Marketing Material

August 2018 / Research Report

# U.S. REAL ESTATE STRATEGIC OUTLOOK

On March 23, 2018, Deutsche Asset Management rebranded to DWS. The brand DWS represents DWS Group GmbH & Co. KGaA and any of its subsidiaries, such as DWS Distributors, Inc., which offers investment products, or DWS Management Americas Inc. and RREEF America L.L.C., which offer advisory services. There may be references in this document which do not yet reflect the DWS Brand.

Please note certain information in this presentation constitutes forward-looking statements. Due to various risks, uncertainties and assumptions made in our analysis, actual events or results or the actual performance of the markets covered by this presentation report may differ materially from those described. The information herein reflect our current views only, are subject to change, and are not intended to be promissory or relied upon by the reader. There can be no certainty that events will turn out as we have opined herein.

For Professional Clients (MiFID Directive 2014/65/EU Annex II) only. For Qualified Investors (Art. 10 Para. 3 of the Swiss Federal Collective Investment Schemes Act (CISA)). For Qualified Clients (Israeli Regulation of Investment Advice, Investment Marketing and Portfolio Management Law 5755-1995). Outside the U.S. for Institutional investors only. In the United States and Canada, for institutional client and registered representative use only. Not for retail distribution. Further distribution of this material is strictly prohibited. In Australia, for professional investors only.

# Table of Contents



The opinions and forecasts expressed are those of U.S. Real Estate Strategic Outlook and not necessarily those of DWS. All opinions and claims are based upon data at the time of publication of this article (August 2018) and may not come to pass. This information is subject to change at any time, based upon economic, market and other conditions and should not be construed as a recommendation.

# 1 / Overview

U.S. real estate is performing well. The national vacancy rate is near its lowest level in 17 years and below its 20-year average in every major sector.[1] Rents are rising about 3% annually and net operating incomes (NOI) nearly 5% annually, well above inflation (2%).[2] Since the beginning of 2017 the Federal Reserve has hiked interest rates five times and 10-year Treasury yields have jumped 100 basis points, yet cap rates have edged lower.[3] And according to the NCREIF Property Index (NPI), unlevered total returns to core property have held at about 7% (annualized), in-line with their 30-year average on an inflation-adjusted basis (5%).[4]

Moving into the second half of 2018, investors are faced with two key questions: First, how much longer will this positive momentum continue? Second, given the real estate outlook, how should portfolios be structured to produce superior risk-adjusted returns?

On the first question, we believe that the property cycle has at least two years and possibly longer to run. Over the past 60 years, real estate prices have never materially dropped outside of a recession or its immediate aftermath.[5] In our view, the likelihood of a near-term recession is low: Fueled by fiscal stimulus, the U.S. economy has accelerated toward a 3% growth trend, and the yield curve, which has inverted 12-18 months before every recession since 1960, remains upward sloping.[6] To be sure, the yield curve has begun to flatten and it is conceivable that an overheating economy, a trade war, or some other catalyst could trigger a downturn in two or three years. Yet this is not inevitable, and despite the unusual longevity of this expansion (by next summer it will be the longest on record going back to the Civil War), there are precedents for even longer ones abroad (Australia is into its 27th year).[7]

Nevertheless, we believe that the cycle is in a mature phase, characterized by pockets of over-pricing and excess supply and lower (albeit still competitive) returns. Powerful structural forces, from demographics to corporate densification to e-commerce, are also impacting real estate in ways that transcend the cycle. On the second question, therefore, we believe that a shifting landscape will create winners and losers, expanding the potential to generate index-beating performance through judicious sector and market allocation, among other portfolio strategies.

## 1.1 Sector Allocations

In a mature phase of the cycle it generally makes sense, in our view, to adopt sector allocations with a keener eye toward risk. This would imply tilting away from Office, a pro-cyclical sector, toward Retail, a more defensive one (Apartment and

[1] NCREIF. As of March 2018.
[2] CBRE-EA (rents); NCREIF (NOI); Bureau of Labor Statistics (inflation). As of March 2018.
[3] Federal Reserve (interest rates); NCREIF (cap rates). As of March 2018
[4] NCREIF. As of March 2018.
[5] Federal Reserve; DWS calculations. As of March 2018.
[6] Bureau of Labor Statistics (economic growth); Federal Reserve (yield curve); DWS calculations. As of June 2018.
[7] NBER (expansion); IMF (Australia). As of June 2018

Industrial are historically market-neutral). At the same time, we recognize that corporate densification continues to weigh on the Office sector while e-commerce is a boon and a bane for Industrial and Retail, respectively. Weighing these and other factors, our strategy assigns a strong overweight to Industrial, an underweight to Office, and modest underweights to Apartment and Retail.

- Industrial (Strong Overweight): Industrial eclipsed the NPI in 2011, has been the top performer since 2014, and has widened its lead ever since.[8] Strong fundamentals, driven largely by e-commerce, generated NOI growth of 8.2% (year-over-year, four-quarter moving average) in the first quarter of 2018, its quickest pace on record (35 years).[9] Construction has picked up, but it is largely concentrated in national distribution hubs (e.g., Atlanta, Chicago, Dallas, and the Inland Empire).[10] These markets should perform adequately, but we believe that smaller, local distribution facilities generally offer superior investment prospects.

- Retail (Underweight): A star performer from 2012 through 2015, Retail has lost momentum over the past two years.[11] E-commerce is the obvious culprit, helping to drive some vendors into bankruptcy (e.g., Toys “R” Us) and others to close stores (e.g., Sears and J.C. Penney). Yet Retail is not dead. While e-commerce is growing feverishly, brick-and-mortar sales are also expanding, supported by population and income growth.[12] Construction is virtually nonexistent.[13] Cyclically defensive, the sector can provide useful downside protection. And Retail is not all created equal: Although apparel-heavy Malls have struggled, neighborhood and community centers have been more resilient. We maintain a modest underweight to the sector, but we believe that grocery- and pharmacy-anchored, service-oriented centers have an important place in a portfolio.

- Apartment (Underweight): In recent quarters, surging supply has offset burgeoning demand, causing rent growth to falter.[14] These forces have tentatively reversed: Construction appears to have peaked but renter-household growth has also slowed, possibly signaling a lifestyle shift among ageing Millennials.[15] We are modestly Underweight the sector pending a more visible path to improved fundamentals. The scales could tip in a positive direction: Rising home prices and mortgage rates and the reduction of housing tax breaks might sustain rental demand irrespective of demographics. For now, we favor garden apartments in highly amenitized suburban locations, where supply has been less abundant than in the (luxury) urban high-rise segment.

- Office (Underweight): Total returns have edged higher over the past year, on both an absolute and a relative basis.[16] Although demand, occupancy, and rent growth have been lackluster (at least on a national basis), NOI growth has been much stronger, likely the result of landlords rolling leases signed several years ago to higher market rates.[17] Further mark-to-market gains are likely: within the NCREIF-ODCE universe, in-place rents are approximately 12% below market levels.[18] Despite this crucial support, we maintain an underweight to Office for several reasons, including: corporate densification, downside cyclical risks, limits to job creation amid 4% unemployment, and pockets of oversupply (e.g., New York and Washington D.C.). Nevertheless, we see value in certain locations, including Los Angeles, Boston, Portland, Seattle, Texas, and Florida.

## 1.2 Market Allocations

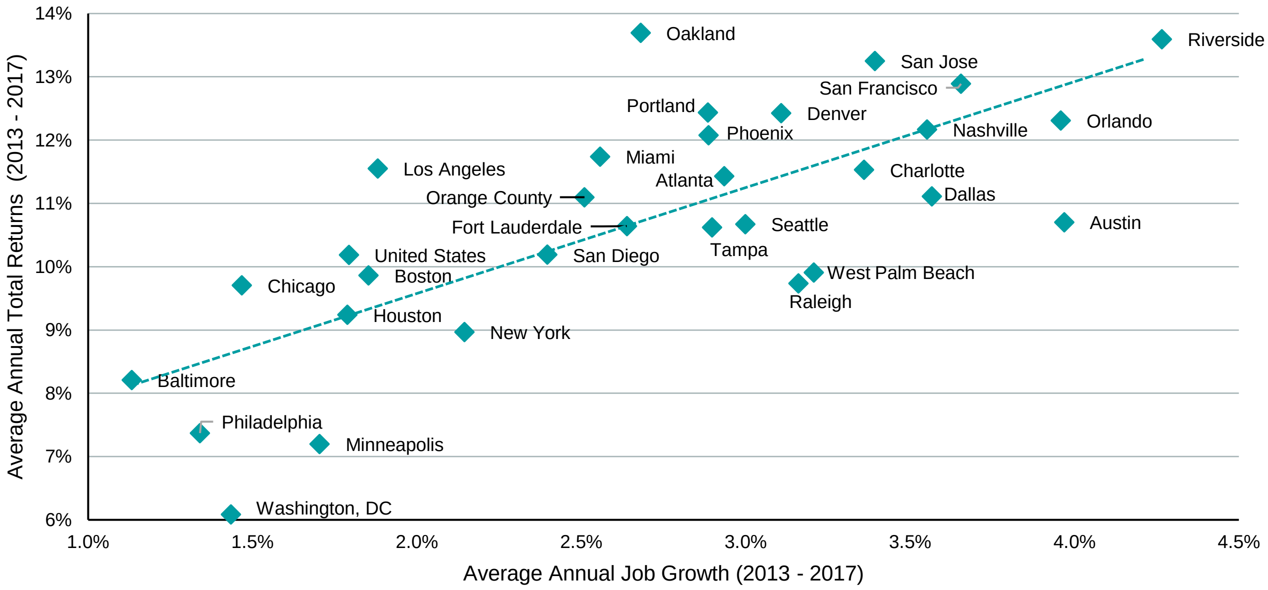
Coastal “gateway” markets (e.g., New York) have historically produced superior rent growth and price appreciation over the long term, courtesy of density and supply constraints. Conversely, “regional” markets with fewer barriers to supply (e.g.,

[8] NCREIF. As of March 2018.
[9] NCREIF. As of March 2018.
[10] CBRE-EA. As of March 2018.
[11] NCREIF. As of March 2018.
[12] Census Bureau; DWS calculations. As of June 2018.
[13] CBRE-EA. As of March 2018.
[14] CBRE-EA. As of March 2018.
[15] Census Bureau; DWS calculations. As of June 2018.
[16] NCREIF. As of March 2018.
[17] CBRE-EA (demand, occupancy, rent growth); NCREIF (NOI growth). As of March 2018.
[18] Altus. As of March 2018.

Atlanta) have generally underperformed. Yet this pattern does not always hold over shorter time periods owing to disparities in local pricing, supply, and economics.

It is noteworthy that over the past five years, relative real estate returns have displayed a strong correlation with job creation (see Exhibit 1). Extrapolating this trend into the future would augur well for many regional markets, particularly in the Sunbelt, where lower costs are helping to attract an influx of businesses and people. Tax reform, which capped mortgage and state and local tax deductions, might reinforce this trend. Meanwhile, any curbs on immigration would exacerbate the impact on gateway markets, which draw a disproportionate share of foreign newcomers.

**EXHIBIT 1: JOB GROWTH AND NPI TOTAL RETURNS (2013-2017)**




Sources: NCREIF (total returns); BLS (job growth); DWS calculations. As of December 2017.

We see relative opportunities and risks across both Gateway and Regional markets. In particular:

- Gateway Markets: We favor Los Angeles and Boston, technology-supported economies where supply is largely under control. However, we are more cautious toward San Francisco, New York, and Washington D.C., which have substantial supply pipelines (albeit with important property-type exceptions, notably in the industrial sector).

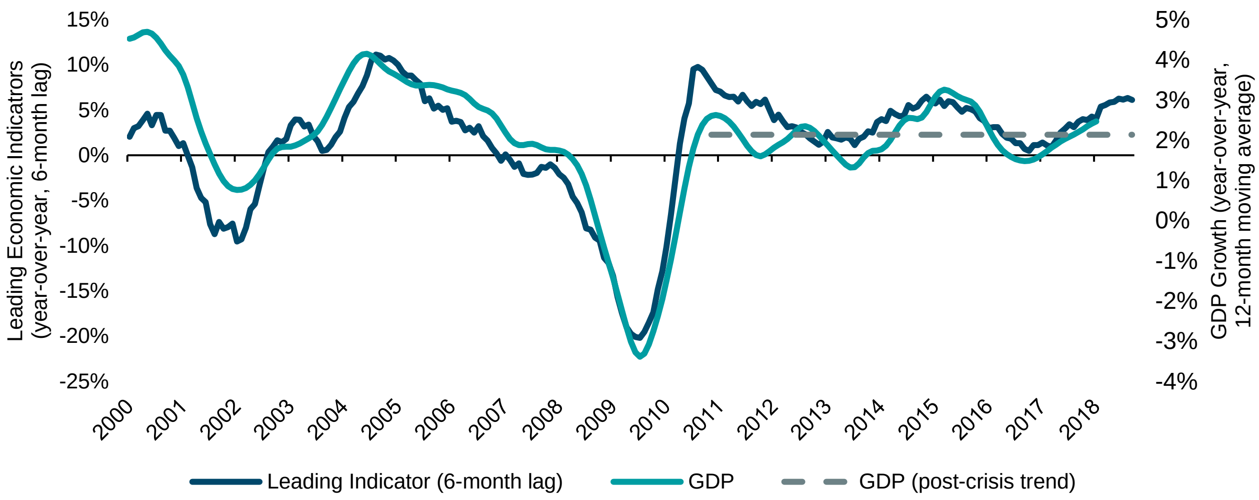
- Regional Markets: Seattle, Portland, and Oakland have dynamic economies with attractive pricing relative to other coastal cities. Although less protected from new supply, we also see tactical opportunities in the Sunbelt, including Atlanta, Nashville, Phoenix, Texas, and Florida. While Houston is saddled with elevated vacancies, a revival of its energy-driven economy, the curtailing of new construction, and a pricing adjustment have improved its medium-term prospects.

# 2 / Real Estate Fundamentals

Real estate fundamentals are healthy. Within the NPI, the vacancy rate for U.S. property was 6.5% in the first quarter of 2018, near its lowest level since 2001; vacancies were below their 20-year average in every major sector.[19] NOI growth was robust at 4.8% (year-over-year, four-quarter moving average), although it varied by sector: Industrial soared 8.2% and Office gained 6.6%, while Apartment decelerated (4%, down from 10% in 2015) and Retail virtually stalled (1%).[20]

The outlook for real estate fundamentals is positive, in our view. Start with the economy, the principal driver of occupational demand. The labor market is especially robust: more than 1.2 million jobs were created in the first half of 2018 and the unemployment rate fell to nearly its lowest level (4%) in 50 years (barring a brief stint at the height of the dot-com boom).[21] For the first time since records began (2000), there were more job openings than unemployed people to fill them.[22] Healthy household finances, booming corporate profits, and fiscal stimulus (tax cuts and higher spending) are expected to keep this momentum on track: GDP growth eclipsed its post-crisis 2% trend in 2017 and leading indicators point to further acceleration toward 3% by year-end (see Exhibit 2).

**EXHIBIT 2: LEADING ECONOMIC INDICATORS AND GDP GROWTH (2000-2018)**

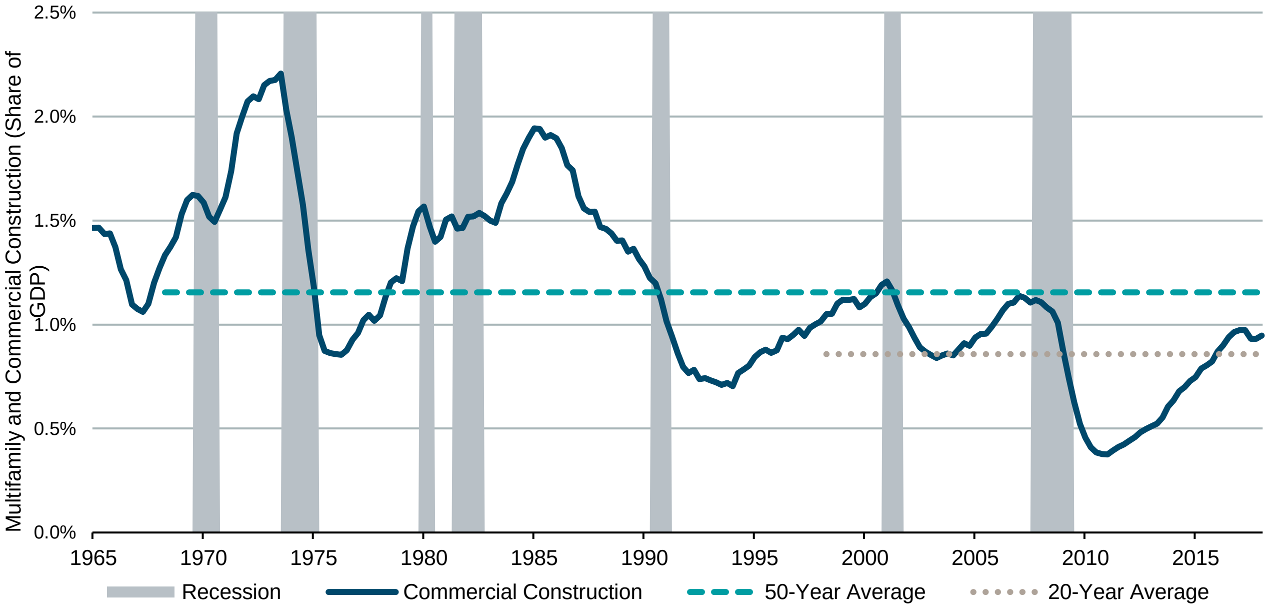



Sources: Conference Board (leading economic indicators); Bureau of Economic Analysis (GDP). As of May 2018.

On the supply side, multifamily and commercial construction has leveled off at less than 1% of GDP, in line with its 20-year average, and new starts appear to have receded (see Exhibit 3). Anecdotally, developers have reported that acute labor shortages are causing project delays, an issue that might worsen with enhanced restrictions on immigration (an estimated 25% of the construction labor force is foreign-born).[23] Meanwhile, tariffs have increased prices of steel, aluminum, and lumber. Based on what is under construction, we believe that 2018 will mark the peak year for new supply across sectors in this cycle, with the exception of Retail, which may bounce off depressed levels.

[19] NCREIF. As of March 2018.
[20] NCREIF. As of March 2018.
[21] Bureau of Labor Statistics. As of June 2018.
[22] Bureau of Labor Statistics; DWS calculations. As of June 2018.
[23] Migration Policy Institute. As of December 2015.

**EXHIBIT 3: MULTIFAMILY AND COMMERCIAL CONSTRUCTION (1965-2018)**




Source: Bureau of Economic Analysis. As of March 2018.

There are important risks to this benign outlook. On the economic front, two key concerns have surfaced: First, international trade tensions, were they to break out into a full-blown trade war, could tip the U.S. into recession (although exports are only 12.3% of GDP, the spillover effects on consumer spending, corporate profits, financial markets, and confidence would amplify any direct impact on foreign demand).[24] Second, with unemployment at very low levels, fiscal stimulus might cause the economy to overheat, prompting the Federal Reserve to hoist interest rates in order to wring out inflation and/or financial imbalances. On the supply side, it is possible that looser financing conditions could overcome cost constraints. Recently enacted modifications to the Dodd-Frank Act softened rules around bank construction financing, and the Federal Reserve has reported a drop in the share of banks that are tightening construction-lending standards.[25]

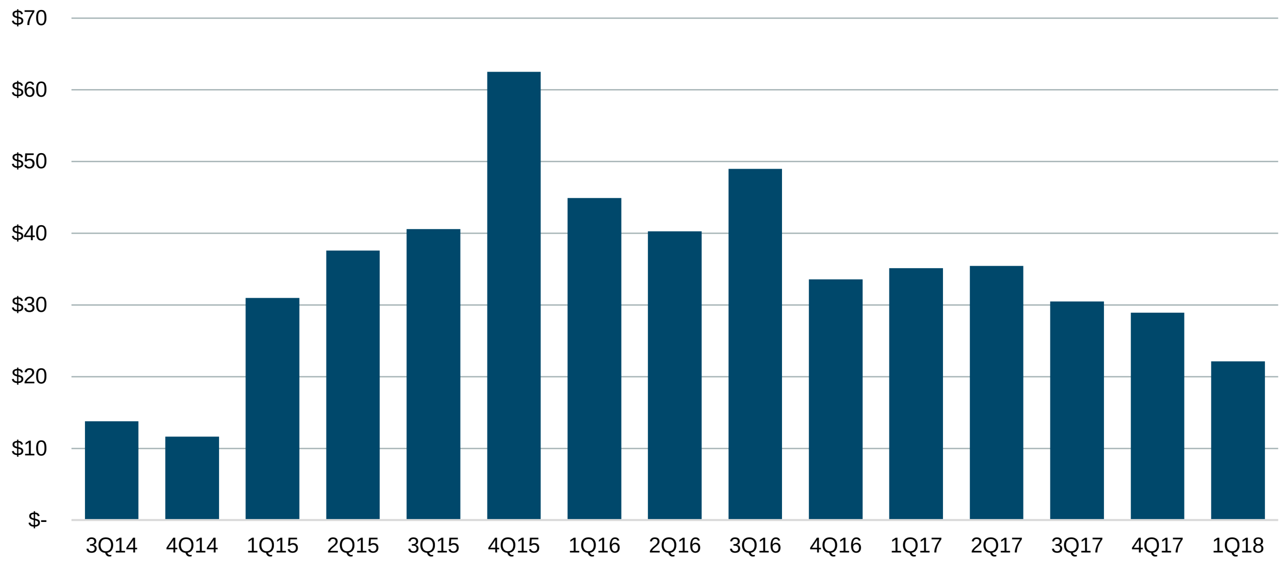
These risks certainly bear watching, but they would take time to materialize. Leading indicators for both the economy and supply (construction starts) affirm the near-term outlook. Accordingly, we expect that low vacancies and a healthy demand-supply balance will sustain rental growth of 3% annually through 2019. With in-place rents below market levels, the process of rolling leases to market should add further impetus to NOIs.[26] However, risks arguably increase beyond a two-year horizon.

[24] Bureau of Economic Analysis (exports, GDP); DWS calculations. As of March 2018.
[25] Commercial Mortgage Alert (Dodd-Frank); Federal Reserve (lending standards). As of June 2018.
[26] Altus (in-place rents vs. market). As of March 2018.

# 3 / Real Estate Capital Markets

Commercial real estate debt and equity markets remained firm throughout the first half of 2018 despite subtle upward pressure in interest rates. After falling roughly 13% to start the year, the MSCI US REIT Index (RMZ) recovered to beginning-of-year levels, as the tax-reform boost to earnings was enough to offset rate fears. CMBS prices also moved higher. However, foreign investment in U.S. assets continued to cool, weakening on a trailing twelve month basis as of the first quarter of 2018 to its lowest level since 2014 (see Exhibit 4).

**EXHIBIT 4: NET CROSS-BORDER TRANSACTIONS ($B)**




Source: RCA. As of March 2018.

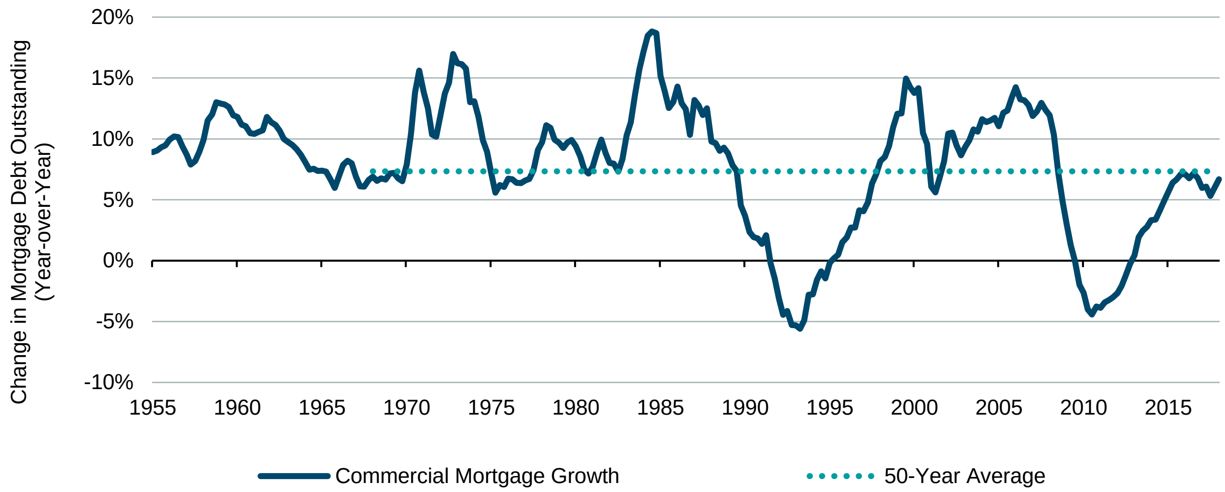
Looking ahead, we expect that real estate financial conditions will remain supportive for several reasons: First, although interest rates have increased over the past year, the yield curve implies minimal future increases in longer-term rates, notwithstanding expected upward moves in the Federal Funds rate. Second, strong real estate cash flows will likely fuel investor confidence in the asset class. Third, an easing of regulatory policy around bank real-estate activities could stimulate mortgage lending off of present levels.

## 3.1 Public and Private Debt

The commercial mortgage market decelerated slightly from the strength experienced in 2017 but remained sturdy through the first quarter of 2018. Total returns to commercial mortgages in the first quarter of 2018 were 3.2% on a trailing twelve month basis, down from 5.7% in the fourth quarter of 2017. This was likely due in part to the Federal Funds rate hike in March, and the expectations of continued hikes over the next two years. Commercial mortgage cash flows were healthy, reflecting the strength of underlying fundamentals. CMBS delinquencies moderated as 10-year loans originated in 2007 matured: delinquencies peaked at 7.1% in June 2017 before falling to 5.9% by year-end. Since then, delinquencies have continued the downward trend and were at 5.3% as of May 2018, the lowest rate since May 2016.

Mortgage lending experienced a slight pickup to begin the year: growth in outstanding mortgages increased 70 bps to 6.7% year-over-year in the first quarter 2018 compared to the previous quarter but still remained slightly below 2016 levels (see Exhibit 5). However, debt markets appear poised to loosen further: the Federal Reserve reported a sharp drop in the share of banks tightening lending standards from year-end 2016 through the first quarter 2018, and CMBS issuance totaled a respectable $19 billion in the first quarter.

**EXHIBIT 5: GROWTH IN MORTGAGE DEBT OUTSTANDING**



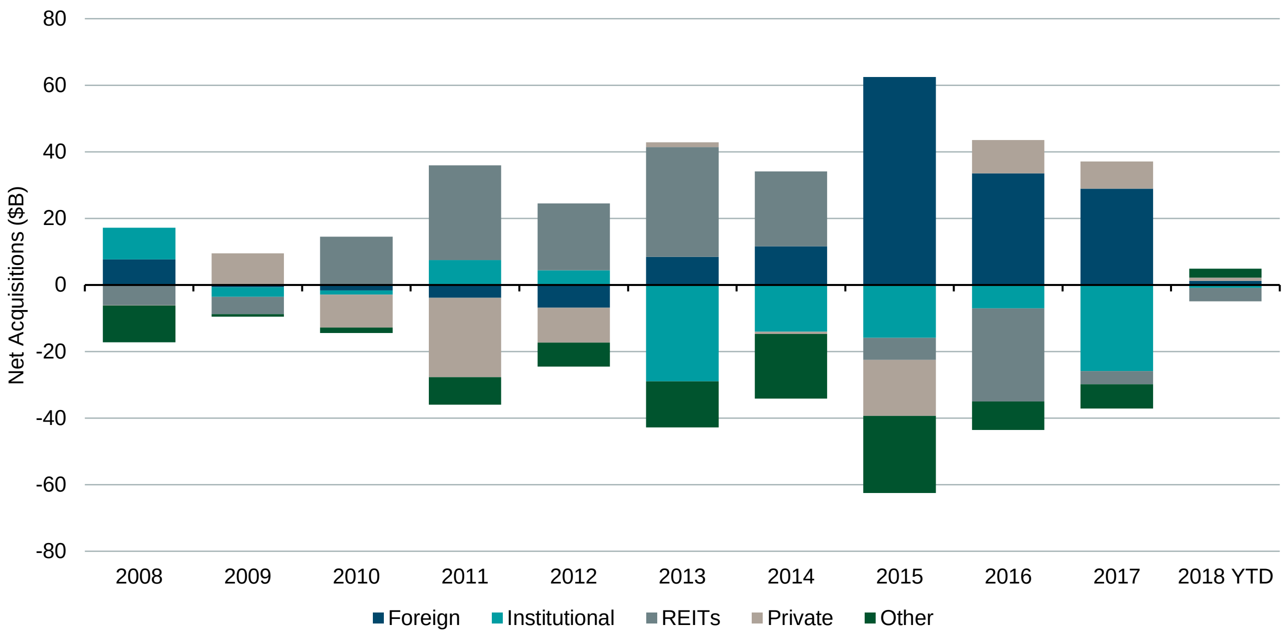

Source: Federal Reserve. Data as of April 2018.

Interest rates will likely rise as the Federal Reserve lifts short-term rates and begins to slowly reduce its holdings of longer-term securities, but any increase should be gradual, constrained by low interest rates abroad. Meanwhile, there is potential for a modest expansion of lending from traditional sources, particularly if regulatory enforcement eases. Accordingly, we believe that healthy underlying real estate fundamentals and lending spreads create attractive opportunities for mezzanine lenders.

## 3.2 Public and Private Equity

Trailing twelve month transaction volume slipped 1.7% in the first quarter of 2018 amid interest-rate volatility, decelerating fundamentals in some key markets, and slowing capital inflows from cross-border investors. Foreigners remained the largest net buyers of U.S. real estate, adding about $22 billion to their holdings over the past twelve months, but eased purchases relative to previous years (see Exhibits 4 and 6). The slowdown was likely attributable to rising currency-hedging costs for European investors as U.S. interest rates increased, as well as the Chinese government’s efforts to stem capital outflows. REITs were net-sellers in the first half of 2018 as their share prices traded at significant discounts to net asset values (NAVs). REITs have increasingly opted to use disposition proceeds to buy back stock in lieu of redeploying into new assets.

**EXHIBIT 6: NET COMMERCIAL PROPERTY ACQUISITIONS BY BUYER TYPE**




Source: Real Capital Analytics. Data as of March 2018.

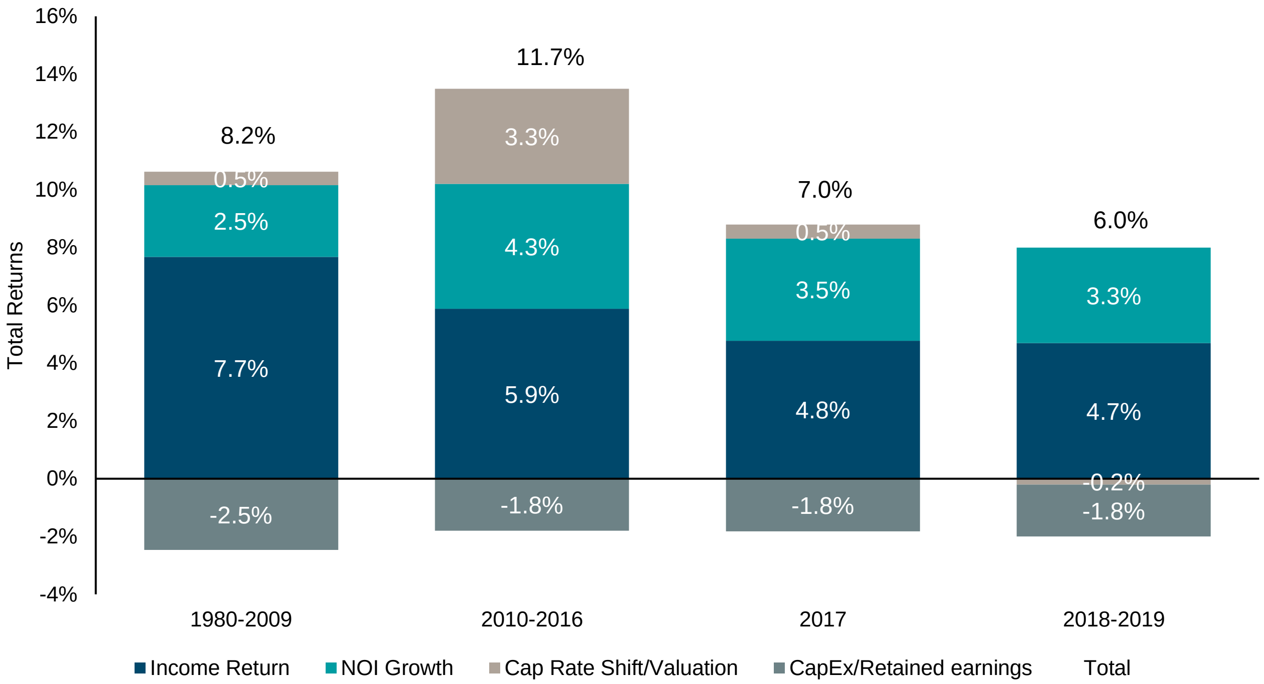
We expect that transactions markets will remain liquid in the second half of 2018 and into 2019. On the public front, REIT NAV discounts have come in, which may spur some one-off asset purchases or possible public-to-public mergers and acquisitions. Among sophisticated multi-asset investors, elevated stock and bond prices could prompt a rebalancing into real estate. America's strong real-estate fundamentals and reputation as a safe haven should also attract foreign investment; commodity-financed sovereign wealth funds in particular might deploy more capital as energy prices rise.

# 4 / Real Estate Total Returns

We believe that unlevered core real estate will produce total returns of about 6% (annualized) through 2019, down from 7% in 2017 and nearly 12% from 2010-2016 (see Exhibit 7). We expect that NOI growth will remain strong, supported by robust fundamentals. The key shift centers on cap rates: whereas cap-rate compression provided a substantial boost to returns earlier in the cycle, we expect that this effect will disappear over the next two years.

But while we no longer expect cap rates to provide a tailwind to returns, neither do we expect them to impose a significant drag. True, interest rates are expected to increase further. Higher rates can deter investment by increasing the cost of borrowing, reducing real estate's yield advantage over other asset classes, and increasing currency hedging costs. However, provided that interest rates increase only gradually, as forward rates in the bond market imply, the allure of real-estate's strong fundamentals and its ability to partially hedge inflation should mitigate any upward pressure on cap rates.[27]

**EXHIBIT 7: NPI TOTAL RETURNS (1980-2019)**




Sources: NCREIF; DWS (calculations and forecasts). As of June 2018.

There are risks to the outlook. While economic prospects appear relatively secure, they could be thwarted by economic disruptions such as overheating or a trade war. Construction could ramp up if lenders increase their appetite for development, labor shortages notwithstanding. Interest rates could jump sharply, disproportionate to any improvement in the economy, as a result of tightening Federal Reserve policy. And capital market conditions could shift adversely (and suddenly) in response to any number of political or economic events.

[27] Bloomberg (forward rates). As of June 2018.

# 5 / Industrial Outlook and Strategy

## 5.1 Current Conditions

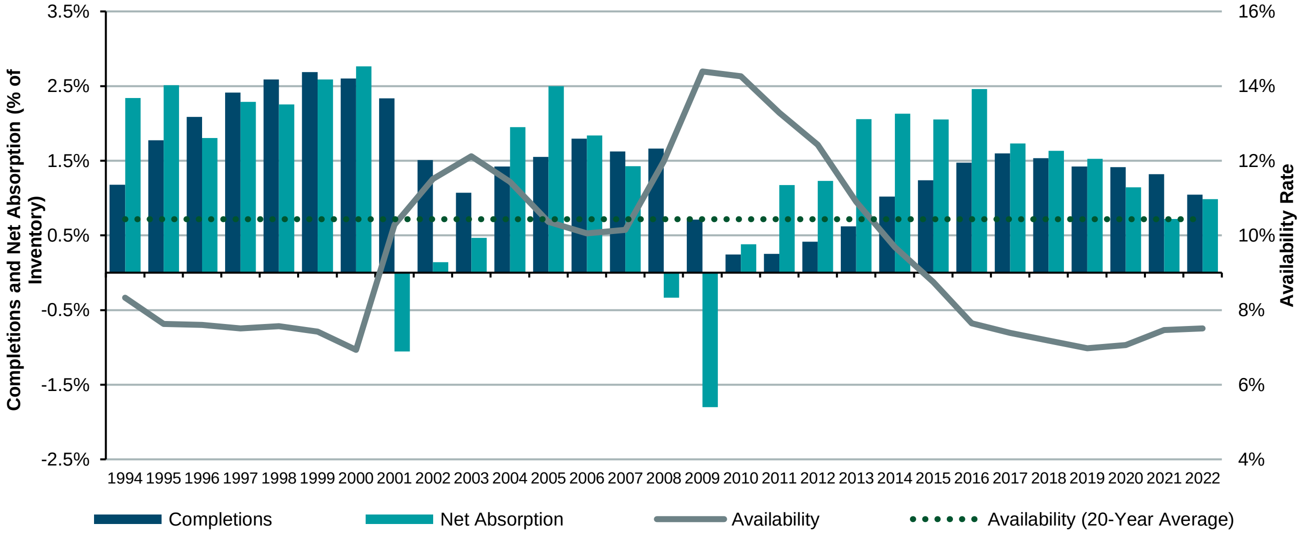
The industrial property sector continues to be a top performer and has good future prospects as well. Demand drivers remain healthy as the U.S. approaches a record-long economic expansion; the current outlook anticipates stronger GDP and employment growth in 2018 than in 2017. [28] A strong labor market should drive solid income growth and consumption. Occupancy and rent gains moderated slightly in 2017 as construction deliveries rose to 1.6% of stock, slightly above the long term average (see Exhibit 8). Nonetheless, demand and supply are in balance as the market availability appears to be stabilizing at near-record low rates (7.3% in 2018Q1). Our favored target markets continue to perform well, enjoying landlord-friendly conditions.

Strong property market fundamentals and intense investor demand continue to support exceptional investment performance, with one-year total returns in the first quarter of 2018 of 13.5%, a staggering 640 basis points above the NPI average.[29] The industrial property sector has outperformed the NPI average by 336 basis points annually over the past five years, returning 13.4%. Investor demand continued to compress going-in yields, but overall the sector has a favorable outlook due to relatively good NOI growth prospects, as market rents today are approximately 25% higher than five years ago. [30]

Revised data from 2017 indicates that net absorption totaled 250 million square feet in 2017, or 1.7% of total stock. This represents a downshift compared to the prior four years when 2.2% of stock was absorbed annually. Completions increased to 231 million square feet, but again failed to surpass demand for the year. It should be noted that the current supply pipeline is dynamic and difficult to track on a real time basis. Our preliminary data indicates that 65 million square feet of industrial space was completed through May 2018 and another 224 million square feet was underway and scheduled for delivery for the remainder of 2018 and in 2019.[31] The current pipeline is approximately 52% leased and pre-leased as of the second quarter of 2018. [32]

[28] DWS; Moody's Analytics. As of June 2018.
[29] NCREIF. As of March 2018.
[30] DWS; CBRE-EA. As of June 2018.
[31] CoStar; DWS. As of June 2018.
[32] CoStar; DWS. As of June 2018.

**EXHIBIT 8: INDUSTRIAL ABSORPTION AND COMPLETIONS % OF INVENTORY AND VACANCY RATE (1991-2021)**




Sources: CBRE-EA (history); DWS (forecast). As of June 2018.

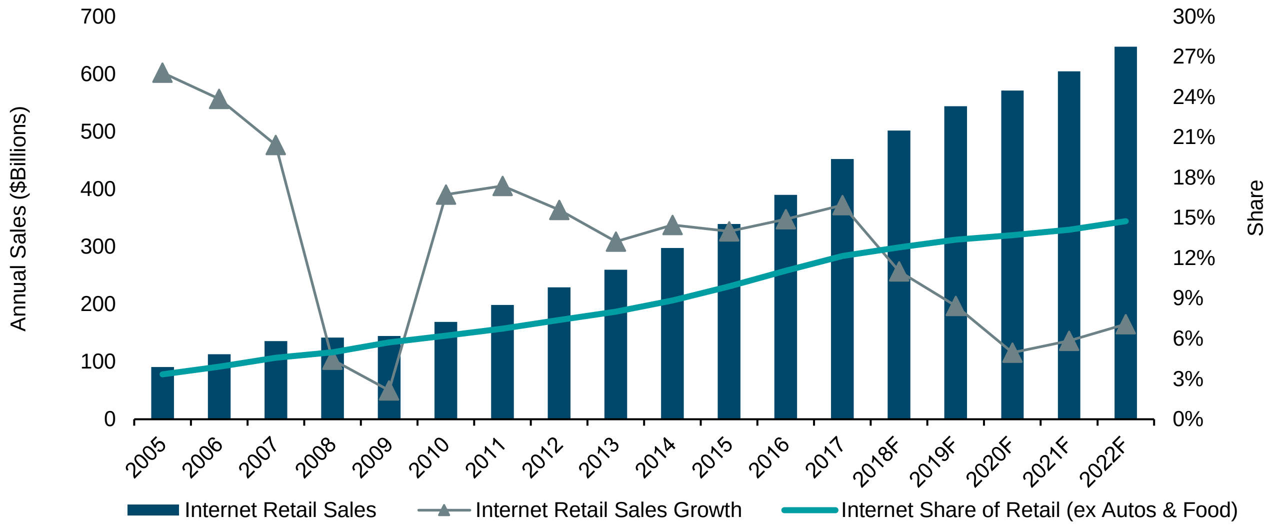
Market availability and rents improved through the first quarter of 2018, but trends are moderating somewhat. The U.S. availability rate fell 10 basis points to 7.3%, and the national vacancy rate remained flat at 4.5% during the quarter.[33] Market rent growth increased about 4.5% nationally in 2017. Fundamentals have been almost uniformly good across markets over the past several years. All 25 metros in our investable universe currently have availability rates well below their long-term averages. Rent growth across these markets has averaged 5.9% annually for the past five years, with only three (Baltimore, Washington and Houston) posting annual growth below 3%.[34]

The rapid rise of e-Commerce gets credit for providing much of the boost in performance in this cycle, and rightly so, as our estimates indicate that approximately one-third of total space demand can be attributed to demand drivers outside of traditional cyclical growth (GDP, employment and retail sales). Supply chain reconfiguration (adding more warehouses closer to population centers), holding more inventory in warehouses (in addition to on store shelves), and the processing of returns, represent a durable secular shift.

In 2017 retail sales growth surprised to the upside, expanding by 4.8%.[35] The pace of internet retail sales growth increased to 16.0% last year, and has averaged 14.5% annually since 2013 (see chart Exhibit 9). [36] This rapid expansion has pushed the internet's share of retail sales (less grocery and restaurants) from 8.0% in 2013 to 12.2% in 2017. [37] Future growth stands to increase the share to about 15% in the next five years, 20% if recent growth trends persist.[38] The implication of this is good for warehouse demand, as fulfilling e-commerce sales to consumers' homes is more space intensive than fulfilling bulk quantities to retail stores.

[33] DWS; CBRE-EA. As of June 2018.
[34] DWS; CBRE-EA. As of June 2018.
[35] DWS; Moody's Analytics. As of June 2018.
[36] DWS; Moody's Analytics. As of June 2018.
[37] DWS; Moody's Analytics. As of June 2018.
[38] Moody's Analytics. As of June 2018.

**EXHIBIT 9: INTERNET RETAIL SALES VOLUME, GROWTH AND SHARE OF TOTAL RETAIL SALES (EX- AUTOS AND FOOD),**




Sources: Moody's Analytics and DWS. As of June 2018. F = forecast.

In order to accommodate rapidly changing consumer shopping preferences retailers and logistics providers have invested heavily in their logistics infrastructure, evidenced by their expanding footprints and U.S. employment trends in the transportation and warehousing sector (adding jobs twice as fast as total employment in the past three years). This expansion does not appear to be moderating, but rather broadening across markets. In its fourth quarter 2017 earnings statement, UPS announced it would invest $12 billion to expand its supply chain network over the next three years. Amazon has added 18 million square feet to its 122.2 million square foot U.S. footprint since October of 2017 and has another 40 million square feet underway or planned. [39] The top 20 third-party logistics providers grew their 634 million square foot North American logistics footprint by 29 million square feet, or 4.8%, in 2017. [40] All of this activity is expected to be highly supportive of warehouse demand.

## 5.2 Outlook and Strategy

Industrial property market fundamentals in the U.S. should remain solid for the next two years, but the pace of occupancy gain and rent growth are expected to moderate as the cycle matures. We are beginning to see performance differences between regions, with lower barrier locations in the South and Midwest experiencing less rent growth than higher barrier locations in the West and East regions. CBRE-EA's warehouse rent index (grouped by NCREIF region) reflects average annual rent growth in the West in 2016 and 2017 of 5.8%, compared to about 4.3% and 4.6% in the South and East respectively, and just 3.6% in the Midwest region.

We believe that good performance is available over the next several years, especially relative to other sectors, but market and asset selection will have greater impact within the sector. This long-cycle view is supported by a favorable outlook for

[39] Online Article by, MWPVL Logistics Consultant, July 2018.
[40] Online Article by, Logistics Management, December 2017.

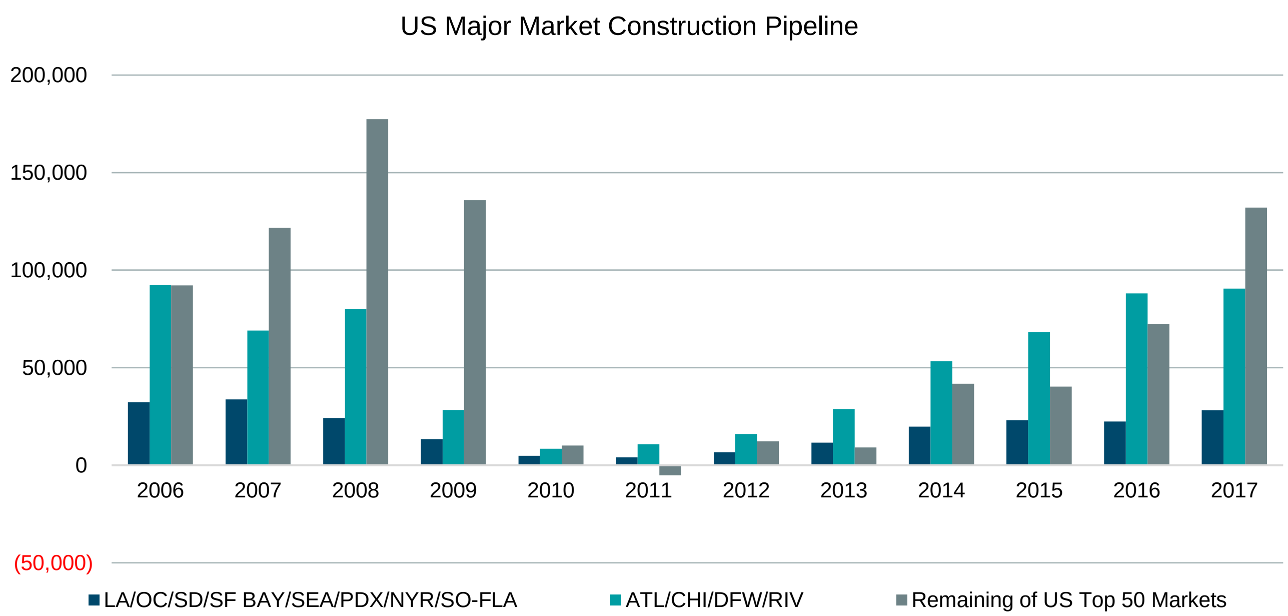
the economy, with broad industry growth, increased housing production, rising incomes, a stable international trade environment, and the continued rapid expansion of internet retail sales.

The U.S. economic outlook appears to be set up to experience some near-term upside with perhaps a more favorable business environment leading to stronger consumption. This should support strong industrial space demand, although moderating economic growth is expected to dampen demand in the medium term. The e-commerce driven secular shift in

retail is expected to put persistent pressure on retailers and logistics providers to accommodate rapid direct-to-consumer fulfilment in a growing number of U.S. markets and the result should continue to be additive to warehouse space demand.

Rising development is integral for supply-chain reconfiguration, as it serves to accommodate the double-digit pace of internet retail sales growth, as well as replace obsolete stock for a wide variety of uses. However, there are regional differences. Exhibit 10 shows the rise of deliveries in the national warehouse hubs of Atlanta, Chicago, Dallas and Riverside over the past few years, as well as more recently in secondary markets (light grey bars). Although national totals remain within historical norms, the broadening of the supply pipeline represents a potential for more competitive conditions compared to the last few years. The current pace of development (about 1.5%) is sustainable because much of U.S. industrial stock is old (only 32% of existing industrial stock was been built since 1990 and only 20% since 2000). The Northeast and West are the most underserved regions in terms of modern stock and new supply here should be well received.

**EXHIBIT 10: U.S. CONSTRUCTION PIPELINE SEGMENTED BY MARKET GROUP – NATIONAL HUBS, COASTAL/GATEWAY, LOCAL & SECONDARY**




Sources: CBRE-EA; CoStar; DWS. As of June 2018.

Functional infill warehouse facilities, particularly in larger, densely populated markets stand to benefit not only from future economic growth but also from supply chain reconfiguration. Revived urban development has given new life to demand for close-in distribution facilities, despite higher occupancy costs. Real estate costs tend to rank low compared to other logistics costs, significantly less than transportation, inventory carry and labor. Markets where demand support has been strongest, those that serve the large east and west coast population centers, should outperform, as land constraints serve to limit new competition. The following highlights the market and property type implications of our forecast:

- Gateways: These markets, including the Los Angeles and New York regions, as well as Seattle and Oakland should continue to perform well in the near term. Although construction deliveries did surpass demand in 2017, we expect that with market vacancy rates averaging just 3%, there was little space left to absorb and that the renewed momentum in 2018 will absorb new supply at record rents. Future construction will also likely get more expensive due to increasing land and labor costs.

- National Distribution Hubs: The major national distribution hubs are performing well compared to historical averages and there is still room for robust lease rate roll-up, but new supply competition will serve to dampen future occupancy gain and rent growth. Atlanta is the lone market weight choice in this group as demand is still outpacing new supply. We would recommend more disciplined investing here, limited to new class A assets in top tier submarkets. Larger warehouses outside of core locations are expected to underperform.
- Regional Hubs: We have recently added the Central Pennsylvania markets of Allentown and Harrisburg to our investment universe. These markets performed well early in this cycle and continue to do so, showing fundamentals strength (both trending to sub-5% vacancy rates). They benefit from high demand and a dearth of modern logistics facilities in the Northeast and mid-Atlantic regions. We expect that these regional linkages will continue to benefit these markets, providing for stable market-return performance.

- Local Markets: There is a broad array of performance across local markets. Many have strong economies with important technology drivers and healthy housing markets. In this group we prefer Portland, San Diego, Denver, San Jose/San Francisco, Austin and Miami/Fort Lauderdale. More recently we added Charlotte and Orlando as key southeast locations boasting strong economic growth and in Orlando’s case, room for above average future rent growth.

- Class A Bulk Warehouse: Prices for large stabilized Class A bulk warehouse properties have increased markedly in recent years, in some cases surpassing replacement cost. These assets, leased long-term to credit tenants, can provide stable cash flow, but are generally underwritten to lower total returns. Target Class A assets in core submarkets where in-place rents are below current market levels.

- Leasing-up / Development: In the context of healthy fundamentals, build-to-core should provide solid returns and offers a way to access scarce modern assets. Supply risks have risen in Chicago, Denver, Dallas and Atlanta, but conditions are more favorable in New York/New Jersey, South Florida, Southern California, San Francisco Bay Area, Seattle and Portland. Allentown should also provide for opportunities in the near term.

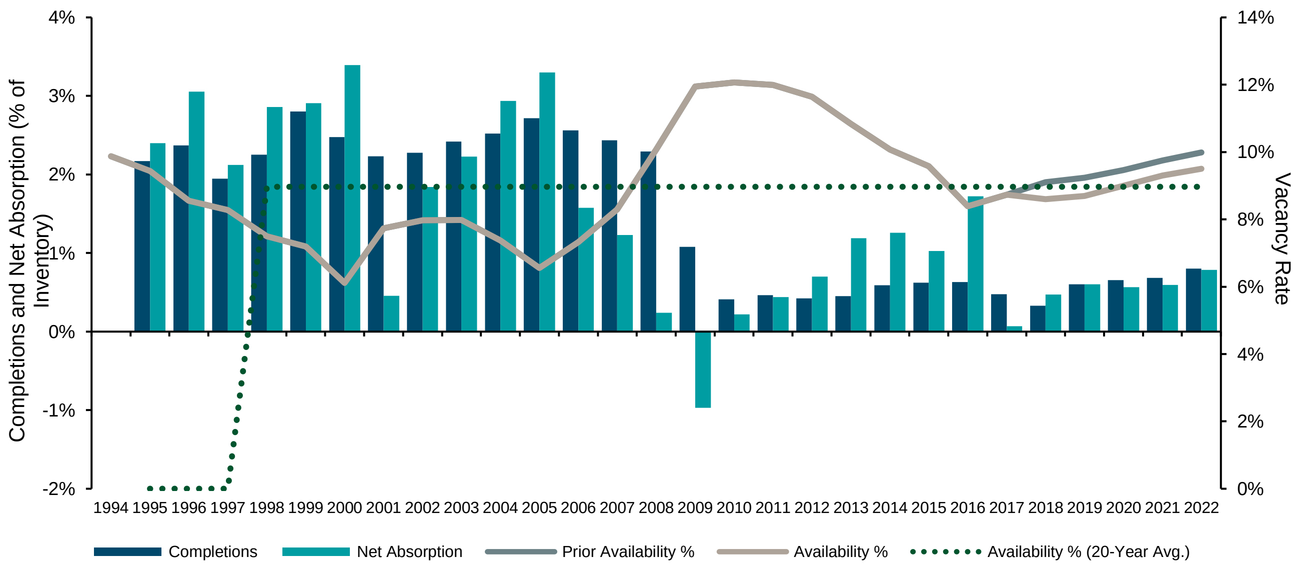
- Small-Bay and Non-Warehouse: Prospects are very good for smaller multi-tenant warehouse properties, particularly in the Gateways and strong local markets, as supply has been limited and vacancy rates are at all-time lows for this segment. However, we maintain an underweight to high-finish industrial property, including light industrial/flex, office/service and manufacturing as well as small multi-tenant business parks. We are highly selective in targeting research & development (R&D)/Office in only a few high-barrier markets that have good growth dynamics and/or tech drivers, such as San Jose, San Francisco, Oakland, Seattle, and Orange County.

# 6 / Retail Outlook and Strategy

## 6.1 Current Conditions

Retail property fundamentals remain steady at neighborhood and community centers despite a disruptive year in 2017 with unprecedented store closures and retailer bankruptcies. The availability rate for grocery-anchored centers across DWS's 28 Investable Markets ("Investable Markets")[41] ended the first quarter of 2018 at 9.3%, marking a measured decline of 10 bps from year-end 2017, according to data from CBRE-EA (see Exhibit 11). At its current level, availability sits 120 bps below its 10-year average and 280 bps below its post-recession peak of 12.1%. Net absorption was positive, recording 4.5 million square feet year-to-date 2018, and continued to outpace a modest pipeline totaling 1.1 million square feet. Large markets, such as Dallas, Atlanta, Houston, Miami and Philadelphia delivered the most new supply in the first quarter. Rent growth across the Investible Markets accelerated, averaging 3.4%, with all but one of the 28 investable markets (Phoenix) recording year-over-year increases. Washington, D.C., Tampa, Los Angeles, Dallas, Oakland, and Minneapolis reached near cycle-highs, posting increases of over 5%.[42]

**EXHIBIT 11: RETAIL (NEIGHBORHOOD & COMMUNITY CENTERS) NET ABSORPTION AND COMPLETIONS AS % OF INVENTORY AND VACANCY RATE (1998-2022)***

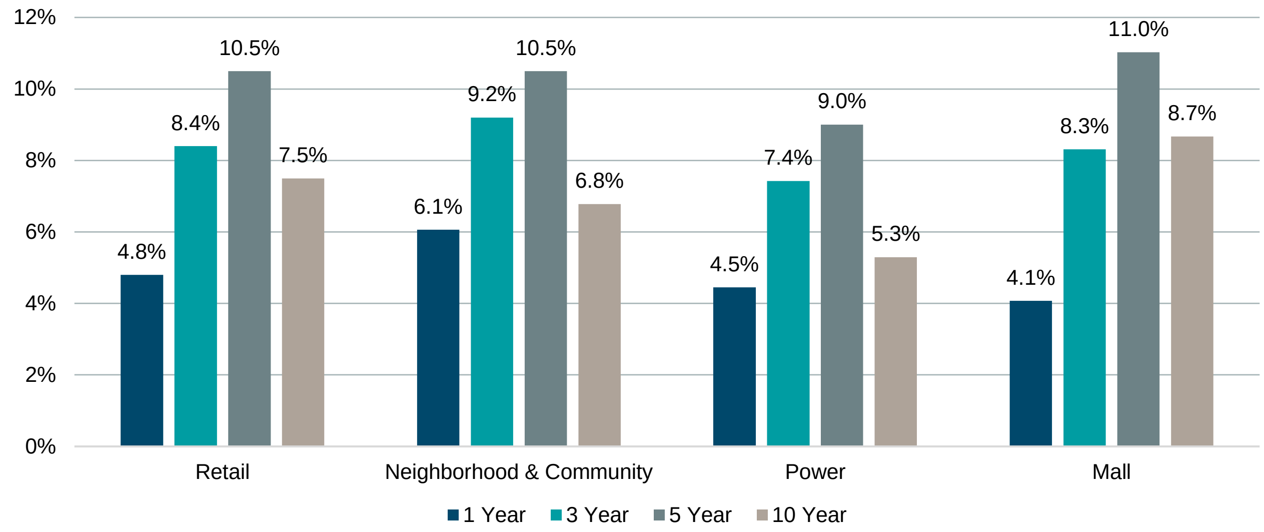



*DWS's 28 Retail Investable Markets
Source: CBRE-EA (History) and Deutsche Asset Management (Forecast). Data as of June 2018.
No assurance can be given that any forecast or target will be achieved.

[41] DWS Retail Investable Markets include 28 major metros in the U.S.
[42] CBRE-EA. As of March 2018.

Store closures and bankruptcies continue to weigh on total returns for the retail property subtypes in the NCREIF Property Index (see Exhibit 12). As of the first quarter of 2018, total returns for retail fell to 4.8% and underperformed the benchmark by 230 basis points. Performance of Super Regional and Regional malls exhibited the sharpest deceleration of returns as values sagged. At 4.5%, Power Center returns outperformed those of malls due to elevated income returns of 5.4%, though capital appreciation was negative. Fundamentals for Neighborhood and Community centers showed resilience, returning 6.1% year-over-year, outperforming the other retail subsectors. West Coast markets continued to outperform (Los Angeles, Denver, San Francisco, San Diego, and San Jose). Meanwhile, the mature Northeast markets of the Acela Corridor (New York, Boston, Baltimore, and Washington D.C.) imposed the most significant drag on sector returns.[43]

**EXHIBIT 12: NCREIF TOTAL RETURNS FOR RETAIL SUB-PROPERTY TYPES**




Source: NCREIF and DWS. Data as of March 2018. Past performance is not indicative of future results.

## 6.2 Outlook and Strategy

Strong retail sales point to an economy that gained momentum in the second quarter of 2018. In May 2018, U.S. retail sales posted their largest gains in six months; excluding automobiles, gasoline, building materials and food services, sales increased 0.5% from the prior month (or 5.0% year-over-year).[44] Overall retail sales are back to pre-recession levels. Supportive economic fundamentals should sustain consumer spending through the second half of the year. Tax savings were a boon to retail sales during the second quarter of 2018, and while this might have been a temporary lift, tight labor markets and upward pressure on wages set the stage for retail sales to perform at least in line with 2017 levels.

[43] NCREIF. As of March 2018.
[44] US Census Bureau; Federal Reserve Bank of St. Louis. As of May 2018.

Our outlook for the retail property sector calls for a gradual increase in the availability rate to trend above its long-term average of 9.0% over the medium term.[45] During this transition period, we expect tenant demand to moderate further as the cycle matures and retailers refine the balance of their omnichannel and real estate strategies. New supply should remain relatively constrained compared to historical standards, but landlords will likely experience increased churn and longer downtime to backfill vacancies. Rent growth across the Investable Markets is expected to be moderate, averaging 2.9% annually through 2022.[46]

With a tumultuous year in the rear-view mirror, the headlines calling for the collapse of retail have somewhat abated. Through the first half of 2018 there have been 11 retailer bankruptcies, down from 13 a year earlier.[47] U.S. store closure announcements through the second quarter of 2018 stood at 4,136, while the number of store openings were 1,985, according to Coresight Research (see Exhibit 13).[48] Closings were heavily weighted to Toys "R" Us (which liquidated), Sears and Kmart, Ascena (multiple banners), and Walgreen's (due to its merger with Rite Aid).[49] While these statistics may seem grim, it marks the end of a crucial period where most bankruptcy protection filings would occur. However, we are not out of the woods. A handful of retailers have exited bankruptcy, but there is still a number whose future remains uncertain. If the mass store closures of 2016-2017 do not improve retailer health, there will likely be more to come in the second half of the year. Additionally, the concerns surrounding unsustainable debt loads, slipping credit ratings, and the profitability of e-commerce platforms remain an issue for the industry as a whole.

**EXHIBIT 13: 2018 STORE OPENING & CLOSURE ANNOUNCEMENTS**

**2018 STORE OPENINGS**

| Retailer | 2018 Openings | Category/Center Type | Store Size (SF) |
|---|---|---|---|
| Dollar General | 900 | Discount/N&C | 7,428 |
| Aldi | 200 | Grocery/N&C | 1,200 |
| Five Below | 125 | Discount/N&C | 7,500 |
| Ross Dress for Less | 100 | Discount/Power | 28,400 |
| Walmart | 90 | Discount/Power | 104,400 |
| Gander Outdoors | 69 | Sporting Goods/Power | 42,857 |
| Old Navy | 60 | Apparel/Mall | 16,683 |
| Foot Locker | 40 | Footwear/Mall | 3,309 |
| Athleta | 30 | Apparel/Mall | 4,545 |
| Warby Parker | 36 | Accessories/Mall /Street | 2,051 |

**2018 STORE CLOSURE ANNOUNCEMENTS**

| Retailer | 2018 Closures | Category/Center Type | Store Size (SF) |
|---|---|---|---|
| Toys "R" Us | 881 | Toys/Power | 41,284 |
| Walgreens | 600 | Drug Store/N&C/Standalone | 11,021 |
| Subway | 500 | Fast Food/N&C | 1,200 |
| Sears and Kmart | 284 | Department Store/Malls/ Stand Alone | 90,000 - 140,000 |
| Ascena Retail | 267 | Apparel/Mall | 3,500 - 8,000 |
| Bon-Ton | 260 | Department Store/Mall | 76,023 |
| Best Buy Mobile | 250 | Electronics/Mall | 1,388 |
| Signet Jewlers | 200 | Jewlery/Mall | 2,963 |
| GNC | 200 | Health/Wellness/N&C | 3,513 |
| Mattress Firm | 200 | Home/N&C | 3,482 |

Source: Coresight Research, Company filings and press releases, Retail Dive and Retail Maxim. As of June 2018.

This creative destruction is necessary for the sector to rebalance. However, it is important to note many of the high-profile bankruptcies such as Toys "R" Us were private equity and debt driven, and not completely dictated by consumer demand. A majority of the attention is falling on the retailers that are stumbling, but there are several that are growing sales and

[45] CBRE-EA (history); DWS (forecast). As of June 2018.
[46] DWS. As of March 2018.
[47] DWS, Bloomberg and Company Filings as of June 2018.
[48] Coresight Research as of June 2018.
[49] DWS, Bloomberg, Coresight Research and Company Filings as of June 2018.

capturing consumer mindshare. Retailers such as REI, TJX, Ikea, Ulta, Trader Joe's, and Lululemon are engaging consumers by creating unique, value-based, communal or exciting retail experiences through their stores or merchandising.

Our bias towards high-quality real estate continues to drive our asset selection. As we progress through retail's evolution, we may shift to less of a subtype focus to a view on the quality of the real estate and its ability to adapt. The strategic themes and implications that formulate our retail portfolio strategy include:

- Grocery-Anchored Retail**:** Continue to focus on high-volume Neighborhood and Community centers. Low levels of new supply and demand for dining, services, healthcare, fitness/wellness, discount, and convenience are keeping fundamentals in check. Additionally, the daily needs retail categories, grocery and drug stores, provide durable customer traffic. We consider this product type cyclically defensive given its lease structure and merchandising mix. As Amazon takes on the grocery and prescription drug space, traditional grocers will need to ramp up online and delivery offerings. While this will not be an easy undertaking, given the logistics and costs, the locations of these centers provide a significant advantage being close to their customers, even in less dense areas.

- Malls**:** Our outlook for malls has been downgraded to an underweight. NPI returns for both Regional and Super Regional malls continue to decline. Our view of trophy, class A/A+ malls remains unchanged: a majority of these assets will prevail and will be able to transform with the retail landscape over time. However, in the interim, we expect the availability rate to continue to rise modestly as dated retail uses cycle out of malls. The capital infusion needed to curate a relevant tenant mix and to create more experiential destinations is weighing heavily on income returns. A shift away from traditional, low-performing anchors will likely accelerate capital expenditures and elevate tenant improvements for desirable retailers. While these redevelopment projects remain accretive, this will likely cause this subtype to underperform the index in the near term.

- Power Centers**:** We continue to suggest an underweight to this property type, as returns typically lag other retail property types through multiple time periods. As with the other retail subsectors, we believe disintermediation of in-store sales has yet to fully impact power center tenants. The risks to the downside may be disproportionate to that of malls and neighborhood centers. However, income returns are outperforming and may be durable due to the structure of flat, long-term leases with fixed-rate options. There may be select opportunities to acquire well-configured power centers with right-sized boxes suited for new store prototypes and best-in-class tenants that are adaptable to future omnichannel needs such as last-mile distribution or showrooms in the right locations. Avoid tenants with high leverage and weak or slipping credit profiles, and lean into the category leaders that are exceling their peers in delivering e-commerce platforms. We view these types of investments as tactical income plays; however, asset, location, and tenant selection is critical.

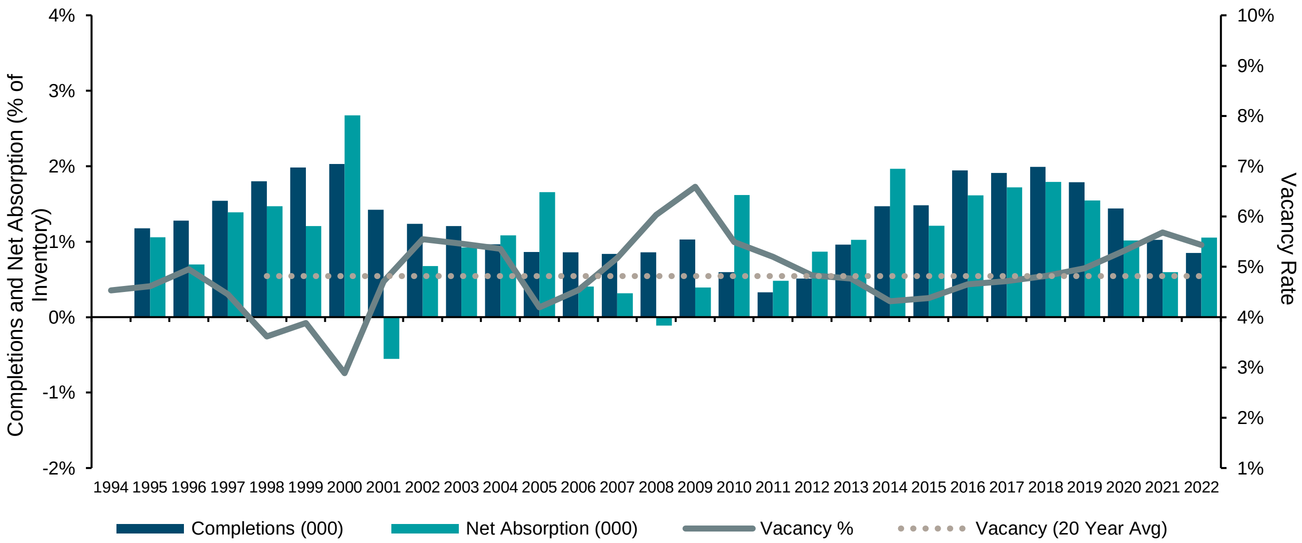
- High Street and Urban Retail**:** Continue to build-out high street retail portfolios selectively as needed to fulfil portfolio considerations. Building scale in this product type will help buffer some downside risks of NNN lease investments to diversify income streams, gain exposure to select retailers and stagger lease expirations. Remain focused on the top assets in international shopping districts or urban streets that are mature. We believe these types of locations hold intrinsic value for retailers, particularly for the digital natives who lack a physical presence. These retailer experiences can drive customer interaction, provide excellent branding opportunities or a unique experience that cannot be translated online. Focus on areas of renewed tenant activity where rents and occupancy have stabilized. Select strong credit tenants who fit into the fabric of these neighborhoods and produce sustainable sales growth that can support occupancy costs.

# 7 / Apartment Outlook and Strategy

## 7.1 Current Conditions

While the Apartment market remains healthy, the sector is in the mature phase of its cycle. As of the first quarter of 2018, the national vacancy rate remained in balance at 5.0%[50], bolstered by sustained renter demand; however, this could very well be the floor given the elevated levels of supply coming through the pipeline (see Exhibit 14). The overall U.S. vacancy rate was up 10 basis points from a year ago, marking eight consecutive quarters with year-over-year increases. Prior to the second quarter of 2016, year-over-year vacancy changes had been flat or declining for 25 consecutive quarters. Debt and equity capital remain abundant in the sector, driving continued investor appetite for new development, evident in the 3.8% year-over-year increase in multifamily permitting nationally.[51] Despite the uptick in permits, starts continued to decline, as higher construction costs, project delays, and lender caution started to bring needed discipline to the market.

**EXHIBIT 14: APARTMENT NET ABSORPTION AND COMPLETIONS AS % OF INVENTORY AND VACANCY RATE (1998-2022)***




*DWS' 29 Apartment Investable Markets
Sources: CBRE-EA (history); DWS (forecast). As of June 2018.
No assurance can be given that any forecast or target will be achieved.

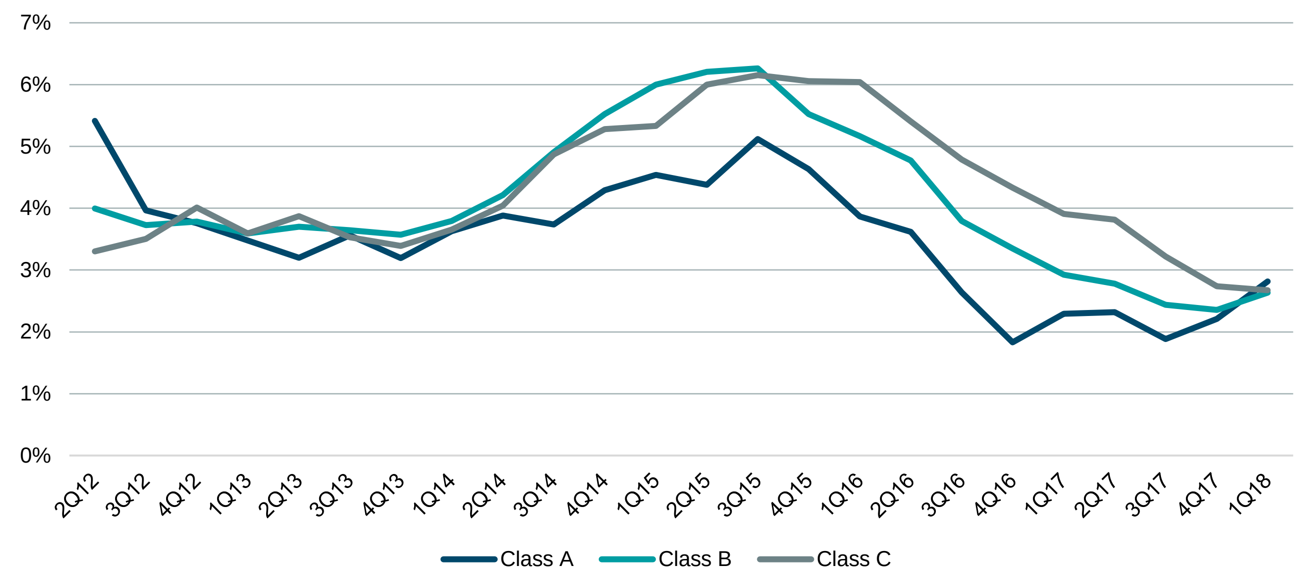
Given the development pipeline, 2018 is projected to be the peak year for completions during the current construction cycle, but project delays will likely push more deliveries into 2019. There is an upside to the slowdown in completions, as this should allow for a more manageable rise in vacancy rates as shown in our baseline forecast for DWS' 29 Investable Markets ("Investable Markets").[52] Renter demand is expected to decline over the forecast as job growth moderates and the

[50] CBRE-EA. As of March 2018.
[51] Axiometrics. As of April 2018.
[52] DWS: Apartment Investable Markets include 29 major metros in the U.S.

economic expansion matures. We expect the overall vacancy rate to climb above its long-term average of 5.0% by the middle of the forecast before recovering as construction recedes.

The Apartment sector has averaged 3.4% annual rent growth since 2013, peaking at 5.1% in the third quarter of 2015. While rents have gradually moderated since that time, the market showed some resilience in the first quarter of 2018, with effective rent growth of 2.8% year-over-year.[53] This growth was primarily driven by the Class A segment, although the Class B and C segments also leveled off (see Exhibit 15). Overall, the five year average rent growth forecast for our investable markets is 2.3%, in line with the sector's historical average (2.4%).

**EXHIBIT 15: EFFECTIVE RENT GROWTH BY APARTMENT CLASS (2012-2018)**




Sources: Axiometrics and DWS. Data as of March 2018. Past performance is not indicative of future results.

The cost of renting versus owning continues to favor apartments as the country's home prices are appreciating at a faster rate than rents. Home prices have grown 45-50% cumulatively over the past five-and-a-half years, primarily driven by a lack of new housing, especially entry-level homes.[54] Developers are building more expensive homes as the cost to build continues to increase. Soaring land prices, skilled labor shortages, and rising material costs are all contributing to this trend. While home prices have surged above pre-recession peaks, household income growth has failed to keep pace, putting homeownership out of reach for many young renters (especially those with student loans). Rising mortgage rates are also lowering borrowing capacity. The lack of affordability, the loss of appetite for homeownership as an investment following the bursting of the housing bubble, and new legislation that diminishes the coveted tax shield of owning a home should all help support apartment demand.

The headwinds facing first time homebuyers should especially promote suburban apartment demand in the near term. Over the past few years, population growth has been stronger in top-tier suburbs than in the urban core. Strong demand for suburban apartments is being driven primarily by ageing Millennials, the nation's largest renter cohort. Millennials are getting married and starting families later in life than the generations before them. They want high-quality housing that maximizes space and offers outdoor living, while also being located near highly-ranked schools and access to public transit. They also wish to maintain an urbanized lifestyle, so close proximity to a highly-amenitized, mixed-use town center is very important.

[53] Axiometrics. As of March 2018.
[54] Moody's Analytics. As of March 2018.

Another demand driver, albeit still in the early phase, is the demographic trend showing Baby Boomers downsizing from large homes to apartments. Unlike Millennials, Baby Boomers were assumed to behave like their parents, staying in their homes. However, they are not all behaving that way, showing a desire to eliminate high maintenance costs and property taxes, gain more flexibility to be closer to children and grandchildren, and as empty nesters, enjoy a greater sense of community.

Softening fundamentals in downtown submarkets have not deterred investors who continue to seek trophy properties in prime urban markets. We estimate that the average going in cap rate for Class A urban core product is in the low-4% range for our Investable Markets, with many prime stabilized assets trading in the high-3% range. Average apartment cap rates across the quality spectrum have remained relatively stable around 5% for the last five years. [55] Low cap rates, coupled with decelerating NOI growth has resulted in total returns ranging from 5.5% to 6.0% for Class A properties in prime locations.

Annual NPI total returns for the apartment sector slowed to 6.4% (trailing four quarters) in the first quarter of 2018 – a drop of 36 basis points from a year earlier.[56] Western and Southeastern metros have been the primary outperformers: Riverside, Nashville, Orlando, Phoenix, Seattle, Tampa, Orange County, Charlotte, Denver, Atlanta, and San Diego all produced total returns of 8% or more over the past year. In contrast, several slower growth Midwest and East Coast markets, such as Chicago, New York, and Washington DC, along with Houston and San Francisco, exhibited total returns of less than 5%. Among apartment property subtypes, garden apartments were the top performers, returning 9.3% as of the first quarter of 2018. Despite their popularity with investors, high-rise properties lagged behind, returning 4.8% over the same time period, well below the subtype’s five-year average annualized return. High-rise properties will likely underperform again in 2018 as significant supply gets delivered to the urban core.

## 7.2 Outlook and Strategy

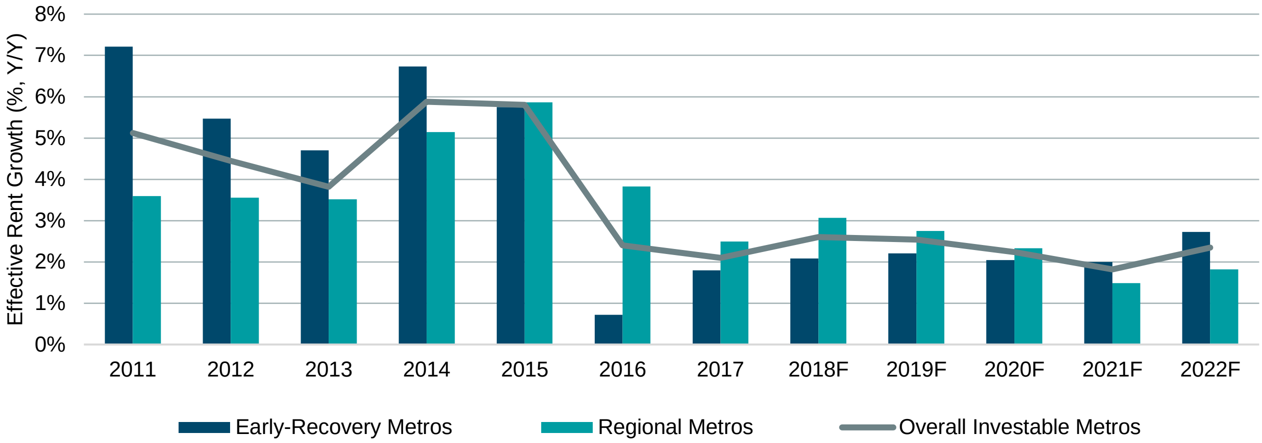
While favorable macro trends should sustain healthy renter demand, it is unlikely to offset the expected surge of new supply. Despite starts declining, construction already underway is expected to push vacancy rates modestly higher. New deliveries to the Investable Markets are projected to average over 200,000 units per year in 2018 and 2019, almost double their long-term average of 106,000 units per year. Upward pressure on vacancy is expected to cause rent growth to moderate, though we still project rent growth for the investable markets to average 2.6% per year over the near term. New supply is expected to recede in the outer years of the forecast, which should place demand and supply fundamentals in balance, resulting in vacancy rates and rent growth in line with their long-term historic averages of 5.0% and 2.8%, respectively.

Many of the apartment markets that experienced the strongest rent growth coming out of the Great Recession are now posting some of the weakest (see Exhibit 16). These metros are also some of the largest, and have therefore had an outsized effect on performance. In the first quarter of 2018, Chicago, San Francisco, Austin, Washington DC, and New York all trailed the U.S. average. On the other hand, Orlando, Riverside, Houston, Phoenix, and San Diego all exceeded the U.S. average.

As many large coastal markets are exhibiting decelerating rent growth, it will likely be the late-recovery Sunbelt and smaller West Coast markets that bolster national rent growth over the next several years. Metros such as Riverside, Orlando, Phoenix, and San Diego are expected to outperform based on strong job growth and favorable demographics. Also, given its improving economy and disciplined construction, we believe an early foothold should be established in Houston during its recovery.

[55] Real Capital Analytics. As of March 2018.
[56] NCREIF. As of March 2018.

**EXHIBIT 16: EFFECTIVE RENT GROWTH (2011-2022)**




Sources: Axiometrics and DWS. Data as of June 2018. F = forecast.
Past performance is not indicative of future results.
Early-Recovery Metros: Austin, Boston, Chicago, Dallas, Denver, Houston, Los Angeles, New York, Oakland, San Francisco, San Jose, Seattle.
Regional Metros: Atlanta, Charlotte, Fort Lauderdale, Miami, Minneapolis, Nashville, Orange County, Orlando, Phoenix, Portland, San Diego, Tampa.

Slowing rent growth and rising vacancy, combined with very low yields, likely limit the apartment sector's ability to produce strong total returns relative to the other main property types. Given that many prime apartment markets are fully valued, attractive investment opportunities have become more limited. With the construction cycle moving closer toward peak deliveries, investors need to be more patient and selective when acquiring apartment assets in the current low-yield and slowing NOI growth environment. Although we believe the prime markets should be viewed as strategic long-term performers, elevated pricing in these locations will likely constrain total returns in the near term.

The central themes that are shaping our apartment strategy include:

- Maintain Discipline in the Urban Core: Given the unprecedented surge of new luxury product into prime urban core areas, it will be important to exercise discipline where oversupply remains a concern, rent growth is flat or negative, and yields remain low. Only the best located properties with unique amenities should be considered. Proximity to grocers, parks, trails, and town centers may help distinguish a property from the plethora of competitors. Moreover, the flood of high-end product has implications for rent levels, where downtown markets are already experiencing an adjustment. Properties once considered Class A have had to compete for renters further down the income scale. This is evident in gateway markets where one to two months of free rent are being offered to lease vacant units. Still, forecasts indicate 2018 will likely be the peak year for deliveries. With that in mind, there may be opportunities to acquire prime assets should capital markets adjust to the slowing fundamentals in the urban core.

- Renovation Strategy Still Flashing Caution: The window to execute a successful renovation strategy in order to achieve higher yields appears to be closing. The attractive premium over Class A product has greatly diminished as cap rates have compressed, while rent growth for Class B and C product has slowed. Also, renovating during a period of rising construction costs and skilled labor shortages requires diligent planning; the ability to manage the large capital expenditures necessary for upgrading these properties will be critical to the success of these strategies.

- Follow Millennials to the Suburbs: Conventional wisdom over the past decade has been that Millennials are not like their parents, choosing to rent smaller units in the urban core surrounded by amenities rather than buying large homes in the suburbs. Recent demographic data, however, shows a sizeable population shift from urban areas to top-tier suburbs. This suburban growth has been driven largely by ageing Millennials gradually moving out of cities in search of more space to raise young families, while continuing to pay down student debt and save for down payments on homes.

While homeownership is still the goal, the relatively more affordable option in the near term is to rent apartments. Given that many jobs remain in the urban core, there is a strong preference for a shorter commute, both to work and to urban lifestyle options, amongst this renter cohort. To capitalize on these trends, suburban properties should meet very specific investment criteria, foremost being that they should be in highly-rated school systems, have access to public transit, and be located near a highly-amenitized town center.

- Steady Income with Student Housing: With Class A market-rate apartments commanding very low cap rates – often times in the high-3% to low-4% range – core student housing has emerged as an attractive alternative investment with a yield premium over market-rate product. This segment is also attractive because of its countercyclical nature, providing investors with stable net operating income (NOI) growth and some downside protection during recessions. Strategically, investments should aim to take advantage of the current supply-demand imbalance, whereby demand for high-quality student accommodations is steadily increasing while availability remains low. Assets should be located in large, Tier-1 markets with a primary focus on public Power Five and Carnegie R1 universities. Such properties should offer students a walkable commute to campus, a strong amenities package, and close proximity to the area's main corridor of nightlife and retail options.

# 8 / Office Outlook and Strategy

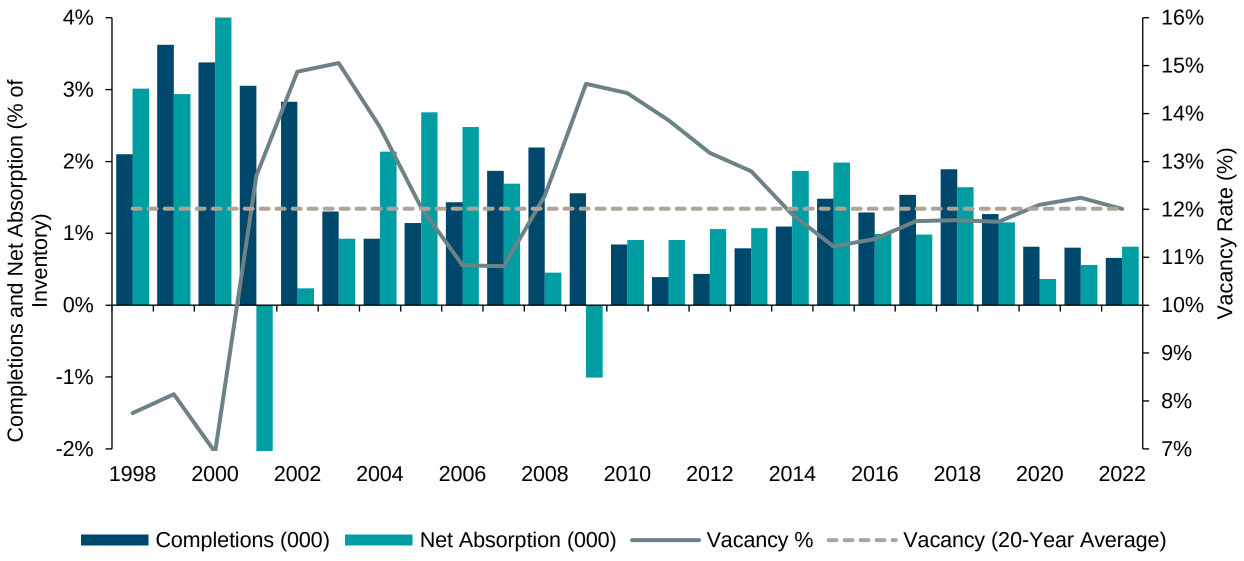
## 8.1 Current Conditions

Despite the length of this expansionary cycle, office investment returns have been lagging relative to the other property types. Yet recent performance appears to be showing some strength as the NPI-office sector returns exceeded those in the apartment and retail sectors in the first quarter of 2018 – the first time the office sector has been a top-tier performer since 2007.[57] Market fundamentals are expected to remain healthy as the construction cycle matures over the near term.

Propelled by sustained economic growth, payrolls continued to expand during the first few months of 2018, pushing the unemployment rate to nearly a record low of 4% in June 2018.[58] Labor markets in most major metros were in full expansion with national office-using employment exceeding its pre-recessionary peak by 9%. We believe that a buoyant economy will support further growth in office-using employment. Nevertheless, the gains will likely be modest given that the economy is operating near full capacity and the search for talent is becoming increasingly difficult. Metros such as Austin, Dallas, Houston and Portland are expected to lead in office-using job growth over the forecast, while growth in gateway markets such as New York, San Francisco, Los Angeles, Washington D.C. and Chicago is expected to moderate.[59]

Overall office fundamentals remain solid (see Exhibit 17). Healthy office market conditions are expected to continue in 2018, yet moderate thereafter due to higher construction activity and a tight labor market restricting tenant demand. Vacancy rates across DWS' 21 Investable Markets (Investable Markets)[60] have stayed virtually flat over the past four quarters, averaging 11.9% in 1Q18. Moreover, current vacancy rates remain below their 20-year historical averages in most markets with San Francisco, Seattle and Austin posting some of the lowest office vacancy rates across the nation.

**EXHIBIT 17: OFFICE NET ABSORPTION AND COMPLETIONS AS % OF INVENTORY AND VACANCY RATE (1998-2022)**




Sources: CBRE-EA (history); DWS (forecast). As of June 2018. No assurance can be given that any forecast or target will be achieved.

[57] NCREIF. As of March 2018.
[58] Bureau of Labor Statistics. As of May 2018.
[59] Moody's Analytics. As of March 2018.
[60] DWS: Office Investable Markets include 21 major metros in the U.S.

After a modest 2016 and 2017, net absorption is expected to pick up by the end of 2018 as creative and knowledge-intensive tenants pre-leasing new space move into newly delivered assets. The tech sector has contributed nearly 20% of office leasing over the past few years and leading tech markets like San Francisco Bay Area, Portland and Seattle are expected to remain highly active. [61] Still, demand will likely be broad-based as several lagging sectors have increased their shares of office leasing. In particular, higher oil prices and the prospects of reduced regulation in the financial industry will likely benefit energy and finance firms respectively.

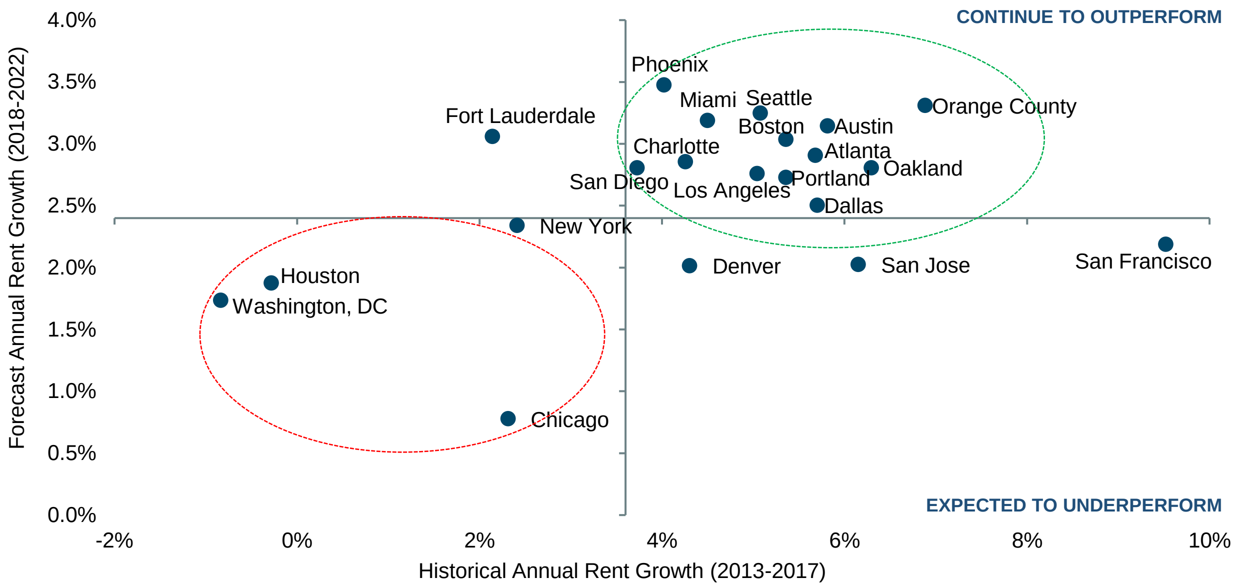
Although a small segment of the office market, the flexible space and co-working sector has emerged as a primary growth driver, claiming 36% of the total U.S. office net absorption between 2015 and 2017 (24.1 million square feet) and reaching a total inventory of 51 million square feet in 2017. [62] This rapid growth has been enabled by tenants seeking to benefit from ever evolving technologies and thriving collaborative environments. To date, the flexible space and co-working sector remains highly fragmented with two major players, Regus and WeWork, leading the office market in leasing activity.

With a select few large starts, construction reached new peaks in the first quarter of 2018, spurred by healthy office fundamentals and a persistent flight to quality across major markets. Firms continue to favor the newest high-quality space as they seek to attract skilled talent and provide the most efficient work environments. Approximately 85 million square feet of new office space (2.7% of stock) was under construction in the first quarter of 2018, highly concentrated in a few tech markets, notably San Jose and San Francisco, and in the large gateway markets such as Washington, DC and New York. [63] Speculative construction is expected to slow after 2018, limiting widespread supply concerns and keeping vacancy rates in balance.

Average asking rents continued to climb in 2018, but increased concession packages placed pressure on net effective rents in many gateway markets. [64] The strong rent growth seen earlier in this cycle is now likely behind us. Office rent growth is expected to slow from 4%-6% (2013 to 2017) to 2%-3% over the next five years as the growth of office demand loses steam (see Exhibit 18). [65] Despite the projected deceleration, NOI growth should hold up better: With the office sector going into its ninth year of growth, leases that were signed 6-8 years ago are now expiring, creating the opportunity for landlords to roll these leases up to today's much higher market rental rates. Additionally, firms are likely to pay up for higher quality assets in better, transit oriented locations as they increasingly use their physical office space as a talent recruiting tool.

[61] CBRE-EA. As of June 2018.
[62] JLL. Flexible Space Office Inventory. As of March 2018.
[63] CBRE-EA; Costar; DWS. As of June 2018.
[64] JLL. As of June 2018.
[65] CBRE-EA; DWS. As of June 2018.

**EXHIBIT 18: OFFICE RENT GROWTH**




Sources: CBRE-EA (history); DWS (forecast). As of June 2018. No assurance can be given that any forecast or target will be achieved.

## 8.2 Outlook and Strategy

Looking ahead, office sector performance is expected to move closer to the mature phase of the real estate cycle. Fundamentals are likely to remain solid in the near-term, though rent growth is expected to moderate. Most major gateway metros are reaching their peaks as it relates to labor markets and space demand. The sector's high cap-ex burden and persistently low cap rates across major CBDs create risk and return imbalances, with future returns highly sensitive to changes in NOI. Space preferences are evolving with tenants favoring buildings with a wide range of amenities aimed at supporting employee wellbeing and an activity based workplace.

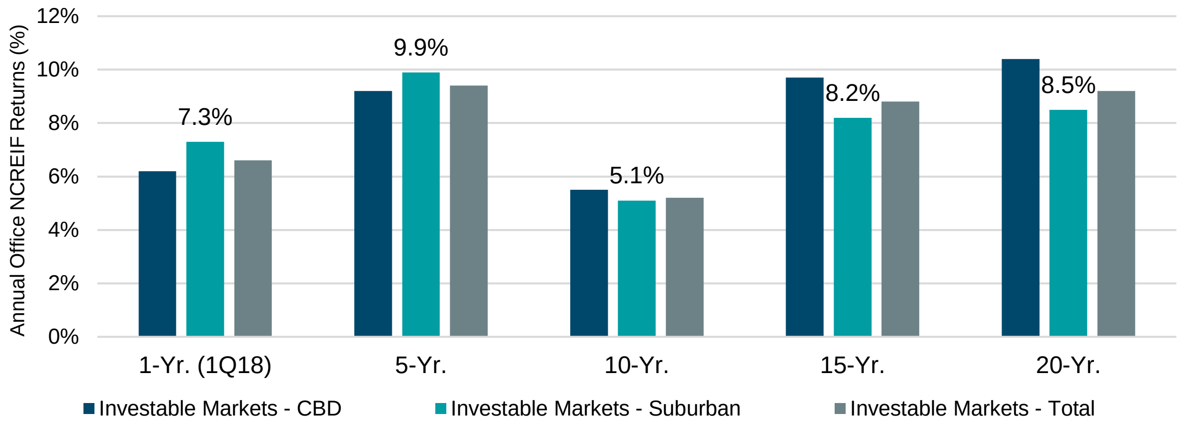
The central themes that are shaping our office strategy include:

- High Density Prime Suburban Office Nodes: In addition to our urban-core strategy, we believe that there are opportunities in select suburban nodes with urban-type amenities. These select suburbs include locations with ample transit connections and lively neighborhoods offering a wide range of urban-like amenities, adjacent to major CBDs, and hosting a high concentration of well-educated workers. Relative to other suburbs, prime suburban nodes have relatively high occupancy rates and rent levels, and tend to outperform not only the overall metro but also their corresponding downtown submarkets.

  With relatively low cap rates, rising expenses and tepid demand, total returns in core gateway CBD markets has moderated. Going forward, low housing affordability in gateway markets may limit urban demographic growth, with workers likely to look for housing in the inner suburbs that offer both affordability and access to an urban lifestyle. It is worth noting that recent NPI office returns show that suburban markets have outperformed those in the CBDs, on both an income and a capital return basis (see Exhibit 19).[66]

[66] NCREIF; DWS. As of June 2018.

**EXHIBIT 19: SUBURBAN OFFICE RETURNS BEAT CBD RETURNS (% YEAR-OVER-YEAR)**




Sources: NCREIF; DWS. As of June 2018.

- Office Space Focused on Well-being: Tenants are increasingly viewing their office space as a tool to retain and hire talent. While the degree of office densification has likely reached a plateau, tenants are increasingly investing in more amenities. While building quality, location and space efficiency are still paramount, wireless office lounges, huddle rooms, gyms, cafés as well as walking-distance access to amenities are becoming a staple. The traditional workspace is becoming an activity-based venue and landlords and developers are accommodating the trend.

- Regional Metros: High rent growth across tech and early recovery markets is expected to moderate, with regional metros, particularly in the high-growth Sunbelt, starting to outperform. These are metros with strong demographic and office-using employment prospects, as well as affordable business and housing costs. Over a long period, oversupply could be a risk, but given the near-term supply and demand balance, we think that there could be opportunities in markets such as Phoenix, Miami, Fort Lauderdale and Orange County, where rent growth is likely to outperform the Investable Markets average[67] (see Exhibit 18).



[67] DWS. As of June 2018.

## Appendix 1: U.S. House Portfolio

The DWS House Portfolio presents the allocation by property sector for core portfolios in the United States which we believe would outperform the NPI. We develop the House Portfolio as an unlevered portfolio of properties for a U.S. investor without regard to tax consequences. The House Portfolio is formulated using both quantitative and qualitative modeling, integrated with our House View. The resulting weights, we believe, aid in providing long-term risk-adjusted outperformance to our portfolios versus the market as a whole and against relevant benchmarks and indices. The analysis focuses on the four major property sectors and excludes hotels. The following table summarizes our conclusions on weightings in comparison with the NPI. The analysis results in an active overweight to the industrial sector and an underweight to the apartment sector, office sector, and retail sector.

| Sector | NPI Weights | ODCE Weights | Research Perspective | House Portfolio | Active Bet (vs NPI) | Recommended Range |
|---|---|---|---|---|---|---|
| **Apartment** | 24% | 24% | _ Economic expansion fueling household formation.<br>_ Construction appears to be peaking, albeit at a high level.<br>_ Ageing Millennials might seek homeownership.<br>_ But tax reform and rising home prices / mortgage rates a deterrent. | 21% | (3%) | 16% - 26% |
| **Industrial** | 16% | 16% | _ Benefits from expanding U.S. population and job gains as well as e-commerce, housing production, and trade.<br>_ Speculative construction is rising but demand should still outpace. Solid rent and NOI growth expected in near term.<br>_ Smaller & mid-sized warehouses poised to outperform.<br>_ Flex/R&D is recovering, but limited to the west region. | 26% | +10% | 21% - 31% |
| **Office** | 37% | 36% | _ Office-job growth strong, but limits to further growth amid low unemployment.<br>_ Densification a structural headwind to absorption.<br>_ ODCE in-place rents approximately 10% below market, supporting healthy NOI growth.<br>_ Rent recovery has extended to suburban markets, supported by increased absorption and critical new supply. | 32% | (5%) | 27% - 37% |
| **Retail** | 23% | 20% | _ Returns are losing momentum, led by Malls. Neighborhood & Community holding up better.<br>_ E-commerce restraining store openings, but convenience and service (health, fitness, dining) retail expanding.<br>_ Lack of new supply contributing to improving fundamentals.<br>_ Long duration leases provide stable income. | 21% | (2%) | 16% - 26% |
| **Other** | 1% | 4% | N/A | 0% | 0% | 0% |

Source: NCREIF; DWS. As of July 2018.

## Appendix 2: Real Estate Target Markets

Investible Metros: We screened top U.S. metros, which represent 86% of the NCREIF Property Index, and identified the investment markets for each property sector that we believe have the best prospects for superior performance during the market cycle or a portion of it. This metro selection is based on property market size, liquidity, growth characteristics, income, historical returns and other factors indicative of future performance. The list of these metros remains generally static, although some metros may be added or subtracted over time due to structural market changes.

Target Investible Metros: These are a subset of the universe of investible metros and include markets expected to outperform or market perform during the next three to five years.

**INVESTIBLE AND TARGET MARKETS**

↑ Overweight ↓ Underweight ↔ Market Weight

| Market | Apartments | Industrial | Office | Retail |
|---|---|---|---|---|
| Atlanta | ↔ | ↔ | ↔ | ↑ |
| Austin | ↓ | ↔ | ↔ | ↑ |
| Baltimore | | ↓ | | |
| Boston | ↔ | | ↔ | ↔ |
| Charlotte | ↔ | ↔ | ↔ | ↑ |
| Chicago | ↓ | ↓ | ↓ | ↓ |
| Dallas | ↔ | ↓ | ↔ | ↑ |
| Denver | ↔ | ↑ | ↓ | ↑ |
| Fort Lauderdale | ↑ | ↑ | ↑ | ↑ |
| Houston | ↔ | ↓ | ↔ | ↔ |
| Los Angeles | ↔ | ↑ | ↔ | ↔ |
| Miami | ↔ | ↔ | ↑ | ↔ |
| Minneapolis | ↔ | | | ↓ |
| Nashville | ↑ | | | ↑ |
| New York | ↓ | ↑ | ↓ | ↓ |
| Oakland / East Bay | ↔ | ↑ | ↔ | ↑ |
| Orange County | ↑ | ↑ | ↑ | ↔ |
| Orlando | ↑ | ↑ | | ↔ |
| Philadelphia / Central PA | ↓ | ↔ | | ↓ |
| Phoenix | ↑ | ↔ | ↔ | ↓ |
| Portland | ↓ | ↔ | ↑ | ↑ |
| Raleigh | ↔ | | | ↑ |
| Riverside | ↑ | ↔ | | ↔ |
| San Diego | ↑ | ↑ | ↓ | ↔ |
| San Francisco | ↓ | ↔ | ↓ | ↔ |
| San Jose | ↓ | ↔ | ↓ | ↔ |
| Seattle | ↔ | ↑ | ↔ | ↔ |
| Tampa | ↑ | | | ↑ |
| Washington DC | ↔ | ↓ | ↓ | ↔ |
| West Palm Beach | ↑ | | | ↑ |

Source: DWS. As of July 2018.

# Important Information

**On March 23, 2018, Deutsche Asset Management rebranded to DWS. The brand DWS represents DWS Group GmbH & Co. KGaA and any of its subsidiaries, such as DWS Distributors, Inc., which offers investment products, or DWS Investment Management Americas, Inc. and RREEF America L.L.C., which offer advisory services.**

DWS represents the asset management activities conducted by Deutsche Bank AG or any of its subsidiaries. In the U.S., DWS relates to the asset management activities of RREEF America L.L.C.; in Germany: RREEF Investment GmbH, RREEF Management GmbH, and RREEF Spezial Invest GmbH; in Australia: Deutsche Investments Australia Limited (ABN 52 074 599 401) an Australian financial services incense holder; in Japan: Deutsche Securities Inc. (For DSI, financial advisory (not investment advisory) and distribution services only); in Hong Kong: Deutsche Bank Aktiengesellschaft, Hong Kong Branch (for direct real estate business), and Deutsche Asset Management (Hong Kong) Limited (for real estate securities business); in Singapore: Deutsche Asset Management (Asia) Limited (Company Reg. No. 198701485N); in the United Kingdom: Deutsche Alternative Asset Management (UK) Limited, Deutsche Alternative Asset Management (Global) Limited and Deutsche Asset Management (UK) Limited; and in Denmark, Finland, Norway and Sweden: Deutsche Alternative Asset Management (UK) Limited and Deutsche Alternative Asset Management (Global) Limited; in addition to other regional entities in the Deutsche Bank Group.

For purposes of ERISA and the Department of Labor's fiduciary rule, we are relying on the sophisticated fiduciary exception in marketing our services and products, and nothing herein is intended as fiduciary or impartial investment advice unless it is provided under an existing mandate.

Key DWS research personnel are voting members of various investment committees. Members of the investment committees vote with respect to underlying investments and/or transactions and certain other matters subjected to a vote of such investment committee. The views expressed in this document have been approved by the responsible portfolio management team and Real Estate investment committee and may not necessarily be the views of any other division within DWS.

This material was prepared without regard to the specific objectives, financial situation or needs of any particular person who may receive it. It is intended for informational purposes only. It does not constitute investment advice, a recommendation, an offer, solicitation, the basis for any contract to purchase or sell any security or other instrument, or for DWS or its affiliates to enter into or arrange any type of transaction as a consequence of any information contained herein. Neither DWS nor any of its affiliates gives any warranty as to the accuracy, reliability or completeness of information which is contained in this document. Except insofar as liability under any statute cannot be excluded, no member of the DWS, the Issuer or any office, employee or associate of them accepts any liability (whether arising in contract, in tort or negligence or otherwise) for any error or omission in this document or for any resulting loss or damage whether direct, indirect, consequential or otherwise suffered by the recipient of this document or any other person.

The views expressed in this document constitute DWS Group’s judgment at the time of issue and are subject to change. This document is only for professional investors. This document was prepared without regard to the specific objectives, financial situation or needs of any particular person who may receive it. No further distribution is allowed without prior written consent of the Issuer.

Investments are subject to risk, including market fluctuations, regulatory change, possible delays in repayment and loss of income and principal invested.

The value of investments can fall as well as rise and you might not get back the amount originally invested at any point in time.

Investment in real estate may be or become nonperforming after acquisition for a wide variety of reasons. Nonperforming real estate investment may require substantial workout negotiations and/ or restructuring. Environmental liabilities may pose a risk such that the owner or operator of real property may become liable for the costs of removal or remediation of certain hazardous substances released on, about, under, or in its property. Additionally, to the extent real estate investments are made in foreign countries, such countries may prove to be politically or economically unstable. Finally, exposure to fluctuations in currency exchange rates may affect the value of a real estate investment.

Investments in Real Estate are subject to various risks, including but not limited to the following:

- Adverse changes in economic conditions including changes in the financial conditions of tenants, buyer and sellers, changes in the availability of debt financing, changes in interest rates, real estate tax rates and other operating expenses;
- Adverse changes in law and regulation including environmental laws and regulations, zoning laws and other governmental rules and fiscal policies;
- Environmental claims arising in respect of real estate acquired with undisclosed or unknown environmental problems or as to which inadequate reserves have been established;
- Changes in the relative popularity of property types and locations;
- Risks and operating problems arising out of the presence of certain construction materials; and
- Currency / exchange rate risks where the investments are denominated in a currency other than the investor's home currency.

An investment in real estate involves a high degree of risk, including possible loss of principal amount invested, and is suitable only for sophisticated investors who can bear such losses. The value of shares/ units and their derived income may fall or rise.

Any forecasts provided herein are based upon DWS's opinion of the market at this date and are subject to change dependent on the market. Past performance or any prediction, projection or forecast on the economy or markets is not indicative of future performance.

In Australia: Issued by Deutsche Investments Australia Limited (ABN 52 074 599 401), holder of an Australian Financial Services License (AFSL 499 640). This information is only available to persons who are professional, sophisticated, or wholesale investors as defined under section 761 G of the Corporations Act 2001 (Cth). The information provided is not to be construed as investment, legal or tax advice and any recipient should take their own investment, legal and tax advice before investing. Deutsche Investments Australia Limited is an asset management subsidiary of DWS Group GmbH & CO. KGaA ("DWS Group"). The capital value of and performance of an investment is not in any way guaranteed by DWS Group, Deutsche Investments Australia Limited or any other member of the DWS Group. Any forecasts provided herein are based upon our opinion of the market as at this date and are subject to change, dependent on future changes in the market. Any prediction, projection or forecast on the economy, stock market, bond market or the economic trends of the markets is not necessarily indicative of the future or likely performance. Investments are subject to investment risk, including possible delays in repayment and loss of income and principal invested. Deutsche Investments Australia Limited is not an Authorised Deposit-taking Institution under the Banking Act 1959 nor regulated by APRA.

Notice to prospective Investors in Japan: This document is distributed in Japan by DeAMJ. Please contact the responsible employee of DeAMJ in case you have any question on this document because DeAMJ serves as contacts for the product or service described in this document. This document is for distribution to Professional Investors only under the Financial Instruments and Exchange Law.

Dubai International Financial Centre: Deutsche Bank AG in the Dubai International Financial Centre (registered no. 00045) is regulated by the Dubai Financial Services Authority. Deutsche Bank AG - DIFC Branch may only undertake the financial services activities that fall within the scope of its existing DFSA license. Principal place of business in the DIFC: Dubai International Financial Centre, The Gate Village, Building 5, PO Box 504902, Dubai, U.A.E. This information has been distributed by Deutsche Bank AG. Related financial products or services are only available to Professional Clients, as defined by the Dubai Financial Services Authority.

Kingdom of Saudi Arabia: Deutsche Securities Saudi Arabia LLC Company, (registered no. 07073-37) is regulated by the Capital Market Authority. Deutsche Securities Saudi Arabia may only undertake the financial services activities that fall within the scope of its existing CMA license. Principal place of business in Saudi Arabia: King Fahad Road, Al Olaya District, P.O. Box 301809, Faisaliah Tower - 17th Floor, 11372 Riyadh, Saudi Arabia.

For Investors in Switzerland: This material is intended for information purposes only and does not constitute investment advice or a personal recommendation. This document should not be construed as an offer to sell any investment or service. Furthermore, this document does not constitute the solicitation of an offer to purchase or subscribe for any investment or service in any jurisdiction where, or from any person in respect of whom, such a solicitation of an offer is unlawful. Neither Deutsche Bank AG nor any of its affiliates, gives any warranty as to the accuracy, reliability or completeness of information which is contained in this document. Past performance or any prediction or forecast is not indicative of future results.
The views expressed in this document constitute DWS Group's judgment at the time of issue and are subject to change. DWS Group has no obligation to update, modify or amend this letter or to otherwise notify a reader thereof in the event that any matter stated herein, or any opinion, projection, forecast or estimate set forth herein, changes or subsequently becomes inaccurate, or if research on the subject company is withdrawn. Prices and availability of financial instruments also are subject to change without notice.

The information provided in this document is addressed solely to Qualified Investors pursuant to Article 10 paragraph 3 of the Swiss Federal Act on Collective Investment Schemes (CISA) and Article 6 of the Ordinance on Collective Investment Schemes. This document is not a prospectus within the meaning of Articles 1156 and 652a of the Swiss Code of Obligations and may not comply with the information standards required thereunder. This document may not be copied, reproduced, distributed or passed on to others without the prior written consent of Deutsche Bank AG or its affiliates.



Issued and approved by Deutsche Alternative Asset Management (Global) Limited of 1 Great Winchester Street, London, EC2N 2DB, authorised and regulated by the Financial Conduct Authority ("FCA"). DeAAM Global is also registered with the U.S. Securities and Exchange Commission under the Investment Advisers Act 1940 (the "Advisers Act"), however it complies with the Advisers Act only with respect to US clients.

This document is a "non-retail communication" within the meaning of the FCA's Rules and is directed only at persons satisfying the FCA's client categorisation criteria for an eligible counterparty or a professional client. This document is not intended for and should not be relied upon by a retail client. This document may not be reproduced or circulated without written consent of the issuer.

This document is intended for discussion purposes only and does not create any legally binding obligations on the part of DWS Group GmbH & Co. KGaA and/or its affiliates ("DWS"). Without limitation, this document does not constitute investment advice or a recommendation or an offer or solicitation and is not the basis for any contract to purchase or sell any security or other instrument, or for DWS to enter into or arrange any type of transaction as a consequence of any information contained herein. The information contained in this document is based on material we believe to be reliable; however, we do not represent that it is accurate, current, complete, or error free. Assumptions, estimates and opinions contained in this document constitute our judgment as of the date of the document and are subject to change without notice. Past performance is not a guarantee of future results. Any forecasts provided herein are based upon our opinion of the market as at this date and are subject to change, dependent on future changes in the market. Any prediction, projection or forecast on the economy, stock market, bond market or the economic trends of the markets is not necessarily indicative of the future or likely performance. Investments are subject to risks, including possible loss of principal amount invested.

When making an investment decision, potential investors should rely solely on the final documentation relating to the investment or service and not the information contained herein. The investments or services mentioned herein may not be appropriate for all investors and before entering into any transaction you should take steps to ensure that you fully understand the transaction and have made an independent assessment of the appropriateness of the transaction in the light of your own objectives and circumstances, including the possible risks and benefits of entering into such transaction. For general information regarding the nature and risks of the proposed transaction and types of financial instruments please go to https://www.db.com/company/en/risk-disclosures.htm. You should also consider seeking advice from your own advisers in making this assessment. If you decide to enter into a transaction with us you do so in reliance on your own judgment.

Any opinions expressed herein may differ from the opinions expressed by other DWS departments including DWS Research. DWS may engage in transactions in a manner inconsistent with the views discussed herein. DWS trades or may trade as principal in the instruments (or related derivatives), and may have proprietary positions in the instruments (or related derivatives) discussed herein. DWS may make a market in the instruments (or related derivatives) discussed herein. Sales and Trading personnel are compensated in part based on the volume of transactions effected by them. The distribution of this document and availability of these products and services in certain jurisdictions may be restricted by law. You may not distribute this document, in whole or in part, without our express written permission.

DWS SPECIFICALLY DISCLAIMS ALL LIABILITY FOR ANY DIRECT, INDIRECT, CONSEQUENTIAL OR OTHER LOSSES OR DAMAGES INCLUDING LOSS OF PROFITS INCURRED BY YOU OR ANY THIRD PARTY THAT MAY ARISE FROM ANY RELIANCE ON THIS DOCUMENT OR FOR THE RELIABILITY, ACCURACY, COMPLETENESS OR TIMELINESS THEREOF.

Any reference to "DWS", "Deutsche Asset Management" or "Deutsche AM" shall, unless otherwise required by the context, be understood as a reference to asset management activities conducted by DWS Group GmbH & Co. KGaA and/or any of its affiliates. Clients will be provided DWS products or services by one or more legal entities that will be identified to clients pursuant to the contracts, agreements, offering materials or other documentation relevant to such products or services. DWS's infrastructure investment business is part of the Alternatives platform. In the U.S., DWS relates to the asset management activities of RREEF America L.L.C.; in Germany: RREEF Investment GmbH, RREEF Management GmbH, and RREEF Spezial Invest GmbH; in Japan: Deutsche Securities Inc. (For DSI, financial advisory (not investment advisory) and distribution services only); in Hong Kong: Deutsche Bank Aktiengesellschaft, Hong Kong Branch (for direct real estate business), and

Deutsche Asset Management (Hong Kong) Limited (for real estate securities business); in Singapore: Deutsche Asset Management (Asia) Limited (Company Reg. No. 198701485N); in the United Kingdom: Deutsche Alternative Asset Management (UK) Limited, Deutsche Alternative Asset Management (Global) Limited and Deutsche Asset Management (UK) Limited; and in Denmark, Finland, Norway and Sweden: Deutsche Bank AG; in Australia: Deutsche Investments Australia Limited (ABN 52 074 599 401) an Australian financial services license holder.

For investors in Nordics: Deutsche Bank AG is authorized under German banking law (competent authority: European Central Bank and the BaFin, Germany's Federal Financial Supervisory Authority. Deutsche Bank Branches operates within the EEA on the back of the legal entity (Deutsche Bank AG) EU Passports within the European Economic Area ("EEA"). Reference is made to European Union Regulatory Background and Corporate and Regulatory Disclosures at https://www.db.com/en/content/eu_disclosures_uk.htm. Details about the extent of our authorisation and regulation by BaFin are available from us on request." DBS is acting for and behalf of Deutsche Asset Management (UK) Ltd and if you decide to enter into a transaction with Deutsche Bank AG or one of its affiliates ("the principal") will any and all contractual and commercial agreements be as entered into with that principal. This presentation is for information purposes only and is not intended to be an offer or an advice or recommendation or solicitation, or the basis for any contract to purchase or sell any security, or other instrument, or for Deutsche Bank to enter into or arrange any type of transaction as a consequence of any information contained herein. It has been prepared without consideration of the investment needs, objectives or financial circumstances of any investor. This document is not intended for and should not be relied upon by a retail client. This material has been deemed falling under the MIFID definition of marketing material as not presented as an objective or independent piece of research in accordance with Article 24 section 1.a (Article 19.2 in directive 2014/65/EU) of implementation directive 2014/65/EU as enacted into Swedish laws and regulations, inter alia Värdepappersmarknadslagen (2007:528), Lagen (1991:980) om handel med finansiella instrument and Chapter 11, Sections 8-9, of regulation FFFS 2007:16, as amended. The views set out in this presentation are those of the author and may not necessarily reflect the views of any other persons or division within Deutsche Bank, including the Sales and Trading functions of the Corporate and Investment Bank: services provided by the Sales and Trading functions of the Corporate and Investment Bank are purely on a non advised, execution-only basis.

For Investors in Belgium: The information contained herein is only intended for and must only be distributed to institutional and/or professional investors (as defined in the Belgian law of 2 August 2002 on the supervision of the financial sector and the financial services). In reviewing this presentation you confirm that you are such an institutional or professional investor. When making an investment decision, potential investors should rely solely on the final documentation (including the prospectus) relating to the investment or service and not the information contained herein. The investments or services mentioned herein may not be adequate or appropriate for all investors and before entering into any transaction you should take steps to ensure that you fully understand the transaction and have made an independent assessment of the suitability or appropriateness of the transaction in the light of your own objectives and circumstances, including the possible risks and benefits of entering into such transaction. You should also consider seeking advice from your own advisers in making this assessment. If you decide to enter into a transaction with us you do so in reliance on your own judgment.

For investors in Bermuda: This is not an offering of securities or interests in any product. Such securities may be offered or sold in Bermuda only in compliance with the provisions of the Investment Business Act of 2003 of Bermuda which regulates the sale of securities in Bermuda. Additionally, non-Bermudian persons (including companies) may not carry on or engage in any trade or business in Bermuda unless such persons are permitted to do so under applicable Bermuda legislation.

# Research & Strategy—Alternatives


OFFICE LOCATIONS:

Chicago
222 South Riverside Plaza
26th Floor
Chicago
IL 60606-1901
United States
Tel: +1 312 537 7000

Frankfurt
Taunusanlage 12
60325 Frankfurt am Main
Germany
Tel: +49 69 71909 0

London
Winchester House
1 Great Winchester Street
London EC2N 2DB
United Kingdom
Tel: +44 20 754 58000

New York
345 Park Avenue
26th Floor
New York
NY 10154-0102
United States
Tel: +1 212 454 6260

San Francisco
101 California Street
24th Floor
San Francisco
CA 94111
United States
Tel: +1 415 781 3300

Singapore
One Raffles Quay
South Tower
20th Floor
Singapore 048583
Tel: +65 6538 7011

Tokyo
Sanno Park Tower
2-11-1 Nagata-cho
Chiyoda-Ku
18th Floor
Tokyo
Japan
Tel: +81 3 5156 6000

TEAM:

Global

Mark Roberts
Head of Research & Strategy
mark-g.roberts@dws.com

Jessica Elengical
Head of ESG Strategy
jessica.elengical@dws.com

Gianluca Minella
Infrastructure Research
gianluca.minella@dws.com

Yasmine Kamaruddin
Global Strategy
yasmine.kamaruddin@dws.com

Americas

Kevin White
Head of Strategy, Americas
kevin.white@dws.com

Brooks Wells
Head of Research, Americas
brooks.wells@dws.com

Ross Adams
Industrial Research
ross.adams@dws.com

Liliana Diaconu
Office Research
liliana.diaconu@dws.com

Ana Leon
Retail Research
ana.leon@dws.com

Michael Kodesch
Capital Markets Research
michael.kodesch@dws.com

Ryan DeFeo
Property Market Research
ryan-c.defeo@dws.com

Joseph Pecora
Apartment Research
joseph.pecora@dws.com

Europe

Matthias Naumann
Head of Strategy, Europe
matthias.naumann@dws.com

Simon Wallace
Head of Research, Europe
simon.wallace@dws.com

Tom Francis
Property Market Research
tom.francis@dws.com

Martin Lippmann
Property Market Research
martin.lippmann@dws.com

Farhaz Miah
Property Market Research
farhaz.miah@dws.com

Julien Scarpa
Property Market Research
julien.scarpa@dws.com

Asia Pacific

Koichiro Obu
Head of Research & Strategy, Asia Pacific
koichiro-a.obu@dws.com

Natasha Lee
Property Market Research
natasha-j.lee@dws.com

Seng-Hong Teng
Property Market Research
seng-hong.teng@dws.com

Hyunwoo Kim
Property Market Research
hyunwoo.kim@dws.com