Global Outlook
Cautious Optimism | May 2016

In This Report

After a period of relatively bright optimism through much of 2015, the outlook is now more delicately balanced. Occupier demand growth is robust, but there is still a sense of caution, reflecting a nagging uncertainty about the economic outlook. There are mixed signals in investment markets too. Financial market volatility in the first quarter has affected investor sentiment, but many of the factors that were supporting deal volume last year are still present, including low interest rates and an abundance of capital targeting real estate. Demand for prime real estate assets in major core markets remains strong and property yields are at record lows, although this is not likely due to an unsustainable re-rating of risk: markets are priced differently to history but pricing is nevertheless consistent with historic norms. Even so, in absence of a stronger economic growth story, there is a contrast between investor caution about the outlook and recently strong property market returns.

Looking ahead, there are reasons for optimism. Accommodative monetary policy is providing support for pricing, while a number of positive occupier market trends – including low supply, falling vacancy rates and upward pressure on rents – point towards improved prospects for real estate income growth. However, after several years of strong property market performance it is clear that property returns are starting to moderate. As further yield compression becomes harder to justify, investors need to strike the right balance between identifying cyclical momentum and growth potential in the short-term and investing into longer-term structural trends that offer attractive pricing opportunities.
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Part I
Cautious Optimism
A Sense of Caution Prevails

It is hard to know what to make of the outlook for global real estate markets. There are many reasons to be optimistic including steady economic growth and rising employment in the United States, a eurozone economy that has finally broken free of recession, further policy measures to stimulate activity in Japan, monetary policy support from global central banks, and low energy prices, which are fuelling real income growth, boosting prospects for consumer spending. Set against this backdrop, real estate markets have relatively limited supply, a growing tenant base and abundant sources of capital, which should leave them positioned to perform well.

While many indicators of real estate demand, investment activity and returns are at their highest level for some time, a sense of caution prevails. Across markets for risk assets, including equities and real estate, investors are concerned by an unusual combination of elevated asset prices that are being supported by low interest rates and quantitative easing and, compared to historic norms, a weak economic growth story. World equity markets have been under pressure since the start of the year, while volatility has risen and there are question marks about the capacity of financial markets to absorb further shocks. In the United States, commercial real estate price indices that track like-for-like transactions fell during the first quarter of the year, their first quarterly decline since the global financial crisis.1

The economic slowdown in China and its impact on commodity markets and demand across emerging markets is the focus of much attention but other macro challenges are worrying investors too (Appendix). The United States has begun the process of adjustment to a higher interest rate path, while politics is also a source of uncertainty in Europe, notably in the UK, where a referendum on EU membership is having a destabilizing effect. Meanwhile, the U.S. presidential election – and its associated distractions – is also looming on the horizon.

Owing to a perception that downside risks are rising, real estate investors and lenders remain nervous and reluctant to commit capital to riskier investment strategies, maintaining a bias for sticking to major markets rather than expanding their horizons. Weaker sentiment and a need among investors to rebalance portfolios that have suffered losses in other asset classes appear to be affecting investment activity in real estate markets. Investment volume cooled off towards the end of 2015 and weakened further during the first quarter of this year, which is a cause for concern as nominal pricing is at record levels in many of the world's most desirable locations.

After a period of relatively bright optimism through much of 2015 – which represented a sweet spot for investors thanks to a combination of low interest rates and improving fundamentals – the outlook is now more delicately balanced.

1 “Global financial crisis” – often referred to as the “Great Recession” – relates to the intensification of global financial market instability in the third quarter of 2008, which led to a global recession that lasted until the third quarter of 2009. Also referred to as “crisis”.

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would be bad news for future real estate investment performance. Real estate returns are not perfectly correlated with equity markets, but falling equity prices, as experienced in the first quarter of 2016, are often followed by a period of weakening returns as capital values come under pressure (Exhibit 1).

EXHIBIT 1: GLOBAL EQUITIES VS GLOBAL COMMERCIAL PRIME PROPERTY TOTAL RETURN (% PA)

![Graph showing the comparison between MSCI World Equity Index and Global Prime Real Estate Total Return. Periods of equity market weakness (gray bars) are often followed by a decline in real estate returns.]

We remain cautiously optimistic about the outlook. Pricing does look high at first glance, but a more detailed analysis gives cause for comfort. Despite many markets reporting record rent levels in nominal terms, they remain relatively modest in real terms, leaving room for further expansion in this cycle. Meanwhile yields are low only relative to history, and look far more sensible once the supportive monetary policy environment is taken into account.

This means comparisons with 2006, when real estate values reached similar levels before falling dramatically during the global financial crisis, are appealing due to their convenience – but probably wrong. Back then, bullish growth expectations drove pricing in a rising interest rate environment, whereas low yields today signify a lack of alternative options for investors amid zero or negative cash interest rates. Use of leverage remains low, even though there is ample debt available, and the supply side is generally contained, despite rising rents and low vacancy.

For now, though, the risk premium on global property over government bond yields remains within a normal range, suggesting that markets are, broadly speaking, fairly priced. There is a concern that the impact of falling yields on capital values means that elevated property returns have become disconnected from modest fundamentals. And in a few of the major markets, notably across the United States and the UK, investors are starting to adopt a more disciplined and less momentum-driven approach to investing, finding it more difficult to justify even lower yields.

Notes: Global Prime Real Estate Total Return is an ungeared measure, estimated from office, retail and industrial data for Asia Pacific, Europe and the United States. Sources: Bloomberg, CBRE, CoStar, Cushman & Wakefield, JLL, PGIM Real Estate. As of May 2016.

Throughout this report, we use "yield" to refer to income generated by real estate investments. In some markets, the terms yield and capitalization rate (cap rate) are used interchangeably. There are some differences in how yields are calculated and reported in different countries.
Such a shift in investor thinking makes sense. With global interest rates set to stay low for some time, the relatively higher but bond-like component of real estate returns – its predictable income return profile – remains appealing to institutional investors. Surveys of investor intentions suggest that many are seeking to raise their allocations to the sector over time.

Despite historically low yields, when alternative options are considered, our view is that core real estate assets at today’s prices continue to represent a good long-term buying opportunity. Meanwhile, a combination of value-add opportunities, linked to improving occupier performance and low supply growth, and structural factors, such as demographics or technology, point to an expanding opportunity set for investors looking for higher returns.
Occupier Markets are Steady

Occupier demand is the strongest it has been for some time, but growth rates are still modest in the context of history. In major global office markets, office-using employment is rising and, over the past year, more space has been absorbed than at any time since 2007, although overall demand is much lower than in previous expansion phases (Exhibit 2).

EXHIBIT 2: GLOBAL SERVICES HIRING INTENTIONS AND OFFICE NET ABSORPTION

EXHIBIT 3: SHARE OF GLOBAL MARKETS REPORTING RISING, STABLE OR FALLING NOMINAL RENTS (%)

While demand growth has been robust over the past year, there is still a sense that occupiers are acting cautiously, reflecting a nagging uncertainty about the economic outlook. Global hiring intentions have weakened over the last few quarters, pointing to a more moderate level of office space absorption in 2016 compared to the second half of 2015 – most notably in Asia Pacific, where weaker growth news in China is clearly affecting corporate sentiment in countries that have strong trade linkages, such as Australia, Singapore and Taiwan.

Sentiment in most other markets not directly impacted by concerns about China and other emerging markets remains firm. In the United States, consumer confidence and hiring intentions remains elevated, despite being affected by the bout of financial market volatility at the start of the year. In Europe, though, downward revisions to the growth outlook in key markets like France, Germany and the UK are weighing on sentiment.

The overall picture is one of steady demand for commercial real estate space in major markets in 2016, but without the acceleration of activity driven by rising optimism and corporate expansions that had been hoped for in 2015. As supply growth is low, relatively modest improvements in demand have been sufficient to bring down vacancy rates, but rental growth is still patchier than normally would be expected.

Sources: CBRE, CoStar, Cushman & Wakefield, JLL, Manpower, Hudson, Eurostat, PGIM Real Estate. As of May 2016.
Among the 176 major office, retail and logistics markets we monitor, 65% are currently reporting annual rental growth, compared to peaks of about 80% in the last two cyclical expansions (Exhibit 3). In real terms, the picture is less flattering still: rents have regained their pre-global financial crisis peaks in only 20% of the markets we track.
Mixed Signals from Investment Markets

Mixed Signals After a Strong 2015

Real estate investment markets enjoyed a strong year in 2015, as global deal volume rose by 10% in U.S. dollar terms to its highest total since 2007, suggesting a market in good health. For much of the past year, activity has been supported by a favorable combination of low interest rates and improving occupier fundamentals. However, signals have become more mixed and the opening months of 2016 have revealed signs that activity is becoming more strained, mirroring the dip in sentiment in occupier markets and downgrades to the broader economic outlook. Activity fell sharply in the first quarter of 2016, most notably in Europe, Asia Pacific and Latin America, where downgrades to growth forecasts have been most significant (Exhibit 4).

EXHIBIT 4: GLOBAL ALL PROPERTY TRANSACTION VOLUME ($ BILLION)

What remains unclear is just how much should be read into the recent dip in activity. When we look at recent history, a seasonal drop in the opening months of the year is not unusual, occurring in each year between 2011 and 2014. The magnitude was clearly larger this time around, however, suggesting wider market concerns exerted some influence on activity. In addition, activity in 2015, which averaged $230 billion per quarter, was at elevated levels, some way above its historical quarterly average of about $130 billion since 2001 – and implying that some correction to a more sustainable pace of activity was bound to happen at some point.

Due to the time it takes for real estate transactions to complete, the lagged effect of first quarter financial volatility may persist into the middle months of 2016, but many of the factors that were supporting deal volume last year are still present. Despite a drop in sentiment, occupier performance is solid, with rental growth being reported in two thirds of markets, while investors still have an abundance of...
capital that is available to deploy. Institutions intend to increase their exposure to the sector and Preqin estimate that “dry powder” of private real estate investors is at an all-time high, currently standing at $230 billion globally.

In addition, we are still in a world of very low interest rates and extensive liquidity support from policymakers. Despite renewed caution among already active real estate lenders in the United States, debt availability is generally improving, which is helping buyers stretch their capital further. Equity markets have already recovered ground lost earlier in the year, rising 15% between mid-February and the end of April, suggesting that real estate dispositions linked to portfolio rebalancing – the “denominator effect” – should fade over the coming months. As a result, we continue to expect a decent year of above-average global investment activity, although 2015 levels may prove difficult to surpass.

**Cautious Investors Focus on Major Markets**

Investor intentions surveys show that while investors are aiming to deploy an increasing amount of capital in global real estate markets in 2016, their risk tolerance has diminished due to growing concerns about the outlook and major macro risks – notably related to China. It is also the case that even lower yields are getting harder to justify.

With preservation of capital still in mind, investors remain focused on securing assets that offer high-quality income streams in deep, liquid, major markets. Over the past year, the share of capital being directed towards major cities has risen, despite broadening economic growth and a steadily increasing set of markets reporting rental growth, particularly across smaller cities and peripheral markets in Europe and the United States.

We identify eight major cities – the “top eight” – that have featured in the top 10 global investment markets by volume, more or less permanently, over the past decade. Across these markets, volume rose by 19% in 2015 compared to just 10% for the market as a whole (Exhibit 5). Activity in London and the U.S. markets of Los Angeles, New York, San Francisco and Washington DC, rose sharply last year, reflecting the ongoing success in attracting significant international capital flows. Activity in Paris improved significantly in the second half of 2015, as the French economy posted its most notable spurt of economic growth since 2011, allowing investors to buy into an improving occupier market story.
Strong growth in investment volume is not universal across the top eight though. Activity in London is showing signs of softening amid a reversal of capital flows from oil-related wealth fund investors, exacerbated by growing uncertainty about the UK’s forthcoming referendum on EU membership. Concerns about China’s slowing growth rate and the possible knock-on effects to the economic outlook across Asia are dampening investment demand in the key gateway markets of Tokyo and Hong Kong. Even so, the top eight’s share of global activity has risen to 33% over the past year, significantly above typical levels recorded prior to 2008.

**Investors Following Occupier Performance**

While caution among investors forms part of the explanation for a rising share of activity going to a handful of major markets, we can identify two related trends that have contributed: the performance of occupier markets and the increasing influence of cross-border investors.

When we look at occupier market performance, a desire among investors to stick to assets in major markets seems to make sense. Not only do cities like London, Hong Kong and New York offer proven liquidity credentials to investors, but they also reported an early-recovery bounce back in demand and occupancy rates following the global financial crisis. Reflecting investor behavior, prime office rents in the top eight investment markets have risen by 35% since their 2009 trough, compared to a more modest increase of 20% across cities in other developed markets (Exhibit 6) – albeit behind a 57% increase in emerging markets between 2009 and 2013, which has since leveled off under pressure from rising supply and a faltering economic growth outlook.

Not only do cities like London, Hong Kong and New York offer proven liquidity credentials to investors, but they also reported an early-recovery bounce back in demand and occupancy rates following the financial crisis.
In addition, the influence of cross-border investors is increasing as they accounted for nearly 30% of the global investment market by volume during 2015 (Exhibit 7). Cross-border investors typically prefer major gateway markets, due to their liquidity and transparency, but are also targeting higher returns than are available in their domestic markets. As such, faster-growing major markets continue to be attractive to international capital due to their ability to attract occupiers and deliver above-average rental growth that boosts property returns.

**Rise of Alternatives**

While investors seem reluctant to deploy capital in smaller, second tier markets, investing into non-traditional or “alternative” real estate sectors is steadily rising. In Europe, for example, the volume of student housing transactions rose by 224% in 2015, while hotel investment volume jumped 56%, compared to an overall commercial real estate volume increase of about 20%. In the United States, where alternatives are already more established among institutional investors, we are seeing increased demand for assets in sectors like data centers, senior housing and self-storage.

Investing into alternatives is typically associated with the latter stages of a real estate expansion as the opportunity set becomes thinner in relation to an abundance of capital looking for a home. However, this time around, we are seeing investors increasingly willing to take on risk in alternative assets – which offer the prospect of capturing the benefits of mispricing due to their opacity – rather than taking on, for example, location or building specific risk in the mainstream office, retail, industrial and apartment sectors.

Sources: CBRE, CoStar, Cushman & Wakefield, JLL, Real Capital Analytics, PGIM Real Estate. As of May 2016.
At the moment, alternatives often have the advantage of being linked to attractive structural trends, such as aging populations, rising student numbers and increased tourism flows. With organic growth in mainstream sectors hard to come by – for example expansion among office occupiers and retailers, which remains subdued – the structural aspect of demand that sectors such as senior living and student accommodation offer remains appealing. In the absence of a stronger economic growth story, we anticipate that interest in alternatives will grow.
Demand for Prime Assets Remains Strong

Despite slowing in the first quarter of 2016, demand for prime real estate assets in major core markets remains strong. Pricing is also being influenced by a highly supportive monetary policy framework, set in response to factors such as low inflation, concerns about a slowdown in China and recent downgrades to an already weak global growth story.

Among the world’s major central banks, both the European Central Bank (ECB) and the Bank of Japan (BoJ) are stepping up their quantitative easing (QE) programs and expanding their balance sheets in an attempt to support asset prices, boost liquidity and ward off the potentially-damaging threat of deflation. Even the U.S. Federal Reserve’s (Fed) December rate hike looks increasingly unlikely to signal the start of a rapid tightening cycle in the United States, as had been widely feared. Part of the aim of policies such as QE is to support financial asset pricing and encourage a rotation of capital away from low-yielding fixed income assets and into higher risk investment opportunities, in sectors such as equities and real estate.

Real estate pricing trends suggest such policies are having the desired effect. Reflecting the effect of low interest rates and the weight of capital targeting what is still a fairly narrow set of major real estate markets, property yields are now below pre-crisis lows in all major commercial real estate sectors (Exhibit 8). Over the past year, yield shift has been most pronounced in the higher-yielding logistics sector, which has attracted a growing share of investment, reflecting improving occupier market performance.

EXHIBIT 8: GLOBAL PRIME YIELD BY SECTOR (%)

EXHIBIT 9: GLOBAL PRIME CAPITAL VALUES AND PRIME RENTS (INDEX)

Source: CBRE, CoStar, Cushman & Wakefield, JLL, PGIM Real Estate. As of May 2016.
Since 2010, global prime yields have compressed by 25 basis points per year on average and almost all developed markets are currently reporting stable or falling yields. In total, 79% of the 176 commercial markets we monitor reported a decline in yields over the past year, and yields have now reached or moved below pre-global financial crisis lows in 61% of all global markets.

Pricing trends appear at odds with a more subdued picture for occupier markets. The combination of a sustained period of yield compression and occupier market performance that appears modest in a historical context, means that capital values have grown at a significantly faster pace than rents (Exhibit 9). Since 2009, we estimate that global all property prime capital values have risen by about 7% per year, compared to rental growth of just 3% per year over the same period.

Since 2010, global prime yields have compressed by 25 basis points per year on average and almost all developed markets are currently reporting stable or falling yields.
Pricing is Consistent with Fundamentals

In the context of a weak global economic growth story, news that prime yields in many global markets have moved below pre-crisis levels – and in many cases to historic lows – represents a cause for concern for many investors. However, our view is that, irrespective of how low they are, yield levels for property markets today are broadly sensible, both in the context of history and compared to other asset classes.

Our view is informed by a historical analysis of long-term pricing trends using data collected over the last 90 years for grade A offices in London and New York, both of which are in the top eight global investment markets – making them broadly indicative of global trends.

To estimate long-term expected returns on prime office real estate in any given year in these two markets, we add together the initial yield and a measure of expected income growth, which is a function of observed inflation and long-term trend real rental growth. We then plot expected returns against a trend U.S. bond yield, which we subtract to establish a rough estimate of the prevailing real estate risk premium at any given point in time (Exhibit 10).

EXHIBIT 10: LONG-TERM EXPECTED RETURNS AND RISK PREMIUM – PRIME LONDON AND NEW YORK OFFICES (%)

While this is a simple approach, and just for the two deepest and most liquid markets, it is nevertheless striking that the estimated risk premium implied by historical pricing has been very stable over time, staying within a tightly defined 100 basis point range over much of the past 50 years, since the end of the post-war reconstruction period. The only exceptions were in the turbulent
oil price shock years of the 1970s, when risk perception was elevated, and in the global liquidity boom prior to the global financial crisis, when the risk premium fell sharply based on a combination of lower risk perception and high growth expectations.

Given that real estate pricing eventually adjusted back to the normal range on both occasions, the conclusion is pretty clear: that movements in real estate yields have been entirely consistent with bond market pricing over a long period of time.

Applying the same approach today, the key finding is that while property yields are at record lows, it is not likely due to an unsustainable re-rating of risk. Markets are priced differently to history, but pricing is nevertheless consistent with historic norms. Unlike in 2006 when prime yields were at similar levels, our estimated risk premium for London and New York today sits within its normal range, suggesting that real estate pricing is sensible compared to government bonds.

**EXHIBIT 11: ESTIMATED RISK PREMIUM RELATIVE TO HISTORICAL AVERAGE (AVG. = 0%)**

While property yields are at record lows, this is not likely due to an unsustainable re-rating of risk. Markets are priced differently to history, but pricing is nevertheless consistent with historic norms.

When we widen the analysis to look at the top eight markets during a more recent historical period, the picture remains broadly similar. The risk premium observed today is a little below its norms in the 1990s – when the United States reported higher yields as a consequence of a long period of falling real rents in the 1980s – but still looks broadly consistent with history (Exhibit 11).
While we conclude that today’s real estate pricing is broadly sensible relative to government bonds, our analysis also serves to highlight the effect of highly accommodative monetary policy via low bond yields. A combination of subdued economic growth and elevated asset pricing suggests that central bank policy has been more successful in providing financial markets with liquidity and supporting asset prices than it has been in raising economic growth potential.

Real estate is no exception. Investors appear to have reacted sensibly to an extended period of low interest rates and relatively low growth, driving yields down as they compete for high-quality assets in a handful of faster-growing major markets. And this has helped drive strong returns. But in the absence of a stronger recovery in fundamentals, there is a contrast between investor caution about the outlook and the recently strong property market returns. It is notable that investors appear to be taking a more disciplined approach to investing, becoming more selective. This is particularly the case in some of the major markets across the United States and the UK where lower yields are getting harder to justify.

EXHIBIT 12: ESTIMATED UNLEVERED GLOBAL COMMERCIAL PROPERTY PRIME TOTAL RETURN (% PA)

In absence of a stronger recovery in fundamentals, there is a contrast between investor caution about the outlook and the recently strong property market returns.

Yield shift normally moves ahead of reported rental growth as investors, reacting to more timely on the ground performance indicators, anticipate growing momentum in occupier market. Over the past two years, the impact of falling yields on capital values has grown, despite only modest rental growth, and our
simple measure of unlevered global prime commercial property returns is currently running at 15% (Exhibit 12). Returns in both the United States and, in particular, Europe have risen substantially over the past year.

Without evidence of stronger occupier market recovery, today’s yield shift-driven returns appear to be unsustainable, even if it is arguably a necessary part of the adjustment process to otherwise sensible lower yield levels. Indeed the outlook is of lower property returns – being increasingly driven by income and income growth. Our concern, however, is that despite signs of growing investor discipline, the longer high returns persist, the greater the risk that investor expectations become detached from the reality of a low growth, low returns outlook.
Reasons for Optimism

Despite a combination of caution in investment markets and concerns about pricing, we are still cautiously optimistic about the outlook. In our view, accommodative monetary policy should provide support for pricing, while a number of positive occupier market trends – including low supply, falling vacancy rates and upward pressure on rents – point towards improved prospects for real estate income growth.

Supply Pipelines Remain Contained

Construction activity remains low in a historical context as development financing remains scarce and cautious investors and lenders remain wary of repeating the mistake of overbuilding, which has been a feature of many real estate cycles (Exhibit 13). In addition, commercial real estate supply forecasts in Europe and Asia Pacific continue to be revised down, as rental growth disappoints and older stock is withdrawn from the market or, in the case of secondary offices and industrial properties, converted to alternative uses, such as hotels and residential.

In a historical context, the increase in supply pipelines in some developed office markets – including Tokyo, London and Los Angeles – represents little more than a normalization of activity after a long period of sub-trend building activity. While one or two cities are at risk from accelerating supply growth as demand falters – notably Singapore, where rents dropped by 11% during 2015 – we expect that the relatively low level of deliveries will continue to support rental growth as availability of grade A space remains tight.

EXHIBIT 13: ANNUAL SUPPLY GROWTH BY SECTOR (NORMALIZED)

Emerging markets continue to face a near-term risk from supply as completions of office and retail space spike in 2016, before tailing off notably as developers pull back in response to prevailing economic trends.

Sources: CBRE, CoStar, Cushman & Wakefield, JLL, PMA, PGIM Real Estate. As of May 2016.
Outside the office sector, the story is similar. Retail development is below trend in the United States as rents are only rising modestly and occupiers are rationalizing their space requirements, although there is some building activity in Europe’s peripheral and Nordic markets, motivated by a housing market recovery and an improving consumer spending outlook. In contrast, construction activity in previously buoyant logistics markets outside of the United States, where the demand outlook remains firm, is becoming more circumspect, as supply growth is reined back due to the threat that increased deliveries may dampen rental growth.

In emerging markets, a legacy of fast growth and elevated sentiment in recent years means that a number of major developments – including office schemes in Beijing, Jakarta, Mexico City, Shanghai and Warsaw, and suburban retail projects in Kuala Lumpur and Shanghai – are due to complete this year, adding substantially to existing stock. In the short-term, rents look set to come under pressure, but the expectation of a sudden drop-off in pipeline is reassuring and could support a sharp bounce-back in rental growth in coming years.

Vacancy is Coming Down

While demand growth remains fairly modest in a historical context, supply additions are low enough to put pressure on vacancy rates, and the availability of grade A space is declining across sectors and geographies. In the office sector, our measure of the global vacancy rate has now fallen to its lowest level since the third quarter of 2008 (Exhibit 14). Vacancy has fallen most rapidly in the United States, where job growth among young adults is strong and employment is now back above pre-crisis levels in a number of major cities.

In Europe, office availability is falling, although the volume of vacant space remains elevated in a long-term context as cautious occupiers remain cost-conscious and are often reluctant to commit to large leases. However, in stronger-growing Germany, a number of major cities, including Berlin, Hamburg and Munich, are reporting their lowest vacancy rates for more than a decade as a combination of conversions and rising demand eats into a legacy of overhanging space from the early-2000s.

EXHIBIT 14: SUPPLY, DEMAND AND VACANCY – GLOBAL PRIME OFFICE MARKETS (ROLLING ANNUAL)

Global office vacancy is falling steadily.

Sources: CBRE, CoStar, Cushman & Wakefield, JLL, PMA, PGIM Real Estate. As of May 2016.
Again outside the office sector, the story is similar, although there are differences between sectors and geographies. Improved prospects for consumer spending are benefiting logistics markets, particularly in the United States, where space absorption among e-commerce firms remains strong, offsetting slightly weaker demand relating to trade and industrial production. Despite a relatively modest demand story, retail supply growth is low and vacancy has fallen back to pre-crisis levels, owing to sharp declines in in-town retail availability in Europe, and in high-quality malls and urban retail in the United States. In contrast, Asian markets are under pressure as demand has eased off against rising space deliveries in markets such as Malaysia and Singapore. In apartment markets in the United States, vacancies are low, but may come under pressure from increasing deliveries in some markets and a reversal of the trend that saw increasing household formation rates among 25 to 34 year olds.

**Rents are Rising in Real Terms**

While the rental growth recovery has been slightly disappointing to date, and has fallen short of levels implied by the magnitude of yield shift that has been recorded, a favorable mix of low supply growth and falling vacancy rates points to an improving outlook. At the same time, lower inflation means that relatively moderate nominal rental growth is looking more attractive in real terms.

Our index of global all property real rents rose by 3% during 2015, which is the strongest annual result since the global financial crisis (Exhibit 15). Looking at a long-term history going back to 1980, it is clear that real rental growth is not stable, rather it oscillates around a steady state, trend annual real rental growth rate of almost exactly zero.

**EXHIBIT 15: GLOBAL ALL COMMERCIAL PROPERTY PRIME REAL RENTAL GROWTH (% PA)**

![Graph showing global all commercial property prime real rental growth](image)

Notes: GDP series covers OECD’s major global developed markets.

GDP is deemed to be above trend when its 3-year moving average growth rate is above a long-term trend estimated using a Hodrick-Prescott filter.

Sources: CBRE, CoStar, Cushman & Wakefield, JLL, PMA, Oxford Economics, OECD, PGIM Real Estate. As of May 2016.
While global GDP is relatively weak, it remains strong enough to point towards further real rental growth during 2016. History also suggests there is further to go in the current cycle: in the last three periods of sustained real rental growth – in the late-1980s, mainly in Europe and Asia Pacific; globally during the late-1990s, prior to the dot-com crash; and in the mid-2000s – real rents grew from trough to peak, by an average of 16%, compared to just 7% so far this time around.
Striking the Right Balance

After several years of strong property market performance it is clear that property returns are starting to moderate. While current pricing looks fair when it comes to long-term growth expectations and low bond yields, justifying further yield compression, especially at the prime end of the market is getting more difficult. In parts of the United States and the UK investors are already showing more discipline – moving away from a momentum-driven mindset.

Looking ahead, returns from core real estate are likely to be substantially lower than the 10 to 15% norm of the past five years and investors will need to strike the right balance between identifying cyclical momentum and growth potential in the short-term and investing into longer-term structural trends that offer attractive pricing opportunities.

It is also the case that globally, markets are becoming less synchronized as growth outlooks, supply pipelines and macro policies increasingly differ. At the same time, the number of region-specific macro risks is rising and the advantages of holding a global portfolio continue to grow. After several years of unusually high correlation across global markets, “diversification” potential has returned. Global portfolio construction enables investors to target better risk-return combinations and improve the downside protection of their real estate portfolios.

I. Cyclical Opportunities

Core assets in developed markets are still attractive, while late recovery markets offer cyclical growth potential and there is an ongoing value-add opportunity linked to low supply growth and weak capital expenditure (capex) spending.

Core Still Attractive

In an uncertain environment, investors continue to value high quality income streams, and our view is that core assets in major real estate markets continue to represent an attractive investment opportunity. Despite low yields, core markets offer a favorable combination of improving demand fundamentals set against a backdrop of modest supply.

There is room for rental growth in a number of markets. Among the top eight, real rents are still at or below their real trend in the financial-driven markets of Hong Kong, London, New York and Tokyo (Exhibit 16). Most of these markets have relatively modest supply pipelines, with the exception of London’s City submarket, and we anticipate further rental growth in this cycle.

Investors will need to strike the right balance between identifying cyclical momentum and growth potential in the short-term and investing into longer-term structural trends that offer attractive pricing opportunities.
With the exception of energy-driven centers and emerging markets, where rents are under pressure due to depressed commodity prices and rising supply, most major office markets continue to offer rental growth potential, due to a contained supply pipeline and a steady outlook for jobs and economic growth.

Asia’s major core markets, including Hong Kong, Singapore and Tokyo are highly cyclical, capital-growth driven markets. Low yields are a problem for investors looking for secure income-driven returns in these markets, but rents are low in real terms implying some long-term value upside for investors that are willing to embrace their inherent volatility.

Late Recovery Markets
Across the world, markets are at different stages of the cycle implying a broadening set of opportunities as rental growth picks up in response to low supply growth, improving demand and falling vacancy.

Government centers, such as Berlin, Brussels, San Diego and Washington have an improving rental growth outlook, thanks to easing public spending pressures and rising employment. In these markets, cost-conscious occupiers increasingly prefer to locate in cheaper submarkets, which is fostering rental growth in non-central and suburban areas. Lifestyle markets, including Barcelona and Miami, are benefiting from a late-cyclical recovery in their housing markets – which were badly hit in the global financial crisis – and falling unemployment.

For investors with higher risk tolerance, a number of major cities in emerging markets are in what appears to be a mid-cycle distress phase, linked to lower commodity prices and domestic political turmoil, such as Sao Paulo. While emerging markets are not strictly late recovery as they experienced solid performance in the initial aftermath of the global financial crisis, we are already seeing supply adjusting to some degree and any improvement in economic growth could eventually stimulate attractive returns from a low base.

Value-add in Major Developed Markets
Global vacancy rates are trending downwards across all major property types thanks to a combination of low supply growth, falling vacancy and rising occupier demand – pointing towards an expanding set of opportunities in developed
markets. Senior debt availability is improving, but at much lower loan-to-value ratios than in 2005 through 2007. This is creating opportunities for equity investors, developers and mezzanine lenders – an increasingly important part of the finance market for riskier lending strategies – to take on projects that address a scarcity of grade A space in some major markets. This includes Germany, where office vacancy rates are at their lowest level for more than a decade.

While property investors appear keen to avoid – for now – the overbuilding witnessed in previous cycles, and lenders remain cautious about offering speculative development finance, there is still a sizable opportunity set arising from a combination of limited new supply and a lack of investment into existing stock.

Overall economy-wide investment spending growth has picked up pace, particularly in the United States, but investment spending on commercial property remains well below historic norms (Exhibit 17). Since 2010, the growth rate of investment into non-residential buildings has averaged 0% across major developed markets, compared to an average of 1.5% recorded between 1990 and 2008, implying a major shortfall of spending on property improvements, capex and refurbishments.

EXHIBIT 17: GLOBAL ANNUAL INVESTMENT SPENDING GROWTH – NON-RESIDENTIAL BUILDINGS (%)

![Graph showing global annual investment spending growth](image)

Spending growth on capex and building improvements has fallen significantly.

Sources: OECD, Oxford Economics, CBRE, CoStar, Cushman & Wakefield, JLL, PGIM Real Estate; As of May 2016

The opportunity to refurbish and reposition older stock is set to persist (Exhibit 18). Regulations such as Basel III are restricting development lending, which, along with caution among investors and lenders, continues to hold back construction activity. While we expect a modest pick-up in supply growth in developed office and retail markets over the coming years, development schedules have continually been revised down, notably across Europe and Asia Pacific – suggesting that supply growth could end up being even lower than is currently anticipated.

In a market where occupancy and rents are expected to grow, value-add strategies targeting aging office stock and well-located in-town retail assets in developed markets across Asia Pacific, Europe and the United States look attractive. Low borrowing costs benefit both equity and junior debt lenders as they allow borrowers to generate surplus cash flow that can be used to finance capex and refurbishment programs.
II. Structural Trends

Changing trends imply growth opportunities in a world of otherwise low returns.

In addition to cyclical core and value-add opportunities, the reality of relatively weak economic growth, low interest rates and low prime yields in core markets means that investors are increasingly on the lookout for segments of the market that can outperform on a long-term basis due to structural factors. We can identify a number of changing trends that have the potential to generate significant investment opportunities in real estate in the coming years.

The Ongoing Rise of Technology

Technological change remains an ever-present factor, particularly in developed markets, but its influence on behavior of individuals and firms is gathering pace, linked, among other things, to increased use of high-powered smart phones. The rapid transformation of the online retail sector is having far-reaching consequences for real estate markets, as occupiers adapt to fast-moving trends.

Online retail spending is now an estimated $1 trillion globally, accounting for about 7% of the global retail market in value terms. Online sales have grown by 20% per year over the last decade, compared to 4.5% for the whole retail market (Exhibit 19). Its share is expected to rise further in the coming years, which appears to be benefiting the logistics sector, as distributors reap the benefits of growing supply chain demand among retailers. Global logistics take-up is becoming more correlated with the improving story for global consumer spending (Exhibit 20).

EXHIBIT 19: GLOBAL E-COMMERCE SALES AND TOTAL RETAIL SALES

EXHIBIT 20: GLOBAL RETAIL AND LOGISTICS DEMAND AND GLOBAL CONSUMER SPENDING

Sources: Euromonitor, U.S. Census Bureau, Oxford Economics, CBRE, CoStar, Cushman & Wakefield, JLL, PGIM Real Estate.
As of May 2016.
In contrast, retail landlords are under pressure from the same trends. Stronger consumer spending has failed to translate into rising demand for retail space as retailers rationalize their physical store presence. Within this trend, there is a clear distinction between older, secondary space which struggles to attract tenants, and best quality locations, either in-town or in dominant shopping malls, which continues to command a premium.

Technology is also having an impact in office markets, where media / tech companies are becoming an increasingly important part of the demand mix. Outside tech-dominated markets like San Francisco, rising demand among tech occupiers often represents an effective outsourcing of certain functions by traditional office occupiers and, therefore, are not always a major boost to overall demand. In markets like Austin in Texas, tech firms are taking space in core downtown markets. In Europe, media / tech occupiers are taking up space in fringe submarkets and are pushing up rents – and creating refurbishment opportunities – in non-CBD areas, notably in markets like Berlin, Hamburg and Stockholm (Exhibit 21).

**EXHIBIT 21: ANNUAL PRIME OFFICE RENTAL GROWTH BY MARKET TYPE (%)**

![Bar chart showing annual prime office rental growth by market type.](chart)

Sources: CBRE, CoStar, Cushman & Wakefield, JLL, PGIM Real Estate. As of May 2016.

### Shifting Demographics

We are currently in the midst of some significant demographic shifts. Most major developed economies are reporting some combination of stagnating or declining population growth, and an increasing age profile and rising dependency ratio. Meanwhile, many emerging markets are set to experience an aging profile much earlier in their development process than did now-established developed markets.

Most obviously, a rising dependency ratio is putting strain on existing social care structures, motivating the need for additional care facilities for older people. The exact nature of requirements tends to change depending on country, but markets like the United States and the UK are expected to require more senior living facilities, particularly around wealthy urban areas, while associated asset classes, such as medical office, are also set to report rising demand. Over time, we anticipate increased appetite for assets relating to senior care in other large, wealthy, developed nations with aging populations, including Germany, Italy, and Japan as well as a number of notable wealthy emerging market cities like Shanghai and Beijing.
Faster Urban Expansion / City Regeneration

Urban expansion and city regeneration are notable ongoing trends, as more people demonstrate a preference to live and work within the boundaries of major metropolitan areas. While some office markets and submarkets are suffering from a lack of supply, others have a legacy of elevated vacancy rates, often with outdated stock that is either poorly specified or located. At the same time, housing markets are recovering, supported by low interest rates, falling unemployment, and rising incomes. With demand among urban residents increasing, particularly in cities reporting faster population growth, there are attractive opportunities to redevelop low-value, older office, retail, or light industrial space located in urban areas to residential use. Notable examples include Boston, London and Sydney (Exhibit 22).

EXHIBIT 22: ANNUAL CITY POPULATION GROWTH, HISTORY VS FORECASTS (%)

Sources: Oxford Economics, PGIM Real Estate. As of May 2016.

Emerging Markets

After leading the recovery in the aftermath of the global financial crisis, emerging markets have had a rough ride recently. An unhealthy combination of factors – including a slowdown in Chinese growth, low commodity prices, weak capital flows and sluggish growth in key developed market trading partners – has culminated in weak business sentiment across emerging markets. Even excluding China, emerging markets GDP growth has fallen to its lowest rate since the global financial crisis, as low commodity prices have taken their toll on growth in countries such as Brazil, Chile, Malaysia and Indonesia.

However, there are some signs of life. Monetary policy is being loosened in many emerging market markets, while lower energy prices also act to reduce production costs, boosting industrial profitability. Weaker currencies and stronger consumer spending in key export markets in Europe and the United States point towards an uptick in export-driven growth in 2016.

Our view is that large-scale emerging markets like China and recession-afflicted Brazil should not be written off too quickly, even though today’s conditions are challenging. For contrarian investors, market distress can soon signal a buying opportunity. History suggests that growth in emerging markets like Brazil can stabilize quickly after severe downturns, while the scale and long-term growth potential of cities in China remains attractive – particularly given the modest outlook for developed markets.
III. Diversification Strategies

Investors can use diversification strategies at an increasingly global level to reduce portfolio volatility and limit exposure to single sectors and geographies.

The growth in cross-border investing, the prominence of gateway markets in investors’ portfolios and the rise of region-specific macro risks all point to the gains from holding a global real estate portfolio. This is even more the case as real estate markets exhibit lower returns correlations.

During the period of time characterized first by the mid-2000s upswing and then by the synchronized global downturn of 2009, the correlation of real estate value movements among major global regions was elevated, implying little or no benefit from market-level portfolio diversification. However, over the past five years, real estate value correlations have fallen sharply (Exhibit 23). To date, Asia Pacific, Europe, and the United States have all recorded different recovery patterns, leading to contrasting performance across markets.

EXHIBIT 23: REGIONAL ALL PROPERTY PRIME TOTAL RETURNS – ROLLING 5-YEAR CORRELATIONS

EXHIBIT 24: PEAK-TO-TROUGH ALL PROPERTY PRIME CAPITAL VALUE MOVEMENTS DURING THE GLOBAL FINANCIAL CRISIS (%)

One lesson from the global financial crisis is that while almost all markets experienced some kind of downturn, the magnitude and timing of value falls did vary across markets (Exhibit 24). While office and retail markets in Europe and the United States were affected by a combination of a sharp rise in yields from low levels, and concurrent occupier distress, residential markets were more insulated, reflecting the stable nature of their tenant bases, even in a downturn. Asia Pacific’s emerging markets also benefited as a mild economic downturn and structural real estate market growth led to only a shallow downturn in values.

Our view is that differences in macro outlooks, policy decisions and supply-demand dynamics across markets will persist, implying an opportunity for investors to benefit from global portfolio diversification. A simple analysis of prime unlevered
total returns by sector going back to 1996 shows that by combining various sectors and geographies, a well-selected “optimal” investment portfolio – positioned on the upper section of the efficient frontier, which marks out the feasible limits of performance – could provide investors with a superior trade-off between risk and return, compared to any individual sector or geography (Exhibit 25).

**CHART 25: GLOBAL PRIME MARKET EFFICIENT FRONTIER AND OPTIMAL ALLOCATION (1Q96 – 4Q15)**

Notes: Calculations are based on indicative estimates of prime returns. Sharpe Ratio is calculated as excess return over the risk-free rate (U.S. 10-year bonds) divided by standard deviation. Late 1990s refers to 1996-2000; Pre-GFC to 2001-2007; GFC to 2008-2011; and Post-GFC to 2012-2015.
Sources: CBRE, CoStar, Cushman & Wakefield, ECB, JLL, PGIM Real Estate. As of May 2016.

Of course, the optimal selection can vary significantly over time. In the late-1990s, U.S. retail markets outperformed, boosted by rising employment and strong consumer spending growth, while during the global financial crisis, downside protection was offered by the more defensive residential and retail markets of Europe along with an ongoing structural growth story in Asia Pacific, where retail markets benefited from a rapidly growing consumer class. Since the global financial crisis the optimal allocation has been a broader spread by geography and sector than at any other time strengthening the case for investors to hold a global real estate portfolio.

As a practical matter it is impossible for any investor to rapidly shift geographic or sector exposure. But the changing nature of the optimal allocation over time emphasizes a well-diversified approach to global portfolio construction, allowing investors to reduce volatility and reduce exposure to single sectors and geographies. Along with an awareness that markets can perform differently in a downturn, allowing cross-border investing to help manage downside exposure, we expect the benefits of diversification to stimulate more investors to deploy capital globally.
Global Map of Investment Opportunities

**Faster Urbanization / City Regeneration**
Refurbishing, redeveloping / repositioning assets in major cities across developed markets as demand for urban living continues to grow. New districts on the rise.

**Late Recovery Markets**
Government centers and Lifestyle markets are in the early phase of the occupier recovery.

**The Ongoing Rise of Technology**
Opportunities arising from the changing nature of commerce and trade continue to grow. These range from the rise of e-commerce on logistics to media / tech office demand for non-central space.

**Value-add in Major Developed Markets**
A growing scarcity of grade A space points to equity and debt strategies for refurbishing, and repositioning assets.

**Core Still Attractive**
Core assets in developed markets continue to offer a favorable combination of improving demand against modest supply. Room for rents to grow.

**Emerging Market Signs**
Supply pipelines are being cut as growth hits cyclical lows. Returns set to improve.

**Emerging Markets Trends**
The size, scale and potential of emerging markets around the world point to ongoing growing needs for real estate stock across all asset classes.

**Shifting Demographics**
Opportunities around the changing age profile of major cities. Demands for student housing growing. Ageing developed markets face greater needs-based housing and care facilities. Younger populations of emerging economies want housing and retail.

**Diversification Strategies**
Lower correlations among real estate markets and sectors point to the benefits of holding a global real estate portfolio. Differences in macro outlooks, policy decisions and supply-demand dynamics to persist.

Source: PGIM Real Estate; As of May 2016.
# Key Global Investment Risks

<table>
<thead>
<tr>
<th>Risk</th>
<th>Key Features</th>
<th>Likelihood: Next 12m</th>
<th>Impact on Economy</th>
<th>Impact on Real Estate</th>
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<tbody>
<tr>
<td>Rising Geopolitical Tensions</td>
<td>Challenges to political mainstream on the rise. E.g. UK’s relationship with the EU, and U.S. Presidential Election. Anti-immigration movements become more powerful.</td>
<td>Medium</td>
<td>Economic uncertainty as political outcomes muddy the policy waters. Migration curbs detrimental to growth. Investment spending likely held back limiting growth.</td>
<td>Impact on real estate markets points to slower and more defensive investment spending and occupier expansion. Pricing under pressure as risks rise.</td>
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<tr>
<td>China Hard Landing</td>
<td>Efforts to curb domestic credit bubble and reduce “shadow banking” sector risk causing a sharper slowdown in the Chinese economy.</td>
<td>Low</td>
<td>High Sentiment worsens. North Asia and Latin America in the firing line due to close trade links. Global output growth eases and central banks loosen policy further.</td>
<td>High Emerging and weaker peripheral markets suffer from falling sentiment and capital outflows. Investors target income returns in major gateway markets.</td>
</tr>
<tr>
<td>Bumpy Exit from U.S. Policy Stimulus</td>
<td>Fed in unknown territory, but faster growth makes tightening inevitable at some point. Timing and magnitude still unclear.</td>
<td>Low</td>
<td>Medium A sharp rate increase would impact interest-rate sensitive sectors of economy such as housing. Financial market volatility rises, hurting confidence.</td>
<td>Medium Disruption to debt markets. Occupiers more cautious and absorption slows, but supply remains low. Investment volume drops and pricing under pressure.</td>
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<tr>
<td>Monetary Policy Tightrope</td>
<td>Excessively loose monetary policy – designed to avert deflation – eventually causes a sharp increase in global inflation.</td>
<td>Low</td>
<td>Medium Deflation a key risk for growth in the near term. In the longer-term, higher inflation adds to volatility. Authorities under pressure to tighten more quickly than would be desirable.</td>
<td>Medium Slower GDP growth and rising bond yields are bad news for occupier and investment markets. Investors focus on high barrier markets and inflation-protected sectors.</td>
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<td>Reform Fatigue</td>
<td>Willingness and ability to push through measures liberalizing markets made more difficult as economic prosperity fails to materialize. Rise of populism with politicians forced to water down / drop plans.</td>
<td>Low</td>
<td>Medium Growth momentum fails to improve, particularly in a number of European and Asian countries. Over-dependence on monetary policy ensues, financial market volatility grows.</td>
<td>Medium Returns weaker off the back of weak growth. Pricing of all assets remains a growing worry off ongoing monetary stimulus. Investor and occupier caution remains.</td>
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