DIVIDEND CAPITAL
RESEARCH

CYCLE FORECAST — Real Estate Market Cycles

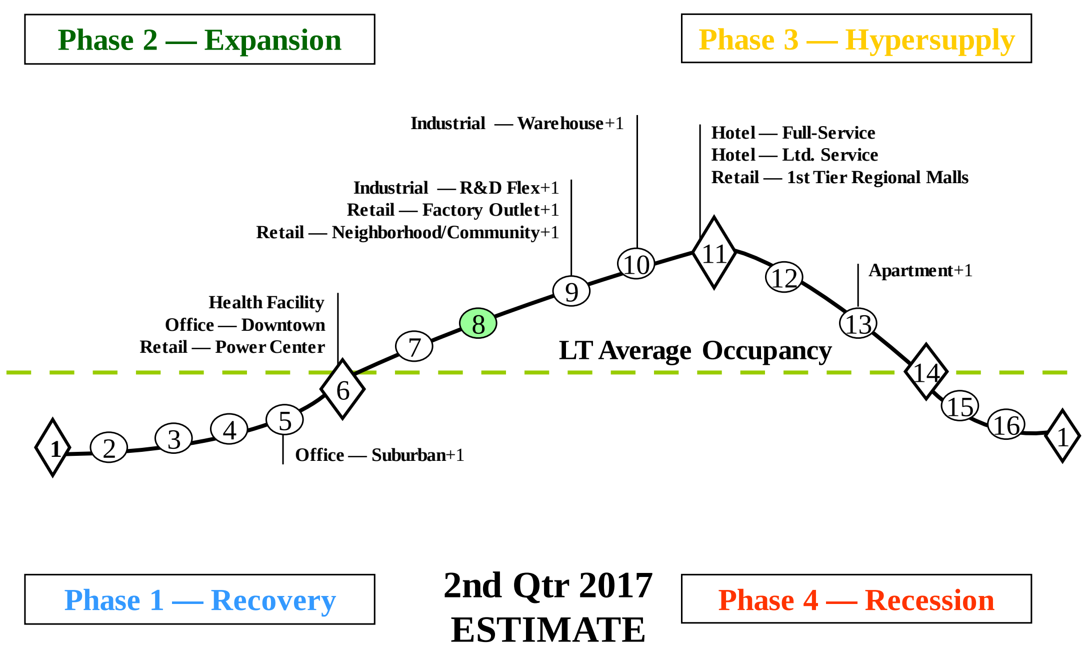
Second Quarter 2017 Estimates

August 2016

We recently completed a research study analyzing historic cycle lengths and magnitudes. One conclusion is that the current cycle is a longer cycle than its two predecessor cycles and also a more moderate cycle. In most markets, we have adjusted the long-term occupancy average to reflect the current more moderate cycle. Thus, many property types have market forecasts jumping a few cycle points to put them in the correct place in our forecast. Gross Domestic Product (GDP) is forecast to improve from 1.9% in 2016 to 2.9% in 2017. This should extend the growth phase of the real estate cycle into 2018 at the very least.

Office occupancies are forecast to **improve 0.1%** in 2Q17, with rents improving 0.9% quarter-over-quarter.
Industrial occupancies are forecast to **improve 0.1%** in 2Q17, with rents improving 0.8% quarter-over-quarter.
Apartment occupancies are forecast to **decline 0.1%** in 2Q17, with rents improving 0.6% quarter-over-quarter.
Retail occupancies are forecast to **improve 0.1%** in 2Q17, with rents improving 0.7% quarter-over-quarter.
Hotel occupancies are forecast to be **flat** in 2Q17, with quarterly room rates improving 1.1% quarter-over-quarter.

National Property Type Cycle Forecast

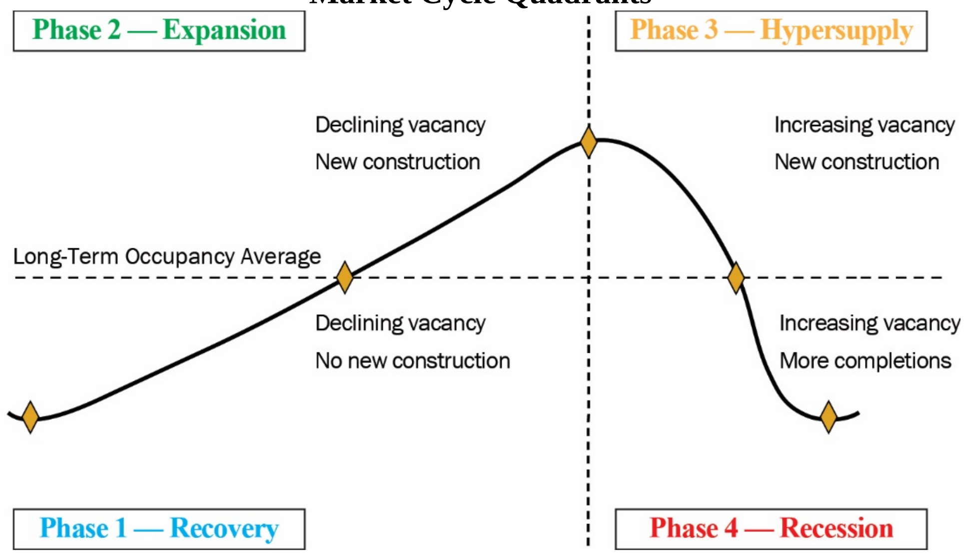


Source: Mueller, 2016

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

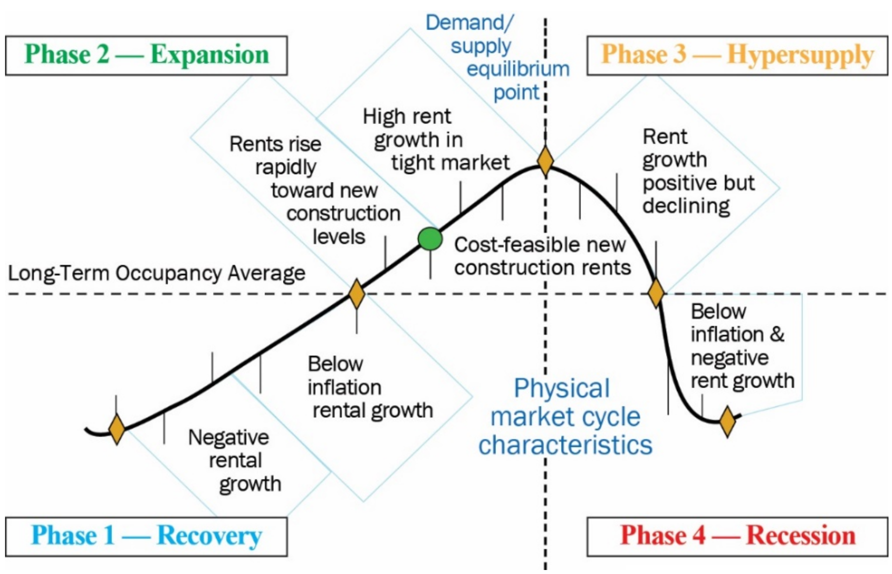
The cycle forecast analyzes occupancy movements in five property types in more than 50 Metropolitan Statistical Areas (MSAs). The market cycle analysis should enhance investment-decision capabilities for investors and operators. The five property type cycle charts summarize almost 300 individual models 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.

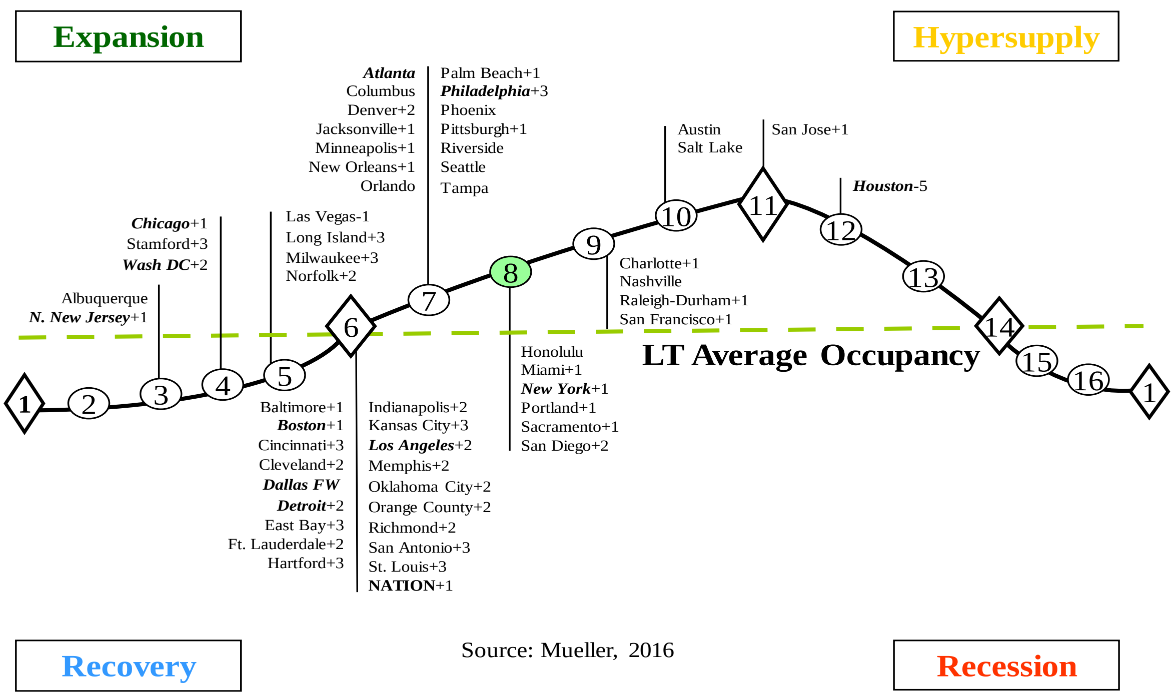
Office Forecast

Using our new research study on cycle length and magnitude mentioned at the beginning of this report, we have adjusted the long-term average occupancy levels in many markets and for the national average. We now forecast that the national office average occupancy may be at the long-term average point #6 — the beginning of the growth phase of the occupancy cycle, in this longer and more moderate cycle. We estimate the office cycle peak may be 4Q18.

Office occupancies are forecast to improve 0.1% in 2Q17, producing a 0.4% increase year-over-year. Moderate demand growth should continue. We believe office-using tenants, especially professional and business services, are now comfortable that economic expansion can continue for a few years making it easy to commit to lease more space as they grow. Supply growth continues to be well behaved with new starts well below previous expansion phases of the cycle. National average office rents are expected to increase 0.9% in 2Q17 and be up 3.8% year-over-year.

Office Market Cycle FORECAST

2nd Quarter, 2017 Estimates



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.

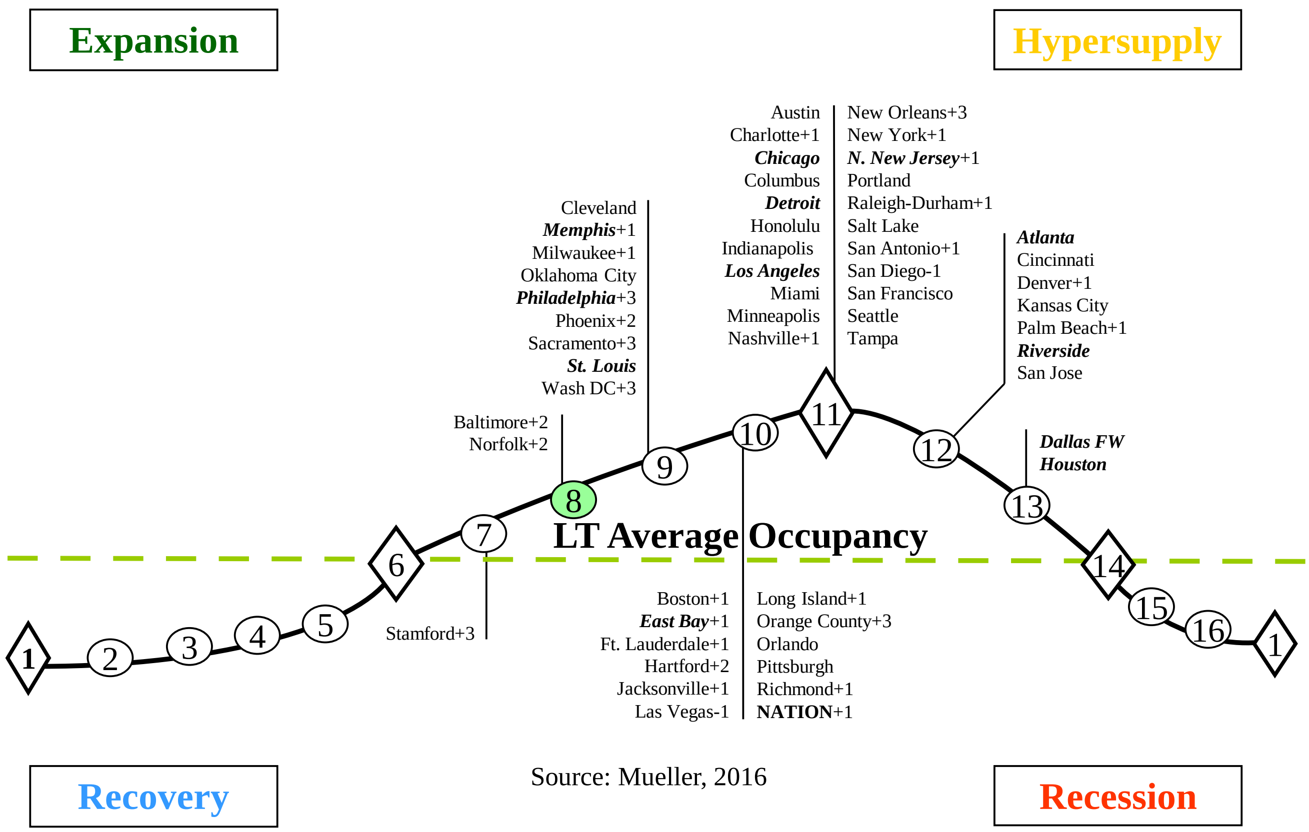
Markets that have moved since the previous quarter are shown with a + or - symbol next to the market name and the number of positions the market has moved is also shown, e.g., +1, +2 or -1, -2. Markets do not always go through smooth forward-cycle movements and can regress, or move backward in their 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

Using our new research study on cycle length and magnitude mentioned at the beginning of this report, we have adjusted the long-term average occupancy levels in many markets and for the national average. We now forecast the national industrial average occupancy may be at cycle point #10 — in the growth phase of the occupancy cycle, in this longer and more moderate cycle. We estimate the industrial cycle peak may be 3Q19.

Industrial occupancies are forecast to increase 0.1% in 2Q17 and be up 0.4% year-over-year. Leasing activity is expected to pick up in the second half of 2016 after a sluggish first half of the year. It is expected to accelerate more in 2017, based upon a higher GDP forecast for 2017. Retail spending is expected to rise with the higher GDP forecast, and with e-commerce sales growth currently outpacing in-store sales growth two-to-one, we see even stronger demand for distribution space. New construction is expected to lag demand slightly, allowing for continued occupancy and rent growth. We expect rents to increase 0.8% in 2Q17 and be up 4.0% year-over-year.

Industrial Market Cycle FORECAST
2nd Quarter, 2017 Estimates



Source: Mueller, 2016

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.

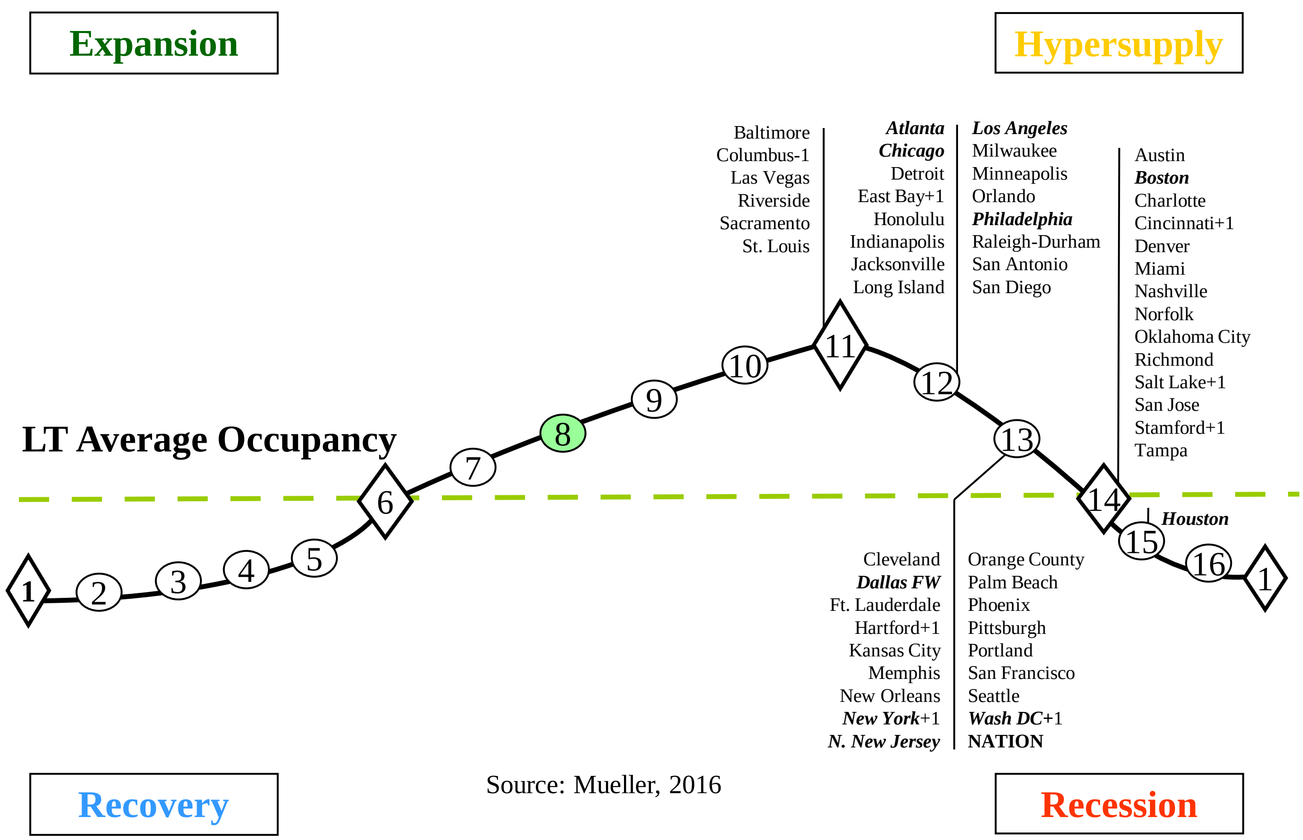
APARTMENT FORECAST

Using our new research study on cycle length and magnitude mentioned at the beginning of this report, we have adjusted the long-term average occupancy levels in many markets and for the national average. We now forecast the national apartment average occupancy may be at cycle point #13 — near the end of the hypersupply phase of the occupancy cycle, in this longer and more moderate cycle. We estimated the apartment cycle peak was back in 3Q15.

Apartment occupancies are forecast to decline 0.1% in 2Q17 and be down 0.6% year-over-year. With much higher rents in downtown areas, Millennial demand now seems to be shifting to close-in suburban locations where rents are lower. Some developers are responding by building urban-like settings in their complexes where shopping and easy access to public transportation are available. The national apartment asking rental rate increase should decelerate further to 0.6% in 2Q17, and we estimate a year-over-year rental increase of only 2.3%.

Apartment Market Cycle FORECAST

2nd 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.

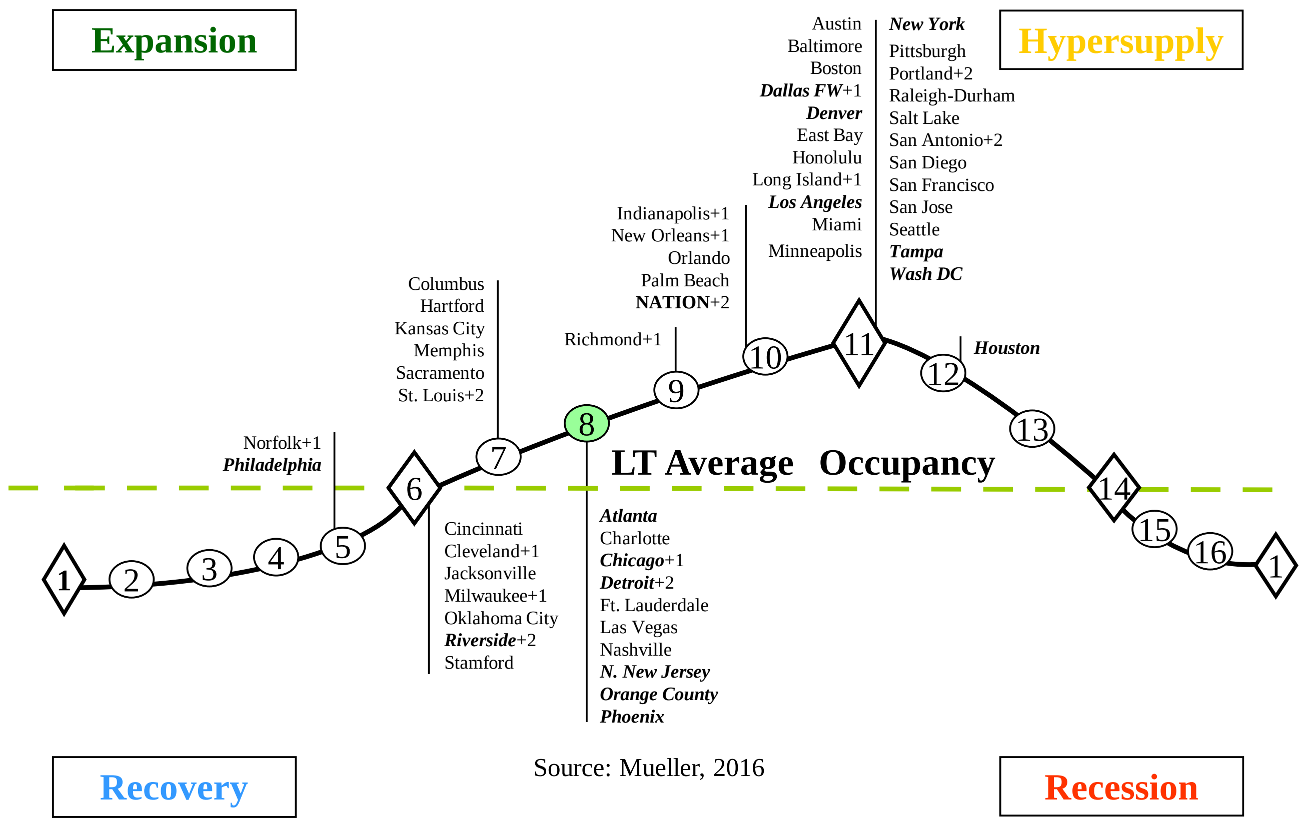
RETAIL FORECAST

Using our new research study on cycle length and magnitude mentioned at the beginning of this report, we have adjusted the long-term average occupancy levels in many markets and for the national average. We now forecast the national retail average occupancy may be at cycle point #10 — in the growth phase of the occupancy cycle, in this longer and more moderate cycle. We estimate the retail cycle peak may be 3Q18.

Retail occupancy is forecast to increase 0.1% in 2Q17 and be up 0.4% year-over-year. Retail sales growth should be stronger in 2017 with a GDP forecast of 2.9% which is 1.0% higher than the 2016 forecast. We expect the Millennial's focus on experiences to increase leasing demand for restaurants, bars and microbrew pubs, including the new fad of hard cider breweries. We expect new retail construction to stay very low, with a major focus on downtown retail where so many Millennials live. Retail rental rates are expected to increase 0.7% in 2Q17 and 2.8% year-over-year.

Retail Market Cycle FORECAST

2nd Quarter, 2017 Estimates



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.

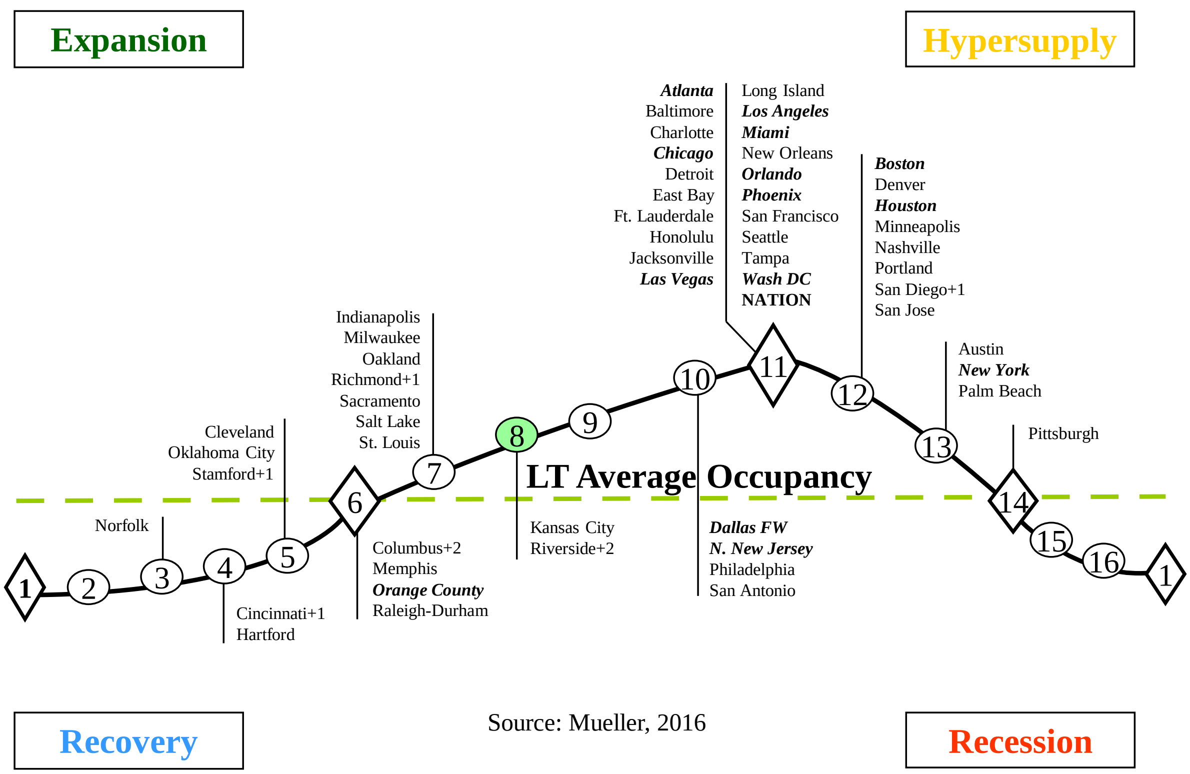
HOTEL FORECAST

Using our new research study on cycle length and magnitude mentioned at the beginnings of this report, we have adjusted the long-term average occupancy levels in many markets and for the national average. We now forecast the national hotel average occupancy may be at cycle point #11 — the peak of the growth phase of the occupancy cycle, in this longer and more moderate cycle. We estimate the hotel peak cycle position may last until 3Q18, based upon the stronger GDP forecasts for 2017 and 2018.

Hotel occupancy is forecast to be flat in 2Q17 and be down 0.2% year-over-year. This minor decline is due to a lot of new rooms coming online over the next year, but this is as close to supply meeting demand as one can expect. Our historic study shows that this cycle should be much longer than the last cycle. Hotel is the only property type that had a lower bottom cycle point than the previous two cycle bottoms, but now has a higher occupancy peak than the previous two cycles. We believe this is from the consistent demand from Millennials who prefer experiences over things. Look for more design changes to meet Millennial tastes — like the POD concept of a much smaller, more compact hotel room. Room rate growth is also expected to increase 1.1% in 2Q17, and annual room rate growth of 3.9% year-over-year.

Hotel Market Cycle FORECAST

2nd 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.

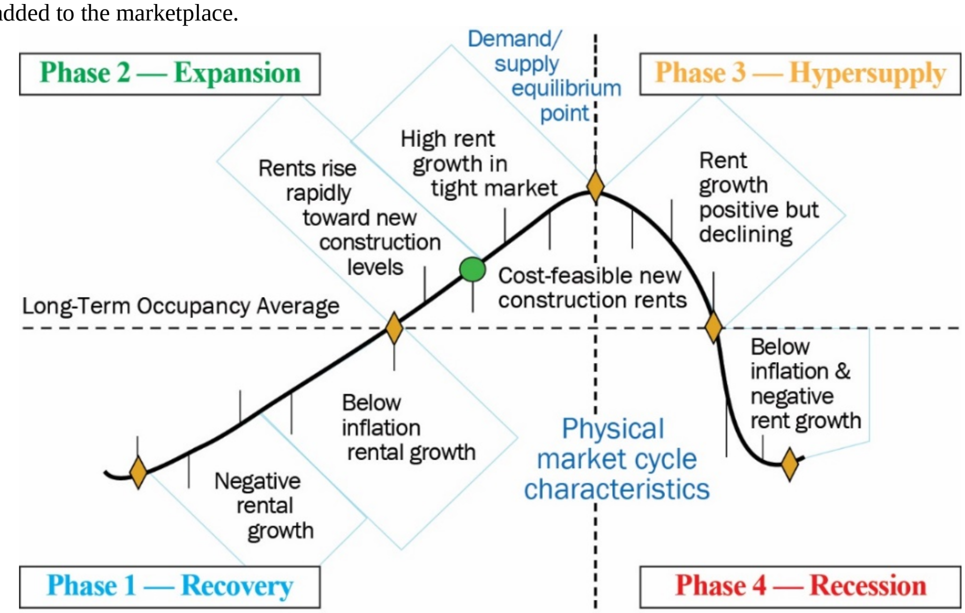
MARKET CYCLE ANALYSIS — Explanation

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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