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Many investors are familiar with the appeal of holding real estate. With a generally low correlation to other asset classes, it can serve as an instant diversifier in a mixed-asset portfolio. Historically, real estate has delivered strong relative performance across multiple cycles compared to other asset classes, and its characteristic stable income, underpinned by long-term leases, makes it a compelling alternative to traditional fixed-income instruments. Participation in real estate from the investor community is one of the highest among the various alternatives asset classes, and is expected to grow in importance in portfolio allocations moving forward.¹

In the past, real estate investors around the world have tended to be domestically focused, but increasingly many are now investing in non-domestic or even global real estate. Large institutional investors and Sovereign Wealth Funds have been at the forefront of the shift, driven by the generally stable income component that comes from real estate and the potential for diversification benefits, risk reduction and the possibility of return enhancement.² Likewise, a lack of domestic investment opportunities has also played a role in investors' increasing appetite for an international portfolio as a way to significantly broaden their opportunity set (Figure 1).

Admittedly, assessing the global real estate market and the different means of gaining exposure through listed, unlisted, equity and debt vehicles can be a daunting task. Investors must assess various factors before making an allocation, including the impact of currency fluctuations and foreign tax laws. They must also assess their own internal capabilities for evaluating such an allocation.

In this paper, we consider four elements:

- Ways to invest in real estate
- The depth and liquidity benefits of global real estate market opportunities
- A case for long-term investment horizons and
- How the addition of non-domestic real estate exposure may serve to enhance returns and lower risk in a multi-asset class portfolio.

Figure 1

Why real estate?

Investors have different motivations for considering international real estate

Size and performance

- Size of the real estate asset class
- Lack of domestic real estate opportunities
- Markets comparable in transparency
- Income orientation
- Strong relative historical return performance

Characteristics and portfolio contribution

- Different growth drivers
- Diversification with traditional asset classes
- Diversification with domestic real estate market
- Inflation hedging
- Portfolio risk reduction and return enhancement

Ways to invest in global real estate

There are multiple ways to access the real estate asset class, through equity and debt positions via listed and unlisted vehicles. In recent years, the potential ways to invest in real estate have become more varied; while global public real estate markets have long been accessible to investors, it is only recently that pan-regional, open-ended core funds have become available globally, offering access to global unlisted real estate. Prior to that, unlisted real estate was accessible primarily through closed-end, higher-return strategies or through management-intensive direct ownership. This enhancement to the composition of available investment vehicles is providing investors greater opportunities for diversification by adding unlisted global real estate to their portfolios.

Does it matter? It is noteworthy that while listed and unlisted real estate tend to have similar characteristics in the long term, they have varying characteristics in the

short term, driven in large part by the liquidity component of each. Listed real estate offers daily liquidity, but this comes with higher volatility, whereas unlisted real estate generally offers only periodic liquidity, which underscores generally greater stability under normal market conditions (Figure 2). This is beginning to change. Increasingly, a range of unlisted vehicles is evolving that provides greater liquidity than the traditional closed-end and open-ended funds, often through a blend of direct and listed real estate.

In addition to choosing an investment vehicle, various real estate strategies exist across the risk-return spectrum that may warrant consideration depending on an investor's goals and risk tolerance. The options include core, core plus, value-add and opportunistic approaches.

Core assets are generally stable, cash-flow producing assets with stable occupancy, while

opportunistic assets represent the riskiest real estate approach, wherein investors look to achieve higher returns by tackling assets with structural or financial obstacles.

While it is likely that an institutional investor may pursue a combination of real estate approaches to achieve their performance objectives, in this paper our focus is on equity positions largely within private real estate, as unlisted real estate represents the largest share of the estimated global investable universe, while listed indices represent less than 10% of the universe based on their market capitalisation (Figure 3).³

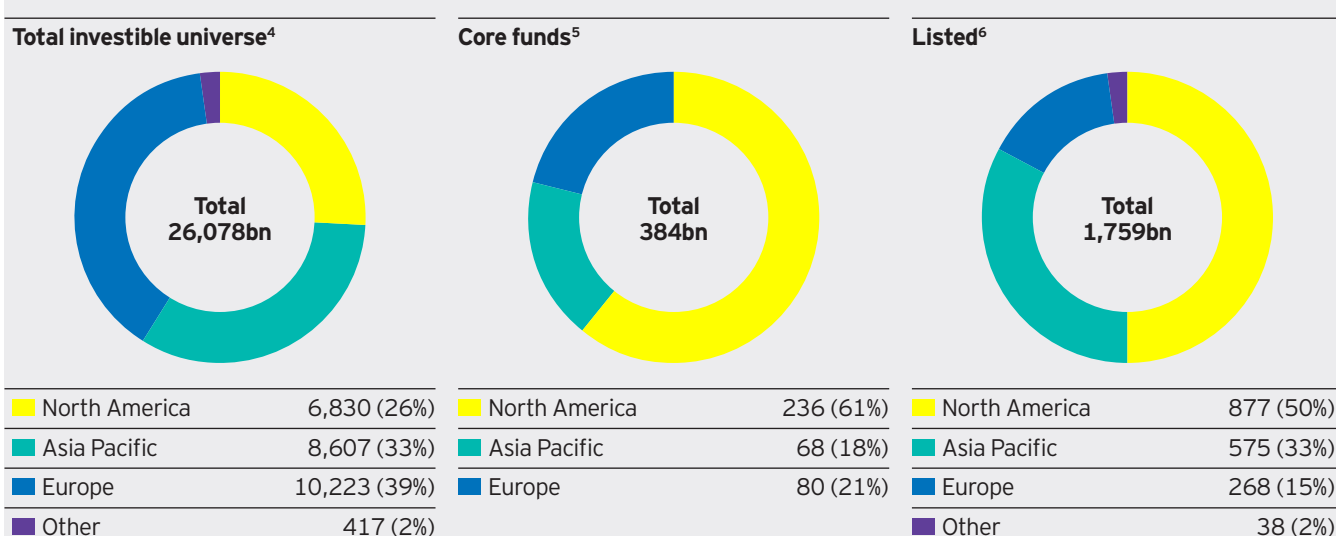
Global interest in real estate has continued to increase in recent years as investors seek yield amidst the ultra-low interest rate environment. Even as central banks have begun to signal modest increases it seems unlikely that interest rates will return to historical average levels anytime soon.

Figure 2
Comparison of listed and unlisted real estate

	Listed (Public) Real Estate	Unlisted (Private) Real Estate
Return	Broadly similar returns over the long term	Broadly similar returns over the long term
Risk (Volatility)	More volatile	Less volatile
Liquidity	Very liquid	Less liquid
Diversification benefit	Moderate but not as large as private real estate	Substantial over the long term
Investment horizon	Flexible	Generally longer term
Availability of information	Readily available, real-time transaction based	Improving but less readily available, mainly appraisal-based
Timeliness of information	Daily	Quarterly (or monthly in selected countries)

Sources: Invesco Real Estate, Bloomberg Barclays, and FTSE International Limited (FTSE) © 2019.

Figure 3
Different measures of the global real estate universe - Estimated size (US\$bn)



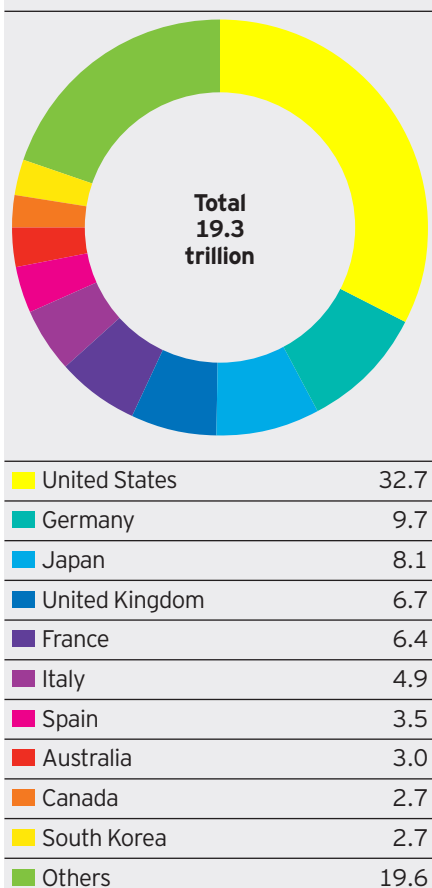
Source: Invesco Real Estate based on data from Cushman & Wakefield Money into Property 2017 Report, MSCI Global Quarterly Property Fund Index, and FTSE EPRA/NAREIT Global Real Estate Index as of May 2019.

Depth and liquidity issues

Going global can open additional investment opportunities to access quality real estate investments. The investable universe in sophisticated, transparent markets is estimated at US\$19.3 trillion, or roughly 74% of the total global real estate investment universe (Figure 4). Even the largest country is only a small proportion of this total. Apart from the United States, no other single country represents more than 10% of the total transparent global real estate universe. As such, it is not surprising that many investors around the world are looking abroad to source real estate deal flow.

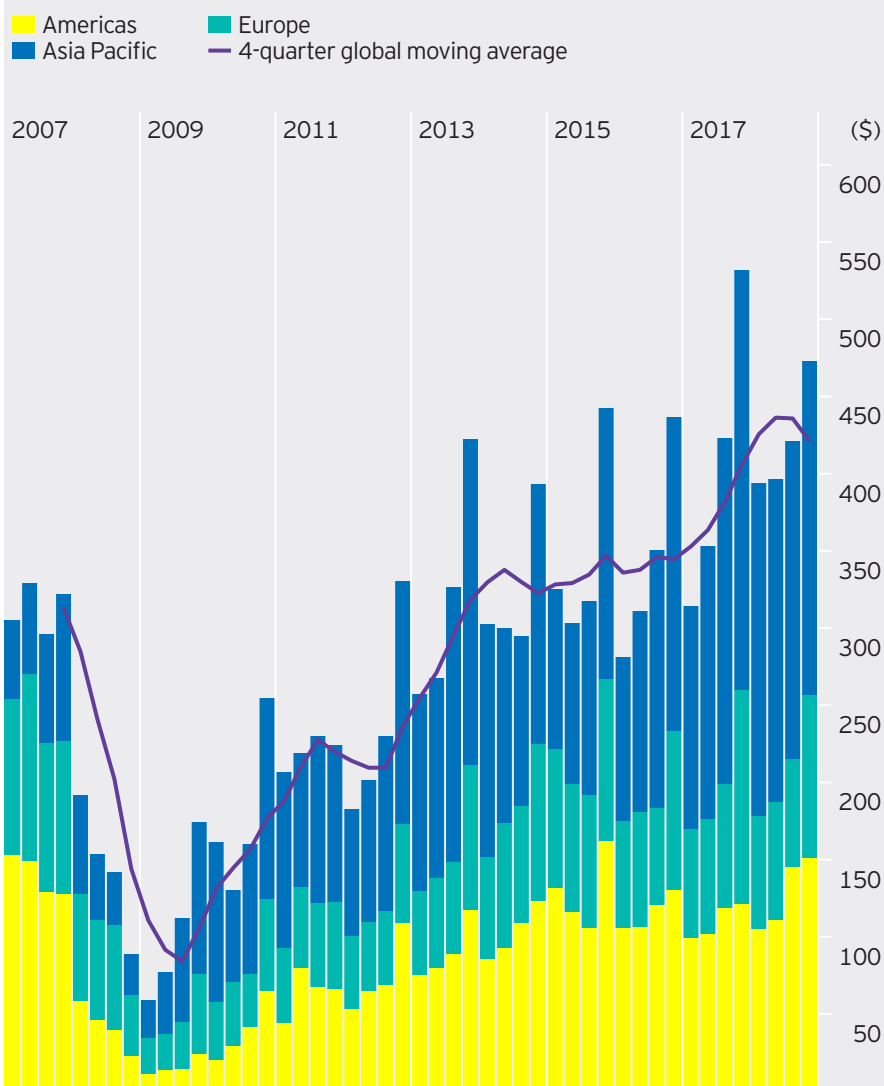
This elevated external focus has spurred growth in transaction volumes globally. According to Real Capital Analytics, quarterly transaction volumes have ranged from US\$130 billion to US\$532 billion since 2010 (Figure 5). Through 2018, property transactions totaled US\$1.68 trillion, an increase of 3.8% year over year and 22% above 2016 volumes.⁷ Significantly, the increased transaction volume has not been isolated to any one region, indicating that there are liquid markets accessible across the globe.

Figure 4
Share of transparent investable universe by country - Estimated size (US\$ trillion, %)^a



Source: Invesco Real Estate using data from Cushman & Wakefield Money into Property report and JLL Transparency Index as of May 2019.

Figure 5
Quarterly transaction activity 2007-18 (US\$bn)



The figure relates to direct transactions involving all property types including land.
Source: Invesco Real Estate based on data from Real Capital Analytics as of May 2019.

Diversification

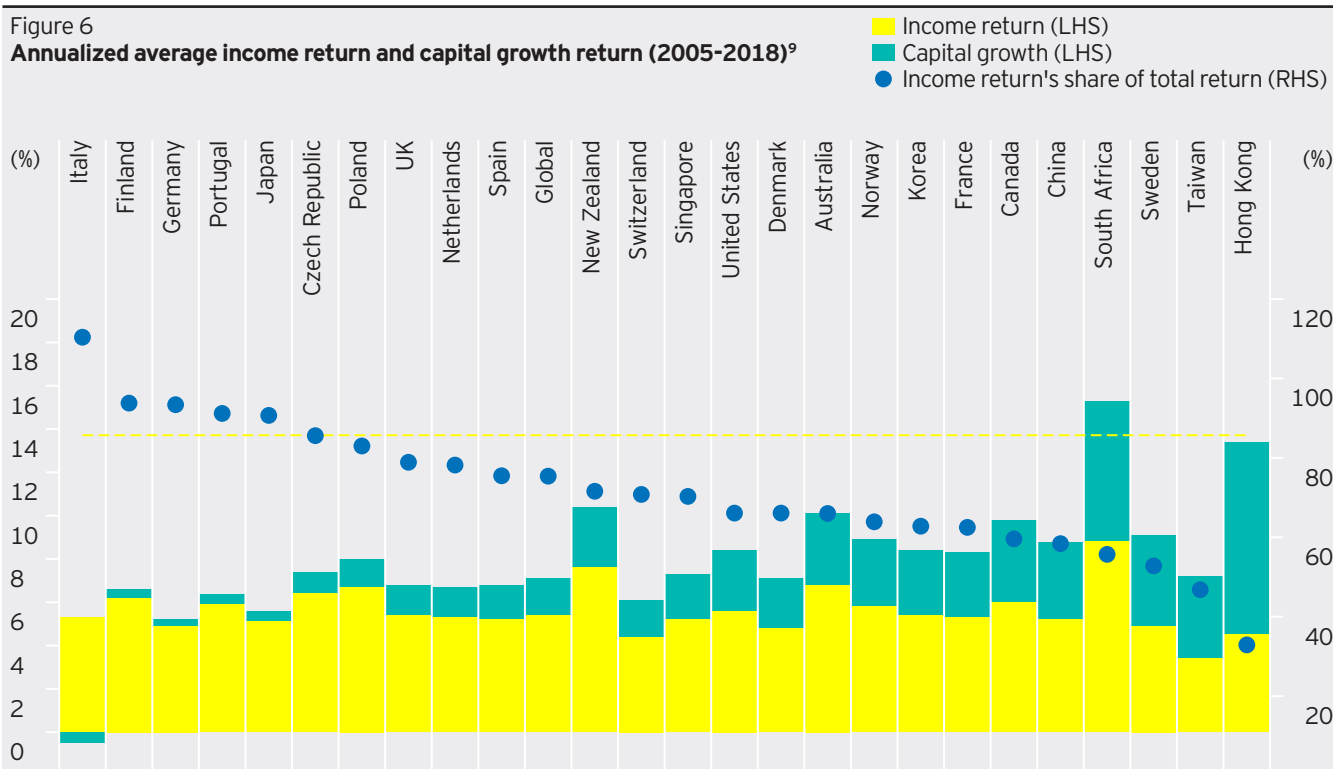
Investors' appetite for real estate is spurred in part by the asset class's generally stable income component. Across the globe, income returns as a share of private real estate total returns is generally quite high (Figure 6). With the exception of a few high-growth markets such as South Africa and Hong Kong, annualized total returns are driven primarily by income.

Furthermore, when considered as part of a mixed-asset portfolio, the income return of real estate, both public and private,

becomes even more compelling. Over the period 2001-18, global equities derived 45% of their total return from income, with 55% the result of capital appreciation. That 55% from appreciation was responsible for 97% of equities' total return volatility (Figure 7). By comparison, for real estate globally, income contributed a greater share of total return (53% for listed and 80% for unlisted real estate) and was only modestly responsible for the volatility of returns (Figure 7). This suggests that a portfolio that adds global real estate stands to diminish risk through lower volatility.

Figure 6

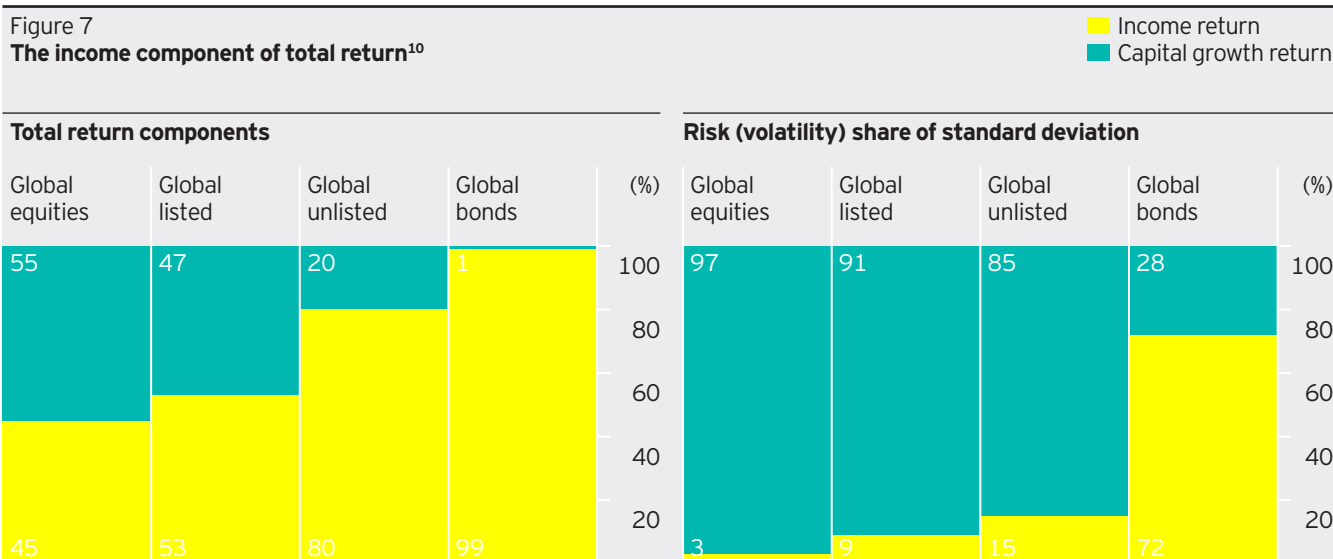
Annualized average income return and capital growth return (2005-2018)⁹



Source: Invesco Real Estate using data from NCREIF and MSCI as of April 2019. Past performance is not a guide to future returns. An investment cannot be made directly into an index.

Figure 7

The income component of total return¹⁰



Source: Invesco Real Estate based on data from MSCI, Bloomberg Barclays and Macrobond as of May 2019.

Diversification (continued)

At its core, real estate is a local asset class, driven by local demographic and economic trends. The lack of synchronization in economic cycles globally reduces the correlation in real estate returns; thus, moving beyond one's domestic market can offer significant diversification benefits and dampen volatility. As evidenced by correlation data from unlisted property returns across 16 sizable real estate markets, there is a clear diversification of property returns around the world. Of the 16 countries shown, each had correlations below 0.8 with at least ten other countries. Since 2007, China, Hong Kong and the

United Kingdom had property return correlations below 0.8 for all of the other 15 markets and Korea, Germany and Italy for 14 of the other 15 markets (Figure 8).

Beyond country-to-country diversification benefits, expanding one's real estate portfolio outside one's home country to include a global mandate can also produce a smoothing effect on returns. Figure 9 reflects unleveraged real estate total returns for 32 countries around the globe, with the grey lines each reflecting a different country's historical returns.

Over the period from 2008 to 2018, a period including the Global Financial Crisis and its aftermath, the global unlisted real estate portfolio returned an annualized average of 5.6% with a standard deviation of 6.1%. In any given year there are markets that exhibit significant outperformance and those that reflect underperformance. However, given the difficulty in timing country peaks and troughs, particularly without local expertise, a diversified global portfolio seems to suggest a smoother trend line.

Figure 8

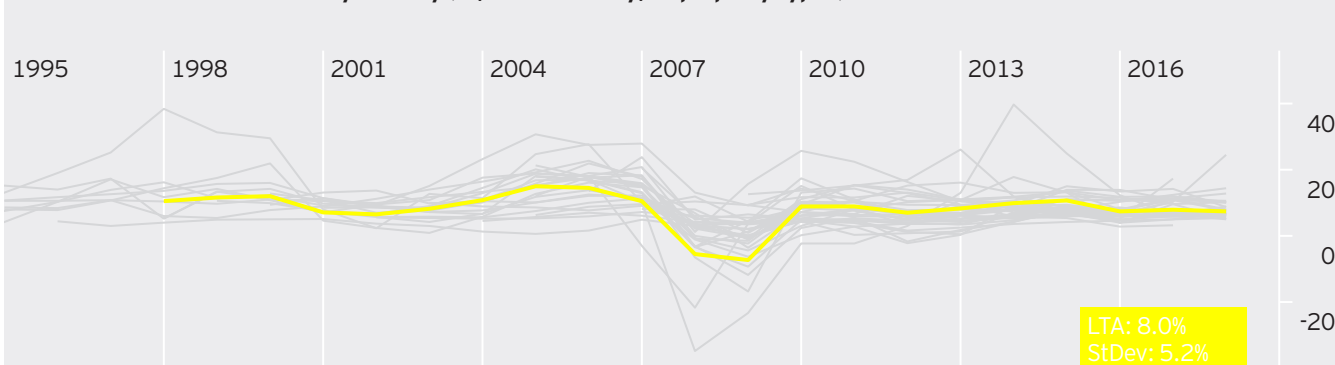
Direct property indices - correlation in all-property unlevered total returns, 2007-18¹¹

	Canada	United States	Australia	China	Hong Kong	Japan	Korea	Singapore	United Kingdom	France	Germany	Italy	Spain	Sweden	Poland	Netherlands
Canada	1.00															
United States	0.83	1.00														
Australia	0.69	0.90	1.00													
China	0.29	0.31	0.07	1.00												
Hong Kong	0.59	0.36	0.27	0.32	1.00											
Japan	0.49	0.78	0.92	-0.10	-0.09	1.00										
Korea	0.50	0.36	0.58	-0.09	0.34	0.52	1.00									
Singapore	0.82	0.70	0.73	0.29	0.41	0.63	0.84	1.00								
United Kingdom	0.19	0.49	0.41	-0.02	0.41	0.28	-0.13	-0.07	1.00							
France	0.75	0.83	0.93	0.23	0.50	0.75	0.72	0.85	0.31	1.00						
Germany	0.02	0.40	0.56	-0.20	-0.26	0.64	-0.08	0.00	0.36	0.33	1.00					
Italy	0.40	0.47	0.68	0.33	0.37	0.56	0.74	0.74	-0.03	0.82	0.32	1.00				
Spain	0.25	0.66	0.85	0.05	-0.07	0.85	0.36	0.43	0.35	0.72	0.77	0.68	1.00			
Sweden	0.50	0.77	0.91	0.03	0.35	0.77	0.43	0.49	0.56	0.86	0.62	0.65	0.85	1.00		
Poland	0.80	0.72	0.70	0.43	0.31	0.60	0.64	0.92	-0.14	0.78	0.14	0.73	0.48	0.47	1.00	
Netherlands	0.08	0.34	0.61	0.02	-0.08	0.63	0.32	0.32	0.02	0.55	0.80	0.75	0.82	0.66	0.42	1.00

Source: Invesco Real Estate based on NCREIF and MSCI as of May 2019. Past performance is not a guide to future returns.

Figure 9

Direct real estate total return by country (% local currency, all property types)



Each grey line represents the annual total return series over time for an individual country (32 countries).

Source: Invesco Real Estate using data from MSCI and NCREIF as of May 2019. Past performance is not a guide to future returns.

A case for long-term investing

As Figure 9 demonstrates, local real estate market performance varies. Yet, despite a dip during the global financial crisis, the MSCI Global Quarterly Property Fund Index (an index of total returns for global open-ended core funds) has increased steadily, by more than 70% over the last 11 years (Figure 10).

This would suggest that an investor with a longer-term hold horizon for real estate may fare better than one who seeks to time its investments. But does this theory hold up?

To consider the impact of trying to “time the market” versus taking a long-term, disciplined approach to investing in real estate, we have sought to demonstrate several hypothetical investment scenarios yielding different results.

An investor with the worst timing, i.e. one that invested once only at the exact peak

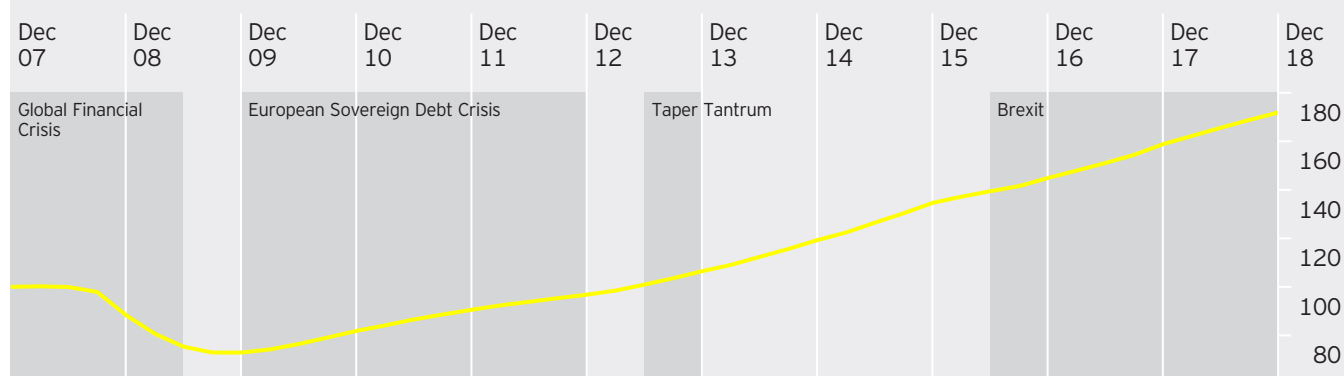
of the last cycle (assumed to be at the end of 2008 for these purposes) but who held on to the investment through the subsequent decade, would have achieved a 5.1% per annum total return (Figure 11). And this would have included a healthy annual dividend payment, likely in the range of 3-5% over the period.

Extending the thought experiment, what if another investor had also invested at the exact same peak of the market in 2008, but then had invested equal amounts each subsequent year? This more active investor would have achieved an 8.6% total return, again with a 3-5% annual dividend payment.

Given the difficulty in successfully timing the market, this example suggests that an investor willing to weather potential short-term volatility, may yield greater returns by making a consistent allocation to real estate, regardless of the original cyclical starting point.

Figure 10

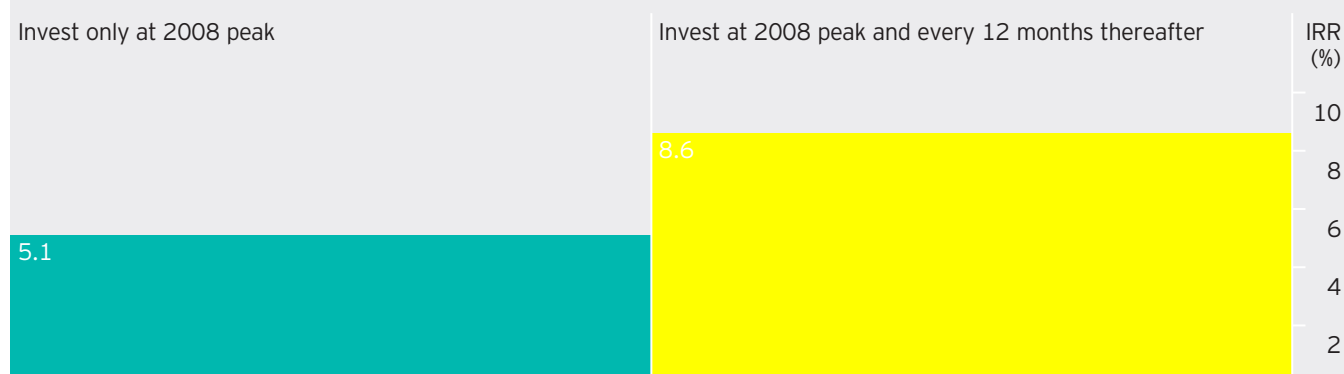
Global real estate performance since the 2008 peak - MSCI Global Quarterly Property Fund Index (reweighted by region, local fund currencies) December 2007=100¹²



Source: Invesco Real Estate using data from MSCI Global Quarterly Property Fund Index as of 31 December 2018.

Figure 11

The case for long-term investing - Investment performance if you had invested US\$100 million into the reweighted GPFI at the 2008 peak (Q1 2008- Q4 2018, % per annum)¹³



Source: Invesco Real Estate using data from MSCI Global Quarterly Property Fund Index as of 31 December 2018.

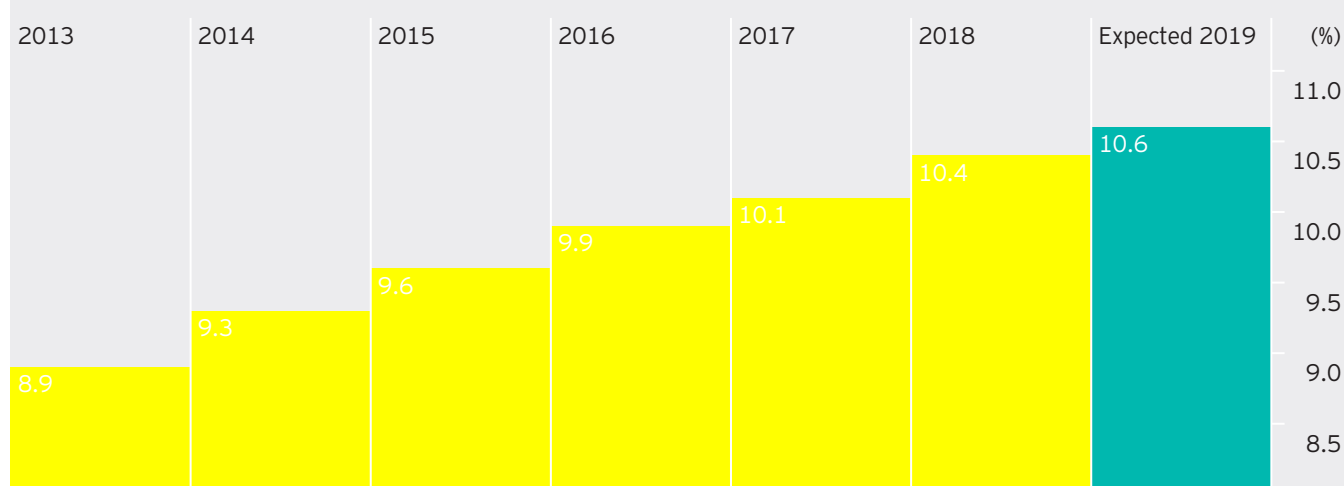
The role of global real estate within a mixed-asset portfolio

According to the 2018 Institutional Real Estate Allocations Monitor, which tracks 208 institutional investors representing over US\$11.0 trillion in total assets and real estate assets of approximately US\$1.0 trillion, investors' target allocations to real estate have increased 150 bps since 2013, reaching 10.4% in 2018 (Figure 12). Approximately 61% of institutions surveyed have a target allocation greater than 10%.¹⁴

Figure 13 illustrates the correlations between global real estate and various global traditional asset classes. A global private real estate portfolio (represented as the Custom MSCI Global Quarterly Property Fund Index) produces very low correlations with global equities (0.24), global bonds (-0.16), and even global public real estate (0.23) suggesting a blend of public and private real estate can also create diversification benefits.

Figure 12

Target allocations to real estate - Weighted average target allocation to real estate, all institutions, 2013-19



Source: Invesco Real Estate based on data from the 2018 Institutional Real Estate Allocations Monitor published by Cornell University's Baker Program in Real Estate and Hodes Weill & Associates as of October 2018.

Figure 13

Correlations of global real estate and other asset classes (local currency returns with other sectors - Q1 2008-Q4 2018)¹⁵

Market Sector Index	Custom MSCI Global Quarterly Property Fund Index	MSCI World Index	FTSE EPRA/NAREIT Developed Index	Bloomberg Barclays Global Aggregate Bond Index
Custom MSCI Global Quarterly Property Fund Index ¹⁶	1.00	-	-	-
MSCI World Index GR ¹⁷	0.24	1.00	-	-
FTSE EPRA/NAREIT Developed Index ¹⁸	0.23	0.87	1.00	-
Bloomberg Barclays Global Aggregate Bond Index ¹⁹	-0.16	0.18	0.33	1.00

Source: Invesco Real Estate based on data from MSCI, Bloomberg Barclays, FTSE EPRA/NAREIT and Macrobond as of May 2019.

The role of global real estate within a mixed-asset portfolio (continued)

To help to visualise the impact of adding real estate, Figure 14 shows the efficient frontiers for two hypothetical portfolios over the period 2005-17. The first is a "traditional" equities/bonds portfolio constrained to a maximum allocation of 60% to either equities or bonds (dark blue). The second is a portfolio enhanced with global real estate constrained to a maximum 20% weighting over the 2005-2017 period (light green). It shows clearly that by adding global real estate, a portfolio would have had the potential to achieve either a higher return or the same level of return at lower risk.

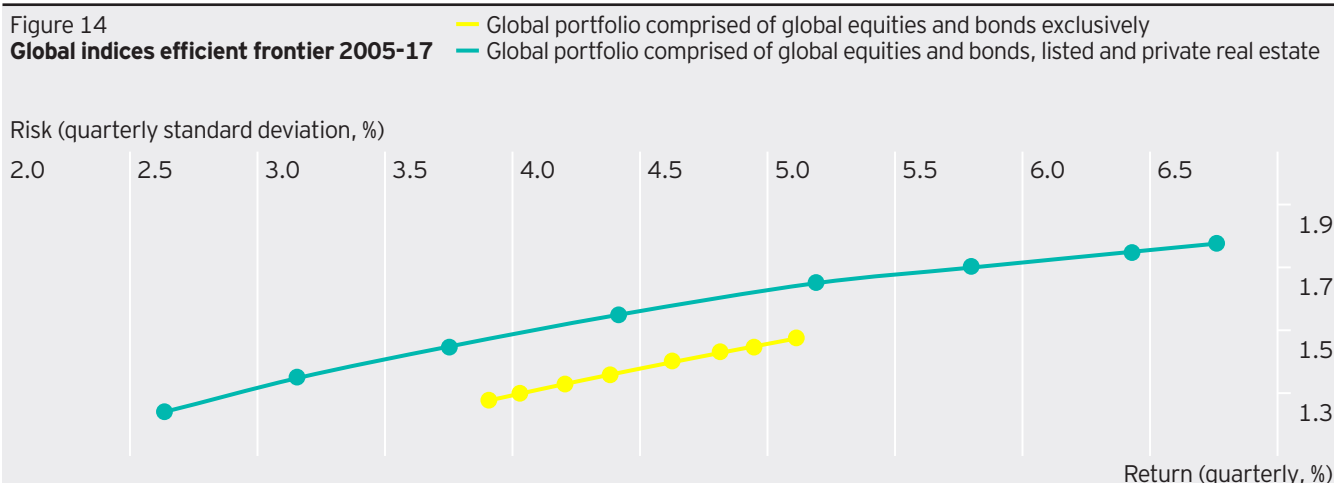
Another way to look at this topic is to consider the effect of adding a given percentage of global real estate to a portfolio, say 10%, 20% or 30% (Figure 15). What would have been the impact on a traditional global stocks and global bonds portfolio in the post-GFC period? Four conclusions are clear:

- Adding global real estate, unlisted or listed, would have enhanced the total return of the portfolio - ranging from approximately 20-30 bps per annum at the 10% allocation level for real estate to 60-80 bps at the 30% level.

- If the real estate was exclusively in the unlisted form, it would also have lowered the portfolio volatility from 8.5% standard deviations by 50-150 bps to 6.8-7.9% - but at the expense of adding a degree of illiquidity to the portfolio.
- If the real estate was exclusively in listed form, it would have enhanced the return by 25-75 bps without sacrificing liquidity but at the expense of higher volatility (up by 25-100 bps).
- Finally, within the real estate allocation, a blend of 10-30% listed and 70-90% unlisted real estate would have both enhanced portfolio returns and lowered volatility, without sacrificing much liquidity. This cone of improved risk-adjusted returns is highlighted in grey in Figure 15.

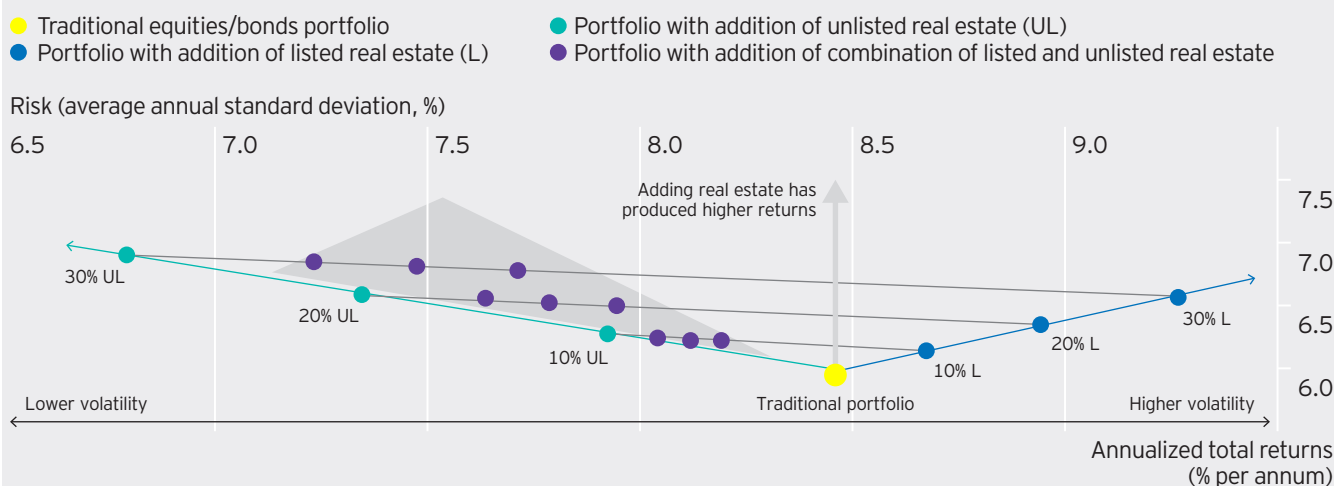
This exercise exhibits some of the benefits of real estate in a global portfolio, however it should be acknowledged that in practice most investors will begin with a portfolio that already has a component of domestic real estate and then consider the addition of global real estate.

Figure 14
Global indices efficient frontier 2005-17



Sources: Invesco Real Estate using data from Macrobond, Barclays and MSCI Global Property Index as of July 2018.

Figure 15
Diversification: Risk and return profile of different portfolios since the GFC (Q1 2010-Q4 2018, in US\$)²⁰



Source: Invesco Real Estate using data from MSCI, Bloomberg Barclays and Macrobond as of May 2019.

Conclusion

While there are a number of potential motivations for investing in global real estate, an investor may want to assess various other factors before making an allocation such as the impact of currency, tax, liquidity and pricing, as well as an assessment of internal capabilities.

Analyzing global real estate markets and the different ways to invest can be a large task. An investor may need to assess what resources and capabilities they have to execute a global real estate allocation. Most investors may choose to participate via listed real estate, separate accounts, unlisted commingled funds or fund of funds in order to gain access to global real estate without the extensive time required to build out dedicated internal resources, much less the lead time to deploy capital at scale.

For investors considering expanding their exposure beyond their home country, listed and unlisted global real estate can offer attractive returns derived from generally stable income streams, while simultaneously having the potential to lower portfolio volatility. The depth and transparency of many international markets make cross-border investment increasingly accessible, while historical low correlations to other countries and alternative asset classes makes it a useful tool for diversification. For many, time in the market, rather than market timing may be the simpler, better way to achieve the portfolio benefits.

Notes

- ¹ Preqin Investor Outlook: Alternative Assets, H1 2019 report.
- ² CBRE Research, Global Investor Intentions Survey 2018.
- ³ Total investable universe market size is estimated based on each regions' investable stock as defined by latest Cushman & Wakefield Money into Property 2017 report. Regional market capitalisation of the FTSE EPRA/NAREIT Global Real Estate Index is estimated based on the free-float method as of Q1 2019.
- ⁴ Total investable universe market size is estimated based on each region's investable stock as defined by latest Cushman & Wakefield Money into Property 2017 report.
- ⁵ Regional compositions of the MSCI Global Quarterly Property Fund Index are estimated based on fund-level Net Asset Value (NAV) as of Q4 2018. The sum of the pie chart may not add to the total due to rounding.
- ⁶ Regional market capitalization of the FTSE EPRA/NAREIT Global Real Estate Index is estimated based on the free-float method as of March 2019.
- ⁷ Real Capital Analytics, as of March 2019.
- ⁸ "Transparent universe" is estimated based on the JLL Transparency Index 2018 Edition. The JLL index was derived based on factors such as investment performance, market fundamentals, listed vehicles, regulatory/legal environment and transaction processes in 2018. For this analysis, the transparent universe includes 32 countries, which were categories as either "Highly Transparent" or "Transparent" according to JLL. The size of the investable stock in each country is then estimated based on the latest Cushman & Wakefield Money into Property 2017 report.
- ⁹ Annualized averages are generally calculated based on the geometric averages of total returns in 2005-2018 or for the longest time period available. For Hong Kong, China and Taiwan, annualized averages were calculated using the longest available time periods through 2017, the latest data available at time of publication.
- ¹⁰ Shares of total returns are approximate values which exclude residual effects. Both returns and standard deviations were derived based on 18 years (2001-2018) of annual income return and capital growth histories. Global equity performance is calculated based on the MSCI World Index. Global bond performance is calculated based on the Bloomberg Barclays Global Aggregate Index. Global public real estate performance is calculated based on the FTSE EPRA/NAREIT Global Developed Index. Global private real estate performance is calculated based on the MSCI Global Property Index.
- ¹¹ Correlations generally use the longest available common time period (2007-2018). Korea = South Korea.
- ¹² MSCI Global Quarterly Property Fund Index (GPFI) was reweighted to 40% North America, 30% Europe and 30% Asia Pacific.
- ¹³ Hypothetical US\$100 million investment into the reweighted GPFI not including the re-investment of dividends. Reweighted GPFI refers to the MSCI Global Quarterly Property Fund Index (GPFI) in local currency being reweighted to 40% North America, 30% Europe and 30% Asia Pacific.
- ¹⁴ Hodes Weill & Associates, 2018 Institutional Real Estate Allocations Monitor.
- ¹⁵ Correlations were calculated using the longest common time period available from Q1 2008 through Q4 2018.
- ¹⁶ The custom index is based on the MSCI Global Quarterly Property Fund Index (GPFI) reweighted to 40% North America, 30% Europe and 30% Asia Pacific. The GPFI is a consultative index of 101 capitalization-weighted, core, open-ended quarterly valued direct real estate funds from around the world.
- ¹⁷ This index is a market capitalization-weighted index designed to capture large and mid cap publicly traded equity representation across 23 developed markets. The index covers approximately 85% of the free float-adjusted market capitalization of the public equity markets in each country. The returns are used here to represent global equity market returns.
- ¹⁸ The index is an equity market capitalization-weighted index composed of property company constituents that trade on several global exchanges. The returns are used here to represent global real estate investment trust returns (GREITs). GREITs are a publicly liquid equity security whose underlying assets are real estate investments. GREITs are often viewed as the liquid proxy for real estate investing.
- ¹⁹ The index is a market capitalization-weighted index that includes Treasury securities, Government agency bonds, mortgage-backed bonds, corporate bonds, US-traded investment grade bonds, and some foreign bonds traded in the US and is used here to represent global bond market returns.
- ²⁰ Global equity performance is calculated based on the MSCI World Index. Global bond performance is calculated based on the Bloomberg Barclays Global Aggregate Index. Global private real estate is calculated based on the MSCI IPD Global Property Fund Index. Global public real estate is calculated based on the FTSE EPRA/NAREIT Developed Index.

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The value of investments and any income will fluctuate (this may partly be the result of exchange rate fluctuations) and investors may not get back the full amount invested. Property and land can be difficult to sell, so investors may not be able to sell such investments when they want to. The value of the property is generally a matter of an independent valuer's opinion.

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