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## Research Report

# Global Real Estate Strategic Outlook

March 2017

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# 1 Executive Summary

We are pleased to share our 2017 Global Real Estate Strategic Outlook where we explore investment opportunities globally through the lens of different investors, providing some comparison of how the markets may unfold in 2017. This publication serves as an accompaniment to our 2017 Regional Real Estate Strategic Outlooks which examine real estate trends in Asia Pacific, Europe and the United States and provide investment ideas based on capital market conditions and underlying fundamentals.

In our view, global growth is expected to accelerate to 3.5% for 2017, versus 3.1% in 2016. There are a number of tailwinds for the global economy, such as low interest rates, healthy household balance sheets and potential cuts in U.S. corporate tax rates which could spur sub-par U.S. productivity and support world growth. At the same time, there are a few headwinds such as the risk to capital values from rising interest rates to the political and regulatory backdrop. Against this backdrop, there are several factors that contribute to our optimistic outlook for the asset class.

First, initial yields on property relative to 10-year sovereign bond yields are 3% on average globally which is 0.75% higher than the longer term average and provides a shock absorber in the event interest rates rise abruptly. Second, supply risk may be generally low while at the same time, the risk of a recession across markets may also be low. Combined, we expect stable fundamentals. With attractive income yields and stable fundamentals, we expect real estate outperforms the bond market and provides competitive returns to the equity markets in 2017. Finally, we see limited liquidity risk as investors' current allocation falls short of their targeted allocation in each region of the globe which creates sustained investor demand for property against the backdrop of low gearing costs.

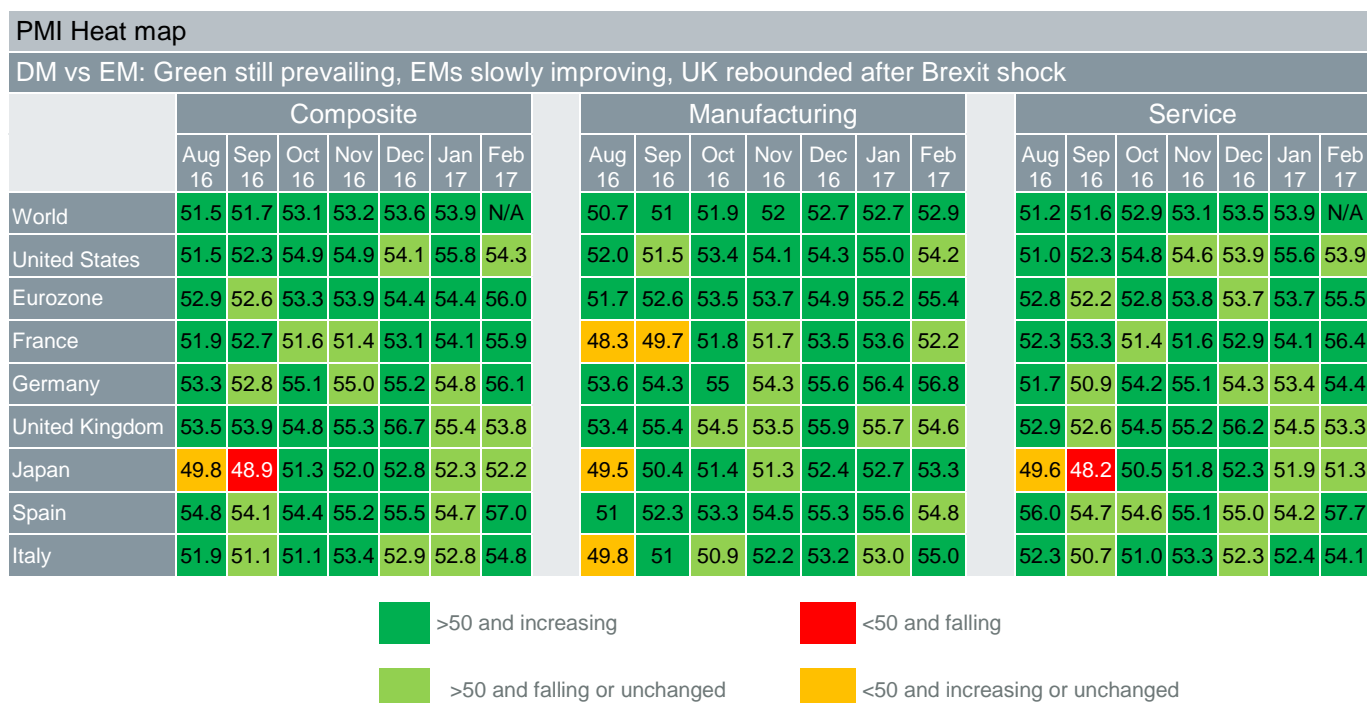
From an inter-regional perspective, shifting bond rates and a stronger dollar could influence capital flows depending upon an investor's home country real estate return, the purchasing power of their currency and the returns available in international markets. In general, given the rise of the dollar, a U.S. investor has greater purchasing power overseas than last year. Conversely, for an ex-U.S. investor, the higher relative total return outlook in the U.S. may offset the currency hedging costs and provide diversification benefits. As noted in our regional markets, we expect stable returns in the U.S. over the next five years, averaging 5.5% - 6%, with stronger returns of 6%-7% in the first half our forecast. In Europe, with the passage of time and improving performance, our total return outlook for unleveraged core real estate is higher with returns ranging from 6.5%-8%. In Asia-Pacific, our returns range from 5.8%-8.1%. While these figures represent our regional average, there are clear opportunities for outperformance within each region.

The global report considers these fundamentals and overlays additional investment objectives and constraints such as currency hedging, diversification, relative returns and risk in order to provide the basis for allocation decisions within the context of a global real estate portfolio. While our approach does not fully take into account specific tax implications and leverage decisions that would further influence an investment strategy, we utilize a simplified framework and market signals to provide an initial guide as to which international markets an investor might consider investing in to complement their domestic portfolio.

## 2 Global Economic & Political Highlights

As we noted at the beginning of last year, there was a divergence in central bank policy around the globe with the Federal Reserve beginning to tighten while the European Central Bank and the Bank of Japan were driving interest rates to negative levels. The U.S. dollar had started to strengthen and the Chinese devalued the Yuan. With even further dollar strength, energy prices fell and credit spreads widened, although central bank rates remained low. As a result, we believed the low interest rate environment would in turn support economic growth and tenant demand for real estate. Indeed, stable economic growth and low interest rates allowed non-listed real estate to produce an 8.6% total return for the year-ending 3Q2016 as reported in the Global Real Estate Core Fund Index.<sup>1</sup>

Today, the divergence in central bank policies remains. Yet, the more remarkable story that has unfolded in the face of numerous political shifts is the breadth of growth occurring across the globe. One means to view this is by evaluating the Purchasing Manager's indices for the Eurozone, U.S. and Japan. As seen in the table, both the manufacturing and services indices in these regions are posting levels in excess of 50% indicating an expansion of economic growth.



Source: Bloomberg, Deutsche AM Macro Research; as of March 2017.

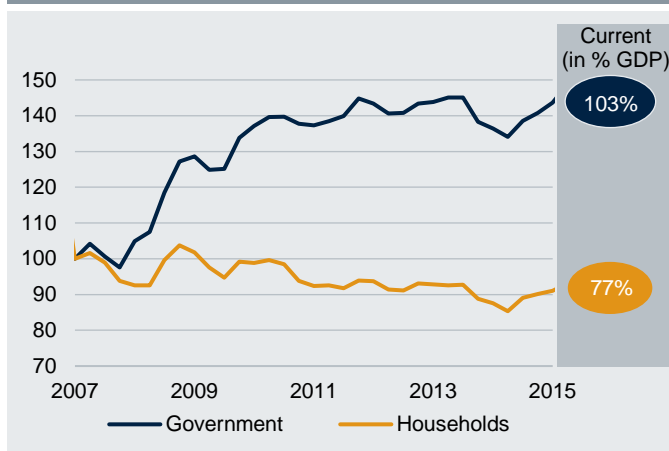
Global growth in our view is expected to re-accelerate to 3.5% for 2017, versus 3.1% in 2016. The key reason for this growth is an increase in growth from the emerging markets which we expect to grow by 4.9% in 2017 after growing 4.4% in 2016.

There are a number of tailwinds for the global economy, such as low interest rates, healthy household balance sheets and potential cuts in U.S. corporate tax rates which could spur sub-par U.S. productivity and support world growth. In particular, increases in savings rates in developed markets since the credit crisis, have caused household debt to decline by 10% to 77% of GDP. Additional sources of growth could be delivered through reduced regulation in the US. Also, much progress has been made by banks across Europe to meet their liquidity and risk targets. While there is still some work to do, lower risk in the banking sector should support growth.

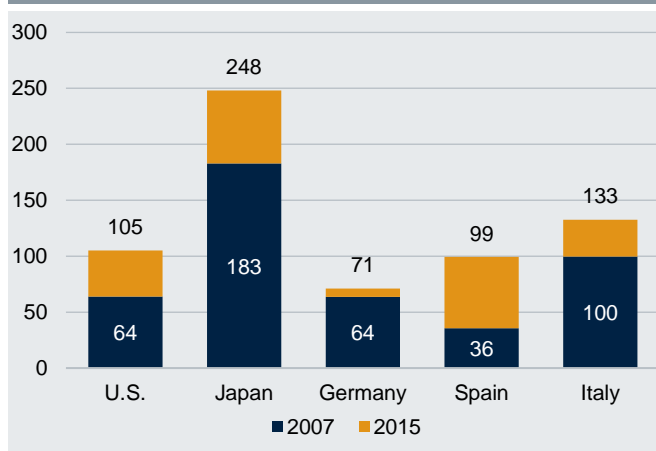
<sup>1</sup> The Global Real Estate Fund Index (GREFI) is a joint effort between NCREIF in the US, Inrev in Europe and Anrev in Asia-Pacific. Performance reported is as of September 2016, the most recent data available. Past performance may not be indicative of future returns. Forecasts are based on assumptions, estimates, opinions and hypothetical models or analysis which may prove to be incorrect.

## Macro View: Government Debt

Developed Markets debt (relative to GDP, 2007=100)



Government debt (in % GDP)



Source: IMF, BIS, Bloomberg Finance L.P., Deutsche Asset Management Investment GmbH; as of November 2016. Past performance and forecasts are not reliable indicators of future returns. No assurance can be given that any forecast or target will be achieved.

At the same time, there are a number of headwinds. First, even though household debt is low, government debt has increased and currently stands at 103% of GDP in developed markets. In the U.S. it stands at 105% of GDP, in the Eurozone 91%, while in Japan it stands at 248%. In other markets in Asia-Pacific, it is less of a concern as the debt-to-GDP ratio is well below the global average in Australia (37%), South Korea (38%) and Indonesia (27%) as of 4Q 2015..

There are a few key implications. First, given the amount of government debt, small changes in interest rates would increase interest expense and constrain government spending putting additional drag on growth. Thus, countries with greater outstanding debt cannot afford significantly higher interest rates without impacting growth. This suggests a gradual approach on rates by major central banks.

Secondly, those countries with lower debt-to-GDP ratios generally have greater fiscal flexibility to support growth. Conversely, those with higher debt-to-GDP ratios have lower fiscal flexibility. This is particularly important in the U.S. where Congress would like to constrain the amount of fiscal stimulus in order to restrain growth of the budget deficit. Finally, some of the greatest uncertainties have shifted from concerns over interest rates to politics.

The political uncertainties will play a larger role in the outcomes for real estate performance in 2017. Starting with the U.S. little has changed in our view regarding President Trump's policies as highlighted in the report we issued in November.

The budget recently proposed by the White House is only the first step in what may be a long discussion extending into the autumn. As expected, the proposed budget makes significant cuts to discretionary spending in favor of defense spending. This would favor key markets such as Washington DC and Northern Virginia, as well as Southern California and San Antonio. Uncertainty abounds regarding the Affordable Care Act ("Obamacare"), although current proposals suggest some reduction in taxes which could be a net positive for consumer spending. With regards to immigration policy, after two attempts, the courts have intervened and blocked the White House's Executive Orders. Thus we do not see any significant risks in the short term with regards to a reduction in the workforce which could impact economic growth.

As it relates to trade, while border adjustment taxes have been proposed, it's too early to determine whether these are broad based or targeted or whether Congress or the WTO would approve. Assuming they were implemented, all else being equal, border taxes would result in an increase in the cost of goods. Knowing that wages are generally held stable in the short run, this could lead to a reduction in trade volumes and stagflation if not offset by stimulus measures in terms of lower taxes or reduced regulation. It's possible this could lead to demand for greater economies of scale in manufacturing and distribution to offset the desultory impact of such policies. If so, we could see sustained tenant demand for large scale fulfillment centers and "last mile" warehouses in close proximity to major population centers. Overall though, restrictions on trade can lead to inflationary pressures and impact real estate in several ways impacting supply, demand and capital values to varying degrees depending on the policies.

Forecasts are based on assumptions, estimates, opinions and hypothetical models or analysis which may prove to be incorrect.

Turning to Europe, the United Kingdom is expected to invoke Article 50 at the end of March 2017 which begins at least a two-year process for the British to exit the European Union. While it remains too early to determine, we suspect the issues are likely to boil down to immigration versus tariff-free access to the single market. Thus far, the UK economy has shrugged off Brexit. Still, with GBP falling as it has, it has exacerbated the UK's trade and budget deficits. If these were to widen further, it could present additional softening in the British pound. Still, we expect the economy grows by 1.6% in 2017 versus 1.8% in 2016. With slightly lower growth, we expect lower tenant demand, particularly for Central London offices where we expect further price correction.

Across Europe, there are elections in several countries which could shape policy. In Germany, the state elections are in March and May and general elections in September. In France, the second round of the presidential election will occur in May with the National Assembly in June. At this stage, the uncertainty is likely to leave monetary policy accommodative with the ECB extending its asset purchase program through year-end at a reduced rate of €60 billion per month. The implication to real estate is that mortgage rates on property are likely to remain low and initial yield spreads wide. Not only does this support capital values, it should allow the economy to grow despite the political uncertainties. Further still, the European economy is outperforming consensus expectations with unemployment falling back to 2008 levels.

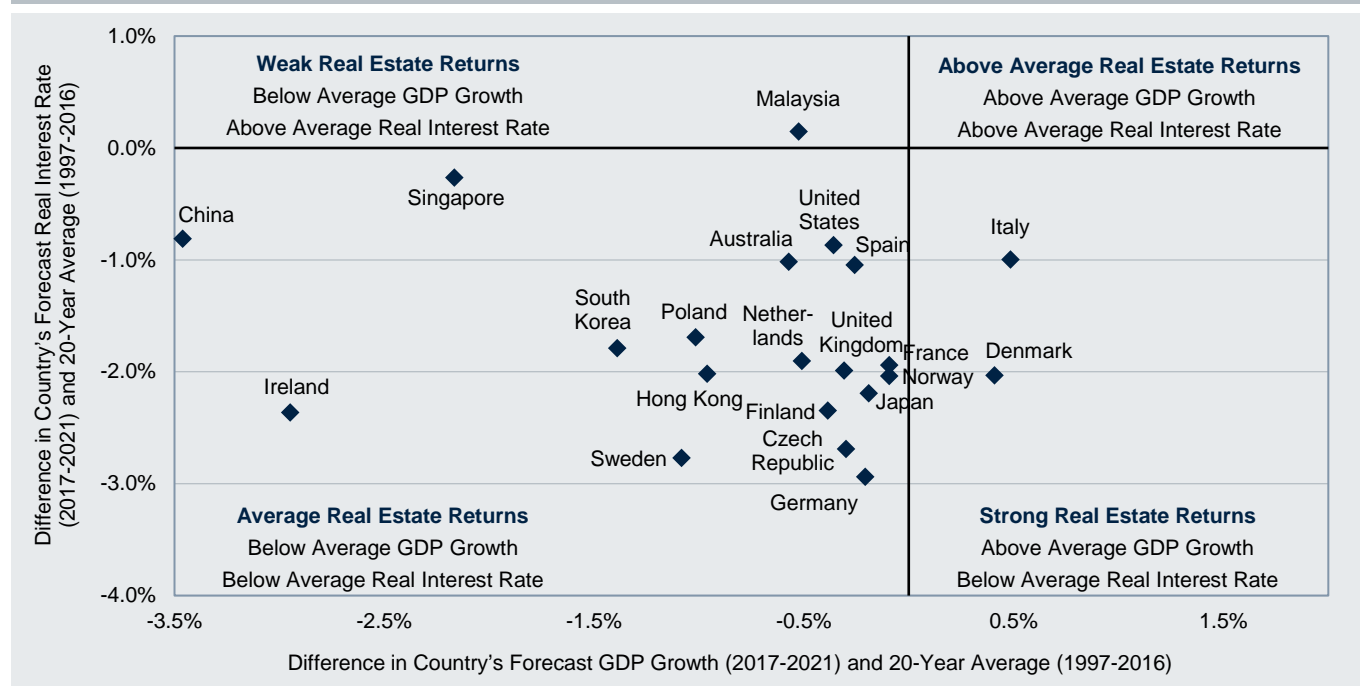
Forecasts are based on assumptions, estimates, opinions and hypothetical models or analysis which may prove to be incorrect.

### 3 Macroeconomic Implications to Real Estate

As mentioned last year, we believe there are four “killers” of a real estate cycle, namely: rising “real” or inflation adjusted interest rates; an overabundance of new construction; excess lending activity, and economic recessions.

In each of the major countries we cover, the outlook for inflation-adjusted interest rates relative to their 20-year average remains low. It ranges from a low of -2.9% in Germany to a high of -0.7% in the U.S. Low “real” interest rates not only serve to support economic growth, they also reduce the cost of capital which reduces capital value risk. To be sure though, while economic growth is improving, we expect it remains below its 20-year average over the next five years due to both structural reasons (demographics) as well as cyclical reasons. Historically, this low real rate environment when combined with a low GDP environment has allowed real estate to produce total returns on par with its historical average.

**Economic Quadrant Based on 5-Year Forecast GDP Growth and Real Interest Rates (10-Year Sovereign Bond Yields Less Inflation)**

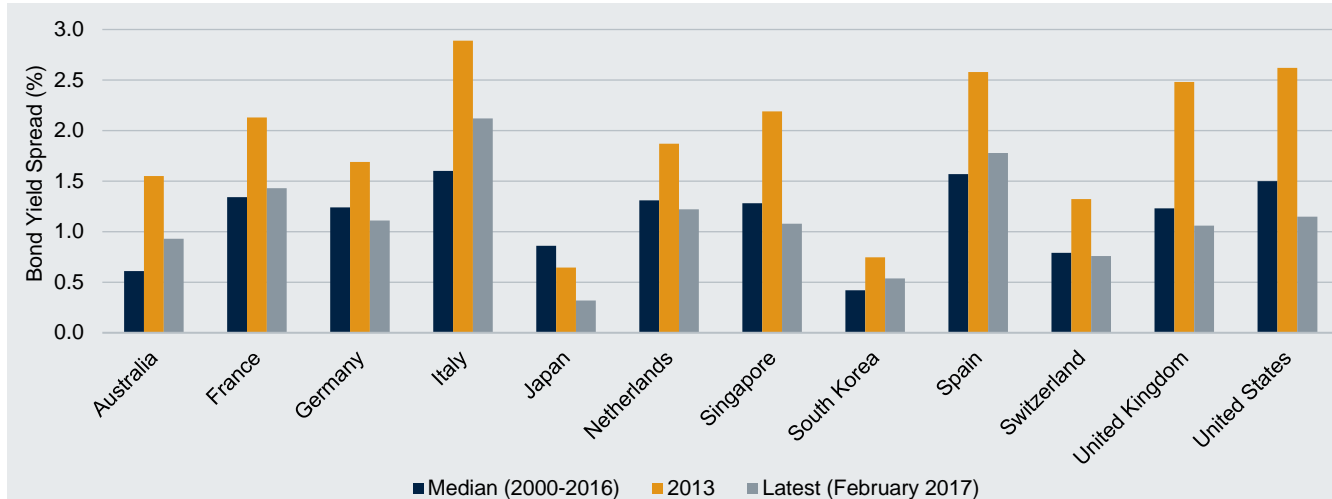


Source: Deutsche Asset Management, Oxford Economics; as of January 2017. No assurance forecast returns will materialize

Secondly, the real estate cycle is most advanced in the U.S. and construction activity stands at 0.9% of GDP. Still, this is below its last peak at the time of the credit crisis when it stood at 1.1%. There are some excesses in specific, localized markets and sectors globally, yet in aggregate, construction risk globally remains low. As for lending, all the measures we consider such as lending spreads and loan-to-value ratios all appear normal or attractive. Indeed, the average loan-to-value ratio in the GREFI Core Indices stands at 18% in Asia, 22% in Europe and 22.1% in the U.S.

The risk of recession also appears low in the major countries we cover. One of the key indicators we rely upon to determine the risk of a recession in any country is the slope of the yield curve as reflected by the difference between 10-year sovereign bond yields and 3-month interest rates, as shown in the adjoining chart through the end of February 2017. Generally speaking, an inverted yield curve normally leads to a recession.

## Recession Risks Remain Low in Major Markets



Source: Macrobond; as of March 2017.

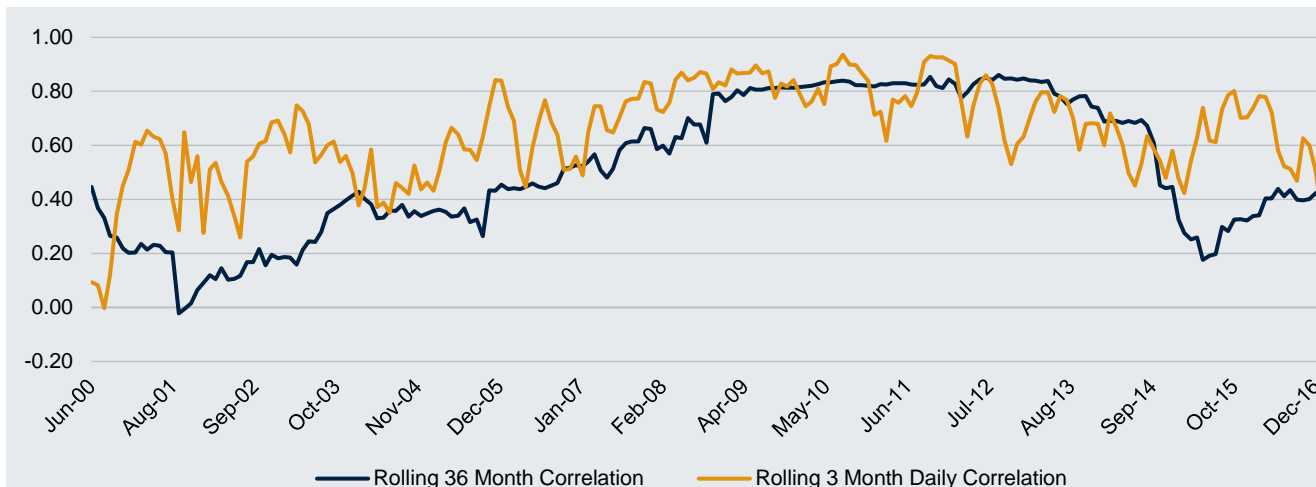
Note: Spread between 10-year and 3-Month government bond yields. Past performance may not be indicative of future results.

For several countries, the chart shows the median slope of the curve over the last 16 years as well as the slope in 2013 and the more recent figure. Generally, short term interest rates were low and the slope of the yield curve was wider in 2013 which contributed to growth. Declining unemployment led to substantial take-up of space in warehouses in the US as well as offices in Europe thereby contributing to above average real estate performance. More recently, some divergence has started to occur. For example, with rates rising in the U.S., the slope has narrowed, but remains wide enough such that the risk of a recession currently remains below 30% in our view.

In Europe, short term rates remain low as the European Central Bank remains accommodative in light of spare capacity and inflation levels which are below target. With only modestly rising inflation expectations in certain countries, the slope of the curve is generally on par with its longer run average and implies limited recession risk. Similarly in Asia-Pacific, central banks in Australia, South Korea and Singapore remain accommodative, while in Japan the slope is narrower due to the Bank of Japan's actions to target lower long-term interest rates in order to improve the inflation outlook.

Finally, another key implication is declining correlations with the equity markets as can be seen in the following chart which depicts the REIT market which provides a more frequent and longer time series than the non-listed market.

## U.S. REIT Correlations<sup>1</sup> vs. S&P 500 Index



Source: Bloomberg; as of December 31, 2016. Past performance may not be indicative of future results.  
(1) MSCI U.S. REIT index.

Forecasts are based on assumptions, estimates, opinions and hypothetical models or analysis which may prove to be incorrect.



From a qualitative perspective, there are several factors contributing to lower correlations. First, the variation in central bank rates, particularly between the U.S. and ECB has resulted in a much stronger dollar today and enhances a U.S. investor's purchasing power in overseas markets while creating greater hedging costs for international investors targeting the U.S. Also, public policies are impacting job growth. For example, unemployment rates have come down considerably in Spain and remain tight in Germany and the U.S. Finally, commodity prices have recovered meaningfully from a year ago which bodes well for markets such as Australia.

## 4 2016 Year in Review and 2017 Total Return Outlook by Country

From the most recent data available, 2016 was another strong year for commercial real estate, although the momentum started shifting. The most pronounced shift was in the UK where the one-year return slipped to 3.5% which was a large downshift from the five-year return of 9.5%. In the U.S., there was a more modest shift with the one-year return delivering 8% versus the five-year return of 10.9%.

Elsewhere in Europe, momentum is improving. Spain has finally turned the corner on the back of strong domestic demand and limited supply with a one-year return of 15.3% while Ireland remained strong at 12.4%. Several other markets in Europe are also exhibiting positive one-year performance over the five year figures, namely Denmark, France, Netherlands and Sweden. In Asia-Pacific, Australia turned in a strong year, posting 11.7% as did Japan which delivered a solid 8.1% total return as of 3Q2016.

### Performance of Real Estate (Local Currency)

Country	1-year return	5-year return	As of	Index	1-year return	5-year return	As of
Australia	11.7	11.0	4Q16	Japan	8.1	6.6	3Q16
Austria	5.9	6.1	4Q15	Malaysia	6.8	10.2	4Q15
Belgium	6.4	5.0	4Q15	Netherlands	10.3	4.7	4Q16
China	6.0	7.1	4Q15	Norway	10.6	8.2	4Q16
Czech Republic	8.7	6.4	4Q15	Poland	7.0	6.8	4Q15
Denmark	6.7	5.1	4Q16	Portugal	12.1	4.2	4Q15
Finland	6.3	5.8	4Q15	Singapore	6.2	8.2	4Q15
France	9.1	7.7	4Q16	South Korea	6.9	7.7	4Q15
Germany	8.3	5.9	4Q15	Spain	15.3	4.9	4Q15
Global	10.7	9.0	4Q15	Sweden	13.9	9.8	4Q16
Hong Kong	6.9	11.9	4Q15	Switzerland	6.6	6.6	4Q15
Ireland	12.4	17.9	4Q16	UK	3.5	9.5	4Q16
Italy	4.5	2.8	2Q16	USA	8.0	10.9	4Q16

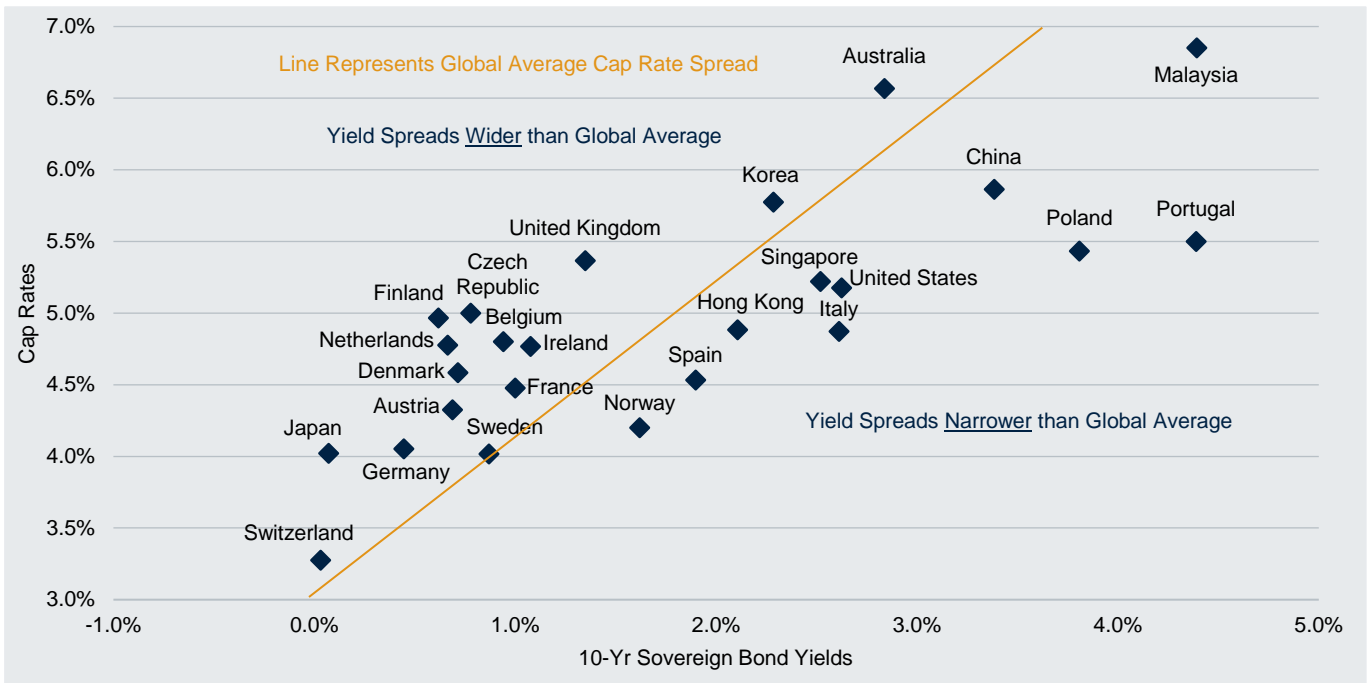
Source: IPD, NCREIF; as of March 2017. Past performance may not be indicative of future results.

Looking to the future, initial yields on property in the aggregate look attractive with the global average yield spread to sovereign 10-year bond yields totaling 3% against its longer-term average of 2.25%. In general terms, this suggests the real estate market could experience a sovereign bond yield increase of 75 basis points and real estate would continue to provide an income yield risk premium equivalent to its long-term average.

The following exhibit depicts the current sovereign bonds versus an average of initial yields by each country. For the initial yield, we use an average across property sectors at the country level. The diagonal line represents the global average yield spread for given interest rates. As noted last year, a number of European countries as well as certain Asia-Pacific countries have and continue to show spreads above the global average. They have declined slightly which served to create some momentum in the total returns as indicated above. The relative positioning of countries has not changed materially over the year and those countries with seemingly higher near term growth in their property markets, such as the U.S. and Spain, fall slightly below their long term average. Conversely, a stable country like Australia with reasonably good growth prospects has a very attractive yield spread well in excess of its long-term average of 2%.

Forecasts are based on assumptions, estimates, opinions and hypothetical models or analysis which may prove to be incorrect.

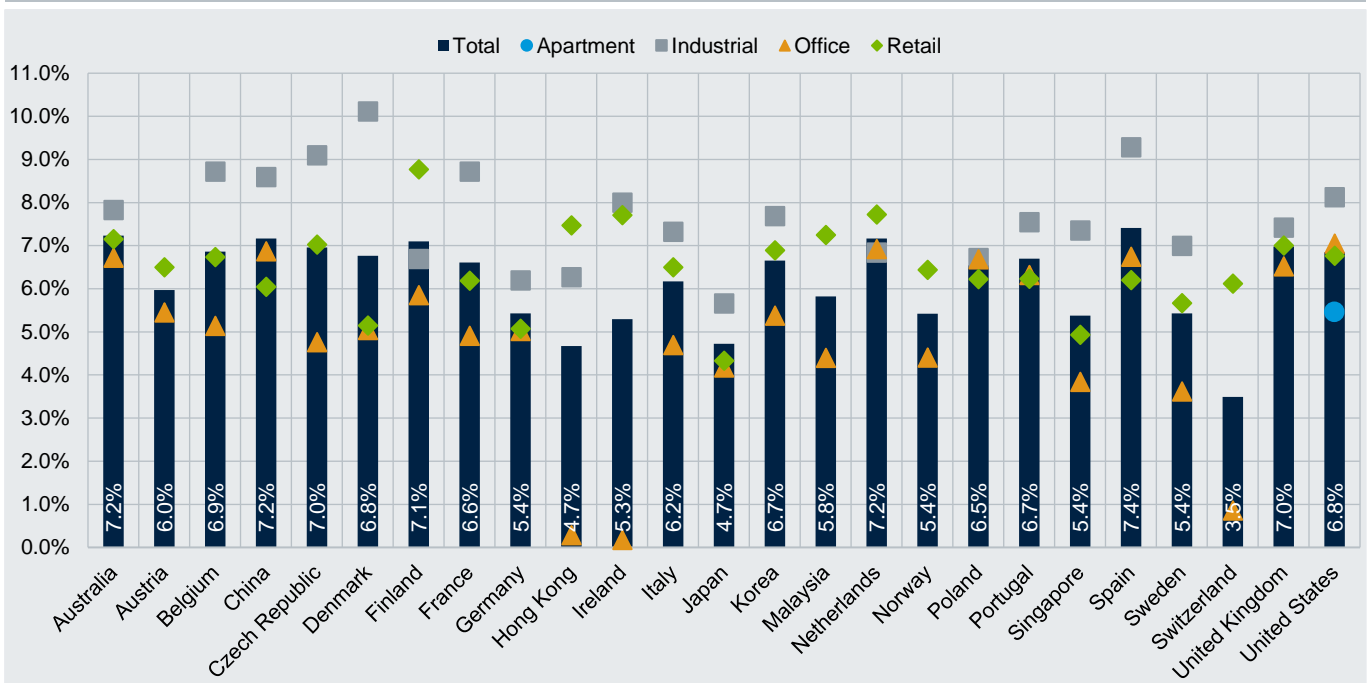
## Real Estate Cap Rates vs. Sovereign Yields (2017)



Sources: Deutsche Asset Management (cap rates), Oxford Economics (bond yields); as of March 2017. Average initial yields for each market based on equal-weight sector initial yields. For illustrative purposes only.

However, income yield spreads are only one part of the valuation. We consider a number of factors when producing our bottom-up real estate return forecasts. These include the outlook for interest rates, initial yield spreads, occupancy rates, rents, NOI growth and new supply. The following exhibit illustrates our views by country and by property sector.

## Average Annualized 5-Yr Forecast Returns by Country and Sector (2017-2021)



Source: Deutsche Asset Management; as of March 2017. Total returns for each market based on equal-weight sector returns. No assurance forecast returns will materialize.

Given the investor demand for real estate over the last several years, while initial yield spreads remain wide, property prices have increased and the starting point on yields is lower. Also, the disparity in our five-year total returns at the country level is narrow, ranging from a low of 3.5% in Switzerland to a high of 7.2% in Australia. However as can be seen in our recently released regional strategic outlooks, the disparity is much greater when taking a more detailed view at the city/sector level.

One of the more important messages from the exhibit is the relative performance by sector globally. As seen in the exhibit, the industrial/logistics sector stands out and we expect better relative performance over the next five years. Several factors contribute to this view. First, notwithstanding the risk in trade policies, greater economic momentum, lower household debt, declining unemployment and rising wages in certain countries should support personal consumption and greater warehouse demand. Second, initial yields on logistic property are higher than the other sectors in most markets. Third, we believe there is a shortage of stock of warehouse and logistics space suitable for the secular shift in e-commerce thereby producing attractive rent growth.

As for offices, pricing has risen and initial yields are lower which tempers our view. While there are ample opportunities within each region, our return expectations are lower. Finally, retail generally falls in a range between these two sectors. While sentiment risks are prevalent due to e-commerce threats, growing consumption and great wealth effects should support both commodity retail consumption in neighborhood, shopping centers and high street retail.

Forecasts are based on assumptions, estimates, opinions and hypothetical models or analysis which may prove to be incorrect.

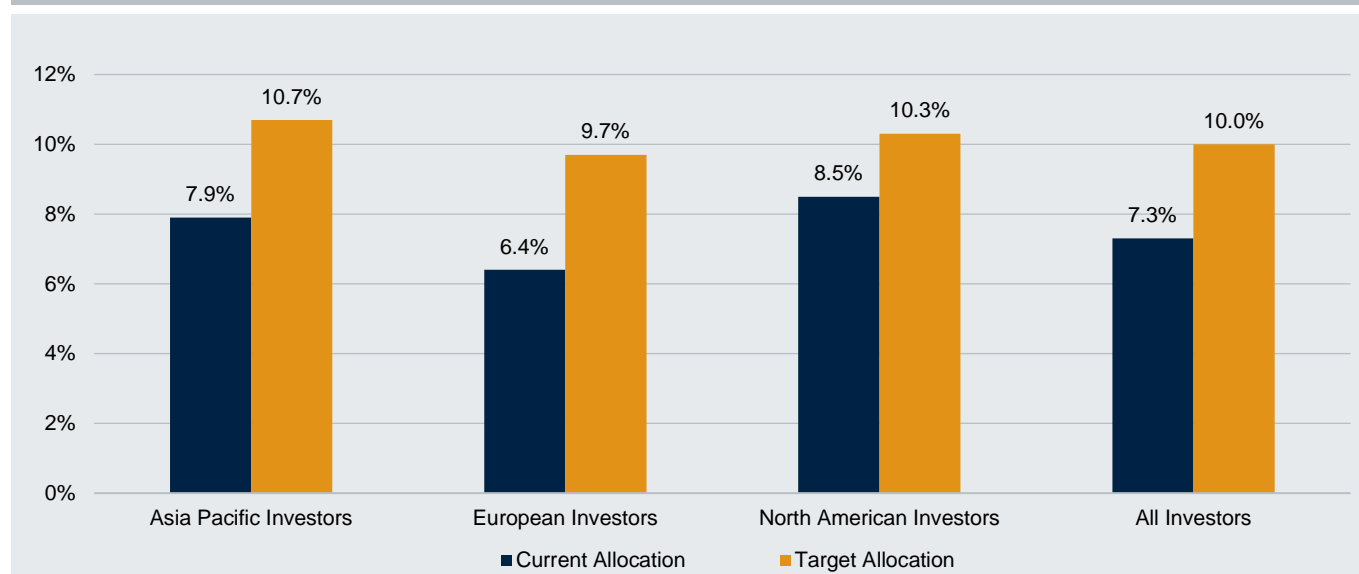
## 5 Real Estate Capital Flows

We see limited liquidity risk for real estate in 2017 for several key reasons. First, in contrast to early 2016 we see low allocation risk which would require investors to rebalance away from real estate. Recalling back to early 2016, China had devalued the Yuan which resulted in lower equity prices and simultaneously increased the percent of assets invested in real estate. It was believed then that if equity prices didn't recover, then it could drive investors to delay or sell real estate assets in order to buy equities and rebalance the allocations back to their target.

Today, the equity markets seem to have a more solid footing as valuation multiples do not appear stretched and global economic activity is improving which should support corporate profits. Second, while allocation risk could arise from a weak bond market in the event interest rates were to rise rapidly, total expected returns on real estate are likely to outperform bonds in light of already low bond yields. Third, in a recent investor intentions survey undertaken jointly by Inrev, Anrev and PREA<sup>2</sup>, investors appear to be under allocated to real estate.

The survey undertaken received responses from 119 institutional investors representing more than \$2.3 trillion of AUM globally. Of this amount, it shows investors' current allocation to real estate is 7.3% versus a target of 10%, which implies an underfunded amount of 2.7% or about \$62 billion. Asia-Pacific investors were underfunded to real estate by 2.8% while European investors were underfunded by 3.2%. The gap was narrower amongst North America investors and stood at 1.8%<sup>3</sup>.

Current and Expected Allocation to Real Estate



Source: PREA, Inrev, Anrev 2017 Investor Intentions Survey as published by PREA. Target allocations are weighted based on real estate assets No assurance forecast will materialize.

Where will this capital flow? For Asia-Pacific investors, the survey indicated their allocation to U.S. property could increase from 25% to 33% while demand for European property could increase from 11.4% to 15.8%. Asia-Pacific investors have a larger international component to their portfolio in contrast to European and U.S. investors. In Asia-Pacific, 61% is held domestically while in Europe, 81% is held at home and in the U.S., 76.5% is invested domestically. But these figures could begin to change.

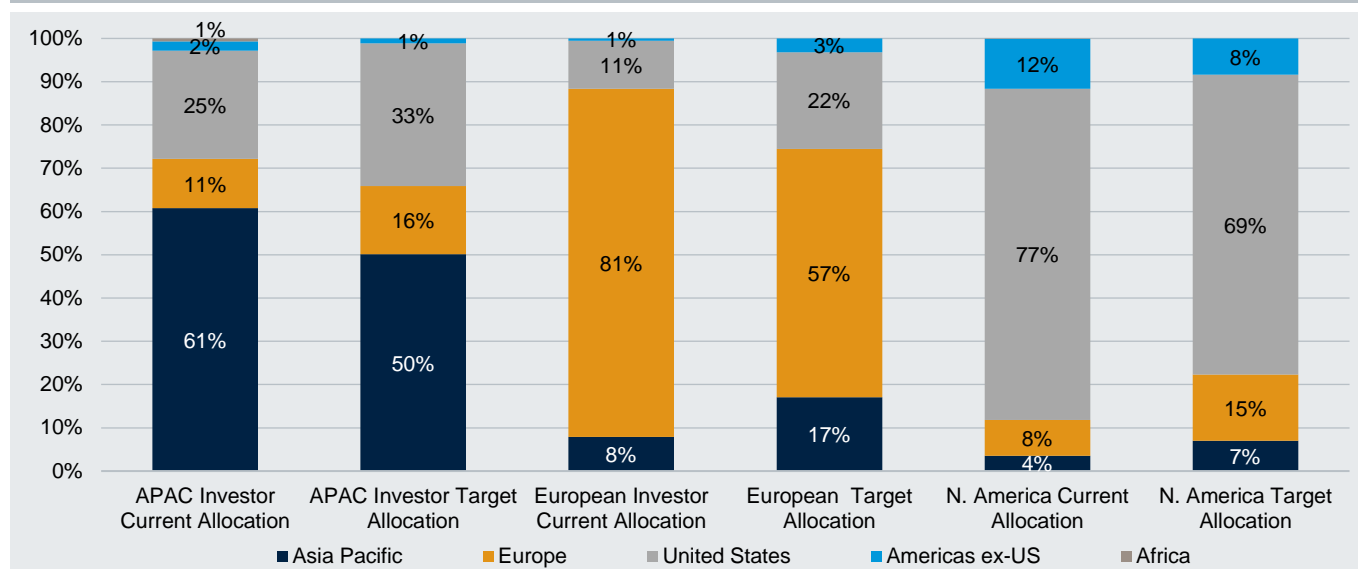
European investors are expected to increase their target to Asia Pacific from 8% to 17% while their share to the U.S. doubles from 11% to 22%. Given how strong performance has been in North America, the amount of capital U.S. investors have allocated internationally is less than that of their Asia-Pacific counterparts. Still, U.S. investors are

<sup>2</sup> 2017 Investors Intention Survey published by PREA, Inrev and Anrev.

<sup>3</sup> Please see figure 2.7, page 12 of the 2017 Investors Intention Survey, published by PREA. Forecasts are based on assumptions, estimates, opinions and hypothetical models or analysis which may prove to be incorrect.

expected to increase their target to Asia Pacific from 3.5% to 7%, while their allocation to Europe increases from 8.3% to 15.3%<sup>4</sup>.

#### Current and Intended Target Real Estate Allocation by Investor Domicile



Source: PREA, Inrev, Anrev 2017 Investor Intentions Survey as published by PREA.

What may be some of the factors driving these trends? As we've been discussing, investors can take advantage of currency differentials to incrementally add to performance. This can be seen more readily in the currency hedging cost of carry chart below. The chart shows a cross-matrix of the hedging cost or gain an investor may experience and may help to explain some portion of global capital flows.

#### Currency Hedging Cost of Carry

Positive Value Indicates Hedging "Gain", Negative Value Indicates Hedging "Cost"

Investor Domicile	3-Year Interest Rate Swap (YE 2016)	Currency of Investment Destination							
		AUD	JPY	KRW	CNY	EUR	CHF	GBP	USD
Australia	2.2%		2.1%	1.0%	-3.4%	2.2%	2.6%	1.5%	0.5%
Japan	0.0%	-2.1%		-1.2%	-5.6%	0.1%	0.6%	-0.7%	-1.6%
Korea	1.2%	-1.0%	1.2%		-4.4%	1.3%	1.7%	0.5%	-0.5%
China	5.7%	3.3%	5.3%	4.2%		5.5%	5.9%	4.7%	3.8%
Eurozone	-0.1%	-2.3%	-0.1%	-1.3%	-5.8%		0.4%	-0.8%	-1.8%
Switzerland	-0.5%	-2.7%	-0.6%	-1.7%	-6.2%	-0.4%		-1.2%	-2.2%
UK	0.7%	-1.5%	0.7%	-0.5%	-4.9%	0.8%	1.2%		-1.0%
U.S.	1.7%	-0.5%	1.6%	0.5%	-3.9%	1.7%	2.2%	1.0%	

Sources: Deutsche Asset Management, Bloomberg; as of January 2017.

Green shading indicates cost of carry of 100 bps or more, yellow shading indicates cost of carry between -100 bps and 100 bps, red shading indicates cost of carry of -100 bps or less. For illustrative purposes only.

For example, because Chinese interest rates are so much higher than those in every other country or region shown, international investors who want to hedge their currency risk to the Yuan would incur significant hedging costs when investing in China. All else equal, it suggests capital flows into China may be relatively lower. Conversely, because interest rates in the Eurozone and Japan are so much lower, these markets may be relatively more attractive for more real estate investors globally as the hedging gain can add to their total returns. Finally, considering the U.S.,

<sup>4</sup> Please see figures 2.12 and 2.13, pages 13 and 14 of the 2017 Investors Intention Survey, published by PREA. Forecasts are based on assumptions, estimates, opinions and hypothetical models or analysis which may prove to be incorrect.

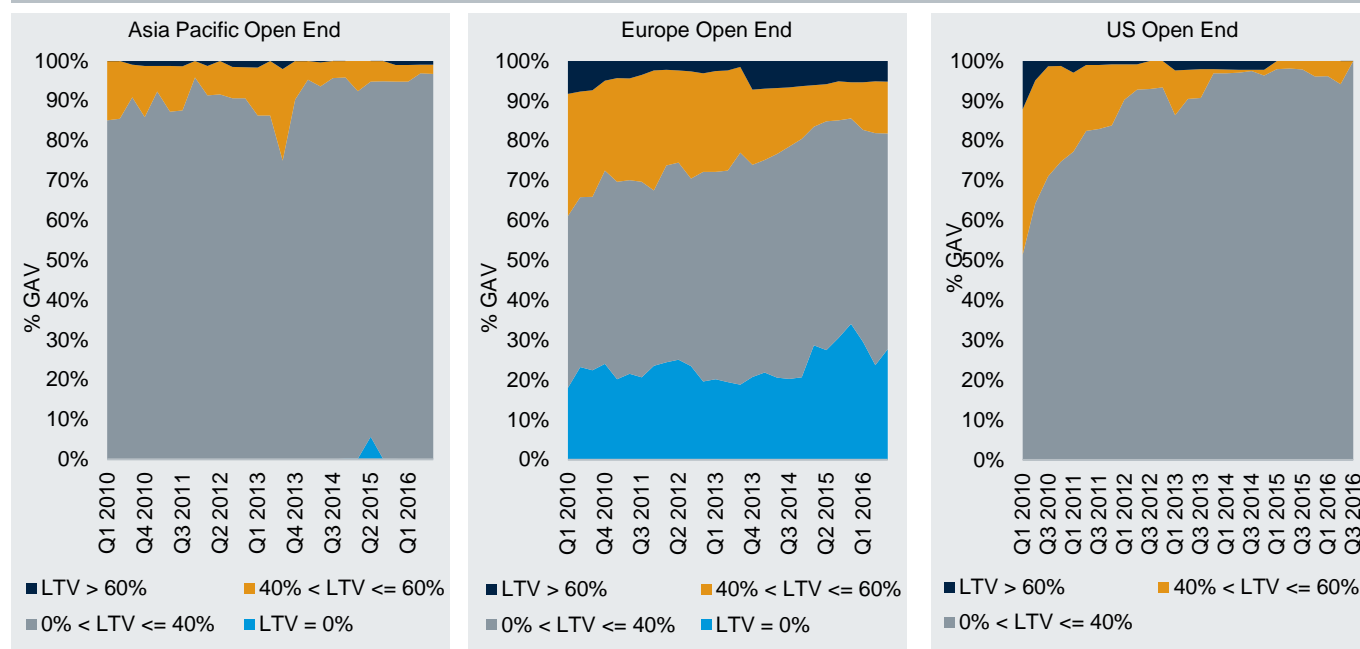
now that interest rates have risen from their lows from a few years ago, hedging costs have increased and may temper in-flows in contrast to recent performance. Still, as we will discuss shortly, expected total returns in the next 2-3 years in the U.S. remain attractive enough that investors may be able to outperform their local market return, net of hedging costs.

One issue which could derail the growth of cross border capital flows was whether or not vehicles were available which were suitable for investors. Looking at trends in the GREF Index<sup>5</sup>, growth in non-listed open-end and closed-end real estate funds over the last seven years has increased 9% per year increasing from \$346 billion to \$607 billion at the end of 3Q2016 as reported by GREFI. APAC increased from \$50 billion to \$96 billion. Europe increased modestly from \$178 billion to \$188 billion while the U.S. increased from \$118 billion to \$299 billion. Furthermore, the trends on the use of leverage also seem to be changing which can reduce risk for investors.

Following the credit crisis, the proportion of funds using higher levels of leverage was much greater and contributed to the volatility of returns. Today, the proportion of open end funds using less than 40% leverage is greater than it was during and immediately following the credit crisis as suggested by the trends in the GREFI.

In Asia-Pacific, 92% of the open-end funds are deploying less than 40% leverage. In Europe, the change has been more dramatic. In 2010, only 61% of funds used less than 40% gearing and today, 76% of open-end funds use less than 40% gearing. Further still, a similar trend has occurred in the U.S. where today 91% of funds use less than 40% gearing compared to seven years ago when only 52% used low leverage. When higher levels of leverage are used on real estate, the correlation to equities typically increases and reduces diversification benefits. All else equal, with lower levels of leverage being used today, the open end fund universe is likely to have lower correlation to equities and lower risk levels than they did prior to the start of the credit crisis, which can help support the case for core real estate in a multi-asset portfolio.

#### Lending Levels are Lower in Open-End Funds



Source: ANREV / INREV / NCREIF GREFI (Global Real Estate Fund Index) Q3 2016 Past performance may not be indicative of future results.

<sup>5</sup> Source: Investor trends and capital flows as presented by Henri Vuong, Director of Research & Market Information, INREV at the 2017 ANREV Korea Conference. Materials reflecting this information can be found at either NCREIF, Inrev or Anrev. The data reflect information regarding the Global Real Estate Fund Index, developed jointly by these organizations. Forecasts are based on assumptions, estimates, opinions and hypothetical models or analysis which may prove to be incorrect.

## 6 Outlook for Real Estate Globally and by Region

### 6.1 Outlook and Opportunities for Asia Pacific Real Estate

We maintain our favorable outlook on real estate in the Asia Pacific region as we expect core unlevered total returns range between 5.8% - 8.1% annually over the next five years and are expected to outperform the U.S. and produce competitive returns relative to those available in Europe. We believe the industrial sector is likely to perform better than office and retail while near term returns are capped in the Tokyo and Seoul office markets given the strong competition for good quality assets.

Investor demand for property in Asia Pacific continues to grow and as a result, cap rates have tightened further over the last six months in line with interest rate cuts. Despite the modest tightening, initial yields relative to sovereign bond rates are trading wider than the global average of 3% across several markets and sectors. Notably, Korea (3.2%), Japan (3.8%) and Australia (3.5%) each exceed the average while Singapore, Hong Kong and Malaysia fall short by 50-100 bps. In addition, initial yields are also comfortably wider than financing costs, ranging from a high of 300 bps and 320 bps in Australia and Japan, respectively to 200-250 basis points in South Korea and Singapore. When combined with stable to improving fundamentals across several sectors, we expect relatively low capital value risks over the near term.

**Office:** Office markets in core cities across Asia Pacific generally performed relatively well in 2016, underpinned by steady occupier demand trends. Sydney led the region in effective rental growth, driven by a broad based recovery in tenant demand and significant decline in rental concessions. For the five year forecast period through 2021, vacancy rates across key office markets in the region are generally expected to improve or remain stable at the current healthy levels which should support additional rent growth. In particular, we favor the Sydney, Osaka and Melbourne office markets where rising rents, declining vacancy and concessions should contribute to outsized net income growth. We suggest selectively considering assets in Tokyo and Seoul. In Tokyo, we have a very positive view on the fundamentals with vacancy rates of c. 4% which should allow rents to grow 2%, although lower initial yields result in total returns of only 4%. In Seoul, initial yields are slightly better at 4.6%, however, the market is absorbing excess supply and vacancy rates are likely to remain elevated in the near term. Finally, we have a cautious view on other key markets such as Singapore, Perth and Brisbane due to either a surge in new supply or subdued tenant demand in 2017.

**Retail:** In our targeted markets, we expect retail is likely to deliver total returns in the range of 6.75% to 8% and outperform several of our core office markets. Key cities in China, Australia, South Korea and Japan continue to see healthy, moderate rental growth underpinned by stable domestic consumption trends and strong tourist arrivals, despite competition from the ongoing proliferation of online retail.

Over the five-year forecast horizon, Shanghai and Australian top cities are expected to experience the strongest growth in retail rents in the region, while growth should be more moderate in suburban, decentralized areas even in these cities. In Australia, we favor both neighborhood and shopping centers as growing domestic demand is supporting consistent retail sales growth of c. +3%. In Seoul retail rental growth is likely to be more modest below 2% p.a., although attractive initial yields result in 7% total returns over our forecast. Tokyo is also expected to see similar rent growth leading to total returns of c. 5%. While low on an absolute basis, it offers a high risk premium due to low base rates. Indeed, with low borrowing costs for conservative leverage, investors may be able to receive high risk-adjusted returns of 8%-9%.

Elsewhere, retail sales continue to underperform in some major markets in the region including Hong Kong, Singapore and Malaysia due to soft domestic consumption and subdued inbound tourist arrivals. Accordingly, rents have declined in Singapore and Kuala Lumpur, while no rental growth is expected in Hong Kong until 2018. The environment appears tough particularly for prime retail in Singapore and Hong Kong where retailers face margin pressures resulting from the combined effects of weaker tourist spend and elevated rental and labor costs.

Forecasts are based on assumptions, estimates, opinions and hypothetical models or analysis which may prove to be incorrect.



**Industrial:** Because of higher initial yields and strong underlying occupier demand, the industrial sector has provided consistently higher returns than the office and retail sectors, and is expected to remain attractive in the next five years. Initial yields on industrial average 1.6% higher than office and 1.1% higher than retail across the region. Furthermore, e-commerce and third party logistics companies are expected to drive leasing demand in the modern logistic space across the region and rents are expected to increase by an average of 1.0% to 3% per year across the region, broadly in line with each country's inflation as tenants. As a result, our five-year return forecasts for the key cities in Australia, Singapore, Tokyo and Seoul look favorable at high levels ranging from 5.7% in Tokyo to nearly 8.5% in Australia. Investors could be constrained by the limited deal flow of high quality completed assets in Seoul and Singapore.

Despite the slowdown in China, prime logistics space across the region continues to see healthy take-up driven by e-commerce and third party logistics providers, resulting in positive rental growth trends across the region. The availability of prime development land and quality modern warehousing facilities is critical for logistics markets undergoing modernization changes coupled with rising domestic consumption, particularly for locations such as Seoul. Tokyo is expected to provide good excess returns in the forecast period, while excess returns are forecast to be the lowest in Hong Kong at 3.3% where industrial cap rates are anticipated to rise in the forecast period. Furthermore, while our five-year outlook is positive for Singapore where we expect total returns in the range of 7%, rents are likely to decline in 2017 before staging a recovery in 2018 on the pretext of improving global trade conditions.

## 6.2 Outlook and Opportunities for European Real Estate

With the passage of time our five-year return outlook for Europe has improved. The primary reason is driven by our belief that interest rates are likely to be lower than previously envisioned resulting in lower capital value risk over our outlook. As a result, our prime total return forecasts have improved across all sectors, although the relative order remains unchanged. In particular, prime returns in the European logistics sector over the next five years are now forecast to average 7.6% per annum, compared to 6.4% for shopping centers and 5.2% for offices.

Real estate fundamentals in Europe remain positive, particularly for logistics, where underlying demand trends should remain in force given the structural changes in e-commerce combined with the cyclical recovery in job growth and wages. For offices, we expect rising levels of development to dampen the market towards the end of the decade, although rent growth should remain positive. The retail sector is perhaps where the most significant challenges lie. While the most successful high streets, shopping centers and retail parks should continue to thrive, secondary space is likely to struggle.

Indeed, pan-European vacancy rates have continued to fall in both the office and logistics sectors and remain tight in high street retail. Through late 2016, office vacancy rates had fallen from 10% in 2014 to 8.9% as of the third quarter of 2016. Over this same period, logistics vacancy rates had fallen from 8.1% to a tight 5.0%. Finally, while High Street retail has maintained a stable vacancy rate of 5.1%, shopping centers have seen vacancy rates increase slightly from 7.2% to 7.4%.

**Office:** Our overall return outlook for office masks the divergence in performance across Europe. Over the next two years, we expect total returns of 10% or more in certain large cities such as Madrid, Barcelona, Berlin and Paris La Defense. In contrast, we expect total returns in Central offices to decline by -4%. Office occupier demand has maintained an upward trend that began in 2014 and take-up amounted to over 10 million square meters on a rolling annual basis in the third quarter of 2016. Central Paris, Stockholm and the main German cities were among the best performers, whereas leasing activity slowed in the United Kingdom.

Looking forward, we expect stable to declining unemployment in Germany, France and Spain which should underpin office tenant demand. In particular, certain cities such as Frankfurt, Paris, Dublin, Luxembourg and Amsterdam are well positioned to attract potential office jobs from London following the Brexit vote. In these markets, tight vacancy rates and stable job growth should lead to strong rent growth over the next two years as new office deliveries may be limited. While we are expecting office inventory growth of 2% of the stock, it is only slightly higher than its average of 1.5% per annum experienced over the last five years. Furthermore, if unemployment rates continue to decline, this could lead to additional take-up in the major German cities, Paris La Défense and central locations in Madrid, Barcelona, and Amsterdam and support higher total returns. Conversely, in the near term we remain underweight on the United Kingdom, Prague and Warsaw where new construction and rising vacancy rates are likely to lead to a correction in rental rates.

Forecasts are based on assumptions, estimates, opinions and hypothetical models or analysis which may prove to be incorrect.

**Retail:** Falling unemployment and rising real wages helped to keep confidence levels above their historical average, in turn boosting retail sales. Over the coming few years we expect retail to be a relative outperformer. For High Street retail, we expect total returns across the region to average 5.2% ranging from a low of c. 3%-4% for Milan and Rome to a high of c. 8% for regional France. Shopping center returns offer slightly higher returns averaging 6.1%.

While structural challenges will remain, the cyclical recovery has tended to lag in recent years, and therefore we anticipate that the best locations are due a period of catch-up. Prime locations and major high street and prime shopping centers continue to attract tenant demand and vacancy rates remain low as the sector has seen a steady decline in new construction since 2008. While bottom-up asset specific opportunities are arguably more important in the retail sector, we see the most attractive opportunities in the Benelux countries, Spain, Finland and Ireland where rents are expected to grow by 2% to 3% per annum and should lead to relative outperformance. In contrast, while we favor prime locations in the United Kingdom over the long run, economic uncertainty in the short run combined with greater on-line retail sales penetration create risks in the short run. Finally, investors may want to consider underweighting Italian and Polish retail. While the markets have been attractive in recent years, the decline in initial yields and weaker fundamentals suggest weaker relative performance compared to other markets across Europe.

**Industrial:** Vacancy rates in the logistics sector have fallen sharply over the last four years and currently stand at 5%. With a diverse array of occupiers including manufacturers, retailers, e-commerce companies and 3PLs seeking to secure the best sites available to enable efficient delivery of goods, we expect to see sustained tenant demand focused on both “mega-sheds” which allow them to create greater efficiency as well as ‘last-mile’ logistics facilities which enable expeditious delivery. With rents below pre-crisis peak in most markets and tenant demand remaining favorable, we expect to see a pickup in rental growth over the next five years.

Across most European markets, a severe shortage of modern Grade A logistics stock is also prompting a rise in speculative development, although robust tenant demand will likely mean much of this new space will be absorbed quickly given the amount of outdated and obsolete stock. Further still, build-to-suit (BTS) will remain the key route to fulfill their needs, so we are less concerned about the risk of speculative development eroding the outlook.

Finally, initial yields on logistics property average 5.7% which is substantially higher than those in both the retail (4.8%) and office (4.2%) sectors. As such there is further room for compression over the next two years. Given the emerging rent growth, the higher initial yields and the prospect for additional yield compression, we expect logistics is well positioned to outperform the other property sectors. We are forecasting prime total returns of 7.75% per annum over the next five years. Over the next two years, we expect investors could achieve total returns of 9%-10%, before decelerating to 6.25% in the last three years of our forecast.

Across the three largest markets, we see the most compelling opportunities in France and Benelux where we expect ungeared total returns of 8.4% or more. While the French recovery has lagged the United Kingdom and Germany, it is also behind in terms of e-commerce maturity, which should in time offer opportunities to benefit from the uplift in demand associated with rising online sales. Returns in Germany are likely lower at 6.2% but still compelling. Elsewhere, we expect Barcelona and Madrid could produce total returns in excess of 9% given the strength of projected rent growth. Conversely, we are underweighting United Kingdom and advise caution on Poland. In the UK, rents are expected to remain flat while at the same time, prime initial yields are roughly 100 basis points lower than the European average, while in Poland, higher levels of construction resulting in capital appreciation of less than 1% over the next two years, well below the European average of 4.6% which we expect to occur over the next two years.

## 6.3 Outlook and Opportunities for U.S. Real Estate

2016 was a strong year for U.S. commercial real estate. For the most part, demand continued to outstrip supply, pushing vacancy rates lower and rents higher. Within the NCREIF Index, vacancy rates at year-end 2016 stood at 6.8% for the overall index. This is almost 1% lower than the last trough which occurred in 3Q2007 and is down considerably from its peak of 12.2% in 1Q2011.

Forecasts are based on assumptions, estimates, opinions and hypothetical models or analysis which may prove to be incorrect.

Prices generally ended the year above where they started. After six years of unprecedented double-digit returns, total returns for the NCREIF Property Index registered 8.0% for 2016 while the NCREIF Open-end fund index (NFI-ODCE) registered a total return of 8.8%, both of which were in a range of their historical averages<sup>6</sup>.

In more subtle ways, however, the landscape began to shift. While fundamentals were strong, financial-market volatility curbed the decline of cap rates that had powered capital gains since 2010. In the capital market, lower oil prices led to reduced investor demand from sovereign wealth funds that rely on energy revenues, while capital controls led to lower flows from Chinese-based investors. These trends led to a greater dispersion in returns nationally as certain “large cap” markets, such as Houston, Washington DC and New York weighed on performance, particularly in the apartment and office sectors, and held back the performance of the index by roughly 61 basis points.

Over the next two years, we expect the index to produce total returns in the range of 6%-7%. Absent adverse macroeconomic risks, we are confident in this estimate for two reasons. First, net operating income (NOI) growth in the NCREIF Index registered 5% on a year-on-year basis at the end of 2016. When vacancy rates reached these levels in the past, NOI typically grew in excess of 5%. In addition, initial yields in the index currently stand at 5%. On its own, it would suggest the index could produce a total return of 10%. However, assuming a 10 basis point increase in yields due to rising bond rates, combined with an allowance of 1.5% for capital expenditures results in a total unleveraged return of 6%-7%. We expect the NFI-ODCE index could surpass this level simply due to leverage effects and additional gains on marking-debt-to-market in a rising rate environment.

While the U.S. real estate market is unlikely to repeat the double-digit performance of the past five years, the U.S. economy does not suffer from overt excesses, such as inflation or asset bubbles, that have precipitated past recessions. Outside of the high-rise apartment sector, supply is generally under control, real estate is not over-leveraged and valuations are not stretched on a relative basis. In this context, a moderation of returns should help extend the duration of the cycle, or in a worst case scenario, cushion the severity of any downturn.

**Office:** The office sector has historically performed well in mature phases of the real-estate cycle, and with leases rolling up to rent levels that are on average 25% above those prevailing five years ago, income growth prospects are upbeat for many office assets. However, office leasing disappointed in 2016 despite healthy job creation, suggesting that corporate space densification continues to weigh on absorption. Moreover, with the labor market already near full employment, the scope for further job creation may be constrained, and pockets of excess supply remain in a handful of large markets (e.g., New York, Washington DC and Houston). The NCREIF office return was also biased lower due to the weak performance of these larger metros. Through 4Q2016, annual returns in Houston (-4.0%), Washington DC (3.9%) and New York (5.6%), weighed on the overall index. Subtracting the performance of these markets from the index would have lifted performance of the office sub-index from 6.2% to roughly 7.1%, although still lower than the overall index of 8%.

Demand indicators are generally strong, but not producing velocity and performance typical in this phase of the cycle, even with more suburban markets expanding. Office-using payrolls grew a healthy 2.3% year-over-year, outpacing overall employment growth, while also surpassing high-tech employment growth for the first time since 2007.<sup>7</sup> Vacancy at the end of 2016 was 11.3%, level with the previous year (see Exhibit 12), although only modestly higher than the previous trough of 11.2% in 2007.<sup>8</sup>

Limited availability led to strong asking rent growth, up 3.3% year-over-year as of 3Q. Weak absorption, however, weighed on effective rents, up just 1.4% year-over-year through 3Q (latest data available)<sup>9</sup>, as greater concession packages were employed to attract scarce demand. Underscoring the disparity in performance across the U.S., the range of returns across metros was widest in the office sector at the end of 2016 with the best performing market of our top-20 markets, Portland, producing a total return of 13%, with the worst, Houston, producing a total return of -4.0%.

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<sup>6</sup> The difference in returns between the NFI-ODCE (a fund level index) and the NCREIF Index (a property level index) can mostly be explained by the positive effects of leverage and mark-to-market on debt in NFI-ODCE which added 128 basis points, partially offset by JV partner leakage and cash drag of 56 basis points.

<sup>7</sup> Moody's Analytics/Economy.com. Data as of December 2016.

<sup>8</sup> Deutsche Asset Management & CBRE-EA. Data as of December 2016.

<sup>9</sup> CBRE-EA. Data as of December 2016. Past performance may not be indicative of future returns. Forecasts are based on assumptions, estimates, opinions and hypothetical models or analysis which may prove to be incorrect.

Looking forward, we expect office to deliver a total return in the range of 5.5% to 6.0% over the next five years. As the returns are low relative to the risks inherent in office, we are maintaining an underweight. To outperform the index average, we emphasize an overweight to certain emerging “fringe” central business districts (CBDs) such as Boston Seaport, Midtown South, Seattle South Lake Union and West Loop Chicago. The rise and emergence of these newer districts has occurred at the expense of traditional CBD nodes. Elsewhere, we expect better relative performance in Los Angeles, Orange County Portland, Atlanta and Seattle where absorption over the next three years is expected to outpace new construction leading to lower vacancy rates and higher rents. In these markets, we expect total returns could outperform the index average by 1%-2%.

**Retail:** Despite structural shifts in e-commerce impacting retail, within the NCREIF index, retail has performed well over the last 12 months as of 4Q2016. The sector produced a total return of 9% versus 8% for the overall index. Notably, both Malls and Grocery-anchored retail centers continue to lead in performance with regional and super-regional malls producing a combined return of 10.1% while neighborhood produced a total return of 9.2%.

Due to limited new construction, retail vacancy rates in the index have recovered from a peak of 11% in 3Q2010 and currently stand at 7%. At the same time, NOI is growing on pace with its 10-year average.

Over the last 10 years it grew an average of 2.4% per year and finished 2016 with growth of 2.6%. This gradual decline in availability, coupled with a modest supply pipeline, is setting the stage for future rent growth. Year-to-date third quarter of 2016, rents have grown 1.9%; outpacing 2015's annual rent increase of 1.3%, according to CBRE-EA's Retail Rent Index.<sup>10</sup>

With the U.S. unemployment rate at 4.7%<sup>11</sup>, a tight employment market is putting upward pressure on wages with median pay for U.S. workers growing by 3.9% percent year-over-year in October and November of 2016<sup>12</sup>, marking the fastest growth rate since November 2008. Meanwhile, consumer sentiment jumped in early December as the University of Michigan's Index of Consumer Sentiment surged 4.7% month-over-month to 98.2, and recorded the highest reading since 2004.<sup>13</sup> Total retail sales were up 4.1% from a year ago and 0.6% from November 2016, due to increases in auto, furniture, building materials and online retail sales. Economic indicators currently reflect the positive state of the U.S. consumer which should continue to support demand trends at least through the mid-term of the forecast, however, performance across the retail landscape will likely remain mixed.

The shift from shopping at department stores to the internet is reflected in the year-over-year 8.4% decline in department store sales versus the 13.2% growth in online sales over the same period from 2015.<sup>14</sup> While the challenges to retail real estate from e-commerce has been well documented, growing demand for services that cannot be delivered online (e.g., dining, health care, fitness, etc.) is fostering demand for well-configured retail space in the right locations. Accordingly, we believe that the retail sector is positioned to deliver stable returns in the range of 6% over the medium term, although location, asset, and tenant selection are critical. In particular, we favor grocery-anchored neighborhood centers, dominant malls and high-street retail.

While retail asset selection is generally more important than market selection, we expect top tourist destinations such as Orlando, Phoenix and Miami may provide attractive outperformance. Furthermore, metros such as Dallas, Houston and Atlanta may produce outperformance due to higher population growth and declining vacancy rates. While we expect stable retail sales growth in gateway metros such as Los Angeles, Boston and New York, investors pay a premium for retail in these top markets and as a result, we expect lower relative performance. Thus, over the near term we expect better relative performance from dynamic regional markets, such as Austin, Fort Lauderdale and Portland.

**Industrial:** On the back of strong performance in 2016 (12.3%), industrial has been the top performing sector in NCREIF over the last 1, 3, and 5 year periods and we expect that relative performance will continue over our forecast period. While warehouse construction has steadily increased, it has failed to satiate the burgeoning demand generated by e-commerce fulfillment. More recently, housing activity has added meaningful support to demand, particularly for smaller properties.

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<sup>10</sup> Source: CBRE-EA. Data as of 9/30/2016.

<sup>11</sup> Source: Bureau of Labor Statistics. Data as of 12/2016.

<sup>12</sup> Source: The Atlanta Federal Reserve. Data as of 11/30/2016.

<sup>13</sup> Source: University of Michigan. Data as of 11/2016.

<sup>14</sup> Source: United States Census Bureau. Data as of 12/2016. Past performance may not be indicative of future returns. Forecasts are based on assumptions, estimates, opinions and hypothetical models or analysis which may prove to be incorrect.

Net absorption for 2016 totalled 257 million square feet, compared to just 179 million square feet of new construction.<sup>15</sup> National availability declined 70 basis points in 2016, ending the fourth quarter at 8.2%. For assets held in the NCREIF index, vacancy was even tighter at 4.7% allowing effective markets rents to grow about 6% in 2016. The strongest markets have been California, New York/New Jersey, South Florida, and the Pacific Northwest.

The U.S. industrial market appears poised to extend its strong performance over our forecast period. This outlook is dependent upon the resilience of three key demand drivers: an expanding economy (jobs, income, and consumption), rapid expansion of internet retail sales, and a disciplined construction cycle. We expect recent and future market rent gains will fuel outsized income growth and strong relative returns for industrial investors. Our overweight markets include U.S. gateway markets in southern California and in the Northeast region, as well as the more vibrant local markets on the West Coast and in South Florida which are all exhibiting availability rates well below their long-term averages. Conversely, some examples of our underweight markets include Houston, Phoenix and Baltimore where availability rates are relatively high.

**Apartment:** NCREIF Property Index total returns for the apartment sector decelerated to 7.3% through year-end 2016<sup>16</sup> causing the 1, 3, 5, 10 and even 20-year returns to fall below the index average. Western metros have been the primary outperformers over the last year where Portland, Oakland, Denver, Phoenix, San Diego, Seattle all exhibited total returns of 9.5% or more. In contrast, several slower growth Midwest markets such as Minneapolis and Chicago as well as East Coast markets, along with Houston and San Francisco, produced total returns of 6.5% or lower.

Among apartment property subtypes, garden apartments are the top performers, returning 9.5% over the last year as of the fourth quarter 2016. Despite their popularity with investors, high-rise properties (which represent 60% of the NCREIF apartment index) have lagged returning just 6.1%. The high-rise sector will likely underperform again in 2017 as significant supply continues to come online in the urban core. Indeed, within the NCREIF index, the overall vacancy rate increased from 6.3% to 7.2% in 2016. In contrast, the nation's vacancy rate was 4.6% as of the third quarter, up 30 basis points from a year earlier. In turn, rent growth has decelerated. After topping 5.0% in mid-2015, year-over-year national effective rent growth fell to 2.6% at the end of 2016. This marked the lowest annual rent growth since the second quarter of 2010.

We expect the apartment market to deliver returns in the range of 5% per annum over the next 5 years. While favorable macro trends should continue to sustain healthy renter demand, it is unlikely to offset the influx of new supply in 2017-2018 when new deliveries are projected to average 230,000 units per year and 73% above their long-term annual average of 132,000 units<sup>17</sup>.

As the pipeline fades, we expect relative performance may improve. Declining supply growth in the outer years of the forecast will put demand and supply closer in balance, causing vacancy rates to stabilize. In the interim though, we expect rental growth will trend towards its longer-term average of 2.5%. Against this backdrop, we believe better relative performance can be achieved in selective urban nodes as well as markets which have better job growth, lower new construction and attractive amenities. In particular, late-recovery Sunbelt markets such as Riverside, Phoenix, San Diego and Atlanta should bolster national rent growth over the next several years.

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Past performance is not indicative of future returns. Forecasts are based on assumptions, estimates, opinions and hypothetical models or analysis which may prove to be incorrect.

<sup>15</sup> CBRE-EA. Data as of January 2017.

<sup>16</sup> NCREIF, December 2016.

<sup>17</sup> Deutsche Asset Management December 2016, CBRE Econometrics September 2016.



## 7 Global Portfolio Allocation Positioning<sup>18</sup>

This section provides a generalized framework for international investing relative to an investor's local returns and the relative purchasing power of their home currency. This can provide a disciplined approach to identify those regions, markets and property sectors that may complement an investor's domestic portfolio and can either improve performance, reduce risk, provide diversification or achieve a combination of the three.

The following relies on our regional forecasts previously published in February and overlays three-year swap-spreads between currencies as a means to determine hedging costs. There is no guarantee the forecasts will materialize. While this analysis takes into consideration our expected returns, correlation, and potential currency hedging costs, it does not incorporate taxes.

For each investor, we briefly consider possible investment opportunities across specific countries as a means to help develop a global approach. With respect to country-level hedging, it is important to note that investors may be able to minimize hedging costs and currency drag by establishing a portfolio which is also diversified by currencies. Investors that generally adopt a longer investment horizon can expect to minimize currency fluctuations, thereby limiting the need for complex hedging overlays. Certainly the trade-off is currency volatility in the short run can create tracking error.

Domestic vs. Hedged Market Returns (2017-2019)													
Investor Domicile	Home Country Return	Hedged Cluster Returns											
		Australia	Japan	South Korea	China	Germany	Switzerland	United Kingdom	France	Netherlands	Spain	Italy	United States
Australia AUD	7.0%	7.0%	6.6%	7.4%	3.7%	9.8%	7.6%	7.1%	10.5%	11.3%	12.3%	9.7%	7.7%
Japan JPY	4.5%	4.9%	4.5%	5.3%	1.4%	7.7%	5.5%	4.9%	8.4%	9.2%	10.2%	7.6%	5.6%
Korea KRW	6.4%	6.0%	5.7%	6.4%	2.7%	8.9%	6.7%	6.1%	9.6%	10.4%	11.4%	8.7%	6.8%
China CNY	7.1%	10.3%	9.9%	10.6%	7.1%	13.1%	10.8%	10.3%	13.8%	14.5%	15.5%	12.9%	11.0%
Germany EUR	7.6%	4.7%	4.4%	5.1%	1.3%	7.6%	5.4%	4.8%	8.3%	9.1%	10.1%	7.4%	5.5%
Switzerland CHF	5.0%	4.3%	4.0%	4.7%	0.9%	7.2%	5.0%	4.4%	7.9%	8.7%	9.7%	7.0%	5.0%
United Kingdom GBP	5.6%	5.5%	5.2%	5.9%	2.1%	8.4%	6.2%	5.6%	9.1%	9.9%	10.9%	8.2%	6.3%
United States USD	7.2%	6.5%	6.2%	6.9%	3.2%	9.4%	7.1%	6.6%	10.1%	10.8%	11.8%	9.2%	7.2%
Local Currency Return		7.0%	4.5%	6.4%	7.1%	7.6%	5.0%	5.6%	8.3%	9.1%	10.1%	7.4%	7.2%

Sources: Deutsche Asset Management, Bloomberg. As of March 2017. Total returns for each market based on equal-weight sector returns.

Green shading indicates hedged returns that are more than 100 bps above the home country return, yellow shading indicates hedged returns that are within a 100 bps range of the home country return and red shading indicates hedged returns are that more than 100 bps below the home country return. We have assumed that for each investor, the allocation to their home country is accounted for in their domestic real estate portfolio. Therefore the weighted-average return to the home cluster excludes the home country return. Past performance may not be indicative of future results.

<sup>18</sup> Swap-spread interest rates highlighted in this section come from Bloomberg as of January 2017

Market Return Correlations (Hedged)													
	1997-2016	Australia	Japan	Korea	China	Germany	Switzerland	United Kingdom	France	Netherlands	Spain	Italy	United States
Investor Domicile	Australia	1.00	0.54	0.26	0.29	0.57	0.50	0.39	0.67	0.67	0.65	0.43	0.75
	Japan	0.53	1.00	-0.16	0.48	-0.02	-0.10	0.28	0.11	0.44	0.29	0.16	0.51
	Korea	0.28	-0.09	1.00	-0.01	0.36	0.63	0.12	0.58	0.29	0.37	0.61	0.52
	China	-0.07	0.27	0.13	1.00	-0.52	-0.10	-0.19	-0.32	-0.27	-0.31	-0.45	-0.03
	Germany	0.54	-0.06	0.34	-0.25	1.00	0.52	0.23	0.75	0.52	0.66	0.63	0.48
	Switzerland	0.50	-0.06	0.61	-0.07	0.52	1.00	0.51	0.70	0.37	0.56	0.59	0.34
	United Kingdom	0.41	0.30	0.09	0.00	0.29	0.53	1.00	0.50	0.61	0.63	0.35	0.44
	United States	0.76	0.53	0.29	0.22	0.54	0.32	0.47	0.71	0.76	0.72	0.56	1.00

Sources: Deutsche Asset Management. As of January 2017. Past performance may not be indicative of future results.

## 7.1 Australian Investor Allocation

For an Australian investor, we believe their home market can potentially provide an average total return of 7.0% per year over the next three years with industrial producing a total return of 7.5% per year outperforming office and retail.

Referencing our chart, our forecasts suggest Australian investors could outperform their domestic market by targeting several countries in Europe, such as Germany, France, Netherlands, Spain and Italy. These countries are expected to outperform the Australian market by 40-310 basis points in local currency terms. Because interest rates in Australia are 230 basis points higher than in the Eurozone, Australian investors receive a currency hedging gain which can add to performance. Also, as depicted in our correlation table, real estate returns correlations between these markets and Australia ranges from a low of 0.43 in Italy to a high of 0.67 in France and Netherlands. Furthermore, while the UK and Switzerland also provide diversification, the expected returns are lower and suggest an underweight position.

Elsewhere around the globe, South Korea and the United States also offer competitive hedged returns which are 40-70 basis points higher. South Korea offers one of the lowest correlations at 0.26, while the U.S. is higher at 0.75. Within the U.S., we believe the industrial market could deliver an average annual return of 8.9% and outperform an Australian investor's home country return.

## 7.2 Japanese Investor Allocation

For a Japanese investor, we believe their home market can potentially provide an average total return of 4.5% per year over the next three years with industrial producing a total return of 6.0% per year outperforming office which is expected to generate a total return of 3.5% while retail produces a total return of 4.2%.

Similar to the Australian investor, Germany, France, Netherlands, Spain and Italy appear to offer higher returns in local currency terms. In addition, as swap-spread rates in Japan are slightly higher than those for the Euro, there may be minimal cost or gain from hedging. From a correlation perspective, the diversification benefits seem too large to overlook. Germany appears uncorrelated, while the other countries have a correlation of less than 40%.

Interestingly enough, both Switzerland and the UK appear to offer competitive returns and similar diversification, although the expected returns in these countries is much lower. Turning to the U.S., despite hedging costs of +/1.7%, the hedged returns in the U.S. are 1.1% higher than their home country total return and provide diversification given the low correlation of 0.51. In our view, Japanese can achieve higher returns by overweighting logistics and underweighting apartments. Finally, returns from the major countries within Asia-Pacific are on par with Japanese returns, although Korea may provide diversification benefits with a correlation of -0.16 with a Japanese property portfolio.

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## 7.3 South Korea Investor Allocation

Our outlook calls for a total return of 6.4% in South Korea over the next three years with industrial leading at 7.4%, retail following at 7.0% and office lagging the group with a 4.9% total return. When taking into account hedging costs for both Japan (a hedging gain of 1.2%) and Australia (a hedging cost of 1%), available returns from both of these markets are within the range of the Korea property markets. While Japan property markets offer diversification benefits, the lower relative returns may not make it attractive. Similarly, Australia offers diversification with a correlation of 0.28, but given the hedging costs, an investor can achieve a higher return on an unhedged basis, although currency risk would increase.

A similar case can be made for the U.S. where the unhedged return of 7.2% could outperform Korean property markets, while the hedged return would not show a significant difference in performance between the investors' home country return. Diversification benefits are reasonably attractive. Finally, considering Europe, several countries provide attractive competitive total returns on both a hedged and unhedged basis with local currency returns of 100-370 basis points higher. Correlations between the property markets in key European countries and South Korea are also attractive and provide portfolio diversification benefits.

## 7.4 German Investor Allocation

The ECB's accommodative policy combined with the strength of the Germany economy is likely to support attractive property performance over the next three years. We believe the property market could deliver an average total return of 7.6% over the next three years with industrial leading with a total return of 8.3%, followed by office with a total return of 8% and retail at 6.6%.

However, because interest rates are so low in Europe, it has led to much higher hedging costs for international investing for German investors. Still, certain markets such as those in Asia-Pacific offer hedged returns which may exceed a German institutional investor's required return of 3.5%-4.5%. Furthermore, South Korea, Australia and Japanese real estate markets may provide better diversification benefits than several countries in Europe. The correlation between Australia and German property markets is low with a correlation of 0.54 while Japan is uncorrelated and Korea is low at 0.36. To maximize the total return and diversification benefits, we believe Germany investors should place more focus on the industrial market broadly as well as considering the office market in Australia. A similar view can be taken with respect to the U.S. market where the hedged return is on par with those available in Asia-Pacific markets and the correlation is 0.48.

## 7.5 Swiss Investor Allocation

In Switzerland, our outlook calls for a total return of 5%. However, this return is equally weighted between our office total return forecast of 2.1% over the next three years versus our retail return which averages 7.9%. Assuming Swiss investors have a greater portion of their portfolio allocated to the office sector, our home country return would be less than 5%. Furthermore, central bank policy rates are even lower in Switzerland than they are in Europe. As a result, hedging costs are even higher. Despite the relatively high hedging costs, there are a number of countries across the globe which could provide attractive relative performance and only investments in China on a hedged basis would be dilutive to a Swiss-based investor's portfolio.

From a diversification perspective, some of the most attractive markets for a Swiss investor would be the U.S. where the correlation is quite low at 0.34 as well as Japan which appears uncorrelated at -0.06. Spain, Australia and South Korea are also reasonably attractive with correlations in the range of 0.50 to 0.61.

## 7.6 U.S. Investor Allocation

Over the next three years, we continue to believe the U.S. will likely provide competitive total returns of 7.2% before tapering in the outer years of our forecast. We believe industrial could outperform with an expected return of 8.9%. We believe office and retail produces similar total returns of 7.7% while apartments trail at 5.1%.

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Scanning the globe, France, Spain and Germany appear to provide competitive local country total returns to the U.S. ranging from 7.6% to 10.1%. In addition to this, a U.S. investor could capture a 180 basis point hedging gain given the difference between European and U.S. swap-spread rates. Also, the diversification benefits are reasonable with correlation levels ranging from 0.54 in Germany to 0.72 in Spain.

By comparison, the correlation benefits are somewhat better in Japan (0.53) and Korea (0.29), yet similar in Australia (0.76). On a hedged basis, the total returns available in Asia-Pacific are similar to those in the U.S. To capture the diversification benefits and higher returns, at this stage in the market cycle, we prefer targeting industrial broadly across Asia-Pacific as well as retail more narrowly. In addition, the Australian office cycle appears to be in the early stages of recovery in certain markets such as Sydney and we believe it offers competitive total returns for a U.S. investor.

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