FOR INSTITUTIONAL / WHOLESALE / PROFESSIONAL CLIENTS AND QUALIFIED INVESTORS ONLY – NOT FOR RETAIL USE OR DISTRIBUTION

Going global in core real estate

The case for diversified global property allocations in pension portfolios

January 2021

IN BRIEF

- Pension schemes have long recognised the benefits that core real estate can bring to portfolios. However, allocations have tended to be heavily biased towards domestic core assets.
- Falling yields, and associated lower expected returns, may have caused some investors to drift away (perhaps unintentionally) from core real estate, evolving towards higher beta, equity-like portfolios in a late cycle stretch for yield. Others, in contrast, have attempted to reduce portfolio risk by seeking out "super-core" domestic assets under the secure income banner. As a result, many schemes now either face higher risks, or even lower returns.
- We find that pension schemes have another option to effectively balance risk and returns in their real estate allocations by switching away from their domestic core property bias towards globally-diversified portfolios—similar to the globalised approach that is commonly used in equity and credit allocations.
- For those schemes looking to manage portfolio risk, our research shows that moving from domestic core real estate to global core real estate can achieve a more attractive yield than switching to domestic "super-core" assets, while still benefiting from effective inflation protection and stabilising income through time, thanks to the benefits of diversification.
- For those schemes pursuing higher returns from their real estate allocations, we also find that global core real estate can provide a robust foundation from which to add exposure to higher-yielding non-core assets, once a full assessment of the impact on portfolio risks has been made.

AUTHORS

Sorca Kelly-Scholte
Head of EMEA Pensions Solutions & Advisory

Paul Kennedy
Head of Strategy & Portfolio Manager, European Real Estate

Pulkit Sharma
Head of Alternatives Investment Strategy & Solutions

Shay Chen
Alternatives Strategist, Alternatives Investment Strategy & Solutions

J.P.Morgan
Asset Management

ASSESSING THE BENEFITS OF A REAL ESTATE ALLOCATION

Real estate—and core real estate in particular—provides several important benefits to pension schemes, including access to reliable inflation-linked income streams and the chance to boost portfolio diversification thanks to low historical correlations to equities and bonds.

For those schemes that are increasingly becoming cash flow negative, the regular income payments generated by core real estate are particularly attractive as investment strategies are switched away from accumulation of assets and management of liabilities, to a focus on cash flow management.

Regular income payments can further help to buffer capital losses in a crisis and smooth returns over the cycle—as shown in **EXHIBIT 1**. This buffer was further demonstrated by the performance of core real estate through the Covid-19 pandemic - those assets that were truly core in nature held their value well through this period and, outside the retail sector, continued to provide stable cashflows to investors. In this context, core real estate can act as an alternative safe haven, providing a degree of stability to portfolios in periods of market turbulence. See our previous paper, "Rethinking Safe Haven Assets"[1] for a broader discussion on this subject.

Also, with property currently looking attractively priced compared to nominal government bonds, core real estate may provide a relatively cheap source of inflation protection as investors start to look at the potential inflationary impact of the massive post-Covid policy response.

[1] "Rethinking Safe Haven assets", Thushka Maharaj, Sorca Kelly-Scholte, Nicolas Aguirre (J.P. Morgan Asset Management Portfolio Insights, November 2019).

COVERING THE RISK/RETURN RANGE – FROM CORE TO OPPORTUNISTIC IN REAL ESTATE

Real estate covers a broad spectrum of opportunities with different risk and return characteristics. At the defensive end of the spectrum is "core" real estate - established high quality properties with stabilised and durable rental income streams. At the opposite end there is opportunistic real estate, where capital investment and further development of the property are required to realise its potential value. **EXHIBIT A** gives an overview of the different characteristics across the four main real estate classifications.

Real estate covers a range of risk/return levels, typically characterised by four categories

EXHIBIT A: REAL ESTATE CATEGORY COMPONENTS OF RETURN

	Core	Core Plus	Value Added	Opportunistic
Initial yield	High	Moderate to High	Moderate	Low
Income Growth	Low	Low to moderate	Moderate	High
Value Added	Low	Low to moderate	Moderate to High	High
Leverage	Low	Low to moderate	Moderate	High
Fees	Low	Low to moderate	Moderate to High	High

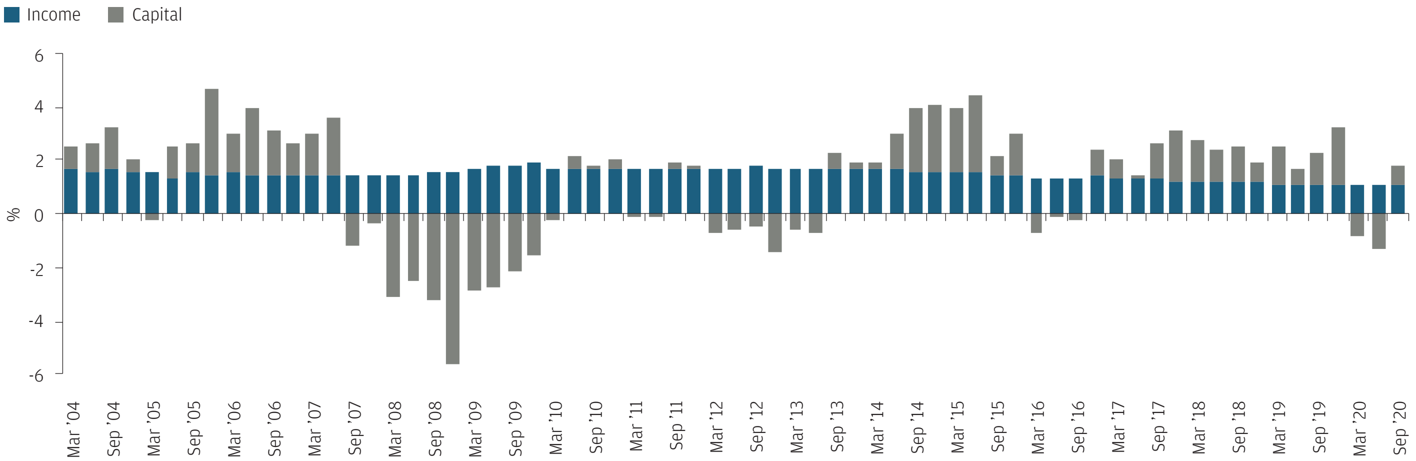
Source: J.P. Morgan Asset Management; for illustrative purposes only.

Typically, core real estate focuses on "stabilised" relatively low risk assets with long leases and high quality tenants, and uses low levels of leverage. As a result, core exposures offer bond-like characteristics, combined with some equity-like upside and inflation protection over the long term.

As investors move up the risk spectrum, the progressively higher risk styles generally increase leverage and exposure to asset level risks, such as re-gearing leases, asset repositioning development and financial engineering. Along with higher potential returns, this transition leads to more equity-like risks and a material change to the investment skill required.

Real estate can provide reliable income streams to meet cash flow requirements and buffer capital losses in a crisis

EXHIBIT 1: REAL ESTATE CAPITAL APPRECIATION AND INCOME RETURNS (MAR 2004-SEP 2020)



Source: MSCI (Dec 2020). Date are from the MSCI Pan European Real Estate Funds Index (PEPFI) and reflect the return from the pan-European universe of real estate funds in Euros after leverage and fees but before investor specific taxes. This index reflects an institutional quality portfolio dominated by core assets. Past performance is not a reliable indicator of current and future results.

Accordingly, it is no surprise that real estate is an established component of pension portfolios across Europe (**EXHIBIT 2**). UK corporate pension schemes in general have around a 5% allocation to property, while LGPS[2] allocations are around 9%. For Europe, EIOPA[3] pensions statistics indicate real estate allocations in the larger institutional pensions markets range from 3% in Germany to over 12% in Finland.

However, these allocations are overwhelmingly biased to the domestic property markets and towards lower risk core real estate assets.

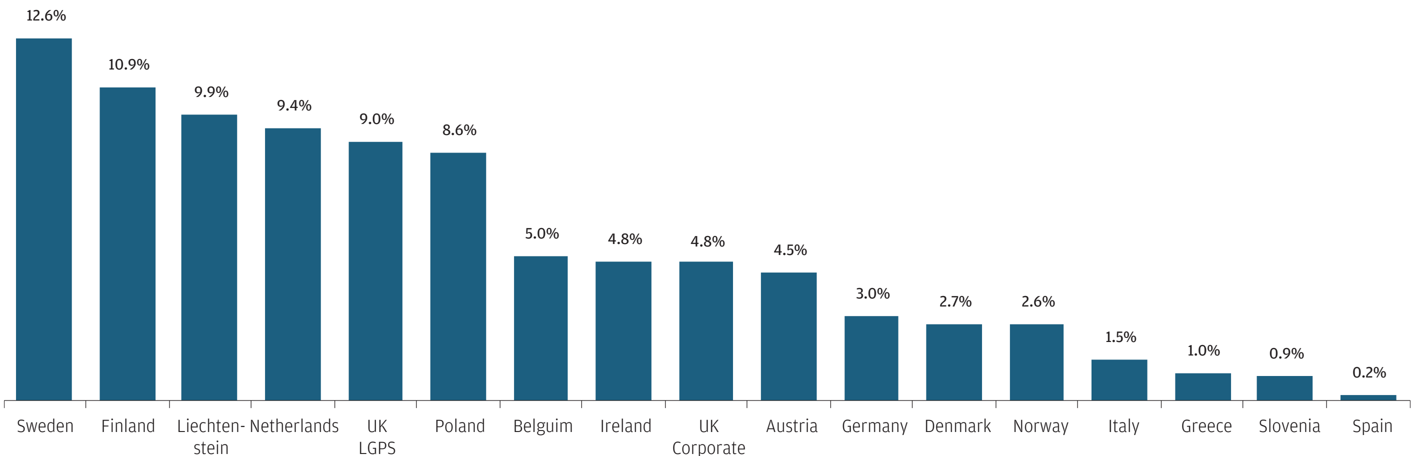
Expected returns from core real assets remain attractive, but lower than in the past

Over the last 10 years, core real estate has delivered the returns that pension schemes have required, producing an attractive total annualised performance of 7.8% for pan-European core real estate (**EXHIBIT 1**). For most of this period, there has been little incentive for schemes to move beyond domestic core property exposure, and relatively few product options for schemes that might have wanted to diversify into global core real estate.

[2] Local Government Pension Scheme
[3] European Insurance and Occupational Pensions Authority

Pension schemes have added real estate to portfolios, but with a domestic bias

EXHIBIT 2: EUROPEAN PENSION REAL ESTATE ALLOCATIONS



Sources: J.P. Morgan Asset Management, Pension Protection Fund 2019 Purple Book, PIRC . EIOPA Pension Statistics, PensioPlus, data available as of 30 October 2020.

However, the landscape has now changed. With interest rates falling to record lows and the immediate economic outlook clouded by coronavirus uncertainty, future return expectations from domestic core assets are lower. While the income returns produced by core property can be expected to remain robust, offering stability in periods of market turbulence and helping schemes to deal with ongoing cash flow needs, the additional returns generated by yield compression over the last 10 years are unlikely to be repeated with government bond yields close to record lows.

Our 2021 Long-Term Capital Market Assumptions (LTCMAs) analysis forecasts returns of between 5.0% and 6.0% over the next 10 to 15 years for institutional quality real estate markets in the UK and Europe – down from returns of 7.8% p.a. recorded over the last decade. Quality assets (including high quality core property) held up relatively well in the market volatility that followed the coronavirus outbreak, underlining the importance of maintaining a high quality core portfolio allocation through the market cycle. Valuations for these higher quality assets have now largely bounced back from their Covid-crisis lows, leaving future returns still looking materially lower than in the recent past.

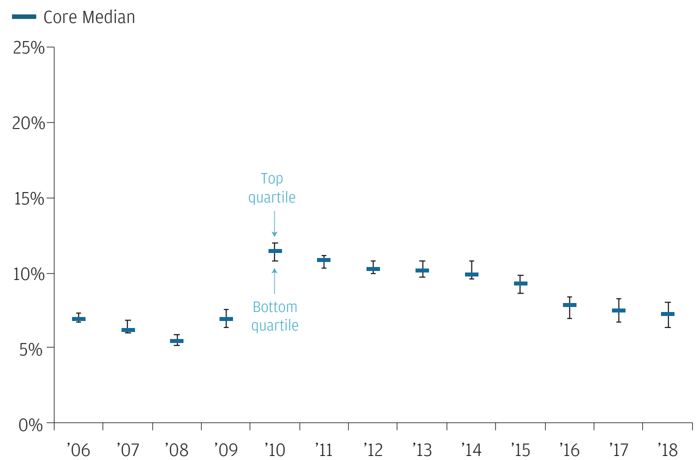
Maintaining historical return levels

To compensate for lower expected returns, investors have two options: to seek to enhance return through active management of their portfolios, or to extend their portfolios into value-added and opportunistic real estate.

However, the dispersion in returns between the top and bottom performing core real estate open-ended funds has tended to be relatively narrow (**EXHIBIT 4**), as core real estate managers increasingly use their scale to drive costs down and capture "bulk beta" as efficiently as possible. This narrow manager dispersion suggests core real estate returns will continue to be beta-driven and that generating alpha consistently from manager selection will be difficult.

Alpha is unlikely to make up the gap in core real estate returns

EXHIBIT 4: DISPERSION OF RETURNS FOR CORE OPEN-ENDED FUNDS

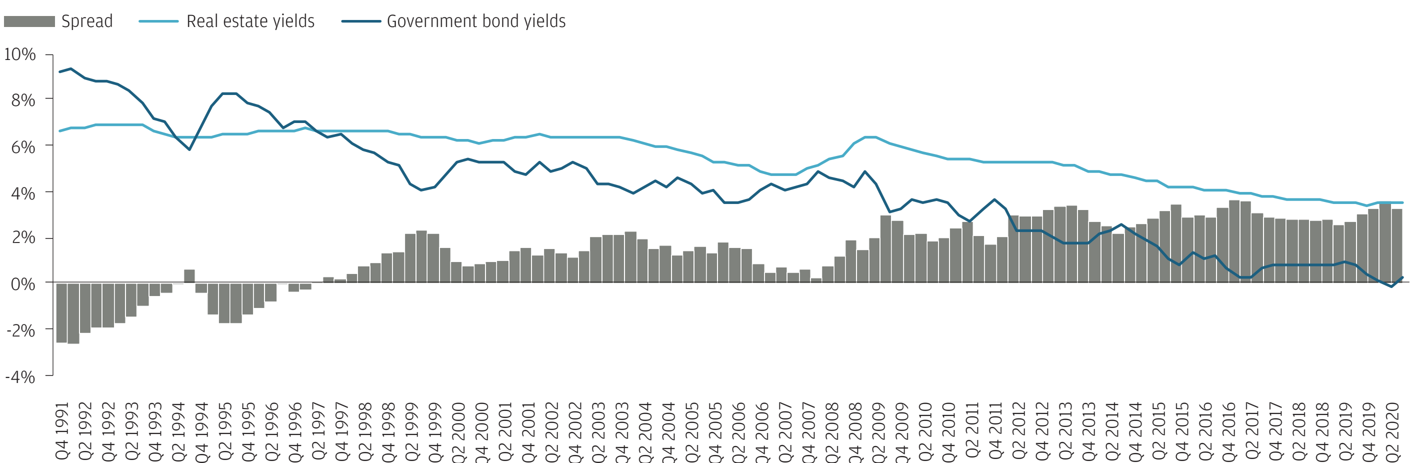


Sources: NCREIF as of 3Q 2020. (1) Core returns for core are time-weighted gross returns from ODCE. The above table is for illustrative and discussion purposes only. Past performance is not a reliable indicator of current and future results.

Some investors have reallocated portions of their core real estate exposure to higher risk non-core value-added and opportunistic real estate assets, or to listed real estate securities. However, while non-core real estate has the potential to offset the lower expected returns from core assets over time, the risks can be significantly higher and accordingly the need for diversification is greater. The Covid-related market volatility has unmasked those investors who had let their risk allocations

The performance gains from falling yields over the last 10 years are probably unrepeatable

EXHIBIT 3: EUROPEAN REAL ESTATE YIELDS VS. GOV'T BOND YIELDS



Source: J.P. Morgan Asset Management; CBRE (as at Q3 2020). Bond yields are the average of 10-year yields for the UK, Germany and France. Real estate yields are for prime assets from offices, retail and logistics across the UK, France and Germany.

drift higher, perhaps unintentionally, in an undiversified manner in recent years as they stretched for return and yield in the later stages of the last cycle.

Stabilising cashflow

More risk-averse schemes, such as many UK corporate schemes that have been steadily derisking and seeking out sources of long-term stable cashflow, have been "doubling down" on their core exposure to further reduce portfolio risk, and to match liability cashflows by seeking out super-core domestic real estate assets.

Demand for these lower risk "secure income" assets (long-lease property, ground rents etc) has created a hot segment of the real estate market that is dominated by purchasers looking for exceptionally high quality long duration income, such as annuity providers and mature defined benefit pension funds.

This segment of the market has held up well through the Covid-19 crisis. For example, over the nine months to the end of September 2020, balanced property funds in the UK returned -4.2% versus 0.7% for UK long-income property funds.[4]

As a result, yields and expected returns in this super-core segment of the market are even lower than for core real estate, which may have an impact on cash flow management and the ability to meet long-term return goals for some schemes, creating potential long-term funding concerns.

[4] Source: MSCI / AREF UK Quarterly property fund index, as of 30 September 2020.

The case for global real estate

Our research suggests that an alternative option for pension schemes looking to compensate for lower returns from core real estate, or looking to stabilise income levels through the cycle, could be to build out a more globally-diversified core real estate exposure to replace pure domestic core allocations at a similar level of risk. Once a diversified global core foundation has been established, return-oriented schemes could then look to add exposure to higher risk styles and sectors to target enhanced returns, depending on risk tolerances and funding positions. For risk and cashflow-oriented investors, the diversification of income streams can act as alternative means of stabilising income while maintaining yield levels and expected returns compared with super-core assets.

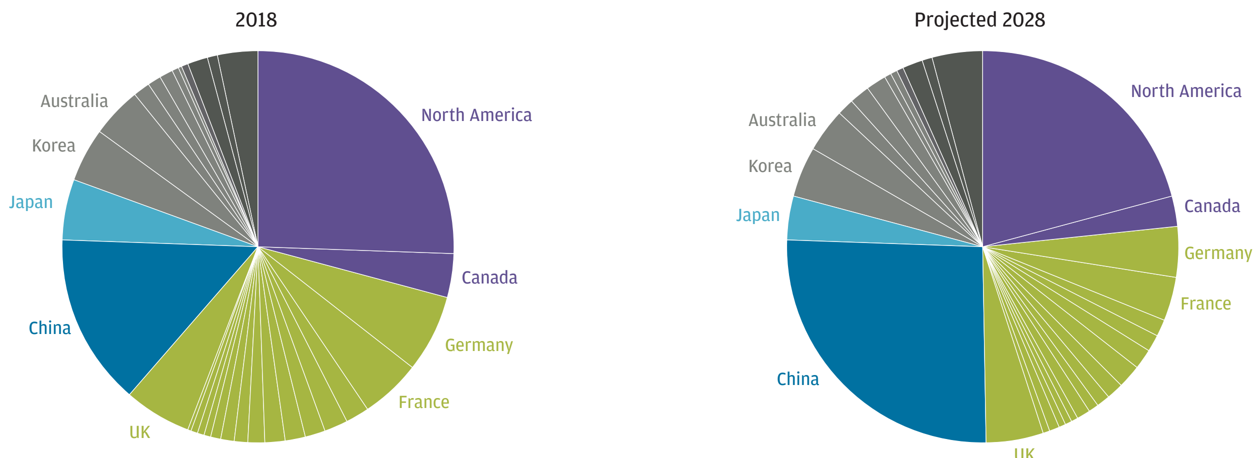
The case for global real estate is fundamentally a simple one. The addressable market is far larger and much more diverse (**EXHIBIT 5**), allowing investors to benefit from different underlying return drivers. At the same time, the recent strong growth in core real estate funds in Europe and Asia means that opportunities outside the domestic market are more accessible to UK schemes than they have been in the past, at more attractive fees. The more investors move outside their domestic markets, the more accessible non-domestic real estate becomes.

The rapid growth in China in recent years, for example, is transforming the global core market and providing a multitude of attractive investment opportunities for pension schemes to access. The market is also evolving with US-listed real estate moving from 85% traditional core to 42.5% extended core (such as logistics and hotels) over the last 20 years.[5] We expect the rest of the global core real estate market to evolve similarly especially following Covid-19.

[5] Source: J.P. Morgan Asset Management; Wilshire; NCREIF, Data available as of 31 October 2020.

Chinese growth is reshaping the available global real estate universe

EXHIBIT 5: GLOBAL INSTITUTIONAL REAL ESTATE MARKET, BREAKOUT BY COUNTRY



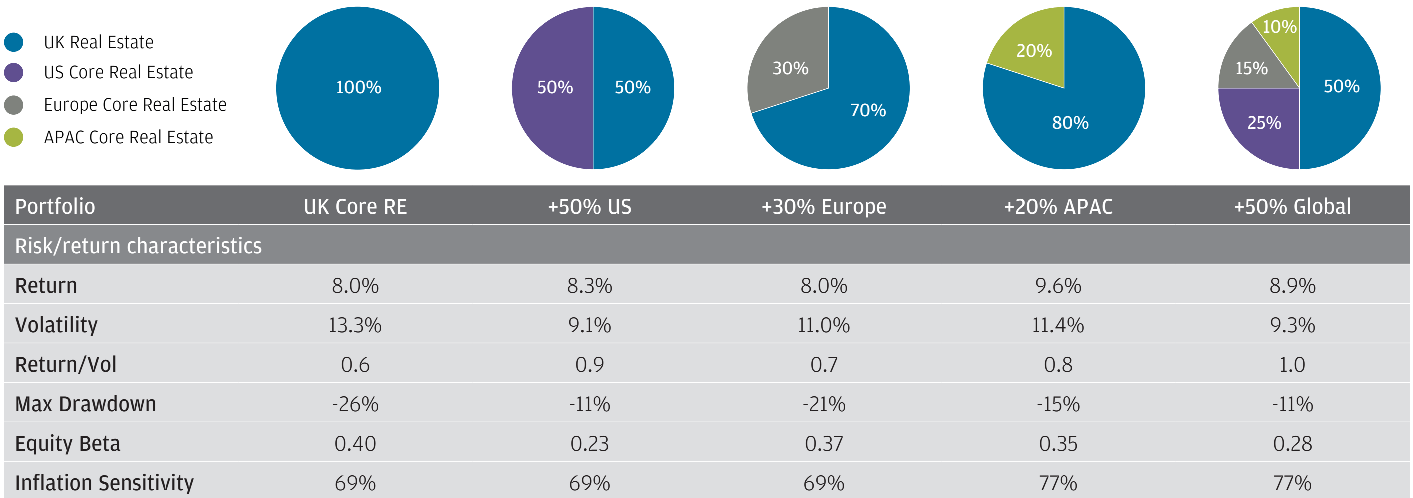
Source: J.P. Morgan Asset Management; MSCI; International Monetary Fund; Cushman & Wakefield.

The large and diverse core global real estate market can help pension schemes to create a solid portfolio foundation, in cooperation with their core real estate managers. Focusing just on the domestic market means missing out on significant opportunities elsewhere, while in many areas domestic capacity is now quite constrained, as indicated by rich valuations in super-core-type assets.

As the global opportunity set continues to broaden and become more diversified, we find that a globalised investment approach offers stronger diversification benefits to portfolios and the opportunity to earn enhanced risk-adjusted returns compared to a domestic core strategy (**EXHIBIT 6**).

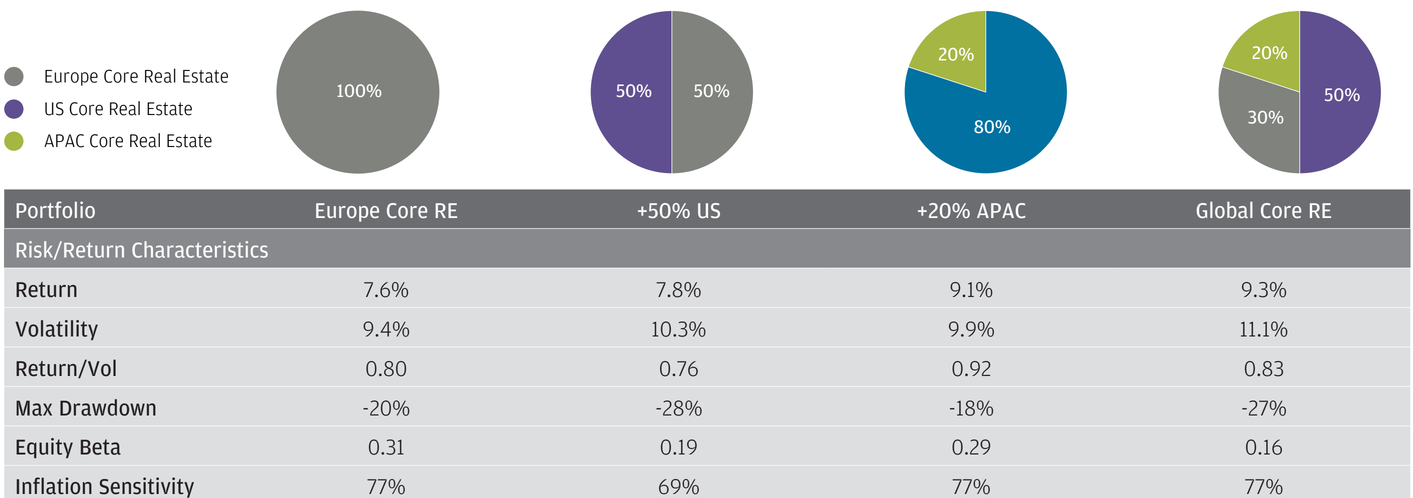
Adding exposure to pan-Europe, US and Asia Pacific (APAC) real estate has delivered enhanced risk-adjusted returns, lower volatility, reduced drawdown and better inflation performance

EXHIBIT 6: ILLUSTRATIVE 20-YEAR HISTORICAL ANALYSIS OF DIVERSIFIED CORE PORTFOLIO OF DIRECT PRIVATE LEVERED PROPERTY PERFORMANCE



Portfolio	UK Core RE	+50% US	+30% Europe	+20% APAC	+50% Global
Risk/return characteristics					
Return	8.0%	8.3%	8.0%	9.6%	8.9%
Volatility	13.3%	9.1%	11.0%	11.4%	9.3%
Return/Vol	0.6	0.9	0.7	0.8	1.0
Max Drawdown	-26%	-11%	-21%	-15%	-11%
Equity Beta	0.40	0.23	0.37	0.35	0.28
Inflation Sensitivity	69%	69%	69%	77%	77%

Sources: Bloomberg, MSCI, Barclays Capital, NCREIF, CBRE, JLL, JPMAM Global Alternatives Research. Past performance is not a reliable indicator of current and future results. Diversification does not guarantee investment returns and does not eliminate the risk of loss. (3) Return per unit of risk is calculated by dividing the 15-year CAGR by the 15-year standard deviation. (4) Volatility is calculated using historical annual 2005-2019 standard deviation of historical returns. (5) The max drawdown denotes the maximum historical peak to trough decline in asset values. (6) Equity beta is computed relative to MSCI World Index. (7) The inflation sensitivity is calculated using the U.K. CPI YOY% Index on a rolling 3-year basis plus 3%. (8) The portfolios assume annual rebalancing.

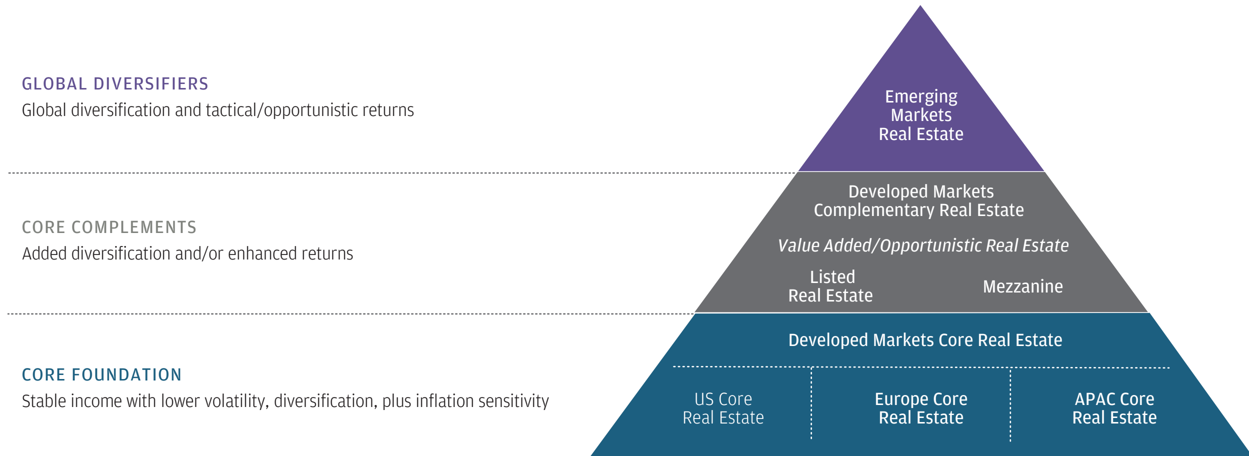


Portfolio	Europe Core RE	+50% US	+20% APAC	Global Core RE
Risk/Return Characteristics				
Return	7.6%	7.8%	9.1%	9.3%
Volatility	9.4%	10.3%	9.9%	11.1%
Return/Vol	0.80	0.76	0.92	0.83
Max Drawdown	-20%	-28%	-18%	-27%
Equity Beta	0.31	0.19	0.29	0.16
Inflation Sensitivity	77%	69%	77%	77%

Sources: Bloomberg, MSCI, Barclays Capital, NCREIF, CBRE, JLL, JPMAM Global Alternatives Research. Past performance is not a reliable indicator of current and future results. Diversification does not guarantee investment returns and does not eliminate the risk of loss. (1) Illustrative 15-year analysis using asset class data from 2005 to 2019. The risk-return characteristics are calculated in local currency terms. (2) Target return and income assumptions are based on 2021 JPMorgan Long-Term Capital Market Assumptions. (3) Return per unit of risk is calculated by dividing the 15-year CAGR by the 15-year standard deviation. (4) Volatility is calculated using historical annual 2005-2019 standard deviation of historical returns. (5) The max drawdown denotes the maximum historical peak to trough decline in asset values. (6) Equity beta is computed relative to MSCI World Index. (7) The inflation sensitivity is calculated using the Europe CPI YOY% Index on a rolling 3-year basis plus 3%. (8) The portfolios assume annual rebalancing.

Different real estate categories play different roles in a diversified global portfolio

EXHIBIT 7: THE REAL ESTATE SOLUTIONS FRAMEWORK



Source: J.P. Morgan Asset Management Global Alternatives.

Building globally-diversified real estate portfolios

Constructing a global real estate allocation founded on core assets can help pension schemes maintain the income they require from their property exposure, while boosting overall portfolio diversification and maintaining the protection provided against future inflation.

EXHIBIT 7 shows how a global, diversified real estate allocation can be constructed using a framework approach. A robust and diversified real estate allocation should have a strong core foundation, with value-added and opportunistic real estate, REITs and other non-core sectors added as complementary exposures to enhance returns within scheme risk parameters.

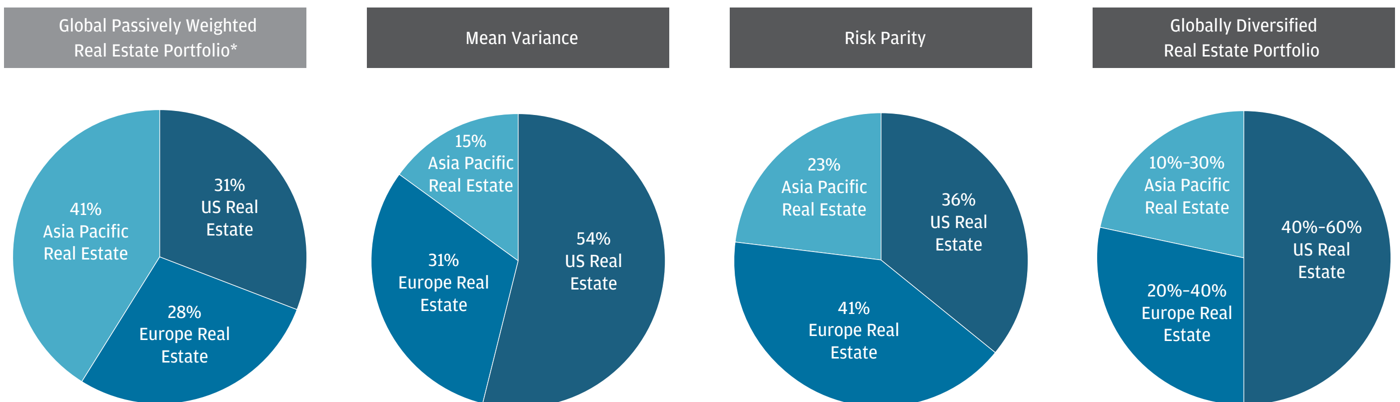
At the top of the framework, tactical and opportunistic exposure to emerging market real estate can also be considered for those schemes that are able to absorb higher risks.

The opacity of risk in unlisted non-core real estate markets means that the alignment of portfolio exposure with objectives is more challenging than for listed assets—a fact that presents both an advantage and a risk, as evidenced by style drift prior to the global financial crisis.

In terms of optimal regional weightings, modelling of various asset allocation frameworks (passive weighted, mean variance, risk parity) all result in an anchor allocation to the US property market, with complementary exposure to Europe and Asia (**EXHIBIT 8**).

A variety of asset allocation frameworks suggest an anchor allocation to the US with complementary exposures to Europe and Asia

EXHIBIT 8: ILLUSTRATIVE ANALYSIS USING ASSET CLASS DATA ACROSS ECONOMIC CYCLES



As of December 31, 2019. Source: *Cushman & Wakefield, "Money into Property 2018". Cushman & Wakefield define Invested Stock as commercial real estate held by investors in the relevant country. The calculation excludes the Canada real estate investable universe (estimated to be $264B CAD or $200M USD by LaSalle Investment Management). Bloomberg, NCREIF, CBRE, IPD, Jones Lang LaSalle, and JPMAM Global Alternatives. For discussion purposes only.

Impact of adding global core real estate to European pension portfolios

We looked at the impact on risk, returns and cash flow positions for various pension schemes when funding a 5% exposure to global core real estate from an existing domestic property allocation (**EXHIBIT 9**). While return and income is maintained in the globalised portfolio, and there is little change in expected surplus volatility, our research suggests schemes can enjoy an immediate quantitative benefit from a potential reduction in portfolio tail risks (through significantly smaller drawdowns).

Based on our 2021 Long-Term Capital Markets Assumptions (see **CALL-OUT BOX**), globalising existing domestic real estate is broadly neutral. For UK-based investors, historically a global portfolio would have performed better through the financial crisis, from which the worst quarter and maximum drawdown statistics are drawn. These statistics are marginally weakened from a euro-based investor's perspective, given that the European market is generally more defensive than the US and Asia Pacific core real estate markets, and did not suffer the same level of drawdown through the financial crisis. On a forward looking basis, however, and given the interactions with the broader portfolio, globalising core real estate is broadly risk neutral at the total portfolio level, based on our assumptions.

Reallocating a portion of existing equity holdings to global real estate maintains or even modestly increases expected return, and adds incremental cash income across the board. While expected returns from real estate are lower going forward compared to historical levels of return, as discussed above, they compare favourably to the expected returns from equities and fixed income. Current high valuations in equity markets, especially in the US, form a substantial headwind to future long-term returns. Prospective core real estate returns compare favourably, which means that the strong diversification and risk reduction benefits of core real estate come at little opportunity cost.

Finally, selling core bonds to buy global core real estate as an alternative source of stability in portfolios can boost return – a 5% switch is expected to increase total portfolio return by around 20 basis points per annum. Unsurprisingly, moving away from core bonds does come with higher risks. However, there is a more modest increase in risk statistics compared to switching from bonds to equities. For the investor seeking to boost return and who is willing to add back risk in order to do so, core real assets offer a more efficient means compared to equities.

Beyond the core: Assessing the risks and opportunities in non-core real estate

Once a core global real estate allocation has been established, some pension schemes—depending on their risk budgets—may look to add exposure further up the risk spectrum to target enhanced long-term returns, or to take advantage of tactical opportunities as they emerge.

The higher returns available from non-core real estate sectors clearly represent an opportunity for pension schemes to offset lower expected returns from core real estate and indeed from equities. Value-added real estate may also be particularly attractive as we move into the early stages of a new real estate cycle, providing opportunities for investors to pick up leveraged assets at a long-term valuation discount and add significant value through upgrades.

Global core real estate can maintain or enhance return and cash income

EXHIBIT 9: ADDING 5% GLOBAL CORE REAL TO SAMPLE TOP REPRESENTATIVE EUROPEAN PENSION PLANS

	Sell equity to buy global core RE				Globalise existing domestic core RE				Sell core bonds to buy global core RE			
	UK		NL		UK		NL		UK		NL	
	Corp	LGPS	Corp	Ind	Corp	LGPS	Corp	Ind	Corp	LGPS	Corp	Ind
Return												
Income												
Beta to inflation												
Beta to Equity												
Volatility												
Worst quarter												
Max Drawdown												

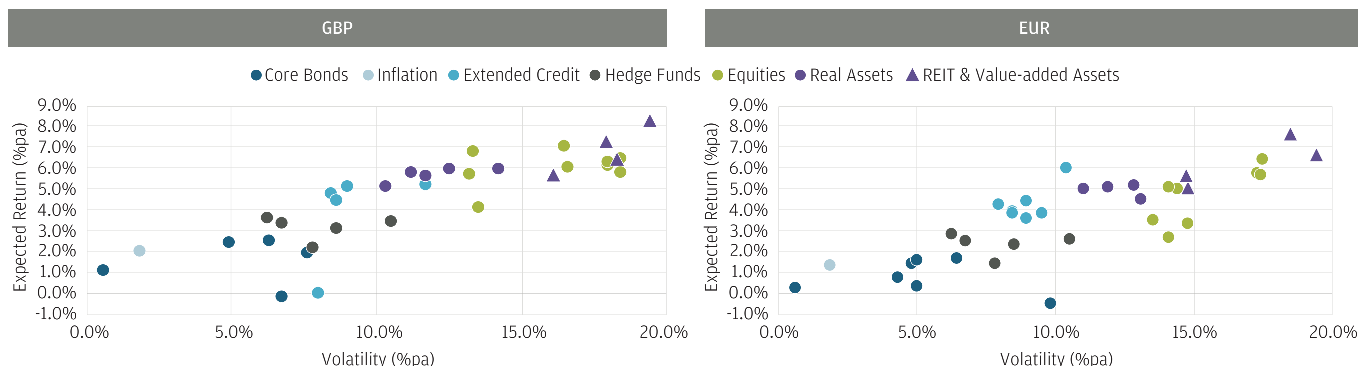
Source: J.P. Morgan Asset Management, Pension Protection Fund Purple Book 2019, LGPS Annual Report 2020, De Nederlandsche Bank, based on 2021 Long-Term Capital Markets Assumptions for forward looking statistics and historic data as referenced for the LTCMA from 30 June 2006 to 31 December 2019. As of 30 September 2020. In Panel 1, equity is sold on a pro-rata basis across exiting equity holdings. In panel 2, existing domestic real estate up to a maximum of 5% is globalised. In Panel 3, core bonds ie sovereign debt and investment grade credit, is sold on a pro-rata basis. In all cases the global core real estate portfolio comprises 50% US, 30% Europe and 20% Asia Pacific core real estate. Risk statistics are liability-relative for corporate plans, and asset-only for public plans.

GLOBAL CORE REAL ESTATE: RETURNS, RISKS AND CORRELATIONS

In **EXHIBIT B**, we plot the expected returns and volatility for a range of asset classes based on our 2021 Long-Term Capital Market Assumptions. We can see that each core real estate region (US, Europe and Asia Pacific) offers similar characteristics and can act as a volatility dampener in the current environment, with little detriment to return compared with bonds. We can also see that value-added real estate and listed real-estate investment trusts (REITs) provide a material uplift in return potential, but volatility is expected to be much more aligned to equities.

Core real estate offers relative stability but with attractive returns relative to bonds, while higher risk styles offer equity-like risk and returns

EXHIBIT B: RISK/RETURN ANALYSIS BY SELECTED ASSET CLASSES



Source: J.P. Morgan Asset Management Long-Term Capital Market Assumptions 2021. Forecasts are not a reliable indicator of future performance.

Further, core real estate offers attractive diversification benefits to both equities and bonds, with correlations generally falling below 0.6 (**EXHIBIT C**).

EXHIBIT C: CORRELATIONS FOR SELECTED ASSET CLASSES

GBP		INF	UKFI	UKIG	GLIG	UKEQ	GLEQ	EMEQ	UKRE	EURE	USRE	APRE	EUREIT	USREIT	EUVA	USVA
Inflation	INF	1.00														
UK Gilts	UKFI	-0.15	1.00													
UK IG Credit	UKIG	0.06	0.52	1.00												
Global Credit	GLIG	-0.11	0.48	0.83	1.00											
UK Equity	UKEQ	0.08	-0.10	0.46	0.40	1.00										
Developed Global Equity	GLEQ	0.01	0.01	0.41	0.40	0.88	1.00									
Emerging Markets Equity	EMEQ	0.05	-0.04	0.38	0.44	0.76	0.78	1.00								
UK Core RE	UKRE	0.17	-0.29	0.07	-0.01	0.40	0.32	0.24	1.00							
European Core RE	EURE	0.23	-0.37	0.00	-0.11	0.44	0.37	0.38	0.78	1.00						
US Core RE	USRE	0.43	-0.20	0.25	0.04	0.29	0.28	0.19	0.36	0.31	1.00					
Asia Pacific Core RE	APRE	0.34	-0.04	0.44	0.26	0.47	0.48	0.43	0.37	0.37	0.66	1.00				
European REITs	EUREIT	0.00	0.08	0.50	0.45	0.72	0.66	0.53	0.35	0.34	0.30	0.39	1.00			
U.S. REITs	USREIT	0.07	0.24	0.46	0.43	0.58	0.72	0.52	0.29	0.19	0.54	0.55	0.67	1.00		
European ex-UK Value-Added Real Estate	EUVA	0.26	-0.45	0.00	-0.13	0.44	0.34	0.37	0.78	0.94	0.46	0.40	0.31	0.19	1.00	
U.S. Value-Added Real Estate	USVA	0.43	-0.24	0.26	0.05	0.31	0.28	0.21	0.37	0.31	0.99	0.66	0.32	0.52	0.48	1.00

EUR		INF	EUFI	EUIG	GLIG	EUEQ	GLEQ	EMEQ	EURE	USRE	APRE	EUREIT	USREIT	EUVA	USVA
Inflation	INF	1.00													
Euro Gvt Bonds	EUFI	-0.24	1.00												
Euro IG Bonds	EUIG	-0.19	0.56	1.00											
Global Credit	GLIG	-0.20	0.57	0.87	1.00										
European Equity	EUEQ	0.04	-0.02	0.49	0.36	1.00									
Developed Global Equity	GLEQ	0.01	-0.01	0.47	0.31	0.91	1.00								
Emerging Markets Equity	EMEQ	0.06	-0.03	0.48	0.39	0.78	0.77	1.00							
European Core RE	EURE	0.16	-0.41	0.01	-0.08	0.53	0.56	0.56	1.00						
US Core RE	USRE	0.18	-0.21	0.14	0.08	0.44	0.54	0.41	0.63	1.00					
Asia Pacific Core RE	APRE	0.08	-0.20	0.22	0.24	0.55	0.61	0.55	0.61	0.81	1.00				
European REITs	EUREIT	-0.01	0.14	0.49	0.40	0.75	0.65	0.51	0.41	0.44	0.44	1.00			
U.S. REITs	USREIT	0.00	0.20	0.41	0.40	0.58	0.69	0.47	0.35	0.65	0.59	0.65	1.00		
European ex-UK Value-Added Real Estate	EUVA	0.16	-0.41	0.01	-0.08	0.53	0.56	0.56	1.00	0.63	0.61	0.41	0.35	1.00	
U.S. Value-Added Real Estate	USVA	0.19	-0.23	0.16	0.10	0.46	0.55	0.43	0.63	1.00	0.81	0.46	0.65	0.63	1.00

Source: J.P. Morgan Asset Management Long-Term Capital Market Assumptions 2021.

Adding even a small amount of value-added real estate in place of equity can drive measurable efficiency gains for the total portfolio. We extend the real estate portfolio by adding a further 2% from equity, and investing in value-added real estate globally – targeting a 70% / 30% mix between core and value-added real estate. The changes to key statistics at the total portfolio level are shown in **EXHIBIT 10**.

Extending into value-added real estate in place of equity can drive further efficiency gains for European pension investors

EXHIBIT 10: ADDING VALUE-ADDED REAL ESTATE TO EUROPEAN PENSION PORTFOLIOS

	Add Value-Added Real Estate from Equity			
	UK Corp	LGPS	NL Corp	Ind
Return				
Income				
Beta to inflation				
Beta to Equity				
Volatility				
Worst quarter				
Max Drawdown				

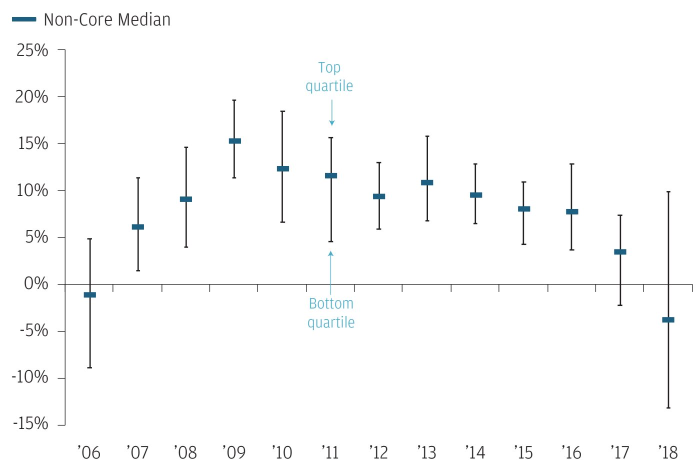
Source: J.P. Morgan Asset Management, Pension Protection Fund Purple Book 2019, LGPS Annual Report 2020, De Nederlandsche Bank, based on 2021 Long-Term Capital Markets Assumptions for forward looking statistics and historic data as referenced for the LTCMA from 30 June 2006 to 31 December 2019. As of 30 September 2020. In all cases the global core real estate portfolio comprises 50% US, 30% Europe and 20% Asia Pacific core real estate. 2% of equity portfolios are re-allocated to value-added real estate,, comprising 60% US and 40% Asia Pacific. Risk statistics are liability-relative for corporate plans, and asset-only for public plans.

The analysis shows measurable improvement in the risk statistics, even for a small re-allocation from equities to value-added real estate – demonstrating the diversification benefits. It also suggests that this approach would be neutral from a return perspective. However, there is an important addendum: our return assumptions reflect what we believe to be achievable by the median manager, and within value-added real estate there is substantial dispersion of returns across products and managers. Accessing superior managers can further boost return, allowing investors to benefit both from improved risk statistics and enhanced return.

However, while non-core real estate can help schemes to maintain or enhance returns, the higher levels of volatility—and greater idiosyncratic risks—mean that diversification is essential when adding portfolio exposure to these real estate categories. **EXHIBIT 11** highlights the wide dispersion in calendar year manager returns recorded by value-added and opportunistic closed-ended funds since 2004. This wide manager dispersion is perhaps not surprising in more opaque private markets, where those managers with inside edges can deliver persistent positive fund selection and add consistent long-term value.

Value-added and opportunistic investing comes with higher levels of systematic and idiosyncratic risk

EXHIBIT 11: DISPERSION OF RETURNS, NON-CORE CLOSED ENDED FUNDS



Sources: Cambridge Associates as of 2Q2020. (1) Non-core returns for each year are since inception (vintage year) returns ending in 4Q2018 for global real estate managers. Internal rates of returns are net of fees, expenses and carried interest. Cambridge Associates Research shows that most funds take at least six years to settle into their final quartile ranking, and prior to this settling they typically rank in 2-3 other quartiles; therefore fund or benchmark performance metrics from more recent vintage years may be less meaningful. Past performance is not a reliable indicator of current and future results.

The traditional response is open architecture, choosing what investors consider to be the "best in breed" across a range of strategies and managers. However, costs and potential fragmentation of the portfolio act as a meaningful obstacle to achieving a truly diversified approach in an open architecture structure. As a result, there can be benefits to the adoption of a closed or semi-closed (focusing a small number of preferred providers) architecture approach. Investors can combine listed and unlisted securities, closed and open as well as fund and direct investment. A global core base can act as a robust platform from which to build a programme, leveraging partners' economies of scale, deal flow and access to co-investment opportunities across the global market.

Conclusion: Let your real estate portfolio see the world

Moving from a domestic core real estate allocation to a global core real estate allocation can help pension schemes target the stable income and attractive returns and diversification benefits that they have historically enjoyed from core domestic real estate assets, while still providing an effective hedge against domestic inflation.

Avoiding style drift by maintaining exposure to core real estate through a global allocation means that portfolio risks are controlled and alignment with scheme objectives is retained. Moving to a global core allocation also means that the globalised investment approach that has long been accepted in pension scheme equity and bond allocations can also be reflected in real estate portfolios.

The key is to build a global core real estate allocation in partnership with specialist managers that have the global investment platforms required to invest successfully across regional markets. A solid core allocation provides the foundation from which to extend into value-added and opportunistic sectors, and into other investment opportunities across the real estate spectrum and beyond, in a globally-diversified manner.

The result of building a globalised and diversified real estate exposure, according to our research, will be better balanced and more robust portfolios that are optimised for a post-Covid world, and that are well positioned for the beginning of the new market cycle.

CURRENCY CONSIDERATIONS

A move towards more globally-diversified real estate portfolios does raise the question of currency management. While this is nothing new for most schemes, who have managed currency risks in their globalised equity and bond portfolios for many years, the illiquid nature of core real estate creates additional challenges compared to liquid public markets.

Nonetheless, providers have developed hedging progammes, particularly for USD-denominated assets, and these are increasingly available to investors in fund vehicles. This development will be particularly important for investors where the objective is stability or return and/or cashflow, and where currency fluctuations would be unwelcome. It will also be important for return-oriented investors, as our long-term expectation is that the USD will depreciate over the next 10 to 15 years, representing a significant source of return leakage to European investors holding US assets.

In our Long-Term Capital Market Assumptions, on which we base our analysis in this paper, currency effects are fully taken into account. In our modelling, we have allowed for currency hedging US core real estate, while currency risk and return is embedded in all other real estate assets.

NOT FOR RETAIL DISTRIBUTION: This communication has been prepared exclusively for institutional, wholesale, professional clients and qualified investors only, as defined by local laws and regulations.

This is a promotional document and is intended to report solely on investment strategies and opportunities identified by J.P. Morgan Asset Management and as such the views contained herein are not to be taken as advice or a recommendation to buy or sell any investment or interest thereto. This document is confidential and intended only for the person or entity to which it has been provided. Reliance upon information in this material is at the sole discretion of the reader. The material was prepared without regard to specific objectives, financial situation or needs of any particular receiver. Any research in this document has been obtained and may have been acted upon by J.P. Morgan Asset Management for its own purpose. The results of such research are being made available as additional information and do not necessarily reflect the views of J.P. Morgan Asset Management. Any forecasts, figures, opinions, statements of financial market trends or investment techniques and strategies expressed are those of J.P. Morgan Asset Management, unless otherwise stated, as of the date of issuance. They are considered to be reliable at the time of production, but no warranty as to the accuracy and reliability or completeness in respect of any error or omission is accepted, and may be subject to change without reference or notification to you.

Investment involves risks. Any investment decision should be based solely on the basis of any relevant offering documents such as the prospectus, annual report, semi-annual report, private placement or offering memorandum. For further information, any questions and for copies of the offering material you can contact your usual J.P. Morgan Asset Management representative. Both past performance and yields are not reliable indicators of current and future results. There is no guarantee that any forecast will come to pass. Any reproduction, retransmission, dissemination or other unauthorized use of this document or the information contained herein by any person or entity without the express prior written consent of J.P. Morgan Asset Management is strictly prohibited.

J.P. Morgan Asset Management or any of its affiliates and employees may hold positions or act as a market maker in the financial instruments of any issuer discussed herein or act as the underwriter, placement agent or lender to such issuer. The investments and strategies discussed herein may not be appropriate for all investors and may not be authorized or its offering may be restricted in your jurisdiction, it is the responsibility of every reader to satisfy himself as to the full observance of the laws and regulations of the relevant jurisdictions. Prior to any application investors are advised to take all necessary legal, regulatory and tax advice on the consequences of an investment in the products.

Securities products, if presented in the U.S., are offered by J.P. Morgan Institutional Investments, Inc., member of FINRA.

J.P. Morgan Asset Management is the brand for the asset management business of JPMorgan Chase & Co. and its affiliates worldwide.

To the extent permitted by applicable law, we may record telephone calls and monitor electronic communications to comply with our legal and regulatory obligations and internal policies. Personal data will be collected, stored and processed by J.P. Morgan Asset Management in accordance with our privacy policies at https://am.jpmorgan.com/global/privacy.

This communication is issued by the following entities:

In the United States, by J.P. Morgan Investment Management Inc. or J.P. Morgan Alternative Asset Management, Inc., both regulated by the Securities and Exchange Commission; in Latin America, for intended recipients' use only, by local J.P. Morgan entities, as the case may be. In Canada, for institutional clients' use only, by JPMorgan Asset Management (Canada) Inc., which is a registered Portfolio Manager and Exempt Market Dealer in all Canadian provinces and territories except the Yukon and is also registered as an Investment Fund Manager in British Columbia, Ontario, Quebec and Newfoundland and Labrador. In the United Kingdom, by JPMorgan Asset Management (UK) Limited, which is authorized and regulated by the Financial Conduct Authority; in other European jurisdictions, by JPMorgan Asset Management (Europe) S.à r.l. In Asia Pacific ("APAC"), by the following issuing entities and in the respective jurisdictions in which they are primarily regulated: JPMorgan Asset Management (Asia Pacific) Limited, or JPMorgan Funds (Asia) Limited, or JPMorgan Asset Management Real Assets (Asia) Limited, each of which is regulated by the Securities and Futures Commission of Hong Kong; JPMorgan Asset Management (Singapore) Limited (Co. Reg. No. 197601586K), this advertisement or publication has not been reviewed by the Monetary Authority of Singapore; JPMorgan Asset Management (Taiwan) Limited; JPMorgan Asset Management (Japan) Limited, which is a member of the Investment Trusts Association, Japan, the Japan Investment Advisers Association, Type II Financial Instruments Firms Association and the Japan Securities Dealers Association and is regulated by the Financial Services Agency (registration number "Kanto Local Finance Bureau (Financial Instruments Firm) No. 330"); in Australia, to wholesale clients only as defined in section 761A and 761G of the Corporations Act 2001 (Commonwealth), by JPMorgan Asset Management (Australia) Limited (ABN 55143832080) (AFSL 376919).

Malaysia, Philippines, Brunei, Thailand, Indonesia, India, Vietnam, Bhutan and Korea: This document is provided in response to your request. This document is for informational purposes only and does not constitute an invitation or offer to the public. This document including any other documents in connection are for intended recipients only and should not be distributed, caused to be distributed or circulated to the public. This document should not be treated as a prospectus or offering document and it has not be reviewed or approved by regulatory authorities in these jurisdictions. It is recipient's responsibility to obtain any regulatory approvals and complying with requirements applicable to them.

People's Republic of China: This document is private and confidential and is issued to you upon your specific request and is provided for your internal use and informational purposes only. It may not be photocopied, reproduced, circulated or otherwise distributed or redistributed to others. This document does not constitute an offer, whether by sale or subscription, in the People's Republic of China (the "PRC"). Any interests stated is not being offered or sold directly or indirectly in the PRC to or for the benefit of, legal or natural persons of the PRC. Further, no legal or natural persons of the PRC may directly or indirectly purchase any beneficial interest therein without obtaining all prior PRC's governmental approvals that are required, whether statutorily or otherwise. Persons who come into possession of this document are required by the issuer and its representatives to observe these restrictions.

For U.S. only: If you are a person with a disability and need additional support in viewing the material, please call us at 1-800-343-1113 for assistance.

Copyright 2021 JPMorgan Chase & Co. All rights reserved.

LV–JPM53021 | 01/21 | 0903c02a82ad8f60

J.P.Morgan
Asset Management