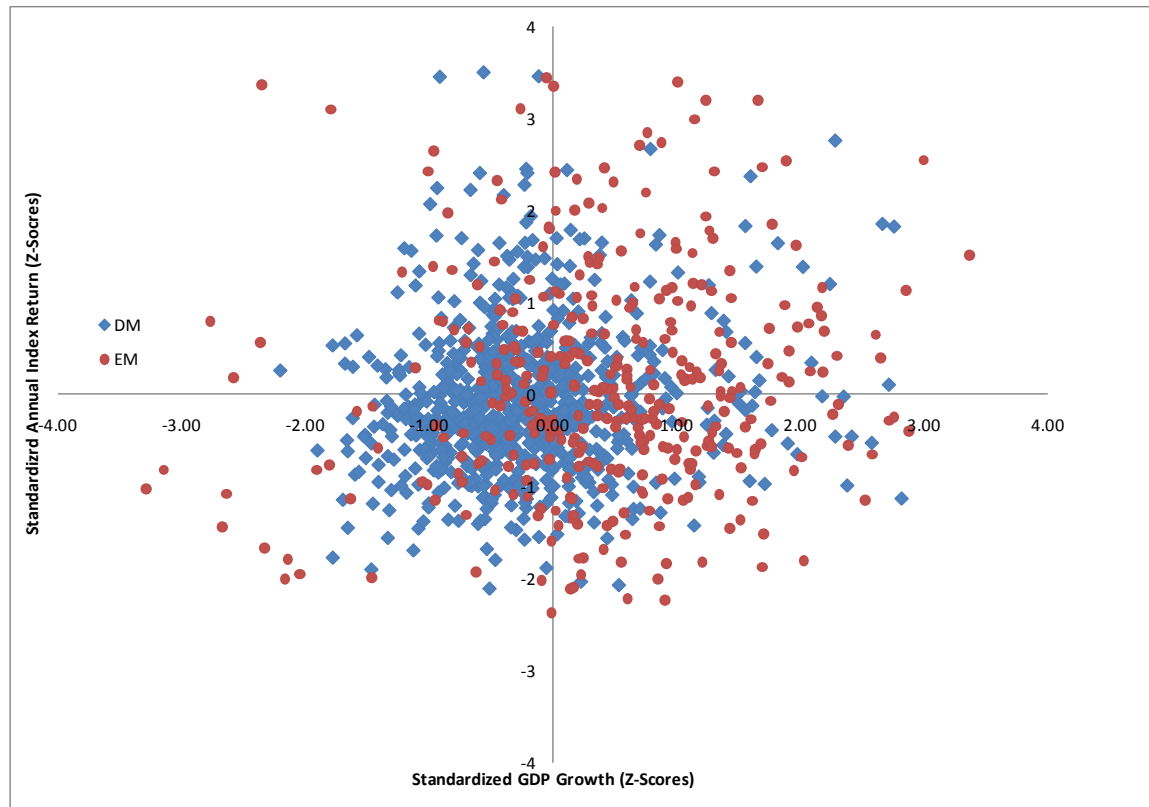
Figure 5: Differential of Japan and World GDP Growth



Source: World Bank

Figure 6 examines the relationship between equity market return and GDP growth for 44 countries in MSCI ACWI from 1971 to 2008. While the GDP growth of a country may not always exhibit a strong correlation with equity market performance, when a country achieved a below-average growth rate, the equity market of the country returned below-average performance 60% of the time. A domestic-biased allocation implies a bet that the home country will achieve faster economic growth than the rest of the world.

Figure 6: The Link between GDP Growth and Equity Market Performance



**Probability Distribution**

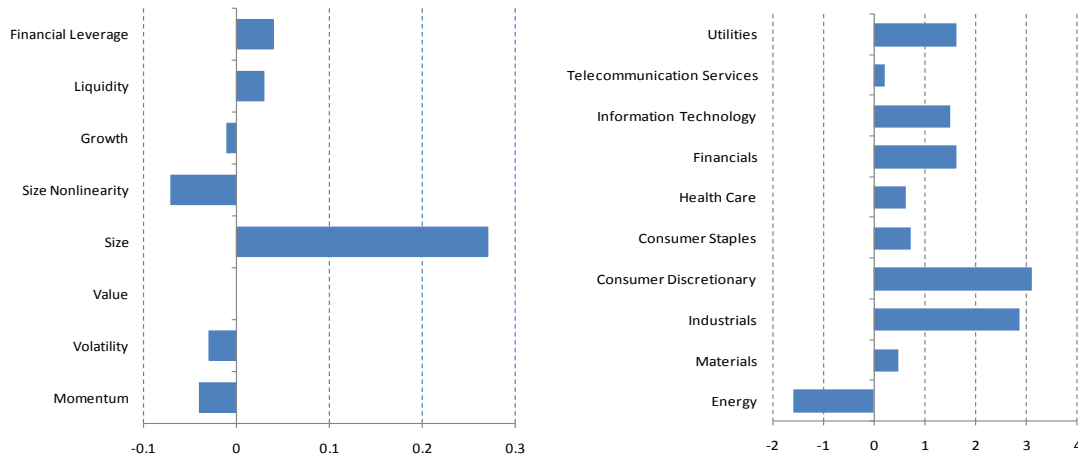
	Below Avg GDP Growth	Above Avg GDP Growth
Above Avg Mkt Perf	22.9%	19.9%
Below Avg Mkt Perf	34.8%	22.4%

Source: World Bank and MSCI Barra (1971-2008)



Adopting a home-biased asset allocation policy can introduce style and sector risk into a portfolio. In Figure 7, we use the Barra Global Equity Model (GEM2) to compare the style and size exposures of a traditional Japanese institutional investor's portfolio to the benchmark MSCI ACWI IMI.

**Figure 7: Active Style Exposures of the 60/40 Allocation Compared to MSCI ACWI IMI**



The 60/40 asset allocation split produces a significant positive active exposure to the size factor, which means that this portfolio overweighted large capitalization stocks compared to MSCI ACWI IMI. The traditional 60/40 domestic-to-international allocation portfolio also resulted in a negative tilt toward Energy and positive sector tilts toward Consumer Discretionary, Industrials, Utilities, Information Technology, and Financials. All of these represent active bets on these sectors.

## Globalization Is Changing the Global Equity Landscape

The partitioned approach to equity investing, i.e., splitting domestic and non-domestic equities, assumes that the two asset segments possess distinct risk-and-return characteristics. While this approach may have been built on the basis of the segmented economies, high levels of foreign investment restrictions, and domestically focused companies of the past, its validity today is challenged by a changing and more integrated global equity landscape.

Globalization forces are reshaping the economic balance of the world. The fast growing emerging markets, like the BRIC (Brazil, Russia, India and China) countries, are driving greater economic convergence of developed and developing economies. Subramanian, Nielsen, and Fachinotti<sup>4</sup> indicate that the decline in international trade barriers and the increase in cross-border capital flows, among other factors, are making global economies more integrated.

There still are differences in market accessibility levels, costs of research and trading, accounting policies, and tax regulations, as well as investor familiarity with domestic versus international companies. However, the gaps are reducing. The global financial market today is much more integrated, thanks to ongoing market liberalization. For example, institutional investors are able to gain access to many emerging markets with relative ease. The advent of the Internet has lowered research costs and the information barrier. The cost of trading has also come down significantly due to advances in technology and competitive forces. Finally, international accounting practices are now much more aligned due to the increasing adoption of IFRS. Hence, most arguments that support a home-biased allocation are less defensible today.

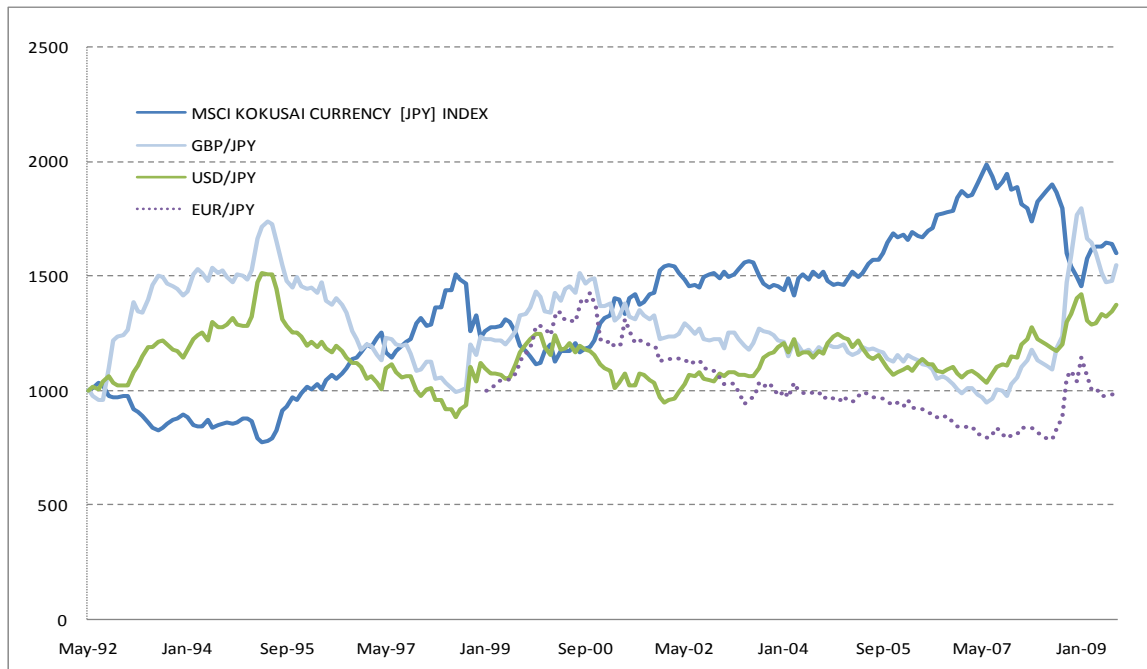
Another argument often made in support of home-bias is the need to hedge against liabilities denominated in Japanese yen. Liability in the context of a pension fund means hedging for future cash flow obligations. For a portfolio that includes international assets, investors need to ensure that investment returns will not be eroded by excessive currency risk.

There are a few possible responses to this argument. First, liability risk does not go away simply by investing in local-currency-denominated assets or by keeping a disproportionately high allocation in home equities. In fact, liability risk in the context of a pension plan is a function of investment returns, inflation risk, interest risk, longevity risk, and funding risk. If investment returns fail to meet the growth of liabilities, then plan sponsors will be exposed to liability risk.

There are various implementation strategies for matching plan liabilities. From an asset-allocation perspective, adjusting the duration of the fixed income allocation to match the liability stream is the common solution. More recently, long-dated, swap-based solutions are gaining popularity. Equities, in a strict sense, do not possess the characteristics required to match liability risk. Equities are meant to capture the additional risk premium and improve the overall portfolio return. If growth is the main argument for equity allocation, then constraining it to only domestic growth may come with a significant opportunity cost. The lost decade in Japan is a prime example.

<sup>4</sup> Raman Aylur Subramanian, Frank Nielsen, and Giacomo Fachinotti. 2009. "Globalization of Equity Policy Portfolios."

Figure 8: MSCI Kokusai Currency Index (JPY)



Second, currency risk tends to revert to the mean as prices of real assets recalibrate their equilibrium. From a very long-term perspective, currency exposure has not significantly altered the risk-and-return profile of global portfolios, although short-term currency volatility exists. In the context of the Japanese economy, the country has been in a largely deflationary environment since the economic bubble burst in late 80s. The return of a foreign currency basket, as denoted by the MSCI Kokusai Currency Index, has been generally higher than the low-yielding Japanese yen over the last 15 years, representing a source of positive return for international investing. Even so, if investors are concerned with short-term currency volatility, a currency overlay or hedge program can be put in place cost effectively to reduce the unwanted exposure.

Accordingly, the notion of liability hedging and currency risk can possibly be delinked from the implementation of an equity strategy in a multiple-asset-class portfolio.

## Convergence of Global Equities Drives Changes in Global Equity Landscape

A partitioned asset-allocation policy for Japan and non-Japan countries implicitly assumes that the country factor is the primary driver for portfolio diversification benefits. However, there is growing evidence that the global sector factor and size effect increasingly are becoming the common drivers for global equity prices. This is particularly visible in the case of developed market equities. Figure 9 highlights the diminishing importance of country factors and the rising importance of sector factors in explaining inter-market cross-sectional variance. Investors are putting increasing emphasis on adopting a sector view in making investment decisions. For example, choosing between a Taiwanese and Korean technology stock may be a more important decision than making investment choices between Korea and Taiwan in the context of a global investor.

**Figure 9: Cross-Sectional Variance of Country versus Sector in Developed Markets**

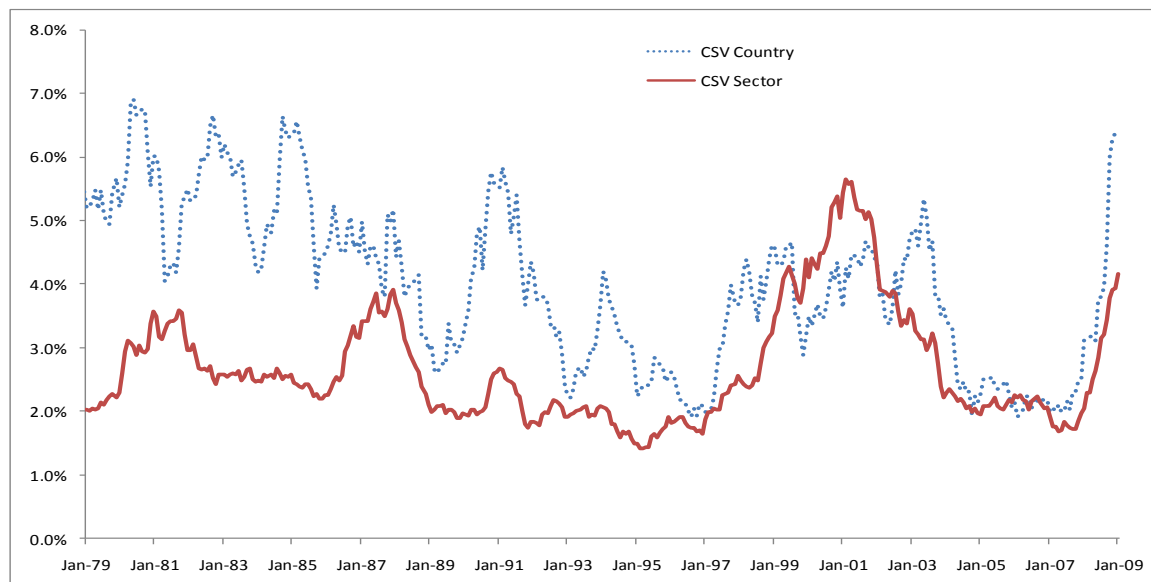
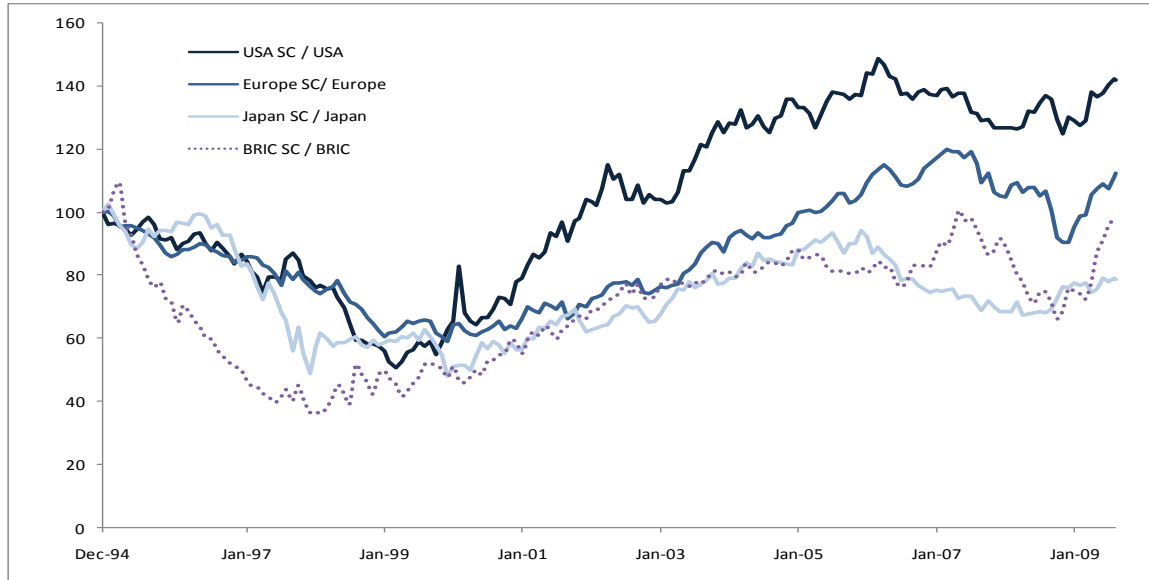


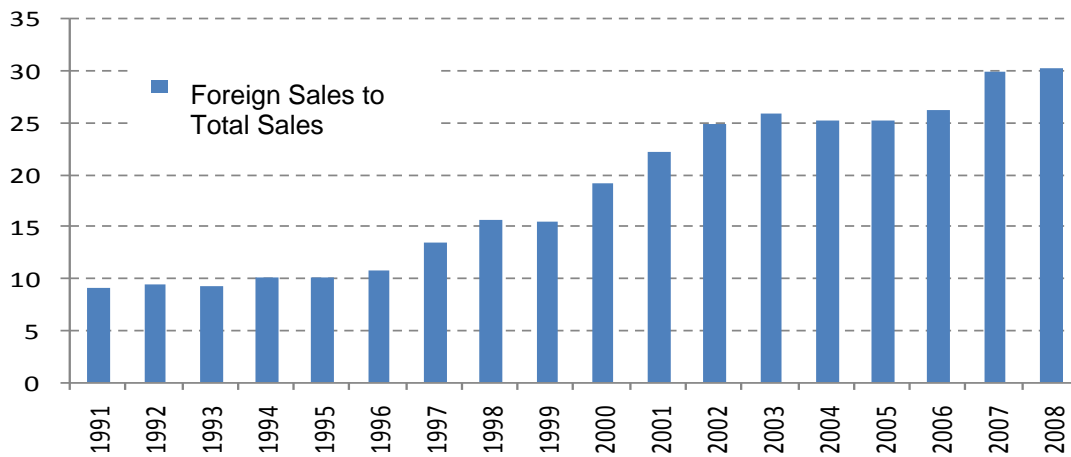
Figure 10 shows the relative performances of small-cap versus large- and mid-cap portfolios in the US, Europe, Japan, and the BRIC countries. The size effect is apparent, but the more important observation is that the size effect during this period has been globally synchronized. Increasingly, investors are taking advantage of this performance differential in their asset allocation policy by awarding mandates to different size segments instead of to countries. These two observations serve to affirm the convergence of the price behavior of domestic and international stocks.

**Figure 10: Size Effect in the MSCI USA, MSCI Europe, MSCI Japan, and MSCI BRIC Indices**



Lastly, the argument for an integrated global equity investment process can be made at the company level. Globalization is pushing companies to be even more global in nature, and Japanese companies are no exception. For example, companies such as Sony and Toyota derive a substantial portion of their income from overseas markets. Figure 11 illustrates the change in the proportion of foreign to total sales for the largest 350 Japanese companies. The ratio has grown substantially and currently represents close to 30% of the total revenue of these Japanese companies. The implication for portfolio construction is that a Japanese stock portfolio does not capture pure Japan domestic factors. From another angle, a home-bias partitioned portfolio can be seen as a badly constructed international portfolio. Increasing similarities among countries suggest that the conventional country-based partitioned approach for investing in the global equity markets is suboptimal.

**Figure 11: Proportion of foreign sales to total sales for Japanese companies (capitalization weighted average)**

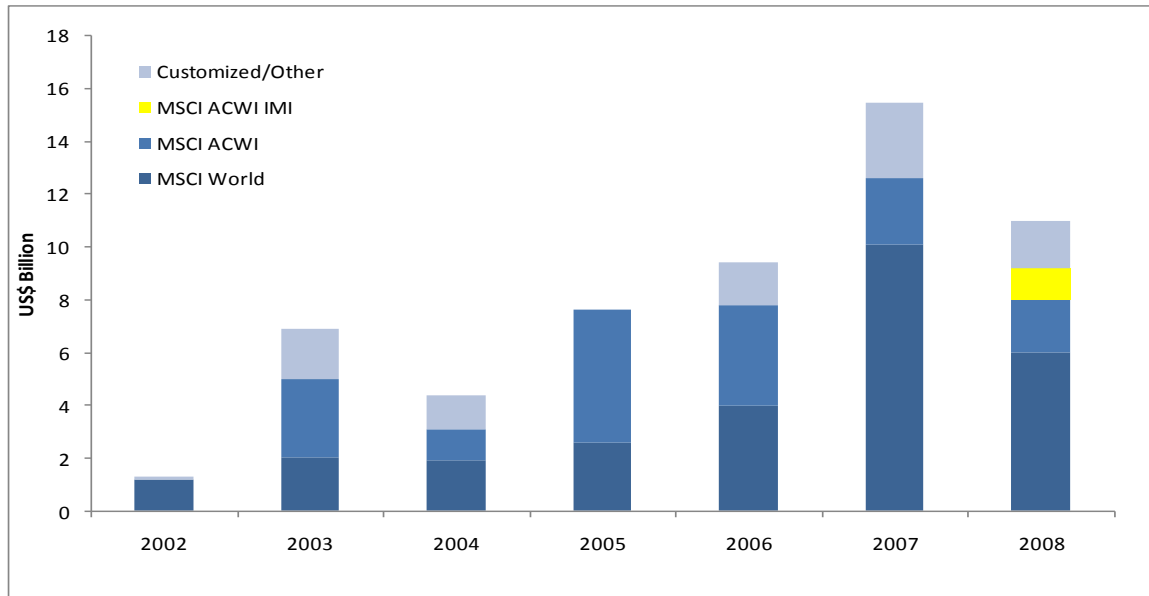


Source: Worldscope

**Growing Acceptance of the Integrated Equity Asset Class View**

An integrated view of global equities is a significant departure from the 60/40 asset allocation framework; however, it is an emerging trend internationally. A recent study conducted by InterSec shows that in 2008 there was a net positive increase of fund flows into global mandates in the US and a growing amount of initial funding benchmarked to MSCI ACWI IMI. This suggests that asset owners are increasingly leaning towards awarding global mandates, as opposed to international ex domestic mandates. The growth in global mandates reflects certain investors' desire to remove the barrier between domestic and international equities.

**Figure 12: Global Equity Initial Funding by Benchmark (Intersec)**



Source: Intersec

## **The Case for an Integrated Global Equity Investment Process**

By removing the divide between domestic and international equities, investors are presented with an integrated view of the global equity opportunity set. The global investment universe represented by MSCI ACWI IMI covers more than 8,600 securities from 23 developed markets and 22 emerging markets, with diverse exposure to different geographical regions, countries, industries, and currencies.

For proponents of active investment management, the ability to access a broader universe improves the potential for alpha delivery. For example, a global mandate enables investment managers to make investment choices, not only among the Japanese telecommunication companies, but also among the best telecommunication companies around the world. Removing limits on the opportunity set for a domestic or international manager offers the potential for better investment performance.

In addition, treating global equities as a single asset class reduces potential conflicts of investment views resulting from different levels of portfolio implementation. For example, such conflicts can arise when a manager has a neutral view on the global telecommunication sector but needs to keep a neutral weight position in a domestic-biased portfolio from a risk dimension. An integrated global equity investment process can harmonize the overall investment decision-making process and eases the implementation and oversight of equity allocation.

For proponents of passive investment management, the broadest investable global portfolio, covering the large-, mid-, small-cap segment of the developed and emerging markets, is the most comprehensive representation of global equity beta.

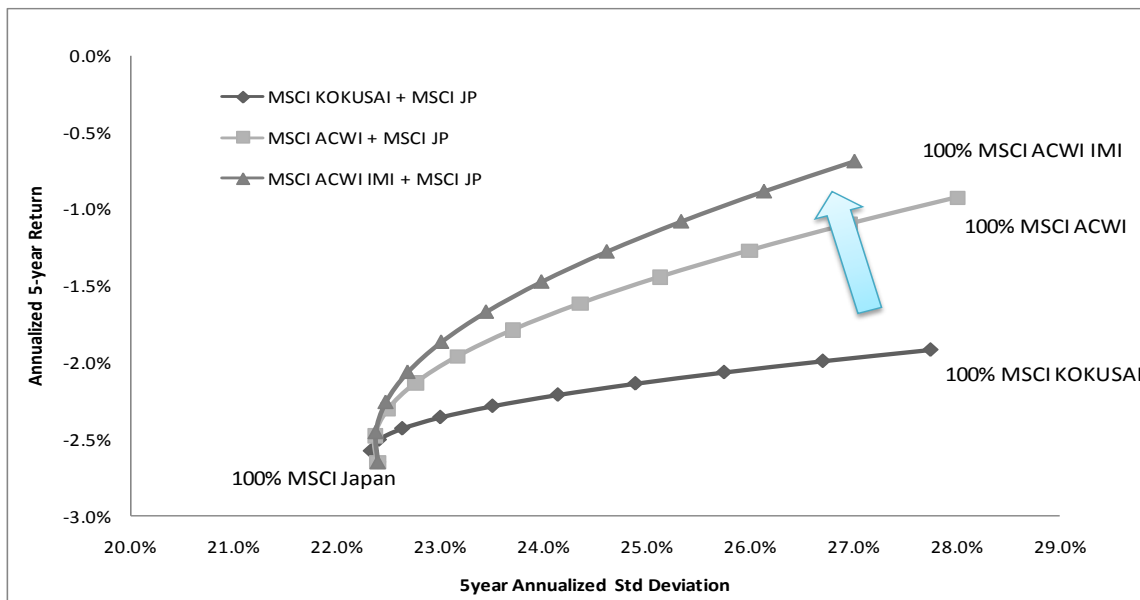
Lastly, an integrated view of equities potentially helps to improve organizational efficiency and cost effectiveness, as only one integrated investment team is required to look after the portfolio. An integrated global equity structure may enable a more efficient use of valuable investment resources, streamline the investment process, and improve investment expertise.



**Efficiency Gain of an Expanded Investment Opportunity Set**

For institutional investors in Japan who view global equities as a single asset class, the first step is to define the global investment opportunity set. In this regard, let us examine the portfolio-efficiency effect of adding emerging markets and global small cap to an MSCI Kokusai portfolio. Figure 13 illustrates the ex-post efficient frontiers of the MSCI Japan Index versus the MSCI Kokusai Index, MSCI ACWI (which contains large- and mid-cap stocks from both the developed and emerging markets), and MSCI ACWI IMI (which also contains developed and emerging market small-cap equities). The diversification benefit of adding emerging markets and global small-cap allocations can be seen in how it moves the risk-return frontier outward.

**Figure 13 Ex-post Efficient Frontiers of MSCI Japan Index vs. MSCI Kokusai Index, MSCI ACWI, and MSCI ACWI IMI**



Note: 5-year annualized risk and return profile ending Aug 2009.

### Potential Paths Toward an Integrated Global Equity Investment Process

Given that the current allocation by Japanese institutional investors to non-Japan equities is approximately only 40%, implementing a global portfolio based on MSCI ACWI IMI would require a substantial increase in the non-Japan equity allocation or a substantial decrease in the Japan equity allocation. Investors also may need to factor in non-investment considerations, such as administration, organization, or even political concerns.

Institutional investors that adopt an integrated global equity approach will need to investigate various potential transition approaches and considerations. For example, one approach could consider a broad global equity allocation as a substitute for the traditional international equity (“Kokusai”) allocation. It would allow taking advantage of a broader pool of asset managers able to manage against the global universe compared to an ex-Japan one. If implemented progressively this approach could have the advantage of ensuring a minimal disruption to the initial risk-and-return profile of the portfolio. Once plan sponsors gained sufficient experience and comfort in executing global mandates, a fully integrated equity view might be implemented.

An alternative approach could involve transitioning from the current “Kokusai” allocation towards a “New Kokusai” one that would encompass emerging markets and international small cap, while gradually reducing the corresponding domestic allocation to reduce home bias. The starting point requires a strategic discussion on what Kokusai should mean to Japanese institutional investors today, taking into account the evolution of investment opportunities over the last 20 years. In this context, the MSCI ACWI IMI ex Japan Index provides a significantly enhanced representation of the Kokusai opportunity set compared to the existing MSCI Kokusai Index, which covers only developed-market large and mid-cap companies.

One of the often cited challenges for implementing global mandates has been the lack of manager choices domestically; however, this is often a chicken-and-egg paradox. While there may be few active investment funds or products linked to MSCI ACWI IMI in Japan, this can be attributed to the lack of global mandates awarded by Japanese plan sponsors. There is no lack of Japanese asset managers with combined developed and emerging market expertise, judging from the current array of investment product offerings in Japan. For plan sponsors who favor a passive investment approach, gaining exposure to global equity markets could possibly also be achieved in a cost-efficient manner with low tracking error via passive funds or ETFs.

## Conclusions

While home bias and the asset allocation policy that partitioned domestic and international equities may have been norms for Japanese institutional investment policies in the past, the landscape today is beginning to change. The cost of home bias has been sizeable for Japanese institutional investors. Sticking to the current asset-allocation policy implies an active bet on domestic equities.

The rising integration of global equity markets and diminishing differences in domestic and international equities increasingly support an integrated view for global equities. The evolution of global equity markets continues to play a key role in shaping the investment process of global institutional investors. A global approach to equity investing may be a more natural starting point to facilitate a better investment process and improve portfolio construction efficiency. While the magnitude of the shift may be radical, the supporting arguments are strong. As J M Keynes once famously said: “When the facts change, I change my mind. What do you do, sir?” A more integrated approach to equity investing may be the next stage in the evolution of investment processes for Japanese institutional investors.

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## Contact Information

[clientservice@mscibarra.com](mailto:clientservice@mscibarra.com)

### Americas

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Americas	1.888.588.4567 (toll free)
Atlanta	+ 1.404.551.3212
Boston	+ 1.617.532.0920
Chicago	+ 1.312.675.0545
Montreal	+ 1.514.847.7506
New York	+ 1.212.804.3901
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### Europe, Middle East & Africa

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Amsterdam	+ 31.20.462.1382
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China North	10800.852.1032 (toll free)
China South	10800.152.1032 (toll free)
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