

Mueller

Real Estate Market Cycle Monitor

Fourth Quarter 2019 Analysis

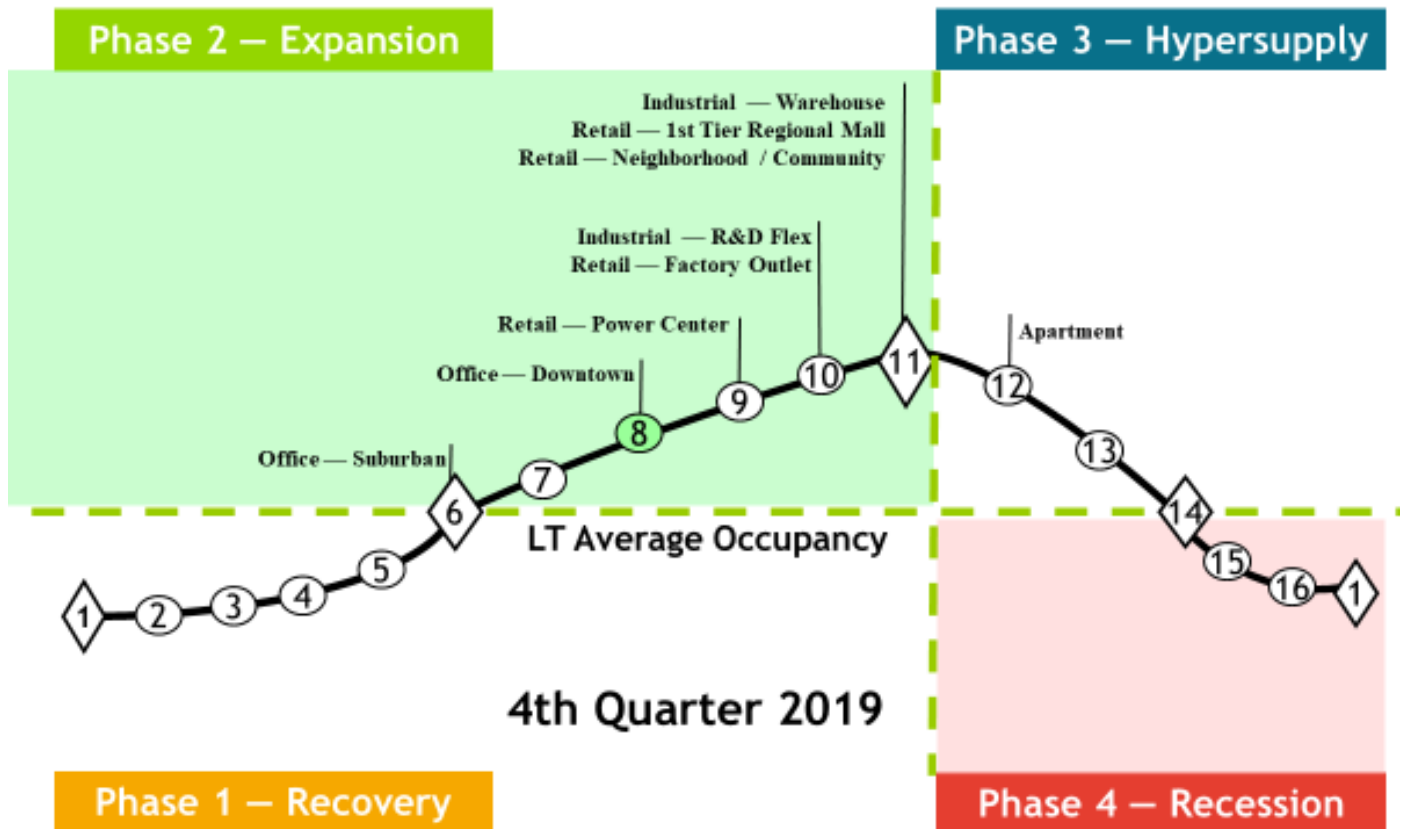
February 2020

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

Economic growth continued with moderate GDP and employment growth around 2%. Inflation stayed in check near 2% even with low unemployment levels. The U.S. economy is forecast to slow moderately from this level in 2020. The impact of the international virus on U.S. and international economies drives part of this slowdown. The majority of markets remain in the expansion phase of the cycle with some in oversupply, due mainly to high supply and moderate demand growth. Look for the economic base industries of each market to determine future demand growth and differentiate the strong demand growing versus oversupplied markets.

Office occupancy **declined 0.2%** in 4Q19, and rents **grew 0.6%** for the quarter and 3.1% annually.
 Industrial occupancy **declined 0.1%** in 4Q19, and rents **grew 0.9%** for the quarter and 5.1% annually.
 Apartment occupancy **declined 0.3%** in 4Q19, but rents **declined 0.1%** for the quarter, but were up 2.6% annually.
 Retail occupancy **was flat** in 4Q19, and rents **grew 0.2%** for the quarter and 2.1% annually.

National Property Type Cycle Locations

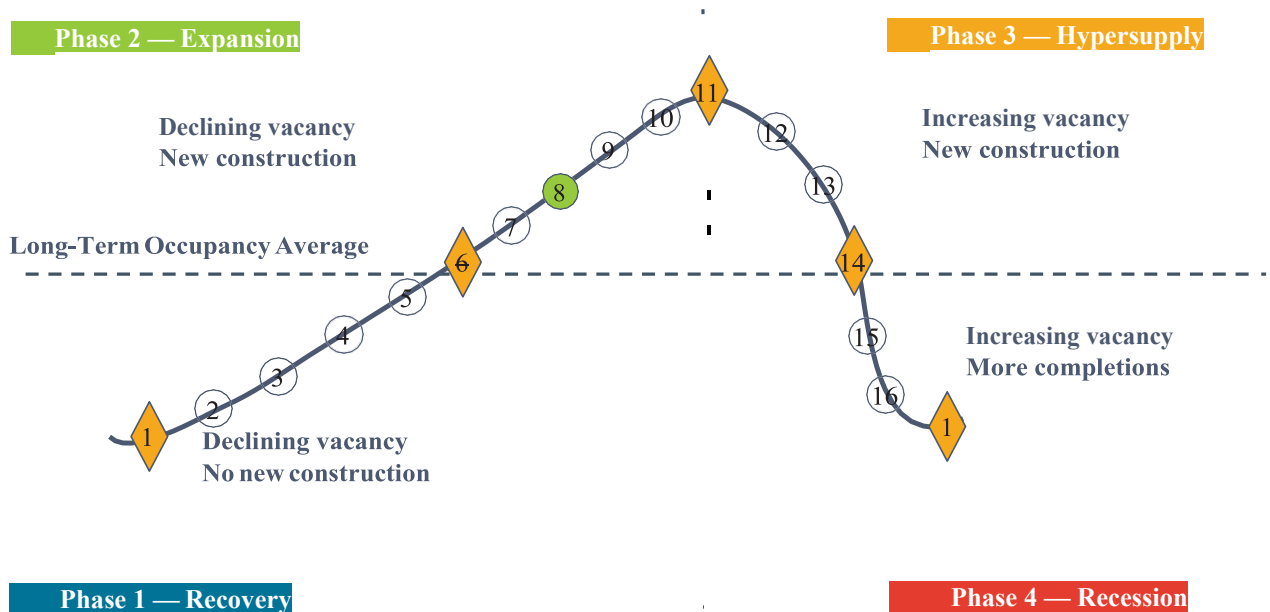


Source: Mueller, 2020

The National Property Type Cycle Locations graph shows relative positions of the sub-property types.
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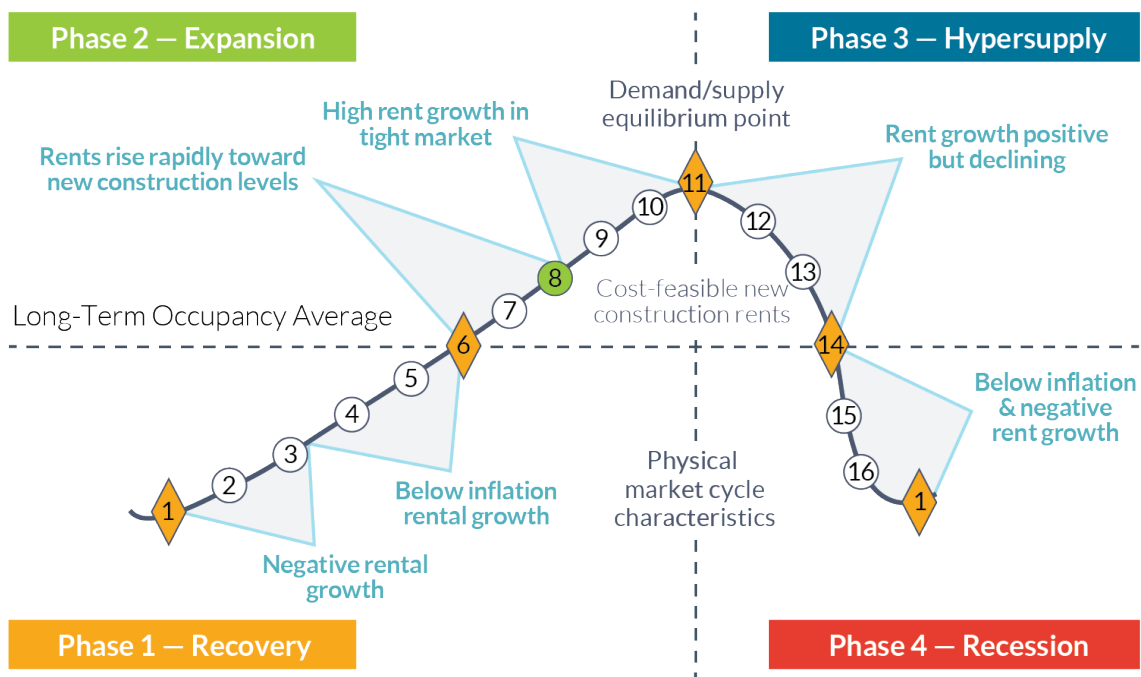
The cycle monitor analyzes occupancy movements in five property types in 54 MSAs. Market cycle analysis should enhance investment-decision capabilities for investors and operators. The five property type cycle charts summarize almost 300 individual models that analyze occupancy levels and rental growth 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.

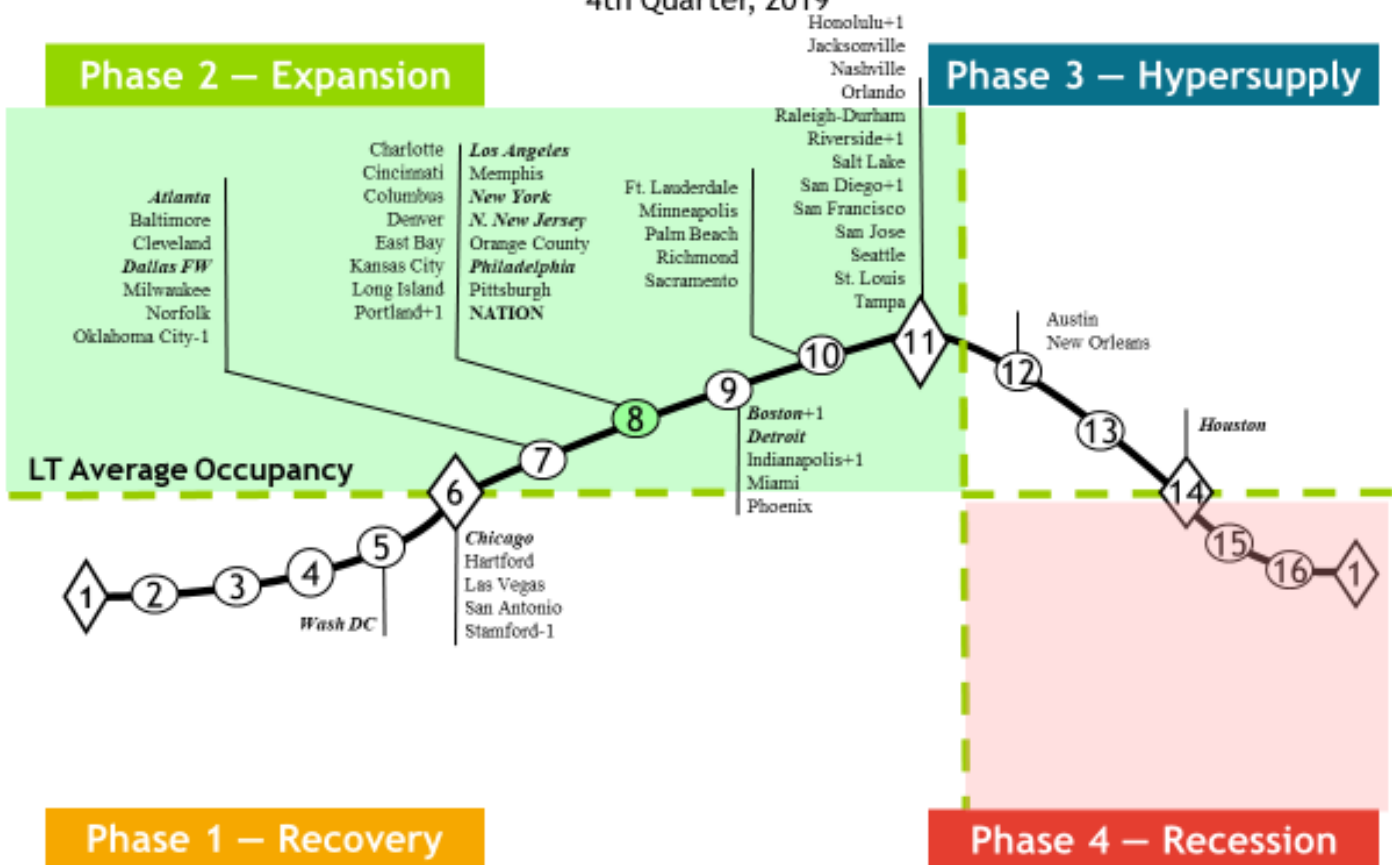


Source: Mueller, Real Estate Finance, 1996.

Office

The national office market occupancy level was declined 0.2% in 4Q19 but was up 2.4% year-over-year. The mild national average occupancy decline was not enough to move the national average on the cycle graph and the annual improvement was encouraging. Note that six markets improved their cycle position, in large degree to tech and financial service industry demand growth. Investors should watch the economic base industries that drive city growth carefully for above average demand. Only one market's occupancy, Stamford, declined enough to move back/down on the cycle graph. Office supply growth has been reasonable and appropriate in most markets. Average national rents increased 0.8% in 4Q19 and produced a 2.4% rent increase year-over-year.

Office Market Cycle Analysis 4th Quarter, 2019



Source: Mueller, 2020

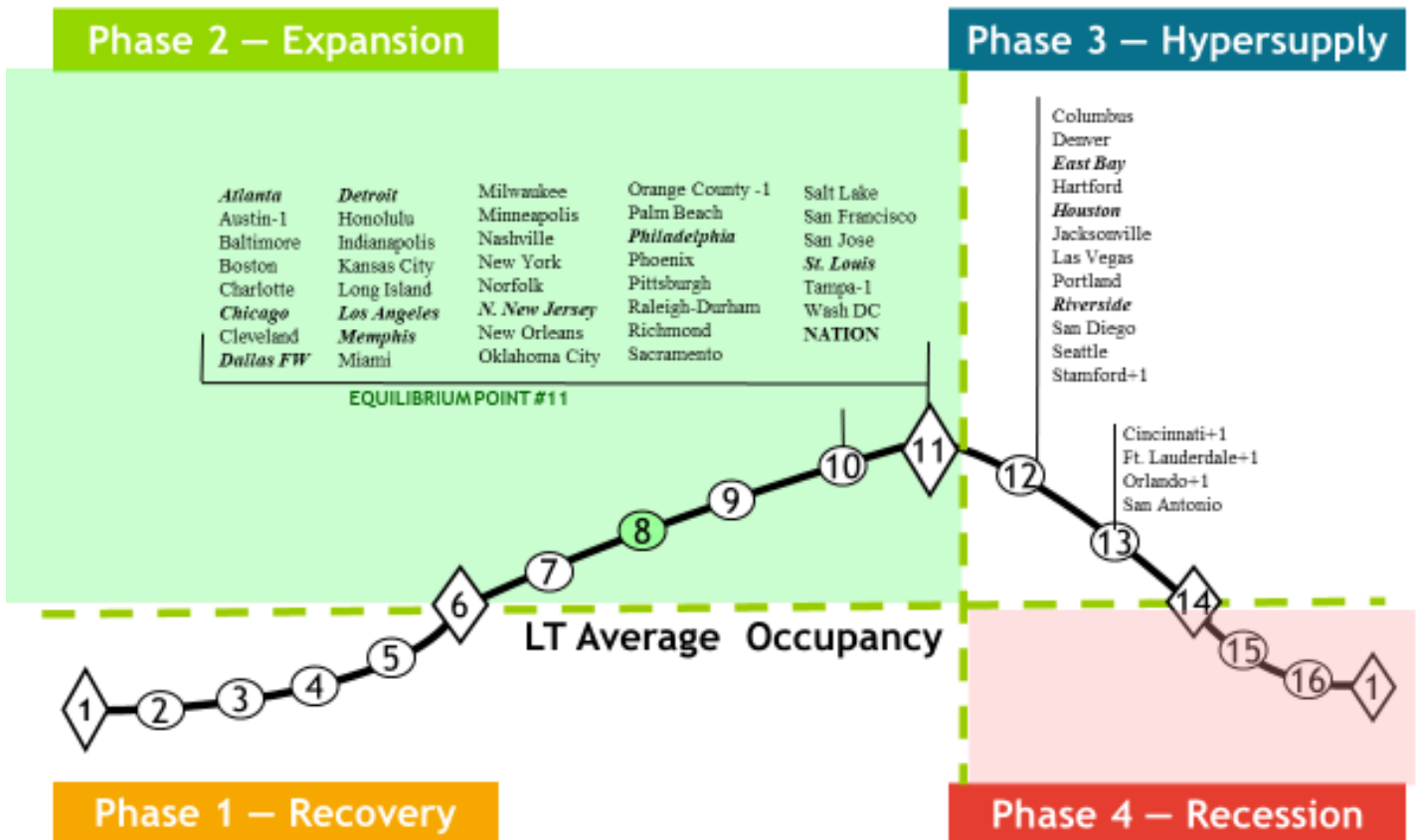
Note: The 11-largest office markets make up 50% of the total square footage of office space we monitor. Thus, the 11-largest office markets are in ***bold italic*** type to help distinguish how the weighted national average is affected.

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 4Q19 and were down 0.4% year-over-year. This mild decline is due to four more markets moving further into the hyper-supply phase, while three markets moved back up to peak-equilibrium point #11 on the cycle graph. Developers are putting up speculative space at a higher rate than normal, but most have been successful in leasing space before the building is finished. Demand continued to be strong with close in “last mile” warehouse facilities being in high demand. But these facilities normally take much longer to get entitled and permitted than industrial park properties, so the close in properties should not be overbuild in most markets for many years. Industrial national average rents increased 0.9% in 4Q19 and increased 5.1% year-over-year, well over twice the rate of inflation.

Industrial Market Cycle Analysis 4th Quarter, 2019



Source: Mueller, 2020

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

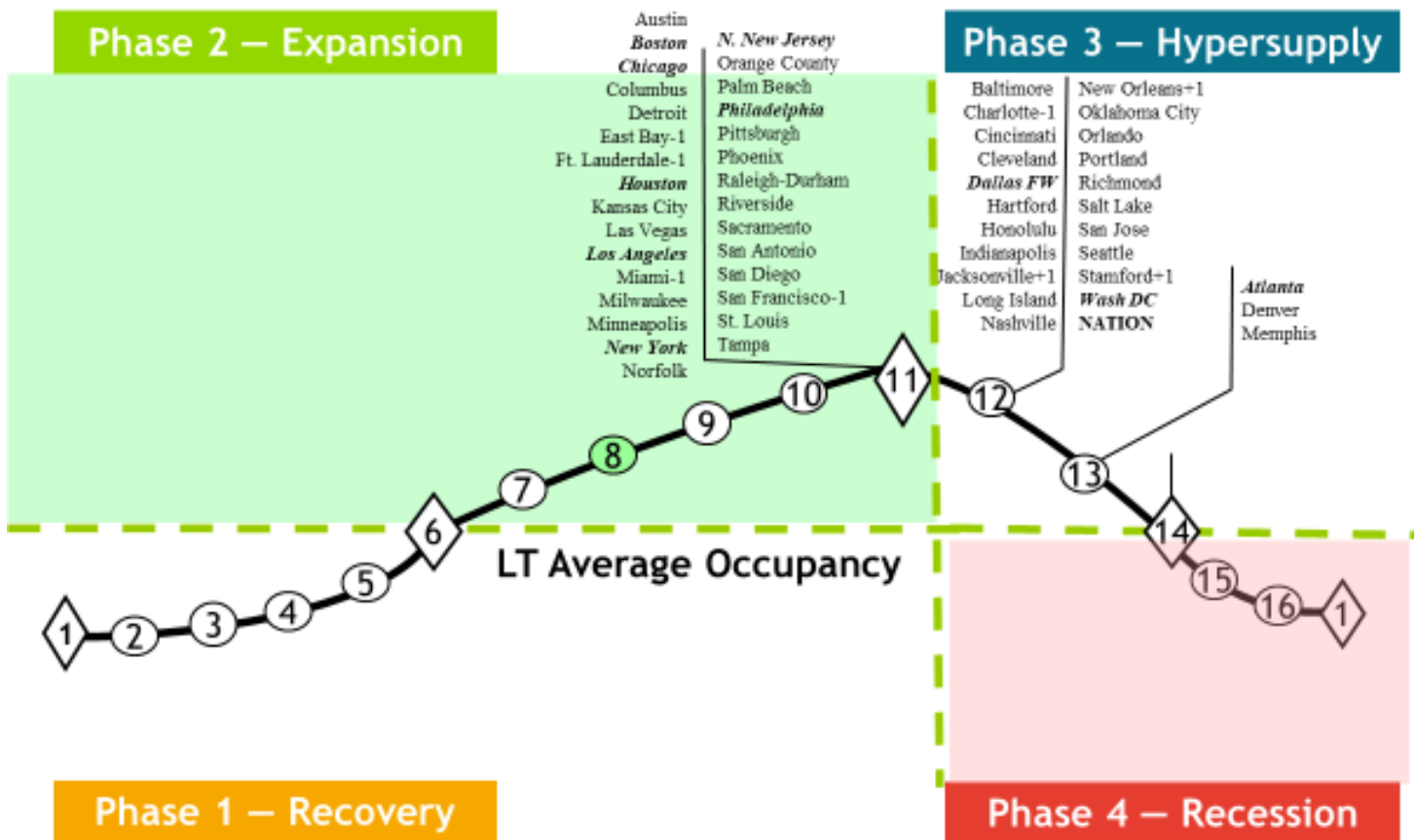
Markets that have moved since the previous quarter are now shown with a + or - symbol next to the market name and the number of positions the market has moved is also shown, i.e., +1, +2 or -1, -2. Markets do not always go through smooth forward-cycle movements and can regress or move backward in their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

Apartment

The national apartment occupancy average declined 0.3% in 4Q19 and was down 0.1% year-over-year. Demand is stronger in MSA's where there are tech, financial, and information economic base industries. Demand grew more than supply in four markets moving them back to peak equilibrium point #11 on the cycle graph. Oversupply was high enough in three markets to push them into the hypersupply phase. Strong millennial demand should continue as they graduate from school and get their first job, where they prefer to live (first choice) and then where they want to work (second choice) may be the major determinant of MSA apartment demand. Second tier markets like Austin, Nashville, Raleigh-Durham and Denver have been favorites. Average national apartment rent growth declined -0.1% in 4Q19, while national average rents increased 2.6% year-over-year, slightly above inflation.

Apartment Market Cycle Analysis

4th Quarter, 2019



Source: Mueller, 2020

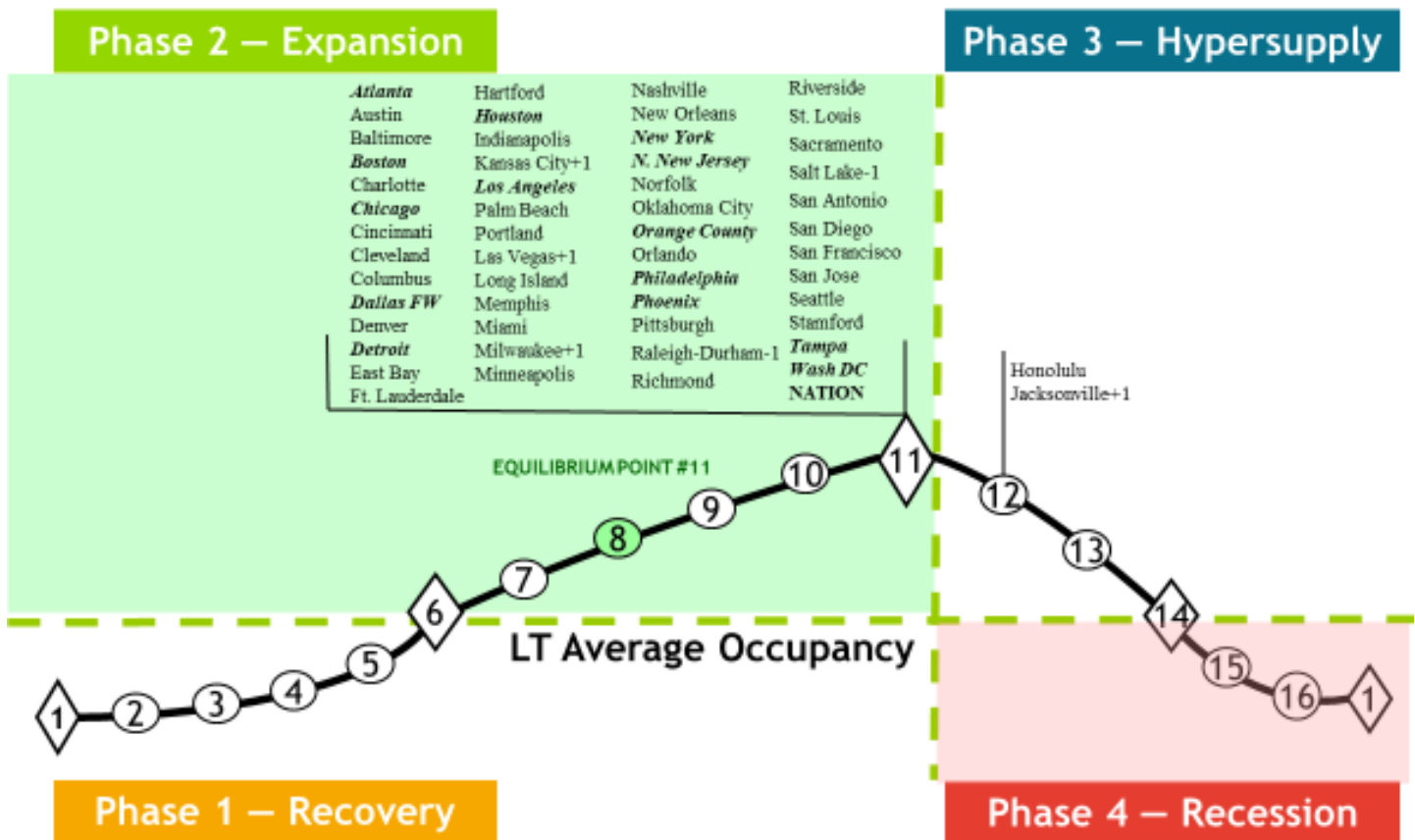
Note: The 10-largest apartment markets make up 50% of the total square footage of multifamily space we monitor. Thus, the 10-largest apartment markets are in ***bold italic*** type to help distinguish how the weighted national average is affected.

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 4Q19 and were down 0.1% year-over-year. Demand continued to shift from product retailers who are downsizing or going out of business to experience retailers are expanding to meet millennial demand. New retail construction was again very low and conversion from retail to other uses such as office and last mile warehouse continued to keep market space in equilibrium. If moderate demand remains at or above supply, we expect retail to remain at peak/equilibrium occupancy levels. National average retail rents increased 0.2% in 4Q19 and were up 2.1% year-over-year, the same as the previous quarter.

Retail Market Cycle Analysis 4th Quarter, 2019



Source: Mueller, 2020

Note: The 14-largest retail markets make up 50% of the total square footage of retail space we monitor. Thus, the 14-largest retail 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.

Hotel

Data is no longer available from the normal source –
thus Hotel coverage is suspended till further notice

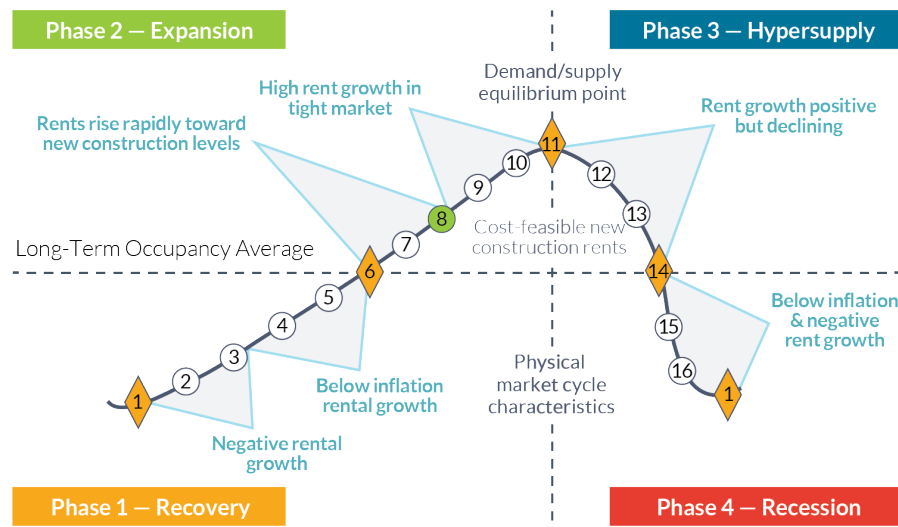
Market Cycle Analysis — Explanation

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.



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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