Mueller

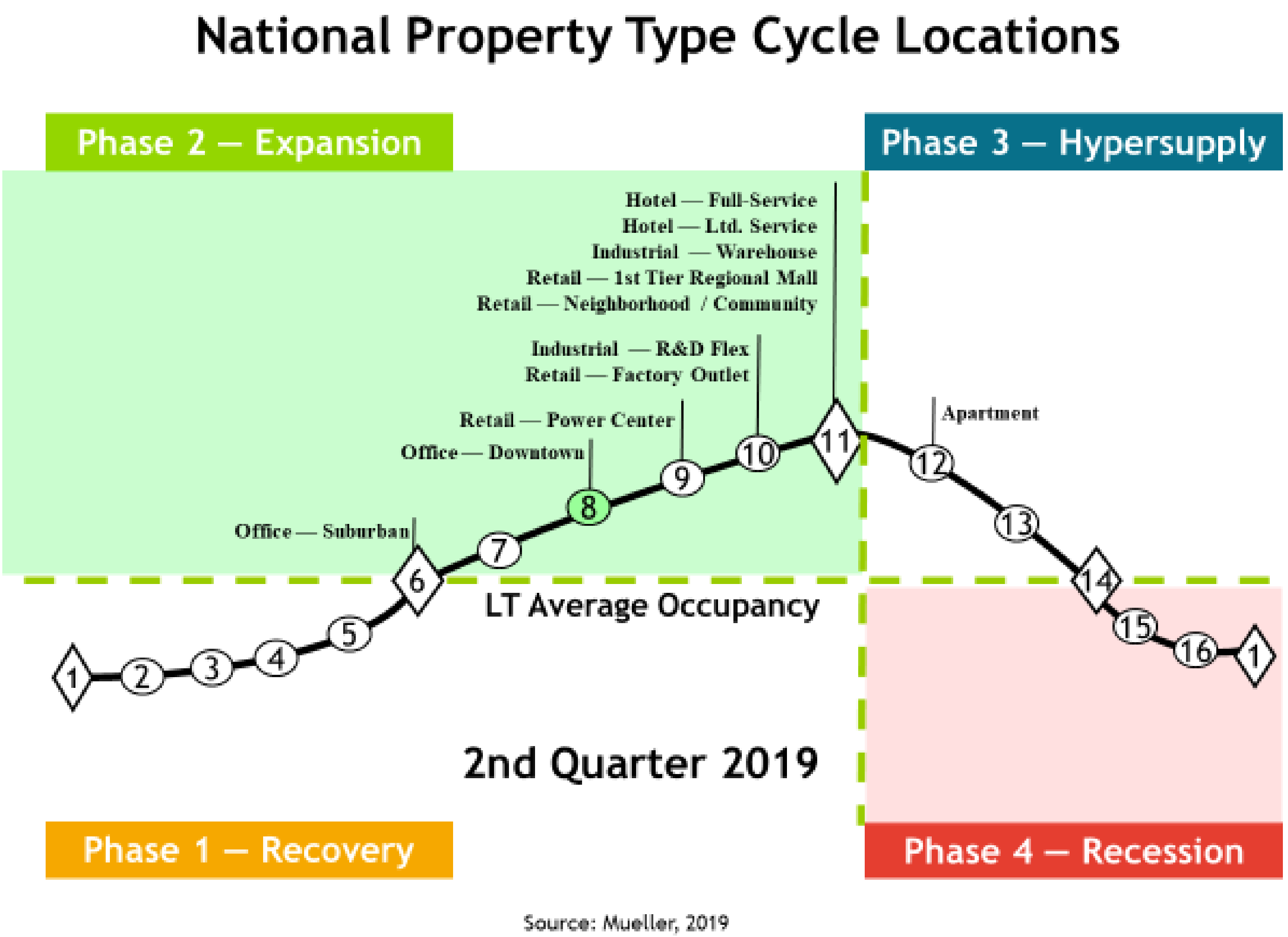
Real Estate Market Cycle Monitor
Second Quarter 2019 Analysis

August 2019

The Physical Market Cycle Analysis of 5 Property Types in 54 Metropolitan Statistical Areas (MSAs).

Economic growth has moderating to a low 2% range, while job growth has been steady and 2Q wage growth grew at 3%, the best in this expansion. Real estate demand has been steady while development continues to grow meeting, but also exceeding demand in many markets. With many markets at the peak / equilibrium point #11 on the cycle for over a year, rent growth is decelerating toward inflation levels. Lower interest rates should help commercial real estate during the next year. Real Estate seems to be fairly valued versus stocks and bonds.

Office occupancy **increased 0.1%** in 2Q19, and rents **grew** 0.4% for the quarter and 2.3% annually.
Industrial occupancy **declined -0.1%** in 2Q19, and rents **grew** 1.1% for the quarter and 5.5% annually.
Apartment occupancy **increased** 0.3% in 2Q19, and rents **grew** 0.4%for the quarter, and 2.3% annually.
Retail occupancy **was flat** in 2Q19, and rents **were flat** for the quarter and 1.4% annually.
Hotel occupancy **improved 0.1%** in 2Q19, and room rates **grew** 0.2% for the quarter and grew 1.1% annually.



The National Property Type Cycle Locations graph shows relative positions of the sub-property types.

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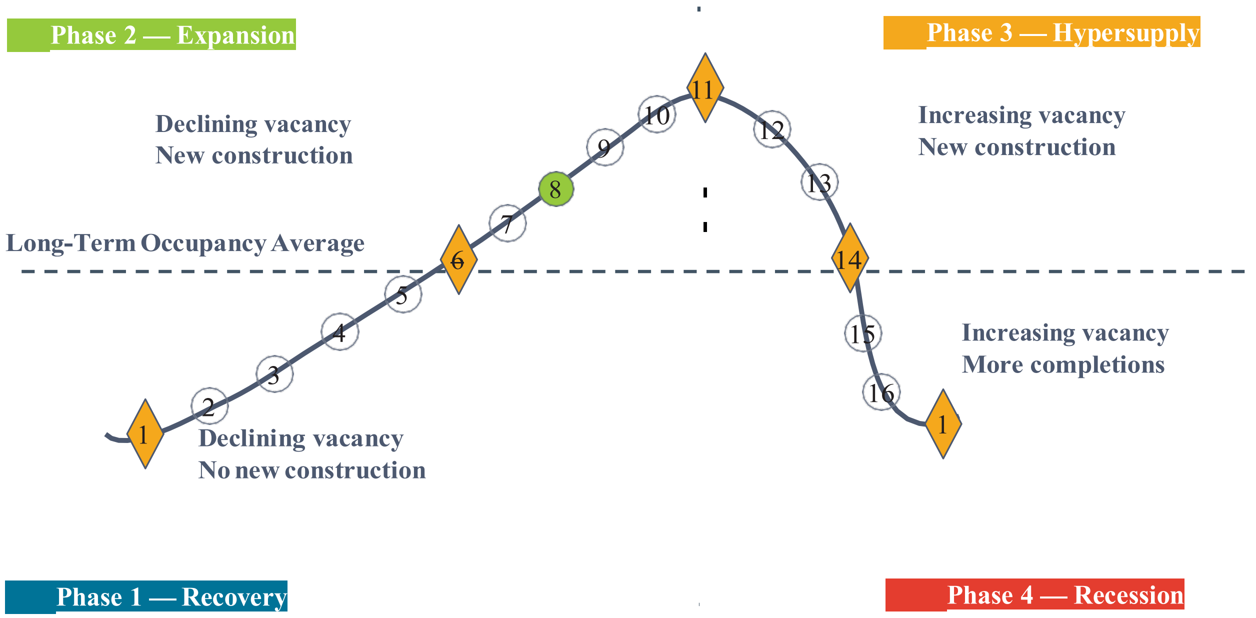
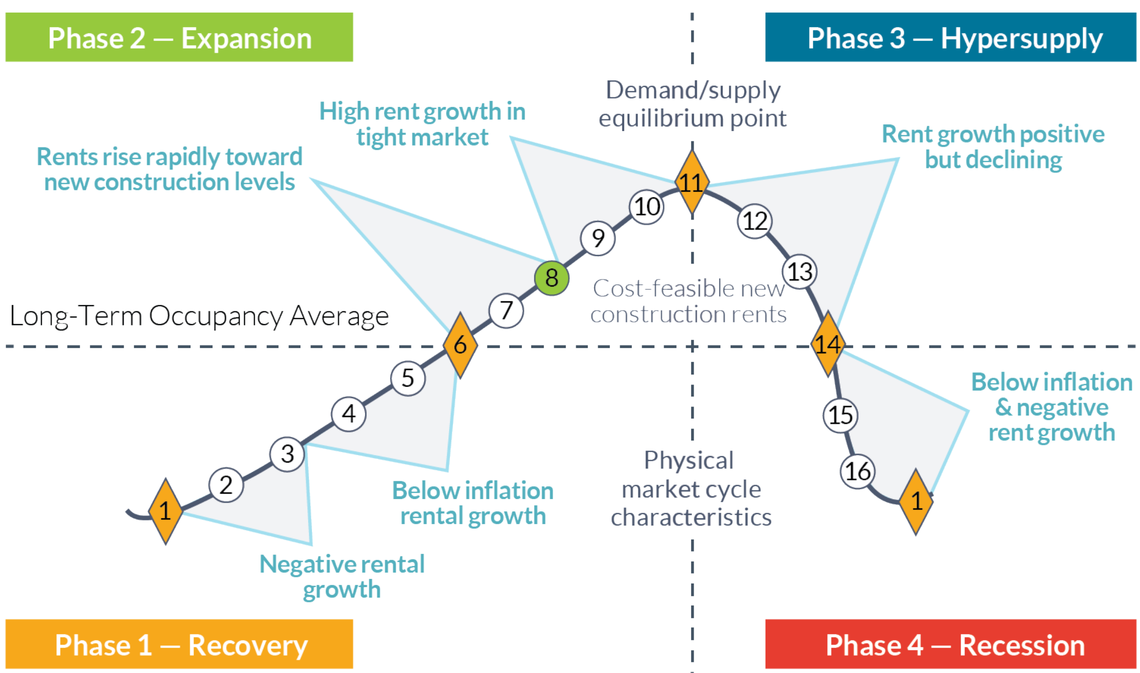
The cycle monitor analyzes occupancy movements in five property types in 54 MSAs. Market cycle analysis should enhance investment-decision capabilities for investors and operators. The five property type cycle charts summarize almost 300 individual models that analyze occupancy levels and rental growth rates to provide the foundation for long-term investment success. Commercial real estate markets are cyclical due to the lagged relationship between demand and supply 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 income and thus returns.

Market Cycle Quadrants



Source: Mueller, Real Estate Finance, 1996.

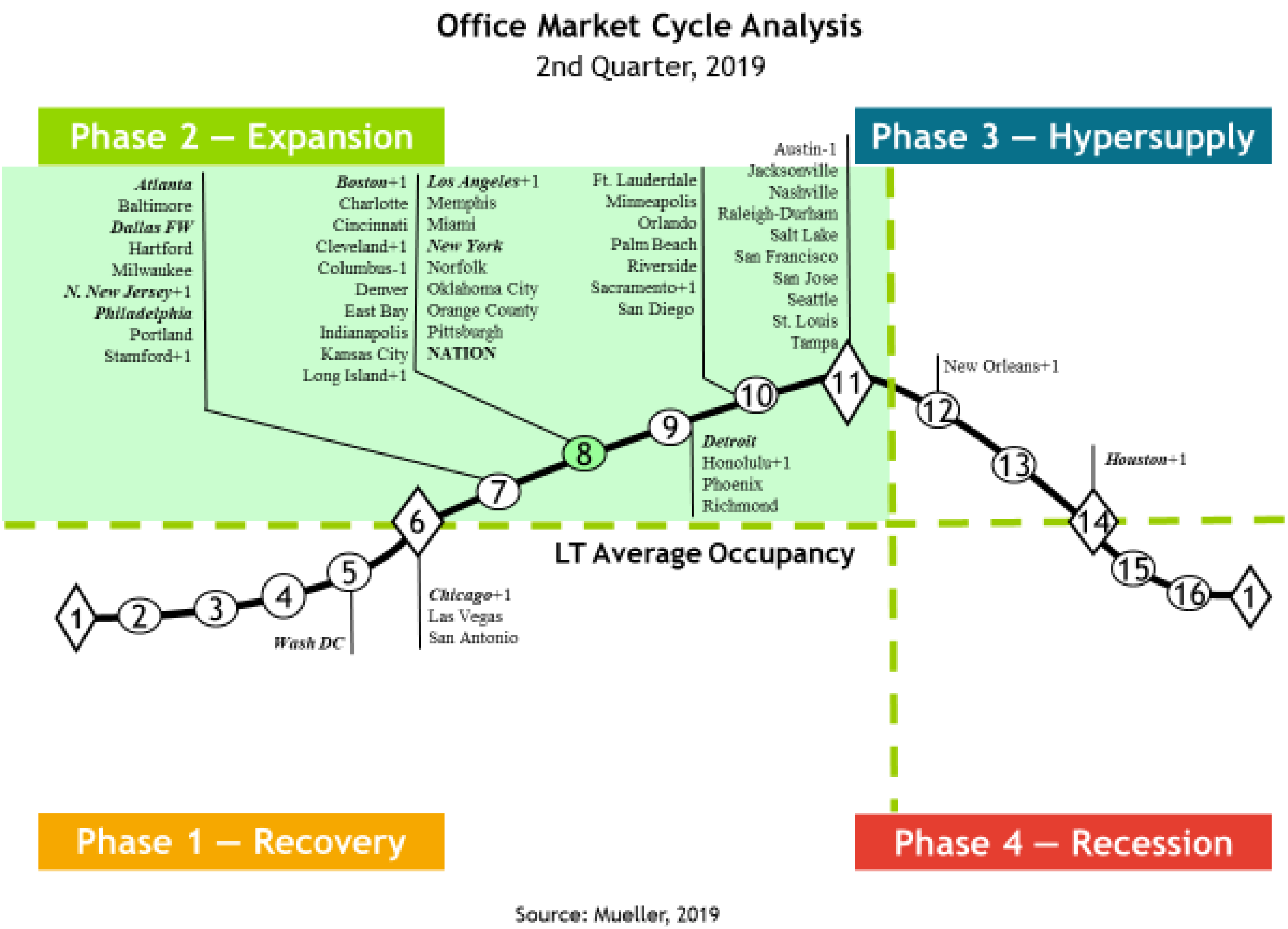
Rental growth rates can be characterized in different parts of the market cycle, as shown below.



Source: Mueller, Real Estate Finance, 1996.

Office

The national office market occupancy level increased 0.1% in 2Q19 and was up 0.3% year-over-year. Demand growth continues with WeWork leading the way in leasing space. WeWork now has over 24 million square feet of office space in the US with most leases over 10 years. Flexible "short term" leases continue to be the major office demand driver, with both start-up and large companies using this option. Supply remains moderate in most markets as construction costs are increasing due to high construction levels in apartment and industrial space. Local "economic base" industries creating different demand growth levels, have spread cities across all points in the expansion phase of the cycle. Average national rents increased 0.4% in 2Q19 and produced a 2.3% rent increase year-over-year.

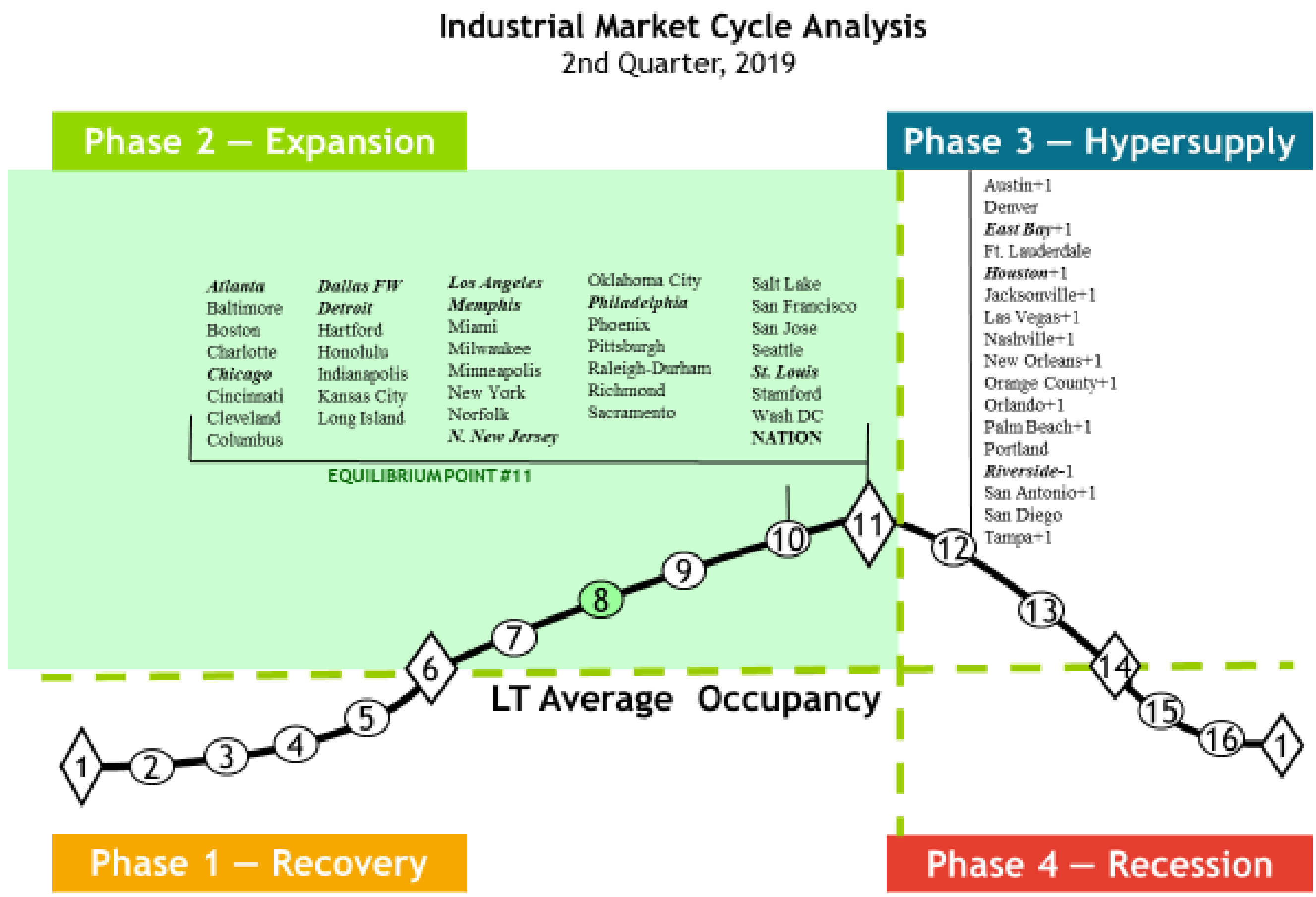


Note: The 11-largest office markets make up 50% of the total square footage of office space we monitor. Thus, the 11-largest office markets are in ***bold italic*** type to help distinguish how the weighted national average is affected.

Markets that have moved since the previous quarter are now shown with a + or - symbol next to the market name and the number of positions the market has moved is also shown, i.e., +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

Industrial occupancies declined 0.1% in 2Q2019 and were down 0.1% year-over-year. While demand remains positive and moderately strong, 13 markets moved into the hyper-supply phase due to excess new construction over demand in these markets. Close in warehouse demand has grown the most iin the past year. It remains to be seen if the hyper-supply is an ongoing trend or a completion timing ahead of the demand need issue that could correct itself in the next few quarters. Industrial national average rents increased 1.1% in 2Q19 and increased 5.5% year-over-year.



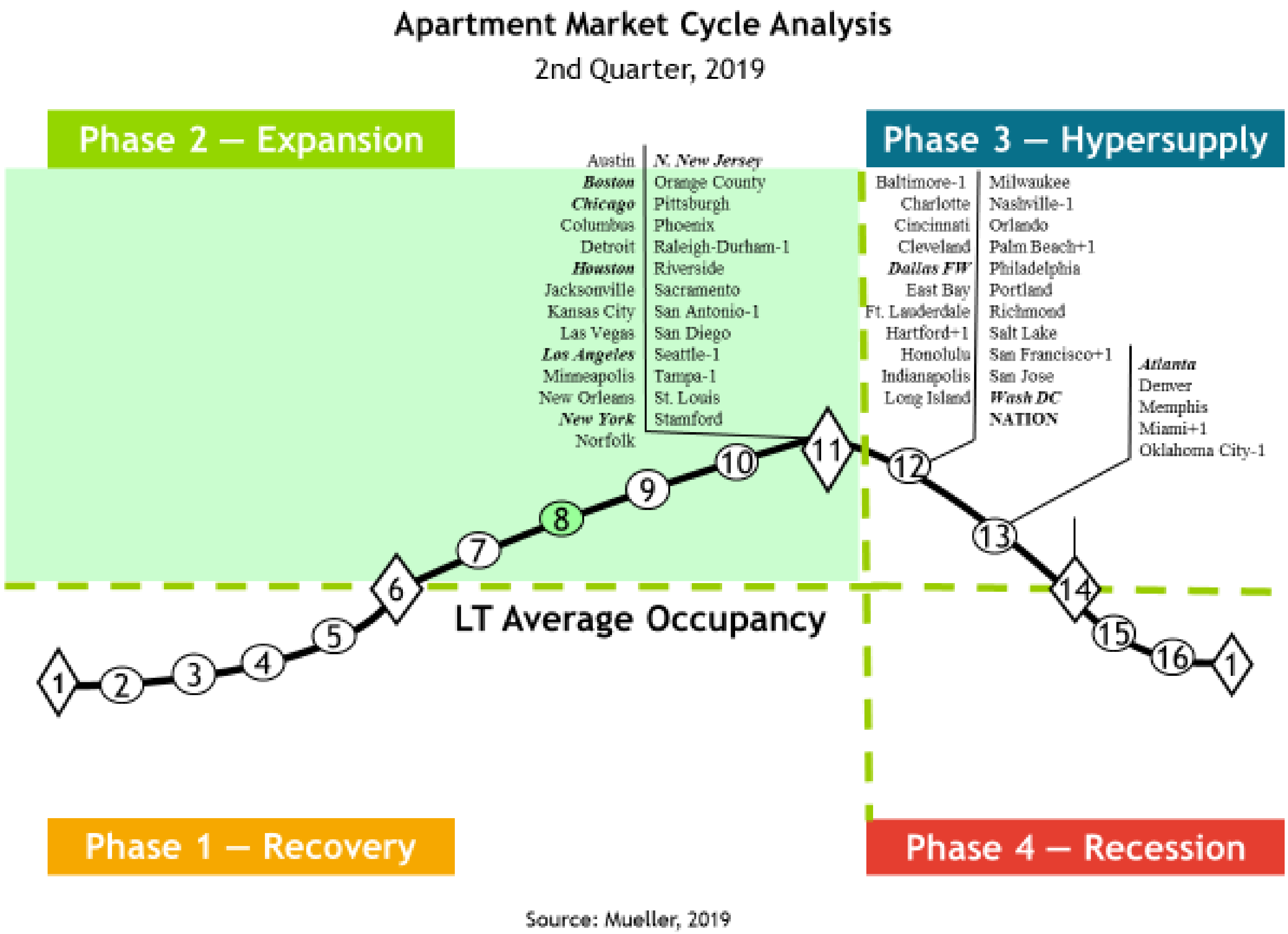
Source: Mueller, 2019

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

Markets that have moved since the previous quarter are now shown with a + or - symbol next to the market name and the number of positions the market has moved is also shown, i.e., +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

The national apartment occupancy average improved 0.3% in 1Q19 and improved 0.3% year-over-year. Millennial demand continues to be strong with school graduations pushing up 2Q occupancies. A few markets swapped places from being at peak equilibrium point #11 on the cycle to hyper-supply point #12 on the cycle and vice-versa. New construction is moderating in many downtowns, but heating up in suburbs, especially near transit stops. Builders are using urban concepts in the suburbs with retail on first floor with apartments above. Average national apartment rent growth improved 0.4% in 2Q19 and national average rents increased 2.3% year-over-year.

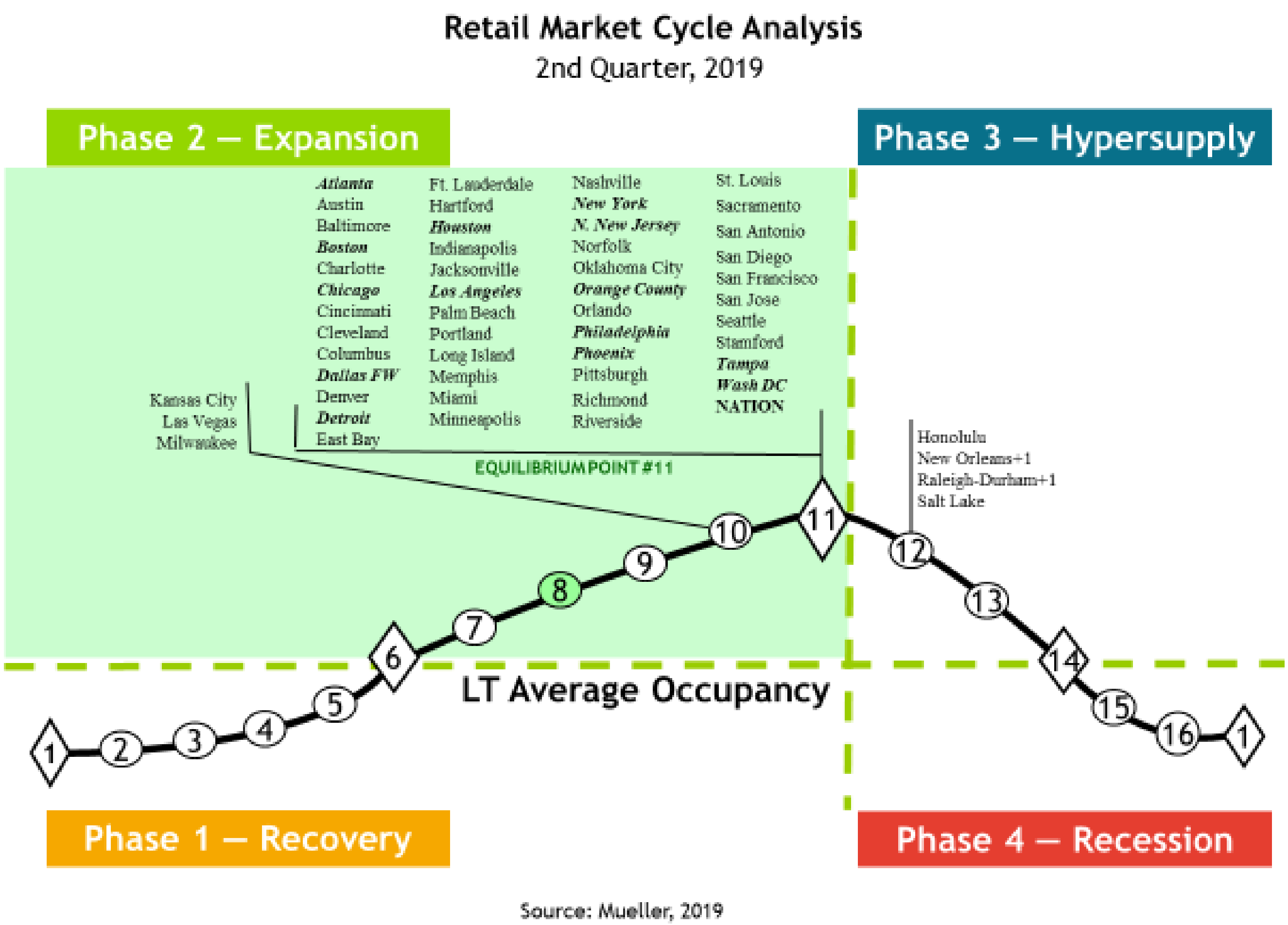


Note: The 10-largest apartment markets make up 50% of the total square footage of multifamily space we monitor. Thus, the 10-largest apartment markets are in ***bold italic*** type to help distinguish how the weighted national average is affected.

Markets that have moved since the previous quarter are now shown with a + or - symbol next to the market name and the number of positions the market has moved is also shown, i.e., +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

Retail occupancies were flat in 2Q19 and were flat year-over-year. Retail concepts continue to evolve toward “experience based” retail concept success - with restaurants, brew pubs and event type experiences leading the way. Internet retailers continue to open stores with Amazon leading the way at 200 expected stores in 2019. Many retailers are also using the showroom style concept with smaller space to show products, but no inventory to sell. They help buyers buy on-line in the store. National average retail rents were flat in 2Q19 but increased 1.4% year-over-year.



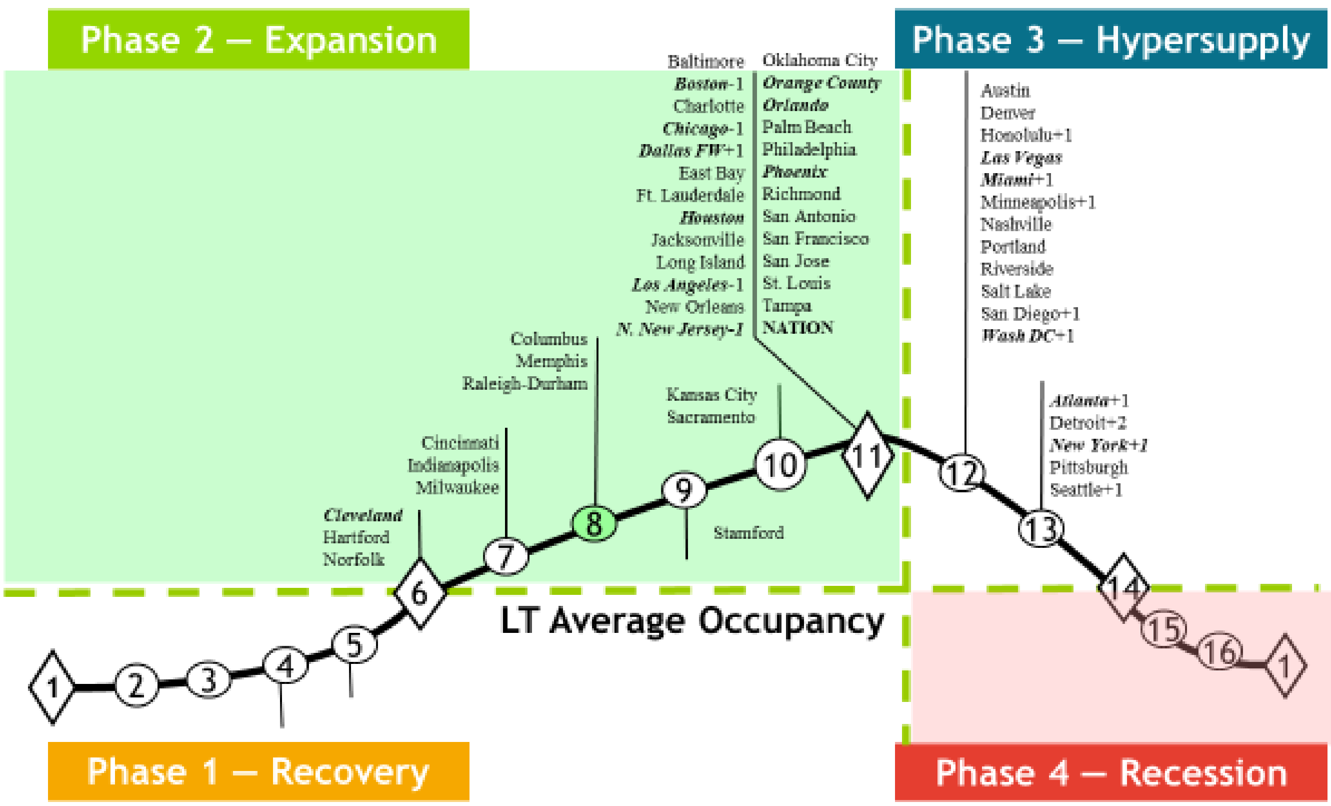
Note: The <u>14-largest retail markets make up 50%</u> of the total square footage of retail space we monitor. Thus, the 14-largest retail markets are in ***<u>bold italic</u>*** type to help distinguish how the weighted national average is affected.

Markets that have moved since the previous quarter are now shown with a + or - symbol next to the market name and the number of positions the market has moved is also shown, i.e., +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

Hotel occupancies improved 0.1% in 2Q19 and were up 0.4% year-over-year. Demand continues to grow and there are mixed results as supply has been higher in some markets creating occupancy decline and moving those markets into the hyper supply phase of the cycle. While other markets (mainly major business cities) have seen higher demand than supply moving them back to peak occupancy/equilibrium point #11 on the cycle graph. We would expect this position swapping to continue if GDP growth remains positive going forward over the next year. The national average hotel room rate increased 0.2% in 2Q19 and increased 1.1% year-over-year.

Hotel Market Cycle Analysis
2nd Quarter, 2019



Source: Mueller, 2019

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 italic*** type to help distinguish how the weighted national average is affected.

Markets that have moved since the previous quarter are now shown with a + or - symbol next to the market name and the number of positions the market has moved is also shown, i.e., +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.

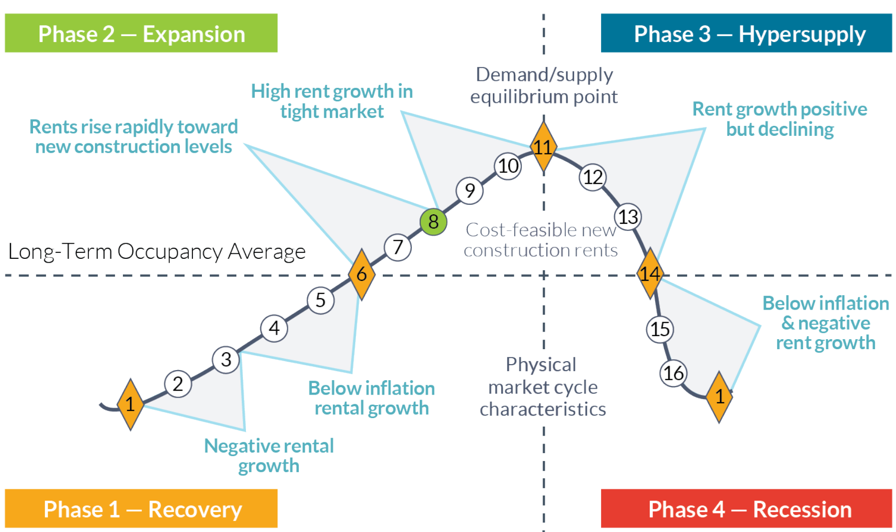
Market Cycle Analysis — Explanation

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 either 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 should 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 is 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 could quickly lose market share if their rental rates are not competitive. As a result, 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, 1996

This research currently monitors five property types in 54 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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