PGIM REAL ESTATE

GLOBAL OUTLOOK

Striking the Right Balance

May 2019 | Investment Research

In This Report

The prospect of a downturn almost appears to have been factored in as an inevitability due to the length of the current real estate cycle, and sentiment is under pressure from weaker news on global economic growth. Yet, while real estate pricing looks elevated, it continues to be supported by low interest rates – and there are still reasons to be optimistic about the outlook for income growth, not least because supply remains contained.

By analyzing returns over time, the reasons for caution are clear. While ongoing income receipts mean that the risk of persistent negative total returns is low, investing towards the end of the cycle leads to an increased risk of capital losses and, at the very least, can act as a drag on performance.

One notable trend consistent across regions is the rise of debt investing. Interest in real estate debt strategies is growing both as a response to a regulatory-driven opportunity that has arisen and as an effective way for investors to protect capital against downside risks. Capital is also being attracted from traditional fixed income investors looking for enhanced return potential.

In most parts of the world, returns are slowing as yield compression fades. The challenge for investors in the current environment is striking the right balance between taking on risk to capitalize on late-cycle growth opportunities and investing in strategies that offer greater downside protection against falling values, not just by investing in debt, but also in lower volatility sectors such as residential.

As such, investment opportunities that can be used to inform global portfolio recommendations fall into the following broad categories:

- **Late cycle growth opportunities**, that are primarily linked to ongoing cyclical momentum and low supply growth.
- **Structural trends**, including demographic shifts that support demand in the low volatility residential sector and boost income growth potential in sectors such as senior housing.
- **Debt strategies** that offer downside protection and are benefiting from a growing opportunity set, notably in Europe and the United States.

For Professional Investors only. All investments involve risk, including the possible loss of capital.

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The current U.S. cycle is the longest on record. While there are some reasons to be cautious, occupier momentum is positive, and investors remain active. Returns have slowed but the outlook is supported by the contained supply cycle and steady rental growth. Sunbelt markets are benefiting from favorable demographic trends, while investors are looking to non-core sectors such as senior housing for income growth potential. Debt strategies offer diversification and downside protection.

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Economic growth momentum has eased slightly on the back of trade tensions, but Asia Pacific remains an attractive destination for global capital. While some occupier markets are reporting slower momentum, the region is diverse and there are still plenty of growth opportunities, including in the logistics sector, where vacancy is low. Returns are slowing but supply constrained markets should offer further income growth potential, while living sector assets benefit from favorable structural trends.

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While sentiment indicators have weakened and slowing yield compression is weighing on returns, capital is still targeting major European real estate markets. Low supply growth gives some cause for optimism about prospects for income growth. Late cycle opportunities include low vacancy office markets and logistics, and the UK stands to perform well if Brexit uncertainty fades. For investors looking to reduce risk exposure, structural trends in the living sector and in debt strategies offer an attractive route to achieving a balanced portfolio.

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PART III: CONSTRUCTING A GLOBAL PORTFOLIO

Having evaluated risks and opportunities at the regional level, the next step is to translate the findings into practical portfolio recommendations. The starting point is identifying a reduced investment universe of major markets in eight major countries, before overlaying strategic and tactical recommendations. The recommended portfolio for a long-term core investor limits exposure to the struggling retail sector and is cautious towards volatile office markets that could be vulnerable to a correction. Logistics and accommodation sectors offer a combination of structural growth potential and lower downside risks. Debt is an attractive proposition for investors looking to limit downside risks.

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PART I: GLOBAL OVERVIEW

I. GLOBAL OVERVIEW

A Tricky Environment

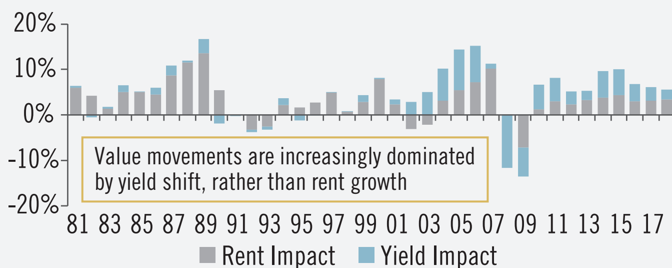
For much of the current global real estate cycle – a comparatively long one that has lasted since 2010 – sentiment has ebbed and flowed. At various times, the eurozone crisis, China's growth model, stock market volatility and, most recently, political events in the United Kingdom and the United States, have threatened to derail momentum. Yet key measures of a functioning market have been resilient: transaction volumes, capital value growth and returns all continue to hold up.

Pricing and occupier fundamentals remain somewhat at odds with each other though. Yields have been driven down to historic lows, primarily due to years of low or negative interest rates on government bonds, held down by vast swathes of central bank quantitative easing (QE). Most investors view pricing as being expensive, especially in major markets.

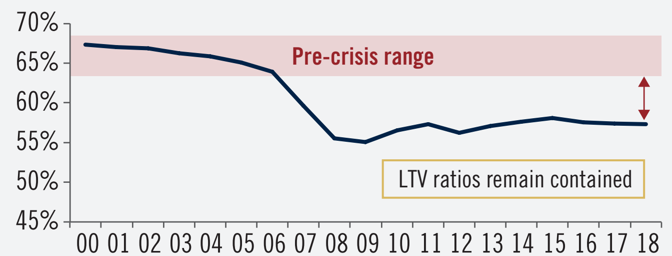
At the same time, key economic factors that contribute to real estate occupier performance – such as productivity growth, wage growth and demographics – remain subdued. Strip out the impact of the transition to a low yield environment – yield compression alone has accounted for 60% of global real estate value growth since 2010 compared to 30% across prior cycles – and it would feel like a pretty contained upswing so far (see exhibit 1).

Exhibit 1: Breakdown of Capital Growth and Indicators of Risk Appetite

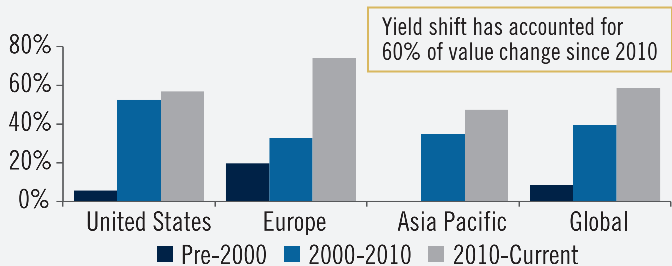
Breakdown of Estimated Annual Global Prime Capital Growth



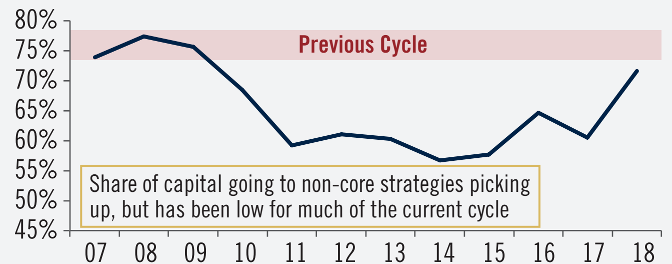
Global Average LTV Ratio for a Core Office Deal (%)



Contribution of Yield Impact to Prime Capital Growth



Share of Capital Going to Non-Core Strategies (%)



Sources: CoStar, Cushman & Wakefield, JLL, ACLI, Cass University, INREV, Preqin, PGIM Real Estate. As of May 2019.

However, even if for no other reason than its duration, investors are looking closely at the current cycle. To address the question of what is going to come next, it is important to understand where we are today.

Except for the impact of QE on pricing, the current cycle is perhaps best defined, not by its own characteristics, but by factors that are absent – or, at least, that appear to be absent. Most notably, so-called “animal spirits” that drive bold investment activity and risk-taking remain in check.

Reflecting a cautious narrative, traditional causes of cyclical instability – such as real estate credit growth, construction activity and investment flows to emerging markets – have been held back by combinations of tighter regulation and lingering memories of the global financial crisis that have been hard to shake off. Typical LTV ratios are below their pre-global financial crisis range, a reflection of contained risk preferences and restraints imposed on traditional lenders, while only recently have higher risk strategies started to capture the share of capital raising that typified the last cycle.

The picture in occupier markets is similar. Outside of tech- and logistics-driven occupier groups, demand growth is little more than steady. In office markets, occupational density is increasing, while major firms are expanding headcount and premises at a moderate pace, either out of a sense of caution, or out of necessity, with struggling business models being propped up by low interest rates.

All of this means that the current market cycle feels different. Unlike prior to the global financial crisis – when escalating risks were explained away with concepts such as ‘the end of cycles’ and ‘paradigm shifts’ – there is little sense that underlying drivers of real estate performance have changed permanently. Instead, it is almost the opposite situation that has taken hold: the prospect of a downturn striking before too long seems to have been factored in as an inevitability by investors, encouraging cautious behavior.

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Yet, just as many investors were caught out following conventional wisdom ahead of the global financial crisis– the over-optimistic view that the cycle was going to keep on going – could the opposite apply this time? Allocations to non-core strategies are now edging up, but are some investors in danger of being excessively cautious, waiting for a downturn that simply might not happen, and therefore missing out on performance?

To the extent that interest rates remain low – even the previously hawkish U.S. Federal Reserve has signaled a pause in tightening – and investors continue to avoid excessive risk-taking, it is by no means clear that the conditions for a significant downturn, like the global financial crisis, Asian Crisis or following oversupply in the early-1990s, currently exist, notwithstanding unforeseeable global shocks.

Forecasts for interest rates to rise towards historical averages have been repeatedly incorrect in recent years, meaning there could be even more upside to real estate capital values via further yield compression, despite current investor perceptions about pricing.

At the same time, today’s low yields point to a heightened sensitivity of real estate values. Unlike in past cycles, when yields were typically higher, small yield shifts have the potential to cause significant swings in values. That this could work in either direction is at the heart of the dilemma for investors: take risk off the table and possibly miss out on further, and potentially rapid, value creation potential in the near-term; or take on risk and build additional exposure that would seem reckless if, as expected by many investors, a downturn strikes.

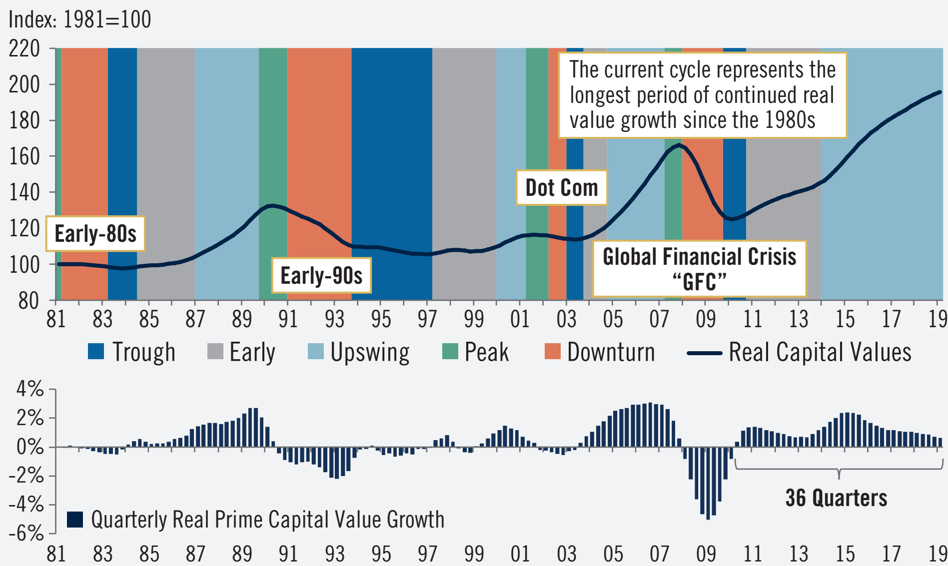
While it is an inescapable fact that cycles do not go on forever, the magnitude and nature of corrections vary significantly. Throw in volatile financial market sentiment, uncertain politics, and mixed signals from leading indicators of the economy and occupier markets, and one thing is for sure: wherever they are in the world, real estate investors and lenders are undoubtedly facing a tricky environment in which to make investment decisions, whether for the short or the long term.

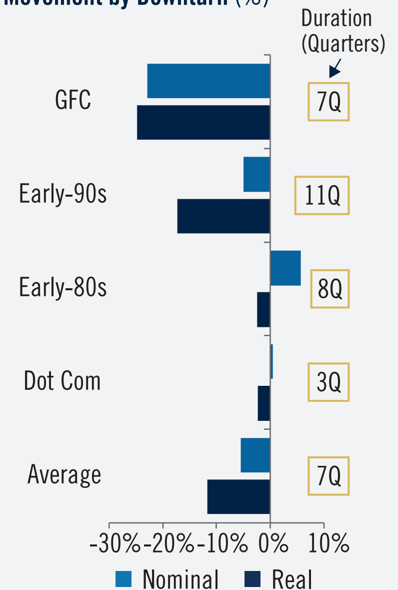
How Do Returns Vary Through the Real Estate Cycle?

Regardless of mixed signals from a broader set of indicators, such as financial market volatility and the economic growth outlook, one reason investors are concerned about the current global real estate cycle is simply its unprecedented duration.

In real terms – an important measure that strips out the effects of inflation and allows analysis across different time periods – global all property prime capital values have now increased for 36 consecutive quarters, which represents a longer unbroken run of growth than at any time since at least 1980 (see exhibit 2).

Exhibit 2: Characterizing the Global Real Estate Value Cycle





Note: cycle categories are defined using observed quarterly real capital value growth and subjective analysis.

Sources: CoStar, Cushman & Wakefield, JLL, PGIM Real Estate. As of May 2019.

Identifying which phase of a cycle the market is in at a given point in time – especially in real time, when the benefit of hindsight is not available – requires subjective analysis. While much of the period since 2014 can clearly be characterized as an upswing – represented by non-decelerating, above average, real capital value growth – more recent signals are mixed.

Slowing yield compression and, compared to prior periods of expansion, a modest rate of rental growth mean that values are still rising, but at their slowest pace since 2013. On a historical analysis, a peak would feature a more rapid deceleration of quarterly value growth towards zero – hence the chart in exhibit 2 is still showing an upswing – but the message is clear: there is a risk that global capital values are either already peaking or, at least, are soon to be.

Investors are undoubtedly concerned by the cycle, not least as yields are at historically low levels. Pricing in major markets is viewed as expensive and, according to CBRE's 2019 Global Investor Intentions Survey, two-thirds of investors view prices as being a significant obstacle to acquiring assets, up from about 50% the previous year. Concerns that an economic shock could hit real estate values have also risen. Armed with the knowledge that the cycle may come to an end in the near future, the question is: what should investors do about it?

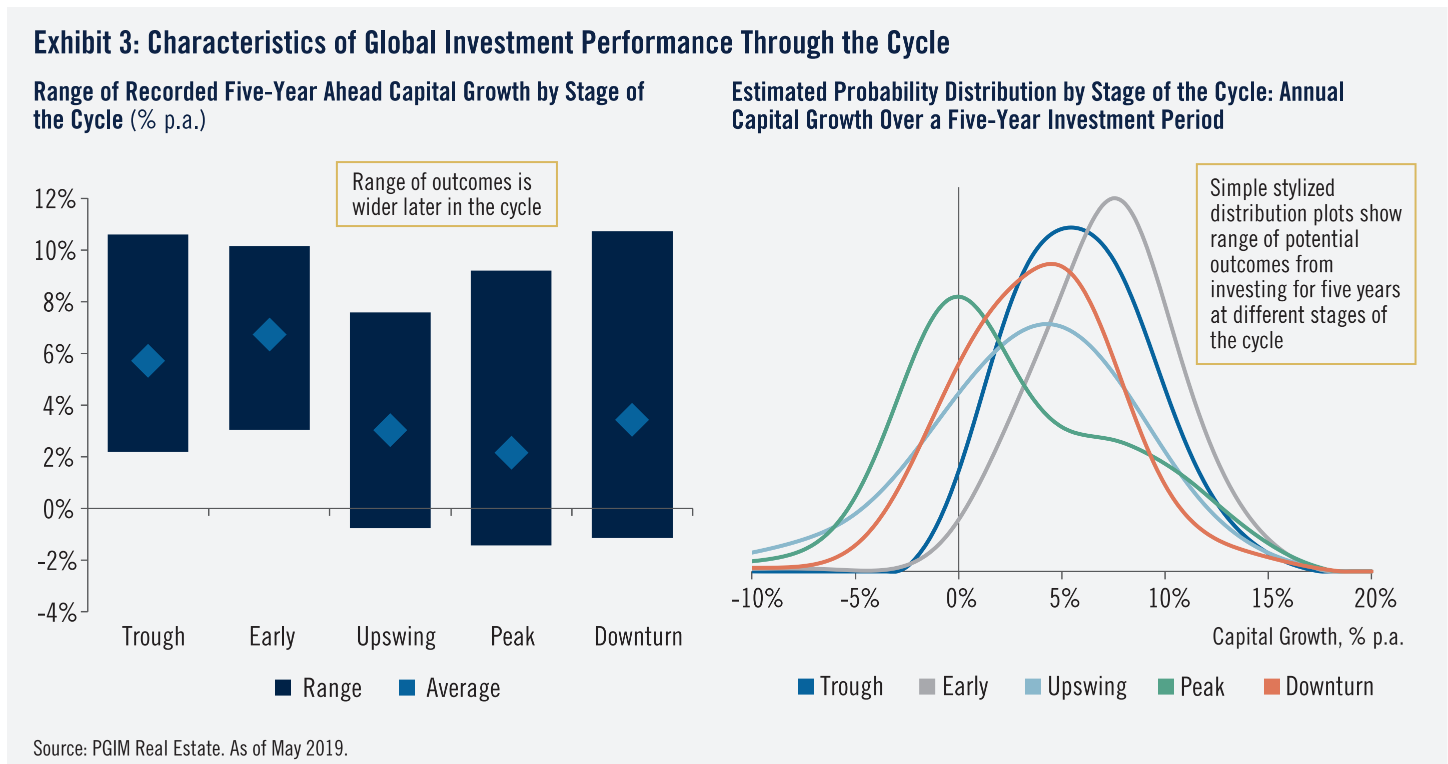
On a simple level, it is important to remember that downturns differ in magnitude and duration, and also vary significantly across sectors and geographies. Of the four downturns recorded at a global level since 1980, two have been relatively mild with peak-to-trough

value falls of 2% to 3% in real terms, which translated into either flat or moderately increasing nominal capital values. In part this reflects the benefits of diversification as some individual markets will have fared worse alone. It also demonstrates that a downturn can simply be a pause in market momentum rather than necessarily a full-blown crisis like in the early-90s or the global financial crisis.

At a more detailed level, investors understand that the point at which they invest in a cycle – often referred to as vintage risk – can play a significant role in determining performance.

From an analysis of global capital value growth at the different stages of the cycles identified above in exhibit 2, investing in a trough or an early recovery phase – as would be expected – offers the strongest capital growth prospects, while losses of capital over an indicative five-year investment period would have been rare, assuming a well-diversified, stabilized global portfolio (see exhibit 3).

Exhibit 3: Characteristics of Global Investment Performance Through the Cycle



Source: PGIM Real Estate. As of May 2019.

In contrast, investing into global real estate at other stages of the cycle – upswing, peak and downturn – leads to a wider range of potential outcomes. For example, a well-timed investment during a downturn can capture early cycle upside, but move too early and heavy losses can be chalked up before a recovery gets underway, acting as a drag on performance.

Of course, it is the upswing and peak phases that are of most interest given how the current cycle is progressing – the earlier analysis shows clearly that global real estate is most likely to be in one of these states at present. In both cases, there is a wide range of potential outcomes.

To take the analysis further, it is necessary to construct distribution plots, in the case of exhibit 3 by repeatedly resampling the historical data – which is limited to only a few cycles – to give a fuller impression of the range of likely performance.

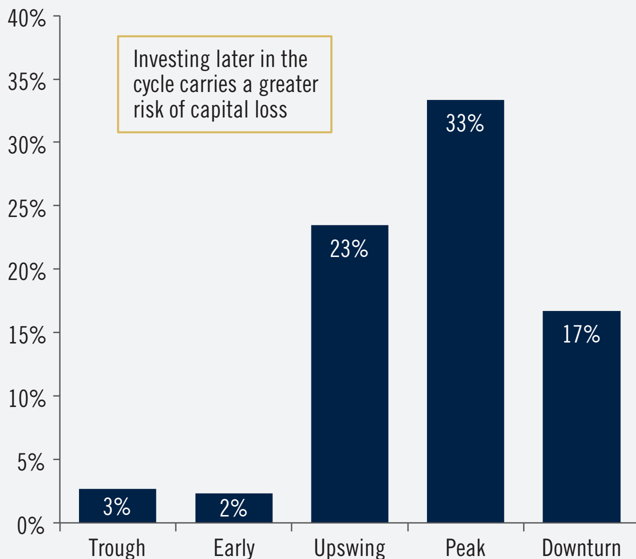
From this stylized analysis, it is interesting to note that investing at the peak leads to outcomes that have a skewed distribution. By definition, capital deployed at the peak must ride through a downturn and the sharp differences in magnitudes and duration of past

downturns mean that while the main cluster of outcomes is around a low mean, there is a long tail to the right, representing scenarios in which a downturn is either mild, short, or followed by a rapid recovery of values.

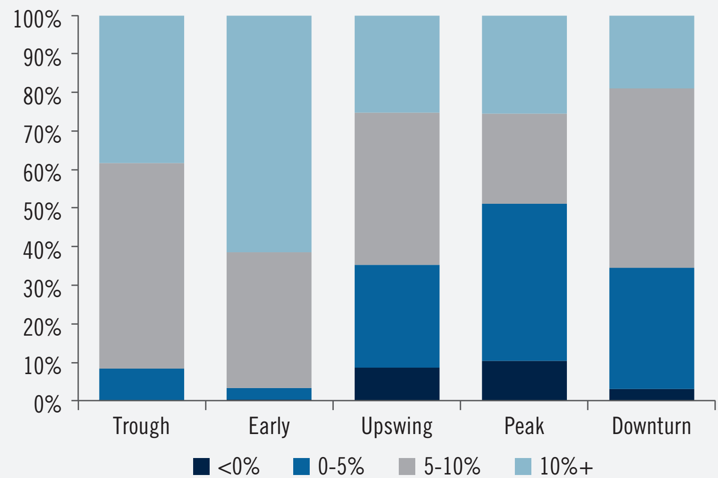
In an upswing phase, the estimated probability that an investment into a diversified global real estate portfolio would suffer a capital loss in a given year of a five-year investment period is 23%, rising to 33% when investing in a peak (see exhibit 4).

Exhibit 4: Probability of Capital Loss and Expected Returns

Probability of Capital Value Loss in a Given Year of a Five-Year Investment Period by Stage of the Cycle



Range of Expected Five-Year Ahead Total Returns (% p.a.) **by Stage of the Cycle**



Investing in an upswing or peak can result in lower returns over five years. When income returns are factored in, the probability of negative returns is below 10%

Source: PGIM Real Estate. As of May 2019.

While the analysis points to caution, it does not mean investment activity should cease altogether. From a total returns perspective, income receipts would likely offset much of any value decline over a five-year period, meaning situations of outright losses of capital in a fully-diversified, representative global portfolio over time are rare. Assuming the cycle is currently in an upswing or peak phase, once income is factored in, an investment today has about a 10% chance of recording a negative return over five years.

One thing the analysis does highlight, then, is the importance of diversification across sectors and geographies to mitigate specific risks, along with the crucial role of asset management in maintaining occupancy and cashflow throughout the cycle.

For short-term investors, there is still plenty of upside potential in a late upswing or peak phase of the cycle, although that depends on not having a severe global financial crisis-style correction. For long-term buy-and-hold investors, the analysis matters less still as the risks of capital value losses diminish significantly once the hold period extends beyond 10 years – given enough time, values tend to recover eventually.

However, investing prior to a downturn can undoubtedly act as a drag on portfolio performance, for both short- and long-term investors, especially in a scenario where capital value losses are generated. Given the length of the current cycle, it is understandable that there is growing interest in more defensive real estate sectors – such as apartment and logistics that offer relatively stable income receipts – and in capital structures that offer downside protection.

Investing prior to a downturn can undoubtedly act as a drag on portfolio performance, for both short- and long-term investors, especially in a scenario where capital value losses are generated.

The Rise of Debt Investing

Real estate investors are increasingly turning to debt strategies to deal with the dilemma between taking on risk – aiming to capture any further upside through the cycle and, if the eventual correction is modest, into the next one – and being defensive to avoid the risk of capital loss and resulting drag on performance in the event of a more severe correction.

Debt investing has always been part of the real estate opportunity set but is growing in popularity as it allows investors to limit risk exposure compared to equity investments in a first-loss position. Depending on the structure, debt strategies can offer varying degrees of downside protection.

Debt investing has always been part of the real estate opportunity set but is growing in popularity as it allows investors to limit risk exposure compared to equity investments in a first-loss position.

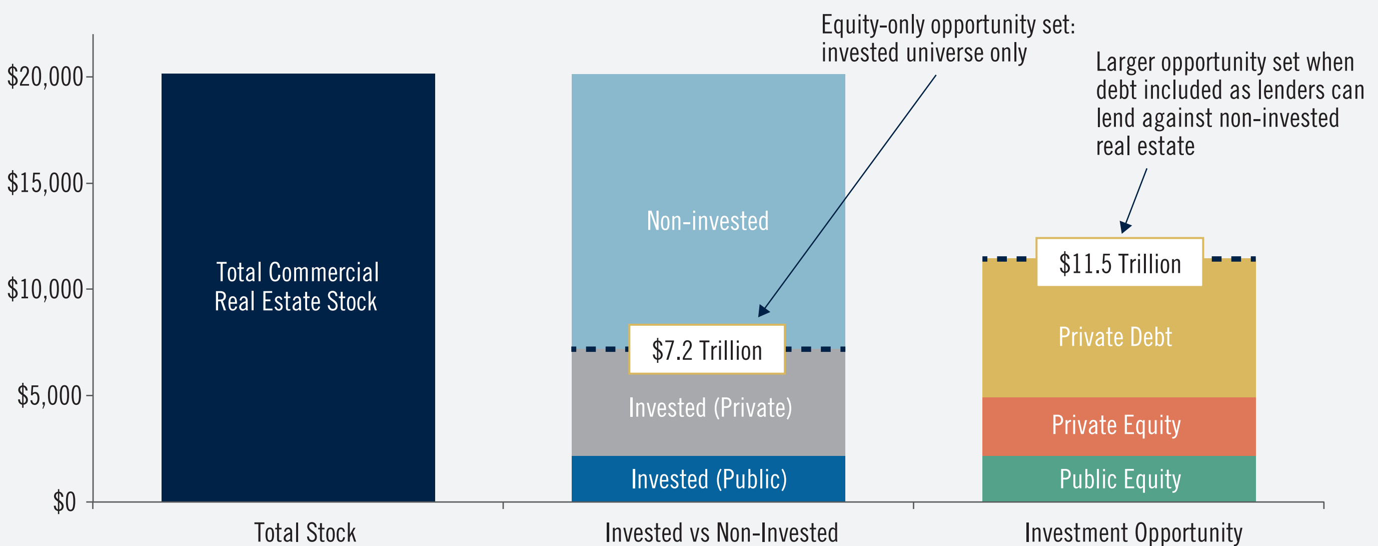
The market is also growing rapidly, owing to its attraction to both real estate and fixed income investors. For real estate investors, debt strategies look increasingly attractive compared to equity returns that are slowing and, given the position of the cycle, vulnerable to a correction. The attractiveness of holding debt, rather than equity, increases during a downturn.

However, increasing market scale and opportunity are also encouraging capital flows to debt strategies. Since the global financial crisis, banks have remained constrained by an increased regulatory burden, creating an opportunity for alternative lenders to either expand from an established base, in the case of the United States, or grow significantly from a small base, as in Europe and Asia Pacific. The reduction in the size of the CMBS market has added to the scope for private lenders to participate in market activity.

Looking beyond both the cycle and regulatory factors, it is important to note that the opportunity set for real estate investors is larger once debt is included than if only equity opportunities are considered. Of the estimated $20 trillion of real estate in global developed markets – a figure which excludes privately-owned residential – only $7.2 trillion is invested in either private markets or held by firms listed publicly (see exhibit 5).

Exhibit 5: Estimated Global Debt Market Scale and Opportunity

Estimated Market Size – Developed Markets ($ Billions)



Sources: MSCI, Cushman & Wakefield, PGIM Real Estate. As of May 2019.

For an equity investor, the $7.2 trillion of invested stock more-or-less defines the opportunity set for income-producing investments, i.e. excluding development projects.

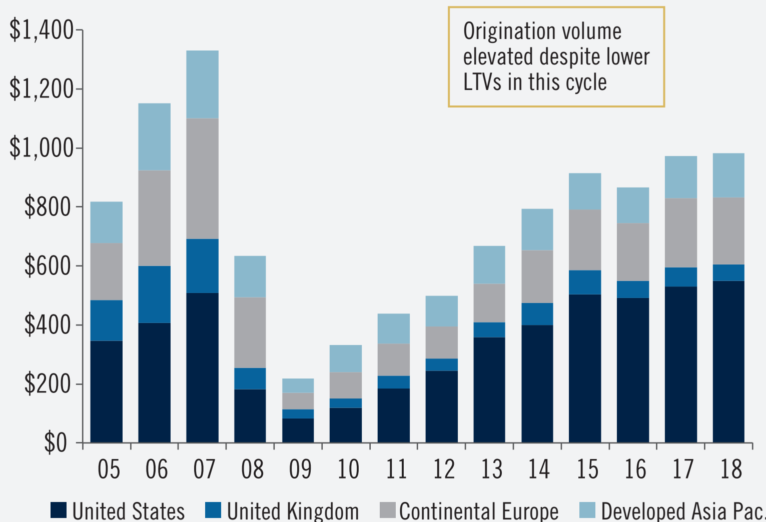
In contrast, a debt investor can also potentially access stock that is non-invested, including assets that are owner-occupied or held outside of the institutional investment market, for example in the public sector or by high-net-worth owners.

Combining an assessment of prevailing LTV ratios on equity holdings with an estimate of current real estate debt holdings suggests a total opportunity set of $11.5 trillion worth of real estate available to lend against. While many equity transactions carry little or no debt, this is more than offset by the fact that debt investors can participate in refinancing even if there is no underlying equity transaction.

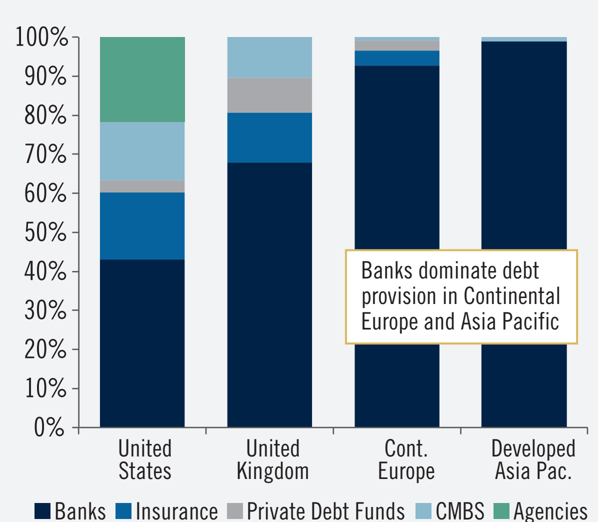
While LTV ratios have been lower in this cycle as compared to pre-global financial crisis, lending activity remains significant. In the United States, origination volume has averaged $495 billion per year over the past five years, which is higher than overall equity transaction volume of $420 billion. In Continental Europe, there is increasing scope for alternative debt sources to gain a foothold in what is traditionally a bank-dominated market (see exhibit 6).

Exhibit 6: Real Estate Debt Origination Volume and Market Composition

Annual Private Real Estate Debt Origination ($ Billions)



Share of Estimated Debt Outstanding by Lender Type (%)



Note: origination data for Continental Europe and Asia Pacific estimated using data on transaction volume, debt holdings and LTV ratios.

Sources: ACLI, Cass Business School, Cushman & Wakefield, PGIM Real Estate. As of May 2019.

While origination volume is elevated, real estate investors are facing competition from capital sources that would have usually focused on traditional fixed income products. Private real estate debt has always been an alternative to fixed income – a core senior loan is broadly analogous to an investment grade corporate bond.

Compared to a publicly-traded, investment grade corporate bond, commercial real estate mortgages lack secondary market liquidity and are not marked to market as regularly. However, investors are compensated in the form of a liquidity premium and have the advantage of taking a fixed asset as collateral. Recently, spreads on real estate loans have held up well as QE has driven down yields on market-traded fixed income assets.

The excess spreads offered by real estate loans are increasingly attractive to a wide pool of investors, although conditions still favor specialist real estate lenders that can step in and manage a property to recover or grow values if the borrower defaults. Debt investors look set to face ongoing competition for deals, while on the equity side new debt sources add to the volume of capital available, providing ongoing support for pricing – despite perceptions that yields are too low.

PART II: REGIONAL PERSPECTIVES

II. REGIONAL PERSPECTIVES

Striking the Right Balance

Sentiment across financial markets – which can act as a noisy leading indicator for real estate – has softened, in part reflecting downgrades to the economic outlook. Global GDP growth is set to slow in 2019 as the impact of past policy tightening – most notably by the United States – and ongoing trade tensions start to be felt. China's slowdown looks contained, but growth in Europe is decelerating due to several factors including slowing industrial production growth and political tensions in France and, via Brexit, the United Kingdom.

Low unemployment and a robust pace of expansion in the United States, coupled with improved prospects for emerging markets, means the probability of a global recession remains low. Forecasts for inflation have been revised down in most major advanced economies, tempering expectations for the path of future interest rate increases. In the United States, the Federal Reserve kept the Fed Funds Rate on hold in the first quarter of 2019 and has signaled it is holding steady for now, while the European Central Bank is similarly unlikely to raise interest rates until 2020 at the earliest.

The backdrop is undoubtedly noisy and is providing mixed signals for real estate markets – a combination of uncertainty about the outlook for growth, inflation, trade and politics on the one hand; and policy easing, via low interest rates and, notably in the United States, fiscal loosening, that provides support for asset pricing on the other. Real 10-year government bond yields remain negative in most major countries, so it is hardly surprising that real estate yields are low.

Capital flows have so far remained resilient to weaker financial market sentiment, and institutional allocations to real estate are now structurally higher than they were in the past. While transaction volume has held up, conditions are undoubtedly more challenging, and returns have started to move lower or stabilize in each of the major regions, with Asia Pacific and Europe showing signs of following the pattern established in the United States for the past few years.

Across the regions, there are several common factors, including concerns about pricing in major markets, the challenges posed by slowing returns, and, in terms of sector, a struggle in retail in nearly all developed markets.

However, there is some evidence that correlations are lower than they were in the pre- and post-global financial crisis years. The next market pause, correction or downturn may not be as universal in its impact as the global financial crisis, perhaps affecting only certain sectors, markets or regions. As such, in each region, it is important to assess current conditions, look at how the cycle is going to play out from here, and seek to identify investment opportunities that strike the right balance between protecting against risks and generating returns.

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AMERICAS

United States: Cyclical Expansion Continues

As the United States economic expansion nears the milestone of being the longest on record, the real estate cycle remains in the expansion phase, with steady total returns and balanced occupier fundamentals.

The baseline outlook remains positive, but the length of this economic and real estate cycle suggests a need for caution, especially as signs that the cycle may be nearing a peak are emerging. The end of 2018 brought a host of worries to light: selloffs in equity markets and tightening credit markets; concerns about slowing growth in China; Brexit; the U.S. government shutdown; and, uncertainty about U.S. trade policy.

Occupiers appear to be shrugging off these concerns – space absorption remains above average and rents are rising in most sectors – and capital markets and investors remain active, despite renewed uncertainty. Some indicators, including the nearly flat government bond yield curve and rising holdings of negative yielding bonds, suggest that investors are once again leaning toward a risk-off stance. To an extent, this sense of caution is helping to prolong the real estate cycle: real estate lenders remain conservative, keeping loan-to-value ratios low, and speculative construction is in check.

Business and consumer confidence levels have slipped from recent cyclical peaks in response to rising risk perceptions but remain consistent with ongoing economic expansion. While the outlook for GDP growth has slowed – Consensus Forecasts for 2019 and 2020 are in line with an estimated trend rate of approximately 2% to 2.5% – the Federal Reserve has signaled a pause in its rate increases, as inflationary pressure has eased.

Interest rates staying lower for longer than previously anticipated could further extend this real estate cycle. The gap between real estate cap rates and Treasuries remains historically tight but concerns about imminent cap rate expansion have eased since the Fed pause – although real estate is starting to look expensive relative to corporate and high-yield bonds.

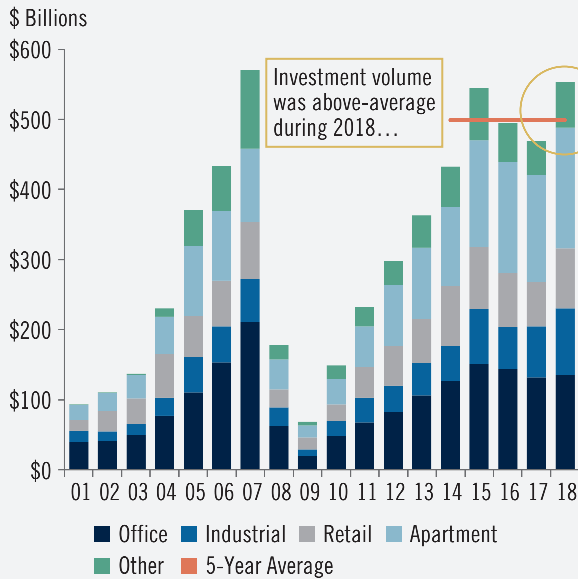
Investor Appetite Increasingly Selective

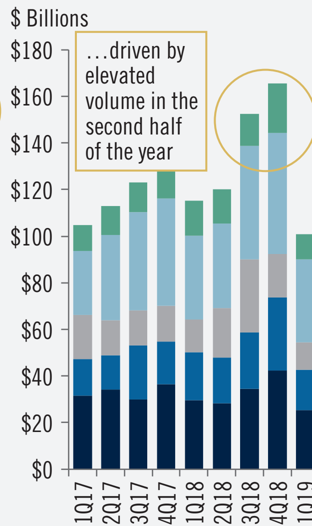
Investors remain attracted to real estate, valuing its stable income return profile in today's low interest rate, low return environment. Driven by ongoing capital inflows, real estate transaction volume increased 18% to $550 billion in 2018, a level broadly in line with that recorded in 2015 – the previous high point of the current cycle – and in 2007, just prior to the global financial crisis (see exhibit AM1).

Investors still have significant dry powder to invest, a legacy of the strong capital raising environment in recent years. Single asset sales volume remained elevated in 2018, while portfolio and entity-level deal volume grew rapidly, accounting for an above-average 36% of investment activity in the second half of the year – a sign that investors are looking to deploy capital quickly.

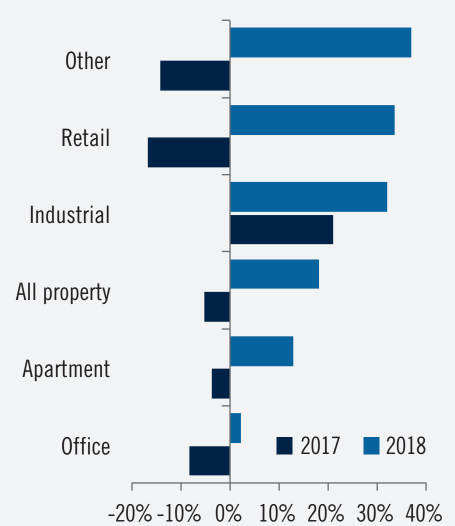
By sector, investors continue to view apartments as offering attractive risk-adjusted returns – the sector captured 31% of investment activity in 2018, slightly above its 10-year average. Drivers of apartment returns – in the form of significant regional population shifts – remain favorable, and occupancies tend to be more resilient in a downturn than other commercial sectors.

Exhibit AM1: U.S. Investment Market Summary





Note: data for 1Q19 are provisional and may be revised upwards.



Retail investment volume increasing from a low base as investors seek potential mispricing opportunities

Sources: Real Capital Analytics, PGIM Real Estate. As of May 2019.

While the transformative effect of e-commerce continues to propel investor appetite for industrial properties, there are signs of improvement in demand for retail exposure. Driven by several large portfolio deals, retail transaction volume grew by 36% in 2018, perhaps signaling a bottom for the sector as investors seek potential mispricing for quality assets as the risk premium rises.

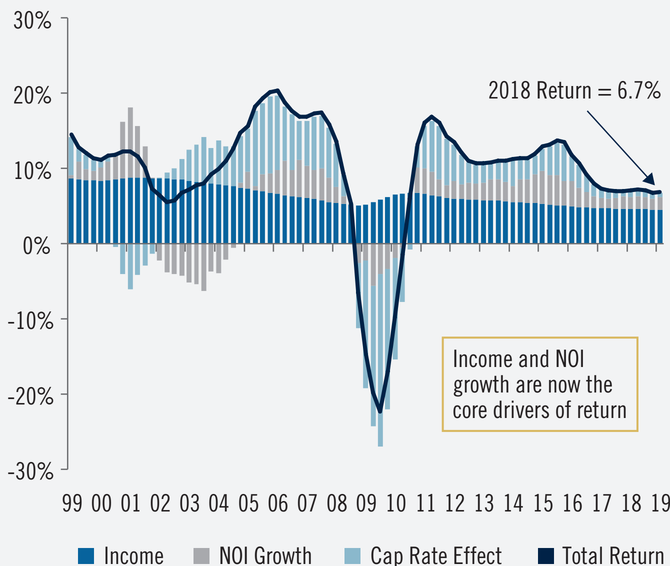
Office sector sales remained generally in line with 2017 levels. Transaction activity in gateway cities regained momentum, but investors continue to allocate more capital to secondary and tertiary cities that offer higher yields and more favorable near-term income growth potential.

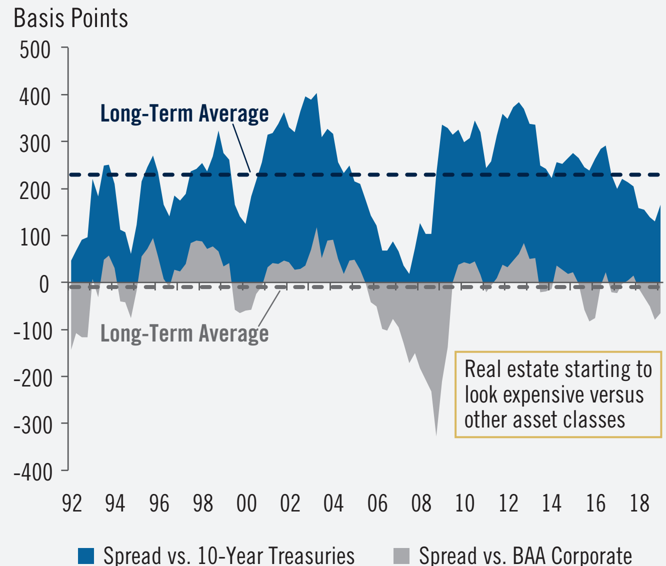
Steady Real Estate Returns

Total returns for real estate have been relatively steady over the past two years, although the NCREIF All Property Total Return was 6.7% in 2018, down slightly from 7% recorded in 2017, reflecting much softer performance in the retail sector (see exhibit AM2).

Income returns remain stable, while occupier market fundamentals are still broadly supportive of values. Income growth continues to be boosted by rising employment and low supply, despite signs that economic growth is slowing. However, capital appreciation has dropped significantly, owing to a stabilization of yields, something not helped by weaker pricing trends in the out-of-favor retail sector.

Exhibit AM2: U.S. NCREIF Returns and Relative Pricing





Sources: NCREIF, Federal Reserve Board, PGIM Real Estate. As of May 2019.

By sector, industrial continues to outperform by a wide margin – boosted by strong rental growth and, unlike other sectors, some ongoing yield compression – while retail returns continue to slide. In 2018, retail total returns were just 2.2%, weighed down by declining capital values. Office and apartment returns have been comparatively stable in the 6% to 7% range since the end of 2016.

At a broad level, core real estate is now looking expensive compared to other financial assets. Despite a drop in bond yields since late 2018, yield spreads over both U.S. Treasuries and corporate bonds remain tight relative to their historical averages. As such, relative pricing suggests there is limited scope for further yield compression, pointing towards the slow pace of returns recorded in recent years continuing.

Conditions for investors to source and execute deals that meet target returns are becoming more challenging. Investors are increasingly looking for opportunities that offer higher yields, for example in non-gateway markets or non-traditional asset types, or that offer an attractive income growth potential to offset the impact of lower yields.

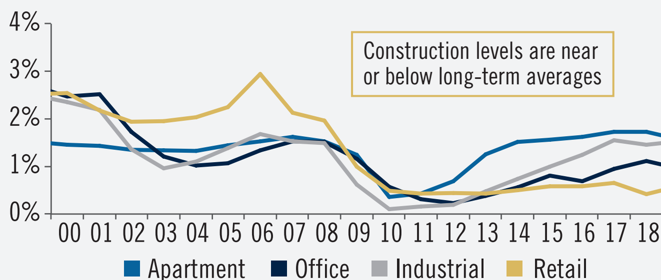
Occupier Markets on Solid Footing

Consistent with resilience of broader economic growth, occupier fundamentals remain balanced across most property types in the United States, providing continued support for occupancies and rents. Driven by ongoing employment growth in most parts of the country, tenant demand is set to expand further during 2019.

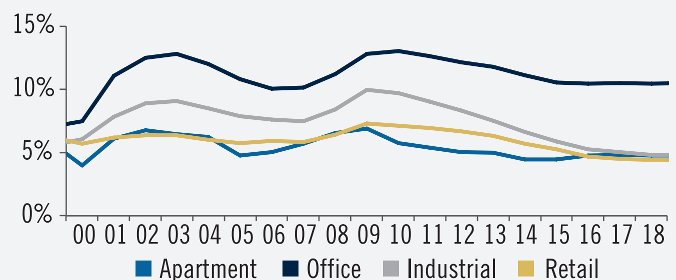
Occupancy is at, or close to, cyclical highs across most property types. While rents are still rising, rental growth looks to be past its peak, as supply growth is responding to tighter market fundamentals (see exhibit AM3). However, compared to typical real estate cycles, supply pressures remain at bay. Elevated construction costs still make it challenging to underwrite development projects, while construction lending has once again tightened.

Exhibit AM3: U.S. Supply, Vacancy and Rental Growth by Sector

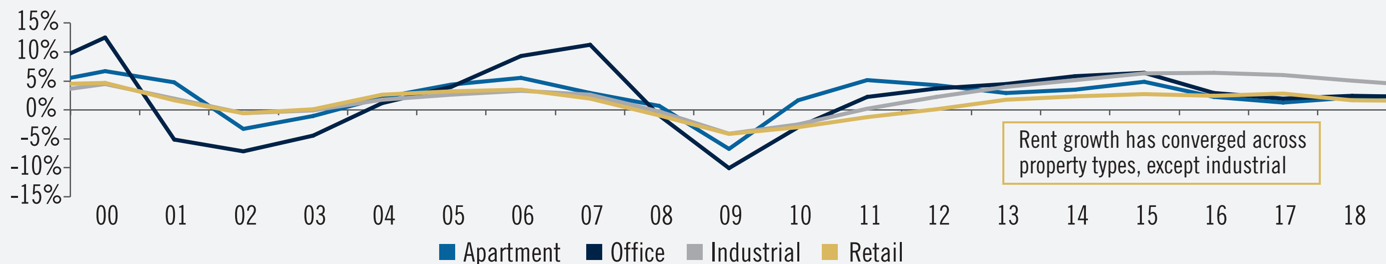
Annual Net Additions to Stock by Sector (% Existing)



Vacancy Rate by Sector (%)



Annual Rental Growth by Sector (%)



Sources: CoStar, Axiometrics, PGIM Real Estate. As of May 2019.

Reflecting its increasing popularity with investors, the industrial sector offers the strongest income growth prospects. Occupier demand is benefiting from both a secular push – from the rising share of e-commerce in retail sales – and a cyclical push, from consumer spending tied to job growth and wage gains. Construction remains active, though commensurate with demand and, crucially, is restrained compared to prior cycles.

There are differences across markets. Low vacancy and persistently strong rental growth are driving increased speculative construction in coastal markets proximate to Los Angeles and New York, as well in national distribution hubs including Dallas and Atlanta. So far, new supply in these markets has been absorbed quickly, limiting the impact on vacancy.

Elsewhere, the supply chain continues to shift in response to consumer demand for faster delivery times, spurring new development in non-gateway industrial markets near large population centers including Denver, Nashville, and Baltimore. In these markets, the outlook remains positive, although additions to supply mean rental growth is set to ease back from its average of 6% per year, recorded since 2015.

Apartment market conditions remain balanced as annual completions have plateaued at just under 2% of stock since 2015. While homeownership rates have begun to edge higher, job and wage gains are generating new renter household formations, supporting steady net absorption in line with the pace of new construction. Supply remains focused on urban core submarkets – areas of cities that have high population density and, compared to suburban areas, a reliance on transit use – although construction is picking up in the suburbs.

Office absorption picked up slightly in 2018 in line with slightly faster job growth. Demand is expected to remain measured as tenants remain focused on gaining space efficiencies. Furthermore, much of the recent office demand is from highly space-efficient co-working firms, which are providing flexible options for smaller tenants, particularly in urban locations. Vacancies are now in line with or below their prior cycle lows and new office supply has been modest in most markets. Lenders remain particularly cautious towards office development, while higher construction costs are weighing on developer profit margins.

The retail sector continues to contend with the growth of e-commerce. While retail sales growth remains in line with its long-term trend, and consumer confidence is elevated, neither are translating into increased demand for retail space and vacancies have begun to move higher. There are differences across format, with malls and power centers experiencing the most significant headwinds – store closures have included even profitable retailers, leaving landlords facing expensive capex requirements to lease empty spaces.

In contrast, grocery-anchored retail continues to hold up comparatively well, despite the potentially destabilizing threat of rising online grocery shopping. Lifestyle and mixed-use centers have countered falling in-store sales by increasing their offer of service- and experience-based tenants – including restaurants, tutoring centers, salons, and fitness studios – that should be more resilient to e-commerce.

LATIN AMERICA

Uncertain Investment Environment

Some of the political uncertainty that has overshadowed Latin America's economic and real estate market outlook since 2016 has been lifted. While ongoing political turmoil means Venezuela remains a notable exception, major elections are now over in Brazil and Mexico, and a replacement free trade agreement with North America – the United States Mexico Canada Agreement (USMCA) – has been agreed in principle, removing a source of uncertainty.

However, markets are still trying to assess which of the policies promoted by the leaders of Brazil and Mexico during their respective elections will be enacted into law. The policy uncertainty is undoubtedly a key factor contributing to the dearth of transactions in Latin American property markets. In 2018, institutional transaction volume across the region totaled only $3.4 billion, down by 40% from 2017.

Yet occupier market conditions suggest that transaction volume should be stronger. While office vacancies remain elevated due to a large supply wave beginning in 2015, net absorption is positive in Mexico City, Sao Paulo, and Rio de Janeiro, pushing vacancies down and stabilizing rents. Industrial occupancy rates are near historic highs in Mexico, with strong tenant demand both in logistics-driven Mexico City and in manufacturing export-focused markets such as Monterrey and the Bajio region. Also in Mexico, international retailers continue to expand their presence, even as they trim store exposures in developed markets including the United States.

There are some signs that the trend of declining transaction volume – which has now gone on for seven years – may reverse. In early 2019, at least two large portfolios of industrial assets hit the market in Mexico. Policy interest rates appear to have peaked in Mexico and held steady in 2018 at less than half their 2016 levels in Brazil, removing some uncertainty about buyers' access to accretive financing. And while neither of the two largest economies in Latin America are booming, they are both expanding fast enough to create tenant demand in both the business-driven office and industrial sectors, as well as the consumer-driven retail and housing sectors.

Despite these underlying economic conditions that would otherwise be supportive of rising deal activity, political uncertainty is likely to keep some investors on the sidelines. For starters, the USMCA may not have enough support in the U.S. Congress to be ratified. Meanwhile, both Mexico and Brazil have new leaders who ran on ambitious albeit very different platforms, and it is too early to tell which parts of those platforms will translate into policies that may support – or suppress – real estate demand.

Investment Opportunities

As core real estate returns have moderated, real estate investors are increasingly active at the edges of the risk spectrum – either in search of assets with a combination of higher income yields and growth potential, or retreating to perceived safety and downside protection offered by debt.

While investment remains active across all major sectors and markets, as the economic cycle goes on, growth stories are harder to come by. For this reason, while activity remains solid in gateway markets, investors seeking income growth potential will find better momentum in Sunbelt markets that benefit from faster population growth. Investors also continue to look outside core sectors for income growth potential. Senior housing provides a compelling investment opportunity offering higher yields and gathering demand over the next few years.

1. Follow the Demographics

Markets with favorable demographics offer attractive returns potential, including office and apartment assets in the Sunbelt markets.

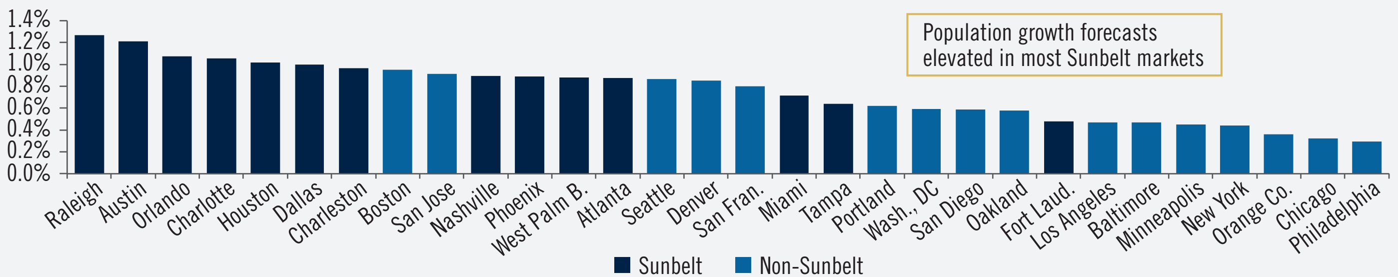
In a late-cycle environment, in which growth opportunities are scarcer, a focus on markets with stronger demographic trends can help identify opportunities with attractive total return potential.

In commercial sectors, historically tight labor markets have made access to an expanding population base and growing labor force key considerations in current occupier location decisions. In the office sector, many employers, especially in the technology sector, are seeking employees with increasingly specialized skill sets – proxied by educational attainment among inhabitants. Young professionals are increasingly migrating to cities such as Seattle, Portland, Raleigh, and Austin – encouraging firms to locate in these cities. For tenants looking for industrial space, overall labor force growth is a key consideration.

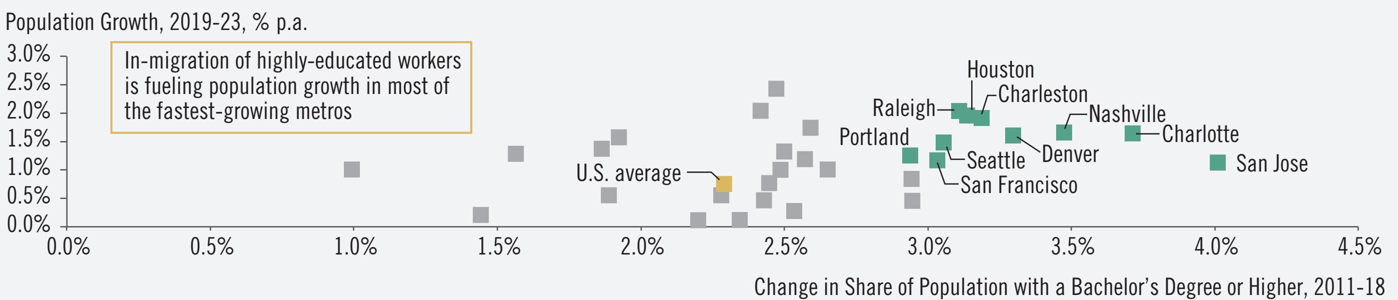
Exhibit AM4 sets out a framework for assessing key demographic trends. Several of the fastest growing metropolitan areas have also seen notable gains in educational attainment levels this cycle, with an increasing share of their population having a college degree, including Denver, Raleigh-Durham, Portland, Seattle, and Austin.

Exhibit AM4: Analysis of Labor Force and Population Growth by City

Forecast Labor Force Growth by City (2019-23, % p.a.)



Forecast Population Growth and Historic Change in Educational Attainment by City

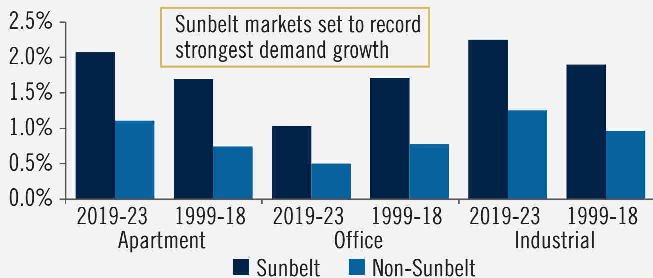


Source: PGIM Real Estate. As of May 2019.

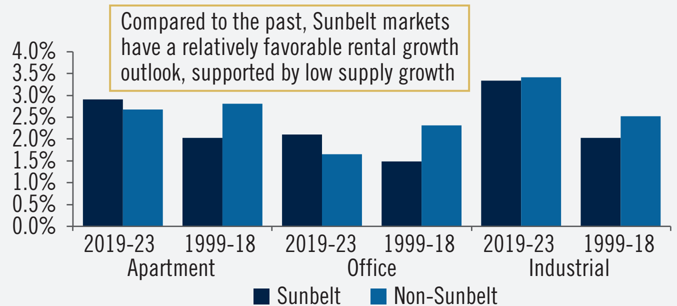
In the coming years, Sunbelt markets labor forces will grow faster than other parts of the United States (see exhibit AM5). In turn, the pace of absorption is set to be higher, supporting an income growth outlook that, on a relative basis, is stronger than it was in the past. Although supply has historically tended to be less constrained, limiting rental growth potential, given the tame supply cycle during this economic expansion, current momentum in many of these strong population-growth markets is expected to support solid rent growth over the next five years. Though generally lower supply constraints do tend to drive higher yields in these markets, the current 'Sunbelt minus non-Sunbelt' yield spread is above-average, pointing to attractive relative value – especially for those markets in which education attainment levels have risen.

Exhibit AM5: Sunbelt vs. Non-Sunbelt – Demand, Rent Growth and Cap Rate Spreads

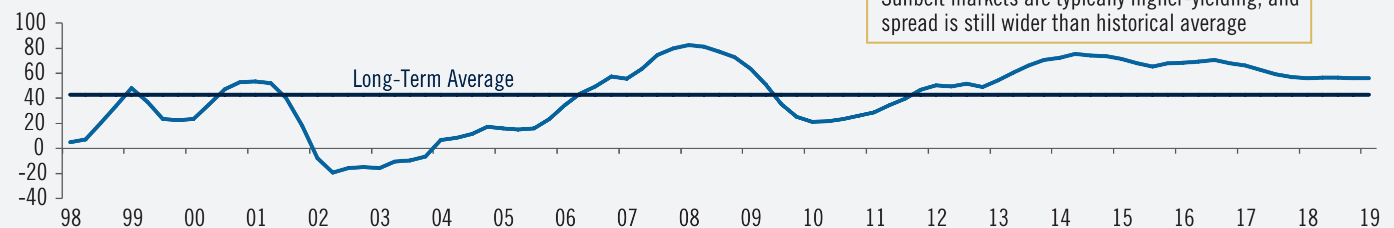
Absorption Growth (% p.a.)



Rental Growth (% p.a.)



Cap Rate Spread: Sunbelt Minus Non-Sunbelt (Basis Points)



Sources: CoStar, Axiometrics, NCREIF, PGIM Real Estate. As of May 2019.

2. Senior Housing Tailwinds

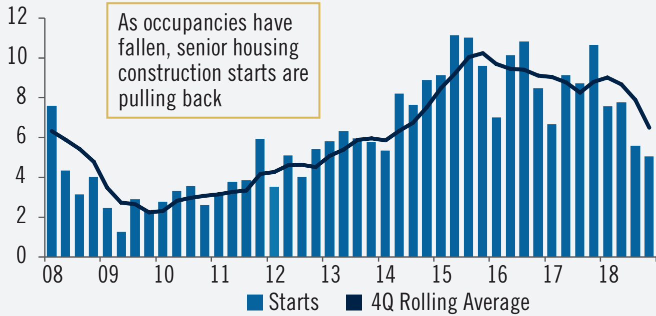
Senior housing is set to benefit from ongoing demand growth, while supply is moderating. Elevated cap rates mean returns compare favorably to commercial sectors.

One of the most prominent opportunities for securing assets with attractive income growth potential is the senior housing sector. A modest wave of supply – which kept rental growth in check over the past few years – is now easing in response to softer fundamentals, while gathering demographic tailwinds point to further demand growth over the next decade (see exhibit AM6).

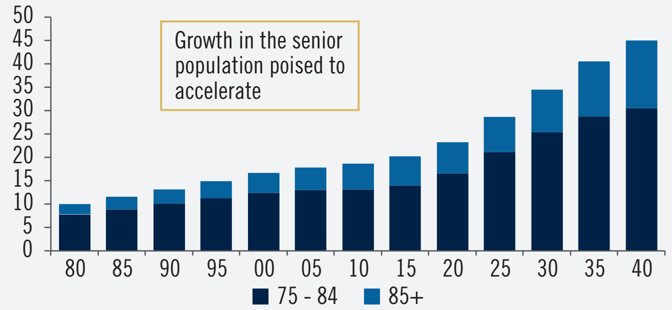
Occupancy and rental growth should improve across the sector, although there are differences between asset types. Assisted living facilities are needs-based and stand to benefit most from the aging population, while they are set to record substantial income growth as supply drops back and should offer greater resilience in a downturn.

Exhibit AM6: U.S. Senior Housing Demand, Supply and Pricing

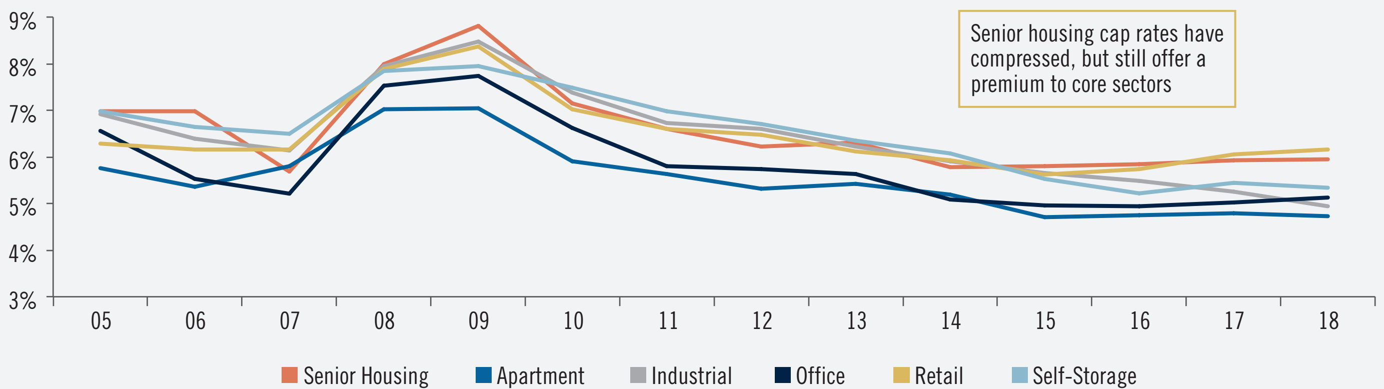
Senior Housing Construction Starts (000s)



Elderly Population by Age Bracket (Millions)



Cap Rate by Sector (%)



Sources: NIC Primary & Secondary Markets, PGIM Real Estate. As of May 2019.

Senior housing offers investors higher yields than other sectors. Currently, senior housing yields are 120 basis points higher than apartments, slightly above the long-term average. With higher yields and the potential for stronger rental growth and occupancy gains, senior housing returns are expected to continue to outperform mainstream commercial sectors in coming years.

3. Debt Offers Downside Protection

Debt offers an attractive source of lower volatility, downside protection and diversification, while value-add debt strategies can generate attractive returns.

Reflecting global trends, real estate debt in the United States is growing in popularity. Debt strategies offer a range of opportunities for real estate investors, from core mortgages that generate a low, stable coupon-driven return, all the way up to higher risk transitional and mezzanine loans, typically working in partnership with value-add and opportunistic real estate equity sponsors.

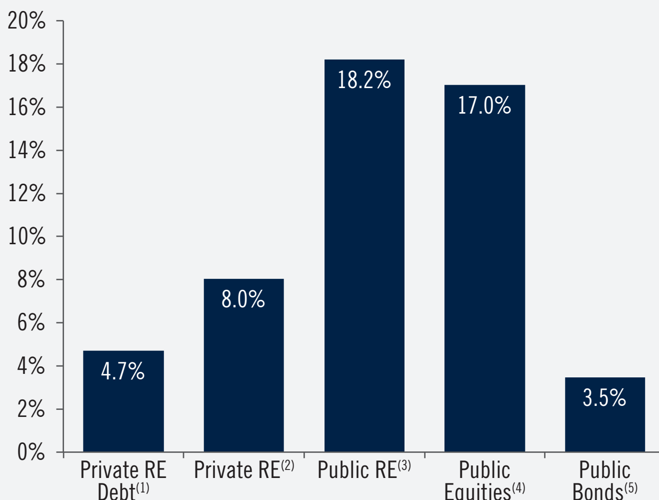
While debt offers downside protection and lower volatility compared to private and public equity positions, investors in the United States are also drawn to the diversification that debt offers relative to traditional private real estate investments. Over the past 20 years, the correlation between private equity real estate and core debt returns has been negative at -0.14 (see exhibit AM7).

Debt funds have raised $57.6 billion in the past three years, in line with the total raised in the six years from 2010 to 2015. While returns expectations have narrowed as more capital has entered the space, on a risk-adjusted basis, debt remains an attractive proposition for many investors.

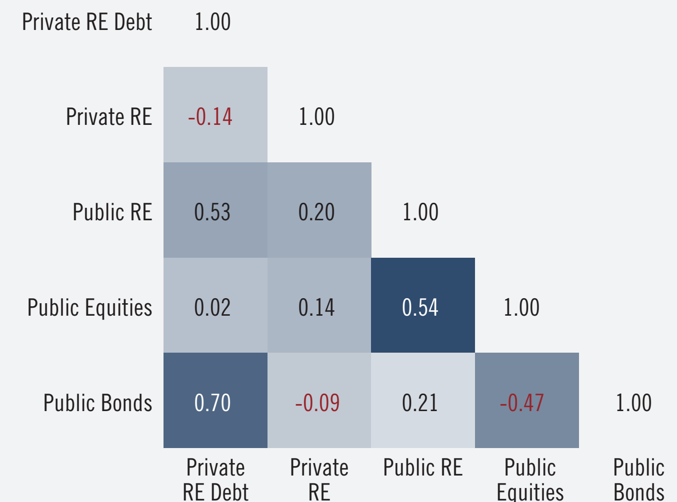
Traditional 10-year real estate loans on stabilized properties provide an all-in yield of about 4.5%, roughly in line with current cap rates on core property. Debt providers focusing on value-add projects with no recourse are currently providing loans with coupons ranging from 5.5% to 6.0%, with the possibility of generating additional returns through modest fund-level leverage.

Exhibit AM7: Comparison of Returns Across Asset Classes

Annual Standard Deviation (2000-18)



Correlation of Annual Total Returns (2000-18)

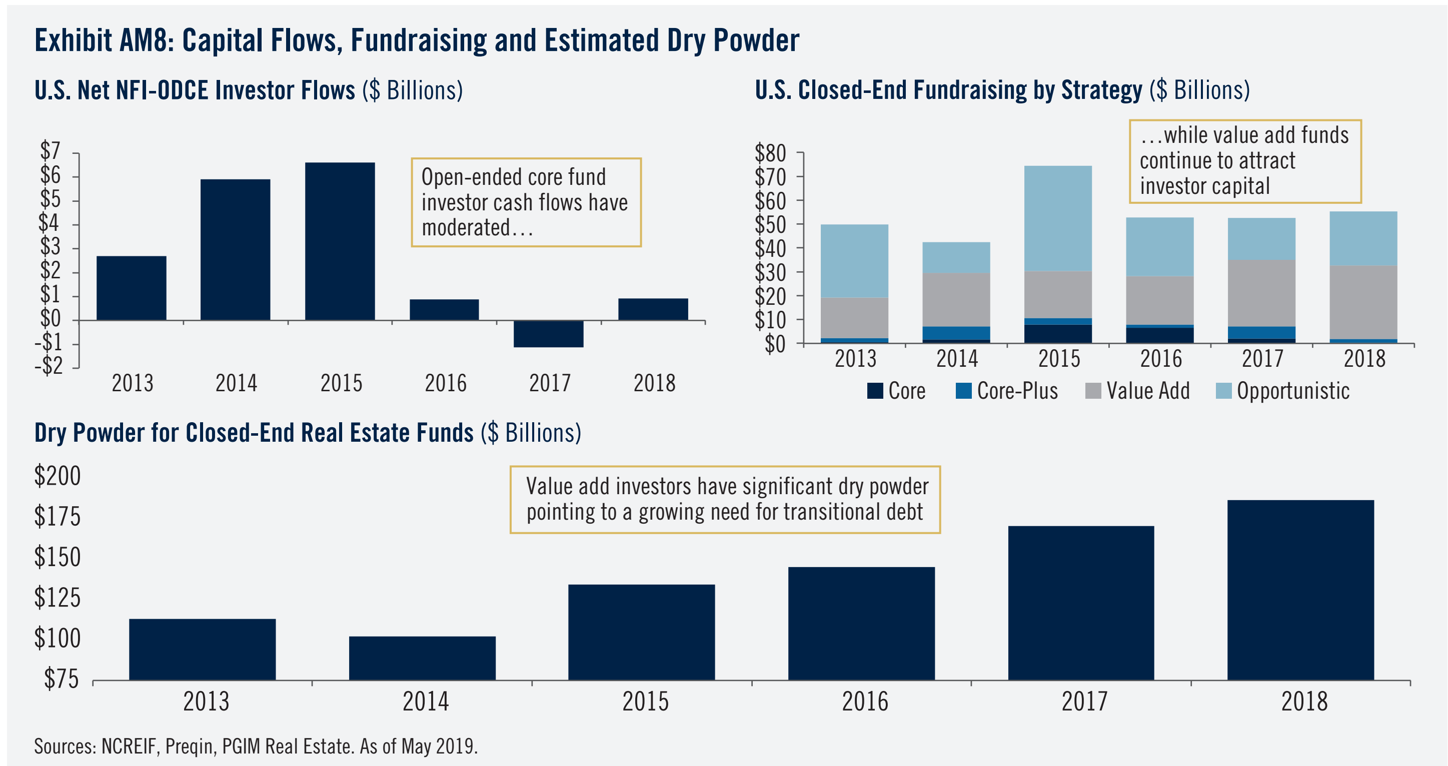


	Private RE Debt	Private RE	Public RE	Public Equities	Public Bonds
Private RE Debt	1.00				
Private RE	-0.14	1.00			
Public RE	0.53	0.20	1.00		
Public Equities	0.02	0.14	0.54	1.00	
Public Bonds	0.70	-0.09	0.21	-0.47	1.00

Note: (1) Private Real Estate Debt is measured by Gilberto-Levy Index; (2) Private Real Estate is measured by NCREIF Property Index; (3) Public Real Estate is measured by FTSE NAREIT All Equity REITs; (4) Public Equities are measured by S&P 500; (5) Public Bonds are measured by Barclays U.S. Aggregate. No adjustments were made to account for liquidity. Private asset class returns may understate volatility versus public asset classes.

Sources: NCREIF, FTSE/NAREIT, Gilberto-Levy Index, Bloomberg, PGIM Real Estate. As of May 2019.

With real estate transactions activity still elevated, along with an increasing focus on value-add and opportunistic strategies among capital raised in recent years, demand for debt to fund new acquisitions looks set to remain high (see exhibit AM8).



Sources: NCREIF, Preqin, PGIM Real Estate. As of May 2019.

Traditional debt lenders, including life insurance companies and banks, remain cautious. High volatility commercial real estate (HVCRE) regulations, despite being slightly relaxed in 2018, are still restrictive, requiring banks to hold more capital for more speculative real estate loans. Life insurance companies are keeping LTVs at 60%, versus the 66% to 68% that had prevailed during previous cycles.

Restricted lending activity among traditional sources of capital imply an ongoing opportunity for debt funds and other alternative capital providers to fill the funding gap.

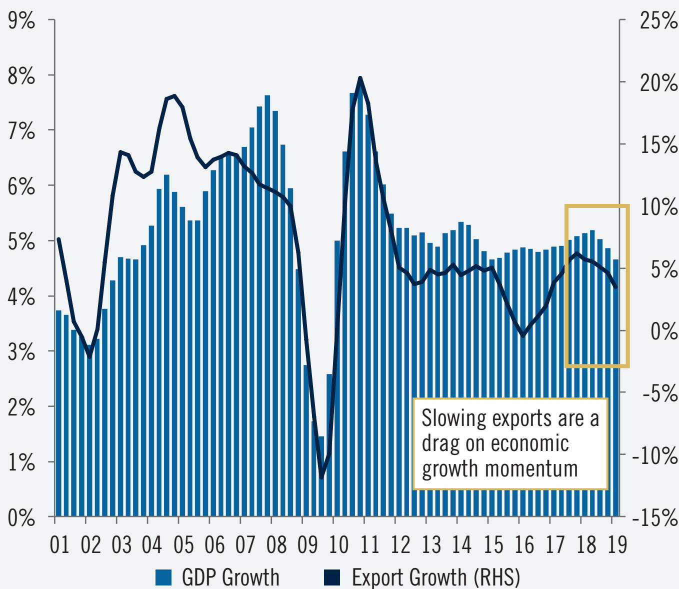
ASIA PACIFIC

Softer Growth Outlook

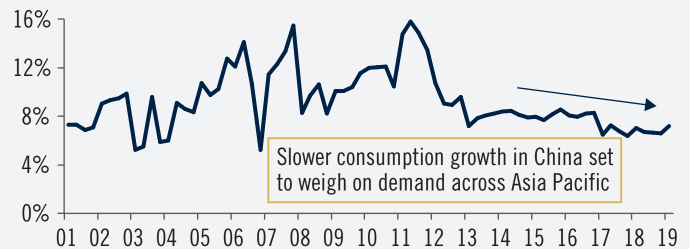
Economic growth momentum across Asia Pacific is showing signs of moderating. During the first quarter of 2019, GDP growth forecasts were revised down by an average of 0.25% across major countries, reflecting weaker global sentiment and concerns that trade tensions are building pressure on exports (see exhibit AP1).

Exhibit AP1: Assessment of Economic Growth Momentum

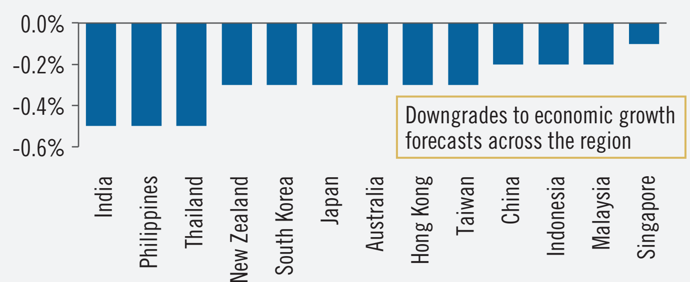
Real GDP and Export Growth – Asia Pacific



Annual Real Private Consumption Growth – China



2019 GDP Growth: March 2019 Forecast Minus Dec. 2018 Forecast



Sources: Oxford Economics, Consensus Forecasts, PGIM Real Estate. As of May 2019.

As the largest consumer market in Asia, slower consumer spending growth in China does not bode well for the rest of the region with many economies recording slowing export demand. In China, there has been a broad shift of policy responses towards growth-supporting measures, including the recent introduction of a raft of monetary policy easing and fiscal spending measures. As a result, while there are signs that economic activity across Asia Pacific is slowing, there are buffers in place to help the region avoid a sharp downturn.

In a global context, the Asia Pacific growth outlook remains favorable. With economic growth forecast to average 4.5% annually in the next two years, Asia Pacific is set to outpace developed markets in Europe and the United States by a significant margin.

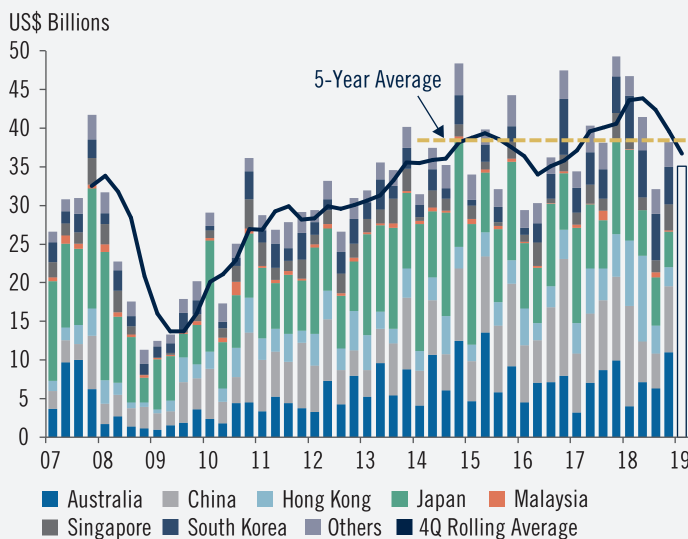
Overall, the Asia Pacific region remains an attractive proposition for global real estate investors that are looking for markets that can offer income growth potential. According to the 2019 Investment Intentions Survey published by ANREV, 86% of investors intend to deploy capital in Asia in 2019, of which about 60% expect to increase their allocation to the region.

Moderating Transaction Activity in Major Markets

Reflecting a balance between softer economic sentiment and a longer-term economic growth profile that remains attractive to global investors, investment activity was generally stable in 2018. Cross border activity is holding up well and overall transaction volume was US$159 billion, above its five-year average and only 2% lower than recorded in the previous year (see exhibit AP2).

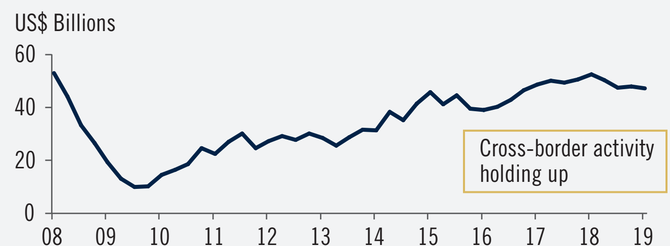
Exhibit AP2: Analysis of Asia Pacific Investment Market Trends

Quarterly Transaction Volume By Country

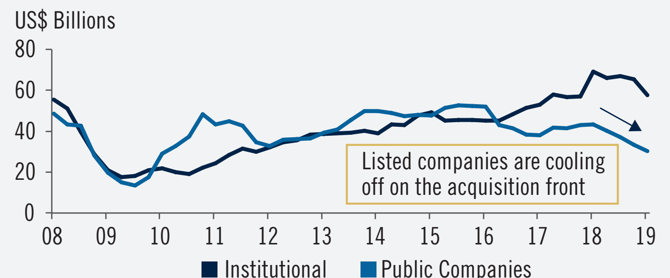


Note: data for 1Q19 are provisional and may be revised upwards.

Cross-Border Transaction Volume (4Q Rolling)



Institutional and Public Companies Transaction Volume (4Q Rolling)



Sources: Real Capital Analytics, PGIM Real Estate. As of May 2019.

However, the two halves of the year were markedly different: deal volume rose 20% year-over-year in the first half of 2018, before falling – as economic sentiment came under pressure – by 20% year-over-year in the second half. The slowdown in activity was exacerbated by a lack of motivated sellers and limited availability of stock towards the end of the year.

Activity was varied across markets too. Deal volume fell in China owing to slower domestic growth, trade tensions with the United States and tighter domestic lending rules, and in Japan, where investors are concerned about elevated pricing. In contrast, Hong Kong and South Korea reported increased activity, driven by increased inflows of cross-border capital and several larger deals.

There are some signs that investors are looking to reduce risk, as acquisitions of core, stabilized assets are taking a greater share of activity. In addition, there has been a rotation of capital towards private institutions, and away from REITs and developers that typically have a higher risk profile.

Rental Growth Holding Up

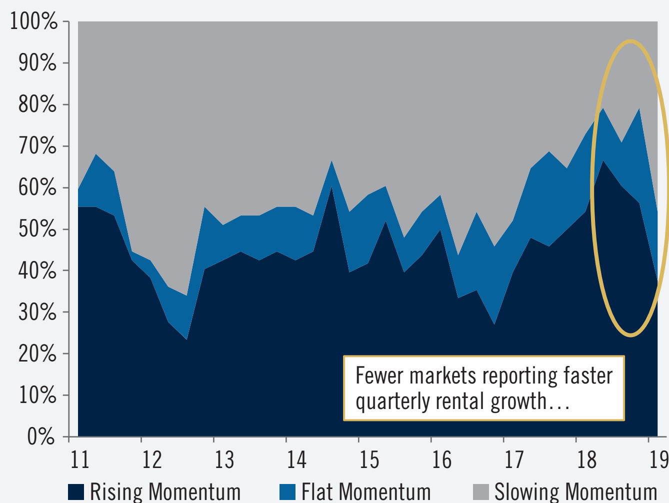
Since 2016, occupier markets across Asia Pacific have benefited from favorable tailwinds, with rising corporate profits and strong consumer spending growth supporting occupier demand, propelling rental growth across the region. In 2018, central business district (CBD) offices, high street retail and logistics assets in many major markets reported rates of rental growth above their 5-year averages.

However, indicators of occupier demand across major real estate sectors have eased back in recent quarters. Businesses across Asia Pacific are still expanding premises and adding headcount, but the pace of employment growth is slowing, weighing on office take-up. Similarly, slowing consumer spending growth means softer leasing conditions for the retail sector, although take-up for logistics space has generally held up better.

In mid-2018, nearly 70% of Asia Pacific markets across sectors were reporting faster quarterly rental growth (see exhibit AP3). However, since the second half of 2018, growth momentum has tapered and the proportion of markets recording faster rental growth has fallen below 50%.

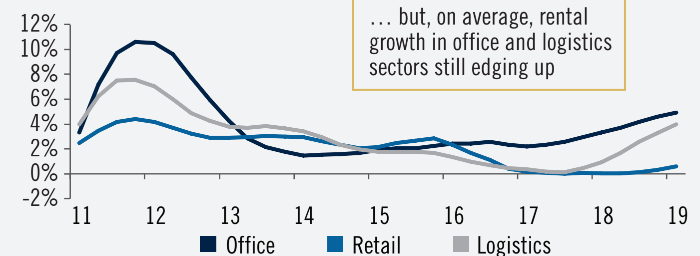
Exhibit AP3: Occupier Momentum and Rental Growth by Sector

Share of Markets Reporting Rising, Flat or Slowing Rental Growth Momentum

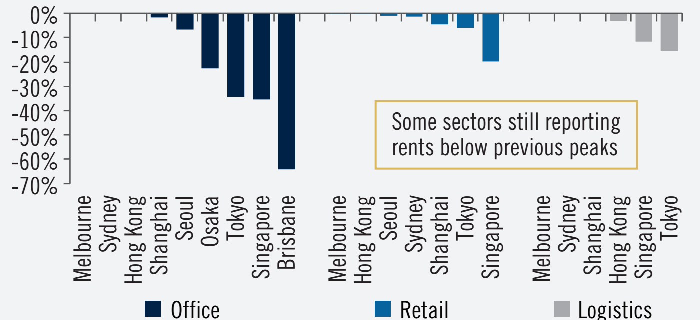


Note: momentum is calculated using the quarterly change in annualized rental growth.

Annual Rental Growth by Sector



Current Rents: Discount to Peak Over Past 15 Years



Sources: JLL, PGIM Real Estate. As of May 2019

Within the region, diverse economic performance means that leasing conditions and rental growth cycles can vary significantly. As such, the Asia Pacific region is not facing a synchronized rental slowdown, especially as supply side factors remain supportive in most major markets too.

The flipside of the analysis in exhibit AP3 is that about 40% of markets in the region are still reporting accelerating quarterly rental growth. These include markets that are in an early phase of the rental cycle, including CBD offices in Singapore, Brisbane, and Osaka; prime logistics in Shanghai, Beijing, and Sydney; and retail in Singapore and Hong Kong.

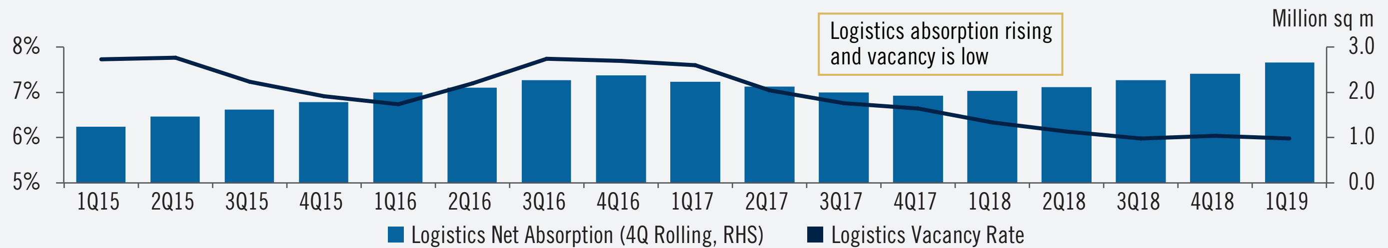
Logistics Resilient to Trade Tensions So Far

Given that most major logistics markets across the Asia Pacific region have enjoyed favorable momentum in recent years, there are concerns that the slowdown of global trade activity could translate into weaker conditions for logistics occupier and investment activity.

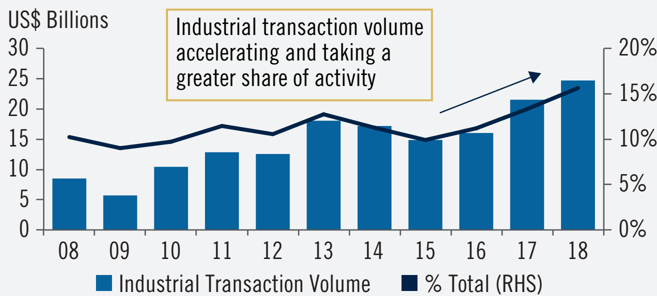
So far, any impact looks contained. Net absorption across the region's major distribution hubs reached an all-time high of about 2.5 million sq m last year (see exhibit AP4). Leasing demand continues to be led by e-commerce operators and third-party logistics providers, targeting proximity to major population centers, which are also the key consumer markets.

Exhibit AP4: Logistics Sector Fundamentals

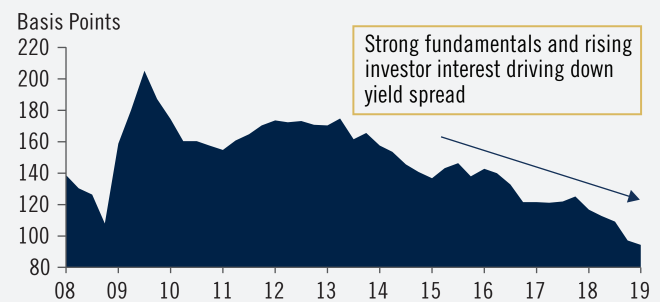
Logistics Absorption and Vacancy Rate



Industrial Investment Volume



Spread: Logistics Minus Office Yields



Sources: JLL, Real Capital Analytics, PGIM Real Estate. As of May 2019.

Markets such as Tokyo, Seoul and Shanghai continue to report a shortage of modern logistics space, and vacancy rates are falling. Rental growth has accelerated over the past year and continues to be most elevated in supply-constrained cities like Sydney and Beijing, especially in their prime submarkets.

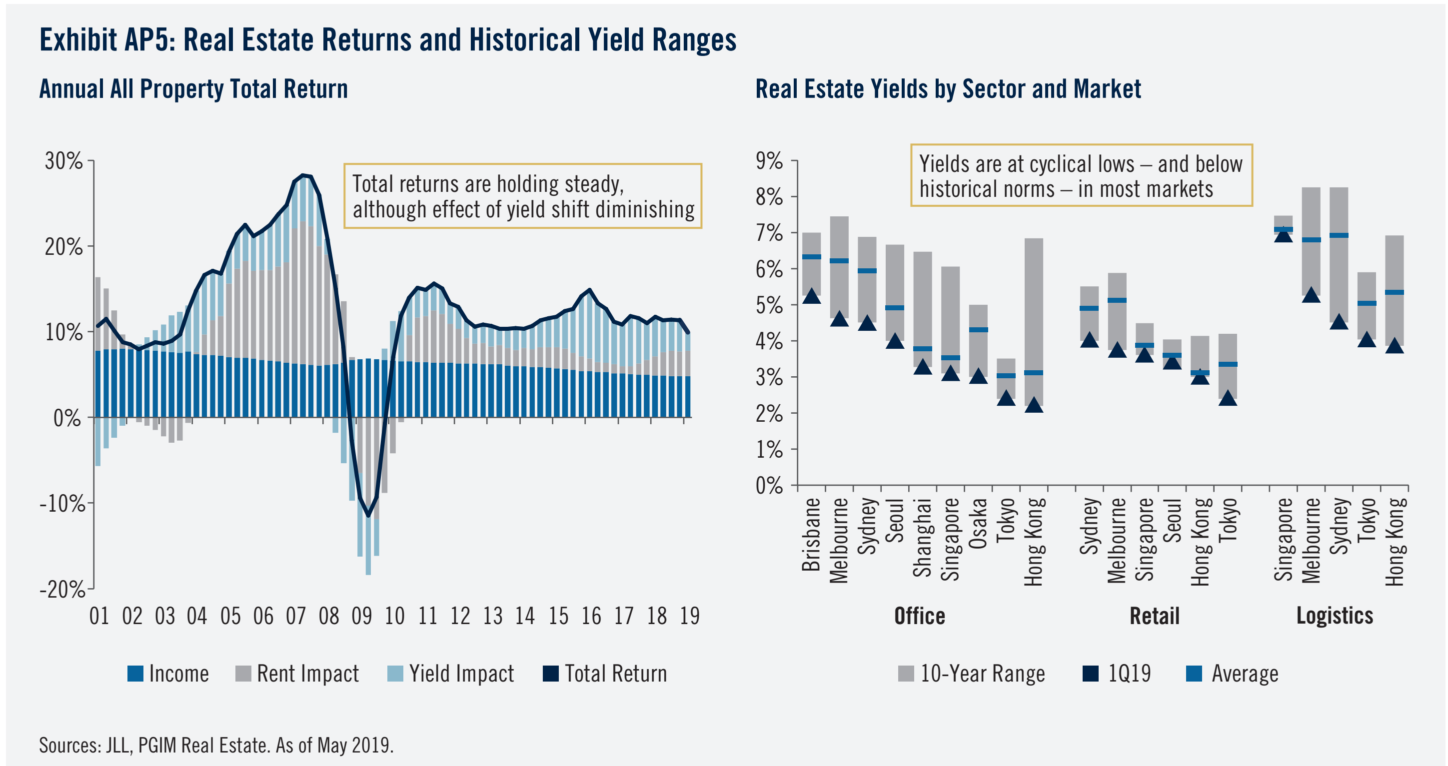
Given a backdrop of favorable fundamentals, investor interest in the logistics sector continues to grow. Deal volume rose for a fourth consecutive year in 2018, rising 15% to reach an all-time high of US$25 billion. Industrial deals accounted for 16% of overall commercial real estate transaction volume last year, up from an average of 11% in the last decade.

Strong capital inflows have led to significant yield compression in the sector. The yield spread between logistics and office assets continues to decline. However, with rental growth prospects holding up, investor interest towards logistics is likely to remain strong despite elevated pricing.

Real Estate Returns Expected to Slow

In recent years real estate investment performance across Asia Pacific has been boosted by favorable economic growth, positive leasing conditions and, owing to strong capital inflows, continued yield compression. Returns have been remarkably stable, delivering between 10% and 15% annually since 2010 (see exhibit AP5).

Exhibit AP5: Real Estate Returns and Historical Yield Ranges



Sources: JLL, PGIM Real Estate. As of May 2019.

The question is to what extent are characteristics of performance set to change? Looking ahead, the drivers of capital growth – which has accounted for about 70% of real estate returns through the current cycle – are becoming more muted. Most significantly, the era of rapid and sustained real estate yield compression is coming to an end.

While some Asian central banks are signaling an intention to loosen monetary policy – meaning lower interest rates continue to provide support for pricing – real estate yields look to be approaching a floor across the region.

In almost all sectors and markets, yields are at the bottom of their 10-year range, an average of 160 basis points below the average over the same period. Transactions yields were largely flat during 2018, as investors showed signs of adopting a more cautious approach, notably with more subdued bidding activity for non-core assets. Overall, the contribution of yield impact in 2018 in Asia Pacific total returns fell to its lowest level since 2013.

While there are reasons to be positive about the prospects for occupier market performance – many markets continue to report favorable leasing and rental growth momentum – the overall pace of rental growth is unlikely to accelerate significantly to offset fading yield impact. As a result, it looks inevitable that total returns are going to slow in the coming years.

Investment Opportunities

Investors in the Asia Pacific region continue to benefit from attractive rates of economic growth and generally favorable leasing market fundamentals, which offer a broad range of rental cycles across markets and sectors. However, with returns slowing and ongoing concerns about availability of stock, investors are facing a more challenging environment in which to deploy capital.

Given low yields, the challenge for investors looking to optimize risk-adjusted returns will be to balance securing assets that offer resilient income streams with building opportunities that can capitalize on the growth potential the region offers. Supply constrained markets should offer further income growth opportunities in the coming years, while living sector assets benefit from favorable structural trends.

1. Resilient Income

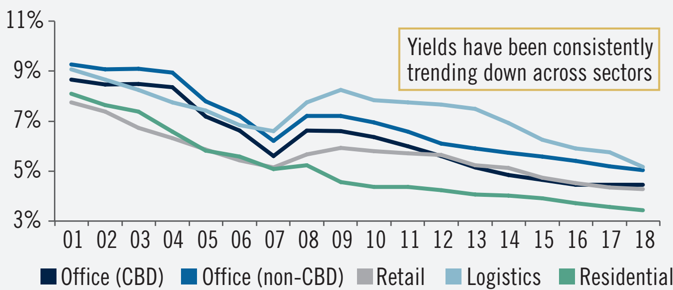
Amid rising economic uncertainty, assets with stable income streams that are supported by strong tenant covenants and defensive locations are set to provide a resilient buffer to investment portfolios.

One of the key attractions of investing in real estate is the income return. Based on an analysis of prime asset performance in major Asia Pacific markets, income return contributed about 55% of total returns since 2001 and is its least volatile component. Especially during periods of uncertainty, resilient and steady income streams are an important factor in determining portfolio stability and risk-adjusted returns over investment cycles.

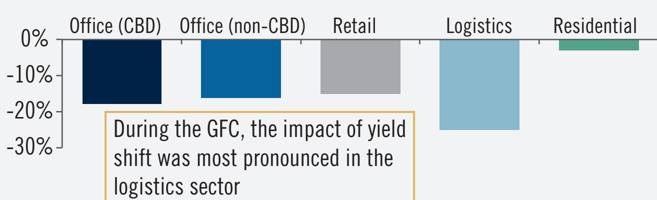
Over the last decade, real estate yields compressed across the region, because of both the increasing maturity of the market, and the lower bond yield environment (see exhibit AP6). In most markets, to gain access to prime real estate assets, investors must accept paying historic low cap rates or, in other words, historic high capital value-to-income multiples. In today's uncertain economic environment and late-cycle investment state, it is no surprise that investors continue to seek safety in quality.

Exhibit AP6: Income Yields and Vacancy Rate Volatility

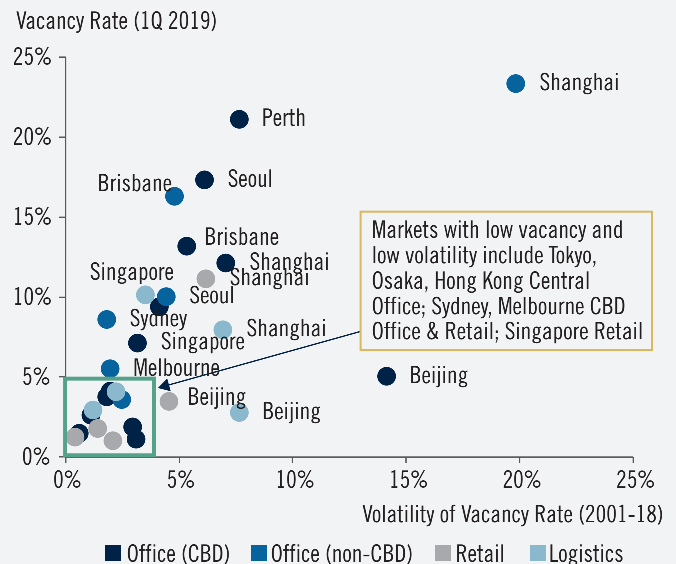
Estimated Income Yields By Sector



Estimated Yield Impact From Peak-to-Trough During GFC (2007-09)



Vacancy Rate & Volatility of Vacancy Rate By Sector



Sources: JLL, PGIM Real Estate. As of May 2019.

The stability of an asset's occupancy and resilience of its rental cashflow will heavily depend on real estate characteristics such as location, building specifications, average lease length and tenant covenants. However, the inherent characteristics of individual markets such as market leasing practices, fundamental balance measured by elasticity of supply, or stickiness of demand proxied by volatility of vacancy rates, also play a critical role.

For example, while the logistics sector can continue to benefit from rising demand and favorable fundamentals, it has a history of suffering higher yield expansion or more severe negative yield impacts in a downturn, particularly in secondary locations. By contrast, low yielding residential assets typically fare well, maintaining occupancy and suffering little yield expansion in a downturn.

At this point in the cycle, downside sensitivity to pricing has increased and investors stand to benefit from increasing exposure to markets or sectors that provide stable fundamentals. Markets with low availability and, reflecting a contained supply pipeline, low volatility of vacancy – including Osaka, Sydney and Melbourne office, Singapore suburban retail, and Sydney and Tokyo logistics – are set to provide income resilience in coming years.

Depending on their risk tolerance, investors can consider a suitable path to add more defensive assets or strategies to achieve higher income resilience in their investment portfolio. For equity investors, it could be direct acquisition, asset enhancement or build-to-hold with a focus on assets with income quality and resilience of cashflow. For investors that can invest in real estate debt, increasing exposure to debt investment in a market like Australia can provide a defensive position in the case of a sharp correction in either leasing or capital markets.

2. Value-Add in Supply-Constrained Markets

In an environment of softer rental growth, a value-add investment approach via asset repositioning or development can provide attractive rental reversion, particularly in markets with low vacancy and supply constraints.

After two years of rising supply, a majority of key office markets in Asia Pacific expect a sharp slowdown of new developments with markets like Singapore, Osaka and Seoul CBD expecting to have very limited new stock added in the next three years (see exhibit AP7). Excluding Tokyo and Beijing, where new development activity remains elevated, the average annual office supply growth in Asia is expected to fall well below the annual supply growth over the last ten years.

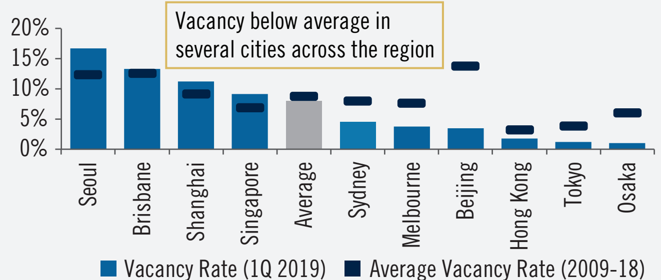
The reasons for the pattern of lower net supply are varied, ranging from stock withdrawals for the new metro-line construction in Sydney, a mis-match of the supply-demand cycle in Singapore, or developers being discouraged by a prolonged high vacancy environment in Seoul. In addition, the lack of greenfield land supply for development particularly for logistics, and surging land price in major CBDs, are among major constraints dampening development activity.

Vacancy rates are falling across the board and, in many markets, vacancy rates are well below their 10-year average. Targeting markets with very low net supply and tight vacancy, investors are set to benefit from landlord-favored leasing conditions in the next few years.

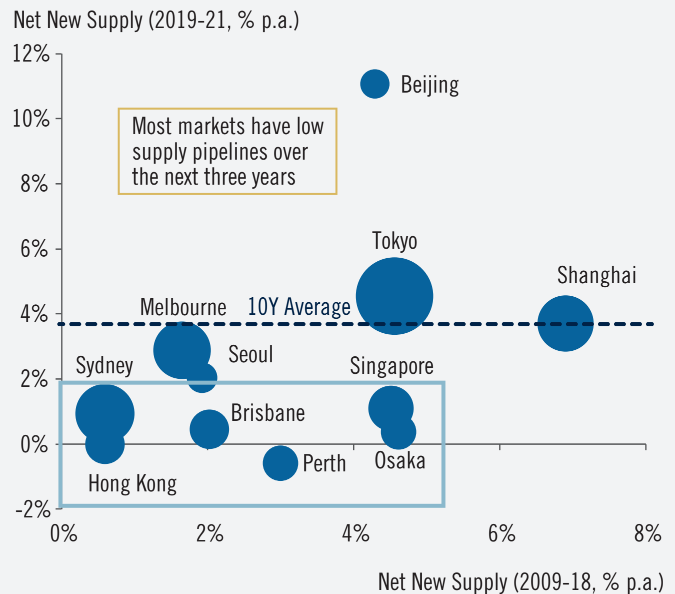
Exhibit AP7: Office Supply and Vacancy Rates

Annual Office Supply Growth – Major Markets (% Existing Stock)

Office Vacancy Rate by Market



Office Supply Growth by Market (% Existing Stock)



Sources: JLL, PGIM Real Estate. As of May 2019.

To capitalize on opportunities in these markets, investors can pursue active strategies in the form of asset enhancements or develop-to-sell. These asset strategies will be particularly applicable to markets with a high ratio of aging stock like Osaka and Seoul. However, new development is attractive in markets with favorable decentralization trends due to the decline of rental affordability in the CBDs like Hong Kong and Sydney.

In the logistics sector, development remains the key access path given the undersupply of modern logistics space in many markets. The structural shift from low productivity warehouses to higher productivity logistics centers offers a secular lift in land, asset, and rental values. While effective rents have reached all-time highs in Seoul, Shanghai, Beijing, and Sydney, rental growth momentum is still accelerating in these markets.

3. Living Sectors

Living sectors, ranging from student accommodation and co-living to senior housing, are expected to benefit from structural shifts in demographics across Asian markets.

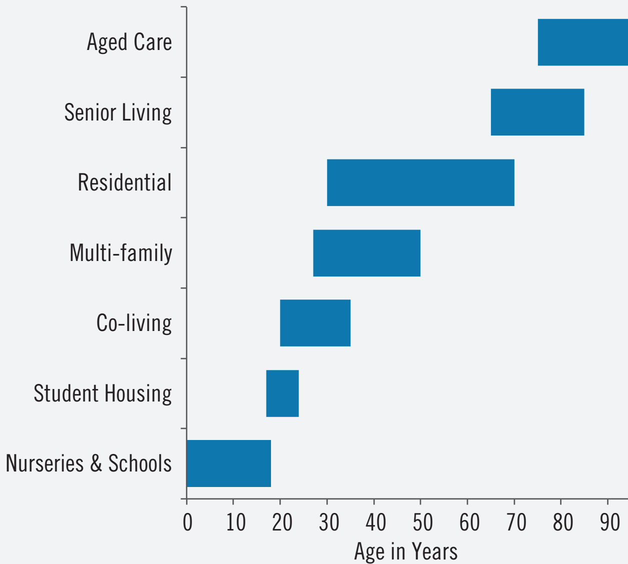
The shift in demographics – one of the most critical factors driving economic transformation in Asia Pacific – is set to continue to shape significant changes in the way people work and live in the coming years. The combined effect of diverse Asia Pacific demographic trends, increasing economic maturity and a rapid pace of technological advancement is boosting a broad spectrum of demand for real estate with strong tailwinds that support ongoing opportunities.

Along with the rapid growth of the middle-income classes, which is boosting demand in retail and logistics sectors, the rising dominance of the generation born between the early 1980s and mid-1990s across Asian economies are leading to rapid changes in the living space, particularly in major cities like Hong Kong, Beijing, Shanghai or Tokyo where rising house price has led to housing affordability concerns.

Across major cities, the number of people opting to rent is rising owing to affordability, an increasingly transient workforce, the rise of the sharing economy and a growing number of single-person households.

Exhibit AP8: Living Sector Age Groups and Investment Yields

Indicative Age Groups Using Various Living Sectors



Estimated Prime Yields For Various Living Sectors

	Senior Living	Multi-family	Co-living	Student Housing
Sydney	6.0% - 7.0%	3.0% - 4.0%	3.5% - 4.5%	5.5% - 7.0%
Tokyo	4.5% - 5.5%	3.5% - 4.5%	4.0% - 5.0%	4.0% - 5.0%
Singapore	5.5% - 6.5%	3.0% - 4.0%	3.5% - 4.5%	3.5% - 4.5%
Hong Kong	3.5% - 4.5%	2.5% - 3.5%	3.0% - 3.5%	3.0% - 4.5%
Shanghai	4.5% - 5.5%	3.0% - 4.0%	4.0% - 5.0%	4.5% - 5.5%

Sources: JLL, PGIM Real Estate. As of May 2019.

The multifamily sector, currently most established in Japan, is making inroads in China and Australia. In China alone, it is estimated that the rental housing investment market will double in scale from US$180 billion in 2017 to US$450 billion in 2025, according to the China Rental Housing Association.

Moving up the age curve, demand for senior housing and accommodations that provide specialized services to an aging population is also expected to rise over the next decade. With the population of people above age 70 growing at a faster pace, demand for senior housing is looking most prominent in China and Japan.

Arguably, the living sector in Asia Pacific is still in its early development stage with limited available stock and lack of market transparency. However, changing demographic trends and shifting consumer behavior are pushing up demand for rental accommodation. With capitalization rates for the living sectors currently 100 to 200 basis points above commercial property, investors in the sector are compensated for being a first mover and are set to benefit as the sector progresses towards maturity (see exhibit AP8).

EUROPE

Momentum Slowing, But Interest Rates Remain Supportive

The outlook for Europe's real estate markets is more subdued than it has been over the past few years. After a period of stronger than average real estate returns – boosted by cyclically high GDP growth during 2016 and 2017 – performance is cooling off, mainly due to slowing yield impact across many European markets.

The moderation in the outlook for real estate markets mirrors trends in the broader economy. Forward-looking indicators, such as the PMI and the European Commission's Economic Sentiment Indicator, are still at levels consistent with expansion, but have weakened over the past year. GDP growth has slowed, while lingering geopolitical risks – among them Brexit, protests in France and overspill from global trade conflicts – are weighing on the outlook.

On the flipside, policymakers are adapting their approach to prevent a more severe downturn. Fiscal policy is being loosened – or at least being tightened less – in most major European countries, while the outlook is that interest rates stay lower for longer than previously anticipated.

While 2019 was initially set to be the year that the ECB and other European central banks would start tightening, weaker signals on growth and inflation appear to have postponed interest rates increases for now, although QE is being scaled back. Real estate investors are concerned about yield levels, but loose monetary policy looks set to continue to provide support for pricing through 2019.

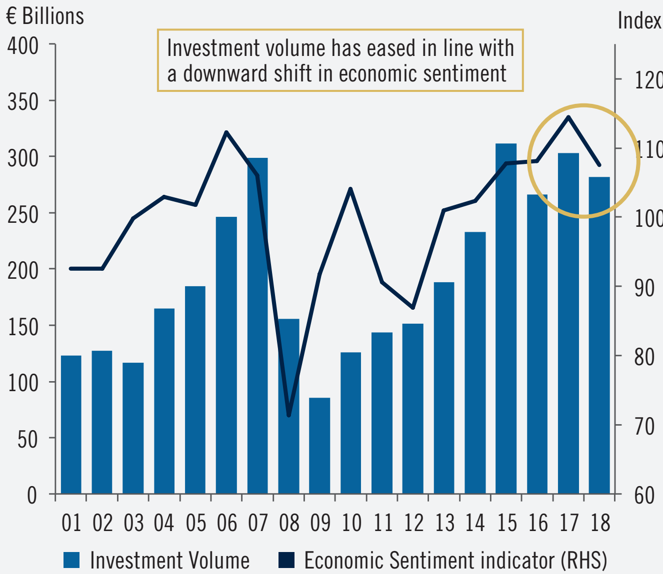
Investment Volume Easing

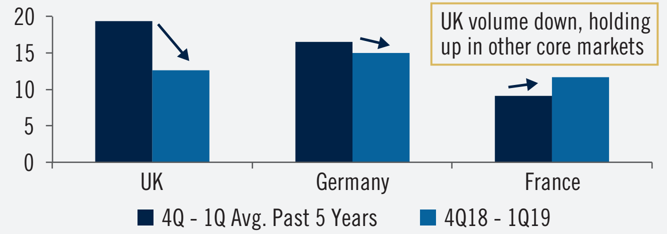
After a few years of strong fundraising activity, there is still plenty of capital looking to get into European real estate, and transaction volume remains above its long-term average. However, activity eased in the second half of 2018 and early part of 2019, reflecting the downward shift in economic sentiment (see exhibit EU1).

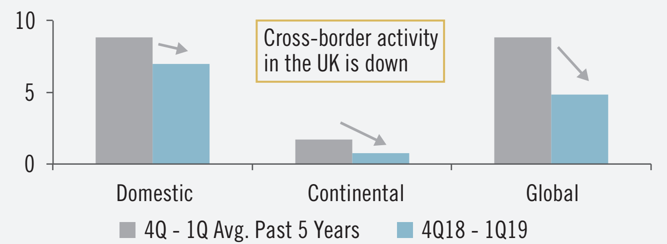
Country-specific factors are playing a role. Faced with an uncertain Brexit scenario, investors in the UK – Europe's largest investment market – are clearly adopting a "wait-and-see" approach. During the last quarter of 2018 and first quarter of 2019, a period in which Brexit negotiations became increasingly fraught, UK investment volume was significantly lower compared to the average of the same period over the previous five years.

Domestic volume is holding up, but capital flows to the UK from Continental European and global investors are down sharply. Given a clear rotation away from the UK, investment volume in Europe's two major markets, France and Germany, is faring better. Driven by overseas demand for office assets, Germany recorded higher transaction volume than the United Kingdom in 2018, for only the second time since the global financial crisis. Meanwhile, France recorded a significant increase in deal volume last year – despite concerns about domestic politics and the pace of economic growth.

Exhibit EU1: Investment Volume and Sentiment



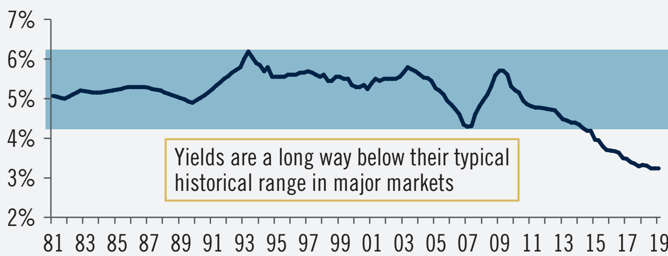


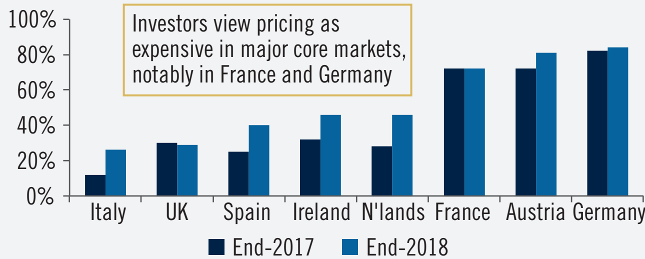


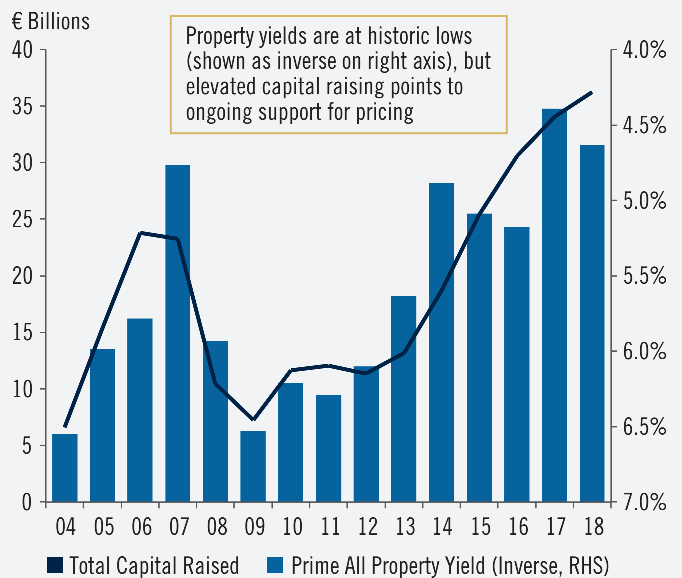
Sources: Eurostat, Real Capital Analytics, PGIM Real Estate. As of May 2019.

It is important to note that movements in wider economic sentiment only tell part of the story. Low yields in major markets mean that investors are finding deal underwriting more challenging, especially given recent downgrades to the growth outlook. According to RICS, up to 80% of investors view pricing in France and Germany as being expensive (see exhibit EU2). Low availability of stock – not all real estate is investable – is also a factor that continues to hold back activity.

Exhibit EU2: European Pricing and Capital Raising







Sources: Cushman & Wakefield, PMA, RICS, INREV, PGIM Real Estate. As of May 2019.

However, in a multi-asset context, real estate still offers attractive risk-adjusted returns. Income returns are low but remain elevated compared to, for example, fixed income assets, such as investment grade corporate bonds. According to INREV's most recent survey, capital raised for European strategies remained above €30 billion in 2018, broadly in line with the total raised in 2017 and above the peak in 2007, prior to the global financial crisis.

As a result, it looks like investors will still have plenty of capital to deploy throughout 2019. The paradox is that at the same time as investors have concerns about pricing, especially in major markets, several years of strong capital raising mean they are sitting on record levels of dry powder. If anything, the weight of capital available points to pressure on yields to fall further.

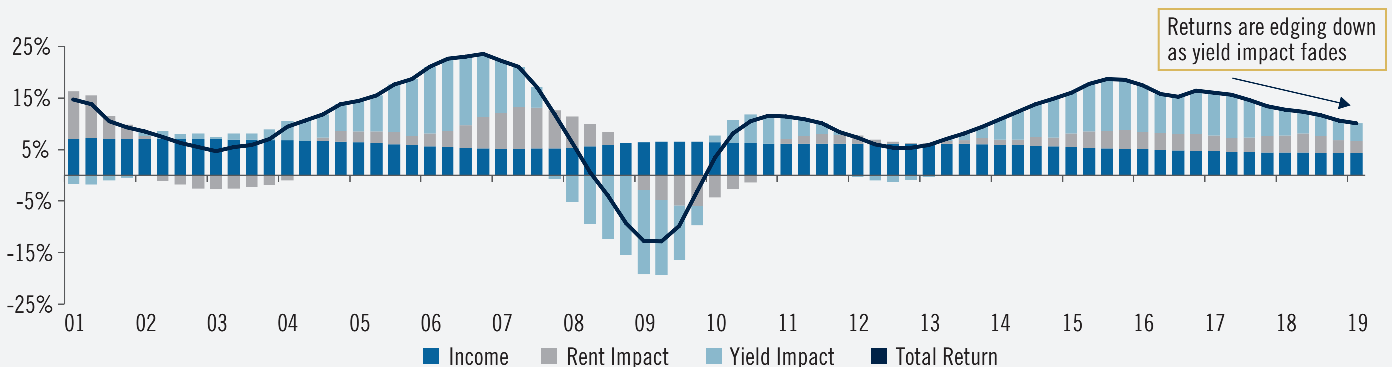
With so much capital to deploy, if there were a downturn that caused a softening of pricing, it would likely quickly turn into a buy signal, especially with interest rates still at very low levels and the prospect of further QE if required. Unless liquidity dries up – or markets are hit by an unforeseen event – the risk of a sharp outward yield movement looks contained for now.

Returns Are Slowing

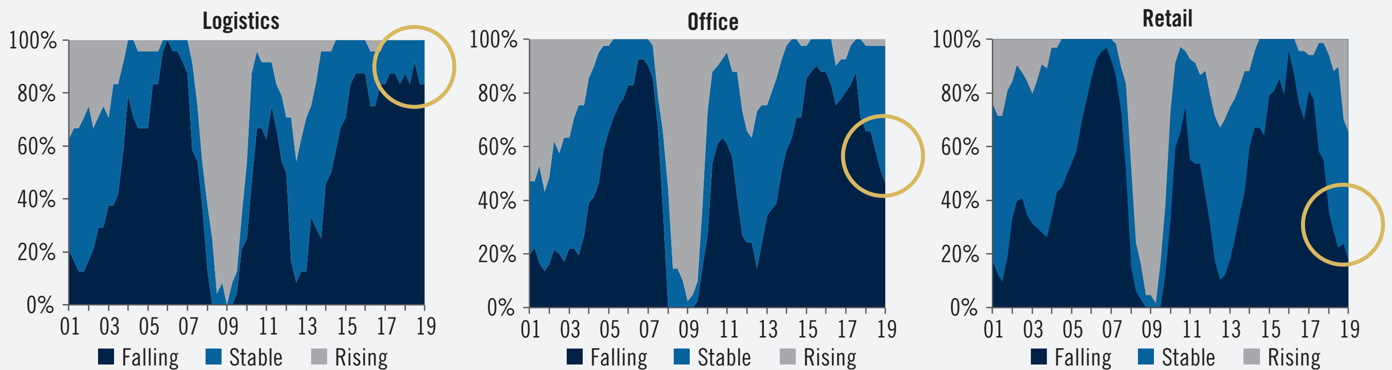
While there is still support for pricing in the form of a significant weight of available capital and low interest rates, fewer markets are reporting yield compression, reflecting investor perceptions about elevated pricing. With income returns at a low level and rental growth still sluggish, returns – for much of the cycle driven by sustained yield compression – continue to decelerate (see exhibit EU3).

Exhibit EU3: Returns Breakdown and Analysis of Yield Movement

Annual All Property Prime Market Total Return



Share of Markets Reporting Falling, Stable and Rising Yields by Sector



Sources: Cushman & Wakefield, PMA, PGIM Real Estate. As of May 2019.

In terms of pricing trends, there are differences across sectors. The clearest exception to the pattern is in the logistics sector, where investors continue to bid up pricing, both as a rotation away from retail and on its own merits, owing to improving occupier fundamentals. Rising demand among retailers and third-party logistics providers, while supply growth remains contained, points to improving prospects for rental growth.

Office yields are increasingly stable across markets – with non-CBDs still reporting some compression as existing yield gaps narrow – while retail momentum is weaker owing to challenging occupier conditions. Uncertainty about future cashflow generation potential for bricks and mortar retail units is putting upward pressure on the risk premium for retail assets, most notably for out of town retail formats, such as retail warehousing and regional shopping centers.

The upshot is that although pressure on yields to rise may remain contained, the era of returns being repeatedly boosted by yield impact is coming to an end. Performance through the next phase of the cycle looks set to instead be dominated by real estate operating fundamentals. European investors are set for a period of lower returns and an environment in which they will have to work harder to achieve outperformance.

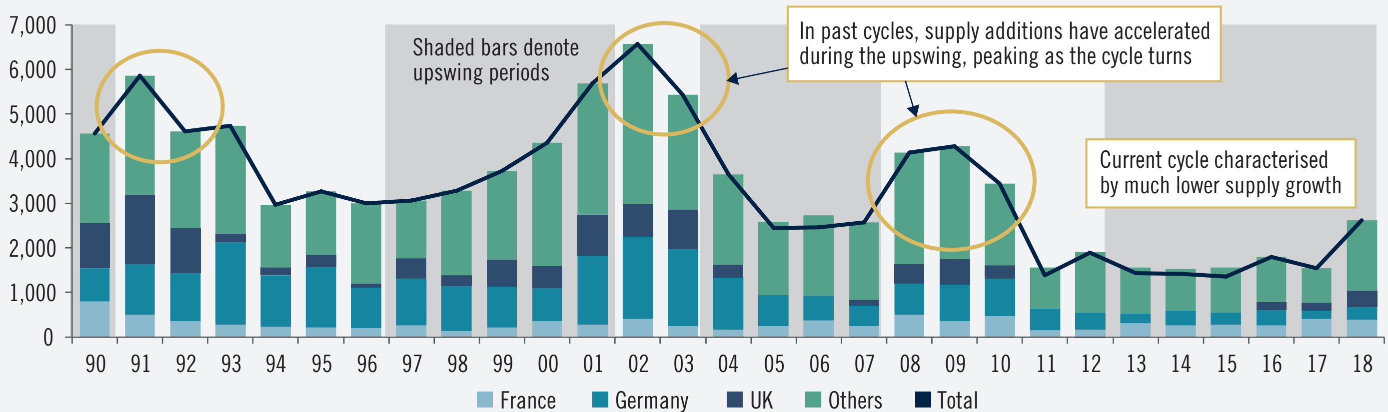
Potential for Further Rental Growth Owing to Low Supply

Given expectations of its increasing importance in the returns mix in the coming years, there is a renewed focus on the outlook for occupier markets. While the duration of the occupier market expansion through the current cycle now looks quite long – and rents are, on average, above previous peaks, particularly in major core markets such as Berlin, Munich and Paris – there are still some causes for optimism.

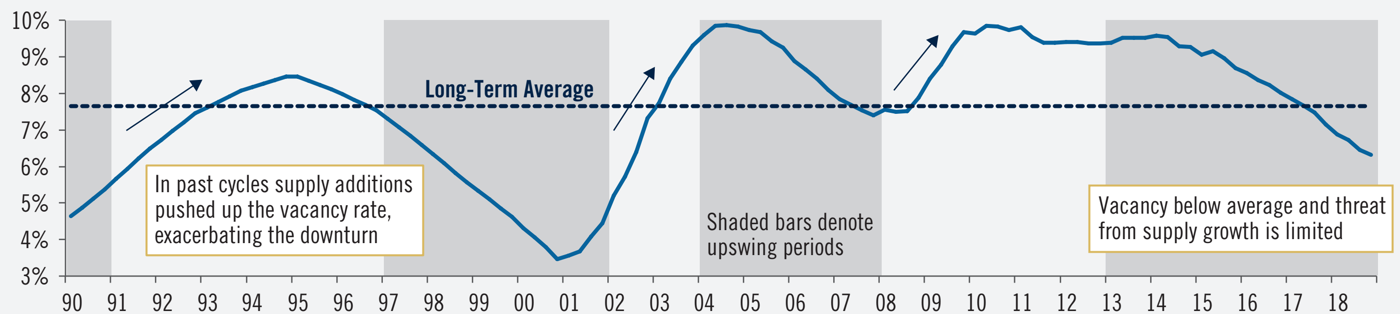
One important factor is that real estate development activity remains contained compared to in the past. In a typical cycle, rising rents through the upswing mean providing new space becomes more profitable, and supply growth accelerates. In each of the past three cycles highlighted in exhibit EU4, deliveries of new office space have picked up to cyclically high levels just as the cycle has turned. While city stories varied, in each case aggregate vacancy rates rose significantly for at least two years, exacerbating the downturn and holding back the pace of the recovery.

Exhibit EU4: Office Supply Growth Through the Cycle

Net Additions to Office Stock (000 sq m)



Vacancy Rate in the Office Sector



Sources: PMA, Cushman & Wakefield, PGIM Real Estate. As of May 2019.

The question is whether this time is different. Reflecting a lack of rental growth through much of the current cycle, as well as a tighter approach to planning than in the past and ongoing restrictions on the availability of debt finance, supply growth has been much weaker than in previous upswings.

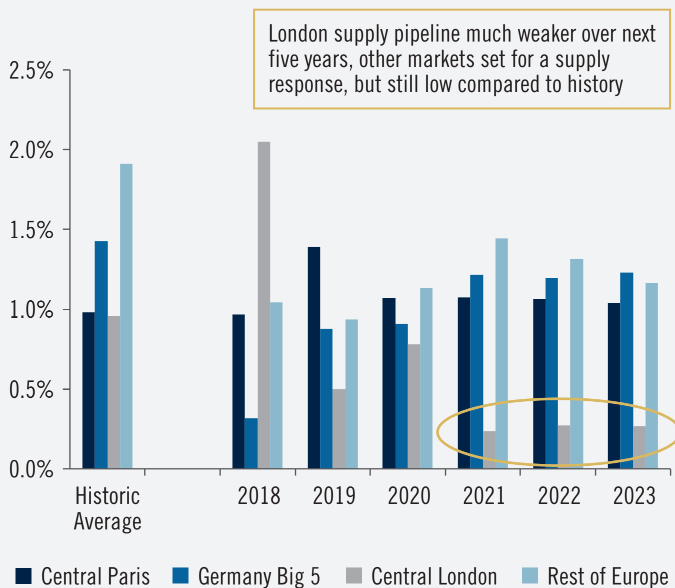
In office markets, vacancy is now at its lowest level since 2002, with several markets that had been struggling with oversupply since the late-1990s – including Amsterdam, Berlin, and Frankfurt – now reporting much lower availability, an effect of low supply growth, tighter planning and conversions of existing space to other uses.

Looking ahead, the office supply pipeline remains contained (see exhibit EU5), although there are differences by geography. Central London has the most significant near-term issue with supply owing to significant deliveries of new space in 2018 that pushed up the vacancy rate.

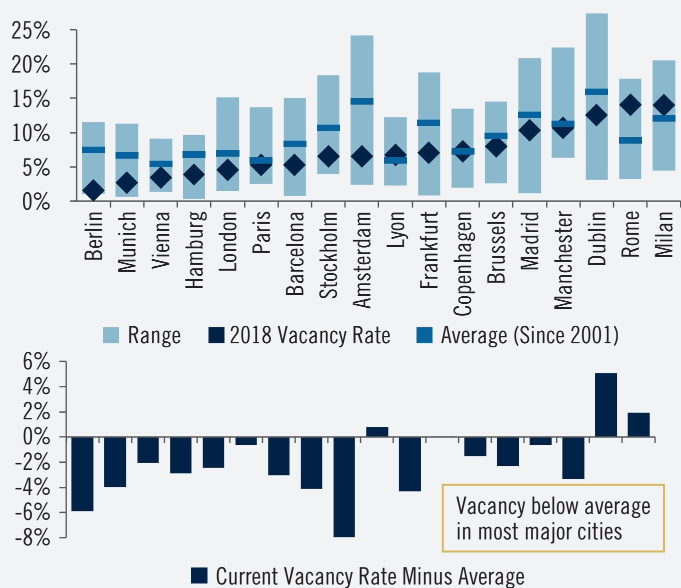
However, recent completions reflect projects started during a period of pre-Brexit optimism and the pipeline is much weaker going forward. Assuming a reasonably orderly Brexit outcome and an eventual rebound in occupier demand, supply shortages could quickly emerge in London, where vacancy is still low compared to history, implying significant upside to rent levels.

Exhibit EU5: Office Supply Additions and Vacancy

Annual Net Additions to Office Stock (% Existing)



Office Vacancy Rate by Major City (%)



Sources: PMA, Cushman & Wakefield, PGIM Real Estate. As of May 2019.

Elsewhere in Europe's office markets, supply growth is set to pick up from recent levels, but still looks contained compared to historic averages, especially when currently low vacancy rates are factored in. In recent years, forecasts for new additions have consistently been revised down, meaning actual deliveries could be lower than currently anticipated.

As such, despite some concerns about the subdued pace of economic growth – a key driver of the employment growth that determines demand in office markets – conditions still point towards further potential for rental growth in the coming years.

Investment Opportunities

Given concerns about declining sentiment, the length of the cycle and elevated pricing – in other words factors that could trigger a downturn – investors are faced with a difficult balancing act. There is a choice between being defensive and preparing for a possible correction and, mindful of target returns, taking on some risk to capitalize on favorable conditions and generate income growth – even though pricing looks relatively expensive.

Despite the slowing returns outlook, Europe continues to offer an attractive set of investment opportunities across the risk spectrum. The low supply environment implies a late-cycle growth opportunity set that is different to previous cycles, when corrections were exacerbated by oversupply, while the UK cycle is out of sync with Continental Europe due to Brexit. For investors looking to reduce risk exposure, structural trends in the living sector and in debt products offer an attractive route to achieving a balanced portfolio.

1. Late Cycle Opportunities

Despite the advanced stage of the current cycle, low vacancy office markets and logistics offer further near-term growth potential. Meanwhile, the UK could outperform if Brexit uncertainty fades.

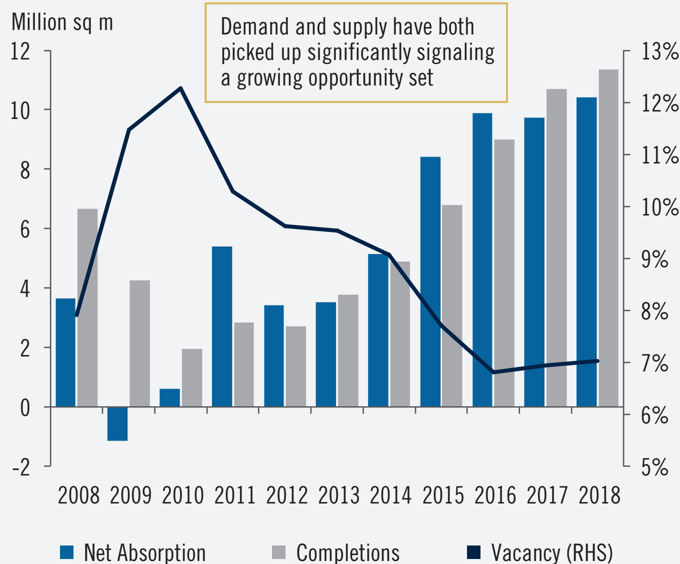
Most of the late-cycle opportunities in Europe are based on a mismatch between low supply and – despite some weaker news on the economy and in the UK – generally robust demand growth, except for the retail sector. As noted above in exhibit EU5, vacancy is below average across most major office markets in Europe. While aggregate rental growth is set to ease as supply growth increases, albeit gently, there are opportunities in markets where availability is tight.

Office assets remain an attractive near-term proposition in, for example, major German office markets and Paris, despite historically low initial yields. Strong leasing demand and limited grade A availability point to the prospect of significant rental growth potential in CBD and non-CBD areas. Pricing on stabilized core investments already factors in decent rental growth, but opportunities are attractive for value creation strategies, for example capturing reversion potential, taking on re-leasing risk and repositioning or developing space.

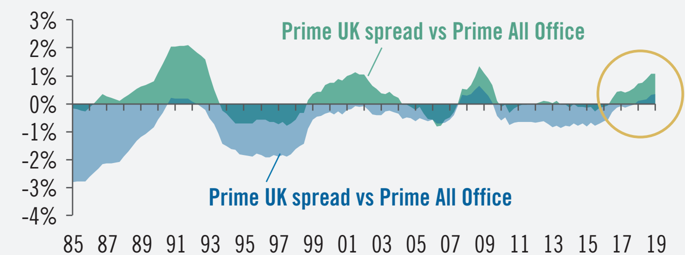
Among commercial sectors, logistics continues to look attractive, offering returns that compare favorably to other commercial sectors. While there has been a general pick up in supply of new space, demand has increased significantly in recent years (see exhibit EU6). The opportunity set has expanded considerably – net absorption has doubled since 2014 – while vacancy is much lower than at any other point during the cycle. As online retail penetration increases towards U.S. and UK levels in Continental Europe, the upside risks to rental growth become more pronounced.

Exhibit EU6: European Logistics Markets and UK Yield Analysis

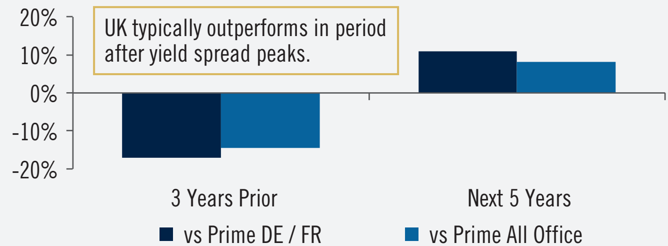
European Logistics Market: Supply, Demand and Vacancy



UK Prime Office Yield Spreads (%)



Relative Capital Value Growth Around UK Spread Peaks (% p.a.)



Sources: Cushman & Wakefield, PMA, PGIM Real Estate. As of May 2019.

Among major European markets, the cycle of the United Kingdom is clearly at odds with other major core markets. Brexit continues to pose a significant policymaking challenge and remains a source of uncertainty. So far, it has not led to an economic recession or a sustained downturn in real estate markets, but performance has lagged Continental Europe since mid-2016.

However, assuming an orderly exit from the European Union, the economic outlook remains fairly bright. This begs the questions: at what point does the "wait-and-see" approach of investors shift? And what constitutes a clear buying signal?

As shown earlier in exhibit EU5, the supply side has responded, both in London and in other key cities such as Birmingham, Edinburgh and Manchester. Already, a yield gap has opened between major UK markets and their counterparts in France and Germany. Historical analysis suggests that once the spread reaches a peak, the UK normally goes on to significantly outperform other European markets – by as much as 5% to 10% per year in the case of office returns – over subsequent years.

For now, investor caution persists due to the binary nature of the risk profile, that features the prospect of a severe correction in a no-deal Brexit scenario. Some combination of the worst Brexit options being ruled out by legislation and a yield correction of 50 to 100 basis points to more adequately compensate for lingering downside risks, would act as a relatively strong buy signal for UK assets.

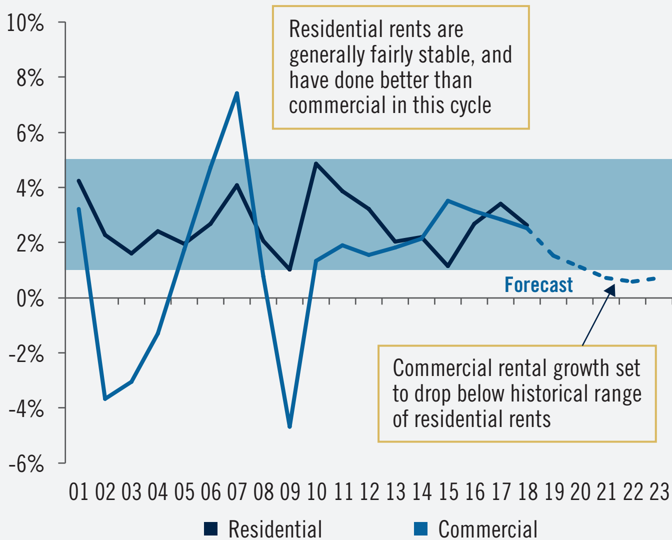
2. Residential

Residential markets offer comparatively favorable returns and downside protection, while providing a source of portfolio diversification.

While there are growth opportunities even at this late stage of the cycle, many investors are looking at how they can generate some growth while adding in a degree of downside protection. With returns on commercial sectors slowing, investors are turning their attention to residential investment opportunities.

Residential rental growth typically moves in a tighter range than commercial rents (see exhibit EU7), owing to factors such as low vacancy rates and, in many segments of the markets, a degree of regulation in the rent-setting process. Even so, in recent years, major residential markets have delivered stronger growth than their commercial counterparts, notably driven by rising rents in major German cities such as Berlin and Munich. Periods of negative residential rental growth are rare.

Exhibit EU7: Rent Growth in Major European Residential Markets



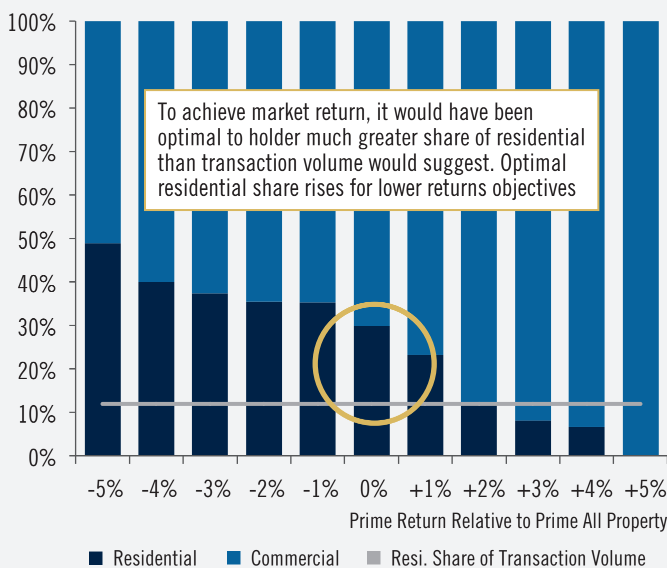
Sources: MSCI, Cushman & Wakefield, DZ Hyp, Savills, PGIM Real Estate. As of May 2019.

When it comes to investing in the residential sector, factors such as liquidity and market size point to investing in Germany, which is Europe's largest apartment investment market. France is the market with the largest untapped potential and limited investment depth, which is set to change in line with rapidly growing investor interest.

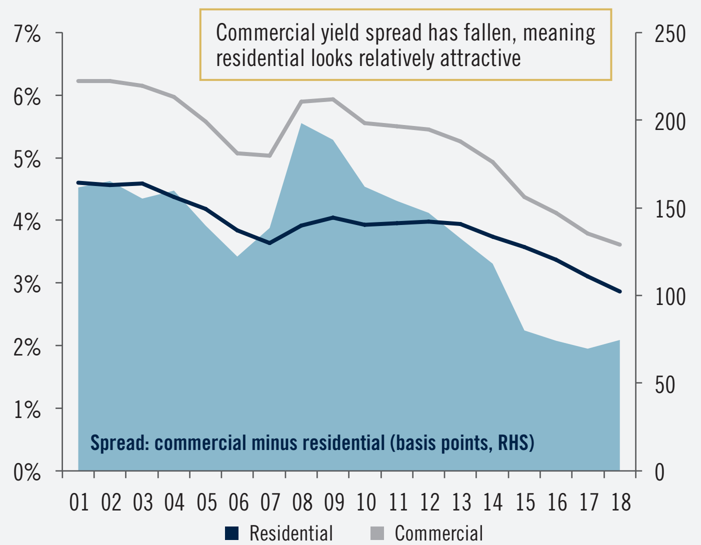
Historically, residential investments have acted as an effective portfolio diversifier, especially for lower risk-return strategies. Since 2001, an optimal portfolio – one that delivers a given level of returns with the lowest possible volatility – seeking to achieve the all property return would have comprised 30% residential, which is significantly above the 12% share of transaction volume recorded since 2007 (see exhibit EU8).

Exhibit EU8: Portfolio Allocation and European Residential Yields

Optimal Allocation by Asset Type (2001-18)



Prime Residential Yield: Residential vs Commercial (%)



Note: residential yield calculated using data from Amsterdam, Berlin, Frankfurt, Hamburg, London, Munich, Paris and Stockholm.

Sources: MSCI, Cushman & Wakefield, DZ Hyp, Savills, PGIM Real Estate. As of May 2019.

One key concern for investors looking at the residential sector are the low yields, with high-quality residential assets in major markets now trading below 3%. However, prime yields have always been relatively low due to their stable income-generating profile. In addition, the spread to Commercial Property yields has narrowed substantially, which suggests that residential real estate still offers attractive relative value, especially given that low interest rates are set to persist for a while longer.

3. Investing in Debt

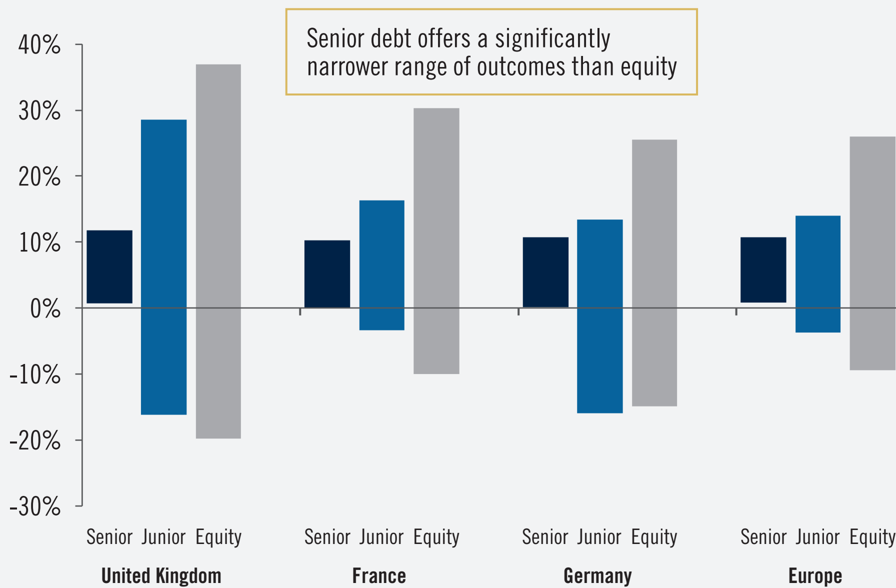
Debt strategies offer a narrower set of potential outcomes and downside protection. The opportunity set is expanding as regulation remains tight.

For investors looking for additional downside protection, debt strategies are growing in popularity. Debt is a valuable addition to a portfolio in a downturn, offering a much narrower range of performance outcomes than a traditional equity investment (see exhibit EU8), even once debt positions are 'marked to market' to account for fluctuations in interest rates.

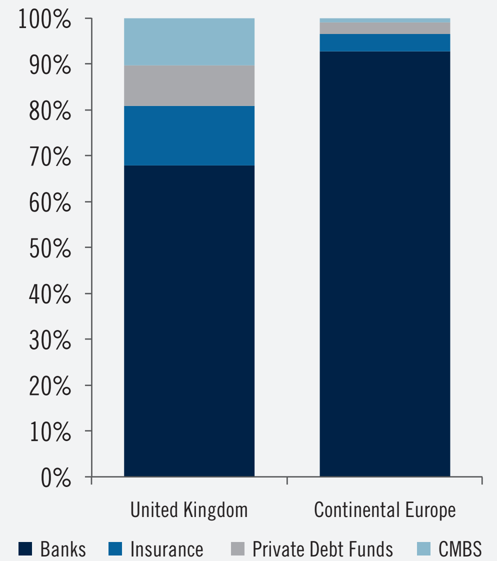
Even in a volatile market such as the United Kingdom, annual debt returns are almost invariably in a range of 0% to 10%, while equity returns vary more significantly. As the cycle grows in length, investors are increasingly concerned about the downside portion of the range and using debt can limit exposure to such adverse outcomes – albeit by limiting upside potential too.

Exhibit EU9: European Debt Market Performance and Holdings

Range of 10th and 90th Percentile Annual Total Returns by Instrument



Share of European Real Estate Debt Outstanding by Lender Type (2018)

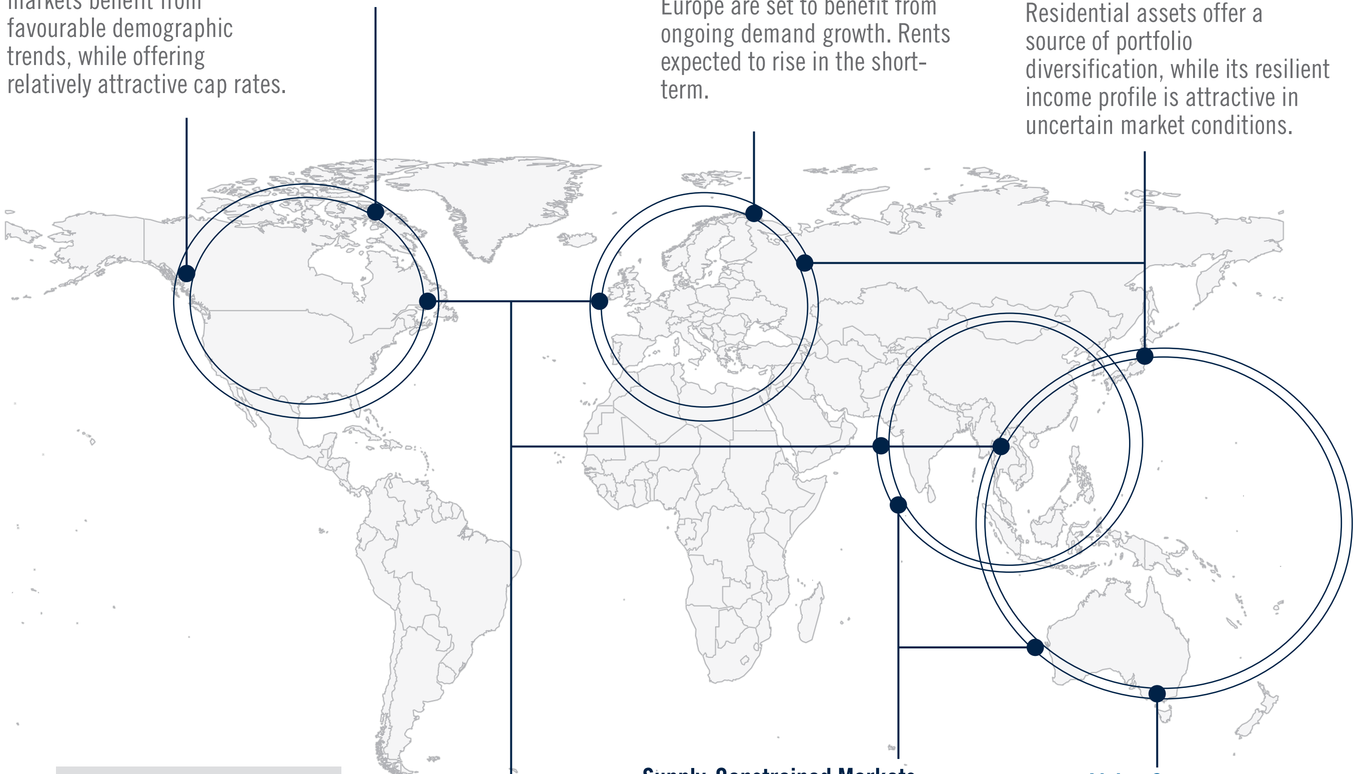


Sources: Cushman & Wakefield, Cass Business School, PGIM Real Estate. As of May 2019.

Junior or mezzanine debt strategies – or whole loans that are a blend of senior and subordinate positions – offer a lower degree of downside protection, while recovering value from a non-performing loan can be costly or time-consuming if it involves taking control of an asset or portfolio. However, in return such strategies offer a greater degree of participation in the upside, allowing a more equity-like profile of returns.

In terms of opportunity set, the major markets of UK, Germany and France dominate due to their scale and the volume of real estate transactions completed each year. The UK has the most mature non-bank lending sector, which already accounts for one-third of the market. Continental European markets remain more heavily bank-dominated, although the impact of regulations means debt fund and insurers are now starting to gain a foothold in the market. With regulations set to remain tight, the opportunity set is likely to expand further as existing loan books mature and refinancing needs grow.

GLOBAL MAP OF INVESTMENT OPPORTUNITIES



PART III: CONSTRUCTING A GLOBAL PORTFOLIO

III. CONSTRUCTING A GLOBAL PORTFOLIO

Having assessed conditions initially at a global level and then in more detail by focusing on region-specific issues – evaluating the challenges facing investors, and the nature of risks and opportunities in the context of the current real estate cycle – the next step is to translate the findings into practical recommendations for global investors.

Returns objectives, style preferences, currency, geography and sector focus, and choice of instrument – equity or debt, private or public – will undoubtedly vary significantly from investor to investor.

The following analysis – which starts with a neutral global benchmark – is primarily aimed at large-scale, core-focused investors seeking a broad global exposure, likely aiming to efficiently replicate or outperform the MSCI Global Real Estate Index.

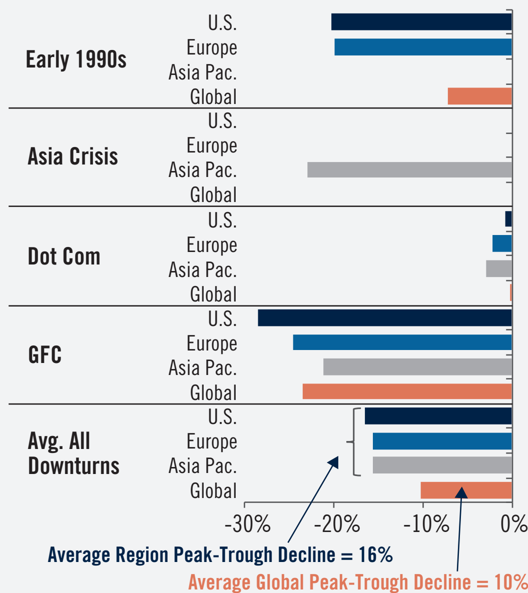
Benefits of Global Diversification

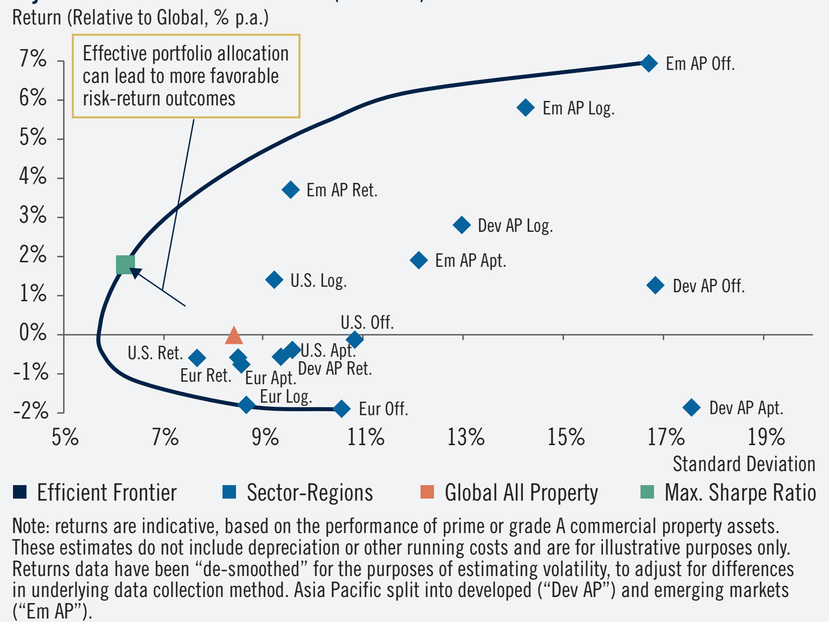
At the simplest level, global portfolio diversification is about reducing risk exposure. By holding assets in different regions, countries, sectors and cities, investors can limit their exposure not only to property level risk – such as a tenant defaulting, or unforeseen capital expenditure requirements – but also to isolated shocks at the country, sector or city level.

In the United Kingdom, Brexit provides an active example of a previously unforeseeable event that is now adversely affecting performance primarily in one country. Looking further back, the Asian Financial Crisis hit performance in the Asia Pacific region in isolation in the late 1990s, while the impact of the Dot Com downturn was felt mainly in office markets in Europe and the United States. In each of these examples, exposure to a broad range markets would have been beneficial.

In the years leading up to the global financial crisis and in its aftermath, a high level of synchronization of performance dampened apparent benefits of diversification, though, even then, peak-to-trough value declines varied significantly. Based on the last four major downturns, the average global peak-to-trough decline was -10% compared to about -16% for any individual region (see exhibit 7).

Exhibit 7: Peak-to-Trough Value Declines and Global Portfolio Analysis





Note: returns are indicative, based on the performance of prime or grade A commercial property assets. These estimates do not include depreciation or other running costs and are for illustrative purposes only. Returns data have been "de-smoothed" for the purposes of estimating volatility, to adjust for differences in underlying data collection method. Asia Pacific split into developed ("Dev AP") and emerging markets ("Em AP").

Sources: CoStar, Cushman & Wakefield, JLL, PGIM Real Estate. As of May 2019.

At a more sophisticated level, global portfolio allocation can unlock the door to achieving superior risk-adjusted performance, compared to country- or region-only investment strategies. The stylized efficient frontier plotted in exhibit 7 demonstrates the effect via two key observations.

The first is that simply by holding a neutrally-weighted benchmark global all property portfolio, an investor can limit their exposure to the wide range of returns and volatilities exhibited by its constituent sector-region combinations. In most instances, holding the benchmark global all property portfolio would have led to a less volatile return profile than offered by any individual sector-region combination.

The second observation reflects the gap between performance of the global all property portfolio and a portfolio located on the frontier that represents maximum efficiency, as measured by the Sharpe Ratio, which is calculated by dividing excess return over U.S. government bonds by standard deviation. While theoretical, the example clearly demonstrates the possibility of improving risk-adjusted outcomes – combinations of higher return and lower risk – through effective portfolio allocation decisions.

A Reduced Investment Universe

Before embarking on a global investment strategy, it is worth assessing the trade-off between the potential benefits of diversification and the costs associated with managing investments across multiple jurisdictions. In their Global Real Estate Index, MSCI covers about 30 major countries, while the Global Real Estate Fund Index (GREFI) compiled by ANREV, INREV and NCREIF comprises investments in about 40 countries.

While costs can vary for different investors based on their scale and existing presence in markets, for example via exposure in other asset classes, they clearly rise as capital is deployed across geographies. The non-homogenous nature of real estate assets means that having a team 'on the ground' in key markets is important, not just for understanding local market practices and legal systems, but also overcoming various cultural and language barriers.

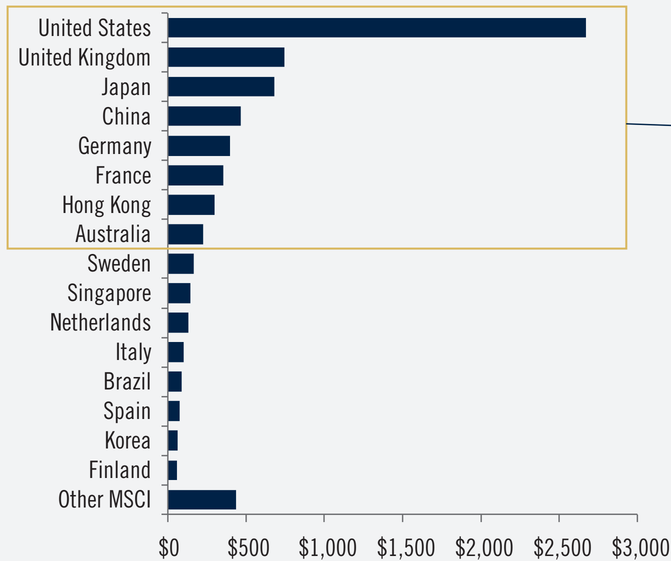
In terms of benefits of diversification, a simple analysis using the countries included in MSCI's Global Real Estate Index shows that the incremental benefit of allocating to

additional countries – in terms of reducing the deviation from a global benchmark – drops rapidly beyond the eight largest markets (see exhibit 8).

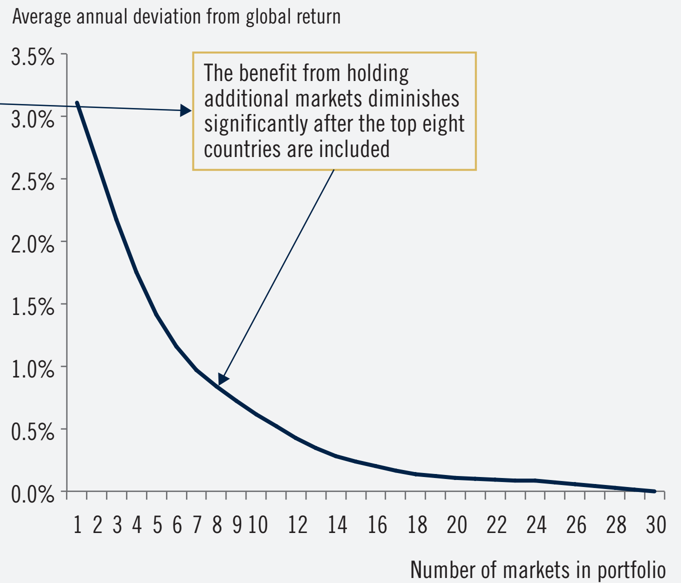
While the optimal number of countries may vary from one investor to another, holding a representative sample of assets in the "top eight" markets – United States, United Kingdom, Japan, China, Germany, France, Hong Kong and Australia, which represent a combined 80% of MSCI's global universe – should be sufficient to generate performance that broadly replicates the global index, while keeping costs under control.

Exhibit 8: Investment Market Size and Impact on Portfolio Coverage

Estimated Size of Investment Market by Country ($ Billions)



Deviation of Annual Returns From Global Index Performance by Number of Countries in Portfolio (2001-18)

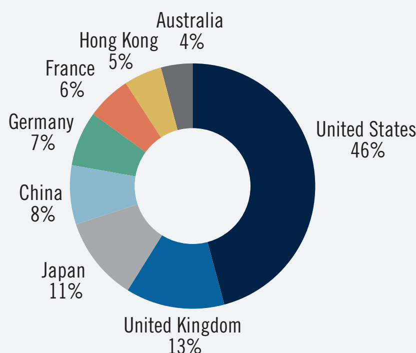


Sources: MSCI, PGIM Real Estate. As of May 2019.

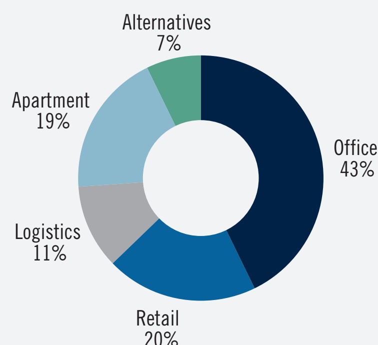
Focusing on the top eight global markets provides a simple starting point for a global allocation (see exhibit 9). Within this reduced investment universe, the United States is almost half, with a quarter accounted for by Europe's three major markets – UK, Germany and France – and the remaining quarter by Asia Pacific. Based on an analysis of estimated market sizes and transaction volume, sector allocations in the top eight countries are dominated by office, retail and residential, the latter driven by the United States, where apartment accounts for a significant portion of the market.

Exhibit 9: Reduced Investment Universe – Estimated Neutral Weights

Top Eight Countries: Estimated Market Size



Top Eight Countries: Estimated Sector Weights



Sources: MSCI, Real Capital Analytics, PGIM Real Estate. As of May 2019.

Identifying Target Markets

Given the scale required for global investors, target markets need to offer a sufficient volume of stock that is available for acquisition and allows, via liquidity through the cycle, for changes in portfolio allocation over time.

Applying a simple liquidity filter – lower quartile annual transaction volume of $1 billion or above, which means a $50 million investment would rarely be more than 5% of the traded market even in weak market conditions – gives a simple, indicative global city universe, shown in exhibit 10.

Exhibit 10: A Simple City Investment Universe

	Country	Primary Markets				
Tier 1 "Top Eight"	**United States***	New York	Washington DC	Los Angeles	San Francisco	Dallas
		Chicago	Houston	Atlanta	Seattle	Phoenix
	United Kingdom	London				
	Japan	Tokyo				
	China	Shanghai	Beijing			
	Germany	Berlin	Frankfurt	Munich	Hamburg	
	France	Paris				
	Hong Kong	Hong Kong				
	Australia	Sydney	Melbourne	Brisbane		
Tier 2 "Other Developed Markets"	**Sweden**	Stockholm				
	Singapore	Singapore				
	South Korea	Seoul				
	Netherlands	Amsterdam				
	Spain	Madrid	Barcelona			
	Italy	Milan				
	Austria	Vienna				
	Norway	Oslo				
	Belgium	Brussels				
	Taiwan	Taipei				
Tier 3 "Other Emerging Markets"	**Poland**	Warsaw				
	Czech Republic	Prague				
	Brazil	Rio de Janeiro				
	Mexico	Mexico City				

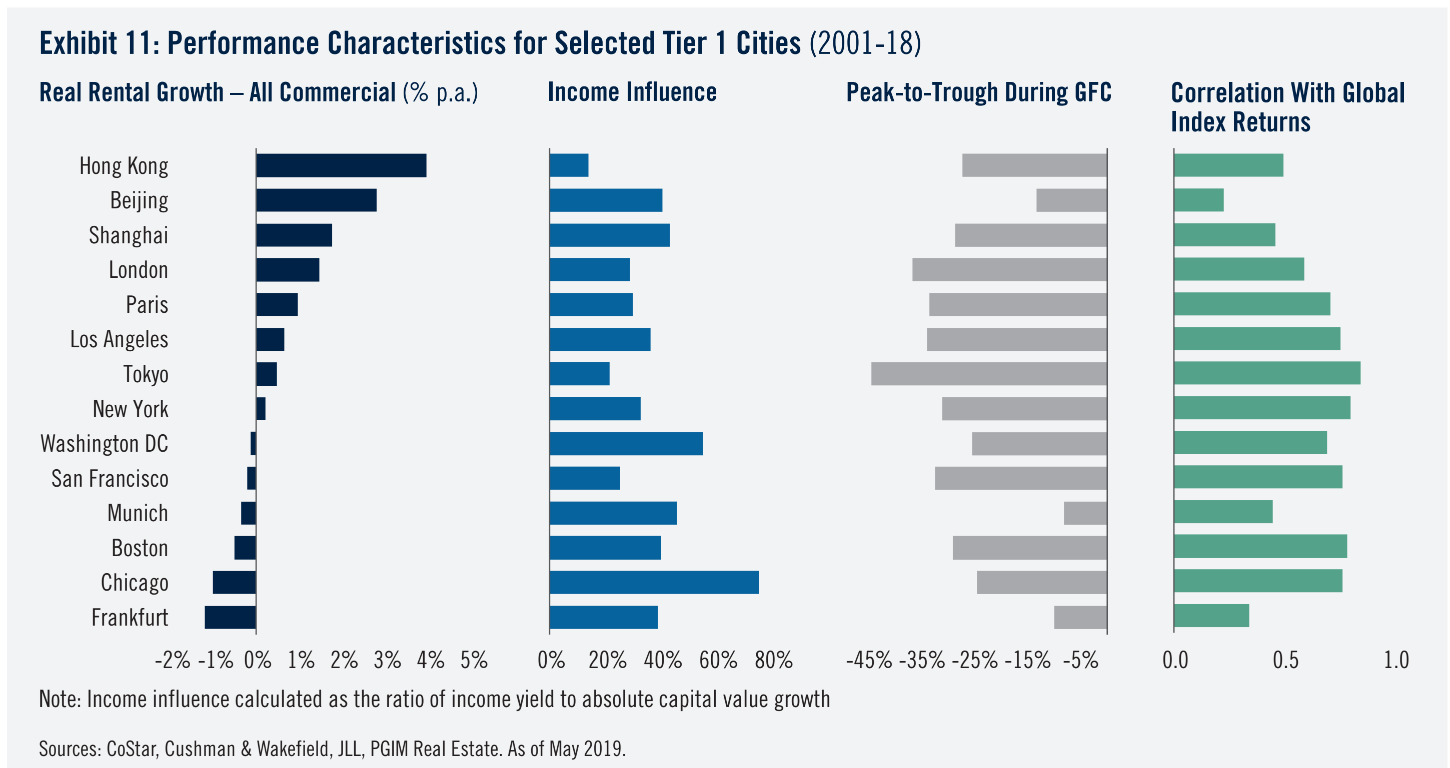
Note: City universe comprises major cities that meet a simple liquidity threshold of lower quartile annual transaction volume of $1 billion or above.
* Only showing top 10 U.S. markets out of 21 metro areas that meet the liquidity threshold.
Source: PGIM Real Estate. As of May 2019.

While not intending to be too restrictive, for a global investor it is likely that most investment activity would comprise real estate assets either located within these major population centers, or – in the case of logistics, for example – serving them. Metropolitan areas in the top eight countries dominate the list in a top tier, although a second tier of cities with significant liquidity includes several prominent developed markets – including Stockholm, Singapore, and Seoul – with a third tier containing a handful of cities in other major emerging markets.

Global cities offer varying performance characteristics which influence portfolio allocation decisions. Over a long period of time, tier 1 cities typically offer relatively strong real rental growth, driven by underlying productivity growth, although prospects can vary through the cycle. In major developed markets, cities typically offer a trade-off between stronger growth prospects – for example in Hong Kong, London, Paris and Los Angeles – and more stable, income-driven returns, in cities such as Washington DC and Chicago (see exhibit 11).

Markets in China and Germany – including Beijing, Munich and Frankfurt – generally exhibit lower correlations with aggregate global performance than major financial centers such as Hong Kong, London and New York. In most major cities, correlations between global performance and apartment markets, which are driven by local factors, tend to be lower than for commercial sectors, for which the occupier base is more homogenous.

Exhibit 11: Performance Characteristics for Selected Tier 1 Cities (2001-18)



Note: Income influence calculated as the ratio of income yield to absolute capital value growth

Sources: CoStar, Cushman & Wakefield, JLL, PGIM Real Estate. As of May 2019.

The implication for portfolio construction is that investors need to be aware that performance characteristics can vary at the city level. While a strategy seeking simply to replicate global returns will need to ensure that holdings cover a broad range of market types, other objectives may be better served by targeting specific market types: for example, boosting exposure to faster-growing markets at the start of the cycle, or adding to holdings in income-driven, low volatility markets later in the cycle.

Funds or Direct Investments?

Having identified target countries and markets, an important question for investors is how to go about building exposure. While many vehicles and approaches exist, in a broad sense the choice is between investing directly; through commingled funds to pool risk with a wider group of investors; or some combination of both.

Given an objective to achieve diversification via broadly following global real estate performance, exposure to eight countries is more-or-less sufficient. Based on investing primarily in the tier 1 cities that offer scale and meet a liquidity threshold, an investor would need to cover about 20 separate major global markets.

Research from MSCI shows that investors would need to hold a minimum of eight assets in a given market to mostly diversify away from specific asset risk. Across the 20 markets, this would imply a need to hold at least 160 assets to closely replicate global performance.

According to Real Capital Analytics, average deal size across major markets globally is $25 million. Assuming 160 assets of approximately this size would require a minimum portfolio size of $4 billion.

The implication is simple. For investors with available capital of at least $4 billion, direct exposure is achievable. In cases where available capital is significantly lower, pooling all or at least part of the global exposure with other investors through comingled funds, joint ventures or club deals represents a sensible approach.

Strategic vs. Tactical

It is important to distinguish between strategic and tactical considerations. Strategic calls are ones which imply a long-term deviation from a 'neutral' global portfolio allocation, either related to portfolio management choices – such as focusing primarily on a small set of major markets – or where there is an ongoing or anticipated shift in performance characteristics in a certain sector or market.

Essentially, strategic calls are about anticipating what a future neutral benchmark might look like, along the way increasing exposure to structurally out-performing sectors and reducing exposure to sectors in decline. In today's market, the clearest example is adopting caution to the retail sector, particularly in Europe and the United States.

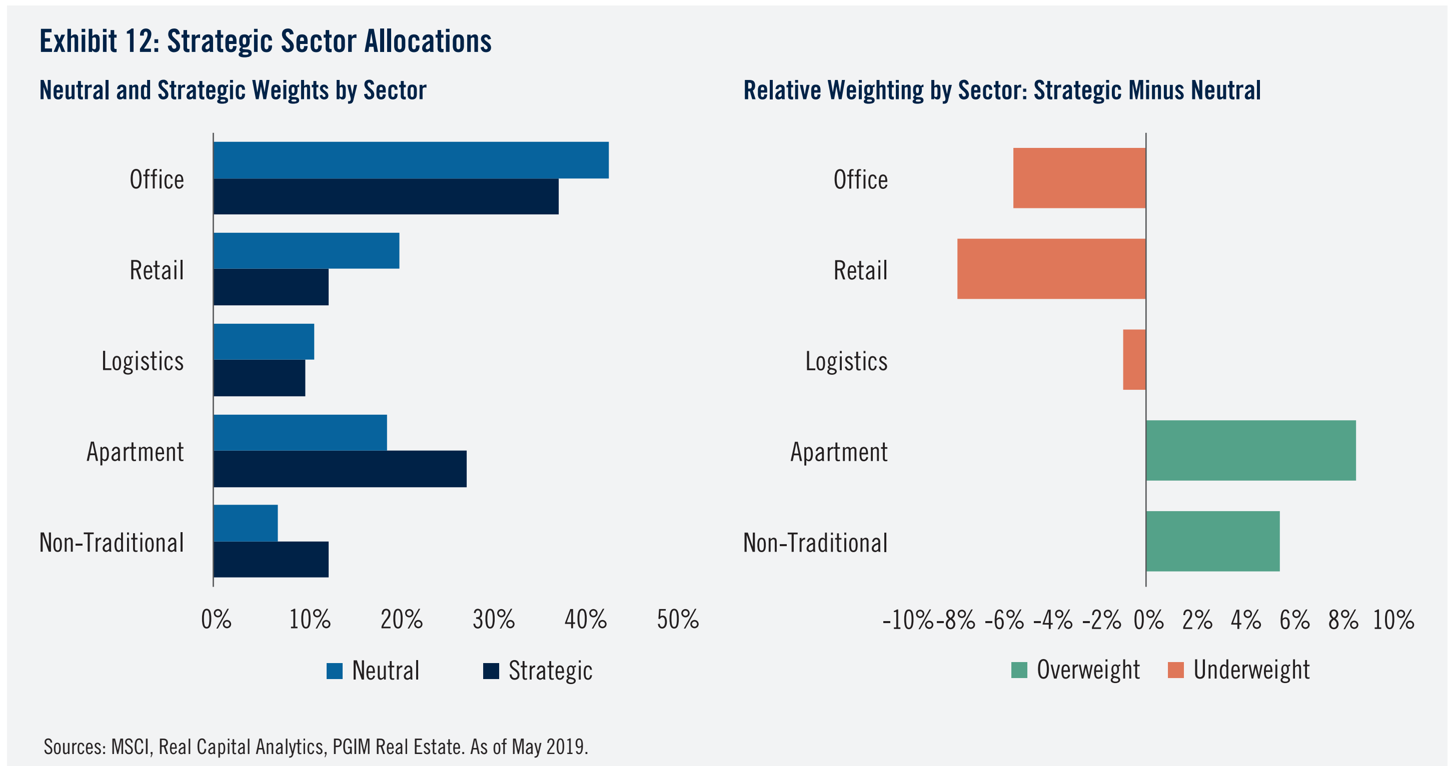
By contrast, tactical calls are about increasing short-term weighting to sectors and markets that are expected to deliver non-permanent outperformance, for example owing to a lack of supply or cyclical growth opportunities following a correction.

Based on the earlier assessment of market conditions, the following strategic recommendations are among those that would apply to an investor seeking a broad global exposure through equity investments:

- **Focus on major countries – the top eight – and their tier 1 cities.** These markets offer scale, liquidity and growth potential through the cycle, allowing investors to actively manage their portfolio and replicate global performance in an efficient way.
- **Structural underweight towards the retail sector,** especially in Europe and the United States, due to the threat from rising online penetration.
- **Overweight to apartments through the cycle.** With low anticipated returns on commercial sectors, apartment markets are set to deliver attractive relative returns given their lower risk profile – notably compared to offices. United States and Germany offer scale and institutional depth.

- **Build an additional exposure to non-traditional living sectors** over time, as these sectors offer attractive performance and are rapidly becoming more institutional.
- **Limited emerging markets exposure.** Major Chinese cities feature in the group of major markets and offer low correlations. However, it remains a difficult market for a core investor to operate in, so exposure should be limited.

Exhibit 12 shows how the sector-specific recommendations translate into strategic sector weights and relative over- and underweight positions.



In contrast, tactical recommendations more closely follow the themes and investment opportunities identified across the regions. These include the following:

- **Defensive tilt** due to near-term uncertainty about the outlook, concerns about pricing and the possibility of a downturn. Favor opportunities in lower beta living sectors and logistics, and in cities with an income-driven returns profile.
- **Focus on living sectors**, for example major European apartment markets and sunbelt markets in the United States. Favorable demographics mean senior living looks attractive in the mature U.S. market and, more selectively, in Asia Pacific.
- **Late cycle growth opportunities**, including office investment in European cities with low supply growth, such as Munich and Paris, and in Asia Pacific markets such as Brisbane and Singapore.
- **Build-to-core logistics** assets, focusing on pre-leased build-to-suit projects serving major population centers.

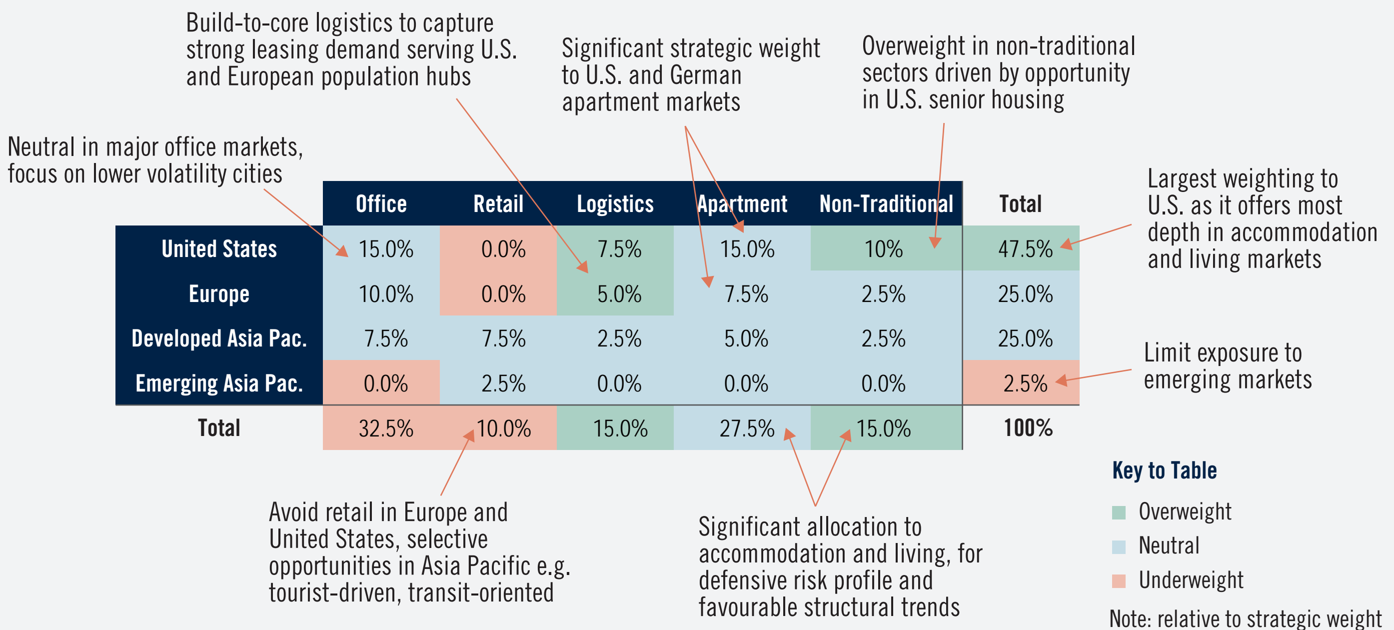
Final Portfolio Allocation

For equity investors that are broadly focused on a core approach, a final portfolio allocation is likely to target outperformance of a global benchmark, either by achieving higher returns, lower risk, or some combination of the two.

The starting point for the allocation reflects neutral weights – based on the reduced investment universe – aiming to ensure performance resembles a representative global return. Strategic and tactical recommendations are then layered on top to give a final set of target weights with the aim of optimizing performance in line with investment objectives.

An indicative tactical portfolio allocation is set out in exhibit 13, with annotations:

Exhibit 13: Indicative Tactical Global Portfolio Allocation



	Office	Retail	Logistics	Apartment	Non-Traditional	Total
United States	15.0%	0.0%	7.5%	15.0%	10%	47.5%
Europe	10.0%	0.0%	5.0%	7.5%	2.5%	25.0%
Developed Asia Pac.	7.5%	7.5%	2.5%	5.0%	2.5%	25.0%
Emerging Asia Pac.	0.0%	2.5%	0.0%	0.0%	0.0%	2.5%
Total	32.5%	10.0%	15.0%	27.5%	15.0%	100%

Source: PGIM Real Estate. As of May 2019.

Based on an assessment of market conditions and opportunities, along with various strategic and tactical considerations, the recommended global portfolio allocation seeks to limit exposure to struggling retail – for which the risk premium is structurally rising – and adopt caution towards office, particularly in the more volatile markets which could be vulnerable to a correction.

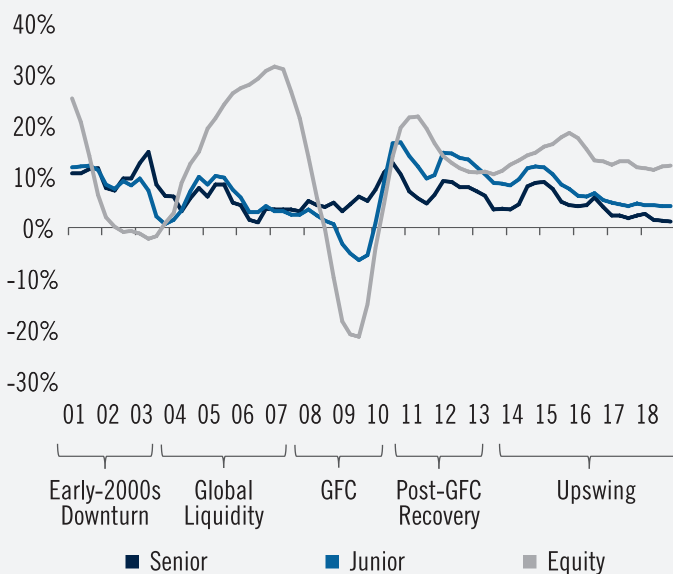
While there are still late-cycle opportunities in office markets in each region, other sectors provide relatively favorable risk-return outlooks. Logistics continue to perform well in Europe and the United States, while there is an increased allocation to non-traditional sectors that benefit from increasing institutional depth and favorable structural trends, most notably in U.S. senior housing.

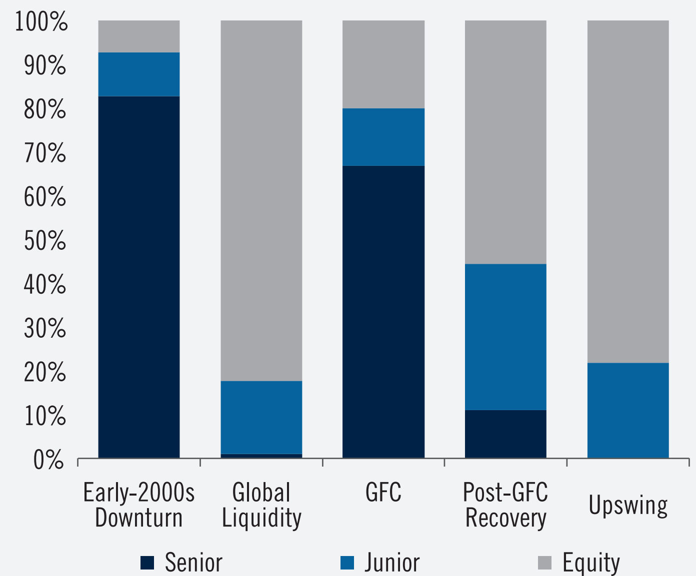
Using Debt to Manage Risk Exposure

The above portfolio analysis centers on generating an indicative allocation suitable for a large-scale, broadly core-focused equity investor. However, as was established in Part I, debt investing is growing in popularity among real estate investors – often as a complement to equity strategies – driven by an objective to manage risk exposure through the cycle.

Estimating debt returns and plotting them against returns on equity investments – for an indicative global office portfolio – shows how a real estate portfolio benefits from an allocation to debt in weaker market conditions (see exhibit 14).

Exhibit 14: Optimal Use of Debt Over Time





Sources: ACLI, PMA, CBRE, Cass Business School, Giliberto-Levy, CoStar, Cushman & Wakefield, Jones Lang LaSalle, PGIM Real Estate. As of May 2019.

In a downturn period, senior debt invariably outperforms equity, providing lenders have a sufficiently high-quality portfolio, where borrowers can keep up repayments and avoid triggering loan covenants. In weaker conditions, senior loans benefit from a positive mark-to-market effect if policymakers loosen policy and market interest rates fall, and they usually avoid capital losses suffered by 'first-loss' equity positions. Subordinate junior or mezzanine loans are higher up the capital stack, typically charging a higher interest rate or sharing in profits, in return for taking on some of the equity risk.

In the last two downturns, the optimal strategy mix for an investor with a mixed equity and debt portfolio would have comprised debt holdings of 80% to 90%. Of course, it would be unrealistic to attempt such a fluid transition between equity and debt, owing to the lumpy, illiquid nature of real estate assets, not to mention its significant transactions costs.

As such, the implication is that it is beneficial to maintain an allocation to debt strategies through the cycle. Given concerns that the global real estate cycle may suffer a period of weakness or a correction in the coming years, the ability of debt investments to provide downside protection means they are set to remain an attractive proposition for investors looking to optimize their global real estate portfolio.

PGIM REAL ESTATE

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- ◆ PGIM ジャパン株式会社は、世界最大級の金融サービス機関プルデンシャル・ファイナンシャルの一員であり、英国プルーデンシャル社とはなんら関係がありません。

リスクについて

投資一任契約に基づき当社が PGIM リアルエステートが運用を行う不動産投資戦略に投資を行う場合、次のようなリスクが含まれている場合があります。以下のリスクにより元本欠損が生じる可能性または当初元本を上回る損失が生じる可能性があります。以下のリスクは、主なリスクであり、これらに限定されるものではありません。

- ◆ 国内または世界経済の悪化、地域市場やテナントの財政状態の悪化、物件の売手及び買手の数の変動、物件の需要供給バランス、融資の供給状態、金利の上昇、為替の変動、不動産に関わる税制の変更、エネルギー価格及びその他の経費の変動、環境に関わる法律や規制の改正、都市計画法やその他政府の取決めや財政政策の変更、 キャッシュフローへの依存度が高いという特性に起因する物件リスクに対する人々の選好度の変化、使用されている建築資材に関わるリスクや運営上の問題点、天災、保険で保障されない不可抗力やその他 PGIM リアルエステートのコントロールを超えた要因で発生しうるリスクがあります。
- ◆ 不動産エクイティおよびデットは、他の資産クラスに比べ比較的流動性の低い資産です。そのため、投資家の償還要求を満たすまでに、かなりの時間を要する場合があります。
- ◆ PGIM リアルエステートは各投資家に対する受託者としての義務を果たすもので、償還請求を満たす目的で、投資資産の売却やその他の行動を起こす義務を負いません。加えて、最近の経験が示すように、不動産は長期的なサイクルを描く傾向にあり、このことは不動産価格のボラティリティを著しく高めることとなります。
- ◆ PGIM リアルエステートが投資を行う物件と運用戦略のパフォーマンスは、投資を行う米国市場およびそのサブ市場における健全な経済環境に左右されます。
- ◆ パフォーマンス目標を達成するのに必要な要素には物件タイプや地理的分散が含まれており、これらはリスクを減らし、広く分散したポートフォオを維持することを意図しています。物件の立地、資産クラス、物件タイプ、投資戦略および投資の資金調達の仕方という様な、物件に関する選択とパフォーマンスは目標リターンの達成に対して影響を与えます。
- ◆ パフォーマンス目標の達成を妨げる要素の一部には次の様なものが含まれます。米国市場又は特定の市場や一部の市場に影響を与える、経済および資本市場および人口動態トレンドにおける予期しない突然の大きな変化。またそれらは物件のパフォーマンスや投資家の商業不動産に対する需要に影響を与えます。
- ◆ 外貨建の有価証券については、為替相場の変動等により、受取り円貨額が当初円貨での支払いから変動する可能性があります。これにより投資元本を割り込むことがあります。
- ◆ レバレッジを行なう場合、運用資産を担保とすることから、保有する資産価格が急激に下落した場合には、必要証拠金の充足が不可能となり、場合によっては投資元本を上回る損失が生じることがあります。
- ◆ 不動産デットには固定クーポンものも含まれることから、金利の変動により不動産デットの価値が上下する可能性があります。
- ◆ 不動産デット戦略のパフォーマンス目標を達成するのに必要な要素には投資案件の選択、ファンドマネージメントチームの案件をソーシングし選択する能力、それらを実際に問題無く執行する能力、商業不動産市場においてデットの需要が継続すること等が含まれます。このパフォーマンス目標の実現を妨げる要因には、マクロ経済環境や商業不動産業界における著しいマイナスの変化や商業不動産に対して提供されるデットの過剰供給、そして対象物件のパフォーマンス低下等が含まれます。

費用について

PGIM リアルエステートが運用を行う不動産投資戦略への投資にあたっては、PGIM ジャパン株式会社と投資一任契約を締結していただくことを前提としています。

- ◆ 投資顧問業務の対価として、投資顧問報酬（資産残高に対し最大 1.08%（税抜 1.00%）※の逓減料率）が費用として発生します。投資顧問報酬については、契約資産の性質、運用方法、対象等に応じて、別途協議のうえ取り決めることがあります。
- ◆ 当社と投資一任契約を締結いただいた上で、PGIM リアルエステートが運用を行う海外籍のリミテッド・パートナーシップ等のビークルを通じて、PGIM リアルエステートの不動産投資戦略に投資を行う場合、当該ビークルの資産から間接的にご負担いただく運用報酬とは別に、投資一任契約報酬として最大 0.162%（税抜き 0.15%）が発生します。
- ◆ 上記投資一任契約報酬とは別に、保管等に係る諸費用が発生し、契約資産から控除されることがあります。これらの費用は運用状況等により変動するものであり、事前に料率、上限額などを表示することができません。したがいまして、お客様が支払うべき手数料の金額の合計もしくはその上限を記載することはできません。
- ◆ ビークルにかかる運用報酬は、ビークルにより異なりますので、金額およびその上限額を記載することはできません。ビークルの資産から間接的にご負担いただく運用報酬とは別にリーガル費用、ドキュメンテーション費用、監査費用等の諸費用が発生し、ファンドの受託資産から控除されます。これらの費用は、運用状況により変動するため、事前に具体的な料率・上限額を表示することができません。このように金額およびその上限額を記載することができない費用があることから、ファンドの受託資産から控除される形で投資家が実質的に負担する費用の合計額もしくは上限を記載することはできません。
- ◆ 金額及びその上限額を記載することができない費用があることから、お客様が支払うべき手数料の金額の合計もしくはその上限を記載することはできません。

※ 記載の数値は当社が現在、投資顧問業務で提供している運用戦略にかかる投資顧問報酬で最も高いものを記載しております。実際の投資顧問報酬は、個別の契約内容、受託資産残高等によって異なります。

会社概要

商号	PGIM ジャパン株式会社 PGIM Japan Co., Ltd.
所在地	東京都千代田区永田町 2-13-10　プルデンシャルタワー
代表取締役社長	新田　恭久
設立年月日	2006 年 4 月 19 日
主要株主	Prudential International Investments Company, LLC（100%）
資本金	2 億 1,900 万円
主要業務	① 投資運用業 ② 投資助言・代理業 ③ 第 2 種金融商品取引業
登録番号等	金融商品取引業者　関東財務局長（金商）第 392 号
加入協会	一般社団法人投資信託協会 一般社団法人日本投資顧問業協会

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