Mueller

Real Estate Market Cycle Monitor

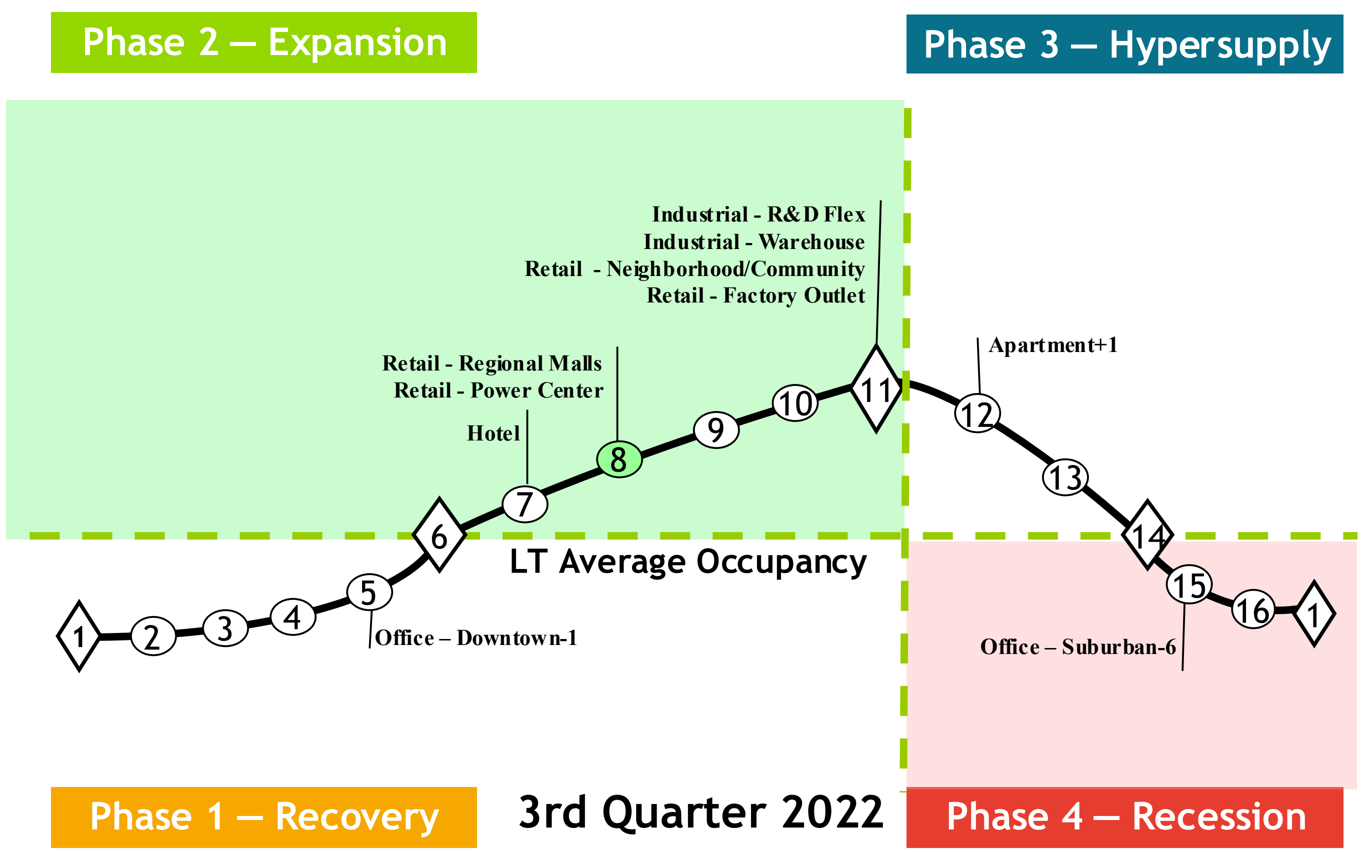
Third Quarter 2022 Analysis – November - 2022

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

Inflation caused by the massive government stimulus to overcome COVID and the subsequent lack of goods from supply chain disruptions has pushed inflation and is finally affecting real estate demand – especially in apartments where rent increases slowed leasing. The Fed driven interest rate increases are slowing commercial real estate transactions and home ownership purchases. We expect cap rates to rise over the next year. It is amazing that employment growth continues, even though the growth rate has slowed substantially. Can there be a recession if there is still positive job growth?

Office occupancy **declined 0.1%** in 3Q22, and rents **grew 0.2%** for the quarter were up 1.2% annually.
Industrial occupancy **improved 0.1%** in 3Q22, and rents **grew** 0.9**%** for the quarter and were up 4.5% annually.
Apartment occupancy **decreased 0.5%** in 3Q22, and rents **declined 0.4%** for the quarter, and were up 5.7% annually.
Retail occupancy **improved 0.1%** in 3Q22, and rents **grew 0.5%** for the quarter and were up 4.4% annually.
Hotel occupancy **improved 0.1%**in 3Q22, and average RevPAR **grew 1.0%**for the quarter and was up 20.3% annually.

National Property Type Cycle Locations



Source: Mueller, 2022

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

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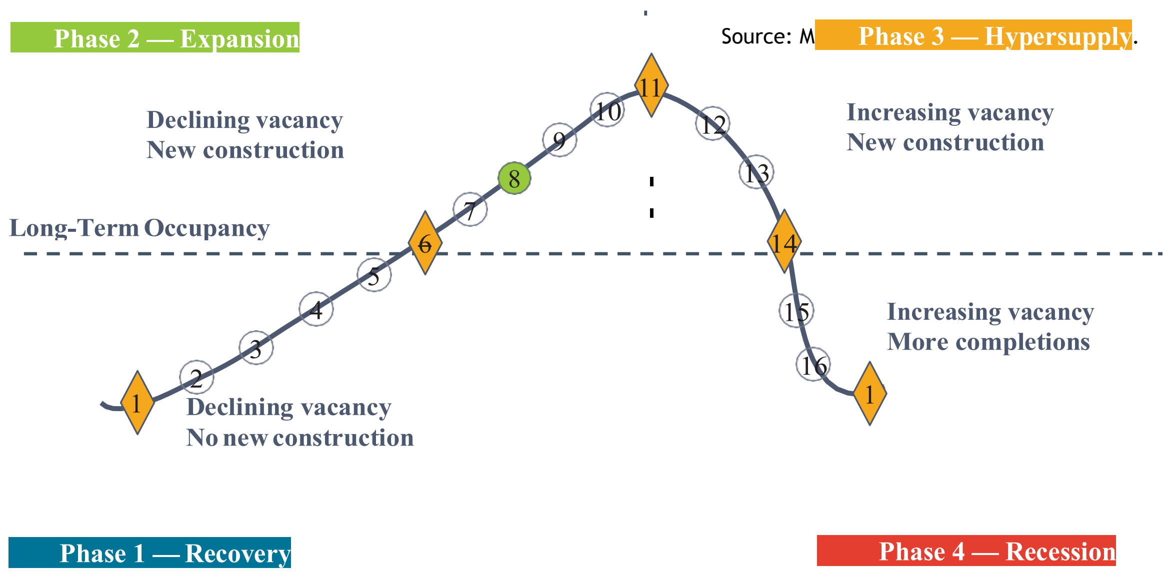
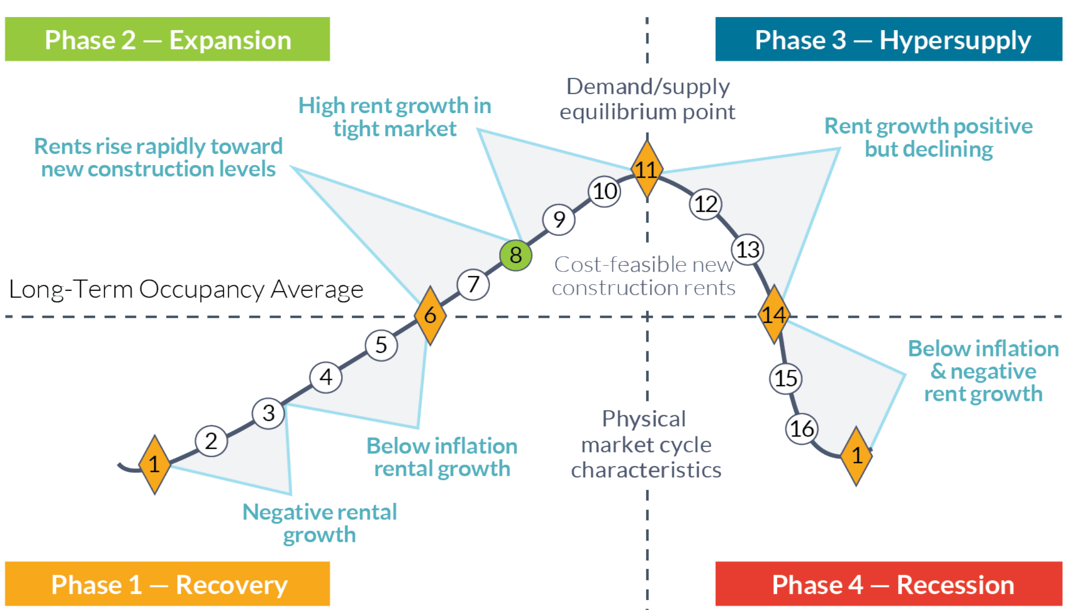
The cycle monitor analyzes occupancy movements in four property types in 54 MSAs. Market cycle analysis should enhance investment-decision capabilities for investors and operators. The five property type cycle charts summarize almost 300 individual models that analyze occupancy levels and rental growth 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



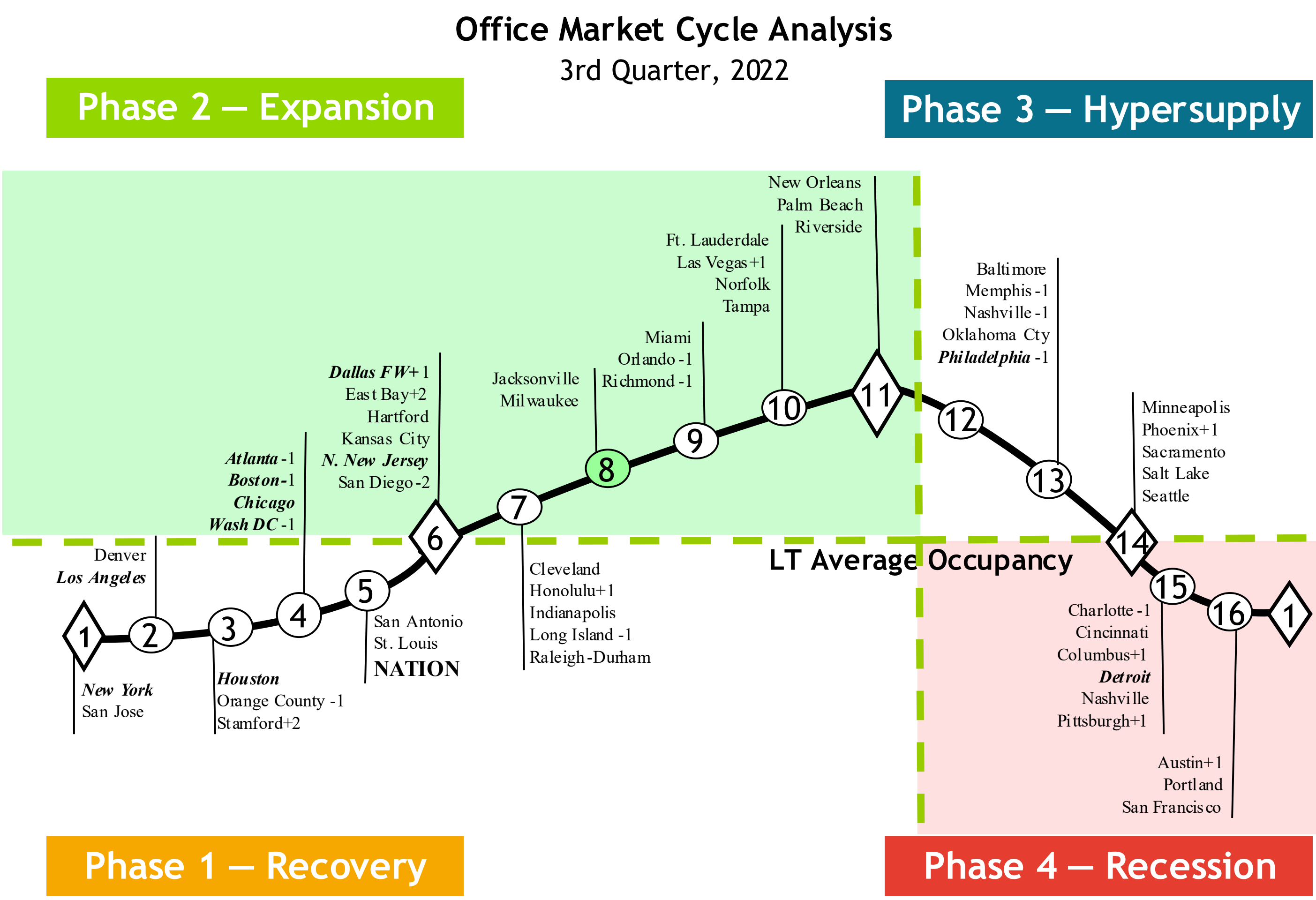
Rental growth rates can be characterized in different parts of the market cycle, as shown below.



Source: Mueller, Real Estate Finance, 1996.

Office

The national office market occupancy level decreased 0.1% in 3Q22 and was down 0.3% year-over-year. Even with new completions at a historic low, net absorption was still negative 5.2 million. Many firms have adopted the hybrid work from home with only 2-3 days in the office per week that most employees prefer, thus reducing the need for space. Office employment growth is no longer producing the same amount of square foot demand for office as it did historically. More firms are pausing on leasing decisions and sub-lease offerings continue to rise. The good news for developers bringing properties on-line is that new flexible and high-quality space has the best demand, as employers try to attract workers back into the office. Due to mostly new space being rented, asking rents improved 0.2% in 3Q22, and were up 1.2% year-over-year.



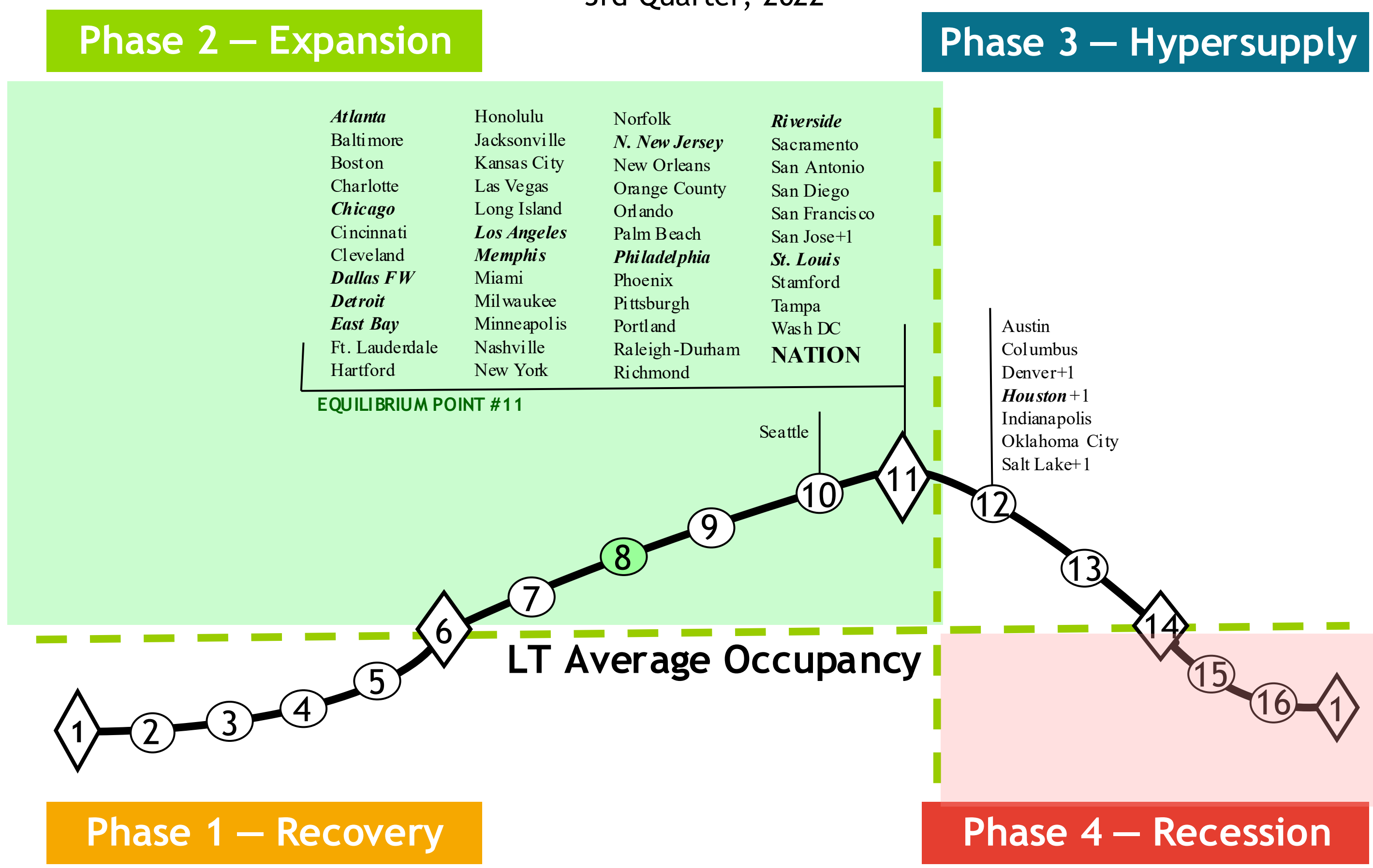
Source: Mueller, 2022

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 decreased 0.1% in 3Q22 from a historic all-time peak but were up 0.7% year-over-year. Elevated retail sales and record high imports continued to drive industrial space demand from logistics and retail firms. Leasing continued at a 60% higher rate than pre-pandemic levels. A large amount of speculative new construction came on-line in 3Q22 causing the slight decrease in occupancies. Rent growth slowed to 2.4% in 3Q22 (still well above historic norms), and annual rent growth averaged 11.9% year-over-year.

Industrial Market Cycle Analysis
3rd Quarter, 2022



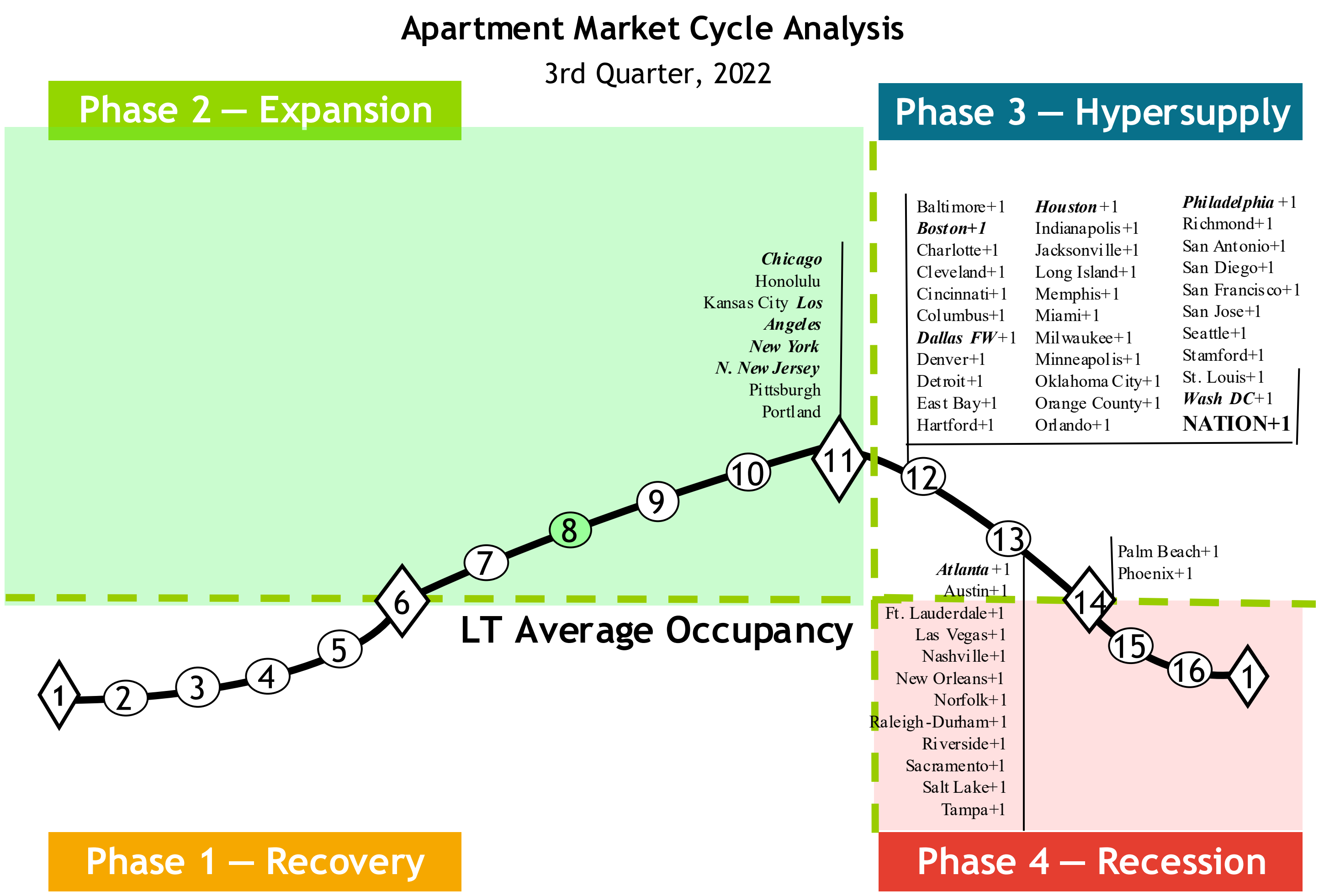
Source: Mueller, 2022

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 0.5% in 3Q22 and was down 1.1% year-over-year. The high rent growth over the last year has finally caused prospective tenants to pause on leasing and either double up or stay home with parents, instead of paying rents that are not affordable. (Also known as lower household formation). The half percent occupancy decrease has pushed a majority of markets into the hyper-supply phase of the cycle where rent growth decelerates. New supply was 127,000 units, while only 50,000 units were leased. With the high CPI inflation numbers of 8% and 7% in the last two months, apartment rent growth slipped below these high inflation rates. National average apartment asking rent growth declined 0.4% in 3Q22, but rent growth was up 5.7% year-over-year.



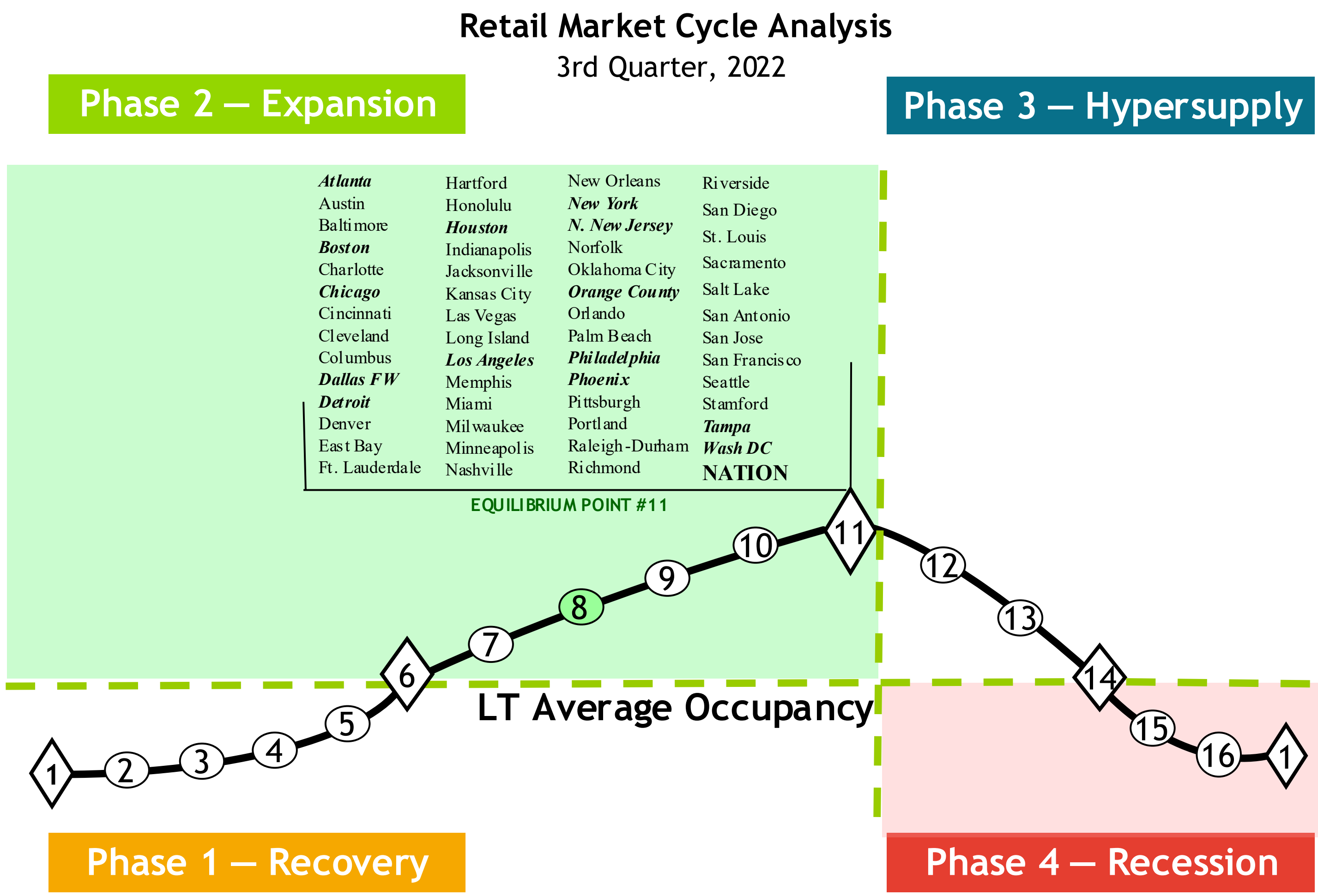
Source: Mueller, 2022

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 up 0.1% in 3Q22 and up 0.5% year-over-year to another new peak level. Bricks and mortar retail sales hit a new record high of $384 billion in September alone which is 30% higher than inflation adjusted, prep-pandemic sales. 2022 leasing should reach or exceed the 264 million leased in 2019 pre-pandemic times. Supply was severely restricted with 17 million in demolitions year-to-date and only 11 million square feet delivered in 3Q22. This has pushed occupancy levels higher that pre-pandemic levels. National average retail asking rents were up 0.9% for the quarter and were up 4.5% year-over-year.



Source: Mueller, 2022

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.

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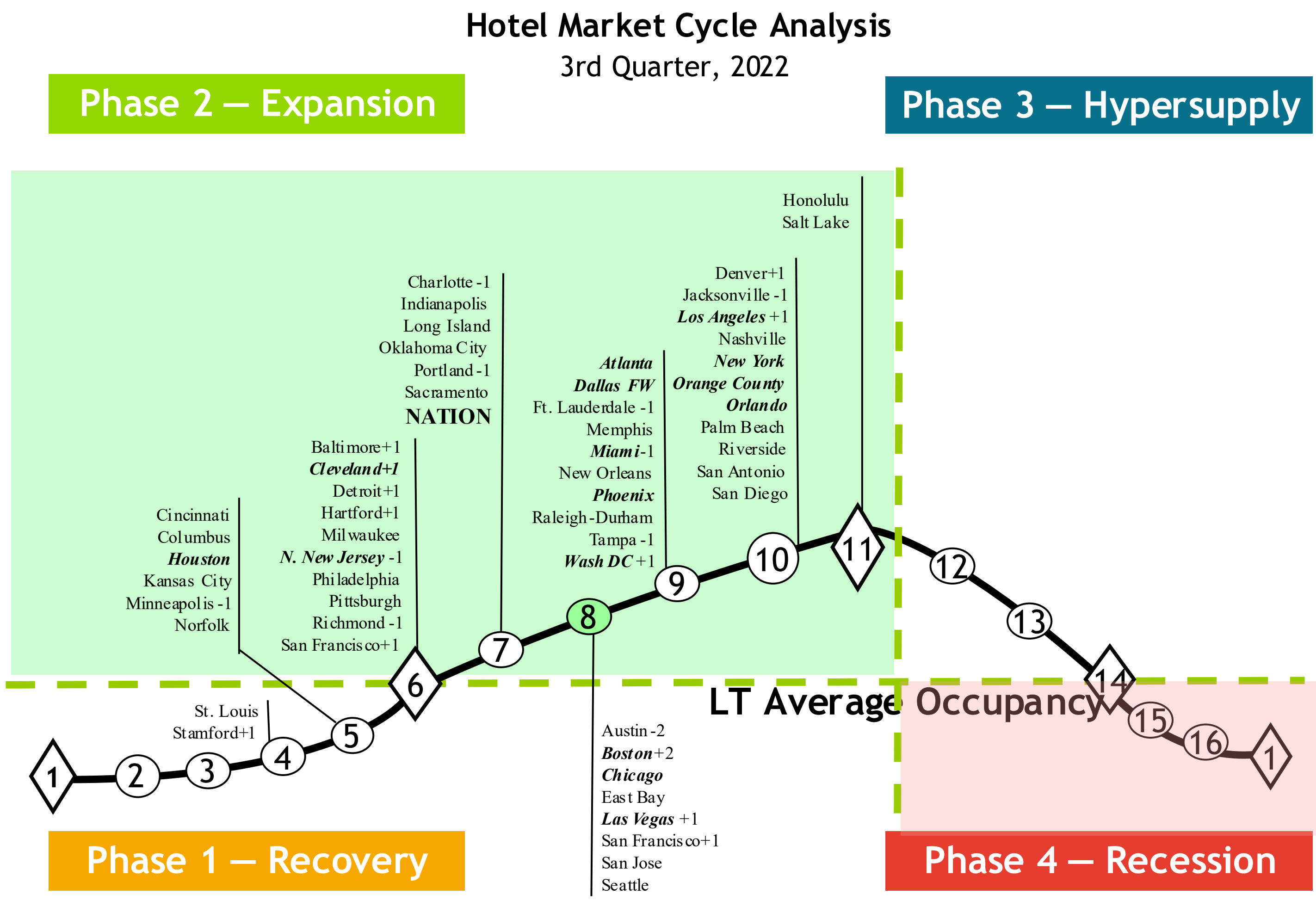
Hotel

Hotel occupancies were up 0.1% in 3Q22 and up 2.5% year-over-year. Demand continued to improve as summer and fall travel was very strong and conference/group meeting travel was back to pre-pandemic levels. Corporate travel was still slow in September after summer vacations were over. Additionally, coastal markets saw low international demand, especially Asian tour groups - due to the strong dollar headwind. New supply averaged 156,000 rooms in 3Q22, which is well below the 212,000-pre-pandemic average growth rate. We expect construction to decline with higher interest rates and the forecast recession. National average Revenue Per Available Room RevPAR was up 1.0% for the quarter and up 20.3% year-over-year.



Source: Mueller, 2022

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

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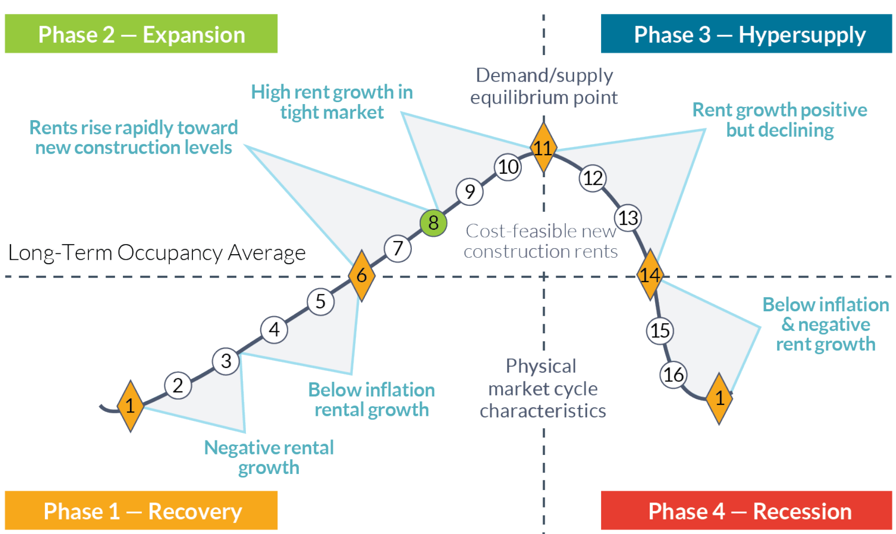
Market Cycle Analysis — Explanation

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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