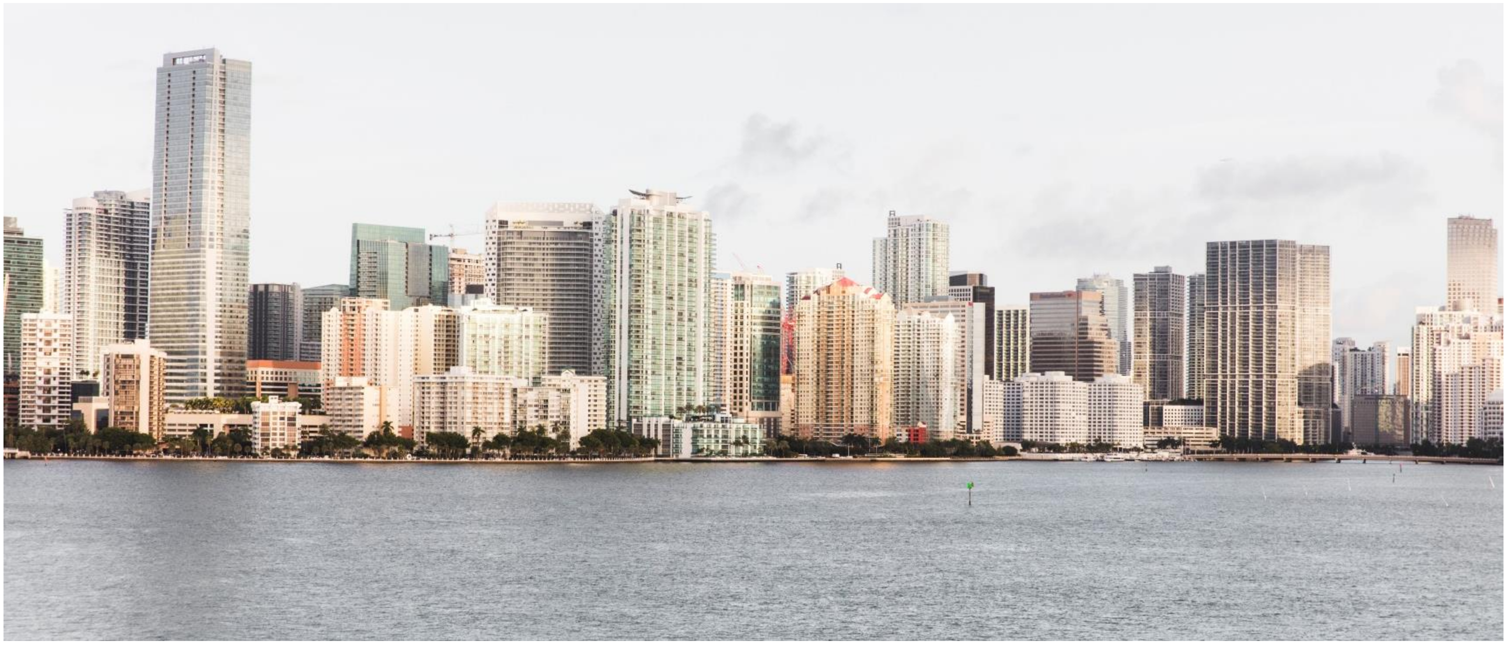
Real Estate Outlook

US – Annual Outlook 2020



New year, new views.

UBS

UBS Asset Management

Tiffany B. Gherlone
Head of Real Estate Research and Strategy – US

Dear Reader,

Outlook 2020 is more than a pass-through of information. It is intended as a guide to aid our firm's investment decision-making. One of the duties of our researchers is to use the data and themes presented here to inform the process.

Our Research & Strategy team chairs our firm-level Strategy Team, a forum for leaders from every department to benefit from discussing the expectations printed in this document. On page 26, you will find key investment themes, which provide structure to inform critical discussions about portfolios and properties.

The Real Estate business of Real Estate & Private Markets within UBS Asset Management has USD 98.0 billion under management, with direct property investments throughout Asia, Europe and the US, as well as publicly traded real estate securities and private fund holdings worldwide. The firm's global experience in private real estate investment, real estate securities management, commercial mortgage financing and risk management is invaluable to our market understanding. Within Real Estate – US, our experience includes 41 years of managing private equity real estate and originating participating mortgages. US assets under management exceeded USD 30.8 billion (as of September 30, 2019).

Following intensive research and brainstorming, please enjoy our *US Real Estate Market Outlook 2020*.

Sincerely,

Tiffany Gherlone

Contents

Performance scenarios

We believe our Base Case scenario is the most probable outcome and dedicate the remainder of this document to laying out the details. It is not, however, the only scenario we consider.

Performance scenarios

Our *Base Case* expectations for the macro environment and property sectors are presented in the remainder of this *Outlook 2020*. In our *Base Case*, softer economic growth comes with slightly slower income growth in real estate. Uncertainty pushes up cap rates by 10 basis points (bps), resulting in less appreciation than last year and a total return of 5.8% on unlevered properties.

We consider our *Base Case* to be the most likely outcome. However, it is important for all members of our firm's Strategy Team to challenge our expectations by considering *Upside* and *Downside* scenarios. Considering alternative outcomes for commercial real estate is prudent if reality turns out to be better or worse than anticipated. *Exhibit 1* offers a quantitative view of base and alternative scenarios.

Upside Scenario

In a possible *Upside Scenario*, a slowdown in growth that started in 2019 is short-lived. Economic growth reaccelerates in 2020. Interest rates remain low, offering a below-average, but acceptable, premium to real estate investors.
Capital expenditures invested into the office and retail sectors generate stability and result in steady absorption and rent growth. Tenant demand exceeds increased construction in the apartment and industrial sectors.

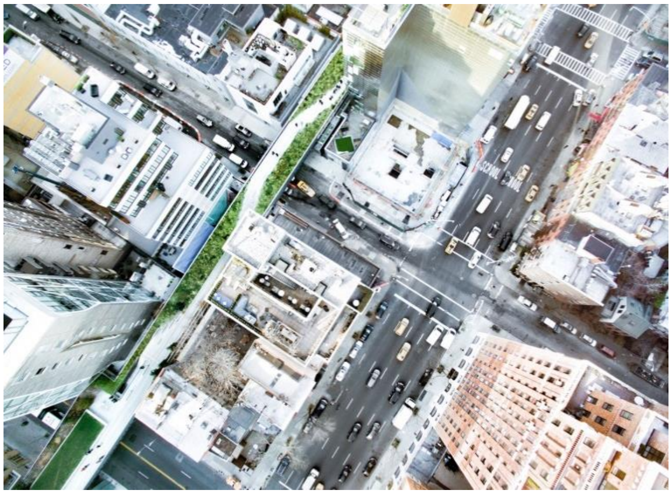


Exhibit 1: Performance scenarios for core unlevered properties

2019	2020			
Estimates*		Downside	Base case	Upside
2.2	GDP (%)	0.4	1.4	3.4
2.0	Employment (mill. Jobs/yr)	-1.0	0.8	1.0
1.7	Inflation (%)	1.6	2.2	3.3
4.1	Retail sales (%)	0.4	2.5	5.5
4.4	NOI growth (%)	2.5	3.3	5.5
10	Cap rate change (bps)	30	10	0
4.5	Income return (%)	4.7	4.5	4.5
2.1	Appreciation (%)	-4.0	1.3	5.5
6.6	**Total return (%)**	**0.7**	**5.8**	**10.0**

Source: UBS Asset Management, Real Estate & Private Markets, Research & Strategy – US based on data from UBS Investment Bank, NCREIF and Moody's Analytics as of September 2019. Economic data are expressed as fourth-quarter over fourth-quarter rates of change except for retail sales where growth is the average annual change. *2019 Estimates based on actual data as of October 2019. Past performance is not indicative of future results.

Downside Scenario

In a possible *Downside Scenario*, uncertainty increases encouraging investors to require an increased risk premium on real estate, which pushes up the cap rate by 30 bps. Low interest rates continue but signal diminished growth expectations to the market. Whether the US slips into recession or not, growth is negligible. Although existing lease contracts slow the deterioration, by year's end, Net Operating Income (NOI) reflects the slower growth environment.

At our firm-level Strategy Team meeting, we ask decision makers to imagine conditions that could be better or worse than our *Base Case*. Our *Upside* and *Downside* scenarios outline some of our thoughts on these alternative outcomes.

Macro view

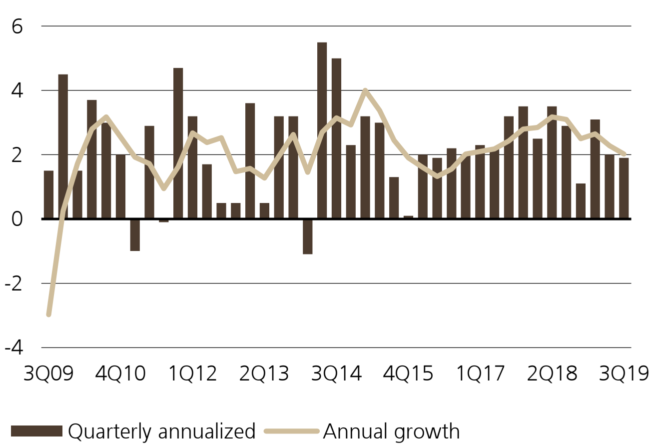
Economic growth provides a sound backdrop for positive real estate demand but is no longer accelerating. Low interest rates indicate that spreads remain attractive relative to recent years.

Economy

Before considering the economic forecast for 2020, recalling the Gross Domestic Product (GDP) pattern since the last recession might center our expectations. Unlike recovery and expansion periods of the past, the level of output did not spike and fall to a long-term level. Rather, real GDP growth gradually rose to 4% and has fluctuated between 1% and 3% since, *exhibit 2*. Thus, the long period of growth may continue.

Exhibit 2: Annual real GDP growth

Real GDP growth (%)

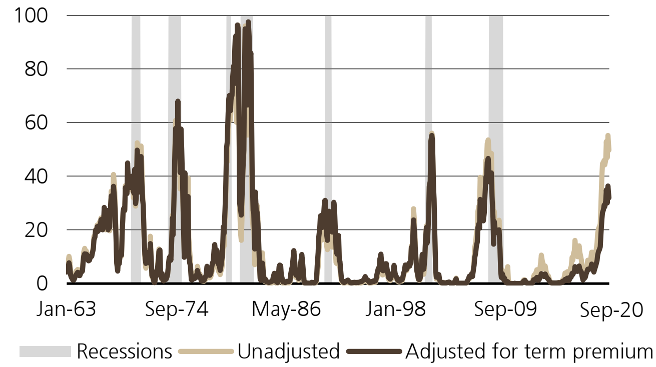


Source: Moody's Analytics as of September 2019.

In general, we have the view that the economy will continue to expand at a gradual rate. The baseline expectation for 2020 GDP growth is 1.4%. The common recession culprits, such as imbalanced business inventories, reduced housing development and reduced borrowing levels are in balance. However, there are mounting pressures on other recession indicators, including flat corporate profits and yield-curve inversion. Moody's Probability of Recession Index (adjusted for current interest rates) indicates a greater than 40% chance of recession during the coming year, *exhibit 3*. Combining this economic analysis with the knowledge that 2020 is a Presidential election year, we conclude that the *Base Case* is for continued marginal GDP growth.

Exhibit 3: Probability of recession

(%)



Source: Moody's Analytics as of September 2019.
Adjusted = statistical model that includes yield curve slope (10yr-3mo), term premium (NY Fed's estimate for 10-year using ACM model), and other financial factors. Unadjusted = statistical model that includes yield curve slope (10yr-3mo) and other financial factors.

Labor market

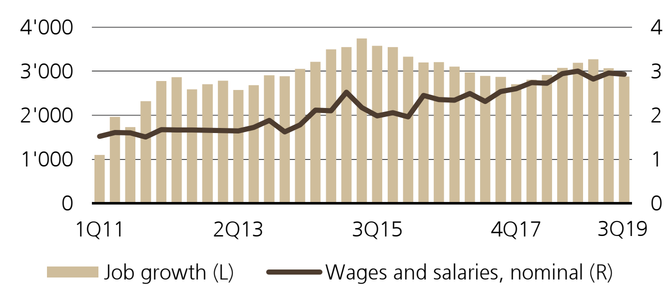
Employment growth will almost certainly continue to slow over 2020. Even without some of the economic headwinds we noted, the mere fact that the US is beyond full employment leads us to the conclusion that growth must slow. With unemployment below 4%, it seems implausible that employment can continue to grow at a rate above that of the labor pool.

Increasing wage growth would normally be expected when the labor market is so tight, *exhibit 4*. We expect some wage increases but not at the level that the unemployment rate might imply. The looming economic challenges and trade uncertainty have dampened corporate investment, including investment in people. So far, companies are reluctant to reduce staff when the labor conditions are tight, but they very well may slow the rate of wage growth that might otherwise occur. Inflation, as measured by the Consumer Price Index, was 1.7% in the year ended third quarter 2019, which slowed by 20 basis points since year-end 2018.

Exhibit 4: Employment and wage growth

Change in employment
Year-over-year (thousands of jobs)

Wage growth
Year-over-year (%)



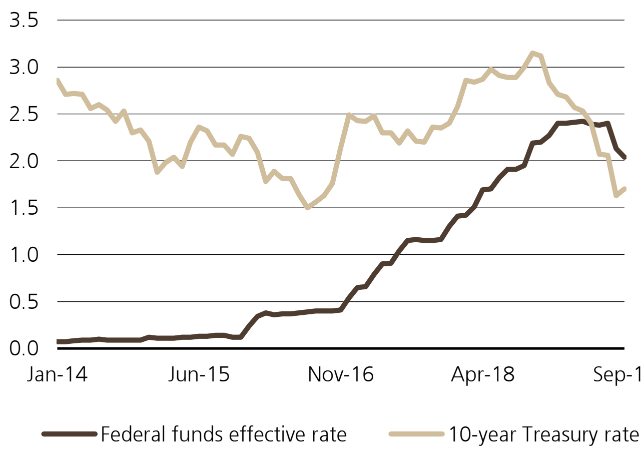
Source: Moody's Analytics as of September 2019.

Interest rates

The long-anticipated rise in interest rates began during 2018 and looked to continue into 2019. However, economic weakness during the first half of 2019 brought about a complete reversal in interest rate expectations. The Federal Reserve started lowering the Federal Funds Rate mid-year, *exhibit 5*, and the market set expectations for a series of additional reductions. In December 2018, the target range for the Federal Funds Rate (FFR) rose for the fourth time in 2018 to 2.25% to 2.50%. However, after the close of the year, the Fed reversed that decision, moving the FFR target down by 25 bps. In October, the Federal Reserve reduced the target range for the third time in 2019 to 1.5% to 1.75%. Furthermore, falling global growth expectations led investors to the safety of US Treasuries and, in total, the 10-year rate fell by 77 bps during 2019.

Exhibit 5: Fed funds and 10-year Treasury rates

(%)

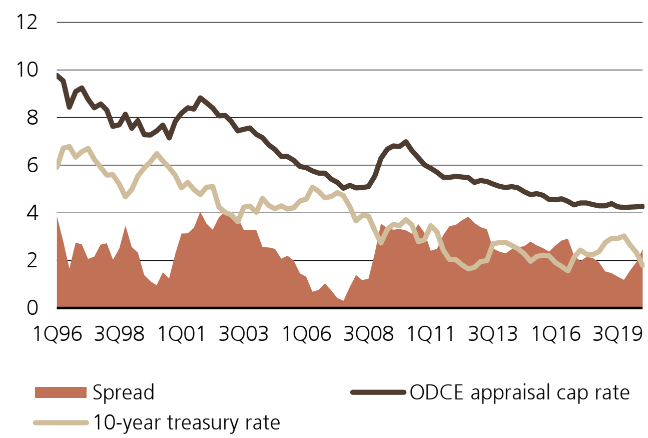


Source: Moody's Analytics as of September 2019.

As of year-end, the cap rate-to-10-year Treasury rate spread again approached its long-term average. The change in interest rate expectation has a significant impact on commercial real estate investment. Entering 2019, our expectation was for continued upward pressure on cap rates, as the risk-free rate rose. The already tight spreads, caused by cap rates falling faster than Treasury rates, were being further compressed by rising interest rates, *exhibit 6*. The abrupt reversal of the interest rate pattern takes away some of the upward pressure on cap rates.

Exhibit 6: Core cap rate compared to 10-year Treasury

Rates (%)



Source: Moody's Analytics and NCREIF as of September 2019.

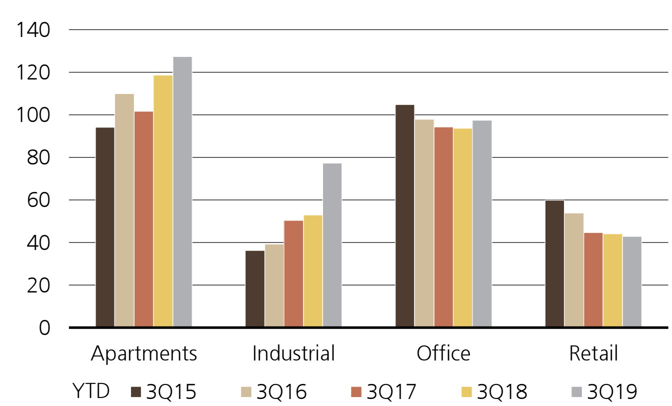
Capital markets

Plenty of liquidity remains in the capital market for commercial real estate investment. Total US commercial real estate sales volume was USD 499 billion in the twelve months ended third quarter 2019, up slightly compared to the prior twelve-month period.

Sales trends differ by property sector. During the first three quarters of 2019, the volume of hotel, office, and retail properties sales remained relatively consistent with the same timeframe of the previous two years. However, apartment sales volume has maintained a rising trend and industrial sales volume increased by nearly 50% over the prior year, *exhibit 7*. The following sections offer more detail on the underlying fundamental performance in each of the major property sectors.

Exhibit 7: US transactions

Billion USD, Transactions January through September



Source: Real Capital Analytics as of September 2019.

Property sector outlooks

In our property sector outlooks we intend to provide the reader with our house view for the upcoming year.

Apartments

Industrial

Farmland

Office

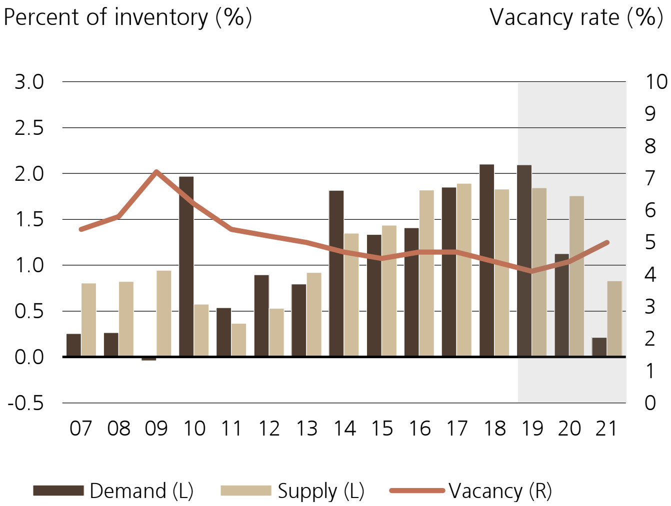
Retail

Apartments

It’s hay fever season

Even though this sector's cap rates are low, the capital expenditures required to run apartments are lower than the three commercial sectors. The low cap-ex requirement means this sector is poised to deliver competitive risk-adjusted cash flow. Consumers are in great shape. Landlords are able to raise apartment rents. There’s just one thing slowing this sector down. Supply is coming on like hay fever in allergy season. Just like the symptoms of hay fever, expect some apartment markets to be a bit sluggish and sneezy when they would otherwise be healthy and strong. Be cautious to underwrite less aggressive rent growth and lease up periods in markets where supply is still increasing. Look for markets where supply ramped up in recent years and has now settled down a bit.

Exhibit 8: Apartment demand, supply and vacancy



Source: CBRE-Econometric Advisors as of September 2019. Shaded area indicates forecast data.

Nationally, apartment supply and demand dynamics have been balanced over the past five years despite the continued elevated construction, *exhibit 8*. As such, vacancy has remained below 5% since 2014. US apartments ended third quarter 2019 with a vacancy rate of 4.1%, down 30 bps from the previous year.

Over the past five years apartment rent growth averaged a healthy 3.0% annually, swinging between 5.0% and 2.2%. Much of this movement was driven by the influx of new, high-end product across the nation, leading to both increases in competition among landlords and spikes in metro-level rents that may not mirror growth in the existing stock.

Many economic and demographic factors impact demand for multifamily housing. Some of these factors are either clear contributors or clear detractors. Many more are ambiguous, often depending on timing in an individual metro. The current state of demand drivers leans toward balance, *exhibit 9*, with enough tailwinds allowing demand to more than meet the persistent elevated pace of new supply.

Some forecast models indicate job growth as a primary factor in future demand. Today's slowing job growth is driven by a shortage of warm bodies, rather than a shortage of available positions, as in the past. Potential employees must weigh the difficulties of relocation for a new opportunity, against the potential of a wage increase, and a current employer's ability to counter offer. Entry-level employees and recent grads must weigh the minimal expense of living "at home" or in shared quarters, against a job market with slower than expected wage growth.

The national homeownership rate remains low compared to historical numbers, the third-quarter 2019 rate of 64.8% is below the 50-year average rate of 65.4%. However, homeownership has begun a slow trend upward; the rate is nearly 200 bps above the 2016 trough, remaining just below the 2013 level.

Developers got stars in their eyes when they saw accelerated rent growth, returns, and occupancy in 2017 and set about capitalizing on a booming opportunity. But, as inventories increase at record levels in some markets, even steady demand is falling behind. Some markets have passed the development peak and are rebalancing and settling into a new normal. For those markets still climbing, occupancy is likely to recede below current near-record highs as the number of new units exceeds the number of new renters. Concurrently, landlords and property owners struggle to balance maximized occupancy against achievable rent growth.

In 2019, new supply grew at a sustained pace, introducing approximately 182,000 new units through September with an additional 99,000 units expected before the end of December. Calendar year 2020 construction is expected to remain in line with the past three years. In the face of steady construction, the peak completion year has been difficult to pinpoint.

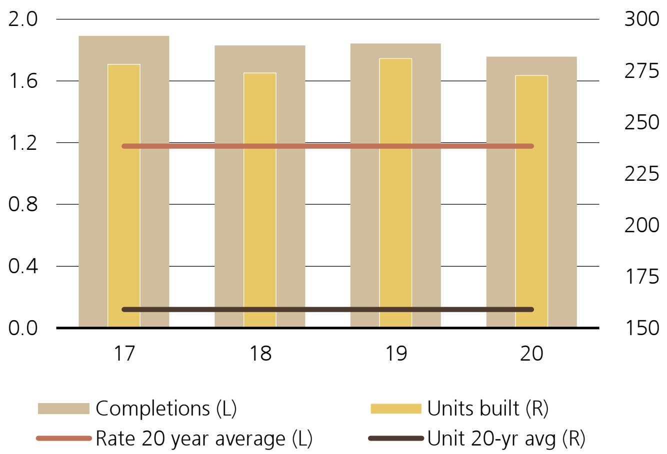
Exhibit 9: Demand drivers

	2018	2019
Household formation rising	▲	▲
Retirees downsizing	▲	▲
Rising home prices	▲	▲
Flat homeownership	–	–
Rising income	–	–
Interest rates	▲	–
Market level rent volatility (spikes vs concessions)	▼	–
Flattening labor force participation	–	–
Slowing job growth	–	▼
Intangibles - trends and preferences	–	–
Housing affordability	▲	▼
Slowing population growth	▼	▼

Source: UBS Asset Management, Real Estate & Private Markets, Research & Strategy – US as of December 2019.

Exhibit 10: Completion rate

Year-over-year completion rate (%) Thousand units



Source: CBRE-Econometric Advisors as of September 2019.

Completions are tracked as either a count of actual units or the share of total inventory those units represent. As measured by the completion rate, 2017 stands as the peak delivery year, *exhibit 10*. However, 2019 is on track to be a record high delivery year by total number of units completed. In either case the number and pace of completions is expected to remain near peak through 2020.

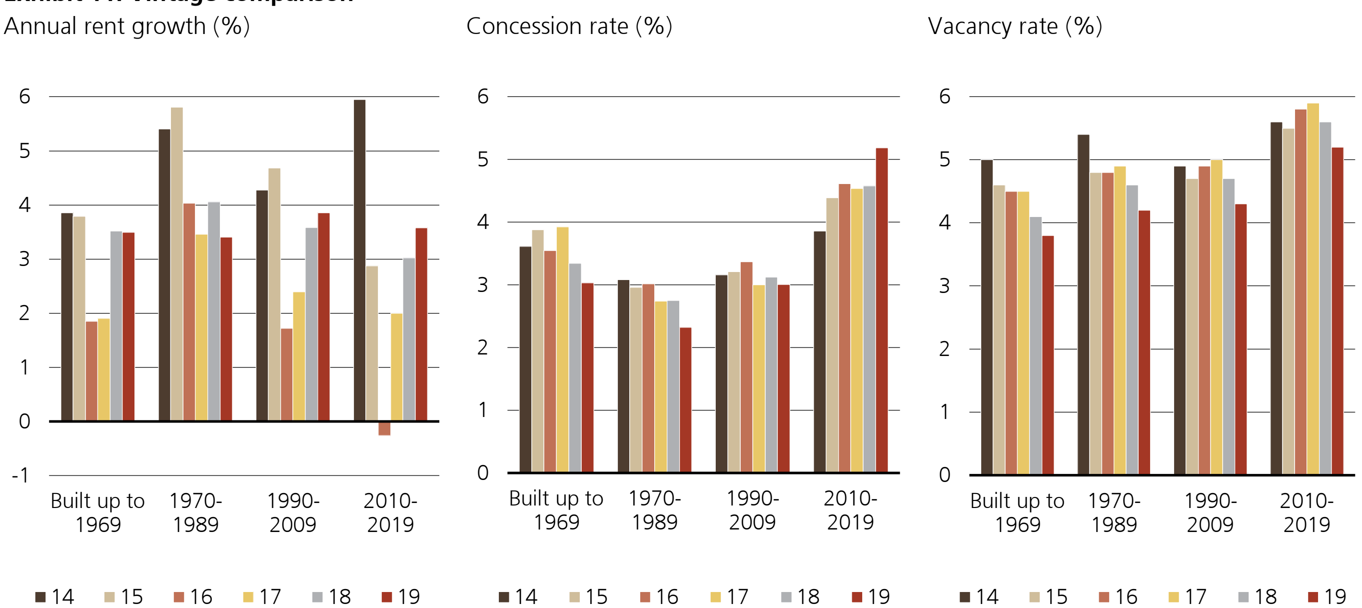
Persistently elevated permit approvals lead to the expectation that development will remain at the current historically high level for several years to come.

Rent value and growth as well as concession levels and vacancy vary by property vintage, *exhibit 11*. The newest properties have the highest vacancy and concession rate but are bolstered by minimal cap-ex requirements and the highest asking rents in their respective markets.

Apartment fundamentals lead to the expectation of continued demand in 2020, albeit at a pace slightly below the still elevated level of supply, resulting in a minimal uptick in the vacancy rate. Rent growth is expected to remain positive but face supply headwinds over the coming two years.

With plenty of demand for apartment exposure from investors and lenders, we expect elevated supply to continue. As the supply pollen count will vary by market, investors should take care to understand the appropriate tissue quantity for their selected markets.

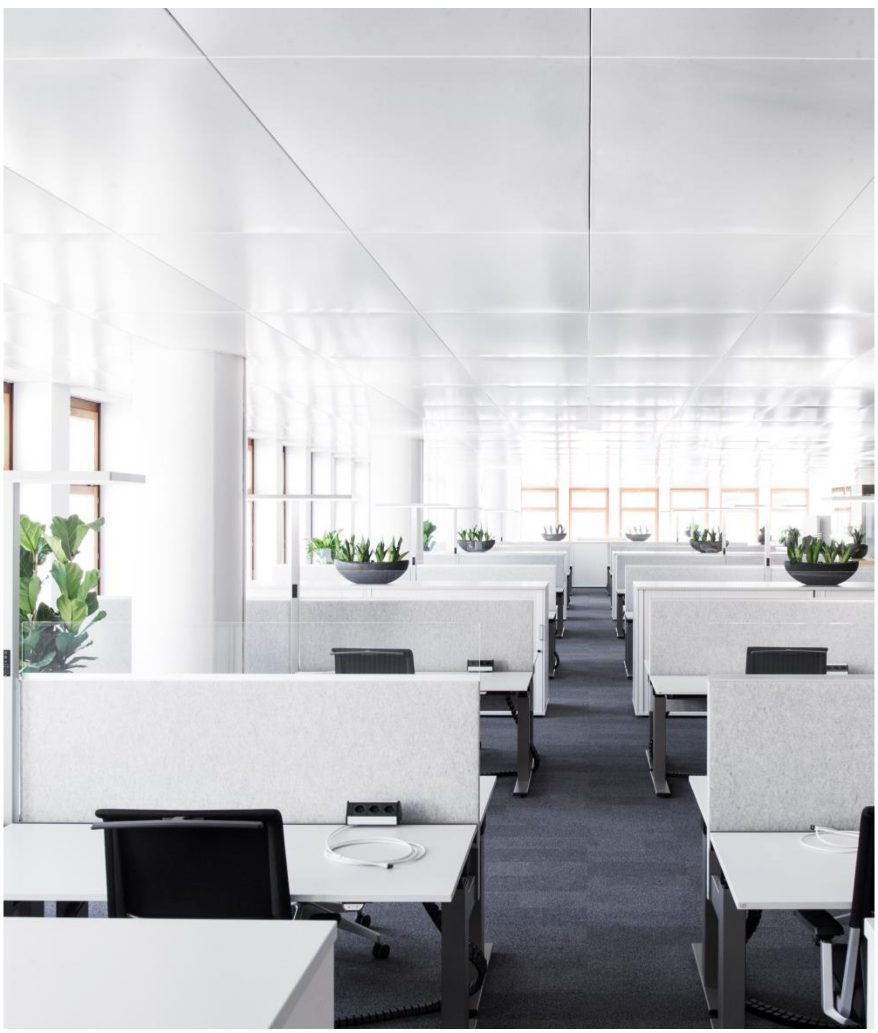
Exhibit 11: Vintage comparison



Source: CBRE-Econometric Advisors, Peer Select, as of September 2019.

Office

The band plays on

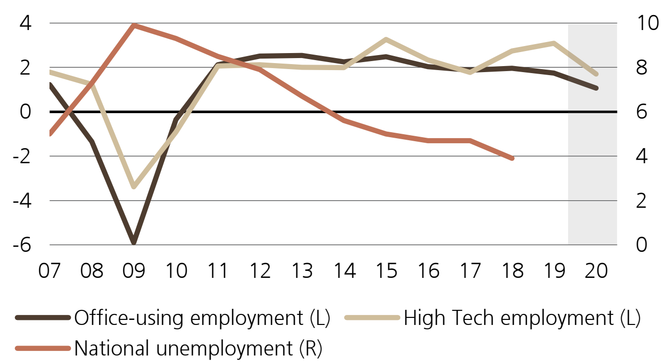


Office buildings take and take, capital expenditures that is, and so far, it seems to be paying off for investors. In recent years, cap-ex spending hit new highs in the US office market and *exhibit 37* shows that while office performance is volatile, current returns are second only to industrial. Fundamentally, the office market outlook is modest but positive. Vacancy is tight, shifting some recent momentum to landlords; however, hiring employees becomes more difficult when unemployment is low. Employee compensation is increasing at a time when GDP growth is decelerating, which may limit the upside for office rent growth. We expect the sector's historical volatility to resume in outer years, which reduces long-term risk-adjusted performance expectations relative to other less capital-intensive property types.

On the demand side, US employment growth remains healthy, though decelerating. Unemployment continues to fall, a positive sign for the labor market overall, but further compression of the labor pool makes it more difficult for employers to fill open positions.

Exhibit 12: Office using employment

Year-over-year growth (%) December unemployment rate (%)

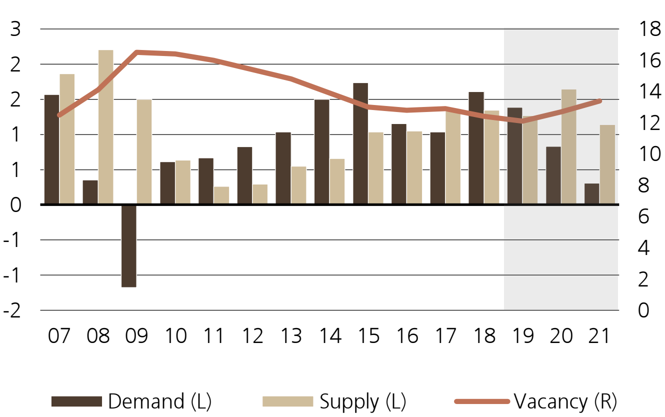


Source: Moody's Analytics as of December 2019. Office-using employment is the sum of three sectors: Professional & Business services, Financial Activities, and Information. Shaded area indicates forecast data.

Office-using employment growth is a mixed picture. Tech employment has been a pocket of strength since 2014. Difficulties linger in the Information sector, which includes the Publishing Industry. Professional & Business Service employment growth has decelerated to match the five-year average. The pace of Financial Activities sector growth has slipped below average while remaining positive. Overall, *exhibit 12* shows total office-using employment is growing but is unlikely to accelerate in the face of tight labor conditions and a shift in historical drivers.

Exhibit 13: Office demand, supply and vacancy

Percent of inventory (%) Vacancy rate (%)

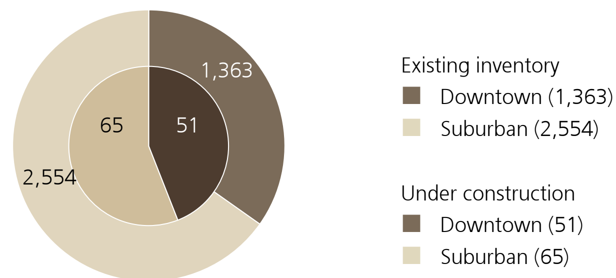


Source: CBRE-Econometric Advisors as of September 2019. Shaded area indicates forecast data.

Calendar years 2017 and 2018 each delivered approximately 50 million square feet of new inventory (*exhibit 13*), followed by 35 million square feet of new inventory in the first three quarters of 2019. Vacancy has been gradually declining but may face pressure if demand decelerates in 2020. National office vacancy has been below 13% since the end of 2015, resting at 12.1% as of third quarter 2019.

Exhibit 14: Downtown and suburban inventory

Million square feet



Source: CBRE-Econometric Advisors as of September 2019.

US office continues to see persistent levels of supply. Approximately 116 million square feet, equivalent to 3% of existing office product, is under construction with completion targets through 2020 and beyond. Even though Downtown accounts for only one third of US office space, it accounts for nearly half of the new development, *exhibit 14*. *Exhibit 15* illustrates the regional distribution of supply, with more than one third of underway square footage in the East region with the Midwest receiving the least.

Exhibit 15: Regional distribution of supply

Region	Inventory	Underway	Share of national inventory	Share of underway	Underway as share of region inventory
East	1,682,801	45,018	38.9	36.9	2.7
Midwest	676,189	13,506	15.6	11.0	2.0
South	921,763	32,095	21.3	26.2	3.5
West	1,049,720	31,679	24.2	25.9	3.0
Nation	4,330,473	122,298			2.8

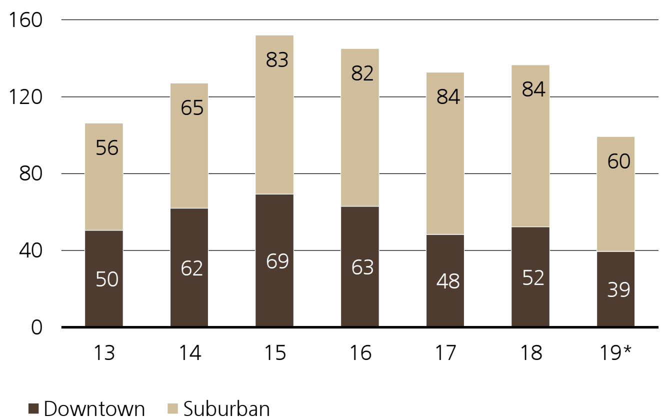
Source: CBRE-Econometric Advisors as of September 2019.

Although the apartment sector has had the highest volume of transactions in four of the past five years (*exhibit 7*), the office volume has been more consistent, *exhibit 16*. The first three quarters of 2019 saw an office transaction volume in line with the same time frame of the past four years, with a slight increase over 2017 and 2018.

Preliminary transactions data through November, indicates 2019 is on track to maintain a calendar year total, and subsector, volume in line with recent years.

Exhibit 16: Office transactions by subset

Billion USD



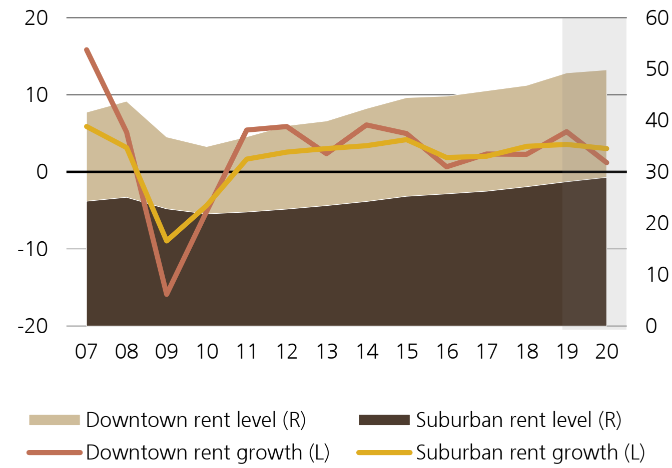
Source: Real Capital Analytics as of September 2019. Includes entity-level transactions. *Year-to-date as of September 2019.

Office rent growth improved on the heels of elevated capital improvement spending since 2015, *exhibit 17*. Over the past five years Downtown and Suburban office rents have averaged 3.1% and 3.0% (respectively) per annum. This healthy, but not exaggerated or unsustainable, pace should soften the impact of slowing growth expected in response to increased supply and moderating economic growth. Construction of new office buildings is expected to exceed the level of demand for space this year and next.

Co-working tenants represent a mix of innovative space usage and differing credit histories. This creates some tough decisions for landlords, which is indicative of the heightened volatility inherent in office investment.

Exhibit 17: Office rent

Year-over-year rent growth (%) USD

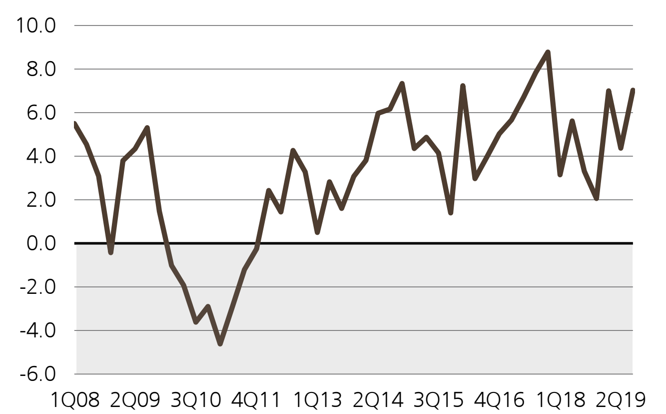


Source: CBRE-Econometric Advisors as of September 2019.

Today, office NOI growth is positive but slowing, *exhibit 18*. More than half of office NOI has gone back into capital improvements for renovation, amenity upgrades, leasing commissions and tenant improvements in recent years, according to NCREIF. Increasing capital costs remain an ongoing hurdle for successful investment in office assets.

Exhibit 18: Office Net Operating Income

Four-quarter NOI growth (%)



Source: NCREIF as of September 2019. Data are four-quarter rolling. Past performance is not indicative of future results.

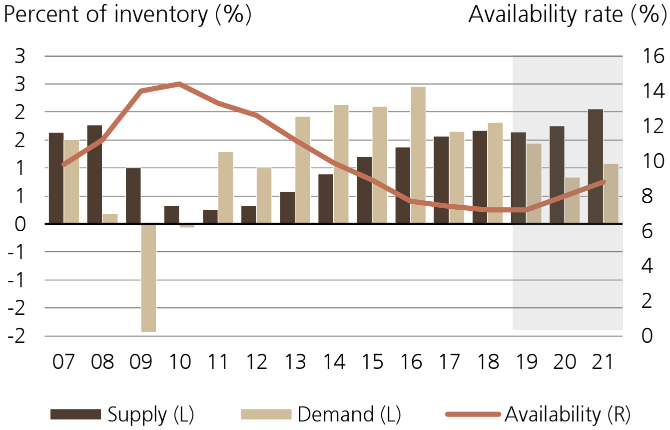
Even though the US job market is strong, some traditional office tenants—like publishers, advertisers, and commercial banks—are not. New space users, such as high-tech firms, dominate a few markets but are too small of a segment to fill the void in others. We expect office construction will begin to subside after 2020; between now and then, expect pockets of weakness.

Industrial

Doubling down, on quality

Industrial rent growth continues to grow at an impressive clip, even though the pace of growth decelerated somewhat in 2019. Trees don't grow to the sky, but they sure do live a long time. Both debt and equity capital remains hungry for industrial exposure. Quality should outperform quantity over the long run. Industrial cap rates are low relative to history. The sector should perform well again in 2020, but lots of income growth has already occurred. We continue to advocate for industrial investors to take advantage of the low cap rates and sell marginal assets to increase the quality of their long-term portfolios.

Exhibit 19: Industrial supply, demand and availability

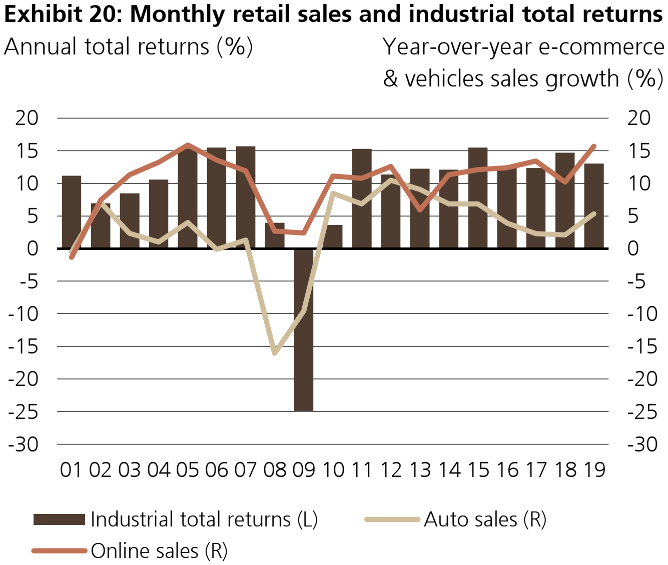


Source: CBRE-Econometric Advisors as of September 2019. Shaded area indicates forecast.

US industrial completions appear to be at similarly high levels in 2018 and 2019. However, tenant demand exceeded completions in 2018, as the availability rate fell to 7.0%, 40 bps below the 2017 low. Over the past year, availability saw a slight increase, resulting in a third-quarter 2019 rate of 7.2%, *exhibit 19*.

Tenant demand remains just below the pace of new supply. In the year ended September 2019, national industrial inventory grew by 1.7% and was met by a 1.4% pace of demand. Looking ahead, we believe development activity will remain relatively high as capital continues to be attracted to recent high returns.

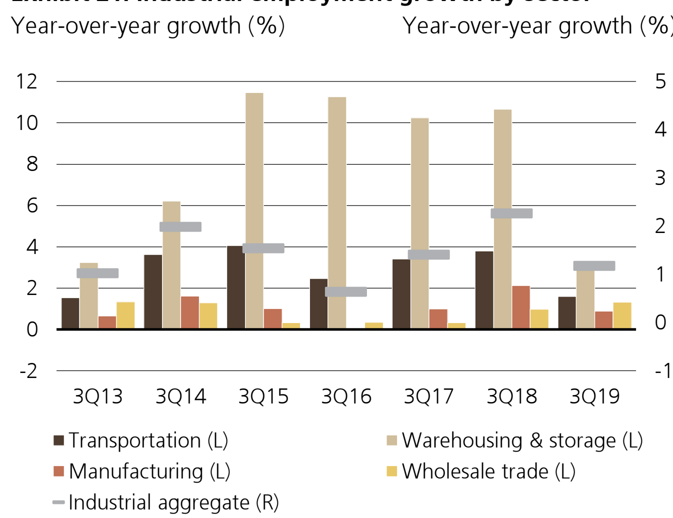
Exhibit 20: Monthly retail sales and industrial total returns



Source Moody's Analytics and NCREIF ODCE-NPI as of September 2019. Past performance is not indicative of future results.

The industrial sector has benefited from the emerging "new retailer" who places a heavy emphasis on capturing online sales while building functional omni-channel store models. These models maintain low in-store inventory, highlighted by relatively lower inventory-to-sales ratios. Meanwhile, traditional drivers of the industrial sector, such as the auto industry have seen subdued growth in recent years, relative to historical trends. Convenience is king, as online sales currently make up 12.5% of total retail sales, leaving room for potential growth in the near future as the sector continues to expand in leaps and bounds, *exhibit 20*.

Exhibit 21: Industrial employment growth by sector



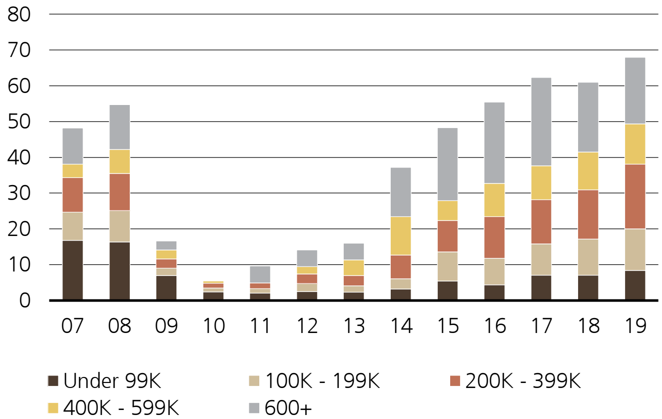
Source: Moody's Analytics as of November 2019. Data is one year rolling as of September.

Industrial employment slowed over the past four quarters, coming down from peak industrial job growth in 2018. Manufacturing – the largest subsector within industrial employment – saw marginal growth of just under 1% year-over-year, *exhibit 21*. The manufacturing sector is expected to be further challenged in the near term; e-commerce driven demand should continue to be an offsetting, positive factor as the usage of industrial space transforms.

Refrigerated warehousing employment remains a relatively small employment sector but has seen strong growth as the sector has nearly doubled in size over the past twenty years. We expect continued growth of interest in cold storage facilities.

Exhibit 22: Construction segmentation

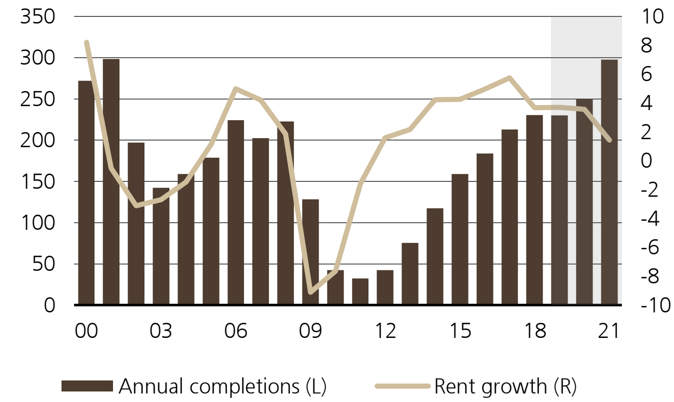
Completions (million square feet)



Source: CBRE-Econometric Advisors, Peer Select as of September 2019. Data is four quarter rolling.

Exhibit 24: Industrial rent growth and completions

Million square feet Rent growth (%)



Source: CBRE-Econometric Advisors as of September 2019. Shaded area indicates forecast.

Bigger appears to better as tenant demand increased for larger warehouse space and property sizes have been tailored to meet the requirement. According to CBRE-EA Peer Select, over 30% of new industrial construction has been sized over 600,000 square feet since 2013, *exhibit 22*. Occupancy rates for larger industrial inventory has steadily increased since the beginning of the cycle, and the third quarter 2019 occupancy rate of 7.2% currently sits 10 bps above the fourth-quarter 2018 rate.

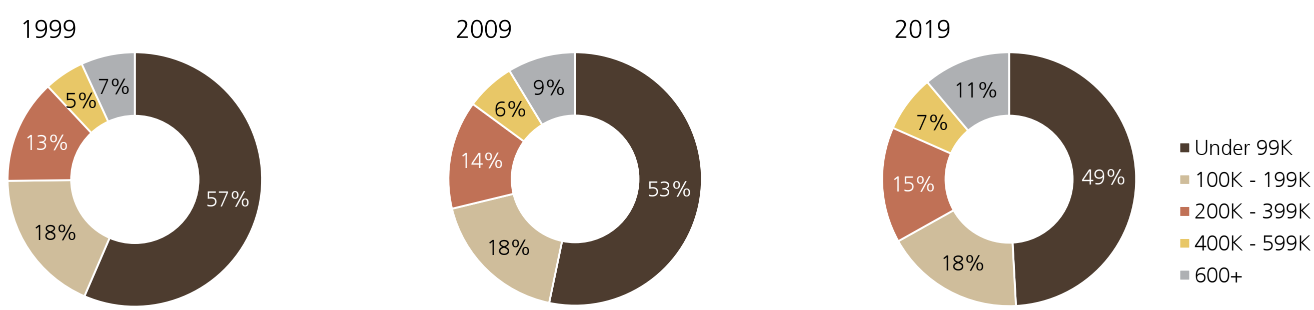
As a result, the concentration of existing warehouse inventory has changed over time, *exhibit 23*. Twenty years ago, 57% of existing inventory space consisted of buildings sized under 100,000 square feet. As new construction has grown larger, 49% of existing warehouse inventory is now smaller than 100,000 square feet.

Despite high levels of supply, demand has been able to keep pace, resulting in solid rent growth over the past year. The industrial pipeline is expected to increase over the next three years, causing a slight imbalance of supply and demand. As a result, rent growth is forecast to slow over the near term, *exhibit 24*.

Aging industrial inventory, increasing labor costs and growing construction pipelines are headwinds to our industrial expectations, but the demand-side drivers, such as e-commerce and industrial employment, continue to grow.

We expect 2020 to be another good year for the industrial sector, but the low cap rate carries some future uncertainty, particularly in a low interest rate environment. Consider capitalizing on marginal industrial assets as returns are expected to subside from the double-digit stabilized performance of recent years.

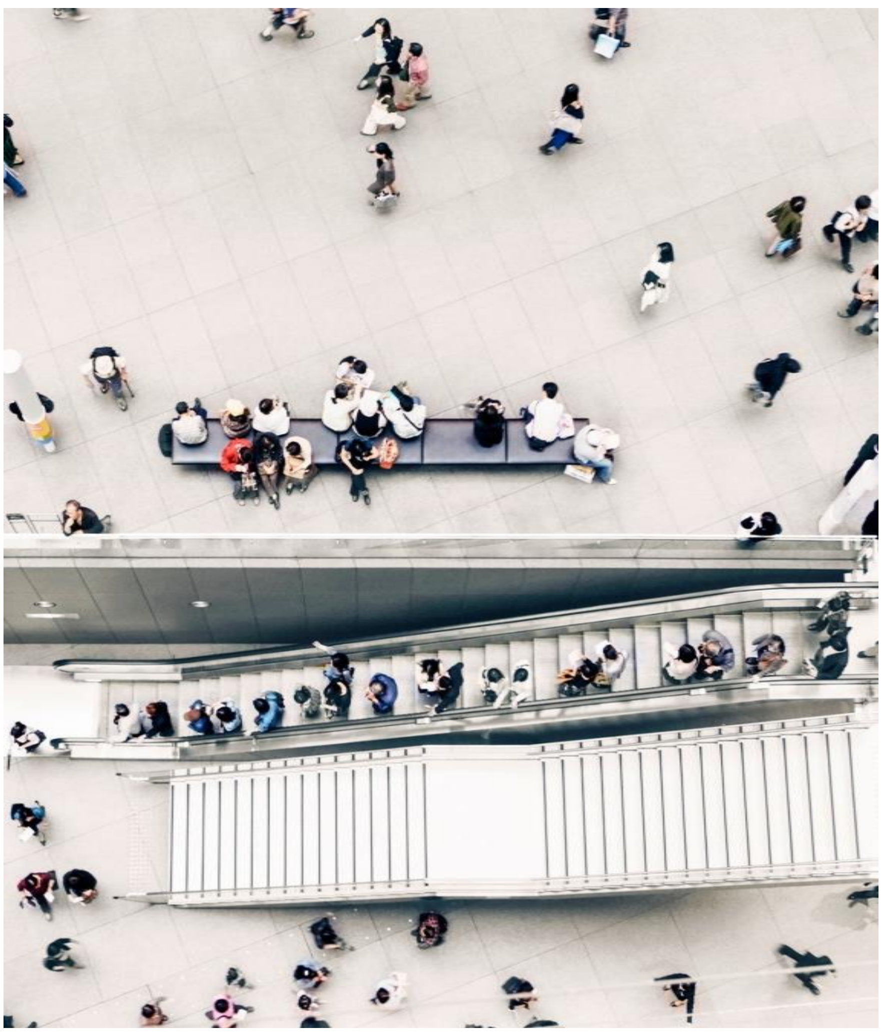
Exhibit 23: Existing warehouse by building size



Source: CBRE-Econometric Advisors, Peer Select as of September 2019.

Retail

Woe is opportunity



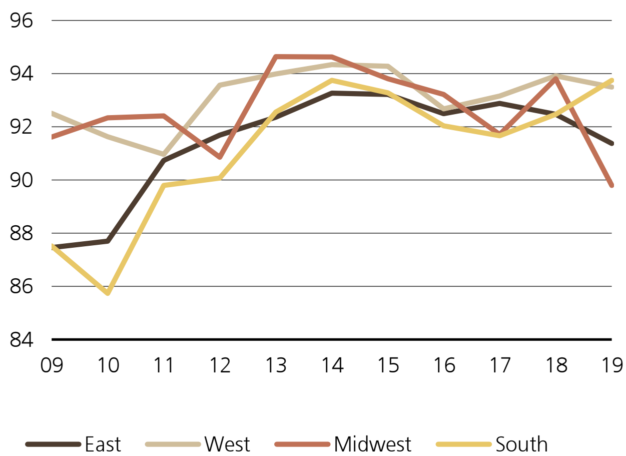
When investors underwrite real estate investments, they select a base case expectation from a range of possible outcomes. In the US retail sector, the range of possible outcomes has widened. As a result of this uncertainty and reduced income expectations, cap rates increased in US retail in 2019.

Most shopping centers remain well occupied, and retail sales are growing. Yet, retailers face stress as the need to invest for the future meets diminished capital market interest today.

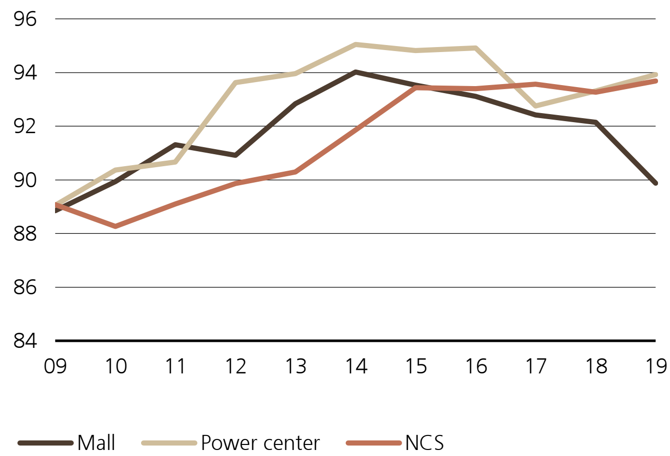
To attract workers in a low unemployment environment, retail wages should continue to increase. Every dollar a tenant spends on wages means they have one less when it comes time to negotiate their rent. Well-located, local shopping centers should continue to offer the most attractive stabilized yield. Quality malls require increased capital investment but may offer versatile and desirable locations.

Exhibit 25: Total retail occupancy rates

By region (%)



By type (%)



Source: NCREIF as of September 2019.

US Retail continues to face an uphill battle, which has been categorized as a transitionary phase. Consumer preferences are changing and landlords are tasked with identifying the prototypical new retailer. Apparel-based retailers, which have largely occupied traditional malls, are now seeing the consequences of inflexibility.

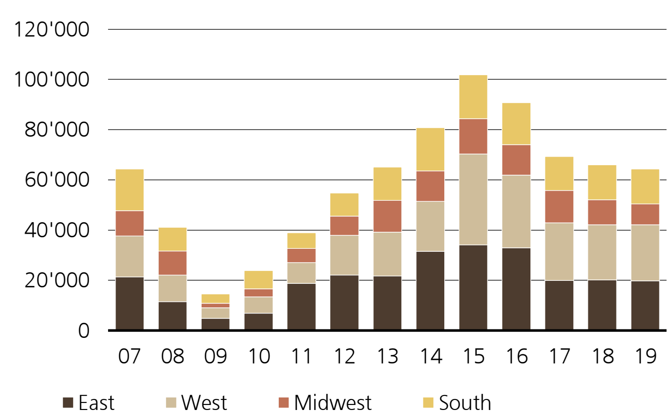
Traditional retail demand drivers have been healthy; consumers are spending more as retail sales have improved from the prior year. Incomes have increased, and unemployment remains at a low. However, traditional performance indicators have yet to translate to income growth. Mall properties in particular have struggled in finding the appropriate tenant mix to attract consumers. *Exhibit 25* highlights the retail occupancy rates by region; the South was the lone region to experience stronger occupancy through the first three quarters of 2019.

As anticipated, activity in the retail sector slowed over the past year. New construction reached its lowest point since the Global Financial Crisis (GFC), evidenced by an inventory growth rate of 0.5% year-over-year as of September 2019. Despite mall occupancy rates falling over the past year, *exhibit 25*, supply growth remained consistent with non-mall retail. Retail transaction volume decreased over the past year, which has gradually slowed in pace since in 2015, *exhibit 26*. The expectation in coming years is that the new development and trading of existing inventory will continue to face headwinds.

E-commerce expanded its share of total retail sales over the past year, which was expected in previous years and continues to materialize today. However, e-commerce retailers are drawing the connection between physical brick & mortar retail and online sales. These two sectors should not be viewed as opposites to one another, but rather conceptualized in tandem to further capitalize on the changing landscape of retail. It is critical that retailers are engaging with customers and have a strong online presence. However, there are less-documented trends in retail that are playing a vital role within the sector, such as the health conscious consumer who is willing to spend more on food and beverage, and places an emphasis on fitness and health.

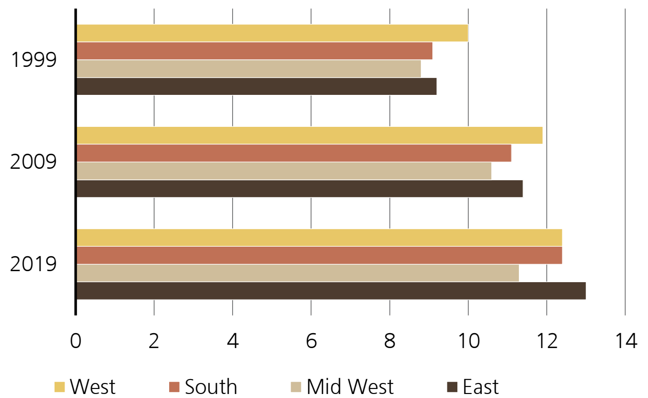
Exhibit 26: Retail transaction volume by region

Million USD



Source: CBRE-Econometric Advisors as of September 2019. Data are four-quarter rolling ending in the third quarter.

Exhibit 27: Share of food and beverage sales by region
(%)



Source: Moody's Analytics as of September 2019.

Food and Beverage spending increased on an annual basis and continues to gain share of total retail sales; a trend experienced across the nation, *exhibit 27*. According to the Consumer Price Index (CPI) food prices increased at a slower rate than the total CPI over the past five years. However, the food and beverage sector saw a jump in prices over the past year. The emphasis placed on increased tenancy of restaurants, bars and additional components of experiential retail should continue over the next few years as demand for such tenants increases.

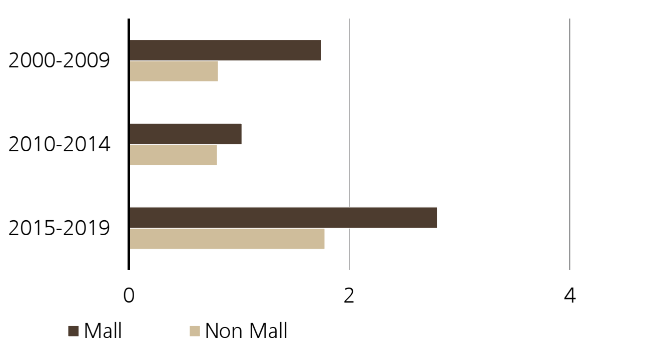
2019 was another year of store closings, specifically for big box and apparel retailers. As large retail space becomes available, finding the right tenant mix is an art and a science. Traditional indicators of successful retailers may not capture the longevity of a tenant as the "new retailer" carries a different profile.
The "new retailer" uses an omni-channel store model, houses limited physical inventory, prefers short-term leases and typically carries a higher credit risk profile.

Retail trade employment numbers reflect the recent increase in store closings and vacancy rates. Through the first three quarters in 2019, the US lost a total of 52,000 jobs in the retail sector. Despite the recent lull in retail employment growth, wages within the sector experienced a 5.4% year-over-year increase, albeit below the 6.0% retail wage increase in calendar year 2018. This would suggest that costs to retailers continue to squeeze margins.

Mixed use and redevelopment of underutilized retail will continue to be a trend moving forward. The concept of live-work-play is coming into fruition, as office, retail and multifamily projects are being developed to complement each other. The once distinct lines between property types are becoming more ambiguous due to the collaboration among sectors, as well as changing consumer preferences.

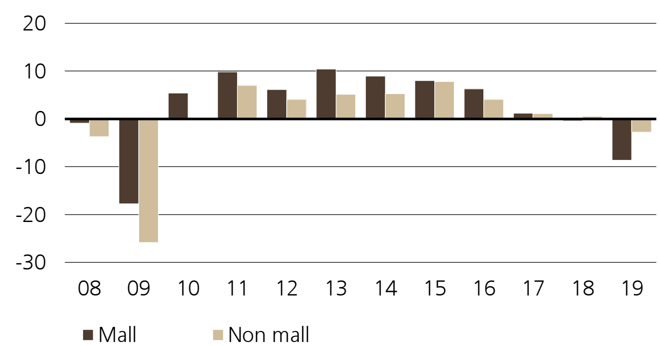
Retail, once the leader of the ODCE index, is now experiencing marginal returns, as market values decrease and more capital spending is deployed, *exhibit 28*. Total returns are down in retail, primarily due to the performance of mall product, with depreciation in 2019, *exhibit 29*. Malls, which make up almost half of NCRIEF's ODCE NPI retail market value, experienced large write downs and negative total returns over the past year. Although non-mall inventory also experienced depreciation over the past year, non-mall total returns decelerated but remained positive, as the income return slightly exceeded the decline in value. During 2019, cap rates increased for mall and non-mall retail. Upward pressure may remain on US retail cap rates in 2020.

Exhibit 28: Mall vs. non-mall capital improvements
Billion USD



Source: NCREIF ODCE-NPI as of September 2019.

Exhibit 29: Retail annualized capital returns
Annualized capital return



Source: NCREIF ODCE-NPI annualized capital returns as of September 2019. Data are four-quarter rolling ending in the third quarter. Past performance is not indicative of future results.

Farmland

Trade anxiety

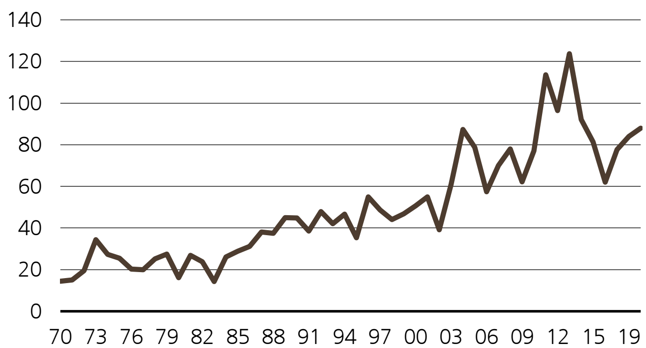
Farmland values are generally stable while farm income remains well below recent highs due to lower commodity and product prices. Financial stress has not emerged to any material level; however, there's considerable anxiety over ongoing trade negotiations with China and Europe. Exports are a key driver of the farm economy. The sooner trade agreements are made, the sooner farm prices and income levels will recover.

Our 2019 outlook for farmland remains unchanged for 2020. Net Farm Income increased in each of the last two years and is expected to increase slightly again in 2019 as commodity prices have stabilized from record levels in prior years. Net Farm Income weakened considerably since its record level in 2013 but is trending slightly higher in recent years as illustrated in *exhibit 30*.

US agricultural exports have been one of the fundamental driving forces in the profitability and stability of the US farm economy. *Exhibit 31* illustrates that export sales increased slightly in 2018 by about 2.7%. The current trade stalemate with China and tariffs on agricultural products are a cause for anxiety in the farm sector. It is hopeful that this will be resolved soon and yield long-term gains for the agricultural sector.

Exhibit 30: Net farm income

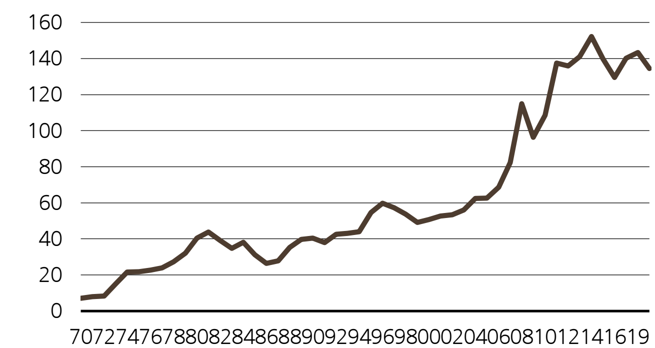
Billion USD



Source: USDA as of August 2019. 2019 is forecasted by the USDA.

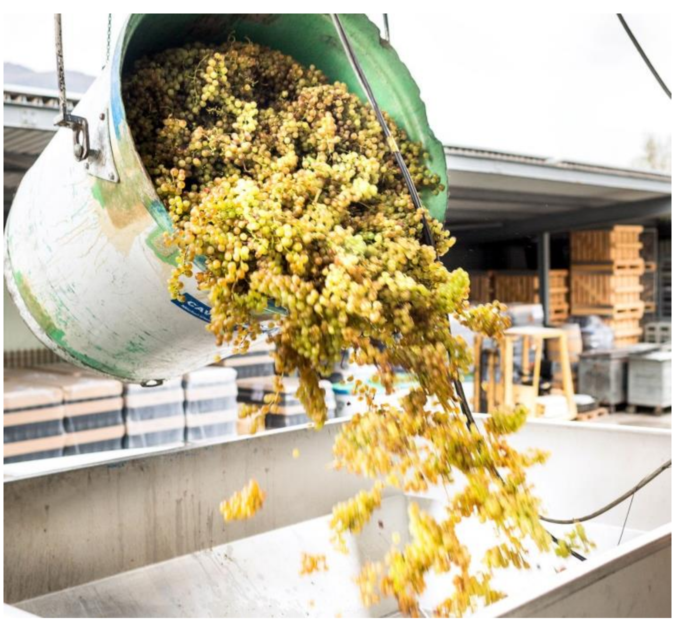
Exhibit 31: US agricultural exports

Billion USD



Source: USDA as of August 2019. 2019 is forecasted by the USDA. Data is based on Fiscal Year.

Net Farm Income is forecast to be USD 88.0 billion by the end of 2019, an increase of about 5% from 2018. The forecast is for farm cash receipts to increase by 5.4% in 2019. Production expenses are expected to stabilize in 2019.

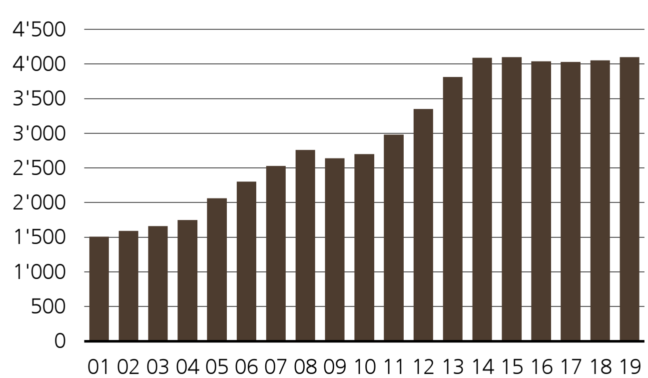


While exports declined in 2019 to USD 134.5 billion due to the trade tit-for-tat tariffs, current USDA forecasts call for exports to increase slightly to USD 137 billion in 2020.

Farmland values were up slightly in 2019. Rents also inched up. The average value of cropland, as reported by the USDA, has increased by 171.5% over the period from 2001 to 2019 from USD 1,510 per acre to USD 4,100 per acre, *exhibit 32*.

Exhibit 32: Average cropland value

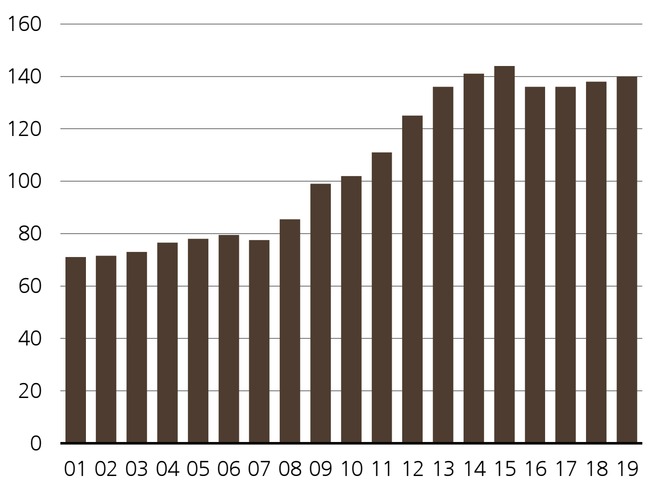
USD per acre



Source: USDA, National Agricultural Statistics Service as of August 2019. All data represents beginning of year estimates.

Increases in rent per acre of cropland (shown in *exhibit 33*) gained 63.7% since 2008, a rise from an average of USD 85.50 per acre to USD 140 per acre. However, the increase has not been linear. Rents dipped slightly in 2015 and were flat in 2016; rents increased slightly in the past two years.

Exhibit 33: Average cropland rent
USD per acre



Source: USDA, National Agricultural Statistics Service as of August 2019.
All data represents beginning of year estimates.

Most observers believe that cropland rents will slip a little in 2020 given the outlook for income to farm operators. Rents in some areas, such as the Midwest, may modestly decline next year.

Rental increases have not kept pace with farmland value gains. While rents have been rising as described above, the rate of increase has been slower than the rate of increase in farmland values. The result is lower current yields or cap rate compression. On a national scale, using the USDA cropland data above, the nominal rent-to-value ratio declined from 4.7% in 2001 to 3.4% in 2019.

While income returns to farmers declined since 2013, there is no evidence of any significant financial stress in the US agricultural sector. There have been some pockets of stress observed in parts of the Midwest.

Debt in the farm sector remains low with a debt-to-equity ratio of 15.6 cents of debt for each USD 1.00 of equity. Total debt increased in the past year by approximately USD 13.7 billion or 3.4%. The non-real estate debt increased by about 1.5% while real estate debt increased about USD 11.4 billion, 4.6%.

The US Department of Agriculture (USDA) predicts that farm sector equity will increase by about 2% in 2019. This is the fourth year in a row that equity increased.

The dearth of investment-grade properties available for sale is a challenge for deploying investment capital. The overall strength of the US farm economy, with solid farmland values and income returns, provide little, if any, motivation for farmland owners to liquidate their land holdings. Moreover, there are very few alternative investments that offer equal or more attractive long-term potential returns if one were to sell farmland.

When the absence of any significant financial stress in the sector is added to this, the result is very few attractive farmland buying opportunities. Investors seeking to deploy capital into farmland must be patient in this challenging market.

Strategy

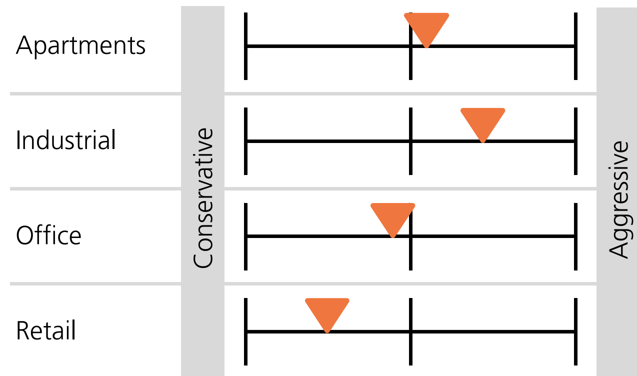
Through this Outlook 2020, you gained perspective on the macro environment, scenario planning and property sectors. It is now time to tie the data into investable themes. Here are our ideas on how to craft actionable investment strategies in the coming year.

Strategic insight

Underwriting expectations

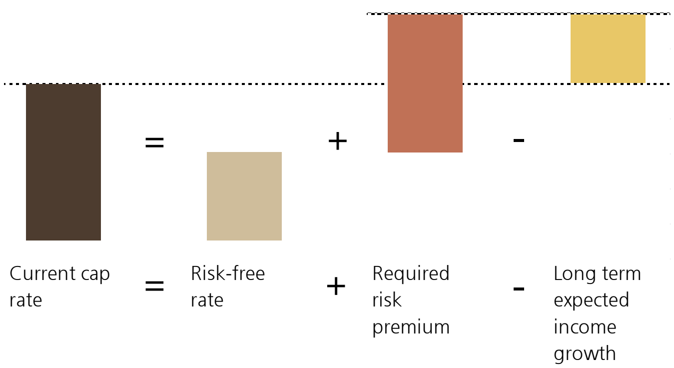
Our outlook for the property types relates to the level of optimism in the underwriting. In *exhibit 34*, arrows placed to the right of the neutral line, as for apartments and industrial, indicate slightly more aggressive underwriting posture. For example, faster-than-average lease up expectations for vacant space or better-than-average rent growth. When the arrow is left of the neutral line, like for office and retail, we urge more caution in the underwriting expectations.

Exhibit 34: Fundamental trends



Source: UBS REPM Research & Strategy – US as of December 2019. Estimates represent a point in time and are subject to change.

Exhibit 35: Components of a cap rate



Source: UBS Asset Management, Real Estate & Private Markets, Research & Strategy – US as of December 2019.

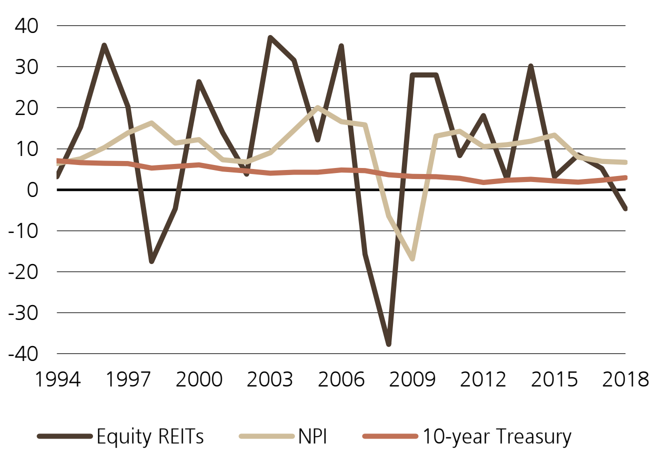
Dissecting the cap rate

Simply put, real estate cap rates can be dissected into three components: the risk-free rate plus a risk premium minus expected long-term growth in income. We subtract long-term income growth because the cap rate is focused on just one year of income. If investors expect growth in income over time, they will pay more today; however, if investors expect less income growth, the price today goes down. When uncertainty increases, the risk premium increases. *Exhibit 35* helps us dissect the investment theme Interpreting Uncertainty on the following page.

Public and private real estate differ

Interest rates fell during 2019, shining a spotlight on a big difference between publicly-traded and private commercial real estate: sensitivity to short-term interest rate swings. Publicly-traded real estate performance faces far more volatility from short-term swings in interest rates. Equity REITs posted a 30% return in 2014 when long-term interest rates fell more than 100 bps and a return around negative 5% in 2018 when rates moved up over 100 bps, *exhibit 36*. Private real estate returns, which are far more driven by steady economic and income growth, trended between 6% and 12% during these same years.

Exhibit 36: Real estate returns



Source: NAREIT, NCREIF and Moody's Analytics. Past performance is not indicative of future results.

Investment Themes

Interpret uncertainty
You don't have to search very hard to find examples of uncertainty: recession probabilities, political negotiations, assets transitioning to new formats. If uncertainty increases, investors should require increased risk premiums on investments. As long as income growth expectations remain constant, higher risk premiums can be achieved two ways in real estate: lower interest rates or higher cap rates. In 2019, cap rates were stable and interest rates fell, pushing up risk premiums. Time will tell if 2020 sees less uncertainty, lower interest rates or higher cap rates, but those are the metrics to analyze.

Widespread stability
Investors should take some comfort from the generally positive fundamentals real estate offers. With a few exceptions, rents are growing and expected to continue to grow. Occupancy rates are stable across all sectors. With this backdrop, income-driven real estate investment options continue to be attractive. Stabilized, lower-risk real estate provides a steady stream of income. Taking more risk and changing the real estate through renovation, repositioning or smart development continues to find tenants in the aggregate. A balanced portfolio would offer exposure to steady income and reasonable growth potential, as market fundamentals are quite sound.

Debt details
Modest yields and positive property-level fundamentals continue to fuel investor demand for private real estate debt strategies. However, the rise of subordinated debt strategies should be distinguished from the stability of the primary senior debt market. Primary lending remains supportive to real estate markets and has not returned to the excesses of the past. However, concern is rising about the fast-growing subordinated debt market. Many of these private strategies are untested and flush with capital to invest. At the same time, the growing number of private lenders gives borrowers options. Low interest rates and competitive markets should keep a tight range on the spreads available to lenders. Up close, each individual loan may look compelling. Investment teams should step-back and consider the balance of risks across debt portfolios. The market risk arising from the expansion in debt offers seems low, but the risk of individual lenders may be high.

Time will tell if 2020 sees less uncertainty, lower interest rates or higher cap rates, but those are the metrics to analyze.

Apartments – It's hay fever season
Even though this sector's cap rates are low, the capital expenditures required to run apartments are lower than the three commercial sectors. The low cap-ex requirement means this sector is poised to deliver competitive risk-adjusted cash flow. Consumers are in great shape. Landlords are able to raise apartment rents. There's just one thing slowing this sector down. Supply is coming on like hay fever in allergy season. Just like the symptoms of hay fever, expect some apartment markets to be a bit sluggish and sneezy when they would otherwise be healthy and strong. Be cautious to underwrite less aggressive rent growth and lease up periods in markets where supply is still increasing. Look for markets where supply ramped up in recent years and has now settled down a bit.

Office – The band plays on
Office buildings take and take, capital expenditures that is, and so far, it seems to be paying off for investors. In recent years, cap-ex spending hit new highs in the US office market and, *exhibit 37* shows that although office performance is volatile, current returns are second only to those of industrial. Fundamentally, the office market outlook is modest but positive. Vacancy is tight, shifting some recent momentum to landlords; however, hiring employees becomes more difficult when unemployment is low. Employee compensation is increasing at a time when GDP growth is decelerating, which may limit the upside for office rent growth. We expect the sector's historical volatility to resume in outer years, which reduces long-term risk-adjusted performance expectations relative to other less capital-intensive property types.

Exhibit 37: NCREIF Property Index total returns by property type
(%)

1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019*	Performance
19.6	12.2	14.1	9.4	13.7	17.1	23.0	21.2	19.2	20.5	-4.1	-11.0	18.2	15.5	11.6	12.9	13.4	15.3	12.3	13.1	14.3	13.4	Top
16.2	11.7	14.0	9.3	8.8	9.0	14.5	20.3	17.0	15.8	-5.8	-16.9	13.1	14.6	11.2	12.3	13.1	14.9	9.0	7.0	6.9	6.5	
15.9	11.7	13.0	7.3	6.8	8.9	13.0	20.1	16.6	14.9	-6.5	-17.5	12.6	14.3	10.7	11.0	11.8	13.3	8.0	6.1	6.7	6.4	
14.1	11.4	12.3	6.7	6.7	8.2	12.1	20.0	14.6	13.5	-7.3	-17.9	11.7	13.8	10.5	10.4	11.5	12.5	7.3	6.0	6.1	5.4	
12.9	9.5	7.8	6.2	2.8	5.7	12.0	19.5	13.4	11.4	-7.3	-19.1	9.4	13.8	9.5	9.9	10.3	12.0	6.2	5.7	2.2	2.5	Bottom

Apartments Industrial Office Retail NCREIF Property Index total return

Source: NCREIF as of September 2019. *2019 values are year-to-date annualized. Past performance is not indicative of future results.

Industrial – Doubling down, on quality
Industrial rent growth continues at an impressive clip, even though the pace decelerated somewhat in 2019. Trees don't grow to the sky, but they sure do live a long time. Both debt and equity capital remains hungry for industrial exposure. Quality should outperform quantity over the long run. Industrial cap rates are low relative to history. The sector should perform well again in 2020, but lots of income growth has already occurred. We continue to advocate for industrial investors to take advantage of the low cap rates and sell marginal assets to increase the quality of their long-term portfolios.

Retail – Woe is opportunity
When investors underwrite real estate investments, they select a base case expectation from a range of possible outcomes. In the US retail sector, the range of possible outcomes has widened. As a result of this uncertainty and reduced current format income expectations, cap rates increased in US retail in 2019. Most shopping centers remain well occupied, and retail sales are growing. Yet, retailers face stress as the need to invest for the future meets diminished capital market interest today. To attract workers in a low unemployment environment, retail wages should continue to increase. Every dollar a tenant spends on wages means they have one fewer when it comes time to negotiate their rent. Well-located, local shopping centers should continue to offer the most attractive stabilized yield.
Quality malls require increased capital investment but may offer versatile and desirable future destinations.

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