AEW RESEARCH

U.S. ECONOMIC & PROPERTY MARKET PERSPECTIVE

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Q3 2017





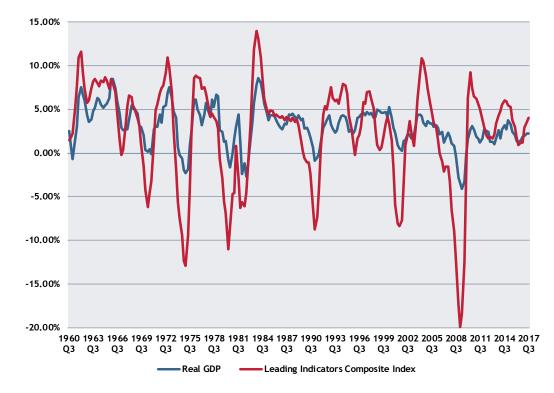
Prepared by AEW Research, September 2017

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The U.S. Economy

The U.S. economic recovery began during the second half of 2009 and is now entering the ninth year of uninterrupted growth, making this the third longest expansion in U.S. history. Despite the seemingly late cycle position of the economy, there are no obvious indicators of a near-term recession. To this point, the Conference Board index of leading economic indicators (Figure 1), accelerated during the second half of 2017 and is now signaling positive economic growth over the next 12-24 months, consistent with the level of growth that has so far categorized this expansion (approximately 2%-2.5% per year).

FIGURE 1 YEAR-OVER-YEAR GROWTH IN REAL GDP AND LEADING INDICATORS INDEX



Source: The Conference Board, Bureau of Economic Analysis

This does not mean that there is no risk of near-term recession, but it does suggest that the causes of any potential near-term economic downturn are more likely to originate from an exogenous shock or domestic policy mistake than from U.S. economic fundamentals. Absent these, we expect continued slow growth marked largely by moderating employment growth, low unemployment, and low inflation. Slowing employment growth, in particular, has been a notable characteristic of the latter stages of this expansion (Figure 2).







Source: Bureau of Labor Statistics

Against this backdrop, the Federal Reserve continues its slow but steady move towards the normalization of monetary policy. Over the past 18 months, the overnight lending rate target has increased from zero to 1.25% and is expected to increase to two percent or more by the end of 2018. We continue to believe that increases in short-term interest rates will lead to further flattening of the yield curve as longer-term interest rates remain constrained by continued low government bond yields in Europe and Japan, and low yields outside of the U.S. continue to be driven primarily by central bank balance sheet expansion (quantitative easing) by the European Central Bank (ECB) and the Bank of Japan (BOJ). Indeed, when measured in U.S. dollars, the balance sheets of both the ECB and the BOJ are now larger than the balance sheet of the Federal Reserve.

KEY REAL ESTATE INDICATORS

PROPERTY TYPE	VACANC	Y RATE	RENTS	ABSORPTION	COMPLETIONS	CAP RATES	TRANSCATION
Office	12.9%	\leftrightarrow	1	\checkmark	↑	\checkmark	\downarrow
Industrial	7.7%	1	↑	\checkmark	↑	1	↑
Retail	10.2%	1	1	Ŷ	¥	\checkmark	\checkmark
Apartment	4.6%	↑	\leftrightarrow	↑	۲	\checkmark	1

Source: CBRE-EA, NCREIF, RCA, NICMAP

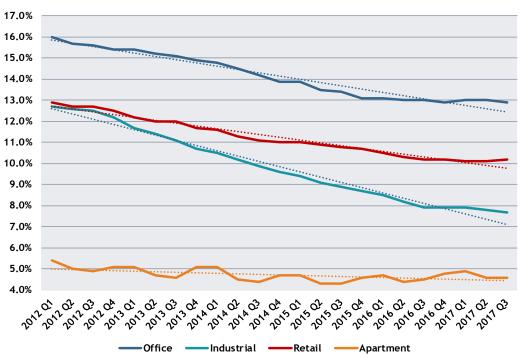
Note: The arrows reflect the trend for previous 12 months for rents, absorption, completions and transaction volumes; and current quarter versus year ago for availability/vacancy rates and cap rates. For vacancy/availability rates, a down arrow indicates declining vacancy/availability rates. Industrial and retail are reported as availability while office and apartment are reported as vacancy. For cap rates, a down arrow indicates falling cap rates or rising prices.



U.S. Property Markets

As with the broader U.S. economy, the U.S. property markets are also in the latter stages of the current cycle, but with no obvious end in sight. The pace of improvement in U.S. property markets is generally slowing, but fundamentals remain strong. Broadly speaking, growth in property demand is meeting comparable levels of new supply, leaving occupancy rates largely unchanged. For example, the national average vacancy rate for office properties has held steady near 13% for seven consecutive quarters, while the availability rate of industrial properties has been stable below 8% for five consecutive quarters (Figure 3).





The U.S. property markets are generally slowing, but fundamentals remain strong.

Source: CBRE-EA

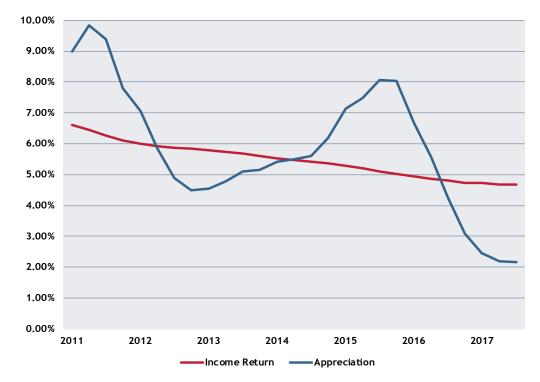
Reflecting the equilibrium between supply and demand, aggregate four-quarter property net operating income (NOI) growth has been above 5% for thirteen of the past fourteen quarters. Over the next 12-18 months, we expect NOI growth to moderate in step with slowing rental rate growth. Moreover, as new supply moves marginally ahead of slowing demand growth, the resulting lower average occupancy rates will also apply downward pressure on NOI growth. At the same time, in the face of long-term interest rates remaining low, we anticipate flat or slightly rising property yields, which will result in capital appreciation continuing to account for a declining share of total return (Figure 4). For its part, consensus surveys by the Pension Real Estate Association (PREA) currently project aggregate capital appreciation below inflation (2.5% annual average) over the next five years.



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FIGURE 4

NCREIF PROPERTY INDEX - CAPITAL APPRECIATION AND INCOME RETURN



Source: NCREIF



Office

The U.S. office market is in a state of equilibrium: vacancies have lingered in the narrow 12.9%-13.0% range for the past year and a half, and in the third quarter of 2017, vacancies were at the lower end of that very tight band. Overall, supply and demand are roughly evenly matched, as they have been for some time now. Slowing job growth is yielding more moderate demand compared to the early stages of the recovery; but, this demand remains strong enough for the relatively low levels of supply being delivered. From late 2014 through early 2016, net absorption totaled between 53 and 63 million square feet (msf) on a rolling four-quarter basis. Today that pace has slowed to an average of only 42 msf over the previous four quarters. Again, this is consistent with the maturing of the labor market, where job creation slowed from over 250,000 jobs per month in 2015 to a pace of 168,000 jobs per month so far this year. At the same time, supply has increased from roughly 23 msf a quarter in 2014 (four-quarter moving average) to an average of 40 msf per quarter in 2016. More recently, completions topped 47 msf in the third quarter of 2017.

Construction activity is expected to peak in the next two quarters and slow substantially through 2019. Currently, CBRE-EA is tracking an additional 27.5 msf for delivery by year end, bringing annual completions to over 60 msf, the largest annual completions in a decade. Thereafter, there are over 53 msf underway for delivery in 2018 and only 21 msf under construction for completion in 2019. More than 57% of the product underway for delivery by year end is pre-leased; 2018 and 2019 pre-leasing is equally high at 52% and 48%, although some of the pre-leasing will certainly result in backfill space from firms that are relocating into new office space. Overall, through this cycle, supply growth has been tempered with stock increasing at a pace of 0.8% per year (2010-2017), less than half the average annual historical increase (2.0% from 1988-2008).

By market, the largest near term pipelines are concentrated in a few markets as roughly 60% of the 80 msf due by the end of 2018 is located in nine markets: Dallas (7.2 msf), Washington, D.C. (6.9 msf), San Jose (6.4 msf), San Francisco (6.3 msf), New York (5.6 msf), Seattle (4.6 msf), Denver (4.4 msf), Los Angeles (3.6 msf), and Austin (3.5 msf). More than half of the aforementioned markets have sizeable pre-leasing, between 53%-63%; only San Jose (40%), New York (46%), Denver (45%), and Los Angeles (33%) have lower levels of pre-leasing. In San Jose, the available space underway is generally concentrated in North San Jose and Santa Clara. Nearly, one-fourth of the space to be delivered by year end in the San Jose market (1.4 msf) is located in the North San Jose submarket and only 2.5% of this space is pre-leased. Additionally, in Santa Clara, 860,000 square feet (or 14% of the metropolitan area's near-term pipeline) is underway and only 4.7% of this space is pre-leased. Palo Alto (650,000 sf) and Sunnyvale (1.9 msf) have sizeable pipelines as well; however, pre-leasing is substantially higher at 66% and 92%, respectively. In New York, nearly one-third of space available, or 1.8 msf, is in the Three World Trade Center building (27.5% pre-leased) in Downtown Manhattan. Three additional projects in Midtown South, totaling nearly 360,000 square feet, have no pre-leasing associated with them while all remaining projects in the metropolitan area have some pre-leasing, ranging from 20% to 100%. In Denver, available product is concentrated in Northeast Denver (530,000 sf), Southeast Denver/ Denver Tech Center (450,000 sf) and the CBD (440,000 sf); together these three submarkets account for 60% of the available space underway for delivery by year end in the metropolitan area. Finally, the available space underway in Los Angeles is almost entirely (92%) concentrated in the Downtown (1.1 msf), Beverly Hills/Century City (670,000 sf), and South Bay (390,000 sf) submarkets.

Overall, office supply and demand are roughly evenly matched, as they have been for some time now.

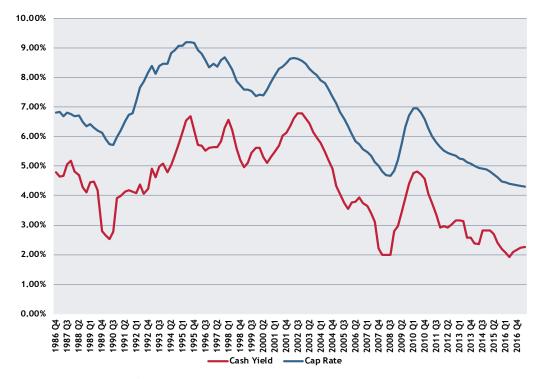


Broadly speaking, the moderation in supply expected in the coming years will coincide with the continued slowdown in job growth. Still, the office market will remain in equilibrium and vacancies will likely continue to linger around their current level. There may be instances, however, where vacancies edge slightly higher, until new supply is leased up; this is likely the case in the markets highlighted above. However, San Jose and Denver currently have vacancies that are below their pre-recession low, a factor that should help these markets weather the coming supply relatively well. In San Jose, vacancies stood at 12.0% in the third guarter of 2017, 20 basis points below the market's fourth-quarter 2007 low and roughly half the market's cyclical high of 24.6% in late 2009. Likewise, Denver reported vacancies of 13.3% in the third quarter, 90 basis points below the mid-2007 cyclical low and 340 basis points below the late-2009 recessionary high of 17.7%. In New York, the 9.4% vacancy rate exceeds the pre-recession low of 6.6%; however, it is also well below the U.S. average of 12.9%. Los Angeles offers more concern than the three previous markets, with vacancies at 13.6%, above the U.S. average and almost 400 basis points above the pre-recession low. That said, demand in the market has remained strong with an average 2.5 msf of net absorption in each of the past three years and 2017 is on pace to meet or exceed that total. Conceivably, this would mean the space underway could be absorbed in a year and a half.

Going forward, with slower demand expected and an end to declining vacancies, NOI growth is likely to slow as well. Further, as competition for tenants picks up, the need for property reinvestment will also continue to increase. Invested capital may not yield a direct return; however, it will be necessary for defensive purposes. Finally, with increased competition, tenant allowances and free rent offers will likely increase as well. Already, we are seeing the impact of this phenomenon on cash yields which are the lowest they have ever been in a non-recessionary environment. Further, the spread between NOIs and cash yields is widening. Overall, office investors should be prepared for slower NOI growth and lower cash yields in the years ahead.







Source: NCREIF, AEW Research

OFFICE	
Vacancy Rate	12.9%
12-Month Trend	
Vacancy Change	\leftrightarrow
Rent	Ť
Absorption	\checkmark
Completions	۲
Cap Rates	\checkmark
Transaction Volume	\checkmark



Industrial

Industrial market fundamentals continued their post-recession improvement in the third quarter of 2017 as the national availability rate fell to 7.7%, a 10-basis-point drop from the previous quarter. Although completions ticked upwards to 54 million square feet (msf) in the third quarter, healthy above-average demand of 62.5 msf was absorbed on a net basis, supporting the decline in availability. The strong quarter of net absorption helped pad demand's lead on supply year to date, as 158.8 msf of net absorption has now outpaced 146.3 msf of new construction through the first three quarters of 2017. As a result, availability is down 20 basis points year to date and remains comfortably below 8% as it has for the past five quarters. Today's low level of availability matches levels not seen since early 2001.

Industrial supply this year has proven to be highly concentrated in a handful of markets, particularly in the nation's largest logistics hubs. In fact, the top five markets in year-to-date completions are among the eight metropolitan areas nationwide that contain more than 500 msf. These five markets include Chicago, Atlanta, Dallas, Riverside, and Houston, all of which are considered national logistics hubs and more importantly, have available land to grow inventory. More than 64.8 msf was built in the five aforementioned markets year to date, accounting for roughly 40% of inventory delivered in the nation's 63 largest markets this year. Of note, supply growth in the five markets has accounted for double their share of total inventory.

Strong demand continues unabated for the industrial sector and remains strongest in the markets with the busiest supply pipelines. Atlanta saw the most space absorbed on a net basis in the third quarter at 7.5 msf, followed by Chicago (5.2 msf), Indianapolis (4.8 msf), Riverside (4.7 msf), and Dallas (4.1 msf) to round out the top five. While a few markets have rotated throughout this year for the top-ranked spot, the four most active markets from a supply perspective (Chicago, Dallas, Atlanta, and Riverside) have been in a league of their own when it comes to year-to-date demand, with 16.0, 11.4, 19.8, and 18.6 msf absorbed, respectively. These markets are the only markets with more than 10 msf of absorption through the first three quarters of 2017; Cincinnati ranked a distant fifth (7.2 msf) and was 4.2 msf behind fourth-ranked Dallas. These top tier markets have accounted for 40% of construction activity and 42% of absorption activity in 2017 for the nation's 63 largest industrial markets.

FIGURE 6

TOP-10 MARKETS BY Q3 NET ABSORPTION

MARKET	CURRENT QTR. COMPLETIONS	YEAR-TO-DATE COMPLETIONS	CURRENT QTR. NET ABSORPTION	YEAR-TO-DATE NET ABSORPTION	CURRENT QTR. AVAILABILITY
Atlanta	5,093	14,281	7,466	19,826	8.5%
Chicago	6,697	17,625	5,191	16,032	9.5%
Indianapolis	3,242	5,212	4,808	5,819	7.1%
Riverside	4,283	13,247	4,717	18,577	6.2%
Dallas	4,004	13,408	4,141	11,410	8.0%
Kansas City	1,678	4,857	3,665	2,936	8.8%
Houston	2,627	6,304	3,643	4,111	8.9%
Phoenix	1,704	4,753	2,835	6,921	10.4%
Fort Worth	1,684	6,296	2,567	5,634	10.0%
Las Vegas	1,857	5,305	2,525	4,354	6.3%

Industrial supply this year has proven to be highly concentrated in a handful of markets, particularly in the nation's largest logistics hubs.



Robust absorption is largely a result of e-commerce and logistics companies continuing to build out their distribution platforms to best serve consumers across the country in the most efficient manner possible. Year to date, CoStar has tracked more than 1,000 leases executed in excess of 100,000 square feet and roughly 275 leases in excess of 250,000 square feet, highlighting the industry push into more mid-sized spaces, which are generally located within reach of millions of households in less than a day's travel. Demand for large bulk distribution product has also remained strong, with 20 leases signed in excess of 1 million square feet year to date. Not surprisingly, Amazon proved to be the greatest source of demand amongst these mega-deals, inking 4 of the 20 leases that provided over a million square feet of space to a single tenant. Amazon signed large leases in Denver (2.4 msf), Baltimore (1.1 msf), Philadelphia (1.0 msf) and Riverside (1.0 msf), as well as a number of other leases of varying sizes in other markets. However, UPS has also been a massive source of industrial demand this year, executing 12 leases in excess of 250,000 square feet in markets including Cincinnati (798,000 sf), Seattle (770,000 sf), Phoenix (618,000 sf), Denver (357,000 sf) and Riverside (355,000 sf).

We continue to anticipate a slowing of supply growth in 2018 and beyond as new construction runs into increasing hurdles including a lack of buildable land, rising construction costs, and a more stringent lending environment. In the short term, rent growth will be strongest (4-5%) in the major logistics hubs that help optimize distribution channels, while most markets will trend towards 2-3% growth longer term.

INDUSTRIAL	
Availability Rate	7.7%
12-Month Trend	
Availability Change	\checkmark
Rent	1
Absorption	\checkmark
Completions	1
Cap Rates	\checkmark
Transaction Volume	1



Apartment

As of the third quarter of 2017, multifamily vacancies held steady at 4.6%, unchanged from the previous quarter and up a mere 10 basis points (bps) from a year ago. Apartment vacancies have varied little in the past three and a half years, lingering between 4.5% and 5.0% since mid-2014. Demand and supply have been roughly evenly matched over this period: nearly 830,000 units have been absorbed on a net basis while approximately 795,000 units have been completed.

Across the 63 markets tracked by CBRE-EA, there is significant dispersion, however. Riverside (-70 bps), San Jose (-60 bps), Philadelphia (-40 bps), Boston (-20 bps), Denver (-20 bps), Los Angeles (-20 bps), Minneapolis (-20 bps), and San Francisco (-10 bps) all posted year-over-year vacancy rate decreases despite very active development pipelines. The markets that reported year-over-year basis point increases include Chicago (40 bps), Washington D.C. (20 bps), Seattle (20 bps), New York (20 bps) and San Diego (10 bps).

That said, any uptick in vacancies is likely attributable to the timing of deliveries in lease up rather than an indication of weakness in the market as demand remains robust. In general, in areas with strong employment growth, demand has kept pace with new construction, yielding exceptionally tight and improving fundamentals. Further, markets with the largest deliveries year to date are also posting the highest levels of net absorption. For example, New York reported the most completions year to date at 18,500 units, but also the most units absorbed on a net basis at 22,800 units. This was also the case for Dallas (9,500 units completed/8,400 units absorbed), Washington, D.C. (9,300 units completed/9,200 units absorbed), Seattle (8,600 units completed/8,600 units absorbed), Houston (8,200 units completed/9,400 units absorbed), and Denver (7,200 units completed/9,500 units absorbed).

While demand is generally strong, the current wave of supply is beginning to impact rent growth. According to Axiometrics, year-over-year rent growth nationally slowed to 2.3%, a notable decrease from the nearly 3% growth reported a year earlier and the more than 5% growth reported two years ago. Performance varied by market, with Houston, Austin, and New York reporting modest declines in year-over-year effective rent growth of 1.1%, 0.1% and 0.1%, respectively, while West Palm Beach, San Francisco, Nashville, Miami, Washington, D.C., and Chicago all reported flat to 1.0% rent growth on a year-over-year basis. In general, all of the markets reporting more moderate rent growth have had sizeable completions in recent quarters. Of note, supply growth in Seattle has been robust; however, rent growth there has remained above average at 4.0%, the ninth largest gain among the nation's 53 largest markets (Figure 7).

FIGURE 7

TOP 10 AND BOTTOM 10 MARKETS BY EFFECTIVE RENT GROWTH

MARKET	YOY EFF. RENT GR.	MARKET	YOY EFF. RENT GR.
Sacramento	7.4%	Chicago	1.0%
Las Vegas	5.8%	Washington DC/ Northern VA	1.0%
Oxnard	4.9%	Miami	0.9%
Riverside	4.6%	Nashville	0.9%
Phoenix	4.5%	Suburban MD	0.6%
Orlando	4.5%	San Francisco	0.3%
San Diego	4.4%	West Palm Beach	0.2%
Fort Worth	4.2%	New York	-0.1%
Seattle	4.0%	Austin	-0.1%
Jacksonville	4.0%	Houston	-1.1%

In areas with strong employment growth, demand has kept pace with new construction, yielding exceptionally tight and improving fundamentals.



Moving forward, the outlook for the multifamily sector has not changed. Demand is expected to remain healthy, supported by the ongoing economic expansion and a lack of available forsale housing. Supply, however, will peak in the coming months; as a result, vacancies may edge higher as completions temporarily outpace net absorption. That said, we anticipate the market will remain in equilibrium long term, yielding continued, albeit modest, rent growth.

APARTMENT	
Vacancy Rate	4.6%
12-Month Trend	
Vacancy Change	1
Rent	\leftrightarrow
Absorption	$\boldsymbol{\uparrow}$
Completions	1
CapRates	\checkmark
Transaction Volume	1



Retail

The retail landscape changed little in the third quarter of 2017, with total retail availability increasing 10 basis points to 7.0%. The neighborhood and community shopping center segment posted a 10.2% availability rate in the third quarter, up 10 basis points from the prior quarter. Both the lifestyle and mall and power center segments also saw slight availability expansion of 10 basis points each, with third quarter availability rates of 6.1% and 6.9%, respectively. Activity has slowed in all segments in terms of both supply and demand and has kept availability relatively flat through the first three quarters of 2017. Total retail availability has remained between 6.9% and 7.1% for five consecutive quarters, and supply of 36.0 million square feet (msf) has been roughly in line with demand of 35.1 msf year to date.

This year, total retail availability has held flat or contracted in 36 of the nation's 62 largest markets, with the strongest fundamental improvements occurring in Wilmington (-140 bps), Providence (-100 bps), Memphis (-90 bps), Charlotte (-70 bps), Sacramento (-70 bps), San Jose (-70 bps), and San Francisco (-60 bps). One thing each of these metropolitan areas has in common, aside from seeing healthy year-to-date absorption, is that 2017 inventory growth has been limited to 0.1% to 0.3%, with the lone exception of Sacramento, which has seen 0.7% year-to-date inventory growth.

New supply has been sparse thus far in 2017, with inventory growth slowing across the entire retail sector. Total retail inventory has grown 0.5% year-to-date, well shy of the 1.1% historical annual average and on pace for the slowest growth since 2012. The lifestyle and mall segment has also expanded by 0.5% year to date. With one-quarter left to the year, it appears the inventory increase in the lifestyle and mall segment will close the year well below the 1.1% historical annual average. Neighborhood and community center segment inventory has seen the slowest year-to- date growth in 2017 at just 0.37%, which is one-third of the annual average of 1.1% since 2005. The power center segment, which is the nation's smallest retail segment, has seen nearly 2.3% growth on an annual basis going back to 2005; however, 0.42% growth year to date proves that development is occurring at a much slower pace. A number of factors are playing into the lack of new retail development, including rising interest rates, a stricter lending environment, and rising construction costs. The biggest influencer of dwindling supply is likely coming from the rhetoric that e-commerce is killing off brick and mortar retail, a sentiment that retail fundamentals in recent years prove could not be further from the truth.

Of the lifestyle and mall sector, malls in particular continue to garner negative attention from the media due to the poor performance of a handful of retailers that once dominated the segment, but have faded in recent years. Various outlets paint a picture of empty malls, closed stores, and evaporating demand due to the emergence of e-commerce and online retail, however, this is not the reality the vast majority of the sector is facing. Through the first three quarters of 2017, lifestyle and mall supply and demand have roughly matched, as 4.0 msf of completions has been met with 3.9 msf of net absorption. Availability has hovered around 6% for a year, and third quarter availability of 6.1% is in fact down 10 basis points year over year. While store closures are at an all-time high, the strongest performing retailers are picking up the slack and U.S. retailers are actually expected to open 4,100 more stores than they close in 2017, according to CoStar. Demand concerns have kept developers from building new space, particularly when it comes to enclosed malls, as evidenced by the fact that each quarter of 2017 has seen deliveries come in short of the historical quarterly average of 2.0 million square feet per quarter. The governor on supply growth, however, is a good thing as it is keeping downward pressure on availability and will continue to do so long-term.

New supply has been sparse in 2017. Total retail inventory has grown 0.5% year-todate, well shy of the 1.1% historical annual average, and on pace for the slowest growth since 2012.







Source: Axiometrics

While fundamentals across all segments remain solid, it is clear that the strongest improvements in both availability and rents are likely behind us. That said, fundamentals are expected to remain stable. Overall, the market is expected to remain in equilibrium, prompting continued moderate rent growth going forward. One thing that is becoming more evident is that rent growth and retail property performance will increasingly depend on the quality and location of individual assets. Class A centers in prime locations that pull from a strong surrounding demographic, which generally includes the institutional investment universe, are likely to outperform older centers of lesser quality going forward.

RETAIL	
Availability Rate	10.2%
12-Month Trend	
Availability Change	\checkmark
Rent	1
Absorption	\checkmark
Completions	\checkmark
Cap Rates	\checkmark
Transaction Volume	\checkmark



Capital Markets

Like the U.S. economy and property markets, the real estate capital markets showed continued signs of moderation during the third quarter with just under \$115 billion in transaction volume, a decline of 9% year over year. Overall, volumes have been on a downward trend for the past year. By property type, retail volumes slowed the most with \$13.3 billion in transactions, down 32% year over year. Of course, this is not surprising given the negative sentiment surrounding brick and mortar retail today. AEW believes this sentiment is overblown, and could lead to opportunities in the segment due to the mispriced risk currently in the market. Office volumes were also lower in the quarter with \$28.7 billion in properties changing hands, down 18% from the third quarter of 2016. Industrial, which has been the darling of the property markets, remained the favored property type during the quarter with transaction volume of \$20.4 billion, up 36% year over year. Finally, apartment sales were up modestly, 5% year over year, as \$39.9 billion (b) in properties traded in the quarter.

Year to date, the most active markets have been Los Angeles (\$21.3 b), Dallas (\$15.1 b), Manhattan (\$14.1 b), Chicago (\$11.5 b) and Atlanta (\$11.5 b). Of note, Dallas saw an 11% sales increase in volume, which surpassed Manhattan. In fact, Manhattan volumes declined 56% over the first three quarters of the year. Overall, however, for the past year and a half, the five aforementioned markets have remained among the top five with respect to volume, in varying order each quarter. The other major gateway markets, Boston, DC/VA Suburbs, Houston, Seattle and San Jose, rounded out the top ten markets in terms of transactions with volumes ranging from \$11.3 billion in Boston to \$7.8 billion in San Jose.

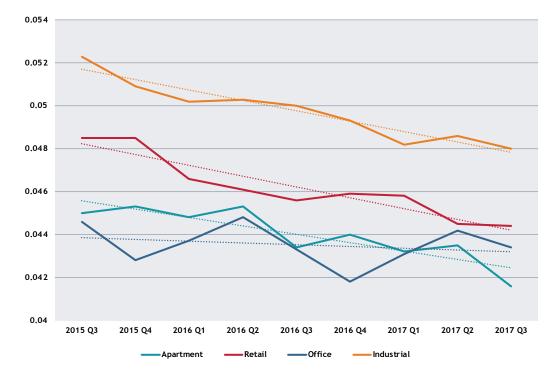
While overall volume was off, pricing remained strong. The RCA Commercial Property Price Index (CPPI) rose 7.5% on a year-over-year basis in September; further, all property types reported an increase in pricing. The RCA CPPI for apartments showed the most strength, increasing 10% year over year, followed by industrial at 8.2% and office at 5.1%. Retail prices advanced more modestly, 0.8% year over year, however, the sector remained positive. The six major metro areas, Boston, Chicago, Los Angeles, New York, San Francisco and Washington, D.C., continued to outperform in terms of price growth. The RCA CPPI for the six major markets advanced 8.3% year over year, outpacing the 7.1% gain for non-major metros. Since prices bottomed out during the recession, the CPPI for the six major markets has roughly doubled (96%); conversely the non-major markets have lagged by 14 percentage points but are still up a robust 82% from trough.

The NCREIF cap rate data also confirmed the strength in pricing. Surprisingly, cap rates for all four property types continued to trend down, albeit modestly, in the third quarter of the year (Figure 9). Apartment cap rates dropped to 4.54%, down roughly 20 basis points from a year earlier, while retail cap rates dropped to 5.17%, 16 basis points lower than one year ago. Industrial cap rates improved by 9 basis points to 5.07%. Lastly, the office sector reported the smallest compression in cap rates, with a reduction of only 4 basis points to 4.96%.

Transaction volume have been on a downward trend for the past year, but pricing has remained strong.



NPI CARRYING VALUE CAP RATES BY PROPERTY TYPE



Source: NCREIF

Going forward, we anticipate cap rates will remain flat or potentially move slightly higher. Thus, the income component of the total return will once again become increasingly important and will account for the bulk of the go-forward returns on stabilized property. Again, as we have stated in the past, this is a return to a more normalized return profile where 70% of the total return is generated from income rather than appreciation (a reverse of the trend over the three- and five-year periods). Indeed, we are seeing this beginning to play out already in the NCREIF returns: the one-year appreciation return for the NCREIF NPI was 2.15%, less than half the three-year annualized return of 4.80%, while the income return remained solid at 4.66% over the past year, essentially on par with the 4.86% threeyear annualized return. Overall, in aggregate, total returns will be lower in the coming years, likely averaging 5%-6% annually over the 2017 to 2021 period according to the latest survey from PREA; this is roughly half the average annualized return over the previous seven years.



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Investment themes we are observing in the market today...

After nearly seven years of work, the Transbay Terminal in the South of Market area of San Francisco will open its doors for bus service in the Spring of 2018. The 1,500-foot-long terminal, dubbed the "Grand Central Station of the West", stretches from First to Fremont Streets and has a rooftop park that features 60 species of trees, a 1,000- foot-long fountain, various art displays, restaurants and retail outlets. In addition to bus service, the terminal will eventually include connections to the BART, Caltrain, Amtrak, and High Speed Rail and will carry up to 100,000 commuters per day when fully completed.

In early September, Amazon announced plans to open a second headquarters in North America. The company said it would invest more than \$5 billion and create up to 50,000 new jobs at the potential second headquarters. Amazon said it would prefer its new headquarters to be in a metropolitan area with more than a million people, near a strong university system and within 45 minutes of an international airport. As of the bid deadline on October 19, the company had received 238 proposals from cities and regions in 54 states, provinces, districts and territories across North America. A decision is expected sometime in 2018.

Store closures are at an all-time high; however, the strongest performing retailers are picking up the slack and U.S. retailers are actually expected to open 4,100 more stores than they closed in 2017, according to CoStar. Further, some of these store openings will come from e-commerce companies that are pursuing a physical, brick and mortar presence. Amazon began dabbling in brick and mortar retail as far back as 2015 and recently opened its seventh physical location in Manhattan this past spring. Additionally, Amazon's September purchase of Whole Foods has now given the company access to 460 Whole Foods locations across the U.S. Amazon is not the only e-commerce company going from "clicks" to "bricks", Boll & Branch, Allbirds, Away, ModCloth, Glossier and Madison Reed have all opened their own physical stores in the past year; in our mind, this is further evidence that brick and mortar retail is not dead but is continuing to evolve.

For more information, please contact:

AEW Research

+1.617.261.9000 www.aew.com

