REAL ESTATE RESEARCH SNAPSHOT

2017

EDITION 1

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In this inaugural edition of our Research Snapshot, you will read about topics that are trending across the globe. Is your real estate portfolio resilient enough? Can real estate benefit from smart beta? Are low yields a risk for your private real estate portfolio?

The topics are varied and reflect the diversity of the global real estate investment ecosystem. A multitude of players from asset owners and their managers to the advisors that support them and the authorities that oversee them all face their own specific issues. We seek to provide research insights that help each of these groups find solutions. Whilst some issues may not appear to be of direct relevance to you or the markets in which you operate, they will be for those with whom you interact with. Understanding these issues will be vital for engaging effectively with the other players in this diverse ecosystem.

We hope they provide a spark of inspiration to help you approach your own investment problems and invite you to engage with us to find an innovative solution. We welcome your input on the content, as well as suggestions for future topics you might like to see addressed in 2018. Please enjoy reading MSCI's first Real Estate Research Snapshot 2017.

Jay McNamara
Head of Real Estate

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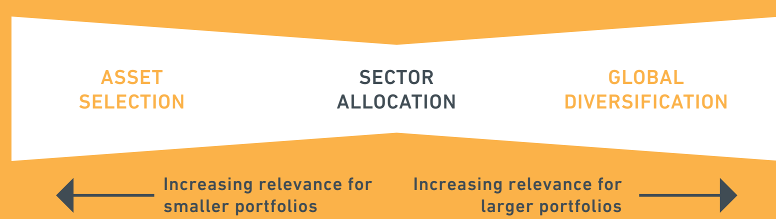
IS YOUR REAL ESTATE PORTFOLIO RESILIENT ENOUGH?

Sebastien Lieblich

Head of Equity Solutions Research

ASSET SELECTION TENDS TO BE PARTICULARLY IMPORTANT FOR SMALLER PORTFOLIOS



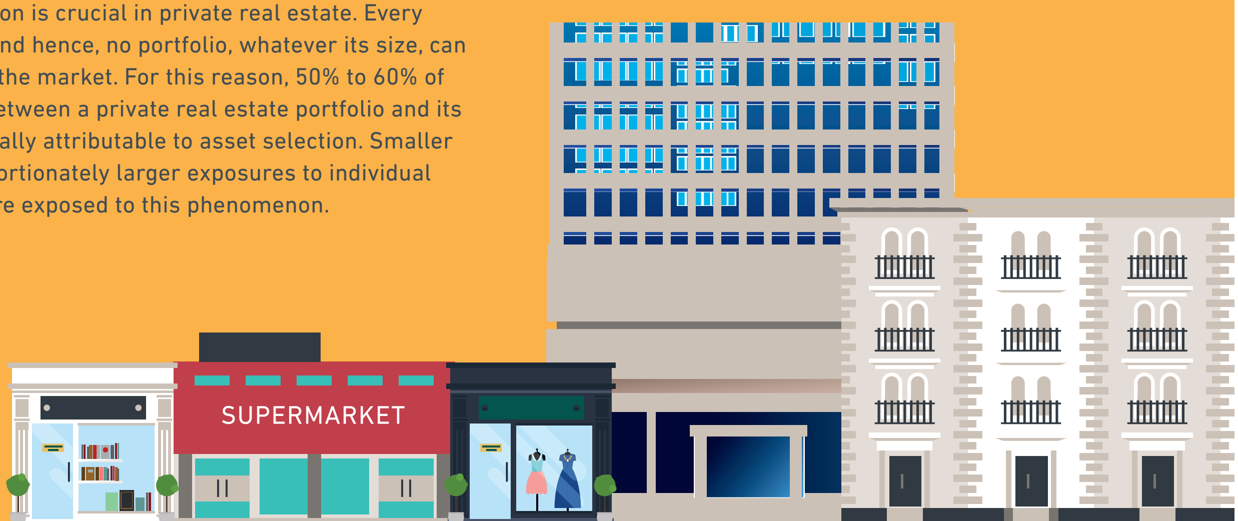
Amid recent worldwide political, economic and market uncertainty, how can you increase resilience of your real estate portfolio? The answer to this question boils down to prudent use of three simple portfolio construction strategies: Asset selection, sector allocation and global diversification.

The inherent heterogeneity of private real estate markets complicates the application of these strategies. Asset selection tends to be particularly important for smaller portfolios since they may consist of only a few assets and are hence dominated by asset-specific risk. Only the largest portfolios can hope to allocate in sufficient volume to provide diversified sector or market exposure.

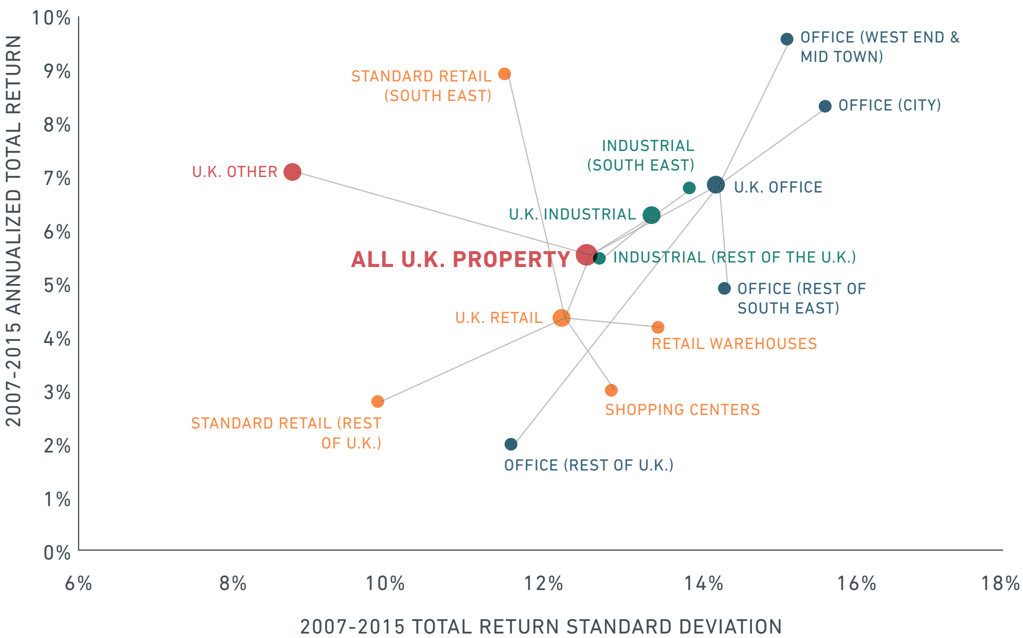
Proper asset selection is crucial in private real estate. Every property is unique and hence, no portfolio, whatever its size, can perfectly represent the market. For this reason, 50% to 60% of the tracking error between a private real estate portfolio and its benchmark is generally attributable to asset selection. Smaller portfolios with proportionately larger exposures to individual assets are even more exposed to this phenomenon.

Variations in portfolio returns are driven by the unique characteristics of each asset, i.e., its physical attributes and location through to its lease structure and the strength of its tenants. While it is impossible to perfectly diversify away asset-specific risk, the resilience of portfolios can be enhanced by combining real estate assets with varying characteristics and by actively managing the physical and cash flow characteristics of the assets themselves.

Sector allocation offers another opportunity to build portfolio resilience. By allocating capital to the right sectors, it is possible to strengthen the defensive nature of the portfolio. For example, the annualized return of U.K. office assets topped those of U.K. retail assets by 250 basis points during the 2007-2015 period. Looking at the sub-sector level, performance varied even more over the same period, as can be seen below.



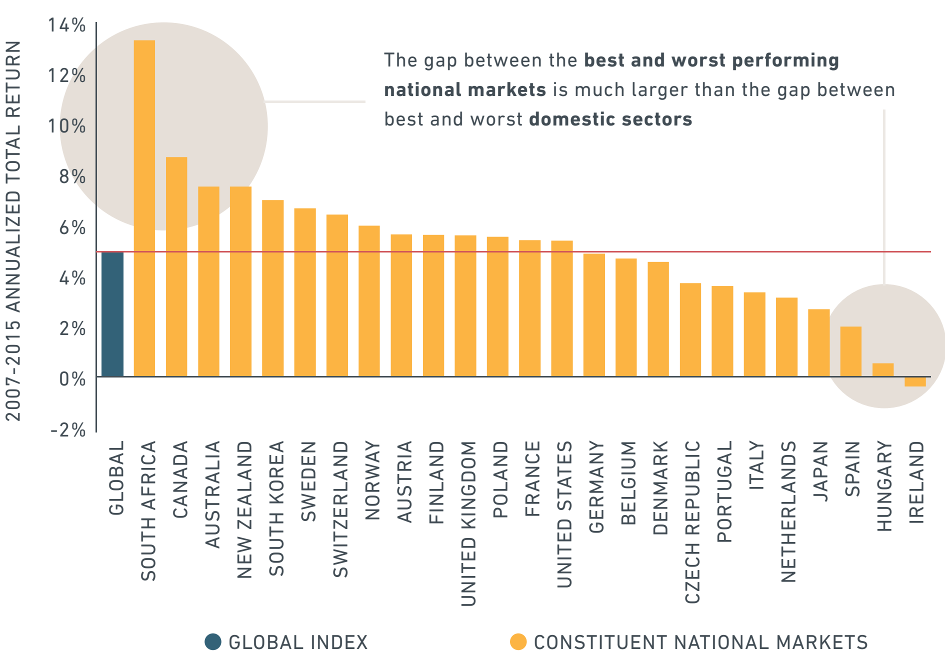
RETURNS OF UK PRIVATE REAL ESTATE ASSETS VARIED GREATLY BY SECTOR AND SUB-SECTOR



Source: MSCI — Global Intel

Finally, global diversification has historically offered even more resilience benefits than sector allocation up front. Internationally, there has been a wide range of performance, with over 13 percentage points of difference in the annualized total return of the best- and worst-performing markets in the eight-year period from 2007, as can be seen below. This large gulf in performance highlights both the potential of global diversification and the importance of managing it properly.

MIND THE GAP: RETURN DIFFERENCES BETWEEN BEST AND WORST NATIONAL MARKETS



Source: MSCI — Global Intel

Most private real estate portfolios are too small to take advantage of these global diversification benefits and thus exhibit a strong home bias. Consequently, cross-border correlations remain low. Funds that are big enough to exploit these low correlations can produce greater portfolio resilience.

The basic strategies of asset selection, sector allocation and global diversification can be borrowed from publicly listed asset classes. However, they must be applied carefully, given the unique characteristics of the private real estate market. Private real estate market data built from the bottom up with detailed asset-level cash flows can help investors optimize the mix of these strategies in a way that is suitable for their portfolios.

BREXIT'S LIMITED RISK TO LONDON OFFICE-SPACE PORTFOLIOS

Sebastien Lieblich

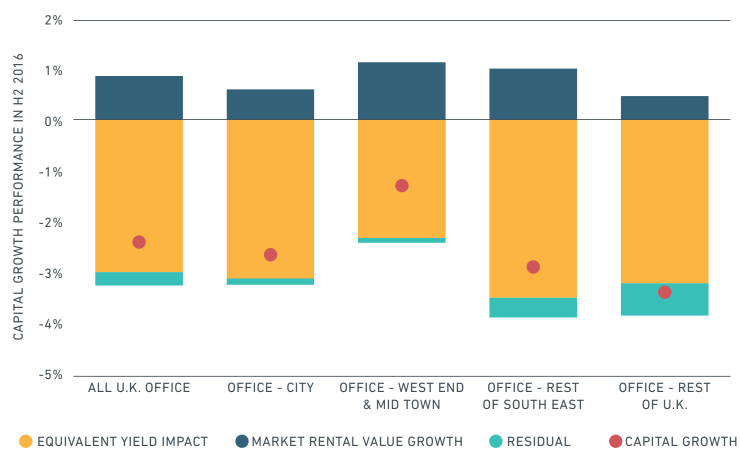
Head of Equity Solutions Research

Among the unknowns hanging on negotiations over the U.K.'s leaving the European Union is whether Brexit will trigger an exodus of banking jobs to Continental Europe and what impact that could have on Britain's economy. A number of financial institutions have discussed relocating some of their operations, leaving many real estate investors worrying about the potential fallout on their London office holdings.

Brexit has clearly affected investor confidence, according to a recent survey by INREV that shows London falling behind Berlin, Paris and Frankfurt as the top preference for the European real estate holdings of institutional investors. This concern reflects fears both that banks will return space to landlords, leading to a near-term shock to their current income, and that a falloff in demand for office space generally may constrain the growth of future rental income and may lead the market to reprice these assets. Our analysis, however, suggests that this risk is currently more limited than some investors may believe.

Recent performance data sheds some light as to how this sentiment is actually impacting portfolios so far. In the six months after the Brexit vote, MSCI's IPD U.K. Quarterly Property Index registered a -2.4% return for office assets, driven by a -3% yield impact. Nevertheless, with rental growth at positive 0.9% and floorspace vacancy stable at 11.8%, we have yet to see any significant impact to fundamentals.

NEGATIVE INVESTOR SENTIMENT HAS PUSHED DOWN U.K. OFFICE RETURNS



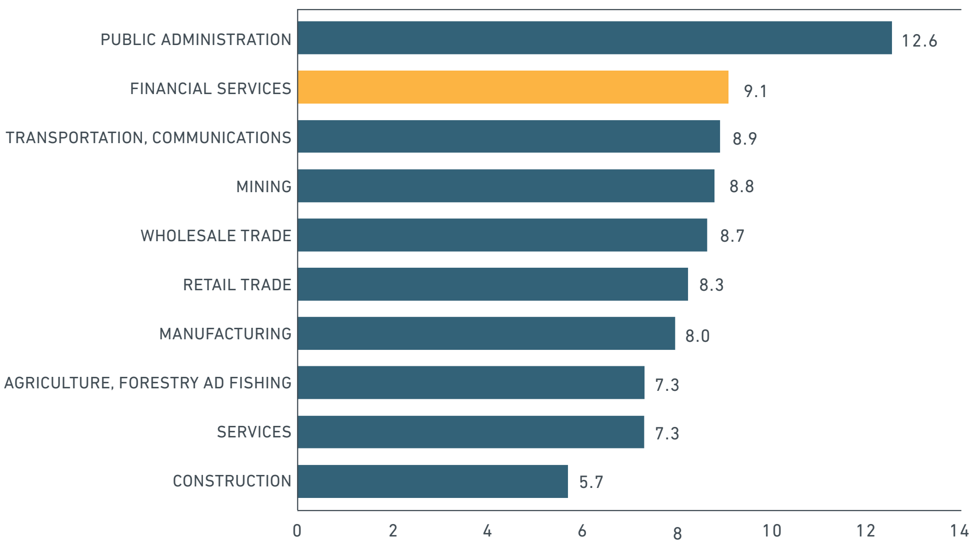
Source: MSCI – Global Intel

In addition, the income risk associated with a potential exodus of banks from London is actually currently more limited than might be assumed. Over 30% of contracted rent in London offices comes from leases to the financial services industry, according to MSCI's latest property income risk data. Though that may seem like substantial vulnerability to banks decamping for the Continent, a number of elements mitigate that risk.

Financial services leases are some of the longest in the office sector, with a weighted remaining lease term of over nine years (below chart). Even after adjusting for early break clauses, the weighted remaining lease term extends to more than eight years. These longer lease terms mean that many financial institutions have long-term commitments to the space they occupy and won't be able to just walk away from them.

LONG LEASE TERMS COMPLICATE RELOCATION FOR THE FINANCIAL SERVICES INDUSTRY

UK OFFICE WEIGHTED AVERAGE LEASE EXPIRY BY INDUSTRY



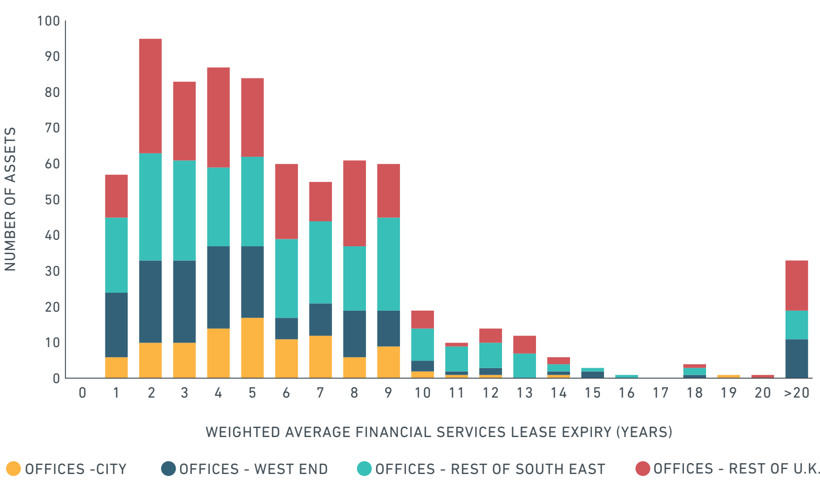
Source: MSCI – IRIS

The protection provided to investors by longer leases is backed up by the credit rating of financial services tenants. Combining MSCI's tenancy data with failure scores from Dun & Bradstreet, we calculated a weighted risk score for each industry grouping that shows financial services leases benefiting from a relatively strong credit profile. Of 10 industry groups, financial services has the third-highest weighted risk score after public administration and mining.

Thus, even if the banks do move a large number of jobs out of the U.K., that alone is unlikely to cause a sudden increase in vacancies or unpaid rents as most financial services tenants will be liable for – and capable of – honoring their leases.

Still, institutional investors will need to carefully scrutinize their own holdings because portfolios differ dramatically. The chart below illustrates the distribution of unexpired lease terms across various London office markets. Owners with shorter unexpired lease terms in their portfolios may be more at risk. A careful analysis of property income risk can give investors insights into these risks that can inform strategies for mitigating them.

EVERY ASSET IS DIFFERENT, SO INVESTORS NEED TO SCRUTINIZE THEIR PORTFOLIOS



Source: MSCI – IRIS

FINANCIAL SERVICES LEASES ARE SOME OF THE LONGEST IN THE OFFICE SECTOR

The author thanks Bryan Reid for his contribution to this post.

CAN REAL ESTATE BENEFIT FROM SMART BETA?

PROPERTIES IN THE TOP QUARTILE FOR EACH OF THE THREE QUALITY MEASURES OUTPERFORMED THE ALL PROPERTY BASELINE OVER THE EIGHT YEARS ENDED DECEMBER 2016, SUGGESTING THAT A QUALITY FACTOR PREMIUM EXISTED DURING THIS PERIOD.

Will Robson

Global Head of Real Estate Applied Research

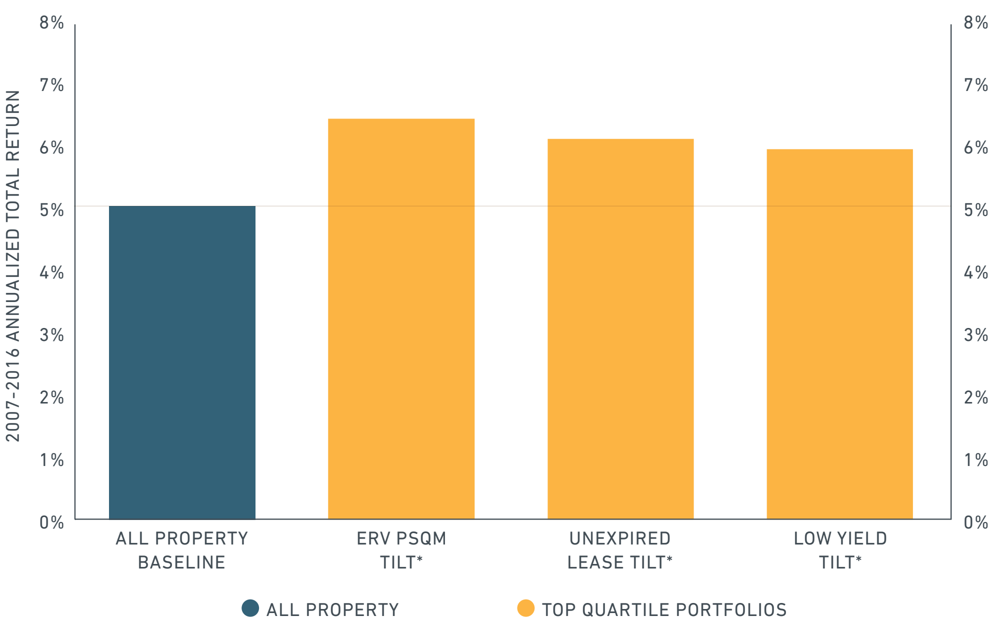
Institutional investors use factors to capture returns and understand drivers of risk and return in their listed securities portfolios. Can factors that have generated long-term premia in equity markets help identify private real estate assets that have outperformed historically?

By slicing data in custom ways, such as by using the MSCI Global Intel Plus database, real estate investors potentially can enhance their ability to identify new asset selection strategies based on factors. Such an advance would offer clients new tools in addition to traditional approaches that dissect assets by sector and geography.

We use a thought experiment to illustrate how one can employ the quality factor, one of six factors that have provided excess returns over long time periods, in evaluating real estate assets.

For equities, the quality factor helps explain the movement of stocks that have low debt, stable earnings growth and other "quality" metrics. In applying this concept to private real estate, we used three measures that together serve as proxies for quality: estimated rental value per square meter (a reflection of occupier preference), unexpired lease term (reflecting income security) and equivalent yield (reflecting investor preference). Properties in the top quartile for each of the three quality measures outperformed the All Property baseline over the eight years ended December 2016, suggesting that a quality factor premium existed during this period.

QUALITY MEASURES OUTPERFORMED THE BASELINE RETURN



** To calculate quartile indexes, assets are ranked quarterly and included in the relevant quartile sample based on their position at the end of the quarter.*

Because the analysis applies three descriptors to a single country over a relatively short period, we cannot conclusively prove the existence of a quality premium in private real estate. Even if we could do so, it may be hard to harvest these risk premia through passive factor index strategies, given the higher transaction costs, longer transaction lead times and the overall illiquidity of private real estate (compared with equities) involved.

However, the experiment illustrates the potential for the identifying factors that may provide risk premia that are common across broad groups of real estate assets. Using this approach, private real estate investors may be able to develop new tools to help them select portfolio assets.

LISTED AND PRIVATE REAL ESTATE:

PUTTING THE PIECES BACK TOGETHER

Ian Cullen
Advisory Director

A property owned by a listed real estate company, such as a Real Estate Investment Trust (REIT) or a real estate management and development company, should produce returns close to those of an equivalent asset that is privately owned. In reality, however, the results differ, especially when looking at short-term performance. The challenge for real estate investors is to be able to use both listed and direct real estate in their real estate allocations and understand the performance drivers for each. Specifically, how do equity market factors, financial structures and individual properties contribute to performance?

Previous studies have used market index series, which permitted only imprecise analysis due to their varying constituents. In our new paper, reporting research undertaken in association with the European Public Real Estate Association, we compared corresponding market indexes as well as precisely matched samples from 19 European listed real estate companies with long-term returns at the asset level. This detailed dataset enables us to make an apples-to-apples comparison within and across asset, vehicle and security levels, using custom indexes or composites.

THE THREE PERFORMANCE LEVELS OF REAL ESTATE COMPANIES

DIRECT PROPERTY PORTFOLIO
Allocation strategy and asset management

FUND/VEHICLE
Leverage, fund level costs and other assets

SECURITY
Stock market sentiment

This more granular analysis showed that asset, vehicle and security levels are not as different as they might superficially appear, suggesting that asset owners may be able to combine the three in their total real estate portfolios, provided they conduct the proper performance reconciliation and attribution analyses. We found:

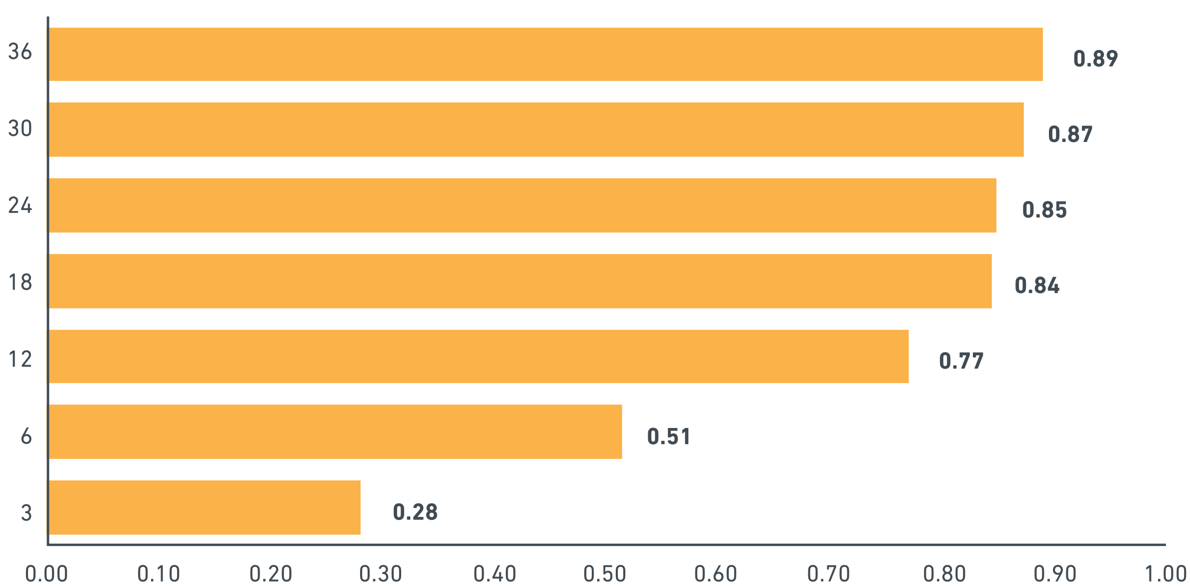
1. High correlations existed across levels.
Among the selected 19 companies, there were strong correlations across asset, vehicle and security levels, particularly over longer periods, suggesting that listed real estate companies may be used as components of overall real estate portfolio strategies.

2. Assets drove performance.
When aggregated to a single composite, there remained a close fit between security- and asset-level results, particularly for Europe ex U.K. companies. Asset-level returns clearly were the main driver of overall equity performance in the long term. However, vehicle/financial factors also influenced returns, especially in phases of weak or strong overall equity returns. Over short time periods, stock market sentiment had a hefty impact on return volatility.

3. Index returns aligned.
At the highest level of aggregation, asset, vehicle and equity headline index performance trends all appeared broadly synchronised over the longer term, at least to the extent that their overall cyclical patterns largely matched one another, but diverged in periods up to around 18 months (see below exhibit). The relationship was even stronger for U.K. companies than for their continental European counterparts.

THE CHALLENGE FOR REAL ESTATE INVESTORS IS TO BE ABLE TO USE BOTH LISTED AND DIRECT REAL ESTATE IN THEIR REAL ESTATE ALLOCATIONS AND UNDERSTAND THE PERFORMANCE DRIVERS FOR EACH

ASSET VS EQUITY LEVEL INDEX CORRELATIONS OVER PERIODS FROM 3-36 MONTHS



MSCI Europe ex UK IMI Core Equity RE vs IPD Europe ex UK Direct RE (quarterly returns)

The author thanks Bert Teuben for his contribution to this post.

HAS FOREIGN CAPITAL CHANGED THE FACE OF AUSTRALIAN REAL ESTATE?

Bryan Reid

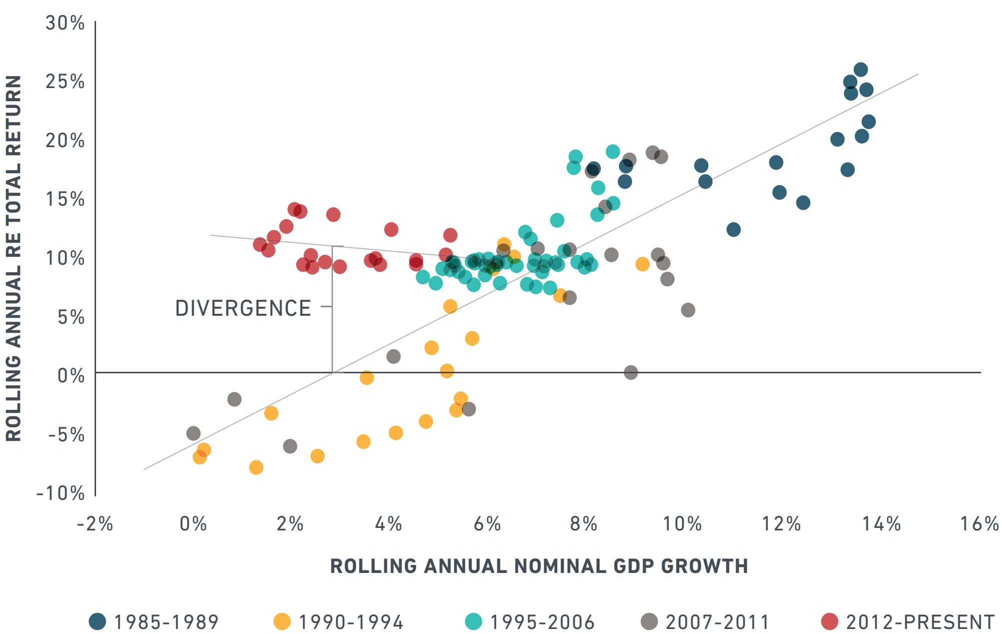
Vice President, Global Real Estate Research

In recent years, Australian commercial real estate has attracted considerable attention from international investors, changing the dynamics of what was historically a domestically dominated market. Inflows of foreign capital have helped support returns, despite slowing economic growth. Many now wonder whether this influx of foreign capital has contributed to a structural shift in the market or if there will be a return to previous performance and investment trends. While we cannot answer this question with certainty, an analysis of recent performance data highlights the changing and increasingly global nature of real estate and the influence of loose global monetary policy as institutional investors continue to chase higher yields.

Private real estate often produces steady income streams and high yields that in the short term make it appear bond-like, and yet the asset class's returns historically have been linked tightly to overall economic growth. In most markets, there has long been a strong correlation between nominal Gross Domestic Product (GDP) growth and real estate returns. This correlation has been particularly evident in Australia. In recent years, however, returns have held at long-term averages despite below-trend GDP growth.

The Property Council / IPD Australia All Property Index, with history back to 1985, shows a pronounced correlation between nominal GDP growth and total returns, across and within sub-periods, until around 2012 (see exhibit below). Since then, total returns have remained around their 10% long-term average despite tepid economic growth. Had the historical relationship held, returns would have been much lower.

IN AUSTRALIA, THE RELATIONSHIP BETWEEN REAL ESTATE RETURNS AND ECONOMIC ACTIVITY HAS DIVERGED



Source: MSCI – Global Intel, Australian Bureau of Statistics


3000+ DIRECT PROPERTY INDEXES
GLOBAL INTEL PLUS
GLOBAL DATA STANDARDS
80000+ REAL ESTATE ASSETS
120 PROPERTY TYPES
32 COUNTRIES
ONE OF ONE DATABASE
PRIVATE REAL ESTATE PERFORMANCE
CONSISTENT MEASUREMENT
65 GLOBAL MEASURES
120 PROPERTY TYPES
GLOBAL DATA STANDARDS
$1.7 TRILLION CAPITAL VALUE
32 COUNTRIES
80000+ REAL ESTATE ASSETS
240+ GLOBAL CITIES
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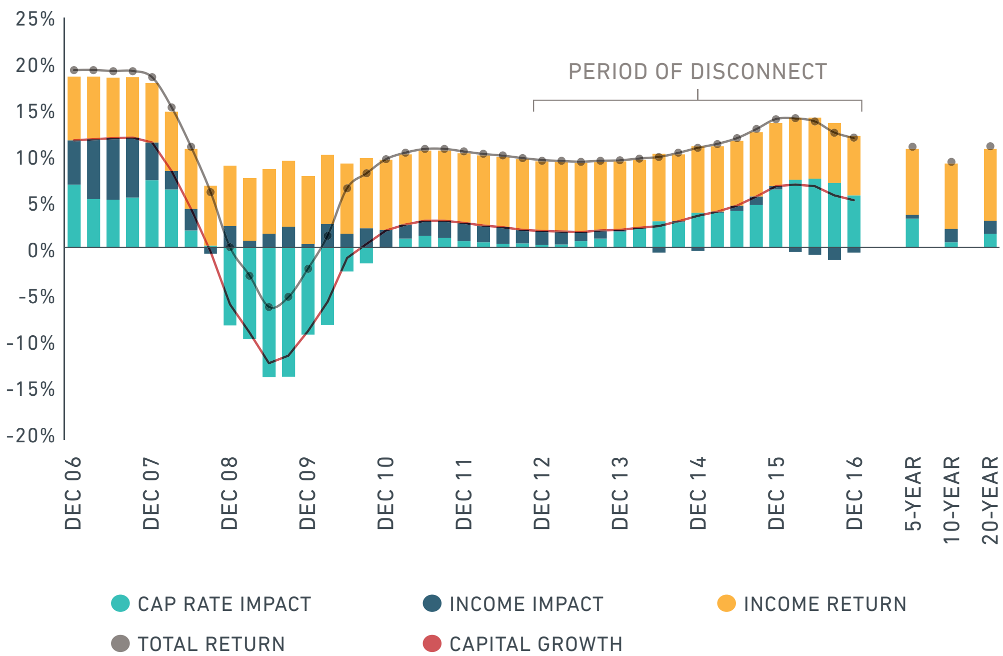
32 COUNTRIES
80000+ REAL ESTATE ASSETS

To explore this relationship in more depth, we have to look at capital growth, which represents the most volatile and pro-cyclical component of total return. Capital growth can be broken into a "cap rate impact" (the degree to which capital growth is driven by investor sentiment through widening or tightening yields) and an "income impact." In the exhibit below, we can see that income impact was evident even during the financial crisis, but it has all but disappeared since mid-2013, as economic growth and occupier demand weakened. Instead, tightening cap rates have become the main driver of capital growth. In other words, it is investor sentiment and capital markets which have supported returns in Australia since the end of 2013.

TIGHTENING CAP RATES HAVE BOOSTED AUSTRALIAN REAL ESTATE RETURNS IN RECENT YEARS



Source: MSCI – Global Intel

What's going on? For starters, a rare confluence of circumstances, including a protracted period of globally loose monetary policy. Low interest rates have boosted asset prices through lower borrowing costs and lower discount rates on asset cash flows. In addition, domestic and foreign investors have chased higher yields available from Australian real estate, with foreign capital playing a particularly prominent role.

> INVESTOR SENTIMENT AND CAPITAL MARKETS HAVE SUPPORTED RETURNS IN AUSTRALIA SINCE THE END OF 2013

Even at the end of 2016, Net Operating Income (NOI) yields in Sydney and Melbourne were 5.7% and 5.8%, respectively, compared with 4.4% in Toronto, 4.2% in Amsterdam, 4.1% in New York and 3.8% in London. With these relatively high yields in the Australian market and a more globalized world of capital flows, are we experiencing a paradigm shift where Australian yield levels and total-return expectations are reset going forward?

Ultimately, it is hard to say. With signs of global growth returning and the U.S. Federal Reserve apparently on a tightening path, some of the conditions that have encouraged the foreign capital influx may be coming to an end. Counteracting that, though, Australian yields are still relatively high compared with other markets, and real estate investing has become increasingly global and shows no signs of abating. A lot will depend on investor perceptions of the Australian market, but as the recent example of Brexit highlights, changes in investor sentiment can happen quickly and have a large impact on real estate performance.

ARE LOW YIELDS A RISK FOR YOUR PRIVATE REAL ESTATE PORTFOLIO?

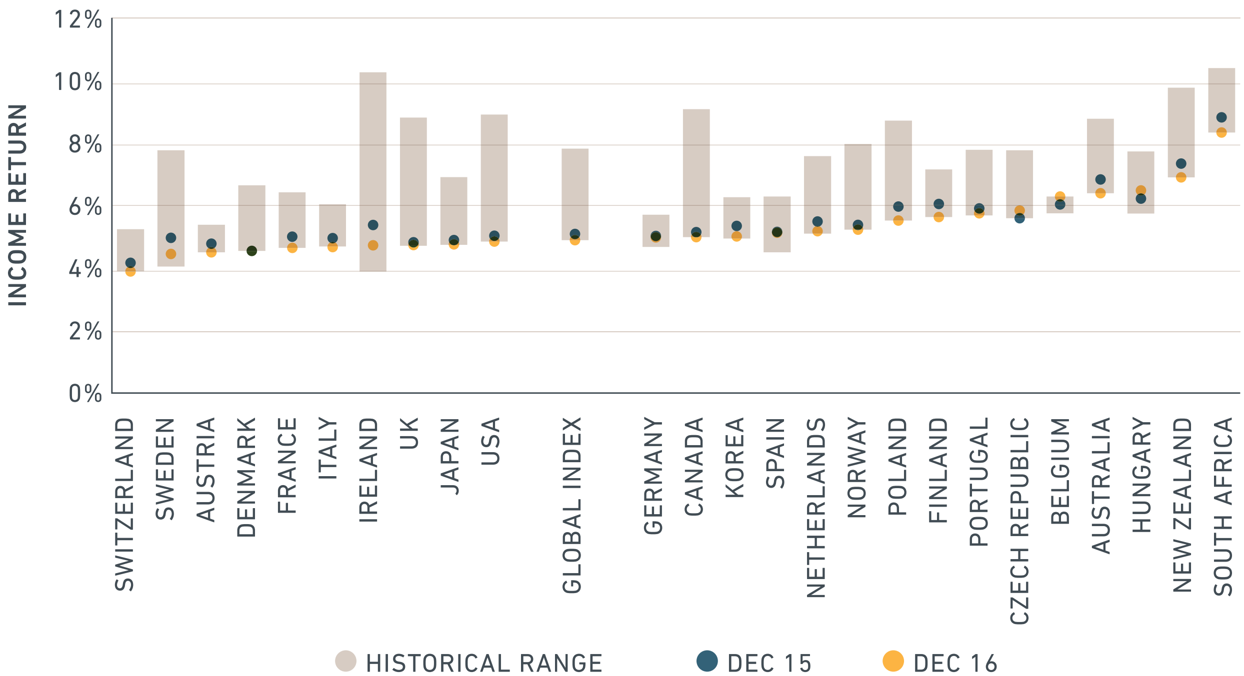
Bryan Reid

Vice President, Global Real Estate Research

In a global environment of sluggish growth and low interest rates, yields on private real estate are under sustained pressure. Yields have been compressing since 2010 and are now lower than before 2007. Do these historically low yields represent a risk to portfolios? The answer largely depends on how one defines risk, but low yields do pose challenges for commercial real estate investors.

Since 2008, policymakers across the developed world have slashed interest rates to record lows and employed unconventional tactics such as quantitative easing to reflate asset values and bolster sagging economies. While many economies remain sluggish, low rates have helped boost real estate prices by lowering both borrowing costs and discount rates on future operating income. As asset values have grown, yields have compressed. In 2016, the income return on the MSCI IPD Global Annual Property Index fell below 5% for the first time since its inception. Income returns are now at the low end of their historical ranges across many of the world's real estate markets.

YIELDS ON REAL ESTATE ARE AT RECORD LOWS IN MOST MARKETS

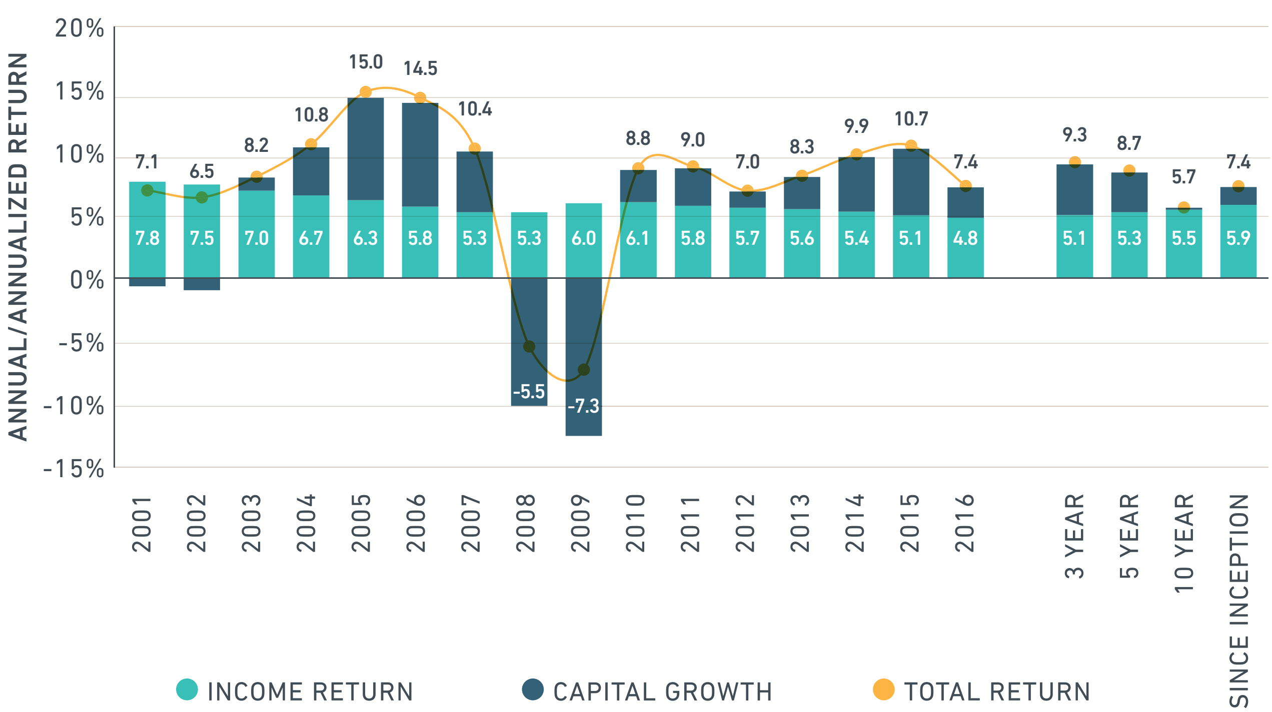


Income return histories shown here vary between 11 and 36 years depending upon individual market availability.

Source: MSCI – Global Intel

In the short term, low yields might be considered a risk factor for investors with higher total-return expectations. Historically, income returns have been relatively stable and made up a sizeable portion of the long-term return from direct investment in private real estate. Faced with falling yields, investors wanting to maintain higher total-return targets will be more reliant on capital growth tied to increases in net operating income (NOI).

INCOME COMPRISES ABOUT 80% OF LONG-TERM MSCI IPD GLOBAL ANNUAL PROPERTY INDEX TOTAL RETURNS



Source: MSCI – Global Intel

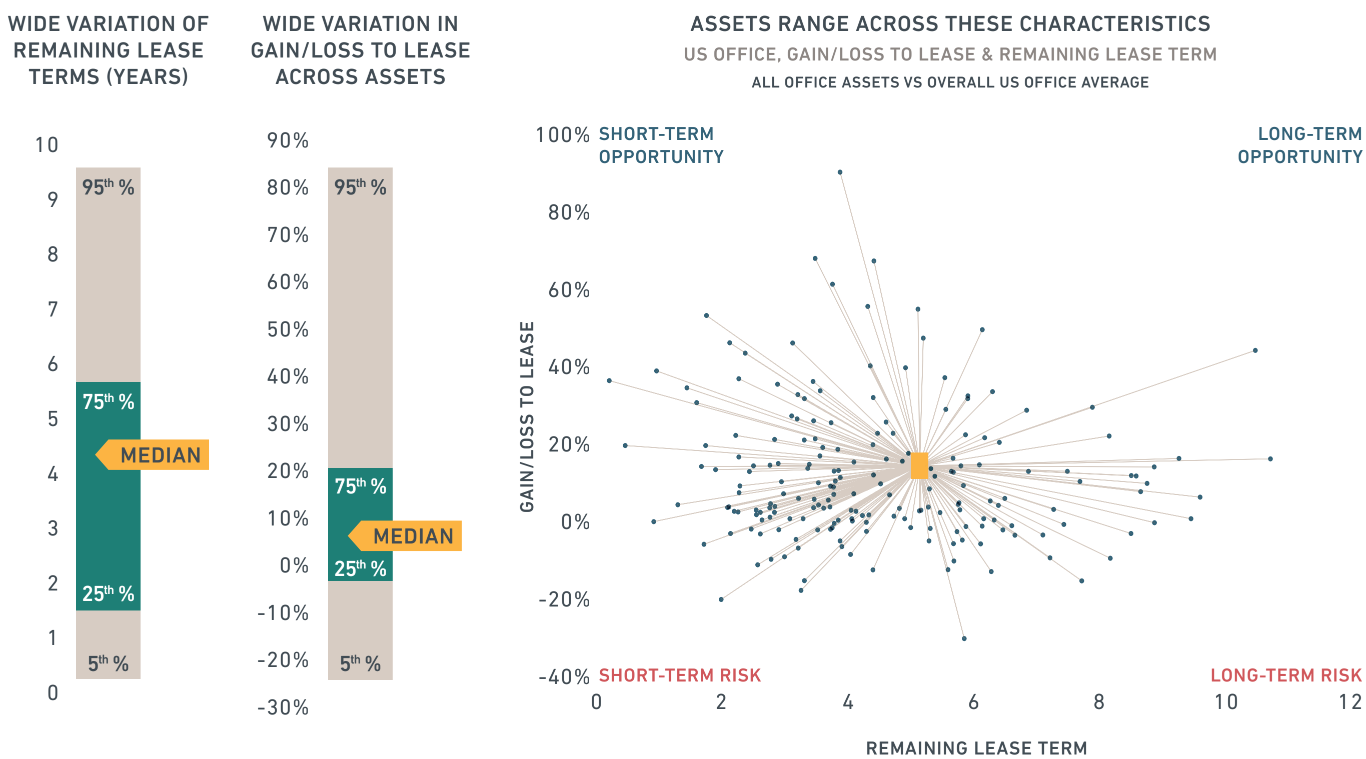
Longer term, it is not clear whether the shift toward lower real estate yields is sustainable. With the Federal Reserve raising U.S. interest rates again, there are concerns about a repricing of real estate assets. Rising rates could be bad for bond values, due to a discount-rate effect, but the prognosis is not as clear for real estate assets. Unlike bonds, cash flows from real estate are not fixed. Lower vacancies, higher rents or lower operating expenses can all help to boost NOI, and thus values.

For real estate, the cash-flow effect tends to dominate the discount-factor effect, making real estate values more sensitive to growth than to interest rates. Thus, the impact of rising rates on real estate values will probably depend on whether 1) rates rise in response to improved growth; 2) rates rise to curb inflation in a stagflation scenario; or 3) rates rise too soon, stifling growth. In the first scenario, stronger growth could result in rising NOI levels, which could offset the impact of higher interest rates. In the latter scenarios, the risks to real estate values are greater thanks to low growth prospects.

Asset specifics matter too. Some assets have growth potential even if the local market does not. For assets where existing rents are below market rents, there is potential for gains to be realized when leases expire and new ones are negotiated. The remaining duration of existing leases will determine how quickly potential growth can be realized. The sample of U.S. office assets below highlights how individual assets can experience vast differences in their income growth potential.

> SOME ASSETS HAVE GROWTH POTENTIAL EVEN IF THE LOCAL MARKET DOES NOT

WIDE VARIATIONS EXIST IN LEASE STRUCTURES AND INCOME GROWTH POTENTIAL



Source: MSCI – IRIS

Given the diverse and unique nature of individual real estate assets, the risks faced by investors will vary greatly. For some investors, such as those with a high exposure to rents that are above market levels, low yields represent more of a risk than for others. Informed real estate investors may want to take a close look at their portfolios to see how they are positioned.

HAVE BIG-TICKET PROPERTIES PERFORMED BETTER THAN LOWER-VALUE PROPERTIES?

Bryan Reid

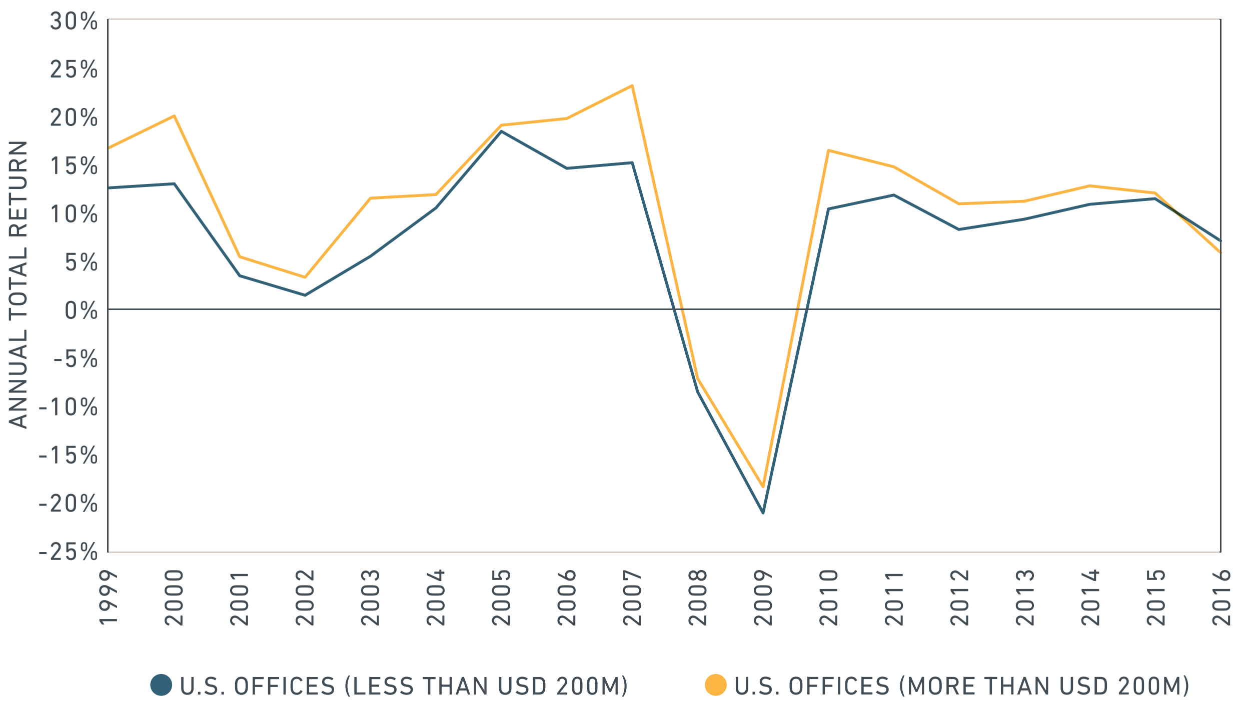
Vice President, Global Real Estate Research

Some real estate investors assume that higher-value (big ticket) real estate assets outperform lower-value assets, partly because there are fewer of them and they are harder to buy. But is this just speculation? Using MSCI global real estate dataset, we find evidence that higher-value assets have been more likely to outperform other assets in the same country and sector than lower-priced assets.

One of the defining characteristics of directly owned real estate is its lumpy and indivisible nature. Real estate assets can range in size and value from small warehouses worth a few thousand dollars to downtown office towers worth billions. But buyers are limited by size and capacity constraints. For direct investments, smaller investors are generally limited to lower-value assets (though they can access higher-value properties via pooled vehicles), while larger investors typically prefer larger properties for efficiency purposes. The resulting stratification of investment markets could lead to differences in performance within the broader real-estate market.

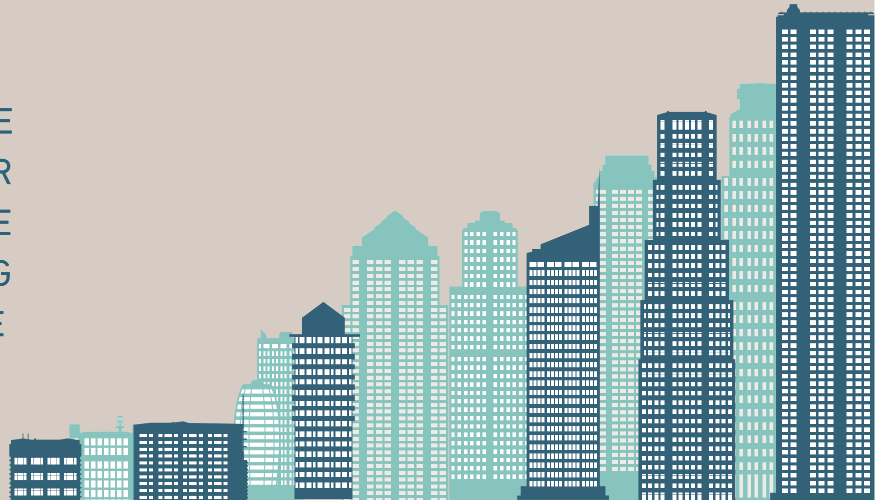
Since 1999, for example, U.S. office assets worth more than USD 200 million have outperformed smaller U.S. office assets in every year except 2016.[1]

LARGE U.S. OFFICE ASSETS HAVE OUTPERFORMED SMALLER OFFICE ASSETS IN 17 OF THE PAST 18 YEARS



Source: MSCI – Global Intel

HIGHER-VALUE ASSETS HAVE HISTORICALLY HAD A HIGHER CHANCE THAN LOWER-VALUE ASSETS OF OUTPERFORMING OTHER ASSETS IN THE SAME COUNTRY AND SECTOR

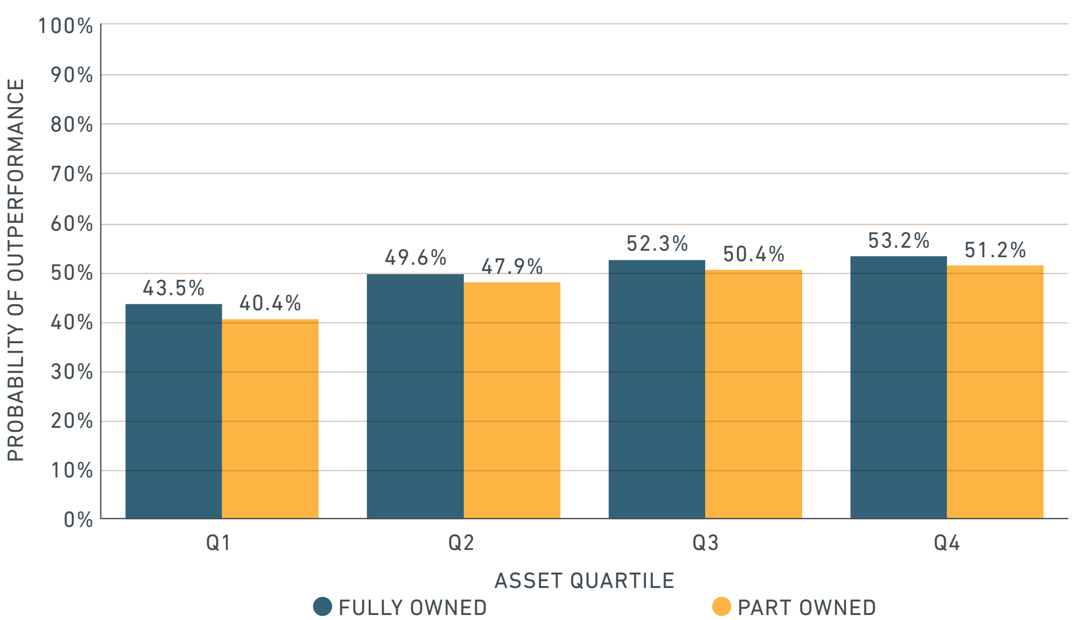


But has there been a systematic difference in performance across capital value bands at a global level? To answer this question, we used 487,152 annual return observations from 87,723 assets across 24 national markets over a 16-year period in the retail, office and industrial sectors. The analysis controls for difference in location and property type by comparing assets only within in the same country and sector.

The exhibit below shows that higher-value assets have historically had a higher chance than lower-value assets of outperforming other assets in the same country and sector. For instance, a fully owned asset in the top capital value quarter for its sector and country had a 53.2% chance of outperforming its country and sector peers overall, compared with 43.5% for a fully owned asset in the bottom quarter.

In addition, part ownership slightly reduced the chances of outperformance, though this effect appeared to be relatively small compared with the impact of asset size. To illustrate, a part-owned asset in the top capital value quarter still had a higher chance of outperforming than a fully owned asset in the first or second quarters.

HIGH-VALUE ASSETS WERE MORE LIKELY TO OUTPERFORM LOW-VALUE IN THE SAME COUNTRY AND SECTOR



Source: MSCI

Note: Probabilities are estimated using a probit model, in which the dependent variable can take only two values, in this case "outperform" or "underperform."

Notwithstanding these results, it is important to consider the wider implications for portfolio performance. Adding larger assets to a direct portfolio can increase concentration risk and leave the portfolio more exposed to asset-specific performance. Outside of direct ownership, investors can consider indirect investment via fund structures to increase their exposure across the value spectrum. They can also use market data to understand how assets of various sizes have performed historically and to track the performance of individual assets relative to their peers.

[1] Past performance is not necessarily an indicator of future performance.

UNDERSTANDING THE TRUE RISK OF REAL ESTATE ASSETS

When developing investment strategies, institutional investors in private real estate tend to rely on market-level performance data. But many real estate investors know that every asset is different and even two seemingly identical assets in the same area can produce very different returns. How can they better understand the true risk underlying their exposures when developing their strategies?

Will Robson

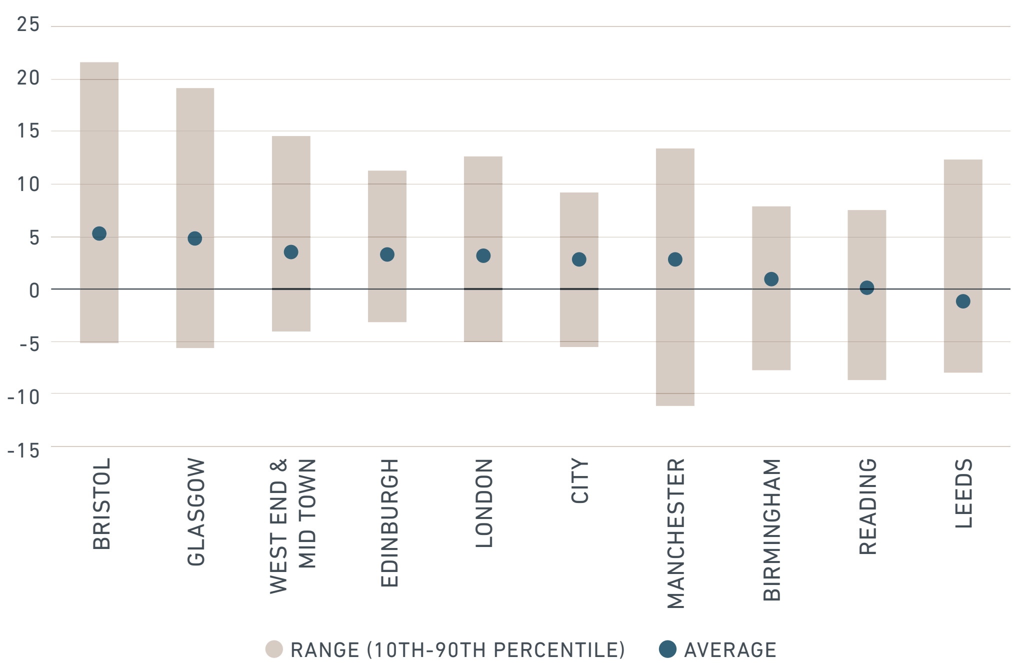
Global Head of Real Estate Applied Research

The answer may lie in looking at data beyond traditional sector and geographic analyses. By looking at the extreme outperformers and underperformers that drive the tails of total return distribution, we can more readily identify common sources of risk that pervade the entire portfolio.

First, we need to understand why two apparently identical assets in the same geographic area may produce very different investment returns. In short, differences in lease and tenant exposures, as well as the level of active management employed (e.g., refurbishment), can have a big impact on returns.

Before we focus on a narrow area, let's examine how much specific risk existed in office assets across a number of U.K. cities during the 12-month period ended June 2017. Using analysis from Global Intel PLUS, we see that the range of returns within these cities was far broader than that of average returns across these cities (see exhibit below). Asset-specific risk clearly was very important in these markets.

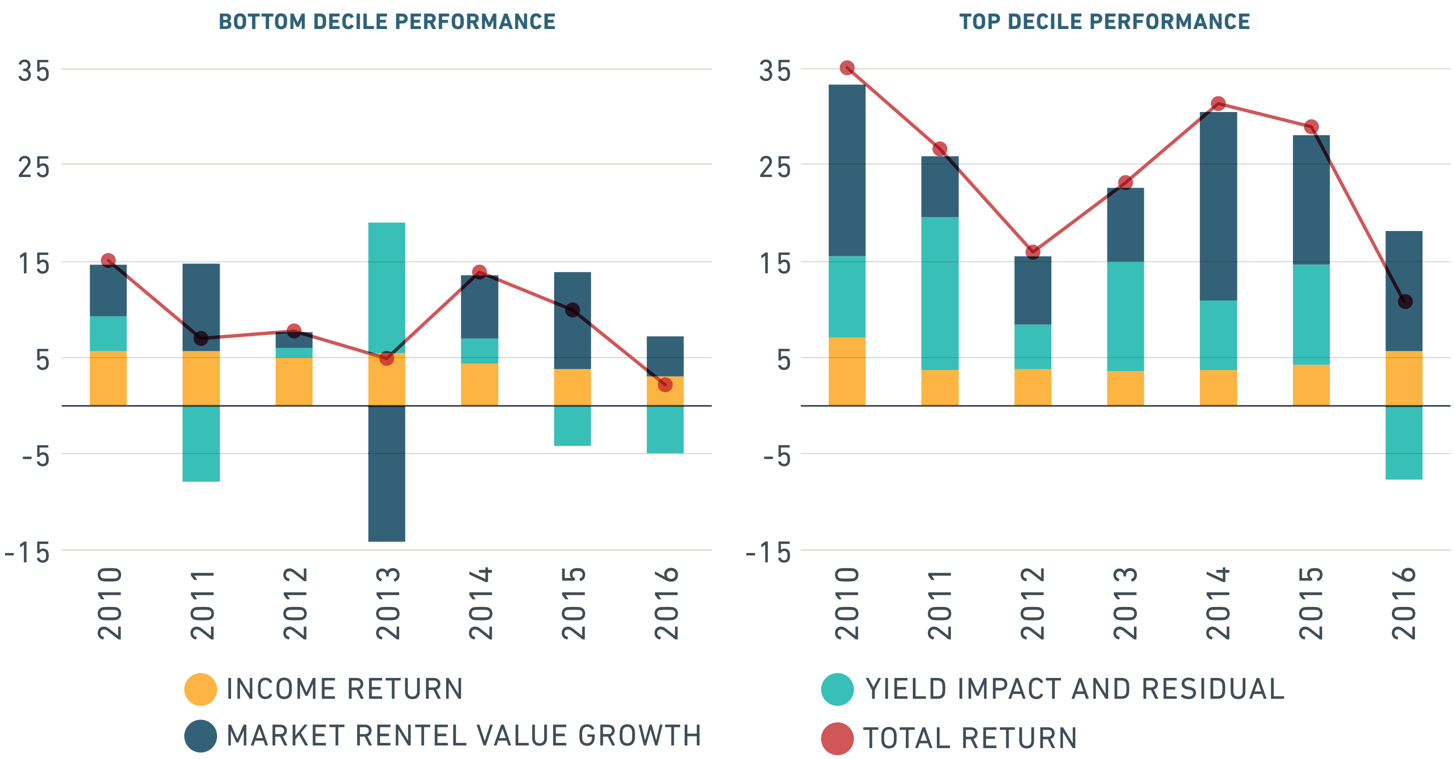
RETURNS VARIED MORE WITHIN CITIES THAN ACROSS THEM



Source: MSCI Global Intel PLUS. Office Total Returns for the 12-month period ended June 2017. City average vs. range (10th to 90th percentiles). Standing investments (reflects only general market movements).

Looking at returns over a longer period showed asset correlations within these markets.[1] The analysis below follows the performance of a consistently held set of offices in Central London over 2010 to 2016, comparing the top and bottom performance deciles. While there was a significant difference in the magnitude of returns between the outperformers and the underperformers, the profile of returns was very similar. This pattern illustrates that general market forces impacted all properties in the office segment similarly over time. Indeed, in 2016, even the best-performing assets were subject to negative yield impact following the summer's Brexit referendum.

TOP AND BOTTOM DECILES SHOWED SIMILAR LONG-TERM PERFORMANCE PROFILES, DESPITE ASSET-SPECIFIC RISK

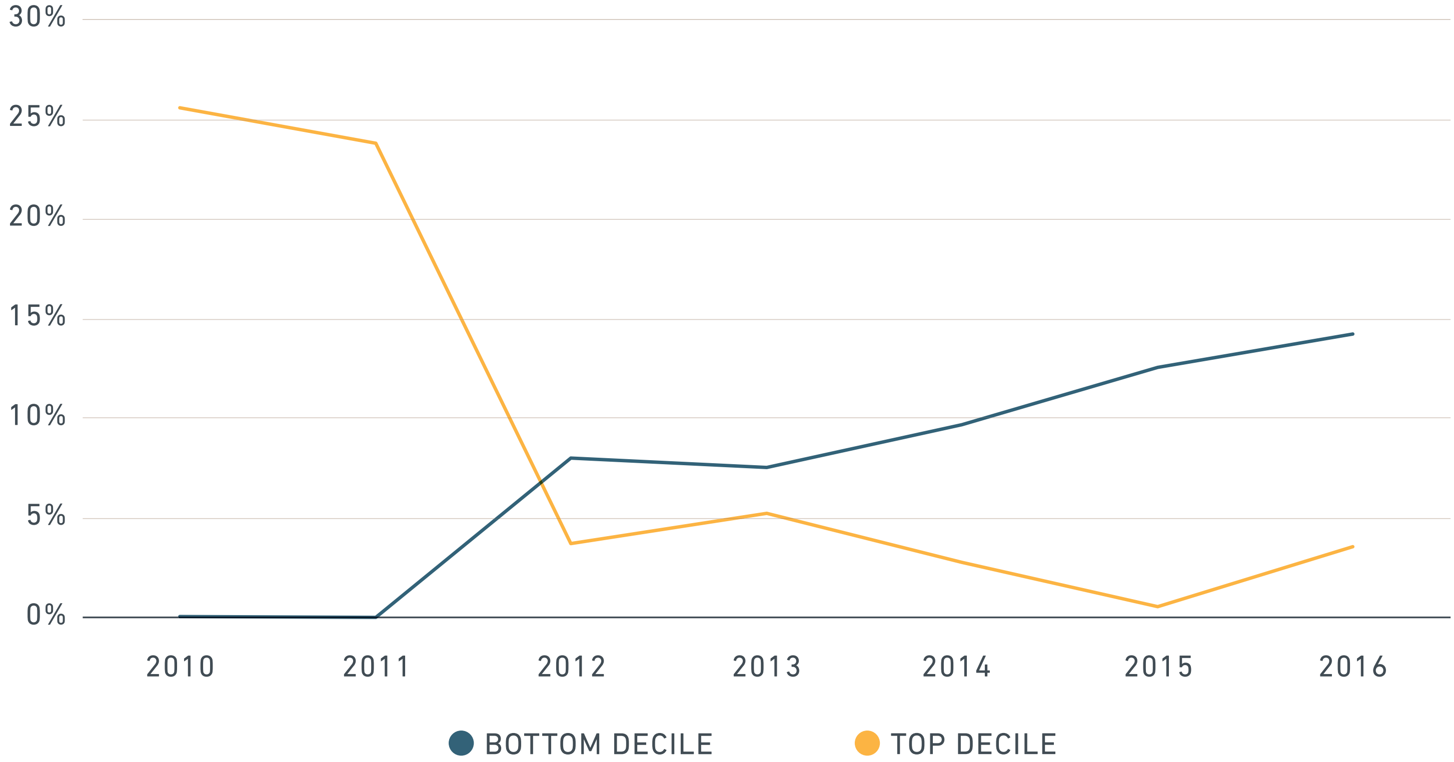


Source: MSCI Real Estate. Annualized total returns of bottom and top performance deciles of City, Midtown and West End office properties. Same-store sample (consistent set of assets)

While the total-return trends of the two tails were similar, the components of returns varied from year to year. Income return was marginally lower for the top performers, indicating the prime nature of these assets, but there was also more variability in the contribution of yield impact (a component of capital growth) and rental growth in the bottom decile.

These metrics are generally driven by market-level dynamics. To understand more about the tails of the distribution, we need to examine asset-specific factors, such as vacancy rates. Returns in the top decile were buoyed by a fall in vacancy rates over the period to less than 5% from around 25%, while in the bottom decile they rose to 15% from zero. The best-performing assets initially had weak income profiles but were successfully leased up in an improving market. The worst performers were fully let initially but later suffered tenant loss, which ran counter to generally improving market fundamentals.

VACANCY RATE TRENDS VARIED SHARPLY BY PERFORMANCE DECILE



Source: MSCI Real Estate. Average vacancy rates of bottom and top performance deciles of City, Midtown and West End office properties. Same-store sample.

Our analysis suggests that variation in asset performance could not be fully explained by sector and geography. It may be important to consider other factors when formulating strategy and understanding risk. Traditionally, performance variation not explained by market selection was attributed to asset selection with the implication that this risk is idiosyncratic. Examining performance along alternative risk dimensions such as vacancy rates may help institutional investors better understand these underlying risk factors.

VARIATION IN ASSET PERFORMANCE COULD NOT BE FULLY EXPLAINED BY SECTOR AND GEOGRAPHY

[1] Properties are valued at least annually. To obtain reliable asset correlations, we need data points from a longer time period.

The author thanks Niel Harmse for his contribution to this post.

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realestate@msci.com

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[1] Based on latest P&I AUM data and MSCI clients as of September 2017