MSCI **REAL ESTATE RESEARCH SNAPSHOT**

2018
2ND EDITION

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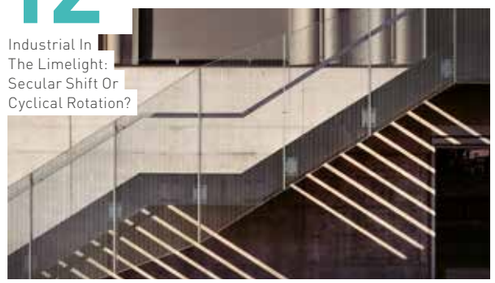


INTRODUCTION

WELCOME TO THE SECOND EDITION OF MSCI'S REAL ESTATE RESEARCH SNAPSHOT, COVERING THE YEAR 2018

This year's Real Estate Research Snapshot highlights the broad range of investment problems MSCI Real Estate's data can be applied to. We begin by emphasizing the importance of global consistency in data by providing an overview of global property market trends across sectors and markets. This consistency is reflected in our work on Global Gateway Cities, which questions whether interest in city-based strategies and a particular focus on the top mega cities is justified when looking at the performance numbers.

We also take a look at how the depth of our data, which reaches down to tenancy-level information, can be exploited to tackle such issues as the recent strength in industrial markets vs the relative weakness in retail markets around the world. This depth is also evident in our article illustrating how asset-level dispersions can be used to help bridge the analytical gap from market analysis to asset-level underwriting.

As part of the wider MSCI business, we also explore issues relevant to asset owners, looking at real estate from a higher perspective. Questions surrounding interest rate risk and currency hedging are addressed here, as are broader questions of how to consistently approach the analysis of core and opportunistic real estate.

We hope the Real Estate Research Snapshot provides you with some useful insights to inform your future real estate investment decisions and invite you to engage with us to find actionable solutions.

JAY MCNAMARA
Head of Real Estate, MSCI

WILL ROBSON,
Executive Director, Global Head of Real Estate Applied Research, MSCI

GLOBAL REAL ESTATE PERFORMANCE IN 2017

BRYAN REID,
Vice President,
Real Estate Applied Research

GLOBAL TOTAL RETURN EDGES UP IN 2017

The MSCI IPD Global Annual Property Index registered a total return of 7.9% in 2017, the eighth consecutive year of positive returns since the global financial crisis and 50 basis points above 2016. However, the return was lower than its recent peak of 10.7% in 2015 and below the returns in 2010, 2011, 2013 and 2014.

The best total return of 2017, 14.5%, was in Spain, where several years of economic growth have driven stronger performance.

2016's best performing market, Sweden, had its total return drop from 13.9% to 10.8%, representing the 10th best return in 2017. At the other end of the spectrum, Italy recorded the weakest return of 4.7%.

Having been the weakest performer in 2016, the U.K. rebounded strongly in 2017 with a return of 9.6%, outperforming the global index by 170 basis points. Between 2013 and 2015, the U.K. had been one of the strongest performing markets globally, thanks to strong demand for assets in international gateways such as London.

> Yields are now at the low end of their historical ranges across many of the world's real estate markets

But in 2016, U.K. performance deteriorated significantly following the Brexit referendum.

YIELDS STILL AT RECORD LOWS GLOBALLY

As real estate asset values have increased, 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, and it continued to compress in 2017. Yields are now at the low end of their historical ranges across many of the world's real estate markets.

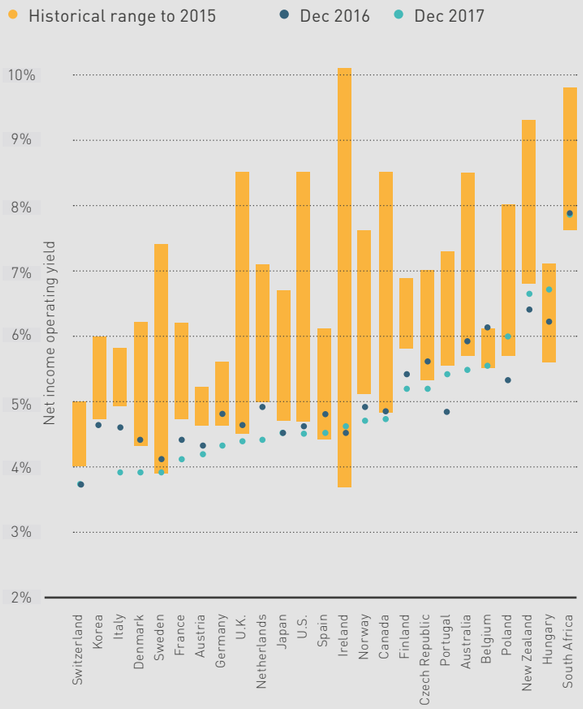
In the short term, low yields could be considered a risk factor for investors with higher total-return expectations. Historically, income returns have been stable and provided a sizeable portion of the long-term return. Faced with low yields, investors wanting to maintain higher total-return targets will be more reliant on capital growth.

7.9%

total return in 2017 registered on the MSCI IPD Global Annual Property Index

NATIONAL MARKET NOI YIELDS AGAINST HISTORICAL RANGES

All property net operating income yields in local currency



Longer term, it is not clear whether the shift toward lower real estate yields is sustainable. With the U.S. Federal Reserve raising interest rates, there are concerns about a repricing of real 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.

INDUSTRIAL AND NON-CORE SECTORS LEAD RETURNS

At the sector level, two clear trends stood out in 2017. First, non-core sectors (hotel and other) recorded strong returns in a number of countries. As yields have firmed and access to core sector stock has become more challenging in certain markets, non-core investments such as hotels and healthcare have attracted increasing interest.

The second trend has been the continuing outperformance of industrial among the core (retail, office, industrial and residential) sectors. This outperformance was most notable in the U.S., the U.K. and Italy, where industrial returns were well above those for all property.

EUROPEAN CITIES PERFORMED WELL, ESPECIALLY VERSUS RECENT HISTORY

At the city level, there had been only two markets which recorded total returns over 15% in 2016, Amsterdam (16.4%) and Munich (16.1%). Stronger city performance in 2017 was mostly to be found in EMEA. Of the 85 cities tracked by MSCI, only Calgary experienced a negative return at -0.3%. Most global gateway cities also saw total returns slip. Tokyo, New York and London all underperformed their 5-year annualized return, though Paris did slightly better than over the medium term.

RETAIL APOCALYPSE:

SHOULD MALL OWNERS BE WORRIED?

AMIT NIHALANI,
Vice President,
Real Estate
Applied Research

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Retailer bankruptcies, department store struggles and empty malls have dominated recent headlines. The apparent culprit? A massive movement toward online shopping, driven by retail giants such as Amazon and Walmart. The "retail apocalypse," as it has been named, reflects fears that consumers are abandoning bricks-and-mortar stores in favor of online shopping, potentially spelling disaster for retail malls and shopping centers. Given the outlook, are the fears of a retail demise justified?

We use MSCI data to illustrate that, despite the inexorable rise of e-commerce over the last 20 years, U.S. retail real estate investment performance has been resilient[1], providing stable returns. With a limited impact on performance to date, recent doom-and-gloom predictions may have overstated the current stresses facing retail asset investors.

That said, not all assets are equal, and the retail sector is undergoing rapid change, facilitated by technology in many cases. Some business models, such as video rentals, have become obsolescent. Others have had to adapt by reducing store counts, changing retail concepts or contracting unit physical sizes, as in the case of some banks and drug stores. This changing retail environment suggests that portfolios must be well managed and positioned for the transition that is underway. Understanding relative performance trends across the various retail sub-segments and their drivers is a key step in this process.

RETAIL ASSET PERFORMANCE

What has been the impact of online shopping on retail assets? Despite the continued growth of e-commerce, there has been only a modest difference in the total returns of retail versus non-retail assets, as shown in the below exhibit. Over the five years to September 2017, the annualized total return for retail assets was 10.4% versus 10.0% for non-retail assets.

WHY HAS RETAIL BEEN RESILIENT?

It is difficult to pinpoint any key drivers negatively impacting physical retail stores that could be directly attributed to e-commerce. Why is this, and are there ways to reconcile the continued growth in online sales with the stable performance of retail assets? There are a number of factors, which we outline below:

- Online sales have been growing steadily, but represent only about 9% of total sales, according to the U.S. Census Bureau. Bricks-and-mortar stores continue to account for the bulk of retail sales.
- Expanding retailers operate in thriving segments, while closures are concentrated in segments with declining profitability. Mall managers are adapting to this change by modifying their tenant mix.
- Omni-channel strategies – where retailers adapt their online and offline strategies to be complementary. As these evolve, some retailers are beginning to use retail space as a way to build brand awareness and engagement.
- Technological advancements are helping mall managers improve their assets. Free Wi-Fi and tracking systems allow managers to monitor shoppers' traffic patterns by identifying where they visit and for how long. This data can then be used to make more informed development decisions, improve center efficiency and enhance the tenant mix.

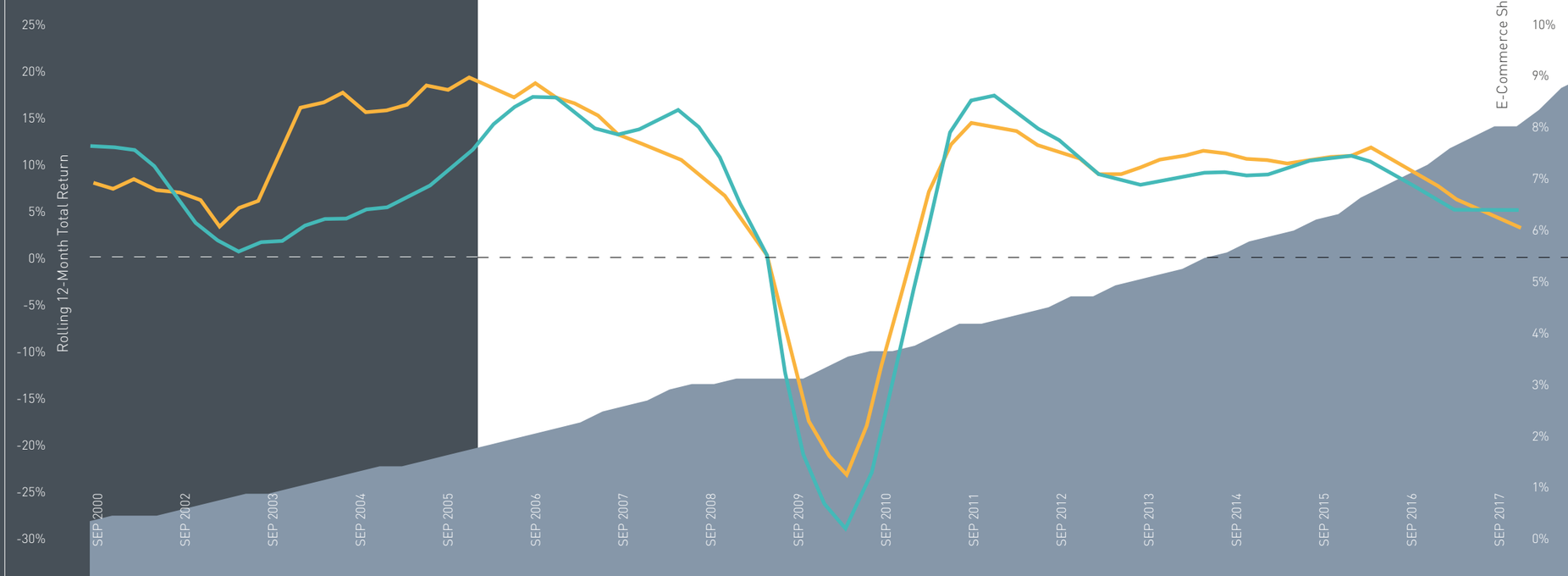
Overall, we find that e-commerce has made a substantial impact on bricks-and-mortar retail and may continue to do so. The data suggest a rationalization of the over-retailed U.S. landscape, with only the most productive U.S. retail real estate surviving. Tenants may continue to be drawn toward those malls that generate the highest traffic as new concepts are introduced. Meanwhile, the most negative predictions may underestimate the demand for good quality retail real estate, given its ability to attract consumers and cutting-edge retailers alike.

9%

of total retail sales is accounted for by online

Source:
U.S. Census Bureau

RETAIL RETURNS HAVE TRACKED NON-RETAIL RETURNS IN RECENT YEARS



HOW E-COMMERCE IS RESHAPING THE FUTURE OF RETAIL PROPERTIES

AMIT NIHALANI,
Vice President,
Real Estate Applied Research

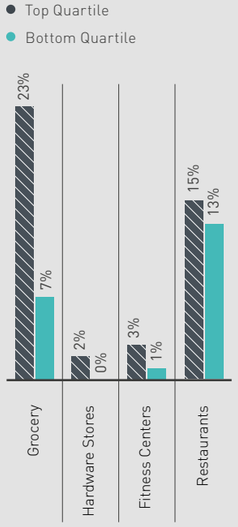
Although e-commerce has disrupted industries once considered staples in retail properties, certain retail assets are thriving. Simply put, some goods and services cannot be purchased over the internet. Working out at a fitness center or dining at a restaurant cannot be replicated by online transactions. And while some companies sell groceries online, most food shopping still takes place in stores. Our findings show that experience-oriented tenants, such as movie theaters and restaurants, and internet-resistant retailers, such as supermarkets, dominated the top-performing retail assets in 2017.

In a recent paper, we examined the extent to which ecommerce is affecting the investment returns from retail assets across the U.S. We found that recent returns were similar across retail property segments, suggesting that any impact ecommerce may have had is lost in these broad market averages. Here, we use MSCI data to examine the relationship between a retail asset's tenant mix (i.e., apparel, restaurants) and its corresponding total return. If the retail segment wasn't a significant driver of relative return in 2017, was tenant exposure the catalyst?

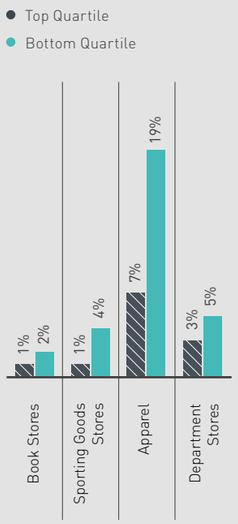
First, let's identify which industries prevailed among retail assets. The exhibit far right shows the top 10 tenant industry concentrations based on total revenue across this data set of retail properties. Supermarkets, restaurants and apparel dominated the top 10, with fitness centers and movie theaters making the top 20.

Certain tenant types varied strikingly between the best- and the worst-performing assets, as seen in the central exhibits. In the top exhibit, we see that top quartile assets derived more revenue from experience-oriented and internet–resistant industries such as restaurants, fitness centers and supermarkets. Grocery exposure, in particular, seemed to produce a significant difference in asset performance. Online penetration in this sector has so far remained low in the U.S. Conversely, in the bottom exhibit, we see that industries more vulnerable to online competition were prevalent in the bottom quartile.

RETAIL INDUSTRIES WHERE OVER EXPOSURE IS ASSOCIATED WITH ASSET OUTPERFORMANCE



RETAIL INDUSTRIES WHERE OVER EXPOSURE IS ASSOCIATED WITH ASSET UNDERPERFORMANCE



Unsurprisingly, apparel comprised a large proportion of under-performing industries for bottom-quartile assets.

IMPLICATIONS FOR RETAIL OWNERS AND LANDLORDS

We observe three key characteristics among top-quartile retail properties:

» **Internet Resistance:** The top quartile had a smaller exposure to book, sporting goods and apparel stores. These industries have experienced the most penetration from online retail. Conversely, the best-performing retail formats had higher exposure to grocery stores. Grocery tenants attracted the everyday shopper and increase the frequency of shopping center visits.

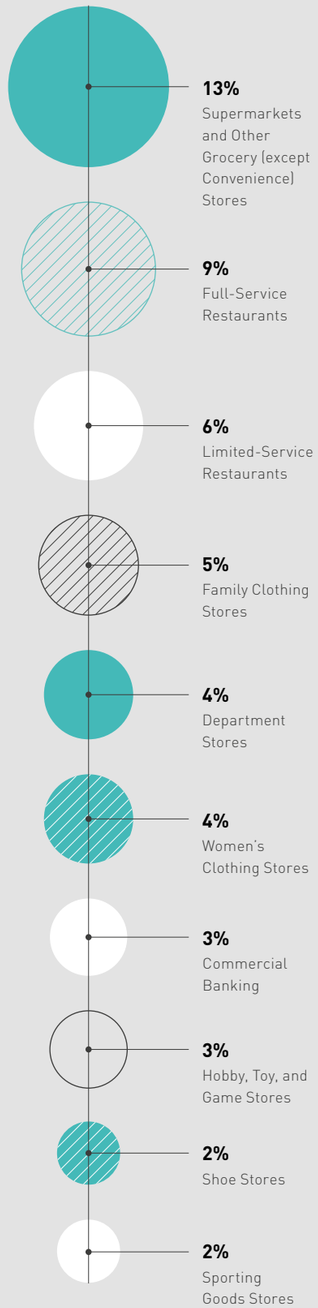
» **Restaurants:** Restaurants were an important segment for shopping centers and represented 15% (full-service restaurants accounted for 8.5%) of the total revenue for the top quartile versus 13% (full-service: 8.1%) for the bottom quartile. Restaurants, particularly full-service, are a popular tenant as they attract traffic and keep consumers at shopping centers longer.

» **Entertainment and Leisure:** While top-quartile assets included a higher concentration of fitness centers than the bottom quartile, entertainment establishments are increasingly becoming an important element in shopping centers because of the experience they offer consumers.

The data shows that for retail properties to succeed, consumers need a compelling reason to visit. For some assets, this may mean focusing on convenience and necessity where the online offer is less attractive such as grocery and hardware. For others, the solution may be to evolve from simple retail properties into shopping, dining and entertainment centers. Increased foot traffic and time spent at properties provide opportunities for retailers to interact with their customers on a deeper, more experiential level rather than simply providing a transactional environment.

While this analysis is based on U.S. data, similar trends are affecting real estate performance around the globe. The ability to understand the interaction between lease and tenancy dynamics and overall investment performance potentially may be increasingly important as the industry evolves over the coming years.

TOP 10 TENANT INDUSTRIES WITHIN RETAIL PROPERTIES
Concentration (%)



INDUSTRIAL IN THE LIMELIGHT: SECULAR SHIFT OR CYCLICAL ROTATION?

WHAT ARE SOME KEY OBSERVATIONS FROM THE INDUSTRIAL REAL ESTATE MARKET OF 2017?

WILL ROBSON,
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Industrial had a standout year globally, with the highest sector total returns across many worldwide markets. On a regional basis, Europe performed strongest (driven by the strength of the U.K.), followed by North America, with Asia Pacific (APAC) trailing.

On a city level, this trend was consistent across many North American and European Cities but not in APAC. However, industrial was the top-performing sector in Japan nationally but not in any of the Japanese cities tracked.

WHAT IS DRIVING INDUSTRIAL'S STRENGTH?

Many suggest the proliferation of e-commerce fulfillment and last-mile logistics as the drivers for industrial's outperformance. Looking at the total return components, income return declined below its historical average but capital growth more than offset the drop. This suggests significant yield compression with investors willing to pay more for the same stream of cash flows.

INDUSTRIAL RETURNS HAVE BEEN STRONG VERSUS THE OTHER SECTORS. IS THERE MORE GOING ON THIS TIME AROUND?

Industrial has traditionally been a higher yielding sector within real estate. Industrial yields often compress during the late stages of a cycle as investors search for yield.

Globally, yield spreads between industrial and all the other sectors tightened to record lows. However, we also witnessed very strong rental growth across markets. This is potentially reflective of something more fundamental happening with occupier driven demand for space.

As such, is this trend a secular shift or a normal cyclical rotation? To explore this further we look into the U.K. market.

WHY FOCUS ON THE U.K.?

Industrial's outperformance, especially relative to retail, was the most dramatic in the U.K. during 2017. The U.K. has a well-developed e-commerce market with a high penetration rate compared to global peers. As such, if a secular shift is underway then the U.K. would be the first to reflect changes in industrial investment characteristics.

WHAT WERE THE FINDINGS?

The pricing dynamic in the U.K. was very extreme. Looking at equivalent yields (standard U.K. valuation metric), industrial yields dropped below both office and retail earlier this year for the first time. In real estate, developed markets tend to have a natural order around sector pricing and it appears the traditional hierarchy of sector yields has been disrupted.

Another interesting finding was that although the average U.K. industrial return was higher than other sectors, the dispersion of individual returns around the average was much broader versus other sectors.

ARE THERE ANY OTHER REASONS FOR THE VARIATION IN RETURNS?

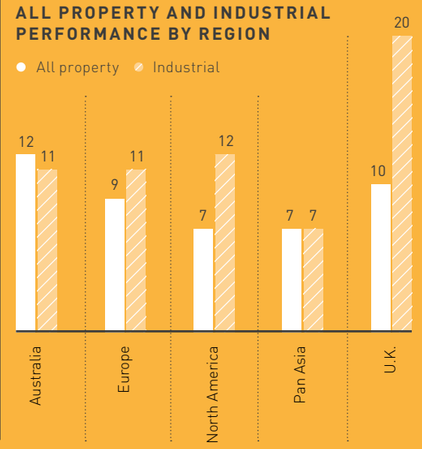
We segmented the industrial sector into its various sub-types to observe any trends and outliers. Warehouses and distribution centers outperformed other subtypes. Tenants linked to logistics and distribution outperformed. Tenancy data showed a strong trend of multi-tenanted assets outperforming single-tenant assets.

Geographically, the urban versus non-urban hypothesis linked to the last-mile story was tested. Significant outperformance was only found with assets in and around London but not in other major U.K. cities. This can be inferred as a large, dense and congested city like London requires more assets located closer into the city to meet e-commerce needs.

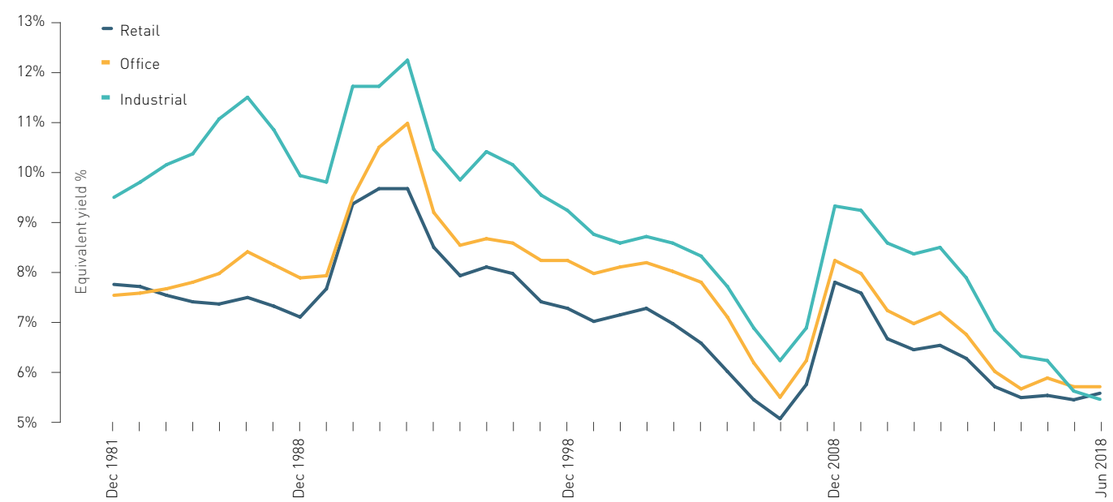
WHAT DOES THIS MEAN FOR INVESTORS?

There has been a lot of hype around e-commerce and industrial demand. However, there are large variations in the performance of individual assets with some commonalities in the outperformers. MSCI Real Estate data has abundant information in its indexes and more importantly the detail behind them. Investors have the functionality in our portal to explore these trends further, whether it's in the U.K. or other global markets.

ALL PROPERTY AND INDUSTRIAL PERFORMANCE BY REGION



U.K. EQUIVALENT YIELDS OVER TIME, BY SECTOR (DEC 1981 - JUNE 2018)



GLOBAL GATEWAY CITIES: THE PERFORMANCE BEHIND THE HYPE

AMIT NIHALANI,
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Applied Research

WILL ROBSON,
Executive Director,
Global Head of
Real Estate
Applied Research

Since the Global Financial Crisis, real estate investors have turned to Global Gateway Cities as a key way to diversify portfolios and to generate capital growth. The conventional wisdom asserts these large, well connected and economically dynamic cities should provide more liquidity and more stable cash flows than those available from secondary markets. But have these cities, which include London, New York and Tokyo, offered the superior and safer investments to justify their premium pricing?

We show the office sector in Global Gateway Cities did not provide better unadjusted total returns over the decade ending 2016. Dissecting returns between capital growth and income, we found Global Gateway Cities in general provided higher capital growth, but lower income returns than other major cities.

However, we saw a different picture when we adjusted returns for country effects. Relative to country market averages, Global Gateway Cities were concentrated in the top half of performers, although they also displayed higher volatility than their national averages. In contrast, smaller cities generally provided more stable returns with lower capital growth.

PERFORMANCE CHARACTERISTICS

We compared the performance of offices in Global Gateway Cities versus groupings of other international cities: Regional Gateway Cities, Nationally Significant Cities and "Other" Cities from 2007 to 2016, providing a large sample of cities over a major part of the latest real estate cycle.

No clear pattern emerged. Cities from each segment were spread across the distribution. Global Gateway Cities clearly were not stand-out performers in terms of total return during our sample period, contradicting initial expectations.

RISK CHARACTERISTICS

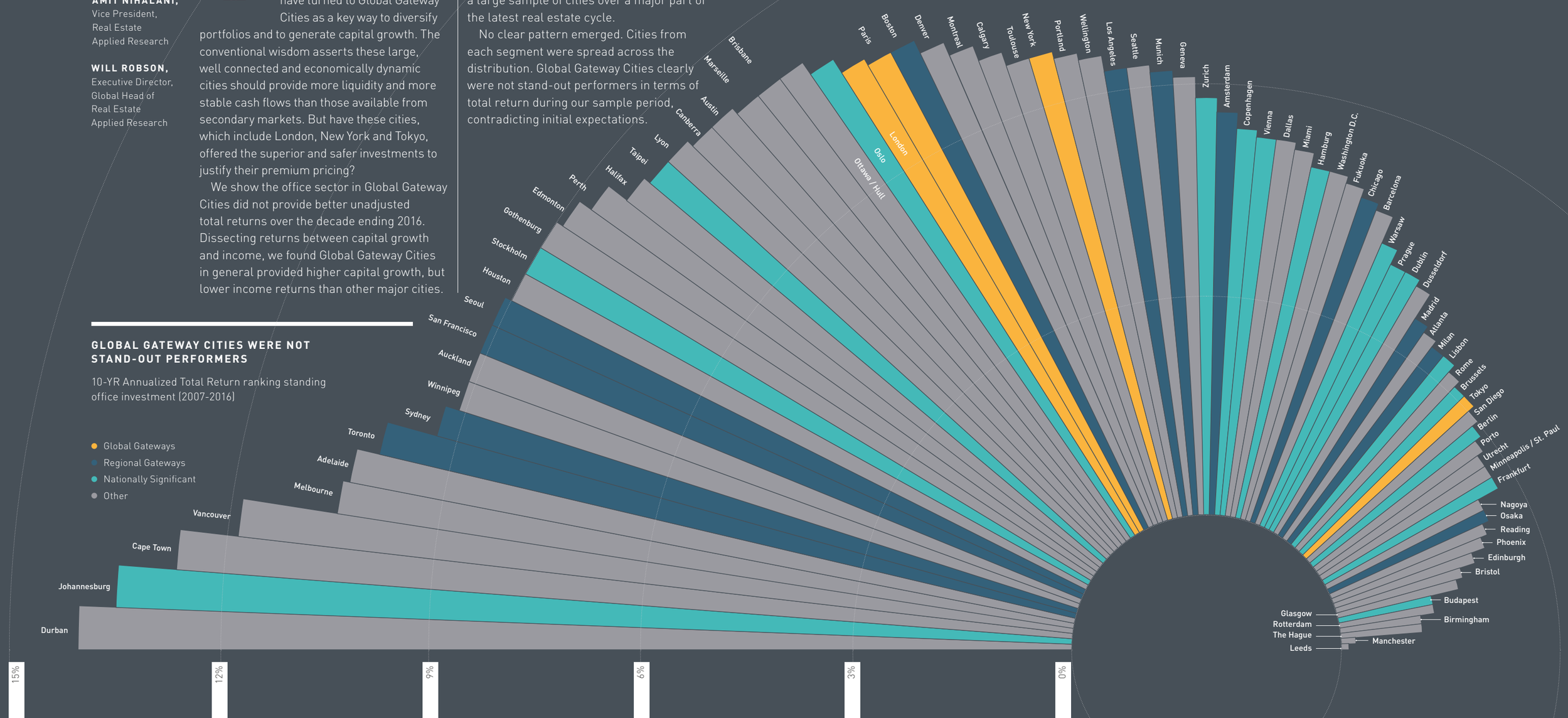
Gateway Cities tended to be more volatile than their domestic peers.

The higher volatility seen in Gateway Cities was not surprising, as they provided lower income returns and were more heavily dependent on capital growth than other markets. Capital growth tends to be the more volatile component of total returns.

LOWER INCOME MEANS MORE RELIANCE ON VOLATILE CAPITAL GROWTH

According to MSCI data, Global Gateway Cities did not consistently represent "superior" or "safer" investment locations over the analysis period, but they did tend to outperform their national markets, albeit with greater volatility. While city level trends are important to consider, it is clear that national level dynamics were also significant drivers of performance variations.

In general, the ability to define custom market segmentations and apply these in a flexible way to a consistent global database can allow investors to uncover, refine and detect key strategic insights. This analysis requires a more granular and more flexible approach, such as that offered by Global Intel PLUS, to segment areas so that nuances in market trends can be revealed. This way, we can offer new insights into the performance characteristics of larger metro areas.



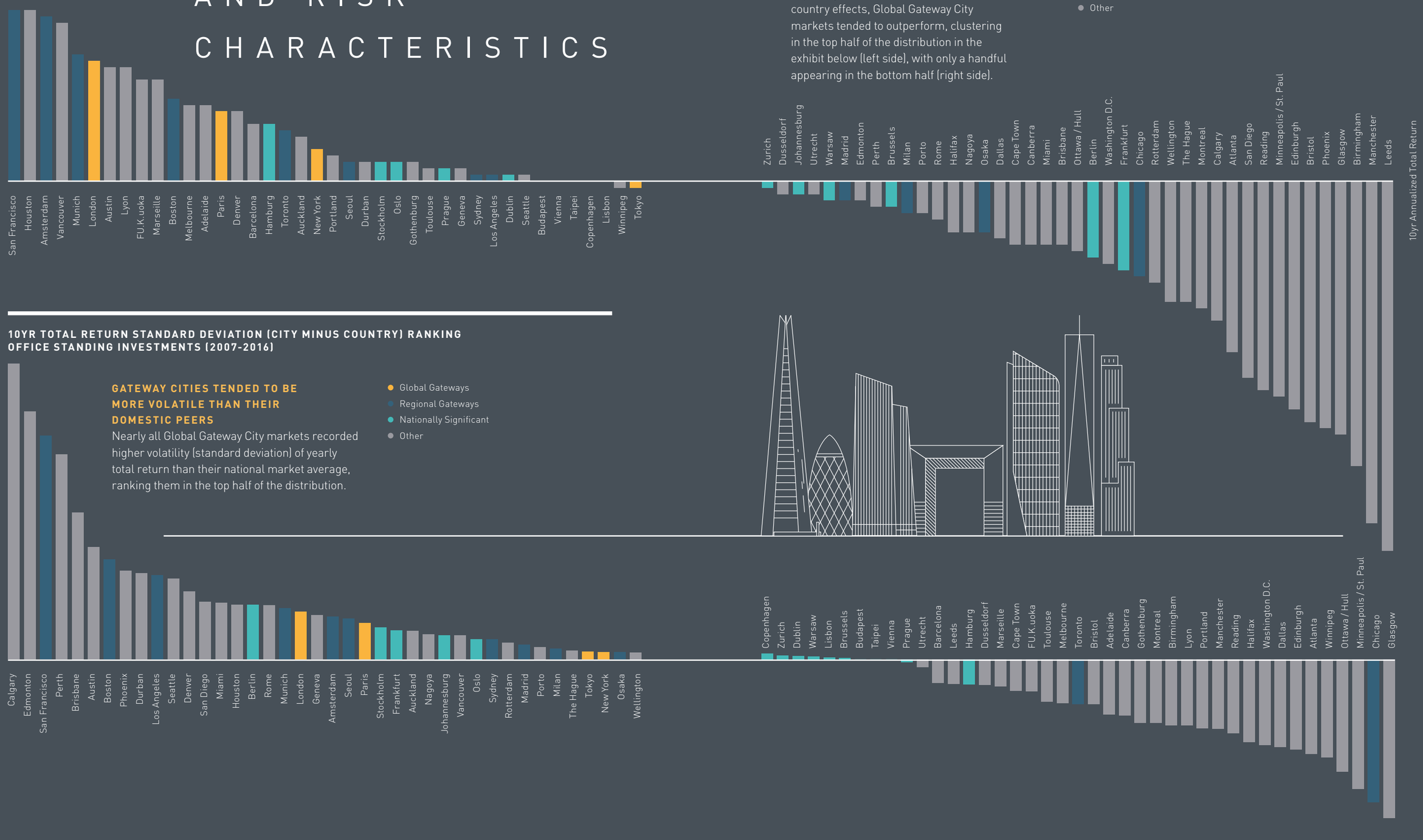
GLOBAL GATEWAY CITIES: PERFORMANCE AND RISK CHARACTERISTICS

10YR ANNUALIZED TOTAL RETURN (CITY MINUS COUNTRY) RANKING OFFICE STANDING INVESTMENTS (2007-2016)

GATEWAYS STAND OUT MORE ON A RELATIVE BASIS

Adjusting annualized total returns for country effects, Global Gateway City markets tended to outperform, clustering in the top half of the distribution in the exhibit below (left side), with only a handful appearing in the bottom half (right side).

- Global Gateways
- Regional Gateways
- Nationally Significant
- Other



10YR TOTAL RETURN STANDARD DEVIATION (CITY MINUS COUNTRY) RANKING OFFICE STANDING INVESTMENTS (2007-2016)

GATEWAY CITIES TENDED TO BE MORE VOLATILE THAN THEIR DOMESTIC PEERS

Nearly all Global Gateway City markets recorded higher volatility (standard deviation) of yearly total return than their national market average, ranking them in the top half of the distribution.

- Global Gateways
- Regional Gateways
- Nationally Significant
- Other

FOR REAL ESTATE,

ALL RATE RISES ARE NOT CREATED EQUAL

BRYAN REID,
Vice President,
Real Estate Research

A decade after the global financial crisis, the era of ultra-low interest rates may be drawing to a close. Many real estate investors worry that rising rates could hurt their portfolios. However, our analysis suggests it's the macroeconomic fundamentals driving interest rates, not the rise itself, that are most important.

WHY ARE RATES RISING? THAT IS THE QUESTION.

To illustrate the importance of asking "Why?," we used the Barra Integrated Model to explore two forward-looking rate-rise scenarios. In the first, economic growth improves and the central bank makes well-timed rate hikes, which keep inflation within target bands. The second scenario models stagflation, where growth is muted but inflation rises. The central bank raises interest rates to control prices, which causes already weak economic growth to falter, prompting a recession[2].

In the strong-growth scenario, the impact on bonds is negative, whereas the predicted impact on listed real estate, such as REITS, and private real estate, as well as equities is positive. By contrast, in the low-growth scenario, the predicted performance of real estate mirrors the negative performance of equities and bonds.[3]

While listed and private real estate move together over longer time periods, their immediate responses to different macro environments and economic shocks can differ substantially. For example, both lose value in the low-growth scenario, but listed real estate investments lose more than twice as much. This is due, in part, to the leveraged nature of REITs and the fact that they are more liquid, and therefore easier to rebalance than direct real estate investment.

HIGHER BOND YIELDS DON'T AUTOMATICALLY MEAN HIGHER REAL ESTATE YIELDS

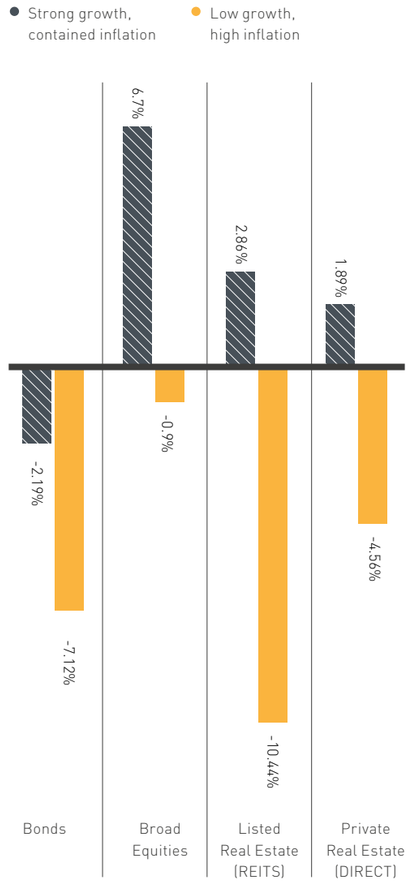
The stable income stream of real estate can give the impression of a fixed-income investment, but real estate yield movements in the U.K. have actually been relatively independent of bond yields over the past 36 years. Further, the real estate yield premium has not been stable — nor has it always been positive.

That said, there can be commonality between real estate and bonds, in that both are impacted by a discount rate effect when interest rates rise. That is, as long-term rates rise, the present value of a given future cash flow diminishes, putting negative pressure on both asset classes.

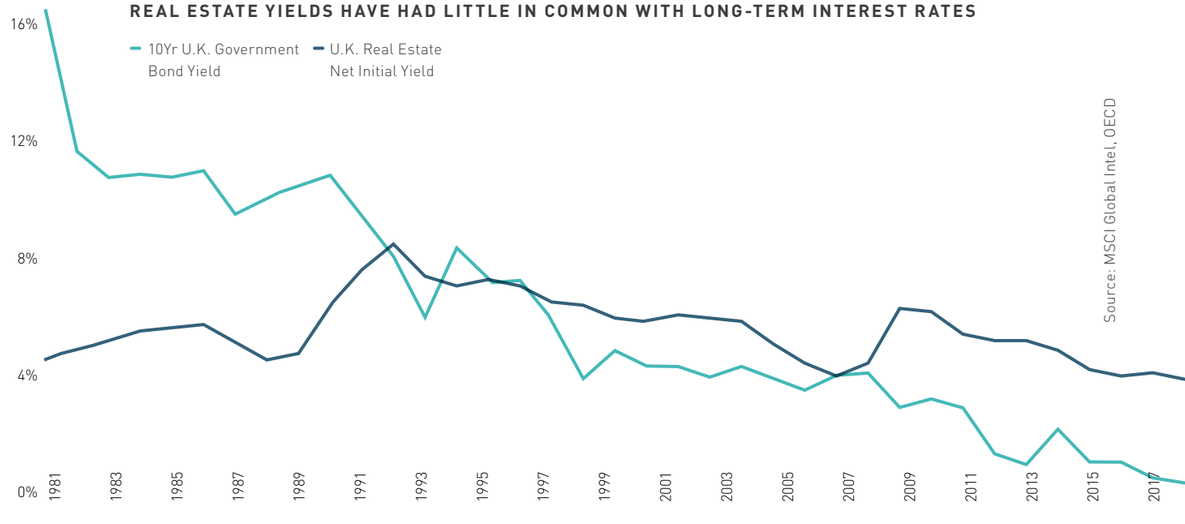
However, unlike bonds, the future cash flows of real estate are not fixed. When rising rates coincide with rising growth expectations, the growth can dominate the discount rate, resulting in low correlations of real estate to interest-rate factors, and pro-cyclical real estate behavior.

When considering the potential impact of rising interest rates, it's imperative for investors to remember two things: Real estate does not respond exactly the same as fixed income. And, it may not be enough to factor in what's happening. They might want to figure out why.

PREDICTED IMPACT OF TWO RATE-RISE SCENARIOS



REAL ESTATE YIELDS HAVE HAD LITTLE IN COMMON WITH LONG-TERM INTEREST RATES



Source: MSCI Global Intel, OECD

GLOBAL REAL ESTATE: TO HEDGE OR NOT TO HEDGE

WILL ROBSON,
Executive Director, Global Head of Real Estate Applied Research

BRYAN REID,
Vice President, Real Estate Applied Research

While not quite as profound as the Shakespearean original, this question is still quite a tricky one for real estate investors to grapple with. Until fairly recently, it is one that has been avoided by the majority of real estate investors due to their heavy home bias. But the increasing global nature of the asset class, combined with rising currency volatility, means the question is becoming harder to avoid.

LOCAL COUNTRY BIAS

Historically, real estate investors have had a strong home bias. MSCI surveyed a large group of institutional investors in 2013, which revealed that, on average, 83% of real estate was domestically invested. However, the world's largest sovereign wealth funds and pension funds are gradually eroding this home bias. More broadly, an improved understanding of the role of real estate within a multi-asset class portfolio and an increased awareness of the potential diversification benefits from international real estate exposure are helping to boost cross-border real estate investment.

GOING GLOBAL

Currency movements can have a big impact on performance. Over the full 17-year history of the MSCI Global Annual Property Index, the annualized total return was 7.4% (measured in local currency terms). However, performance can look very different when measured in other currencies. For example, in South African rand, the index's annualized total return would have been 11.2% while if measured in Swiss francs, the total return would have been 4.9%.

The stability of returns can also be strongly impacted by currency movements. Therefore, investors with foreign currency exposures may wish to think carefully about how they manage such exposures.

83%

of real estate was domestically invested

Source: MSCI survey of institutional investors, 2013

> As real estate becomes increasingly global in nature, more and more investors could find that currency becomes a growing source of investment risk

BUT IS CURRENCY THE ONLY QUESTION?

Unlike Hamlet's ultimate question, currency risk management in real estate is somewhat more nuanced. Other factors such as what should be hedged or when is the right time to hedge are important considerations. A recent MSCI article published by the Pension Real Estate Association (PREA) explores some of these issues in more detail, including assessing the cost and regulatory hurdles in managing currency risk.

While there are a number of potential factors to consider and many of the decisions may not be straightforward, one thing is clear: as real estate becomes increasingly global in nature, more and more investors could find that currency becomes a growing source of investment risk.

CURRENCY HAS SIGNIFICANTLY AFFECTED PERFORMANCE

MSCI IPD Global Annual Property Index 2001 - 2017

BRICK BY BRICK:

ASSET-LEVEL UNDERWRITING IN REAL ESTATE

Will Robson,
Executive Director,
Global Head of Real
Estate Applied Research

Due to the private nature of real estate, investors are often faced with making decisions based on broad market-level information or data relating to a rarified class of hypothetical, top-quality, perfectly located, "prime" benchmark properties, which, much like Peter Pan, never age. But determining underwriting assumptions for individual properties requires greater specificity. For a more realistic view, one should consider data relating to a grouping of real buildings with a same-store sample applied. This can help ensure depreciation is captured properly and that appropriate dispersion data can be calculated to help scale asset-specific adjustments away from a market average.

DRAFTING A NEW BLUEPRINT

Valuing a property requires analyzing rental value and net operating income growth to establish a view on cash-flow growth over its holding period (usually five to 10 years). Rent data widely available for "prime" benchmark properties are useful in understanding general market dynamics, but they can be misleading for all but the best quality, brand new buildings. And while year-over-year growth based on broad market data is also appropriate for monitoring market movements, their use in underwriting a particular asset over a multi-year holding period can be biased by year-to-year sample changes.

We used MSCI Global Intel PLUS to select more appropriate samples of buildings and measurement periods to refine the market data and help investors make more informed decisions at the asset level. Specifically, we were able to control for the bias of sample changes with a same-store sample approach. This allows an investor to understand what holding period growth for a "typical" asset has looked like at various points in the cycle.

> Over the long term, average rental growth has underperformed the "prime proxy"

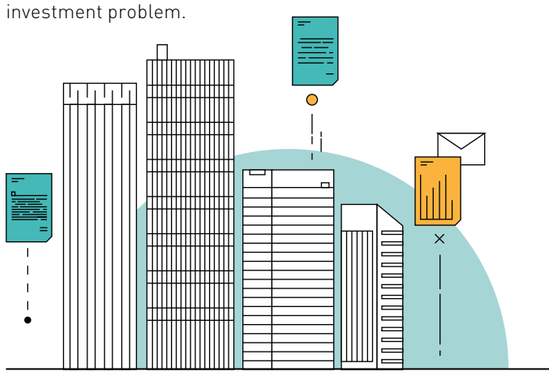
But what if the subject asset is not typical? Our filtering approach also allowed us to calculate percentiles defined over the holding period to account for the fact that, throughout the cycle, there is often a large dispersion between the best and worst performers. This provided quantitative evidence to help scale asset-specific adjustments away from the average. The exhibit examines rental growth in the City of London office market for illustration.

KEY TAKEAWAYS

Through our analysis, we were able to see that, over the long term, average rental growth has underperformed the "prime proxy" by 90 basis points on a year-over-year basis. Additionally, although year-over-year growth averaged 2.8% over the entire time series, the average for the same-store rolling five-year average — a more relevant metric to support underwriting assumptions — is lower, at 2.6%.

Looking historically, we see that even this measure varied between a low of -16.6% in the five years from the market peak in 1988 and a high of 17% over the five years from 1984 running up to that peak. When we dig deeper, we find that, throughout the cycle, there has been wide dispersion between the best and worst performers, averaging 11.8% over the time series but widening to nearly 15% in 1984 as the market boomed.

Understanding such parameters could help investors scale their adjustments from market forecasts to asset-specific, point-in-time underwriting assumptions. This approach can be applied consistently to various metrics across global markets and bring previously absent quantitative evidence to bear on a complex real estate investment problem.

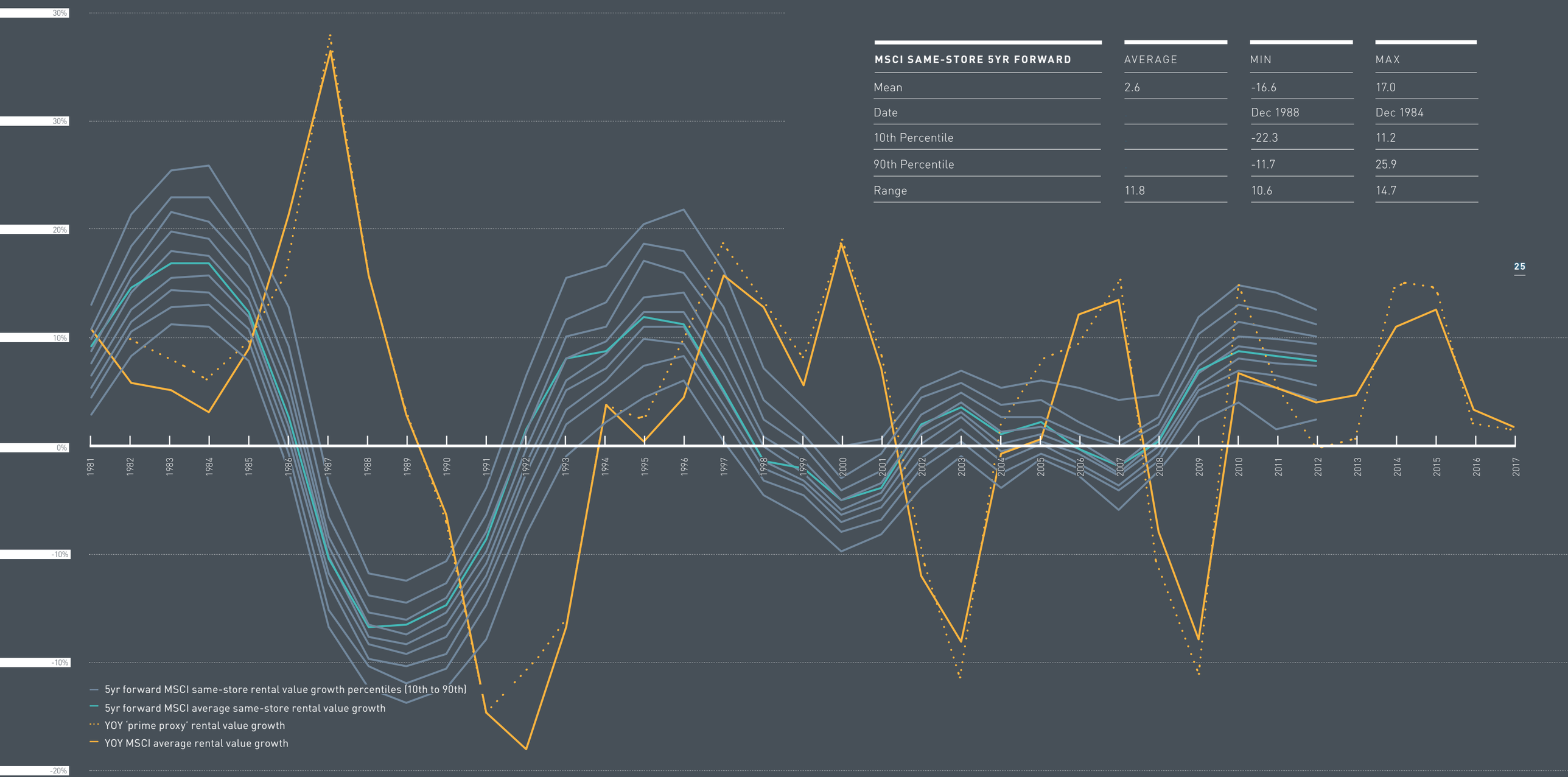


A QUANTITATIVE CONTRIBUTION TO ASSET-LEVEL UNDERWRITING IN THE CITY OF LONDON

'PRIME' VS MSCI (1981-2012)	MSCI	'PRIME'	DIFFERENCE
YoY	2.8	3.7	0.9
5yr Forward	2.3	3.1	0.6
Same-Store 5yr Forward	2.6		

*5 year forward data ends in 2012

MSCI SAME-STORE 5YR FORWARD	AVERAGE	MIN	MAX
Mean	2.6	-16.6	17.0
Date		Dec 1988	Dec 1984
10th Percentile		-22.3	11.2
90th Percentile		-11.7	25.9
Range	11.8	10.6	14.7



APPLES VS. ORANGES?

CORE VS. OPPORTUNISTIC REAL ESTATE FUNDS

AMIT NIHALANI,
Vice President,
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Real estate investors sometimes treat core and opportunistic funds as if they were different asset classes. They are measured against different benchmarks and comparisons are limited by a lack of consistent data. But a comparison of the two shows that both core and opportunistic real estate have similar return profiles — it's the magnitude of their returns that has varied over time.

FROM CORE TO OPPORTUNISTIC

Core funds are primarily invested in stabilized, income-producing assets. The majority of returns are expected to be generated from income rather than capital growth with limited leverage employed. These funds tend to be open-ended, requiring regular valuations to facilitate potential redemptions.

As investors move up the risk spectrum, funds tend to become increasingly exposed to leasing and development risk and have increased leverage. With these riskier funds, a greater proportion of returns are expected to come from capital appreciation. As these investments require a multi-year business plan, the fund structure tends to be closed-ended with capital locked up for the life of the fund. From an operational standpoint, regular valuations are not a common requirement.

BENCHMARKING DIFFERENCES

Core funds are often measured against a relative market benchmark using time-weighted total returns based on regular valuations. This yardstick enables investors to understand the extent to which a portfolio is driven by market risk versus specific risk factors. Moreover, such measurements enable investors to better understand how the real estate portfolio is correlated with the total portfolio.

In contrast, closed-ended, opportunistic funds tend to be evaluated in absolute terms against a fixed-return hurdle over the life of a fund. Returns are measured on an internal rate of return (IRR) basis. Because risk is viewed as more property-specific than related to the real estate market as a whole, correlation analysis is viewed as less relevant. But is this perception justified?

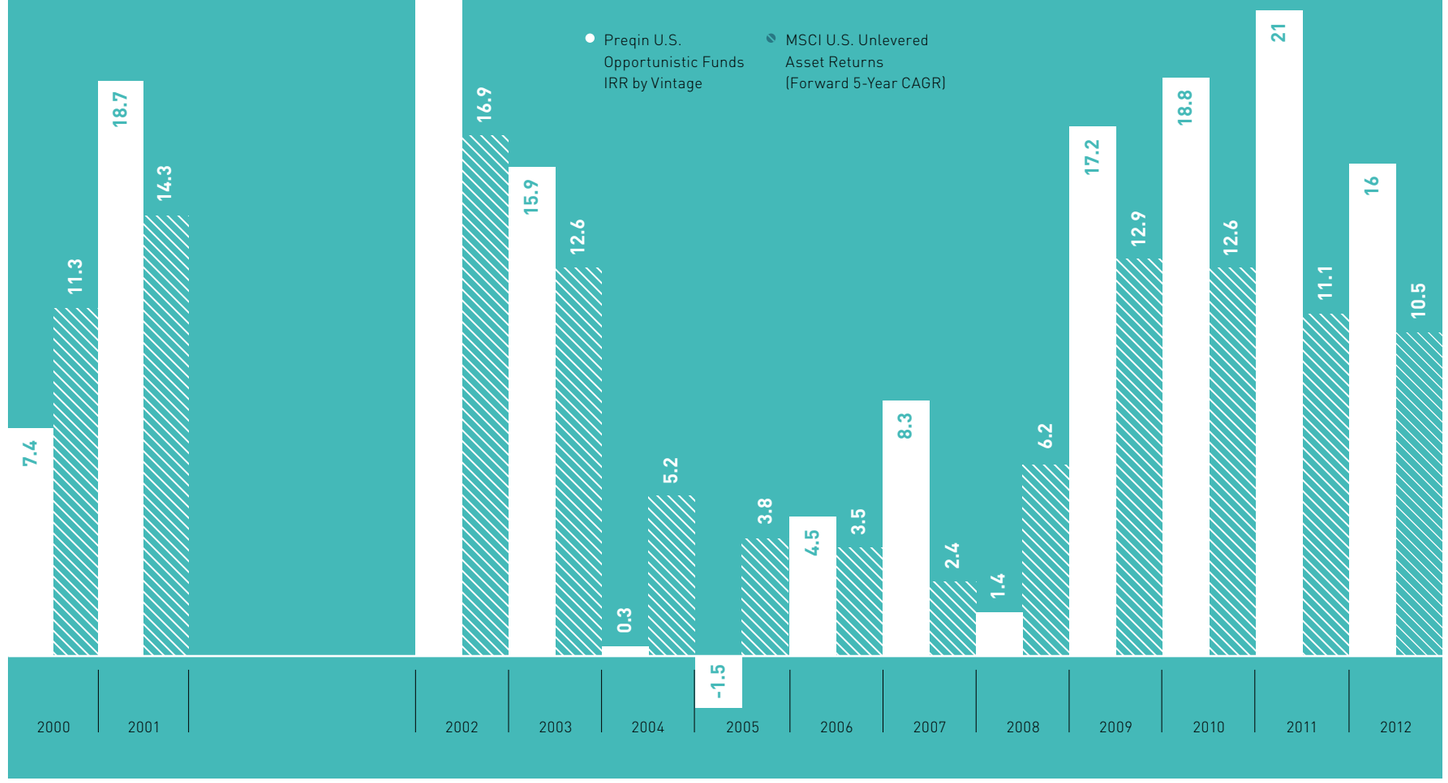
COMPARING LIKE WITH LIKE

A comparable analysis between core and opportunistic funds is currently limited by a lack of consistent data. The exhibit below compares unlevered asset performance from core open-ended funds in the MSCI database with opportunistic fund performance from Preqin Ltd. The MSCI time-series shows the forward 5-year total return compound annual growth rate (CAGR) at each point in time. The Preqin Ltd. data shows the realized IRR of opportunistic funds by vintage.

AIMING FOR CONSISTENCY

Although the data is not precisely comparable, the analysis illustrates at a very basic level, that both types of real estate risk profiles appeared to follow similar cyclical trends between the vintage years 2000 through to 2012. By improving the sophistication and consistency of risk analysis across the entire spectrum of their holdings, real estate investors may be able to gain valuable insights using relative market analysis for opportunistic strategies.

COMPARING APPLES WITH ORANGES?
Total return against vintage year



Source: MSCI Global Intel PLUS (unlevered returns) and Prequin Ltd. (opportunistic funds)

REAL ESTATE MARKET SIZE 2017

ANNUAL UPDATE ON THE SIZE OF THE PROFESSIONALLY MANAGED GLOBAL REAL ESTATE INVESTMENT MARKET

BERT TEUBEN,
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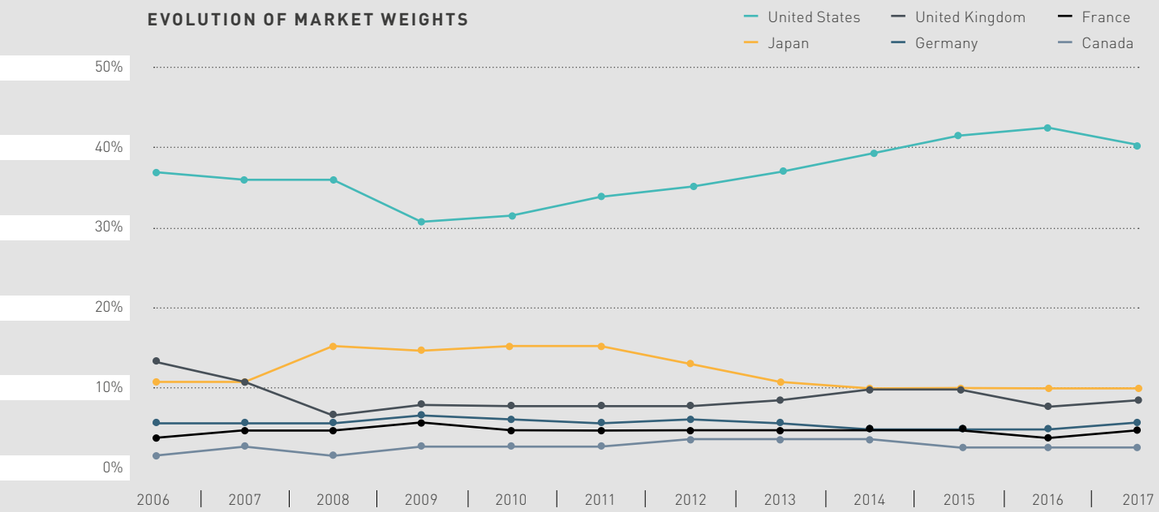
HANSKUMAR BOTHRA,
Associate, Real Estate Index Management Research

MSCI Real Estate began systematically estimating the size of professionally managed real estate investment markets in 2004. These estimates are fundamental to the creation of the IPD Global Annual Property Index and a range of other multinational indexes, and they provide insights into the coverage of MSCI's direct property indexes.

The IPD Global Annual Property Index weights real estate investment returns across 25 countries. While MSCI's national indexes for Japan and Korea are included in the IPD Global Annual Property Index, our market data for seven other Asian countries – China, Hong Kong, Indonesia, Malaysia, Singapore, Taiwan and Thailand – are excluded from that index. In this report, all national market sizes are based on bottom-up, portfolio-specific estimates, and these are converted into U.S. dollars using the year-end currency conversion rate.

Due to differences in MSCI index coverage levels nationally, the indexes are reweighted to provide a more representative balance between markets in the multinational indexes to which they contribute. The market size estimates are used for reweighting in the IPD Global Annual Property Index, the IPD Nordic Annual Property Index and the IPD Pan-Europe Annual Property Index, as well as other regional indexes and bespoke or custom indexes.

EVOLUTION OF MARKET WEIGHTS



KEY HIGHLIGHTS FOR 2017

01

MSCI's index coverage increased by 50 bps globally and by 10 bps within the IPD Global Annual Property Index. A number of country level changes were more pronounced. The representativeness of MSCI's asset-level real estate indexes increased most in Hong Kong and Belgium, but decreased in Denmark and Spain.

02

Overall market size rose by 15% from $7.4 trillion to $8.5 trillion.

03

Germany replaced China as the fourth-largest market. Germany ranked as the fourth-largest national market, overtaking China, which had held this position for two years (2015 and 2016). Although both markets grew in 2017, Germany's increase was larger.

04

A big driver of positive market size growth in 2017 was currency movements, which effectively increased the size of the global real estate investment market by approximately 5.3% in U.S. dollars (USD), in contrast to their negative impact in 2016 (-2.3%). Capital value growth and new developments in the market, such as new construction and sale and leaseback transactions, also contributed to the growth in market size.

05

For the first time in seven years the relative U.S. weighting within the IPD Global Annual Property Index decreased.

CONCLUSION

The size of the professionally managed global real estate market expanded to $8.5 trillion in 2017 from $7.4 trillion in 2016. At a global level, currency movements effectively increased the size of the global real estate investment market by approximately 5.3% in USD terms, while capital value growth and other factors (including new developments) also increased total market size.

Although individual market size estimates have changed from year to year, weightings have proved relatively consistent for each of the 25 countries within the IPD Global Annual Property Index. This consistency was again evident in 2017, although there were some important changes for individual countries. The most significant absolute change was for the U.S., with a market size increase of $244 billion, while no country saw a decline in its market size estimate. However, the most significant change in percentage terms was for Spain, with an increase of 39%, driven by a 14% currency impact due to euro appreciation against USD, 9% capital value growth and a residual impact of 14%. Apart from the U.S., the U.K. and Germany also saw their market size increase by more than $100 billion.

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1. The 'limited impact to date' was to Sept 2017
2. Additional background and context on the modelling of interest rate rises can be found in Suryanarayanan, R. et al. (2015). "The Fed Rate Hike: Implications for U.S. and Global Multi-Asset Class Portfolios." MSCI Research Insight.
3. The contrast in predicted performance for real estate in these two scenarios illustrates the importance of completeness as an attribute of stress test scenarios. For a full discussion of completeness see Acerbo, C. and T. Verbraken. (2016). "Modelling Future Shocks: MSCI Best Practices for Predictive Stress Tests." MSCI Research Insight.

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