CBRE RESEARCH

REAL ESTATE MARKET OUTLOOK

2017

Global

CBRE

INTRODUCTION

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In describing the topsy-turvy way in which market economies grow and prosper, the economist Joseph Schumpeter coined the phrase "gale of creative destruction." He meant that companies, industries and indeed whole societies must continually adjust themselves to the arrival of new products and processes.

At times it feels like we are being hit by gale-force winds. Nowadays we use the word "disruption," rather than "destruction," but the meaning is the same. All of the main real estate sectors we review in this outlook for 2017 are in the process of reinventing themselves to accommodate technology-driven changes in business operations. Although the rate of change is very rapid, it's the most exciting and interesting time to be involved in commercial real estate for many generations.

For the past five years, rapid change has taken place against a backdrop of weaker-than-normal growth. We think there is a good chance that growth will be stronger in 2017. The mild recession in the oil and commodities sector is over, unemployment continues to fall and governments are starting to spend more money on much-needed infrastructure upgrades. Inflation probably is back. Generally it will be a comforting return to modest price pressure, but it might be a bit more than this in the U.S., and the situation will have to be carefully watched.

No review of the outlook for 2017 can avoid the subject of politics. In Europe, the U.K. is in the process of leaving the European Union. National elections will be held in France, Germany and the Netherlands. Italy too may go to the polls with incumbent parties under pressure. In the U.S., President Donald Trump will attempt to add a large boost to the economy. Although at the start of 2017 this degree of actual and potential change feels very disruptive, modern democracies have a habit of electing governments that are suited to the times. The post-great financial crisis policies of low interest rates and austerity are past their sell-by dates and there is upside in the political shift that is taking place.

The world in 2017 has much to offer, but it will require real estate professionals to be more informed than they have ever been. As well as our comprehensive macroeconomics and real estate coverage, we have five key research themes:

- Capital markets: the search for alternatives
- Office: new work styles, new locations
- Retail: changing technology
- Industrial: transformation of the supply chain
- Hotel: new experiences, new platforms

We look forward to sharing our research with you over the course of 2017.

GLOBAL

ECONOMY 5

2017 will be a year of greater economic growth but also greater policy uncertainty. The global economic cycle, which is in mid-to-late stage, has recently been boosted by a fiscal stimulus in China. And more government spending is on its way, particularly in the U.S., so economic growth will pick up from a lackluster 2016. Key risks are a potential for cooling trade relations between China and the U.S., the nature of the U.K.'s exit from the E.U., and a series of political elections in Europe, namely in the Netherlands, France and Germany, all of which could undermine future economic integration. The continued strength of the U.S. dollar might also be problematic for emerging markets.

We enter 2017 with a greater degree of optimism about growth than in 2016.

CAPITAL MARKETS 11

Economic growth will boost investor confidence, but transaction levels are expected to be flat on 2016 as economic uncertainty in Europe and the U.S. will lead to a conservative approach. Rising bond rates are likely to put a floor under average global yields, but there is still some scope for yield compression in certain cities. Alternative real estate sectors will continue to attract investors because of the higher yields on offer.

2016 was an interesting year for investors in all asset classes and it looks as though 2017 will be too.

OFFICE 15

More temperate growth in office employment, in part due to labor shortages, will slow the pace of leasing activity. Development activity in mature markets will remain subdued due to limited availability of development finance and space-efficiency gains by corporate occupiers. The Asia Pacific region will see gains in development completions, most notably in China and India. Occupiers will increasingly take a more activist approach to portfolio optimization in 2017 and will pursue a focus on amenity-rich locations and buildings in order to retain talent.

There will also be substantial differences in market dynamics in 2017 both between and within regions.

RETAIL 20

Expect continued retail expansion but at a cautious pace, with retailers placing greater emphasis on location when expanding in new markets. Technology will continue to be a significant disruptor in the sector. Large stores in prime locations acting as showrooms and "theaters" of customer engagement will be sought with overall requirements for new space scaled back as online sales continue to grow. The food & beverage sector is innovating and flourishing, and is anticipated to occupy an increasing amount of space in shopping centers and high streets, as well as new outlets such as pop-ups.

Retailers look set to continue expanding in 2017, albeit cautiously.

INDUSTRIAL 26

Once again, technology will play a key role. Online retailing has boosted demand for large modern warehouses and last-mile facilities on the periphery of large cities that allow for rapid order fulfilment of online purchases and returns. Rents are rising in the more land-constrained markets, but overall rental growth is modest in Europe's logistics sector due to an uptick in supply in prime markets in 2016. Yield compression remains the main driver of capital growth.

Conditions will continue to be favorable in the industrial market through 2017.

HOTEL 33

Security concerns have undermined demand in many established hotel markets in Europe, such as Paris and Brussels, while a strong dollar will discourage significant inbound travel to the U.S. Technology will also play a role, with Airbnb taking increasing market share. Investors in hotels will find continued scope for appreciation in capital values and income, but at a slower pace than in 2016 and only in markets where local supply is constrained.

Available supply will become a cause for greater general concern through 2017.

TECHNOLOGY 37

Technology is driving changes across-the-board in business operations and consumer behavior. The real estate response is gathering pace. The sectors we review in this outlook are all in the process of reinventing themselves to accommodate technology-driven changes in business operations.

Rapid changes in technology are impacting all sectors of commercial real estate now!

We enter 2017 with a greater degree of optimism about growth than in 2016, but also a high degree of uncertainty about the economic landscape.

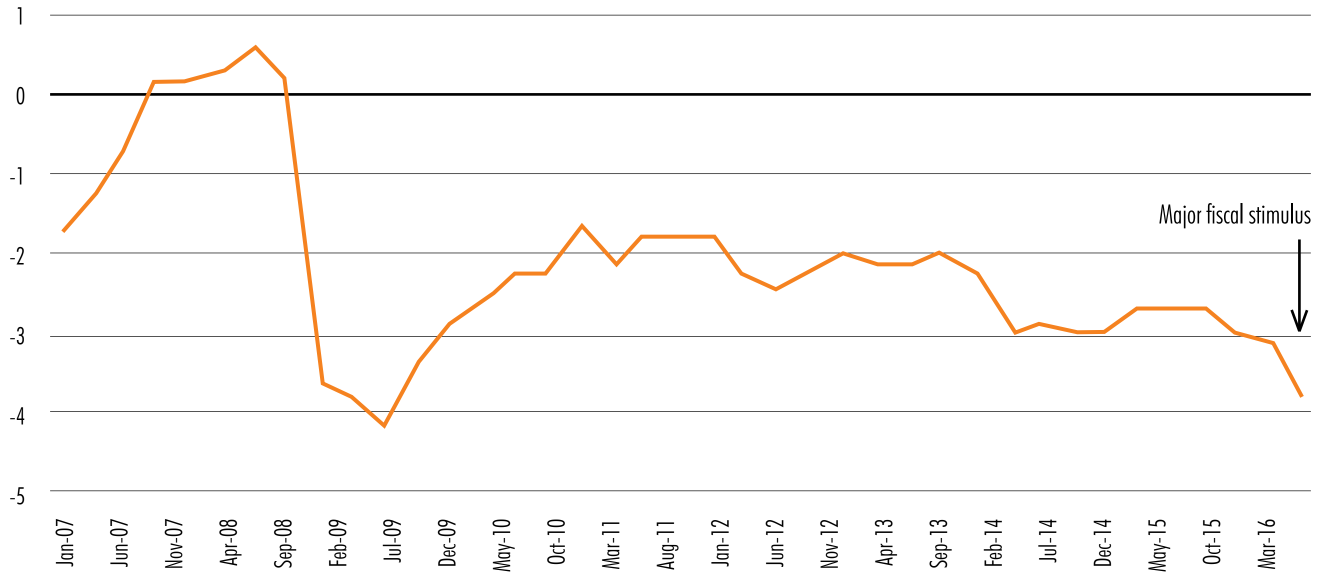
Despite some marked political developments, the global economy picked up speed at the end of 2016, due in large part to increased government spending in China.

Raw materials prices have picked up and key emerging markets, such as Russia and Brazil, have started to pull out of recession. The downturn in the oil & gas industry caused by massive over-production in 2014 and 2015 also appears to be over. This too is positive for emerging markets, but the U.S. and Canada will also benefit. The hangover from the boom in unconventional oil production was a significant part of the sluggishness in North America in 2016. Fixed capital investment in the U.S., which is 15% of GDP and 2% of world GDP, was stagnant in the 2016. We expect a sharp bounce back in capital expenditure in the U.S. in 2017 as the oil and gas drag fades.

In Asia—increasingly the locomotive of world growth—the fiscal stimulus in China that began in 2016 should continue in 2017, albeit with further restrictions on top-tier housing markets. Japan, having pushed monetary stimulus to its limits, is also in the midst of a major fiscal expansion. Elsewhere in Asia, we see reasonable growth in 2016 due to interest rate cuts that have boosted domestic demand.

Figure 1: China Central Government Budget Balance

Budget balance % of GDP



Source: People's Bank of China, 2016.

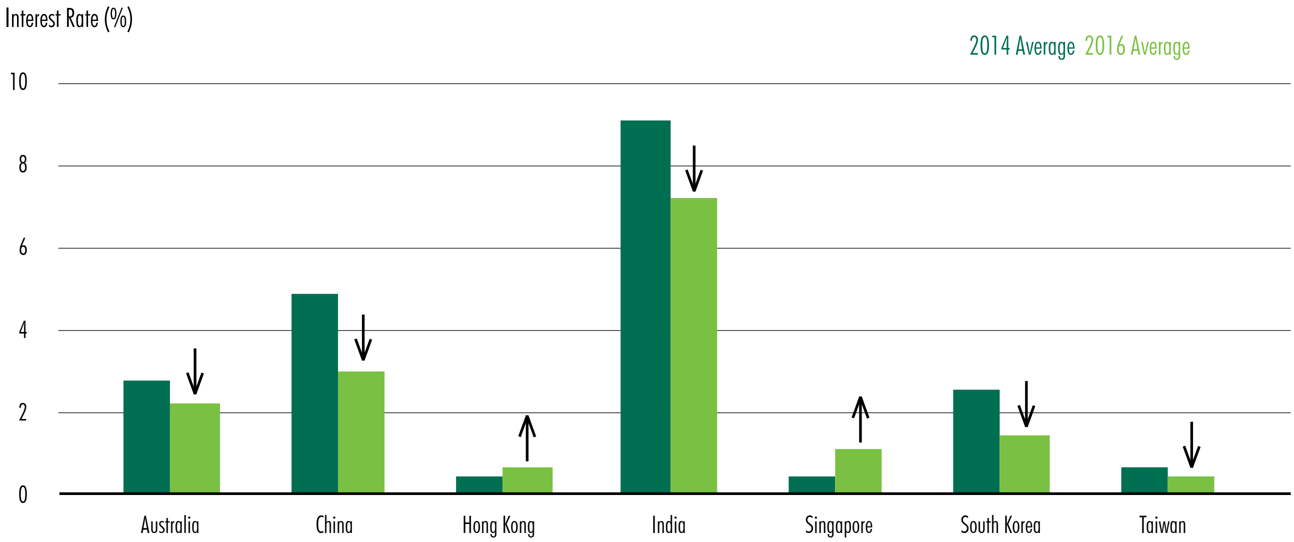
India may experience a mild hiccup due to its demonetization program, and two countries (Hong Kong and Singapore) are exposed to tighter monetary conditions, so it will not be smooth sailing. Nevertheless, growth will continue albeit more modestly than for the past 16 years. A threat to Asia is deterioration in relations between the U.S. and China, but this is not inevitable and if it does take place it is most likely to impact 2018. China and other emerging markets, which together account for 30% of global GDP, will make a positive contribution to global growth in 2017.

In Europe, there has been some fiscal easing and monetary conditions remain highly expansionary, so we expect the cyclical recovery to continue. Despite a succession of quite bruising elections, unemployment will continue to fall, helped as well by the weakness of the euro. The Dutch election will take place in March and although the Party for Freedom (Partij Voor de Vrijheid or PVV) led by Geert Wilders will make a strong showing in line with the anti-globalization/anti-establishment mood of the moment, it is unlikely to be able to form a government, so a more centrist coalition is more likely form. In France this April, despite a strong showing for Marine Le Pen's Front Nationale, we expect a centrist pro-EU candidate, probably Francois Fillon, to prevail. In Germany this September, we expect the existing coalition to continue and Angela Merkel to remain as chancellor. Even if broadly centrist pro-Europe parties prevail, we expect politicians to take heed of the current mood of electorates and move away from fiscal austerity to boost growth and prospects for the less-well-paid.

The U.K. economy, which accounts for 5% of global GDP, has surged since the vote for Brexit despite the high level of uncertainty about how it will be implemented. We expect a slight slowdown in growth in 2017 as higher import prices, due to the fall in the value of sterling, erode consumers' spending power.

The main event in 2017, from an economic perspective, will be the unveiling of U.S. President Donald Trump's economic program. We expect it will have quite a lot of growth-enhancing potential coming from a relative quickly deployed fiscal stimulus, both from increased government spending and tax reductions. During the past five years, GDP growth in the U.S. has averaged about 2.1%. We expect it to pick up to between 2% and 2.5% in the next two years. This will bring some problems.

Figure 2: Interest Rates in Asia Pacific



Source: Oxford Economics, 2016.

The U.S. labor market is tight at the moment, so there may be some capacity to encourage older workers back into the labor force. Real wages will rise and so will inflation. We do not expect runaway inflation, but nominal GDP growth will be in the 4% to 4.5% range as opposed to an average of 3.8% in the past five years. Bond rates will continue to rise.

Figure 3 shows our economic outlook for 2017. We think that growth will be better in 2017 than 2016, assuming the major risk factors do not materialize. The full impact of the fiscal expansion that is currently underway will be felt in 2018, which potentially looks like a very strong year.

RISKS

We stated last year that hard currency borrowers in one or more emerging markets could run into trouble, and we think this continues to be a key risk in 2017. There is approximately $3.5 trillion of dollar-denominated debt in emerging markets. As U.S. interest rates and the dollar rise, these loans will be more difficult to service and refinance.

Potential trade barriers between the U.S. and China would also be problematic. A decrease in trade would affect the growth rate in China, which in turn would have negative effects on other emerging markets. We saw in 2014 and 2015 that an emerging market slowdown quickly takes the heat and the confidence out of the global economy.

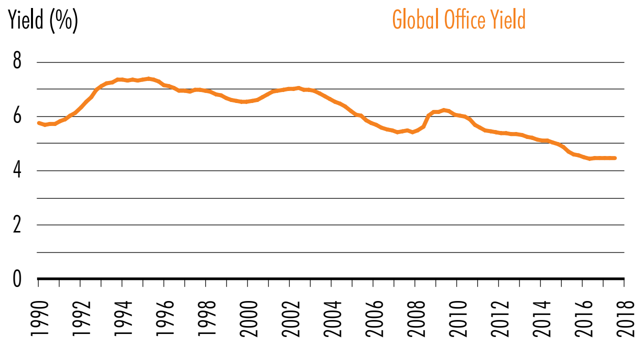
Europe may also be a source of global economic risk. The elections may produce anti-EU governments that could advocate for a break-up of the EU, and this would be a major hit to global growth. We rate this as a low probability; it is more likely that the financial crisis in Greece will flare up. Greece has to repay or refinance more than €25 billion in 2017 and there is evidence that Greek support for the single currency has recently dropped quite sharply. Turkey also has mounting economic and political problems.

Figure 3: Global Economic Forecast

Regions/Countries	Average 2004-2013	Real GDP Growth Y-o-Y Change (%)				
		2014	2015	2016	2017	2018
World*	3.9	3.4	3.2	3.0	3.3	3.6
OECD*	1.6	2.4	2.7	2.0	2.1	2.3
United States*	1.7	2.4	2.6	1.6	2.3	2.5
Eurozone	0.9	1.2	1.9	1.7	1.5	1.5
Japan*	0.8	0.2	1.2	1.0	1.0	0.9
Non-OECD*	6.4	4.5	3.8	4.0	4.5	4.8
China*	10.3	7.3	6.9	6.7	6.3	5.9
OECD						
Output gap	-0.5	-2.1	-1.5	-1.4	-0.9	0.0
Unemployment rate	7.1	7.4	6.8	6.3	6.1	6.0
Inflation	2.0	1.7	0.6	1.1	1.8	2.1
Fiscal balance	-4.6	-3.5	-3.0	-3.1	-3.0	-2.9
World real trade growth	5.3	3.9	2.6	1.9	2.9	3.2

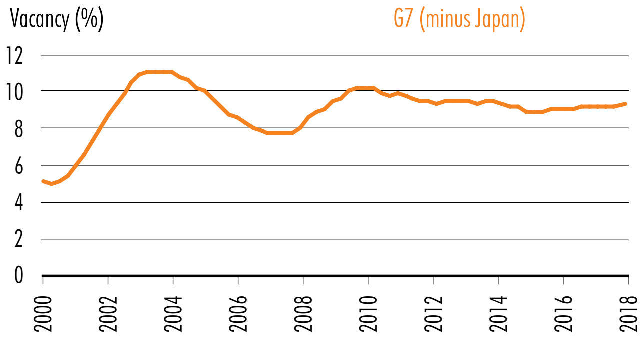
Source: OECD "Economic Outlook," November 2016, and Oxford Economics.
*World GDP at PPP exchange rates.

Figure 4: Global Office Yield



Source: CBRE Research, 2016.

Figure 5: G7 Office Vacancy Rates



Source: CBRE Research, 2016.

More broadly the retreat from globalization is a drag on growth, with small increases in trade barriers occurring in many places. Nevertheless, despite the risks, we expect continued cyclical recovery, augmented with fiscal stimulus and supportive monetary policy. Growth will improve.

WHAT DOES THIS MEAN FOR REAL ESTATE?

Growth and supportive monetary conditions are good for real estate, however bond rates are rising in the U.S. and by the end of 2017 they probably will be in Europe as well. We don't think the rise in rates will be enough to push yields out, except maybe in a small selection of markets, and then not by much. However, we do think that rising bond yields will put a floor under global yields. The era of yield compression is over (Figure 4) and capital flows into the sector are expected to match 2016.

Despite improved growth, we expect office leasing activity to be slightly weaker in 2017 than in 2016. Office absorption always lags the economy, so it will take time for more positive conditions to feed through into occupier decisions. Consequently, we see vacancy rates edging up very slightly (Figure 5).

This is not enough to undermine rents, or even rental growth, but it is a mild headwind for the sector. Total returns will be in the 4% to 6% range for prime unlevered real estate.

The retreat from globalization is a drag on growth, with small increases in trade barriers occurring in many places. Nevertheless, despite the risks, we expect continued cyclical recovery, augmented with fiscal stimulus and supportive monetary policy. Growth will improve.

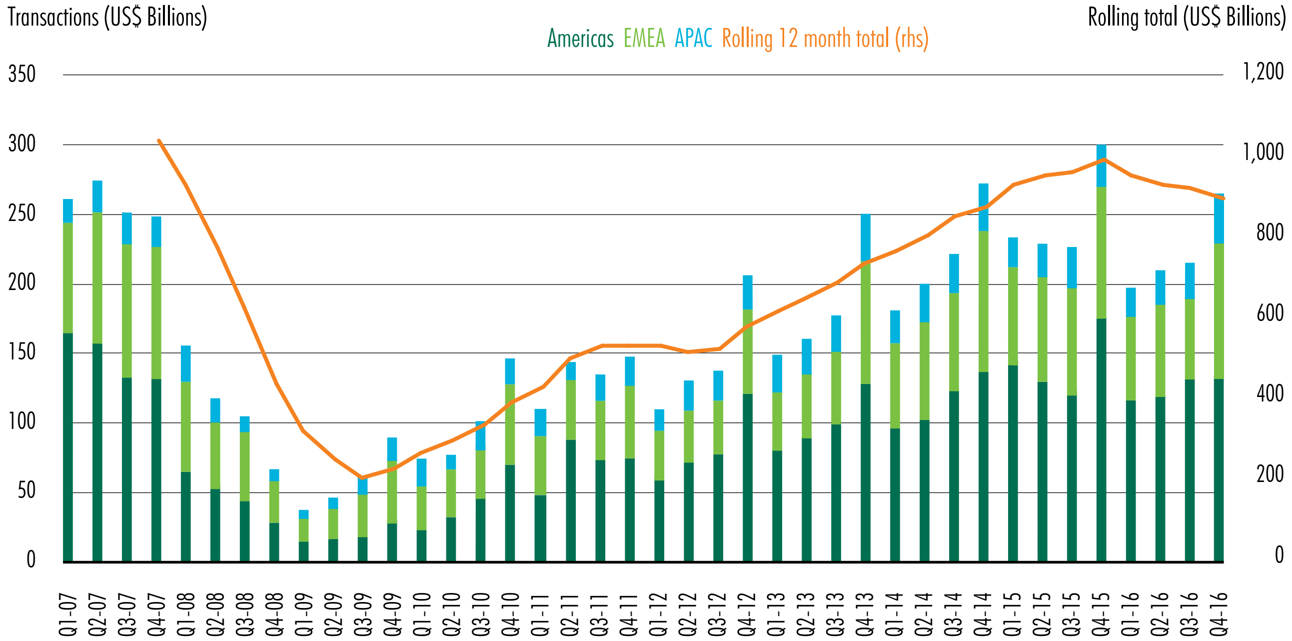
2016 was an interesting year for investors in all asset classes and it looks as though 2017 will be too. Rather than a clear turning point, both equities and real estate showed volatility during the year.

Most of the major stock market indices finished the year higher than they started it, but there were substantial rises and falls along the way. Government bond yields also had a volatile year, with significant falls in the first half of the year being offset by sharp increases in the final quarter. The 10-year government bond yield in many countries, including the U.S., Canada, China and South Korea, finished 2016 at a higher point than at the start of the year. Coupled with December's increase in the U.S. Fed Funds Rate, this looks like the start of the long-awaited adjustment of long-term interest rates.

In real estate, the backdrop for 2016 was a record level of investment transactions in Q4 2015 at nearly U.S. $300 billion. This exaggerated the appearance of the dip at the start of 2016. In fact, global investment transactions in H1 2016 (by value) were down by only 12% on H1 2015. For 2016 as a whole, total investment transactions were 10% below 2015's level. Investment in the Asia Pacific region finished 2016 strongly and was only slightly above the 2015 level. Both the Americas and EMEA experienced a year-on-year fall in transactions of around 12%[1].

[1]These changes are shown in terms of USD. In local currency terms Asia Pacific saw a very slight increase and in EMEA the decline is smaller than in USD.

Figure 6: Commercial Real Estate Investment Transactions



Source: CBRE Research Q4 2016, RCA.

Note: Investment volumes can be measured with or without entity level transactions with equal validity. In this report we include entity level transactions.

In Asia Pacific, institutional investors—many of whom are underweight in real estate by international standards—continue to invest in real estate to improve diversification.

In the Americas, the fall in transactions in the first half of 2016 was the result of a sharp drop in portfolio transactions. In contrast, the value of single asset transactions increased by 2%. This was already reversing in Q3 2016 when portfolio transactions matched the level in Q3 2015. Corporate profits and corporate sentiment were particularly weak in the U.S., and contributed to a decline in portfolio transactions. The stronger economic growth and lower taxes being forecast for 2017 mean that the recovery in portfolio transactions should continue. With this part of the market we expect the total value of transactions in 2017 to be at least close to that in 2016.

In Asia Pacific, institutional investors, many of whom are underweight in real estate by international standards, continue to invest in real estate to improve diversification. This is a driver of both transactions within the region and the strong capital outflows to other regions. Real estate funds raised in the past two years will turn more active as some of them approach the end of their investment period in 2017. Overall, our expectation is that transaction activity will be broadly level in 2017 with activity in 2016. However, available supply is a significant issue in the region and one thing that might depress transaction activity. The difficulty in redeploying the capital in real estate elsewhere will impede owners' desire to sell existing holdings. The funds set to expire by 2018 have completed most of their asset disposals, further limiting the pipeline for sale.

In contrast to the rest of the world, in EMEA the drop in investment activity continued into Q3, but the year finished strongly. With the U.K. excluded, investment activity was higher in 2016 than 2015 as a result of the very strong final quarter. In contrast, investment activity in the U.K. in 2016 was down by about 28% compared with 2015[2]. The strong finish to the year suggests that investors are starting to shrug off 2016's uncertainties and our expectation is that total investment activity in EMEA will increase slightly in 2017, including a modest bounce-back in investment volumes in the U.K. We expect this to be driven by Europe's next two largest markets, Germany and France. Both have been starved of development since the great financial crisis and with occupier demand now improving, rental growth should follow.

[2]In GBP.

For most of the year, until approximately Q3, drops in government bond yields helped to support further decreases in prime property yields in key global markets. The trend has been consistent globally, although in 2016 the speed of the decline slowed. CBRE's global average prime office yield fell by 44 basis points (bps) in 2015 and by 20 bps in 2016[3].

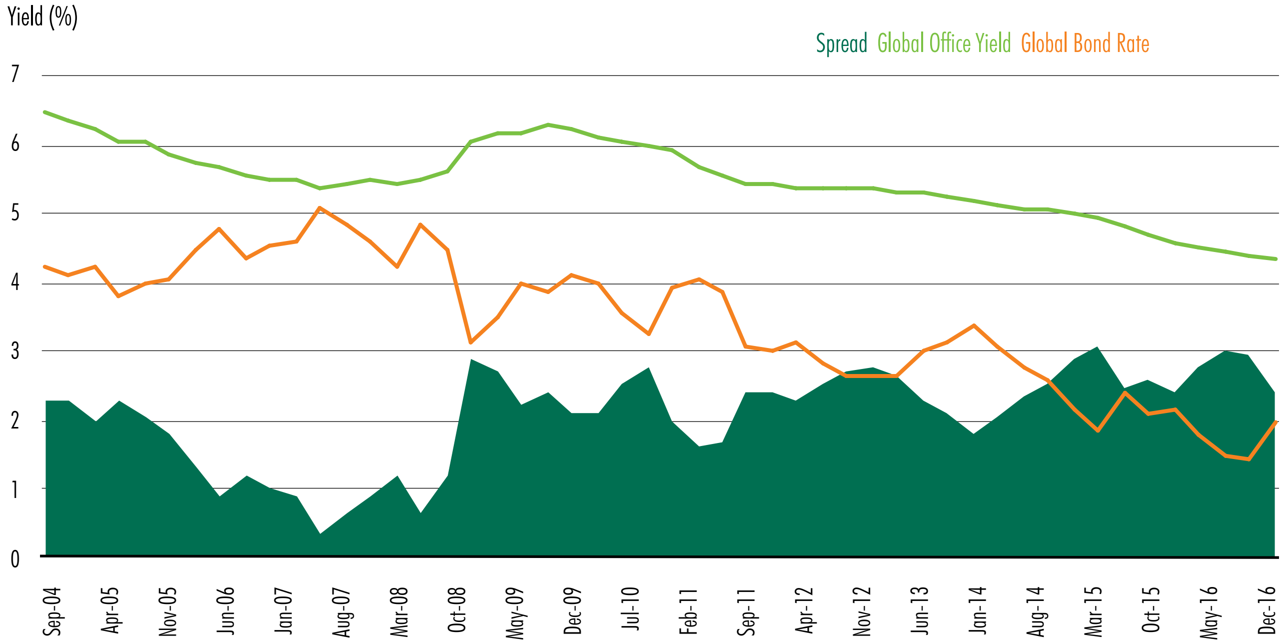
Despite the increase in prime property prices, the gap between property yields and government bonds was close to its highest ever level at the end of Q3. However, bond yields increased sharply in the final quarter, narrowing that gap by nearly 60 bps. This increase is likely to be the start of a longer term trend, led by North America. There have been equivalent movements in the past which subsequently reversed, but a number of countries are now looking at increasing fiscal stimulus in 2017 and this is expected to result in both higher inflation and further increases in the yield on fixed interest investments. It should be noted that this same fiscal stimulus should also increase economic growth and boost fundamental occupier demand for commercial property.

[3]The average of the net prime office yield across a representative sample of 33 major global markets.

The risk-off attitude of many investors during much of 2016 has been increasing the gap between prime and secondary yields. Historically faster economic growth has benefitted non-prime property more than prime so this is a trend that could reverse if economic growth does indeed improve in 2017.

Sector trends in investment activity will also be interesting to follow in 2017. The share taken by the four main sectors–office, retail, industrial and hotel–was at its lowest ever in 2016. The buoyant multi-family market in the U.S. is part of the explanation, but mainstream investors (as opposed to niche specialists) continue to push into previously under-developed segments of the market such as student housing and retirement living/senior housing.

Figure 7: Global Office and Bond Yield Spread



Source: CBRE, Macrobond, 2016.

Office leasing markets enter 2017 expecting generally modest or late-cycle rates of growth. Occupiers are seeking to balance the twin imperatives of cost management and workplace & amenity enhancement, and shifts in the supply side of the market are starting to affect market dynamics in a number of places.

While there are some common trends across all regions, there will also be substantial differences in market dynamics in 2017 both between and within regions, and within particular urban markets.

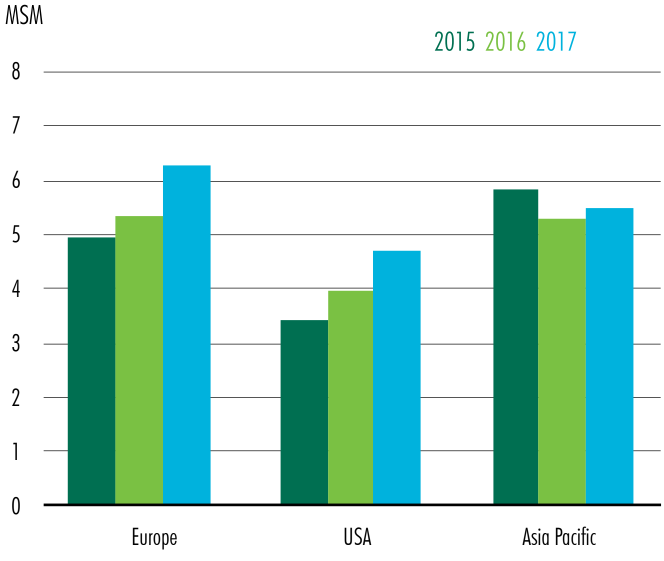
DEMAND TRENDS

On the demand side of the market, we expect leasing activity and net absorption to decline slightly in 2017, albeit reflecting different factors in different markets.

In the U.S., low levels of unemployment and the resultant difficulties in hiring represent a constraint on demand growth. CBRE projects the net addition of approximately 275,000 office-based jobs in 2017, down by a third from an estimated 415,000 in 2016. Office leasing is expected to dip by 7%.

In Europe, total leasing activity increased by 1% in 2016 and a similar low single-digit increase is expected in 2017, consistent with somewhat weaker growth in office-based employment in the major cities. This will keep overall leasing levels at least 20% above those recorded in the post-great financial crisis dip of 2009-2013, and push net absorption in Europe up by about 0.25% compared with 2016. Demand differences will widen between the U.K. and especially London, where signs of a slowdown are becoming evident, and two groups of continental European markets: core northern markets such as Berlin, Stockholm and Amsterdam, and cyclical recovery markets in the south such as Madrid, Barcelona and to some extent Milan.

Figure 8: Office Development Completions



Source: CBRE Research, 2016.

The Asia Pacific region will see companies place a stronger focus on improving operational efficiency and take a more cautious approach towards corporate investment and expansion. The resultant occupier caution will put downward pressure on net absorption in 2017 by 5 to 10%, following contraction of 16% in 2016.

DEVELOPMENT TRENDS

For much of the post-great financial crisis period, development activity in the more mature markets in the U.S. and Europe has been subdued by a combination of weak price pressures, limited availability of development financing and space-efficiency gains by corporations. Although most of these factors remain in place, there are some indications that development activity is starting to pick up. Nevertheless, it remains both well below previous cyclical peaks and, just as importantly, highly concentrated in a limited number of markets.

In the U.S., office completions are expected to total approximately 50.5 million sq. ft. in 2017. This would represent the highest annual total since 2009 and a year-on-year increase of 18%, despite which new supply would still remain low by historical standards and a third lower than the peak of the previous delivery cycle in 2008. Development is highly concentrated in a small number of leading markets: San Jose, Manhattan, Dallas/Ft. Worth, Washington D.C. and Seattle account for nearly half of the space underway, and the majority of cities still have very limited construction activity.

Likewise in Europe, completions are expected to rise in 2017 by approximately 15% to roughly 6.3 million sq. m.,[4] but this is still around 25% lower than completions at the previous (2008) peak. Markets contributing significantly to this total include London, Paris, Dublin, Munich and Madrid. Elsewhere activity remains subdued.

Asia Pacific is rather different in the scale of development completions, reflecting rapid rates of economic growth and urbanization as markets evolve. The region is expected to see completion of around 60 million sq. ft. net floor area (NFA) in 2017,[5] a similar scale to that seen in 2016, which represents a 6.2 % increase in total supply. This will be the third consecutive

[4]Aggregate of principal markets
[5]Aggregate of established markets in the region

year that new supply has approached 60 million sq. ft. NFA, a trend that is forecast to continue for the next three years. Here as well though, there is a high degree of polarization: About 70% of total new supply again will be located in Tier 1 markets in China and India, with Pacific and Southeast markets seeing much lower levels of activity.

We expect a further slight downward movement in vacancy rates in Europe, contrasting with higher levels in the U.S. and Asia Pacific. Even within cities, marked variations will persist: Downtown office markets in the U.S., for instance, are expected to see greater vacancy rate increase than strengthening suburban office markets, while in Europe peripheral submarkets will typically offer higher vacancy, much of it of lower quality than available in CBDs. In Asia Pacific, the vacancy rate of core locations in gateway cities will remain tight at about 5%, while decentralized/peripheral submarkets will offer higher vacancy, mainly because a high proportion of the new supply is located in such areas.

OCCUPIER TRENDS

Against this background and the pressure to manage costs, increasingly aggressive attempts to manage space more efficiently can be expected. In many instances this will translate into higher occupational densities, and a preference shift towards higher-quality space due to better IT infrastructure and more efficient floor plates. Class-A space and new buildings will be well-positioned to attract such demand. Corporations are looking for fewer but better buildings. In the major Asia Pacific markets of China and Singapore particularly, occupiers are taking the opportunity to upgrade to Class-A space thanks to more availability, while maintaining their discipline on costs.

Mindful of the importance workers attach to quality of working environment, the trend is towards activity-based design that can support a wide range of tasks and workstyles. Encouraging innovation as much as productivity is what high value-adding occupiers are all about. The focus on amenities, social environments and health & wellness in the workplace are rising in importance and are influencing early-stage location and building-selection decisions for more corporations. Finally, appetite for shared space or co-working arrangements is growing globally, most rapidly in the U.S. and EMEA. Real estate managers of large corporations are adopting a small-company mentality.

Technology is the linking factor that will play an ever greater role in how occupiers use and manage their office space. Growth in the use of sensors, “big data techniques” and predictive analytics to create strategies and manage portfolios more efficiently will sustain this trend. Underlying all of this is a desire on the part of corporations for greater operational flexibility in their real estate arrangements. Alongside the cyclical influences highlighted above, and profound changes in work styles, we expect the flexibility premium to be a major influence on markets.

OCCUPIER TRENDS

Occupiers will increasingly take a more activist approach to portfolio optimization in 2017 and beyond, and will pursue a focus on amenity-rich locations and buildings to retain talent.

The reasons for this include:

- Skills shortages in certain sectors.
- Growth in the millennial cohort of the workforce (see CBRE’s *Millennials: Myths and Realities* report)[6].
- Increased adoption of flexible and agile work patterns—the “work anywhere” lifestyle.
- A focus on health and well-being generally and in the workplace.

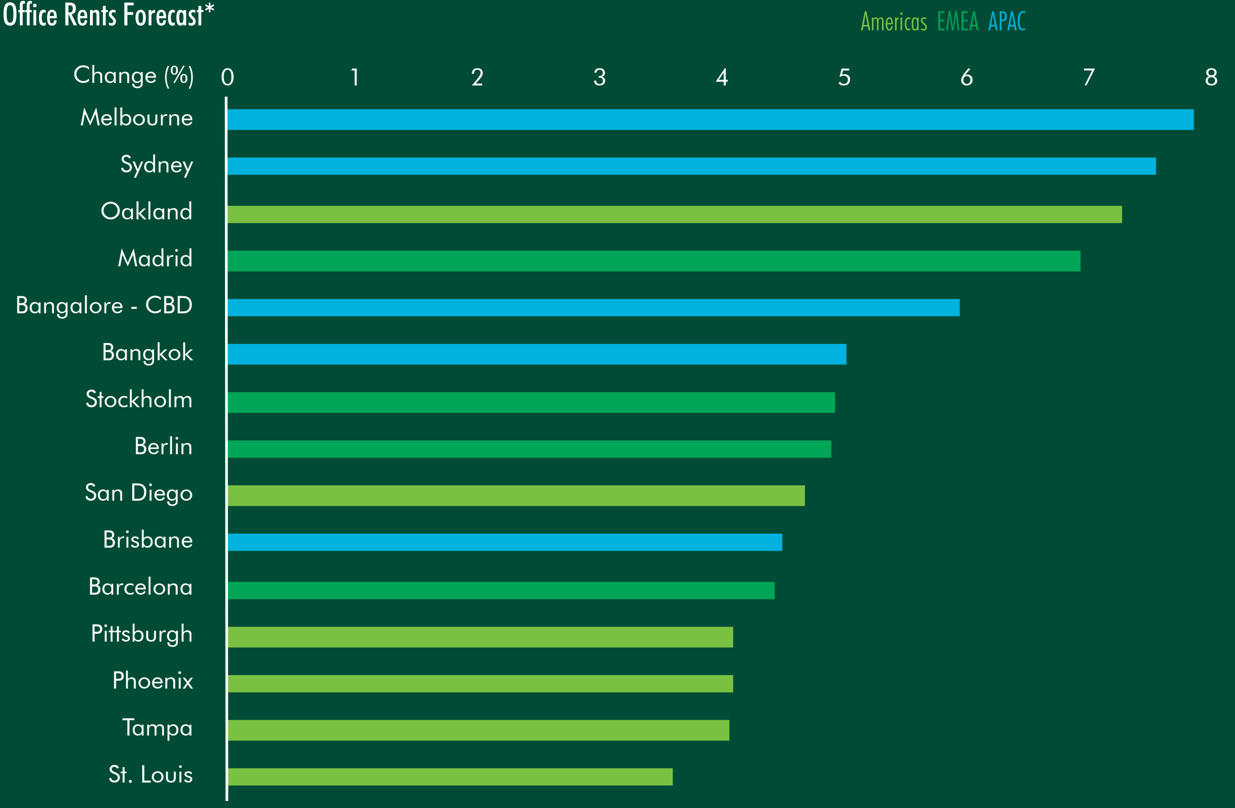
[6]CBRE (2016) ‘Millennials: Myths and Realities.’

HOT MARKETS IN THE OFFICE SECTOR

The global office sector saw relatively modest growth of 1.2% in 2016 (year to date Q3), half the 2.4% registered in 2015. Many cities in EMEA are at the forefront of rent growth in 2016, closely followed by those in Asia-Pacific. In the U.S., rents have been subdued due to a slow start to the year in the broader economy, but this is expected to pick up going into 2017. We expect above-trend growth in a group of markets across the globe in the next three years. The hottest market is Melbourne, where we expect to see an average of almost 8% growth per annum, followed closely by Sydney, where growth is expected to be around 7.5%. Another bright spot in Asia-Pacific is Bangalore, where rents are anticipated to grow by almost 6% per annum in the next three years. In the U.S., markets such as Oakland, San Diego, Pittsburgh, Phoenix, Tampa and St. Louis are likely to see significant rent growth in the next three years. This picture underpins the strength of secondary U.S. cities, which are strong performers amid relatively low-cost workforce and occupancy costs coupled with limited supply addition in the near future.

Hot markets in EMEA are concentrated around tech-driven cities such as Stockholm and Berlin, where demand for office space will be boosted by the generation of start-ups and existing majors. In addition, Barcelona and Madrid will see enhanced rental growth supported by the buoyant economic growth in Spain.

Office Rents Forecast*



* All our forecasts are based on a per annum percentage increase over the next three years (geometric mean).

Source: CBRE Research, 2016.

Technology is the linking factor that will play an ever greater role in how occupiers use and manage their office space. Growth in the use of sensors, "big data techniques" and predictive analytics to create strategies and manage portfolios more efficiently will sustain this trend. Underlying all of this is a desire on the part of corporations for greater operational flexibility in their real estate arrangements. Alongside the cyclical influences highlighted above, and profound changes in work styles, we expect the flexibility premium to be a major influence on markets.

Retailers look set to continue expanding in 2017, albeit cautiously due to political uncertainty and significant levels of sectoral change.

There is still a disconnect between the engagement and what consumers actually want to see. A clear vision of what will be communicated remains as important as ever.

Sector changes include potential cost escalation next year, and long-term trends altering consumer behavior. Therefore, when brands are looking at significant levels of new store openings, they are very much sticking to tried-and-tested profitable markets.

When brands expand across borders, recent experience suggests that they tend to target small stores (up to 2,700 sq. ft.). In part, this is risk minimization but it also represents structural change in the sector caused by the growth of technology-enabled multi-channel retailing. However, this is not the case in every market. In Asia Pacific, brands are opening large flagship stores in core locations in an effort to raise brand awareness, especially in locations where the brand is not yet well-known. Prime stores are being repositioned from vast carriers of inventory to showrooms that drive sales. As a result, brands will become increasingly location-sensitive: willing to wait for exactly the right opportunities in exactly the right locations. In some cases, this means pruning a brand's portfolio of stores to focus investment on the most sought-after locations. These will be situated on the best high streets or in regional malls, causing a continued divergence in rents between prime and secondary locations. For example, Dyson opened its first store in the United Kingdom on Oxford Street in 2016. And with rents having fallen in Hong Kong, retailers are moving to strategic locations previously unavailable. For instance, Adidas moved in to Coach's former flagship store on Queen's Road Central.

Retailers will invest more and more in the in-store experiences of these strategic locations, upgrading them to flagship status to better export brand culture. Secondary locations will focus far more on the efficiency of sales and provide additional avenues to collect packages that are purchased online.

The food business has not been immune to disruptive technologies. Online food delivery services are bringing restaurant food to consumers at home. The impact of this could be positive for food & beverage establishments by expanding their brand awareness.

THE FOOD & BEVERAGE REVOLUTION: BIG PRESENCE, NEW FORMATS

The 2015 CBRE report *Food and Beverage: a haven for food lovers or a take away* found that a third of consumers would visit a shopping center just to eat or drink.[7] Another CBRE consumer survey found that the presence of food & beverage establishments is important to more than 40% of consumers.[8] Restaurants are a main component of successful retail placemaking, which increases traffic and retail sales. *Time Out*, the magazine and website group, will open a food market with 17 restaurants in London opposite Spitalfields market in 2017. At the Val d'Europe Shopping Centre in Marne-la-Vallee, Paris, which has been one of the most successful shopping center developments in Greater Paris, the food court known as Les Terrasses now includes 24 restaurants.

The shift in shopping center anchor tenants from traditional department stores to non-traditional tenants such as food halls will continue in 2017. Shopping centers will increasingly allocate more than 25% of gross leasable area (GLA) to food & beverage. New formats such as "eateries," pop-up restaurants and chef-inspired restaurants at shopping centers will be increasingly popular. Eatery-style space is gaining ground on traditional food courts quite quickly. These offer the ability to engage with a number of new and innovative food providers in one central area but controlled by one over-arching owner. Fast food is giving way to ambience and authenticity.

Grocers are also moving into the restaurant space due to higher profit margins on offer than in the traditional low-margin grocery stores. Retailers such as Marks & Spencer are opening cafés and restaurants in food stores, while closing traditional retail outlets. According to the CBRE food and beverage study, coffee and restaurant brands accounted for 20% of new retail entrants globally in 2016.[9]

[7] CBRE (2015) 'Food and Beverage: a haven for food lovers or a take away.'
[8] CBRE/IPSOS (2016) 'Consumer Attitudes to Brands Retailer Survey.'
[9] CBRE (2015) 'Food and Beverage: a haven for food lovers or a take away.'

As elsewhere in the sector, technology and innovation will increasingly impact the food & beverage experience. Toast, a restaurant technology platform, surveyed more than 1,000 restaurant diners about their experiences using technology. More than 75% of U.S. internet users responded that when visiting a restaurant, being able to make reservations online was important. More than 50% said the same about online or mobile ordering.

The food business has not been immune to disruptive technologies. Online food delivery services such as Deliveroo, Just Eat and UberEats are bringing restaurant food to consumers at home. The impact of this could be positive for food & beverage establishments by expanding their brand awareness.

DIGITAL ENGAGEMENT: WHAT IT MEANS, HOW IT WORKS AND THE LATEST DEVELOPMENTS IN OMNI-CHANNEL RETAILING

The majority of retailers recognize the importance of engaging consumers through a variety of channels. However, there is still a disconnect between the engagement and what consumers actually want to see. A clear vision of what will be communicated remains as important as ever. There has been too much focus on how we will communicate as opposed to what we will communicate. Retailers are using messaging apps such as Kik, a chatbot, to interact with customers, known as "conversational commerce." Burberry used chatbots to share content and service clients during London Fashion Week.

Many shoppers are seeking innovation and efficiency in purchasing online, with the option to pick up or return their items in-store. 50% of respondents, of all ages, in the CBRE 'Consumer Attitudes' survey rated free same-day home delivery as well as online and in-store integration as the most appealing customer services.[10] Approximately 55% of those surveyed expect to be able to return goods for a refund in-store after buying online, and 40% of them expect the ability to click-and-collect. To respond, retailers are faced with ever greater costs and logistics challenges.

Virtual reality (VR) and augmented reality (AR) will benefit retailers and expand the reach of their brand. Reality features may have a positive impact on physical store sales and drive additional traffic in-store. At IKEA, augmented reality features allow shoppers to view merchandise in their homes before purchase. Lowe's "Holoroom" is an in-store and at-home virtual reality design tool for remodelling. However, virtual reality and augmented reality in the long term may increase online sales and minimize sales at physical stores. The driving force behind the engagement with VR and AR will be the content. If the content works, consumers will be engaged.

Retailers will increasingly use personalization and customization as a way to engage with consumers. The data that has been collected on consumers will be turned into offers based on individuals' needs, tastes and requirements. Macy's On Call is an in-store mobile web tool developed in partnership with IBM Watson and intelligent engagement platform Satisfy, which will answer shoppers' questions. At British department-store retailer John Lewis, the visual search function allows customers to locate products based on appearance or color. Web searches using voice interface may be implemented by retailers in the future.

Innovations in financial technology (fintech) will make purchasing items online easier and faster. Contactless payment and cashless spending will increase. We will see wider adoption of the smartphone wallet with increased spending limits per transaction being the norm. Payment systems that accept facial recognition and fingerprints as authority to pay will become more prevalent.

Retailers will move farther along the path of integrated offers, and consumers will be more demanding of a seamless retail experience between online and in-store. We will see more online-only retailers expand into physical stores as they recognize the power of engaging the consumer in the physical environment.

[10] CBRE /IPSOS (2016) 'Consumer Attitudes to Brands Retailer Survey.'

HOT MARKETS IN THE RETAIL SECTOR

Globally, average retail rents grew by only 1.1% in 2016 (year to date Q3), lower than the 1.8% in the previous year. But this growth is unevenly distributed. In EMEA, for example, rents grew by 5.1% last year, outperforming all other global regions. In Asia Pacific, rents increased by only 0.2%, with traditional shopping locations such as Hong Kong seeing rental contraction due to lower tourist arrivals from Mainland China and more prudent spending by locals.

We expect above-trend annual rent growth over the next three years in several "hot" global markets (see graph below). However, these trends are unevenly distributed. EMEA is at the forefront, with seven out of the top 15 cities. The strongest growth is expected in San Francisco, supported by strong demand amid positive net absorption that will outpace supply for the next few years.

In EMEA, cities such as Milan, Geneva, Oslo, Helsinki and Zurich are predicted to have annual rent growth of at least 4% in the next three years. These cities have a lack of supply (especially in Milan and Geneva) combined with strong demand, which will continue to put upward pressure on rents.

Hot retail markets in Asia Pacific are scarcer. Some exceptions to this are cities such as Auckland and Melbourne, which benefit from positive fundamentals including improving economic sentiment. Mass market retailers are starting to expand in these markets, which will drive up rents in the next few years.

Retail Rents Forecast*

* All our forecasts are based on a per annum percentage increase over the next three years (geometric mean).
Source: CBRE Research, 2016.

Retailers will invest more and more in the in-store experiences of these strategic locations, upgrading them to flagship status to better export brand culture. Secondary locations will focus far more on the efficiency of sales and provide additional avenues to collect packages that are purchased online.

Entering 2017, it might appear that the global industrial and logistics real estate market has reached a mature state in the current economic cycle.

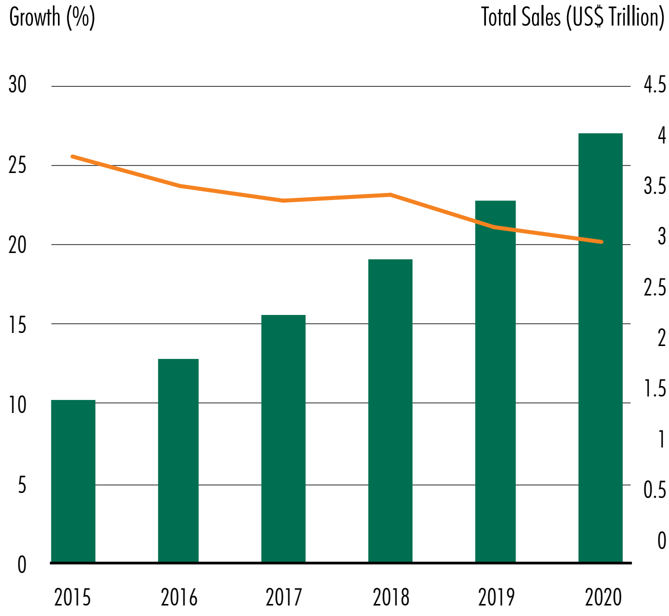
Given the slowdown in the growth of global trade and political uncertainties in Europe and the United States, some observers are skeptical of how much longer the market can grow. Our view is that conditions will continue to be favorable in the industrial market through 2017. This sector is uniquely positioned to benefit from structural changes, such as online retailing, that have forced a transformation of global supply chains and will continue to act as a significant engine for growth.

Online retailers require on average three times more space than traditional warehouse users. According to the CBRE Global Supply Chain Practice, for every $1 billion of new online retail sales, an additional 1 million sq. ft. of new distribution space is needed. Given current online retail growth forecasts, this translates to an annual average of 40 million sq. ft. of new warehouse demand between 2017 and 2020.

The transformation of supply chains due to online retailing will be most noticeable on the demand side, as users seek a greater variety of buildings and locations. Demand in Europe has gradually slowed from a high in 2015, but will once again be strong in 2017 as users seek out larger warehouses in the core hubs. However, with big warehouse supply limited in many of the key distribution locations such as London and Paris, users are shifting to more peripheral locations.

On the other end of the supply chain—the last mile—city logistics will be a focus for retail users, and a shift to less conventional real estate solutions is expected. Selected niche sectors—data centers and last-mile facilities—are undergoing rapid growth. With demand being driven by both consumers and businesses using the internet, mobile phones and applications, data centers are now the hub of the modern economy. Like in Europe and the U.S., Asian consumers are much more demanding of fast and cheap service, especially from online retailers. As a result, last-mile facilities that handle quickly moving inventory meant for same-day or same-hour deliveries are becoming increasingly vital in the supply chain and a valuable niche asset class to serve the urban population centers.

Figure 9: Global Online Retail Sales 2015-2020



Source: e-Marketer, August 2016.

Facilitated by automated technologies, growth will increasingly be accommodated vertically in mezzanine floors, high bays or structural multi-layered warehouses. Inside cities, obsolete warehouses or light-industrial properties that are typically well-situated near online retailing customers are expected to see greater demand from last-mile logistics users.

In the Americas, the outlook is mixed, with both the United States and Canada expecting to see an expansion of supply chains to support online retail users. The Canadian markets are in the early stages of online retail expansion, with most of the growth expected in small to medium-sized facilities near major metro areas such as Toronto and Vancouver. In the U.S., online retail is more established but still following a growth trajectory, supporting strong user demand.

Online retailers require on average three times more space than traditional warehouse users. According to the CBRE Global Supply Chain Practice, for every $1 billion of new online retail sales, an additional 1 million sq. ft. of new distribution space is needed.

In Latin America, the outlook is less certain. Mexican markets are in flux in the aftermath of the U.S. presidential election and the increased risk of trade disruption with the U.S. Demand in Brazil has been disrupted by a deep economic recession. We project a slight expansion in Brazil's economy in 2017, which should mark a gradual return of demand for industrial space.

Demand in Asia Pacific has been less explosive than in the Americas and Europe and is expected to remain stable as manufacturing output recovers and consumption remains firm. Industrial production in Asia Pacific is forecast to grow at 3.4% in 2017, roughly in line with the 2016 rate of 3.5%. Private consumption in 2017 is forecast to grow 4.9%, approximately equal to the average growth rate of 5.2% since 2013. This base level of domestic demand, driven by falling interest rates, remains supportive of the industrial market even with weak export demand.

CAN CONSTRUCTION CATCH UP WITH DEMAND?

One of the most notable features of the current cycle has been the relatively tepid development activity and slow addition of new logistics product. For example, in the United States completions have trailed demand (as measured by net absorption) for 25 consecutive quarters dating back to Q3 2010—the longest such streak on record. While construction in the U.S. has grown, with 2016 delivering the most new product since 2008, levels are still well short of previous cycle peaks. Although demand has been strong in most markets, new supply has been largely concentrated in U.S. gateway markets and key Latin American manufacturing and distribution hubs such as Mexico City and Sao Paulo.

In Europe, new development—particularly speculative—increased in 2016, and is expected to continue in 2017. The most competitive development cycle is in Poland, where supply has increased annually by more than 10% since 2010. The spike in new prime facilities in Europe has impacted net rents, as a glut of speculative space and abundant rent incentives have pushed face rents down and rent incentives up. Other markets with a substantial development pipeline are the Czech Republic, Slovakia, Germany, the south of the Netherlands and the Greater Madrid area in Spain. While these markets generally have strong occupier demand, their prospects for rental growth are limited. New projects are offered at the same or, in some

Last-mile facilities that handle quickly moving inventory meant for same-day or same-hour deliveries are becoming increasingly vital in the supply chain and a valuable niche asset class to serve the urban population centers.

cases, lower rents than existing stock due to a combination of low construction costs and rising capital values. Rents are rising in more land-constrained markets, but overall rental growth is modest in Europe's logistics sector and yield compression remains the main driver of capital growth.

In Asia Pacific, construction of new logistics supply has been more evenly spread across the regions. In the major markets[11] (with the exception of Greater Tokyo), the average 2017/18 supply pipeline is forecast to equal the five-year historical yearly average. In addition, there are undersupply risks in southern China as land remains difficult to obtain, forcing occupiers to nearby logistics hubs. Regionally, Asia Pacific logistics rents are forecast to grow 1.4% in 2017, roughly equal to the 2016 growth of 1.9%. China continues to lead the rental growth prospects, with rents in the Tier-1 cities expected to grow between 4% and 6% for the next three years. On the other end of the spectrum, Perth and Singapore will continue to face headwinds in 2017. Hong Kong rents have peaked and are slated to decline in the next two years.

REVERSE LOGISTICS

Another consequence of the rapid growth in online retail sales has been the corresponding growth in product return rates. Compared with brick-and-mortar stores, which generally expect 8% of purchases to be returned, online retailers record a return rate ranging from 15%[12] to as high as 30%,[13] depending on the product type. In the U.S., this has resulted in record return rates—an estimated $29 billion during the 2016 holiday season alone.

The culture surrounding e-commerce has placed additional scrutiny and pressure on the return strategy. Without the physical experience of seeing, touching or trying on an item, e-commerce shoppers have become accustomed to buying multiple items with the intent of returning some of them. These returns are often sent back to warehouses and distribution centres, most of which are not optimized for the reverse flow. Thus, the need to develop a solid reverse logistics

[11] China, Japan, South Korea, Hong Kong, Singapore, Australia, and New Zealand

[12] New York Times, "In a Season of Returning, a Start-up Tries to Find a Home for the Rejects," December 28, 2015.

[13] E-commerce Returns Best Practices, Shorr, October 2015.

E-commerce shoppers have become accustomed to buying multiple items with the intent of returning some of them. These returns are often sent back to warehouses and distribution centres, most of which are not optimized for the reverse flow. Thus, the need to develop a solid reverse logistics strategy is paramount. This is a growth opportunity for the industrial real estate market globally.

strategy is paramount. This is a growth opportunity for the industrial real estate market globally. The two most likely solutions to a reverse logistics problem both involve warehouse and distribution centers and will ultimately drive user demand. First, if a company decides to handle the returns in-house, it will need to expand its logistics footprint. Whether it's through expansion of current space or adding additional space due to building a parallel reverse supply chain network, a completely self-managed reverse process will require additional real estate.

The second option, which is becoming increasingly common, is outsourcing some, if not all, of the process to a third-party logistics firm (3PL). While retailers would continue to make inventory management decisions, the 3PL would oversee the collection, handling and distribution of the goods. This has become a preferred choice for many retailers with a less-robust supply chain network. It allows them to benefit from the best-in-class logistics systems and locations employed by most 3PL firms. In the end, the efficiencies gained by outsourcing result in lower costs and more excess inventory value.

HOT MARKETS IN THE INDUSTRIAL SECTOR

Global industrial rent growth of 2.5% in 2016 was up from the previous year (year to date Q3), with especially strong growth in the Americas. Compared with the office and retail sectors in 2016, industrial recorded impressive growth.

In coming years, we expect above-trend rent growth in several key global markets. The Americas remain at the forefront with nine cities in the top 15, many of them on the West Coast. This is supported by constrained growth in supply and strong demand.

Dublin heads the list for the strongest projected rent growth for the next three years, with a forecast of around 7.9% per annum. This outlook is based on positive economic conditions sustaining demand, coupled with low levels of new supply entering the market. In Asia, main ports like Shenzhen and Shanghai are expected to see steady rent growth for the next three years.

Industrial Rents Forecast*

[1]Note that our 'hot' markets include logistics, industrial in Asia Pacific (warehouses are an extra sector in Asia Pacific) and EMEA. For Americas, we focus on the industrial sector.
*All our forecasts are based on a per annum percentage increase over the next three years (geometric mean).
Source: CBRE Research, 2016.

The industrial sector is uniquely positioned to benefit from structural changes, such as online retailing, that have forced a transformation of global supply chains and will continue to act as a significant engine for growth.

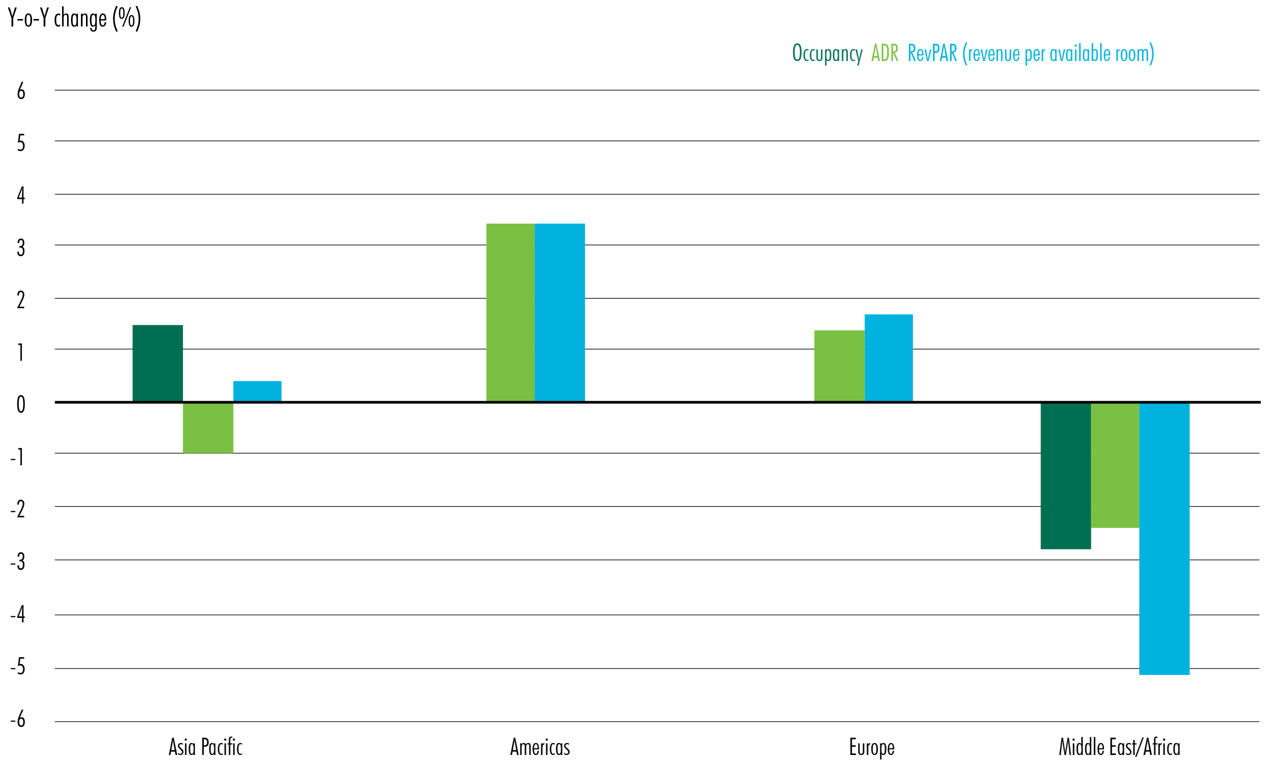
Systematic risks proved to be the downfall of many underperforming global hotel markets in 2016.

Security issues significantly dampened performance in the typically strong European cities of Paris and Brussels, while travel to South Korea and South America declined as a result of the MERS and Zika viruses, respectively. As a net oil exporting nation, select U.S. hotel markets were negatively impacted by low oil prices and the strong dollar, which reduced inbound international traveler demand.

Nonetheless, the U.S. West Coast delivered strong RevPAR (revenue per available room) growth and, similarly, Japan and Australia performed well owing to a significant lift in tourism, particularly in Osaka and Cairns. Bangkok and Vietnamese markets rebounded after a tough 2015, in which demand from the key source markets of Russia and China slowed markedly. Dublin was Europe's star performer in 2016, as demand soared against a backdrop of prolonged static supply growth. Bucharest and Warsaw also pushed into double digit RevPAR growth territory.

Through the first half of the year, traveler demand for hotels in Europe and Asia Pacific is likely to come under pressure from economic and political uncertainty, with consumers and businesses expected to spend more conservatively on travel. Tokyo and Sydney are likely to be market exceptions and perform strongly as their diverse appeal to the leisure and corporate markets is an effective insulator against external market shocks.

Figure 10: Global Hotel Performance



Source: STR, 2016.

The current cyclical RevPAR upswing is into moving into its seventh year. Although some cycles are longer and stronger than others, the pace of revenue growth is expected to slow in the next few years. Occupancy will stabilize given the high levels that already have been reached, and room rate growth in the U.S. will slow for the third consecutive year to approximately 3% year-on-year. This has been a good barometer in the past for other global markets.

While widespread employment growth since the Great Recession has been good for generating hotel demand, it is now resulting in rising salaries and benefits across the hotel sector. These increases are likely to continue through 2017. Many global markets are also likely to experience rising inflation in the months ahead, which will impact the cost of goods and services purchased by hotels and consequently threaten hotel profitability.

AIRBNB

Airbnb, an on-line home and apartment renting community, has grown to more 2.5 million listings worldwide with properties in 34,000 cities and 191 countries as of year-end 2016. According to Airbnb, the top five markets with the most listings are Paris, London, New York, Rio de Janeiro and Los Angeles.

Income opportunities in cities with high hotel rates and high demand periods, like the Super Bowl in the U.S., induce hosts to list their homes and apartments on Airbnb. As the hotel industry continues to enjoy high occupancy levels, scarcity of available rooms during peak periods causes travelers to look for alternative options for lodging like Airbnb. In addition to availability, guests are turning to Airbnb for affordability, location and local experiences. The fluid nature of Airbnb supply suggests that historical price premiums realized during peak demand periods may be mitigated over time. We expect Airbnb's worldwide presence to grow in 2017 as it continues to expand beyond just the major cities.

SUPPLY AND HOTEL DEVELOPMENT

Supply will become a cause for greater general concern through 2017. In Europe, London and the U.K. provinces are expecting a 5% and 3.5% increase in room stock, respectively, through 2017. However, authorities in Amsterdam and Barcelona have imposed moratoriums to restrict new hotel development in central city locations. The Middle East continues to have the largest development pipeline relative to existing room supply, with the majority of 2017 openings set for Saudi Arabia, the United Arab Emirates and Qatar. U.S. markets with the greatest forecast supply growth are Austin, Charlotte, Dallas, Houston and New York City. Asia Pacific, as a whole, expects an annual supply growth rate of 3%, fueled largely by development in China.

Technology has also been a vehicle for disruption in this sector. With travelers demanding greater authenticity, especially across Asia Pacific and Europe, online peer-to-peer accommodation platforms such as Airbnb have grown spectacularly. This has resulted in the traditional international brands facing greater competition from local groups and independent operators that offer a unique guest experience. This consumer trend will continue and the large hotel companies will strive to increase the rollout of their fresh, boutique-led concepts through 2017 in a bid to remain relevant.

HOTEL INVESTMENT MARKET

Investors seeking opportunities in North America will continue to find opportunities for appreciation in capital values and income, albeit it at a slower pace and only in markets where the local supply growth remains in check. Asia Pacific hotel investment was tempered in 2016 by a lack of quality stock available for purchase, and caution in the market caused many investors to focus on premium assets in the region's capital cities. This resulted in subdued transaction volumes and hotels trading at very low yields. Those needing to deploy capital or seeking high returns in 2017 will look at regional locations such as Vietnam or the Maldives, where more stock is available and yields are higher.

Europe will remain attractive to inbound capital from North America and Asia given the relative weakness of the euro and British pound. Southern, Central and Eastern Europe will be the most popular with opportunistic funds, while those seeking secure income will favor the Nordics, Germany and the U.K.

Technology has also been a vehicle for disruption in the hotel sector. With travelers demanding greater authenticity, especially across Asia Pacific and Europe, online peer-to-peer accommodation platforms such as Airbnb have grown spectacularly. This has resulted in the traditional international brands facing greater competition from local groups and independent operators that offer a unique guest experience. This consumer trend will continue and the large hotel companies will strive to increase the rollout of their fresh, boutique-led concepts through 2017 in a bid to remain relevant.

OFFICE

Technology is the linking factor that will play an ever greater role in how occupiers use and manage their office space. Growth in the use of sensors, "big data techniques" and predictive analytics to create strategies and manage portfolios more efficiently will sustain this trend. Underlying all of this is a desire on the part of corporations for greater operational flexibility in their real estate arrangements.

RETAIL

The growth of multi-channel retailing will make retailers increasingly location sensitive. Virtual reality (VR) and augmented reality (AR) will benefit retailers by expanding the reach of their brand, driving additional traffic in-store.

INDUSTRIAL

Automated warehousing technologies will mean that growth will increasingly be accommodated vertically in mezzanine floors, high bays or structural multi-layered warehouses.

HOTEL

Online peer-to-peer accommodation platforms such as Airbnb are on a steep growth trajectory. This has resulted in the traditional international brands facing greater competition from local groups and independent operators that offer a unique guest experience.

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