AVIVA INVESTORS
FLYING THE NEST: DIVERSIFYING INTO A GLOBAL REAL ESTATE PORTFOLIO

April 2018

SANDIP BHALSOD

GLOBAL REAL ESTATE ANALYST

Main responsibilities

Sandip undertakes analysis of global real-estate markets with a primary focus on the Asia Pacific region.

Experience and qualifications

Prior to joining Aviva Investors in 2014, Sandip was a junior analyst in the DTZ research team. He holds a BSc (Econ) degree from the London School of Economics and Political Science and is a member of the Society of Property Researchers.

Contents

INTRODUCTION

Investors have sought to increase allocations to real estate in recent years. They have been attracted by relatively strong performance and the institutionalisation of the asset class.

With pricing looking expensive and return prospects low at this stage of the cycle, more investors are looking to foreign real estate markets for better returns.

Real estate as an asset class has typically exhibited a higher home bias than equities or fixed income. There are several behavioral biases that cause real estate investors to act parochially. The most compelling is a perception of lower information asymmetry associated with operating in familiar markets. The least compelling reason is herding behavior, where domestic investors feel comfortable following their peers and remaining local.

Clearly, good reasons are needed to leave the comfort of your own home.

Investors willing to 'fly the nest' and construct international portfolios can benefit from risk reduction and return enhancement.

The four chief potential benefits from adopting a global approach:

– Diversification of macro and property market risk

– Improved risk-adjusted returns allowing targeting of an income return

– Opportunity to target strategic timing of international property cycles

– Access to a larger and more diverse opportunity set

In putting all this into practice, we conclude by highlighting the invaluable role a four quadrant strategy could have when constructing a global portfolio.

BENEFITS OF GOING GLOBAL

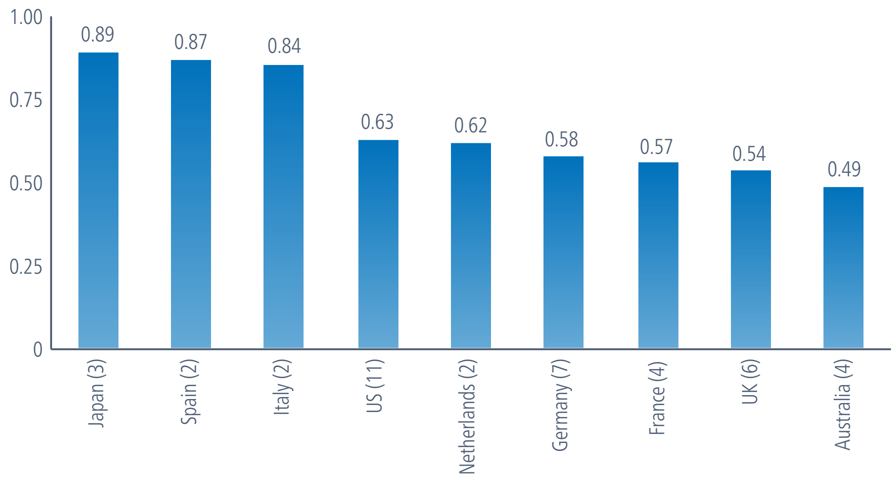
Diversification of economic and property market risk

A domestic approach may be defended by arguing that sufficient diversification can be created in a deep and transparent market by allocating across cities in one country.

But the advantages of domestic diversification may be exaggerated.

Yet analysis of city level data suggests that these diversification benefits may be lower than commonly believed. As shown in Figure 1, performance of direct real estate markets within the same country can exhibit relatively high correlations over time.

Figure 1: Average correlation between domestic prime office markets. Number of cities in parentheses.



Source: Aviva Investors, PMA, April 2018

National markets are vulnerable to the same forces

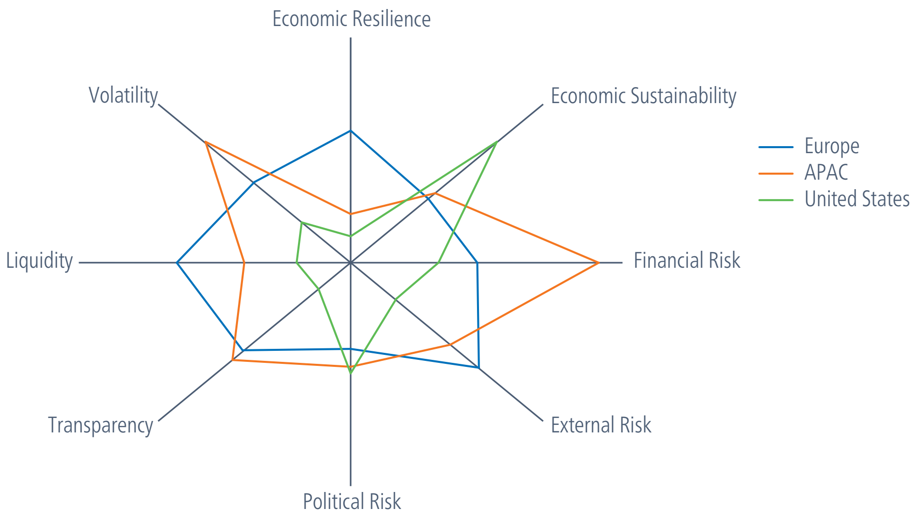
A logical explanation is that while there is likely to be some economic variation by city, domestic markets are susceptible to common drivers and systematic risks. Thus property cycles are likely to be closely synchronised.

Restricting allocation to a single market leaves investors fully exposed to domestic shocks. A central benefit of investing in international real estate is the significant differences that persist between countries. Figure 2 (overleaf) highlights the disparities in structural economic and property market risk between regions.

Diminished risk from diversification

Given these different risk profiles, there should be potential for investors to reduce risk by switching assets into foreign markets. A US investor should in theory be able to mitigate economic sustainability risk in their portfolio by diversifying internationally. While a European investor may benefit from reduced liquidity risk by deploying capital in more liquid Asia Pacific markets.

Figure 2: Average macro and property market risk across regions



Source: Aviva Investors April 2018

This lack of risk synchronicity becomes more apparent when observing cross country correlations. Compared to intra-country correlations, cross country correlations are relatively low. This result is generally more pronounced between markets in different regions (Figure 3). For example, the average correlation coefficient between German cities is 0.62. Yet these same cities have lower correlations with other European markets, and much lower correlations with markets in APAC and the US.

Figure 3: Average correlation between office markets in different countries. Number of cities in parentheses.

		EUROPE						ASIA PACIFIC				US
		France (4)	Germany (7)	UK (6)	Nordics (4)	Other Core Europe (7)	Peripheral Europe (8)	Australia (4)	Japan (3)	Other Developed Asia (3)	China (3)	United States (11)
EUROPE	France (4)	0.57										
	Germany (7)	0.42	0.62									
	UK (6)	0.15	0.03	0.54								
	Nordics (4)	0.38	0.17	0.31	0.51							
	Other Core Europe (7)	0.48	0.37	0.13	0.41	0.46						
	Peripheral Europe (8)	0.40	0.35	0.16	0.35	0.39	0.36					
ASIA PACIFIC	Australia (4)	0.32	0.08	0.18	0.56	0.37	0.31	0.49				
	Japan (3)	0.49	0.44	0.40	0.66	0.58	0.70	0.64	0.89			
	Other Developed Asia (3)	0.23	0.08	0.22	0.23	0.09	0.23	0.28	0.26	0.41		
	China (3)	0.36	0.14	0.04	0.23	0.08	0.08	0.19	-0.10	0.37	0.33	
US	United States (11)	0.38	0.14	0.21	0.54	0.32	0.36	0.51	0.58	0.25	0.25	0.63

Source: Aviva Investors, PMA April 2018

IMPROVED RISK-ADJUSTED RETURNS AND TARGETING OF INCOME RETURN

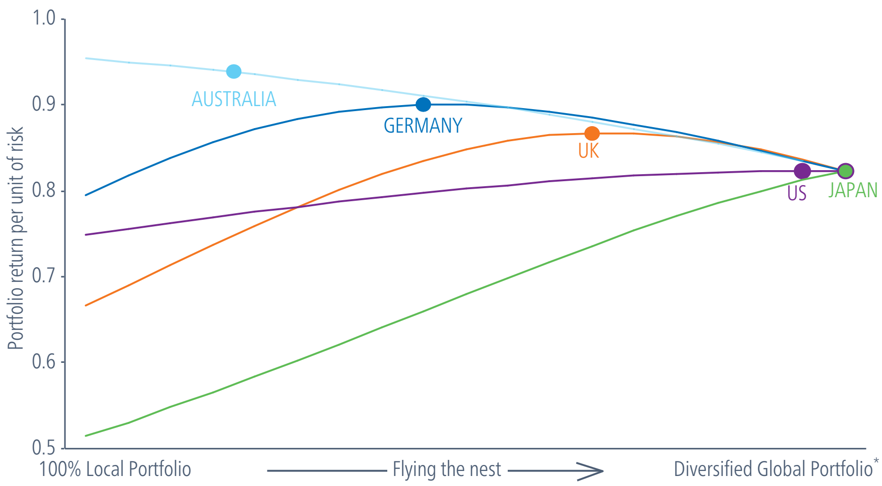
Taking volatility as one measure of risk it is possible to test the benefits of diversification and its impact on risk-adjusted returns.

Investing globally increases risk-adjusted performance

In Figure 4, we vary the level of international exposure for a variety domestic office portfolios, and observe the impact on risk-adjusted returns. This summary suggests that for the countries shown, allocating some capital to foreign office markets would have increased the risk-adjusted performance of each historic portfolio.

As always with real estate, the implications vary by market. For a German investor, return per unit of risk would have improved markedly up until a 40% global allocation, after which relative volatility and correlation dynamics begin to erode diversification benefits. On the other hand, given the high volatility and relatively low return of Japanese office markets, a fully diversified global portfolio (with zero home bias) would have proven optimal for risk-adjusted returns.

Figure 4: Blended prime office portfolios, historic performance 2003-17



Source: Source: Aviva Investors, PMA. April 2018

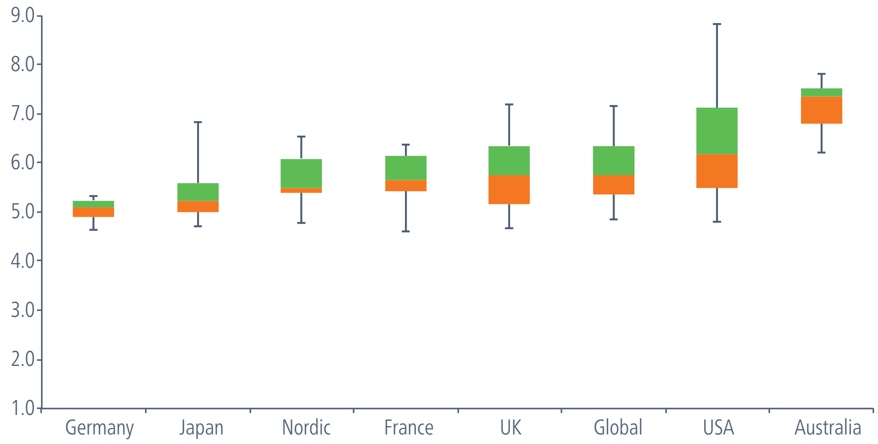
*moving across the chart from left to right combines domestic market with a diversified holding of nine equally weighted global office markets. On the far right the domestic market's weight is reduced to 10%, such that there is zero home bias and the result is an equally weighted portfolio across ten countries. Analysis has been conducted in local currency returns.

Australia is the anomaly

While the exercise is a simple one, nearly all markets tested demonstrated the benefits of international diversification. The only exception is Australia, which historically had higher return and lower volatility characteristics than our constructed global portfolio. Ultimately, potential to improve risk adjusted returns stems from accessing an opportunity set with a broader range of risk and return prospects.

Investors may also be able to tailor global portfolios to meet income return targets. Country differences in lease structure, taxation and underlying yield levels result in a wider range of income returns than can be found in a domestic market. The chart below demonstrates the variation of income return both across and within global markets.

Figure 5: Box and whisker plots showing distribution of annual income returns, 2001-16



Source: Aviva Investors, MSCI IPD April 2018

STRATEGIC TIMING OF INTERNATIONAL PROPERTY CYCLES

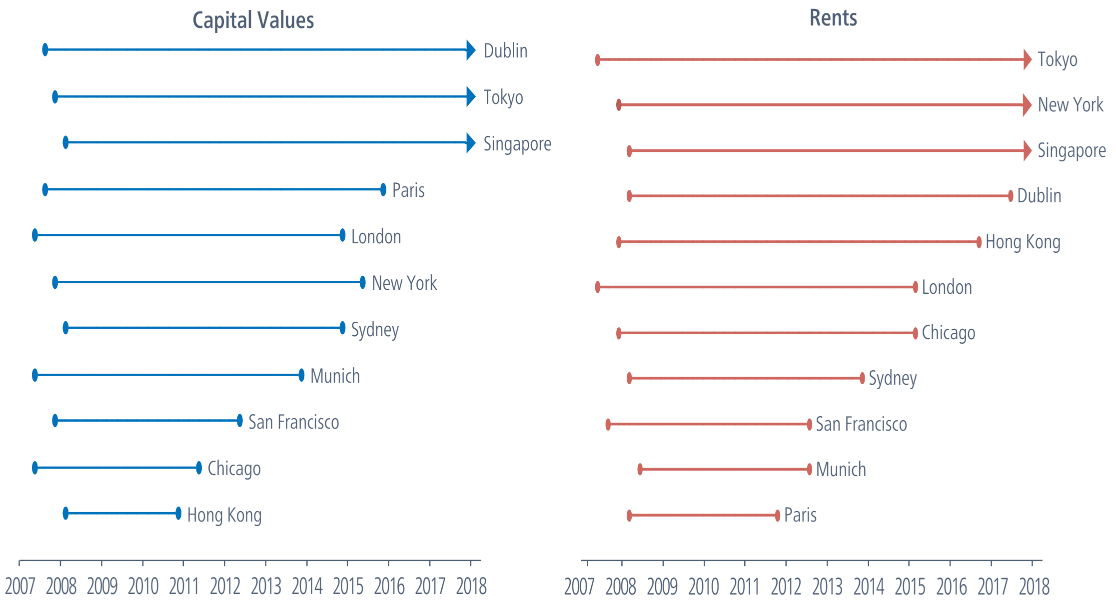
In the aftermath of the global financial crisis we saw a degree of variation in the timing and pace at which markets entered cyclical recoveries. In such scenarios, investors adopting a global approach can take advantage of entering markets at the right time in order to capture capital value or income growth.

Markets recover at differing times and speeds

For example, office capital values in Hong Kong took much less time to rebound back to pre-GFC levels than in other markets, while cities such as Tokyo and Dublin have yet to return to their previous peak (Figure 7). The same applies to rent levels where occupier cycles differ in speed and amplitude.

Through analysing international cycles, active investment managers should be able to exit fully-priced markets and re-invest capital where there is still further re-pricing to capture.

Figure 6: Time taken to return to nominal pre-GFC capital values and rents



Source: Aviva Investors, PMA April 2018

ACCESS TO A LARGER AND MORE DIVERSE OPPORTUNITY SET

Domestic real estate investors will naturally find themselves constrained by the composition of their home market. This may prevent them from exploiting the full spectrum of opportunities the asset class has to offer. Consequently, domestic portfolios may end up with sub-optimal weightings, whereby risk is skewed towards the most dominant or accessible sector in the home market.

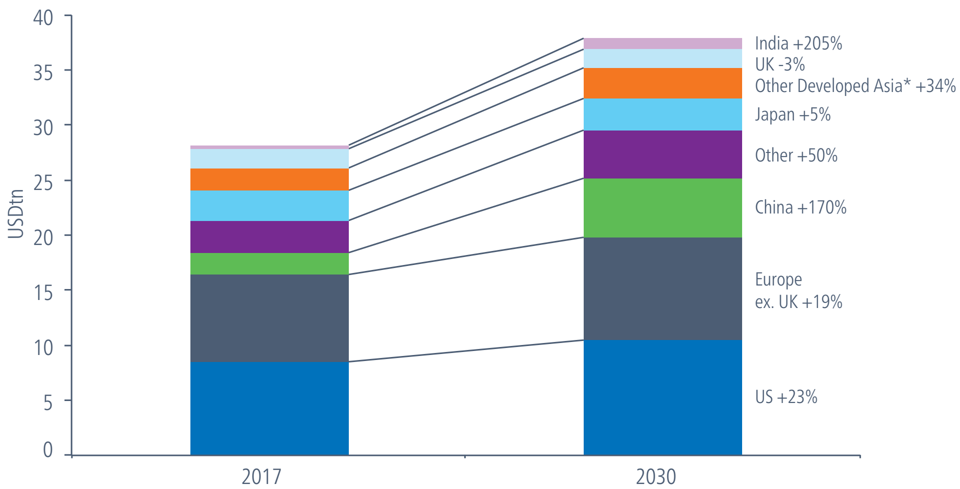
International markets offer exposure to sub-sectors not present domestically

For instance, a fully diversified portfolio would likely include some residential exposure, yet most UK institutions find themselves underweight due to a lack of investable product. Exploring foreign markets where the residential sector is more institutionalised, such as the US or Germany may provide for an optimal outcome. In addition, domestic investors in smaller markets like the Netherlands or New Zealand may need to invest globally to diversify their exposure in all sectors.

Going global also opens the door to growth markets

Driven by rising prosperity and middle class incomes, the developing world is expected to experience much faster growth of investable stock than mature real estate markets (Fig 7). Domestic investors in developed economies therefore risk neglecting a significant, and growing, portion of the real estate universe.

Figure 7: Commercial real estate investable market size estimates and growth, 2017- 30

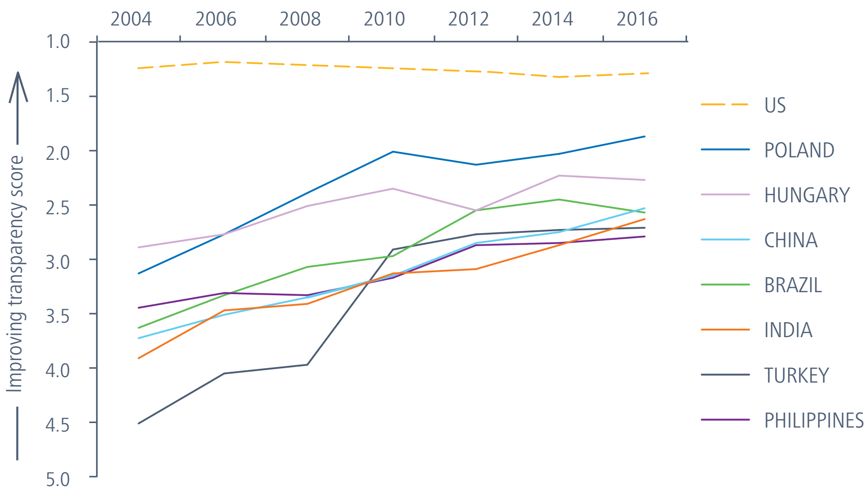


Source: Aviva Investors. *South Korea, Taiwan, Hong Kong, Singapore, Australia, New Zealand April 2018

Improving levels of transparency is attractive

While some of these markets will take time to mature into viable investment locations, a tier of quasi-emerging markets has begun to materialize in recent years. Improving levels of transparency and supportive policy frameworks are making foreign investment into markets such as India, Turkey and Hungary more realistic (Fig 8).

Figure 8: JLL transparency scores, 2004 – 16



Source: Aviva Investors, JLL April 2018

Structural changes may drive growth in mature markets

Entering emerging markets are not the only way to access growth in a global portfolio. Investors with an ear to the ground are able to identify and capitalise on burgeoning trends in already established markets. For example, pockets of growth are currently emerging in US co-living, European e-tailing logistics and Australian student housing, where opportunities exist to make potential outsized returns.

MOVING FROM THEORY TO PRACTICE

The arguments for a global real estate portfolio are compelling but, in moving from theory to practice, investors must take several factors into consideration.

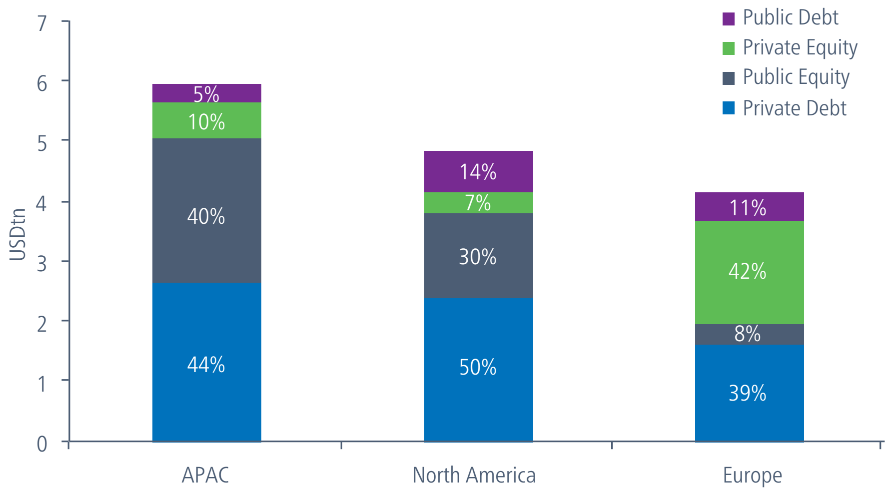
Consider executing a four quadrant strategy

The benefits of going global are underpinned by characteristics of direct real estate cycles. But exposure to the asset class can be gained through debt and equity in both private and public markets. Investors should assess how they can deploy capital on a four quadrant basis: firstly, as a means to gain global exposure, then, as a way to fully exploit the benefits of diversification.

The sizing and structure of markets will impact capital allocation

Europe has the largest and deepest private equity market, standing at US$1.7tn in 2016 (Figure 9). Despite its size, an investor may find it difficult to directly put money to work in Europe. Due to high resource requirements (mainly human capital and oversight needs) only institutions of sufficiently large size would find it optimal to invest in global real estate directly. It may instead be more appropriate to place private equity via unlisted funds, private REITs, club deals or joint ventures.

Figure 9: Value of invested commercial real estate by four quadrants, 2016



Source: Cushman & Wakefield, Money into Property April 2018

REITs are convenient and transparent

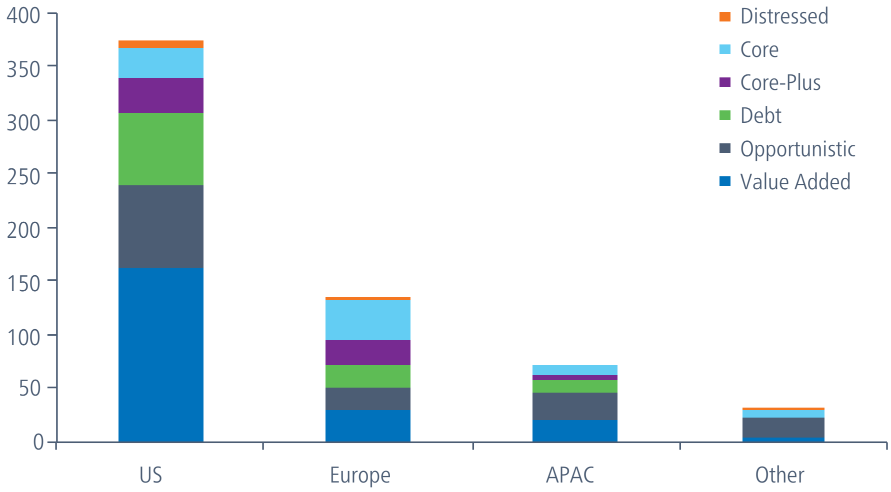
Conversely, investing through REITs provides a relatively accessible and transparent route to building international exposure. Investors with higher liquidity requirements may find themselves with a greater weighting to equities, possibly overweight US and APAC given the depth of these markets.

The value of private debt dominates the invested universe

Private debt should therefore be given due consideration when constructing a global portfolio.

Barriers to accessing private debt directly are high given the scale of capital and level of expertise required. One viable channel to the private debt market is through private debt funds, most of which are concentrated on opportunities in the US (Figure 10). The private debt market in APAC is significant in size yet there are a relatively low number of debt funds to subscribe to. Here, other avenues such as club loans and other syndications are likely to be required. On the public debt side, CMBS is still underdeveloped in Europe and APAC, while the US has a well-established securitisation market.

Figure 10: Number of private funds currently being raised based on primary strategy and geographic focus



Source: Preqin, March 2018

Four quadrants strategy can maximize the benefits of diversification

Astute investors can leverage this tactic to exploit the benefits of global diversification. For example, the liquidity offered by a REIT allocation lends itself better to executing cyclical timing strategies than, investing solely in closed-end funds. Active management of REITs should allow for the efficient recycling of capital in an underlying asset class characterized by illiquidity.

Returning to our previous example of a UK institution, a desire to invest in residential stock can be met by exploring mature markets such as Germany or the US. Adopting a four quadrant approach can further widen the pool of options to gain residential exposure. For example, the UK investor has the option to invest in German residential REITs, or the bond issuance of a US developer.

A wide range of listed and unlisted vehicles also gives investors access to best in class managers. This should provide investors with the confidence to broaden their global palette and invest in less familiar markets. Using specialized managers is arguably the best way to tap into emerging growth sectors such as co-living, where performance is strongly dependent on operational expertise.

GOING GLOBAL – IS IT FOR EVERYONE?

Investors need to be mindful of the costs involved in constructing a global portfolio. These range from human resource requirements, higher management fees, currency hedging, and tax leakage. Therefore, while performance is likely to improve through the diversification of risk, the returns side of the equation will be impacted by costs of execution.

Additionally, investment style in a global portfolio may end up being influenced by regional weightings. Core investment is a valid strategy in the developed world but it is difficult to conduct in emerging markets due to a lack of suitable product. In contrast, fund managers in APAC are likely to pursue more opportunistic investment. This is mirrored by the data in Figure 10, which shows a large proportion of opportunistic funds being raised in the region. To avoid style drift, it is important that investors have a clear understanding of their risk-return objectives when making country allocations.

The need to invest indirectly will mean exposure to leverage. Unlisted real estate funds are typically geared especially closed-end funds. Excessive leverage increases overall portfolio risk, which may negate the benefits of foreign investment.

Going global does not necessarily mean moving up the risk curve. However, it is often the case that growth-oriented investors stand to gain the most from a global strategy. There is less of a case for those primarily seeking steady income, but the potential diversification benefits are still relevant. Liability-driven investors are least likely to benefit from a large global allocation, as they are likely to be better matched by domestic assets.

CONCLUSION

This paper has attempted to give a balanced review of the benefits of diversifying into foreign real estate markets:

- There are benefits to be gained from a risk reduction and return enhancement perspective
- Active management of international allocations can result in effective cyclical strategies
- A wider and deeper opportunity set gives investors access to a full spectrum of real estate opportunities
- Implementing a four quadrant approach may be a suitable way to construct and exploit a global portfolio; however there is no one size fits all model.

AVIVA
INVESTORS

Important Information

Except where stated as otherwise, the source of all information is Aviva Investors Global Services Limited (Aviva Investors) as at April 2 2018. Unless stated otherwise any view sand opinions are those of Aviva Investors. They should not be viewed as indicating any guarantee of return from an investment managed by Aviva Investors nor as advice of any nature. Information contained herein has been obtained from sources believed to be reliable, but has not been independently verified by Aviva Investors and is not guaranteed to be accurate. Past performance is not a guide to the future. The value of an investment and any income from it may go down as well as up and the investor may not get back the original amount invested. Nothing in this document, including any references to specific securities, assets classes and financial markets is intended to or should be construed as advice or recommendations of any nature. This document is not a recommendation to sell or purchase any investment.

In the UK & Europe this document has been prepared and issued by Aviva Investors Global Services Limited, registered in England No.1151805. Registered Office: St. Helen's, 1 Undershaft, London, EC3P 3DQ. Authorised and regulated in the UK by the Financial Conduct Authority. Contact us at Aviva Investors Global Services Limited, St. Helen's, 1 Undershaft, London, EC3P 3DQ. Telephone calls to Aviva Investors may be recorded for training or monitoring purposes. In Singapore, this document is being circulated by way of an arrangement with Aviva Investors Asia Pte. Limited for distribution to institutional investors only. Please note that Aviva Investors Asia Pte. Limited does not provide any independent research or analysis in the substance or preparation of this document. Recipients of this document are to contact Aviva Investors Asia Pte. Limited in respect of any matters arising from, or in connection with, this document. Aviva Investors Asia Pte. Limited, a company incorporated under the laws of Singapore with registration number200813519W, holds a valid Capital Markets Services Licence to carry out fund management activities issued under the Securities and Futures Act (Singapore Statute Cap. 289) and Asian Exempt Financial Adviser for the purposes of the Financial Advisers Act (Singapore Statute Cap.110). Registered Office: 1Raffles Quay, #27-13 South Tower, Singapore 048583. In Australia, this document is being circulated by way of an arrangement with Aviva Investors Pacific Pty Ltd for distribution to wholesale investors only. Please note that Aviva Investors Pacific Pty Ltd does not provide any independent research or analysis in the substance or preparation of this document. Recipients of this document are to contact Aviva Investors Pacific Pty Ltd in respect of any matters arising from, or in connection with, this document. Aviva Investors Pacific Pty Ltd, a company incorporated under the laws of Australia with Australian Business No. 87 153 200 278 and Australian Company No. 153 200 278, holds an Australian Financial Services License (AFSL 411458) issued by the Australian Securities and Investments Commission. Business Address: Level 30, Collins Place, 35 Collins Street, Melbourne, Vic 3000

The name "Aviva Investors" as used in this presentation refers to the global organization of affiliated asset management businesses operating under the Aviva Investors name. Each Aviva investors' affiliate is a subsidiary of Aviva plc, a publicly- traded multi-national financial services company headquartered in the United Kingdom. Aviva Investors Canada, Inc. ("AIC") is located in Toronto and is registered with the Ontario Securities Commission ("OSC") as a Portfolio Manager, an Exempt Market Dealer, and a Commodity Trading Manager. Aviva Investors Americas LLC is a federally registered investment advisor with the U.S. Securities and Exchange Commission. Aviva Investors Americas is also a commodity trading advisor ("CTA") and commodity pool operator ("CPO") registered with the Commodity Futures Trading Commission ("CFTC"), and is a member of the National Futures Association ("NFA"). AIA's Form ADV Part 2A, which provides background information about the firm and its business practices, is available upon written request to: Compliance Department, 225 West Wacker Drive, Suite 2250, Chicago, IL 60606

J39037 RA18/0471/01042019

CONTACT US AT :

Aviva Investors
St Helen's, 1 Undershaft
London EC3P 3DQ

www.avivainvestors.com