DIVIDEND CAPITAL
RESEARCH

CYCLE FORECAST — *Real Estate Market Cycles*

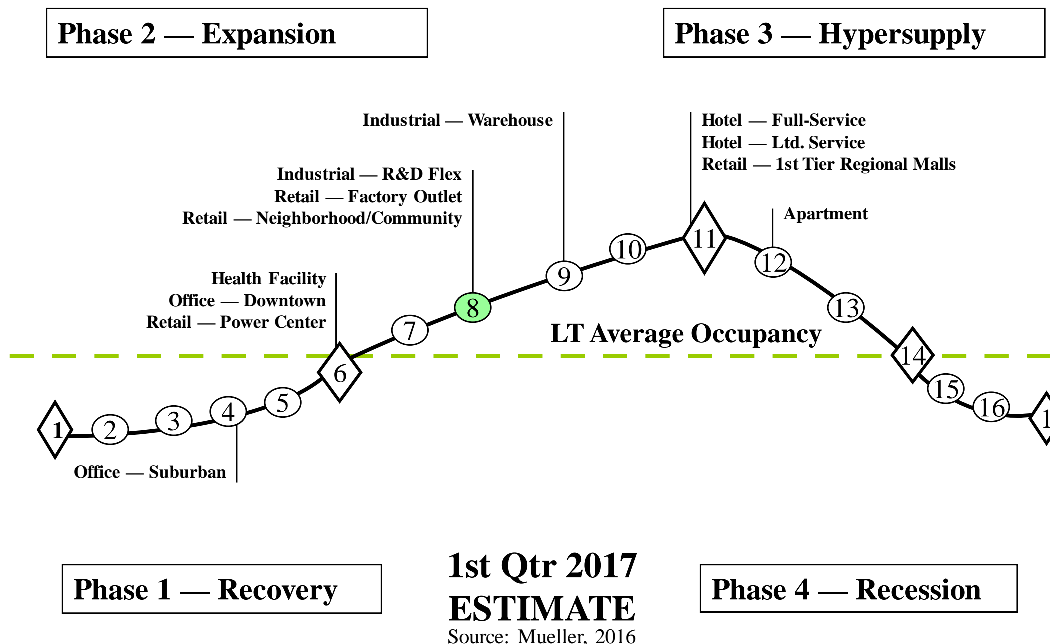
First Quarter 2017 Estimates

May 2016

Gross Domestic Product (GDP) decelerated to 0.5% growth in 1Q16 and we expect this could continue for the rest of the year as corporate profits have slowed, lowering expansion plans and hiring rates. The slow U.S. economic growth of the last six years seems most likely to continue through 2016 as the rest of the world struggles with flat or slower economic growth. Slow growth is NOT a bad thing for commercial real estate as it reduces the potential for overbuilding. Outside of apartments, all property types are expected to continue their moderate supply growth for the year, thus reducing the chance of an oversupply driven down-cycle. It is more likely that the next down-cycle would come from demand decline in a recession. We are reducing our occupancy and rent growth expectations from strong to average in 2016 and into 2017.

Office occupancies are forecast to **improve** 0.1% in 1Q17, with rents improving 0.8% quarter-over-quarter.
Industrial occupancies are forecast to be **flat** in 1Q17, with rents improving 0.7% quarter-over-quarter.
Apartment occupancies are forecast to **decline** 0.2% in 1Q17, with rents improving 0.8% quarter-over-quarter.
Retail occupancies are forecast to be **flat** in 1Q17, with rents improving 0.8% quarter-over-quarter.
Hotel occupancies are forecast to **decline** 0.1% in 1Q17, with quarterly room rates improving 0.4% quarter-over-quarter.

National Property Type Cycle Forecast



National Property Type Cycle Graph shows relative positions of sub-property types — major markets are reviewed inside.

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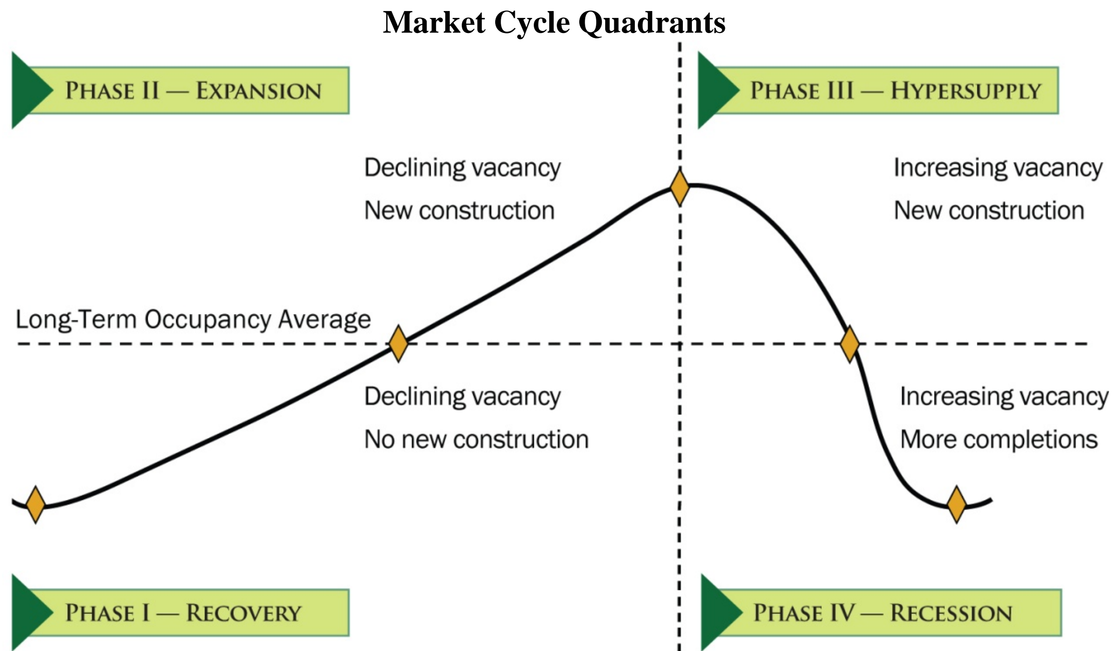
All relevant disclosures and certifications appear on page 9 of this report.

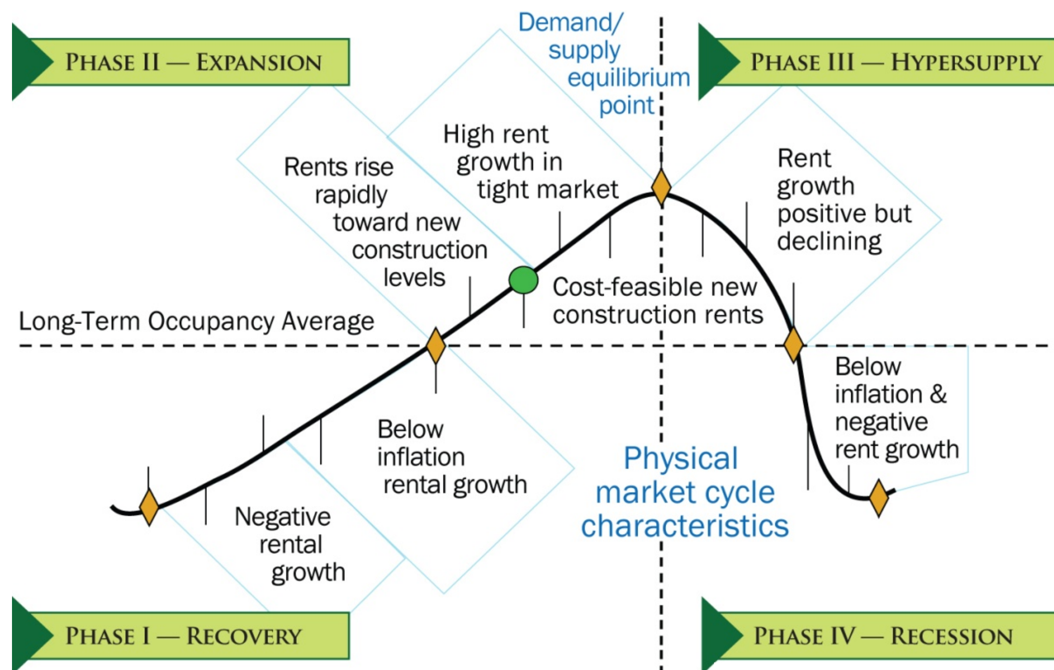
The cycle forecast analyzes occupancy movements in five property types in more than 50 Metropolitan Statistical Areas (MSAs). The market cycle analysis should enhance investment-decision capabilities for investors and operators. The five property type cycle charts summarize almost 300 individual models that analyze occupancy levels and rental growth rates to provide the foundation for long-term investment success. Commercial real estate markets are cyclical due to the lagged relationship between supply and demand for physical space. The long-term occupancy average is different for each market and each property type. ***Long-term occupancy average*** is a key factor in determining rental growth rates — a key factor that affects commercial real estate returns.

Market Cycle Quadrants



Source: Mueller, Real Estate Finance, 2016.

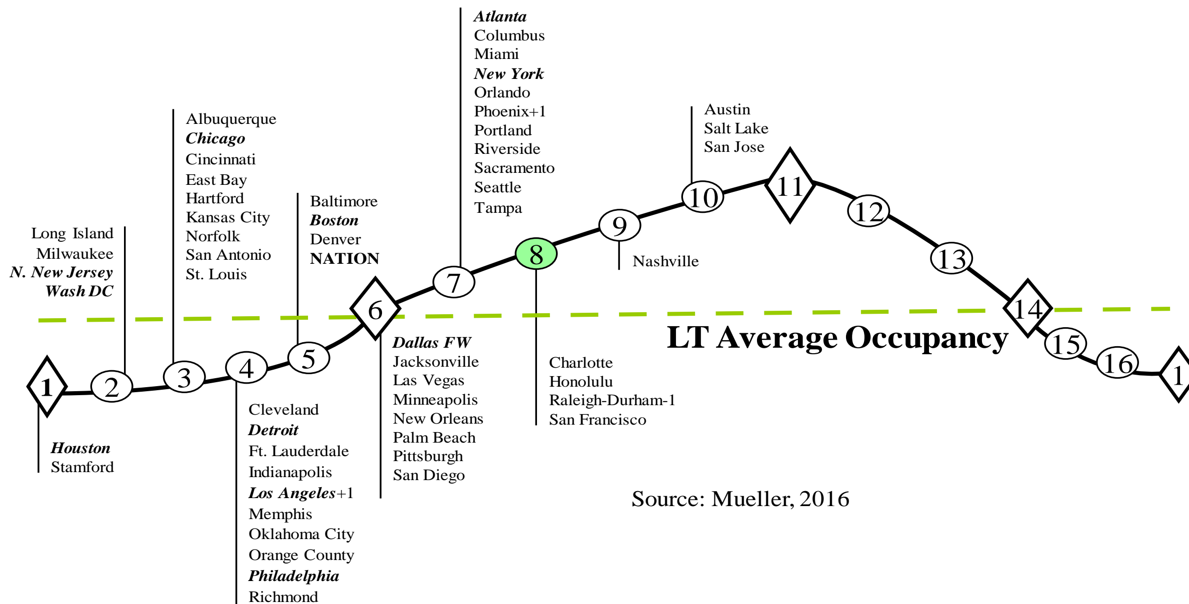
Rental growth rates can be characterized in different parts of the market cycle, as shown below.



Source: Mueller, Real Estate Finance, 2016.

OFFICE FORECAST

Office occupancies are forecast to improve 0.1% in 1Q17, producing a 0.4% increase year-over-year. The stall in 1Q16 occupancy growth has changed our forecast to a much slower office demand for the year, as hiring plans are lower due to lower corporate profits and smaller expansion plans. Space needs per employee continue to decline and firms continue to look for ways to cut space costs. Newer, flexible space to meet the new office configurations should do much better than traditional floor plan office space. National average office rents are expected to increase 0.8% in 1Q17 and be up 3.6% year-over-year.

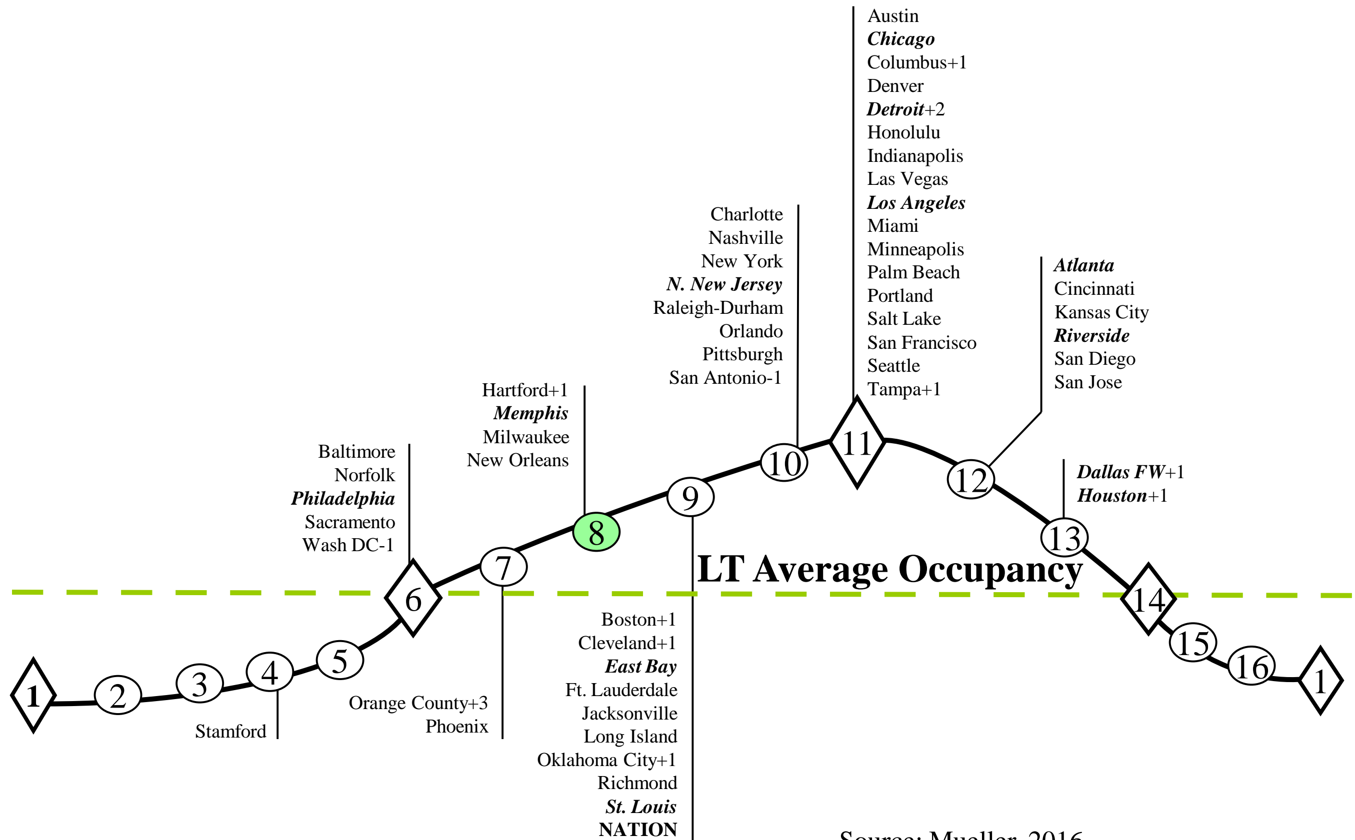


Note: The 11-largest office markets make up 50% of the total square footage of office space that we monitor. Thus, the 11-largest office markets are in ***bold italics*** to help distinguish how the weighted national average is affected.

Markets that have moved since the previous quarter are shown with a + or - symbol next to the market name and the number of positions the market has moved is also shown, e.g., +1, +2 or -1, -2. Markets do not always go through smooth forward-cycle movements and can regress, or move backward in their cycle position when occupancy levels reverse their usual direction. This can happen when the marginal rate of change in demand increases (or declines) faster than originally estimated or if supply growth is stronger (or weaker) than originally estimated.

INDUSTRIAL FORECAST

Industrial occupancies are forecast to be flat in 1Q17 and be up 0.3% year-over-year. We expect industrial to be the best performing property type through 2016 and into 2017. Internet delivery and shorter delivery times drive both national bulk warehouse and local warehouse demand. The national average occupancy level continues to be in the middle of its historic cycle growth phase (point #9). The flat occupancy rate change means demand is expected to create just enough new supply to match demand in 2016. We expect most retailers to continue to expand their online sales and marketing efforts into 2017 based upon positive e-commerce trends. We expect rents to increase 0.7% in 1Q17 and be up 3.7% year-over-year.



Note: The 12-largest industrial markets make up 50% of the total square footage of industrial space that we monitor. Thus, the 12-largest industrial markets are in ***bold italics*** to help distinguish how the weighted national average is affected.

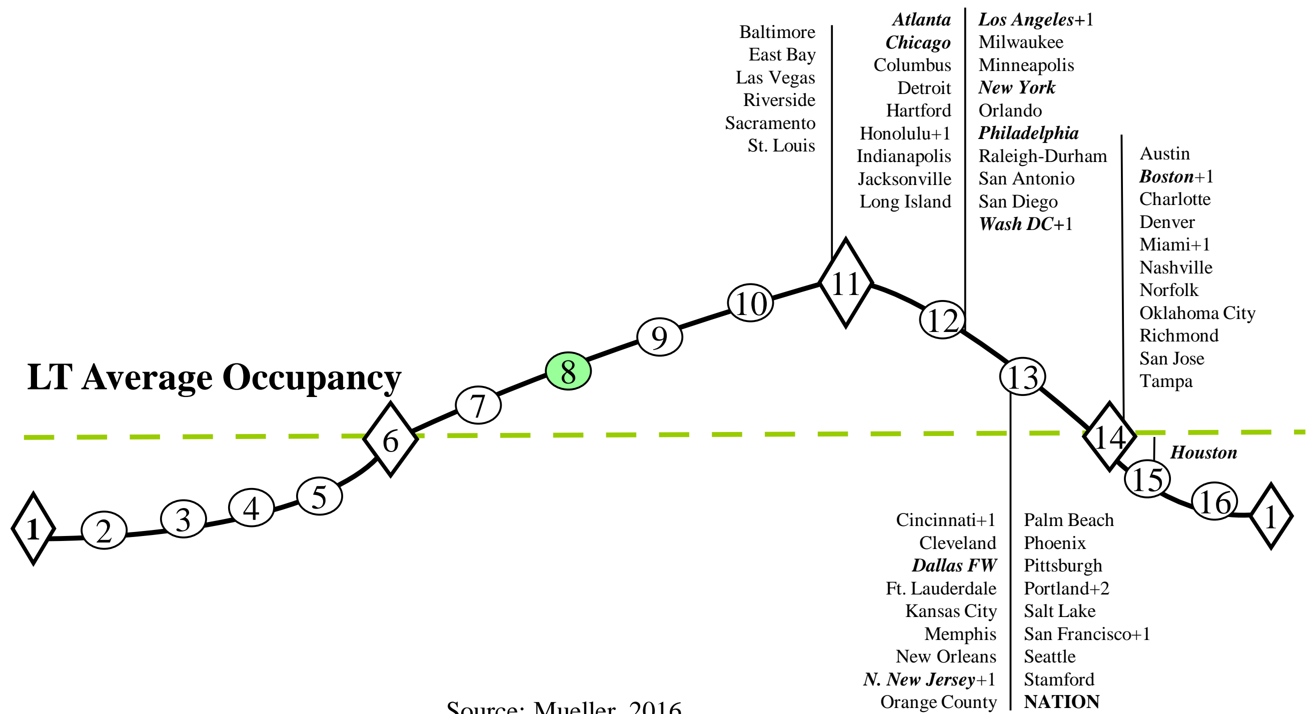
Markets that have moved since the previous quarter are shown with a + or - symbol next to the market name and the number of positions the market has moved is also shown, e.g., +1, +2 or -1, -2. Markets do not always go through smooth forward-cycle movements and can regress, or move backward in their cycle position when occupancy levels reverse their usual direction. This can happen when the marginal rate of change in demand increases (or declines) faster than originally estimated or if supply growth is stronger (or weaker) than originally estimated.

APARTMENT FORECAST

Apartment occupancies are forecast to decline 0.2% in 1Q17 and be down 0.6% year-over-year. Millennial apartment demand is expected to continue, but the downturn in corporate profits should mute expansion and hiring plans for Millennials. This leads to lower, but pent up apartment demand. Most new construction is in Central Business Districts (CBDs) which are being overbuilt with expectation of high rents, but we foresee more concessions being offered. Thus, resulting in reducing profits and hopefully muting new construction starts in 2017. Already, 2016 has enough construction starts that we feel confident that most markets are in the hypersupply phase of the cycle. We hope to see the peak of new supply this year. The national apartment asking rental rate should increase 0.8% in 1Q17 and we estimate a year-over-year rental increase of 3.9%.

Apartment Market Cycle FORECAST

1st Quarter, 2017 Estimates



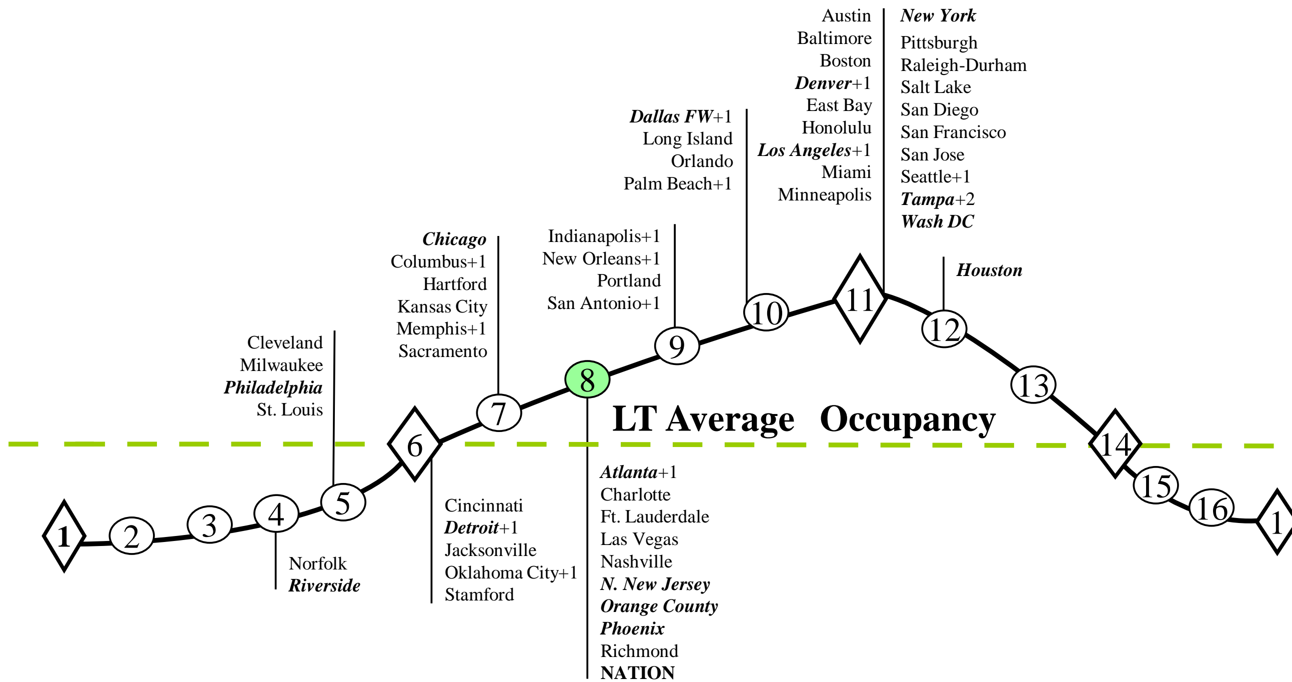
Source: Mueller, 2016

Note: The 10-largest apartment markets make up 50% of the total square footage of apartment space that we monitor. Thus, the 10-largest apartment markets are in ***bold italics*** to help distinguish how the weighted national average is affected.

Markets that have moved since the previous quarter are shown with a + or - symbol next to the market name and the number of positions the market has moved is also shown, e.g., +1, +2 or -1, -2. Markets do not always go through smooth forward-cycle movements and can regress, or move backward in their cycle position when occupancy levels reverse their usual direction. This can happen when the marginal rate of change in demand increases (or declines) faster than originally estimated or if supply growth is stronger (or weaker) than originally estimated.

RETAIL FORECAST

Retail occupancy is forecast to be flat in 1Q17 and be up 0.2% year-over-year. Expect to see more store closings from national department stores and specialty retailers, but openings of more unique retail concepts. The large "A" quality malls are being called "fortress retail" as they seem to be immune from lower occupancy as they are the "main street" of the suburbs, offering more entertainment and social interaction opportunities. We expect to see much of the vacated retail space backfilled with more entertainment concepts as Millennials prefer experiences. Retail rental rates are expected to increase 0.8% in 1Q17 and 3.2% year-over-year.



Source: Mueller, 2016

Note: The 15-largest retail markets make up 50% of the total square footage of retail space that we monitor. Thus, the 15-largest retail markets are in ***bold italics*** to help distinguish how the weighted national average is affected.

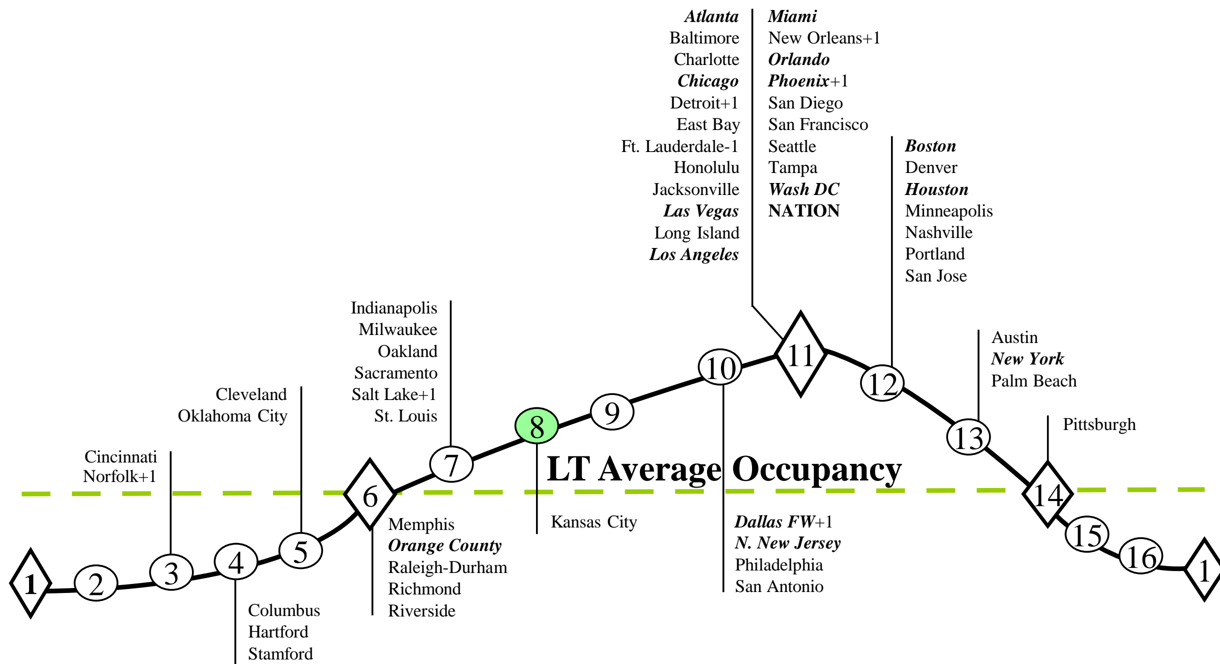
Markets that have moved since the previous quarter are shown with a + or - symbol next to the market name and the number of positions the market has moved is also shown, e.g., +1, +2 or -1, -2. Markets do not always go through smooth forward-cycle movements and can regress, or move backward in their cycle position when occupancy levels reverse their usual direction. This can happen when the marginal rate of change in demand increases (or declines) faster than originally estimated or if supply growth is stronger (or weaker) than originally estimated.

HOTEL FORECAST

Hotel occupancy is forecast to decline 0.1% in 1Q17 and be down 0.4% year-over-year. Flat to slightly down occupancy means that demand and supply are growing at the same rate. There is plenty of new supply in the pipeline that should come online in 2016 and into 2017. Both business and leisure travel are expected to decelerate to lower levels of growth in 2016. Room rate growth is also expected to decelerate with a 0.4% increase in 1Q17, and annual room rate growth of 3.8% year-over-year.

Hotel Market Cycle FORECAST

1st Quarter, 2017 Estimates



Source: Mueller, 2016

Note: The 14-largest hotel markets make up 50% of the total square footage of hotel space that we monitor. Thus, the 14-largest hotel markets are in ***bold italics*** to help distinguish how the weighted national average is affected.

Markets that have moved since the previous quarter are shown with a + or - symbol next to the market name and the number of positions the market has moved is also shown, e.g., +1, +2 or -1, -2. Markets do not always go through smooth forward-cycle movements and can regress, or move backward in their cycle position when occupancy levels reverse their usual direction. This can happen when the marginal rate of change in demand increases (or declines) faster than originally estimated or if supply growth is stronger (or weaker) than originally estimated.

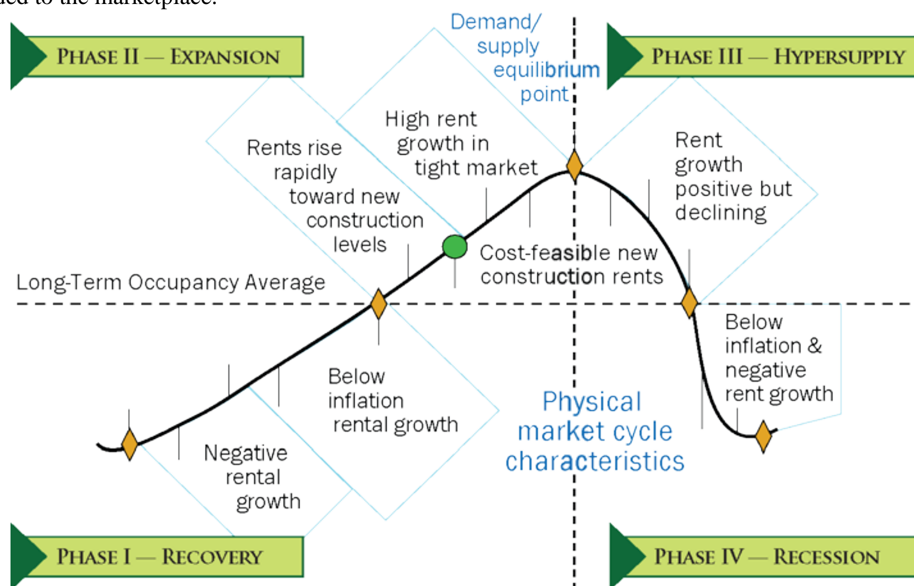
MARKET CYCLE ANALYSIS — Explanation

Supply and demand interaction is important to understand. Starting in Recovery Phase I at the bottom of a cycle (see chart below), the marketplace is in a state of oversupply from previous new construction or negative demand growth. At this bottom point, occupancy is at its trough. Typically, the market bottom occurs when the excess construction from the previous cycle stops. As the cycle bottom is passed, demand growth begins to slowly absorb the existing oversupply and supply growth is nonexistent or very low. As excess space is absorbed, vacancy rates fall, allowing rental rates in the market to stabilize and even begin to increase. As this recovery phase continues, positive expectations about the market allow landlords to increase rents at a slow pace (typically at or below inflation). Eventually, each local market reaches its ***long-term occupancy average*** whereby rental ***growth is equal to inflation***.

In Expansion Phase II, demand growth continues at increasing levels creating a need for additional space. As vacancy rates fall below the ***long-term occupancy average***, signaling that supply is tightening in the marketplace, rents begin to rise rapidly until they reach a "cost-feasible" level that allows new construction to commence. In this period of tight supply, rapid rental growth can be experienced, which some observers call "rent spikes." (Some developers may also begin speculative construction in anticipation of cost-feasible rents if they are able to obtain financing.) Once cost-feasible rents are achieved in the marketplace, demand growth is still ahead of supply growth — a lag in providing new space due to the time to construct. Long expansionary periods are possible and many historical real estate cycles show that the overall up-cycle is a slow, long-term uphill climb. As long as demand growth rates are higher than supply growth rates, vacancy rates will continue to fall. The cycle peak point is where demand and supply are growing at the same rate ***or equilibrium.*** Before equilibrium, demand grows faster than supply; after equilibrium, supply grows faster than demand.

Hypersupply Phase III of the real estate cycle commences after the peak/equilibrium point #11 — where demand growth equals supply growth. Most real estate participants do not recognize this peak/equilibrium's passing, as occupancy rates are at their highest and well above long-term averages, a strong and tight market. During Phase III, supply growth is higher than demand growth (hypersupply), causing vacancy rates to rise back toward the long-term occupancy average. While there is no painful oversupply during this period, new supply completions compete for tenants in the marketplace. As more space is delivered to the market, rental growth slows. Eventually, market participants realize that the market has turned down and commitments to new construction should slow or stop. If new supply grows faster than demand once the long-term occupancy average is passed, the market falls into Phase IV.

Recession Phase IV begins as the market moves past the long-term occupancy average with high supply growth and low or negative demand growth. The extent of the market down-cycle will be determined by the difference (excess) between the market supply growth and demand growth. Massive oversupply, coupled with negative demand growth (that started when the market passed through long-term occupancy average in 1984), sent most U.S. office markets into the largest down-cycle ever experienced. During Phase IV, landlords realize that they will quickly lose market share if their rental rates are not competitive; they then lower rents to capture tenants, even if only to cover their buildings' fixed expenses. Market liquidity is also low or nonexistent in this phase, as the bid–ask spread in property prices is too wide. The cycle eventually reaches bottom as new construction and completions cease, or as demand growth turns up and begins to grow at rates higher than that of new supply added to the marketplace.



Source: Mueller, Real Estate Finance, 2016.

This Research currently monitors five property types in more than 50 major markets. We gather data from numerous sources to evaluate and forecast market movements. The market cycle model we developed looks at the interaction of supply and demand to estimate future vacancy and rental rates. Our individual market models are combined to create a national average model for all U.S. markets. This model examines the current cycle locations for each property type and can be used for asset allocation and acquisition decisions.

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