Park Madison Perspectives

Outlook 2020

PARKMADISONPARTNERS

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About Park Madison Partners

Park Madison Partners is a boutique New York-based capital markets and advisory firm for global real estate alternative investments. Since its formation in 2006, Park Madison has participated in the placement of over \$16 billion in private equity capital for a wide range of real estate vehicles and strategies.

Park Madison Partners was founded to offer clients capital raising and strategic consulting services with a high degree of customization, integrity and accountability. Our team comprises professionals with backgrounds across the buy-side and sell-side, and we leverage this experience to provide a thoughtful approach to global real estate capital markets. Our unique expertise allows us to offer a variety of highly customized capital solutions to real estate managers, including commingled funds, separate accounts, programmatic joint ventures, and recapitalizations.





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"In times of change, learners inherit the earth, while the learned find themselves beautifully equipped to deal with a world that no longer exists."

Eric Hoffer wrote these words in 1973, but they are perhaps more relevant today than ever before. Modern technology is quickly transforming entire industries, communities, and cultures. The real estate industry lags other segments but is by no means immune and has experienced significant changes in just the last decade. While we can't possibly predict what the next decade holds, we've at least tried our hand at a few predictions for the year ahead. Last year we did pretty well, and you can see a full analysis under the section titled "2019 Scorecard" at the end of this piece. But first, here are our top 10 predictions for 2020:

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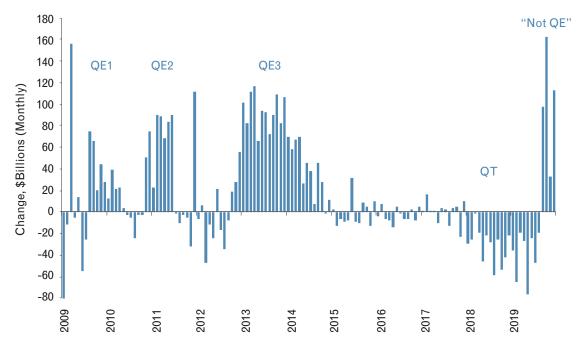
The U.S. economy will keep expanding thanks to supportive monetary policy

1

The start of 2019 saw many storm clouds gathering on the horizon for the U.S. economy. The effect of U.S. fiscal stimulus was wearing off, declining global trade volumes led to a steep decline in manufacturing output, and the job market was beginning to show cracks as wage growth stalled. Federal Reserve policy was also no longer supporting growth, with the Federal Funds Rate close to neutral and quantitative tightening slowly draining liquidity from the financial system. A partially inverted yield curve, which has preceded every recession since 1950, seemed to confirm that a late 2019 / early 2020 recession was a real possibility.

That forecast has since shifted dramatically thanks in large part to decisive action by the Fed. In July, the Fed cut interest rates for the first time since 2008 and declared an end to its quantitative tightening program ("QT"). Two more rate cuts followed. Additionally, in September when the repo markets faced a sudden liquidity crunch that sent overnight rates to over 10 percent, the Fed quickly stepped in with a \$128 billion cash injection. The Fed has since rapidly expanded its balance sheet, reversing over half of QT (though it denies that its recent liquidity injections constitute "quantitative easing").

A Rose by Any Other Name - Monthly Change in Federal Reserve Balance Sheet, 2009 - Present



Source: Federal Reserve Economic Data

Semantical arguments aside, we believe the Fed's "mid-cycle adjustment" has effectively forestalled the threat of a U.S. recession in the near term. The yield curve is once again positively sloping, money markets have ample liquidity, and the jobs market is firing on all cylinders. Wage growth should also accelerate given the tight labor market, which will help power the U.S. consumer.

We believe the Fed's recent move is similar to other mid-cycle adjustments in the 1990s, when Alan Greenspan's Fed cut rates in 1995-1996 and again in 1998. Both instances helped to prolong the U.S. economic expansion, and we believe a similar result is likely in this case. The slow pace of the current expansion has helped keep the U.S. economy from overheating. Inflation and wage growth have remained relatively benign considering the strength of the labor market. Periodic bouts of uncertainty have also emerged throughout this cycle, such as the European sovereign debt crisis, emerging market slowdown, and trade wars, all of which have created "mini-cycles" by pumping the brakes on manufacturing and other leading economic indicators. We believe the Fed's most recent intervention should help leading indicators find a bottom

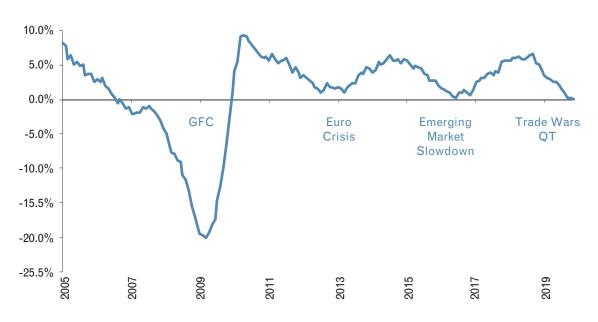
Less Kinky - U.S. Treasury Yield Curve 8/31/19 vs 12/31/19



Source: US Treasury

and provide the catalyst for yet another "mini-cycle" in the current expansion.

"Mini-Cycles" - Conference Board U.S. Leading Economic Index YoY, 2005 - Present



Source: The Conference Board

Putting the economy on a firmer footing could also provide the Fed with more room to raise rates in the future, thereby improving its ability to fight future recessions. We often hear the opposite critique: that the Fed should keep rates high so they can cut them later in the event of a downturn. This argument is similar to advising someone to wear a sweater in July so they can take off a layer if they get too warm. Whether this was the appropriate mid-cycle adjustment or driven by political pressure, the economy has responded well. Barring any external shocks that trigger a recession, we believe the Fed's next round of tightening will take interest rates higher than the prior peak band of 2.0-2.25 percent.

Even if the Fed succeeds in nudging rates higher over time, we would be surprised to see them move materially higher than the Fed's recent upper band of 2.25 percent. Inflation over the last decade has remained stubbornly low throughout the developed world despite unprecedented monetary stimulus. There are several economic theories as to the cause of this, including slower labor force growth, aging populations, and even more efficient and competitive price discovery aided by modern technology. Whatever the causes, they appear to be the result of long-term structural elements rather than transitory blips. With inflationary pressures nowhere to be seen, we believe exceptionally low interest rates will persist for the foreseeable future.

Negative Side Effects

While lower interest rates are likely to persist, we believe negative yielding debt is something of a ticking time bomb for financial markets. Swiss sovereign debt, for example, is trading at a negative yield across the entire yield curve out to 50 years. Due to the steep convexity of bond prices at low and negative yields, a mere 2 percentage point reversal would result in an approximately 50 percent loss of principal value to bond holders. What might catalyze such a move is uncertain, but negative yields by their nature seem unsustainable. When they do reverse themselves, we expect the move to be sharp and sudden, with unpredictable shockwaves for the global economy.

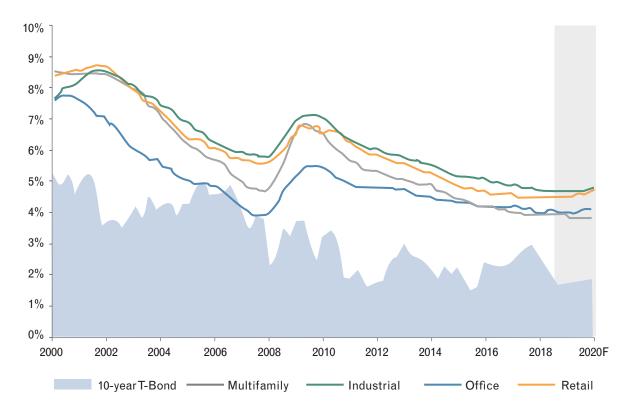
In a lower-for-longer interest rate world, U.S. real estate will remain attractive

2

U.S. real estate investment fundamentals remain healthy going into 2020 against a backdrop of steady economic growth and end-user demand across property types. New supply has been well-calibrated to market conditions, generally meeting demand while still allowing for modest rent growth. The Fed's rate cuts should also help keep borrowing costs low in the near term.

In a lower-for-longer world, the income provided by real estate becomes more attractive, and we expect the asset class will continue to enjoy strong investor demand. Additionally, while capitalization rates and interest rates are not perfectly correlated, we expect low interest rates will result in relatively low cap rates for core assets over the long term. Real estate underwriting models that assume a fair amount of cap rate expansion may be due for an update.

Everything is Relative - Cap Rates vs 10-year Treasury Yield, 2000 - Present



Source: CBRE

There are, however, certainly many reasons for investors to remain cautious. Despite the recently improved U.S. economic outlook, late-cycle signals still abound. While the yield curve is no longer inverted, such inversions have often reversed themselves prior to the onset of a recession; in the last 11 recessions, the yield curve inverted an average 14 months before the recession began. Additionally, both the output gap and the unemployment rate are at levels consistent with the ends of prior economic cycles. Meanwhile, real estate prices remain elevated across property types, as investors venture ever further into "niche" asset classes such as mobile homes, lab space, data centers, and cell phone towers in search of higher returns and yields.

Sourcing attractive risk-adjusted opportunities in this environment is no easy task, but real estate investors have generally remained disciplined throughout the current expansion. Memories of the Global Financial Crisis ("GFC") run deep, and few are in the mood to re-learn prior lessons. Despite more than \$300 billion of private equity dry powder sitting on the sidelines in the U.S., most real estate managers continue to underwrite conservatively and prefer to miss a deal (or several) rather than overpay. Leverage levels also remain prudent. The Dodd-Frank regulations on high volatility commercial real estate (HVCRE) loans, which came into force in 2016, have resulted in tighter lending standards from banks.

\$Billions

Holding Fire - Real Estate Private Equity Dry Powder, 2006 - Present

Source: Preqin, as of December 17, 2019

As such, we believe any correction in real estate – should one occur – would be mild and short-lived. In the meantime, certain investment themes are more secular than cyclical and continue to offer attractive opportunities. Suburbs are on the rise once again as Millennials migrate from city centers, bringing their urban tastes with them and creating demand for higher-density "downtown-like" areas. Investments focused on suburban cores that feature mass transit access, walkable area amenities, and development-friendly policies should benefit.

We also believe the growth of the "knowledge economy" will continue to generate opportunities in real estate for many years to come. Jobs focused on science, technology, engineering and mathematics ("STEM") are booming across the U.S., leading to major demographic shifts in markets lucky enough to attract them. While previously concentrated in major coastal markets such as New York, Boston, Los Angeles, and the Bay Area, STEM jobs are now proliferating across dozens of smaller cities. Much of this proliferation is organic as the knowledge economy matures, but elevated living costs and housing shortages in the more traditional tech hubs are also playing decisive roles. The relatively higher incomes that STEM jobs provide – more than double the national average – create more affluent populations and transform entire neighborhoods and submarkets. As this trend expands to more markets, real estate investors should be able to capitalize on changing demand profiles across all property types.

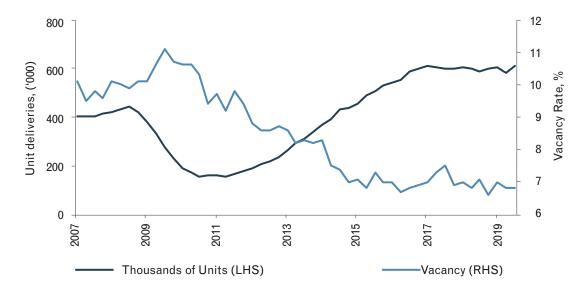
Charles Darwin once said, "It is not the strongest of the species that survives, nor the most intelligent that survives; it is the one that is the most adaptable to change." Regardless of what happens in this cycle, the growth of new technologies ensures that the world will continue changing at an increasingly rapid pace. To continue earning outsized returns, real estate investors must be on the leading edge of that change and keep adapting.

Strong multifamily fundamentals will continue to drive steady performance

3

Multifamily real estate continues to perform well thanks to favorable demographics and strong underlying demand. Despite years of elevated multifamily deliveries, vacancies remain low and rent growth has been stable. Much of the new supply is in high-end Class A product, which has seen performance soften in recent years. But the more affordable Class B and Class C segments continue to experience low vacancy, underscoring the fact that there is still not enough housing supply to meet demand.

Balancing Act - Multifamily Deliveries vs Rental Vacancy, 2007 - Present

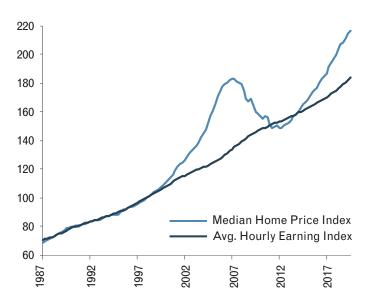


Source: Federal Reserve Economic Data

The persistent demand for multifamily rentals corresponds with barriers to U.S. homeownership. Surveys show that Millennials aspire just as strongly towards home ownership as past generations, motivated in large part by the extra space a house provides for children and pets. But home price appreciation has outpaced wage growth on a national basis for several years, creating affordability issues and freezing many aspiring homeowners out of the market. Lower worker migration rates and the trend of Baby Boomers "aging in place" has also restricted the amount of available supply for entry-level homebuyers. In high tax jurisdictions, the cap on the federal mortgage interest deduction reduces one of the financial advantages of homeownership. These barriers to single family homeownership ultimately accrue to the benefit of multifamily.

Homeownership barriers notwithstanding, multifamily is also benefitting from the growing number of tenants who are renters by choice, preferring the financial and geographic flexibility that renting provides. For many Millennials and Gen Zers in particular, GFC-era images of home foreclosures and family evictions are seared into their financial consciousness. Despite aspirations for future homeownership, there is also a general aversion to being "tied down" by material possessions (hence the recent surge in the sharing economy) and choice of dwelling is a natural extension of that philosophy.

Out of Reach for Many Median Home Price vs Hourly Earnings, 1987 - Present



Source: Federal Reserve Economic Data

From an investment perspective, we believe multifamily will continue to offer attractive opportunities across the risk spectrum, particularly in affordable and workforce housing. For instance, new developments in co-living and micro-units have been leasing up almost immediately. Densification of suburban cores as well as urban centers in smaller cities should also provide opportunities for new development. Low borrowing costs and stable cash flows should result in strong investor demand for core multifamily as well.

Of course, the multifamily sector is not without its challenges. Elevated construction costs have reduced the profitability of new development, and in many cases rendered workforce housing developments uneconomical.

The Tech Solution

Advances in construction technology and innovation may offer the best solution to housing affordability over the long term. Innovations such as modular construction and off-site manufacturing have the potential to reduce hard costs and improve delivery times, allowing affordable product to be delivered more economically. In this manner, mass market commoditized product could be replicated across markets with minimal variance to design and assembly. Future construction sites could resemble modern shipyards.

Growing use of crosslaminated timber as a substitute to concrete and steel should further drive this trend. Wood is often better for modular assemblies since it's lighter and easier to transport from factory to construction site. Cross-laminated timber has the added benefit of producing significantly fewer carbon emissions than concrete and steel production, while being just as strong and fire-resistant. Socially conscious investors are likely to push for wider adoption, but we expect favorable economics will be the biggest driver.

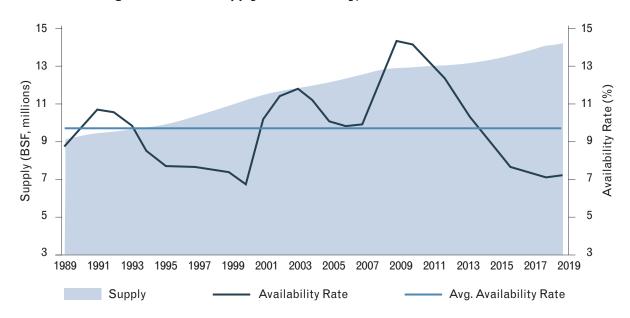
With the private sector failing to provide enough affordable housing, state legislatures have started to intervene with their own solutions. California, Oregon, and New York all enacted major rent control legislation in 2019, and more states appear likely to follow suit in 2020. Unfortunately, instead of improving access to affordable housing, rent control laws are likely to exacerbate existing housing shortages and reduce quality by deterring future investment. Investors would be wise to carefully weigh the local political climate when selecting target markets for future investments.

Industrial will offer the best risk/reward of all major property types

4

Industrial continues to be one of the best performing sectors in real estate. Vacancies remain low despite steadily increasing supply as technological advances allow for more complex and sophisticated supply chains. Rent growth is healthy as tenants compete for the most strategically located warehouse and logistics facilities, which are increasingly viewed as mission critical to a tenant's underlying business. These trends are largely structural – not cyclical – and should continue to drive strong performance in industrial real estate in the coming years.

Can't Get Enough - Industrial Supply vs Availability, 1989 - 2019



Source: CBRE

While existing industrial investments continue to yield strong results, deploying new capital into the sector has become increasingly challenging and competitive. "Last mile" or "last touch" industrial, which is in high demand as companies seek ever-shorter delivery times to consumers, is difficult to source given both the size of the assets and their urban locations. The small size – typically 50,000 to 300,000 square feet – makes last mile industrial portfolios hard to assemble at a meaningful institutional scale. Additionally, because they need to be located within a few miles from urban centers, last mile facilities often compete on highest-and-best-use with other property types, such as residential.

Cold storage is another segment where fundamentals are strong but sourcing is a challenge. Previously a little-known industrial segment dominated by family owners, cold storage has increasingly drawn the attention of institutional investors in recent years. Cold storage is benefitting from a series of shifts in consumer preferences, including fresh foods from faraway places, natural foods with fewer preservatives, and the growth of food delivery services and online grocery sales. But the sector is closely held: the top five owners account for approximately 70 percent of the total U.S. market share. As such, ground-up development is likely the most effective way for institutional investors to gain private market exposure. CBRE estimates another 100 million square feet of cold storage development over the next 5 years, a 47 percent increase.

Ground-up development is also becoming more difficult, as shrinking availability of land in many industrial markets raises barriers to new supply. For large-scale distribution and logistics properties, these barriers are pushing more industrial investors to consider value-add and redevelopment plays, as technological changes bring more properties to the brink of functional obsolescence. For instance, many properties lack the ceiling height to accommodate today's vertical racking systems. As barriers to new development increase, value-add strategies to modernize such properties may become more economical.

Another solution to the shrinking supply of greenfield sites is to go vertical. Multi-story industrial, once dismissed as inefficient and impractical, appears likely to see significant growth in the coming years. There are already multi-story industrial facilities built or under construction across several major markets, including New York, Miami, Atlanta, San Francisco, Los Angeles, and Seattle. As companies seek to locate distribution centers ever closer to consumers, multi-story industrial offers a potential solution for developers facing elevated land costs near urban centers.

In addition to the economic rationale, we believe environmental considerations will also become a driving force for industrial developers to go vertical. Deloitte estimates that growth in e-commerce will create demand for more than 850 million square feet of new industrial space by 2024. That would represent an area approximately 33 percent larger than the entire island of Manhattan – most of it greenfield – paved over with concrete slabs. At some point the environmental impacts of habitat displacement will become more palpable. As governments, tenants, and consumers become more focused on environmental issues, we expect the barriers on new greenfield development will make multi-story industrial increasingly practical.

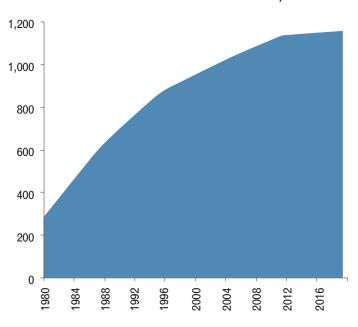
Retail will continue to experience significant change driven by technology

5

Retail continues to be one of the most challenging sectors in real estate. 2019 saw another round of prominent tenant bankruptcies, including Forever 21, Payless, Gymboree, and Barneys. Additionally, more than 9,000 store closings were announced throughout the year, with shopping malls being especially hard hit. As the number of U.S. malls plateaus, several research and brokerage firms have started to predict how many will ultimately close in the next 5-10 years, with most estimates around 20 to 25 percent.

These negative headlines certainly make for exciting clickbait, but they only tell a portion of the retail story. Retail is certainly undergoing tectonic shifts that will change the entire landscape, but brick and mortar is still thriving and will continue to have a significant footprint in the built environment. While several "tired" brands are beating a hasty retreat, myriad newer or digitally native brands are expanding their physical footprint at a rapid clip. Research from CBRE suggests that more stores are opening than closing, driven in part by several brands that previously only existed online opening brick and mortar locations. Retail vacancy rates remain below 5 percent nationwide not at all apocalyptic.

Peak Malls? - Number of Malls in the U.S., 1980 - 2019

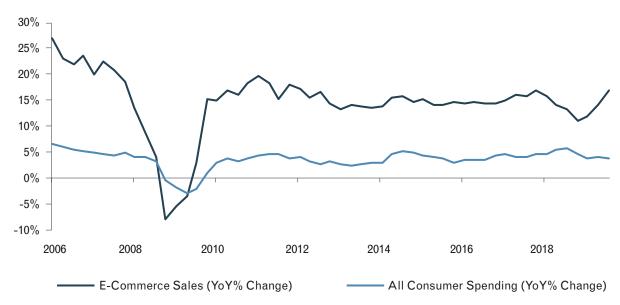


Source: International Council of Shopping Centers

The changes in retail are of course largely

driven by the growth of e-commerce, which continues to outpace overall retail sales growth at a steady pace. In many ways, the internet is the new "one-stop shop" for retail purchases that malls previously dominated. Under this new paradigm, modern retail must offer customers something more than simple product selection to be successful. For instance, many retailers are reconfiguring their stores to look more like showrooms, with interactive product displays replacing racks of inventory. Recent studies have even suggested that online sales in a given market increase following the opening of a physical store, which could explain why so many digitally native brands are going omni-channel.





Experiential retail also continues to thrive, including sectors that are inherently protected from the effects of e-commerce such as food and beverage, fitness, entertainment, and art. Other sectors such as apparel and electronics have benefited from adding experiential elements, such as live music, in-store cafes or lounges, and other immersive or engaging elements. As part of this trend, food halls have become increasingly popular and we believe they have scope for much wider adoption. The old model of a food court that offers a generic smattering of burgers, General Tso's chicken, and pretzel dogs is outdated, and a prime example of why retail is ripe for disruption.

The proliferation of experiential retail also appears to be attracting an important new demographic: Gen Z. While online experiences and e-commerce were novel concepts for Millennials, the younger Gen Z cohort has never known a time without internet. They tend to look for more balance in their lives between the physical and online worlds, and it turns out that "retail therapy" provides a nice break from screen time. According to the International Council of Shopping Centers, 95 percent of Gen Z shoppers visit a physical shopping center in a given 3-month period, versus 75 percent of Millennials and 58 percent of Gen X shoppers. The primary reason given by Gen Z shoppers: they enjoy it more than shopping online.

For real estate investors, retail's continued evolution will produce winners and losers. Retail is increasingly viewed as an amenity within a broader mixed-use context. Even previously pure retail properties such as shopping malls are starting to see more co-working leases, as landlords recognize the synergies of mixing uses to drive overall demand. In retail centers that are experiencing significant distress, redevelopment or adding other uses could yield opportunistic returns at the right cost basis. Many of the open-end funds with significant retail exposure are beginning to mark down the values of their underperforming retail assets, and at a certain price point some of these properties may look attractive as repositioning or redevelopment plays.

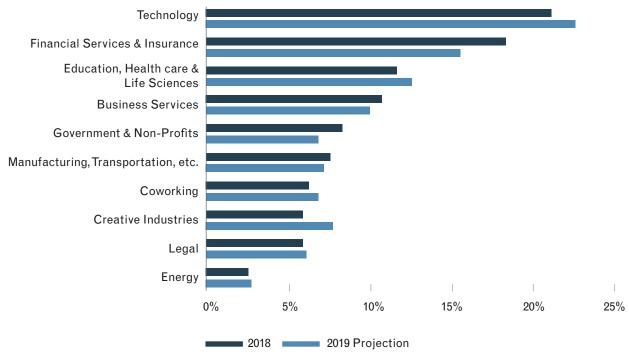
The year 2020 will not herald a new "steady state" retail environment. Creative destruction is most likely the new norm, as e-commerce lowers the barriers to entry and forces incumbents to constantly adapt. Many of the favorite tenants of 2020 will likely have short shelf lives. But the turbulence in retail will also produce opportunities for real estate investors. We expect that nimble managers with strong operating capabilities and creative foresight have some good vintage years ahead of them.

The office amenity war will pressure operating margins

6

The office market continues to experience low vacancy and steady rent growth, thanks in large part to the continued U.S. economic expansion and the strongest labor market in decades. Q3 2019 marked the 30th consecutive quarter of positive net absorption for the U.S. office market according to CBRE. Demand has been healthy across industries, with technology tenants continuing to lead as the U.S. knowledge economy expands.

Tech Leads the Way - Office Leasing Activity by Sector, 2018 vs 2019



Source: CBRE

While topline numbers are healthy, office operating margins have been under increasing pressure due to rising capex requirements and TI expenses. Capex measured as a share of NOI has inched higher throughout this cycle as owners seek to keep up with changing technology and tenant preferences. The most coveted corporate tenants continue to seek state-of-the-art creative space, as well as the environmental comforts of modern building systems. As a result, owners of older office buildings often find themselves investing in expensive upgrades to remain competitive.

The constant evolution of tenant needs and preferences has also contributed to elevated capex and TI expenses. Value-add business plans throughout this cycle have often focused on converting old-school cubicle farms into open-plan spaces, designed to foster more creativity and collaboration. But this trend has also encountered headwinds recently as certain downsides to open plans become more evident, such as constant distractions, excess noise, and a lack of "belonging" among employees. In the search for the right balance between private and open space, some larger corporate tenants are adding a layer of complexity by demanding office space that can transform seamlessly – from private offices to meeting rooms, for example – depending on the needs of the day. As different space configurations move in and out of vogue, office landlords are often the ones paying to keep up.

The modern competitive dynamics of office are causing many landlords to change their mentality toward the asset class. Office tenants are increasingly viewed as "clients" and treated with more of a hospitality mindset. Tenant perks such as concierge services are being introduced to help with the "live" portion of "live, work, play," providing employees assistance with daily hassles such as restaurant reservations, laundry pick up, and travel plans. The introduction of such offerings has led to a widening disparity between office buildings in terms of tenant quality, with direct implications for future potential rents and leasing velocity.

Office proptech is also a growing point of differentiation between modern and more antiquated office product. Many office proptech applications are focused on improving tenant experience, such as mobile apps that enable tenants to control light and temperature, as well as monitor indoor air quality. A litany of others is focused on reducing operating expenses, such as occupancy sensors to monitor and control mechanical, electrical, and plumbing. Other improvements such as high-performance building envelopes and rainwater harvesting systems can also help to reduce utility costs. The common denominator of all these proptech systems is they ultimately contribute to a building's bottom line, either through better leasing appeal or cost savings. We believe proptech applications will offer a strong return on investment for value-add strategies in the years ahead.

Private real estate equity capital will flow primarily to the largest managers

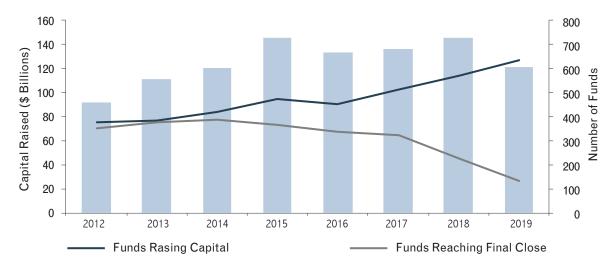
7

Real estate continues to attract institutional capital thanks to its strong performance and portfolio diversification benefits. Investors have enjoyed healthy distributions from real estate investments over this cycle, and much of that capital is being redeployed into the asset class. Real estate's stable income streams also make it a potentially more attractive substitute to fixed income in a lower-for-longer interest rate environment. As a result, institutional investors' target allocations continue to expand further above the 10 percent threshold.

Despite favorable investor sentiment, fundraising in private equity remains competitive due to mature investor portfolios and limited appetite for new managers. The more established managers continue to raise larger funds, with at least 40 funds raising more than \$1 billion in 2019. The market is also more crowded than ever, with more than 600 funds seeking to raise capital.

Given this crowded and competitive fundraising landscape, managers seeking to raise capital must find new ways to distinguish themselves. Creative use of technology in the investment process is one potential avenue. Managers focusing on niche property types, such as data centers, cell phone towers, and medical office, often succeed by offering investors diversification that complements their existing portfolios. Managers with a strong track record, unique access, or another competitive advantage in highly sought-after property types such as industrial also stand to benefit.

Diverging Fortunes - Capital Raised vs Funds in the Market vs Funds Reaching Final Close, 2012 - 2019



Source: Pregin. PERE. Capital raise totals are as of December 17, 2019; Q4 fundraising totals not included in 2019 figures. Final results may differ.

Competition for deals also remains fierce, with over \$300 billion of real estate private equity dry powder globally waiting to be deployed according to Preqin. Partially in response to this, institutional investors have increasingly been looking at recapitalizations ("recaps") as an alternative to traditional blind-pool investments. For investors, recaps provide the opportunity to underwrite a manager and a specified portfolio, while also benefitting from the manager's existing knowledge of the assets. For managers, recaps improve optionality by providing more time or capital to complete an asset's value creation business plan. We expect recap transaction volume to increase considerably in the years ahead as the market matures.

In part due to industry competition, real estate investment managers have seen a notable increase in mergers and acquisitions in recent years. As institutional investors seek to reduce the number of managers in their portfolios, small and mid-size managers often see M&A as the most expedient way to grow AUM and achieve scale. But in addition to strategic M&A, there is also a growing number of financial buyers seeking to acquire the stable fee revenue streams from investment management businesses. With many of the oldest and most established real estate managers still in their first generation of ownership, valuations on recent transactions suggest that founding partners seeking an exit have no shortage of options. We expect further manager consolidation in 2020.

Speed Bump

Despite the spectacle of WeWork's failed IPO, 2019 looks to be the most successful fundraising year for real estate venture capital to date. According to CRE Tech, venture-backed proptech companies raised \$14 billion in H1 2019, representing a 309 percent increase over the same period in 2018. Some have speculated that WeWork's implosion would have a chilling effect on real estate technology investments, but we believe the fallout will be limited. Commercial real estate is a more than \$200 trillion industry globally, so the addressable market for proptech is simply too vast to ignore. We expect venture capital to continue flowing into proptech in 2020.

Climate risks will increasingly affect real estate investment decisions

8

There has long been an attitude that climate change is a distant prospect for future generations to tackle. That delusion is now being melted away faster than the polar ice caps as communities around the world start to witness the consequences of global warming firsthand. In November 2019, the Federal Reserve had its first ever summit on climate change, describing it as an "increasingly relevant" threat to the U.S. financial system. The real estate industry will also have to confront what a changing climate means to individual properties and investments.

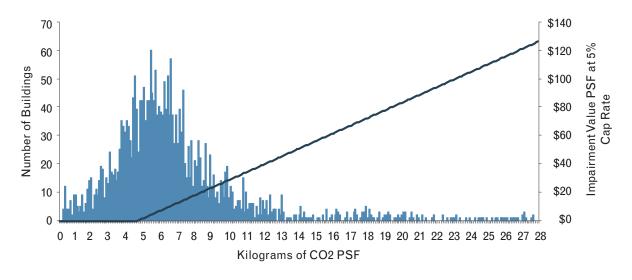
Climate change presents several challenges for real estate operations and investment going forward. Stronger storms will put strain on buildings through higher wind speeds and more frequent flooding. Property insurance costs along the Gulf of Mexico have already surged as much as 50 percent in response to the increased frequency of high-power storms. Rising sea levels will force investors to consider how long certain properties will remain viable, with growing concerns over resale value and the ability to obtain financing as the effects of climate change come closer into view.

While these are all still longer-term scenarios with much room for uncertainty, we believe a more immediate impact from climate change will come in the form of regulation. The U.S. Energy Information Administration estimates that physical buildings account for approximately 40 percent of U.S. energy consumption, making them major contributors to carbon emissions. As such, several municipal and state governments – eager to enact their own climate action legislation in the absence of a coordinated federal response – have made reducing real estate carbon emissions a central policy goal. Meeting emissions quotas may require property owners to fund significant capex for green retrofits, and perhaps pay fines for noncompliance.

One such example is New York City's Climate Mobilization Act (CMA) passed in April 2019. One component of the CMA, known as Local Law 97, places annual limits on carbon emissions for most private buildings over 25,000 square feet starting in 2024, with the annual limit shifting down further in 2030. Emissions over the limit would be subject to a maximum fine of \$268 per ton. The Building Energy Exchange estimates that 80 percent of buildings could take no action and still meet the Local Law 97 emissions limit in 2024; however, once the 2030 limits come into effect approximately 80 percent of covered buildings would be out of compliance and subject to fines.

For context, the median office building in New York City emits about 6 kilograms of CO2 per square foot. Based on our own estimates, if a median office building continued operating as normal with no reduction in emissions, the resulting fines by 2030 would add \$0.39 per square foot to annual operating expenses. Assuming a cap rate of 5 percent, this would result in an impairment to value of approximately \$8 per square foot. However, for buildings in the top quartile of emissions the value hit could be \$20 per square foot or higher. Several assumptions go into these calculations which may change subject to future clarifications in the law, but the implications for real estate investors are nevertheless quite clear.

Price of Emissions – CO2 Emissions PSF of NYC Office Buildings vs Implied Impairment Value PSF at 5% Capitalization Rate



Source: NYC Data, Urban Green Council, Park Madison Partners estimates

For illustrative purposes only. Mixed-use buildings have different emissions limits that apply to each use. As such, calculating the financial impact of Local Law 97 requires a case-by-case analysis of each individual building. CO2 measurement standards differ for buildings relying on district steam provided by ConEd, and those variances are not reflected in the above benchmarking data. The above illustration relies on carbon coefficients that are codified in Local Law 97 for the 2024 emissions limit. The 2030 carbon coefficients (i.e. the multiplier used to convert energy use to carbon content) have not yet been set and may differ materially from the 2024 coefficients. As such, the above exercise is purely hypothetical pending future clarification in the law.

Based on all the physical, financial, and regulatory threats from climate change, we believe its impact on real estate decision-making will increase significantly in the coming years. More property owners are likely to pursue green retrofits to reduce utility costs and avoid fines. Older, antiquated buildings with poor energy efficiency will increasingly trade at a discount or be targeted for demolition. New development will feature green technology to make buildings more energy efficient, or even carbon neutral. In short, as the world moves toward a less carbon-intensive global economy, the real estate industry will be forced to lead the way – and absorb much of the cost. Investors will need to update their due diligence manuals accordingly.

ESG considerations will become a higher priority across the real estate industry

9

In addition to regulations from states and municipalities, "private regulation" is also poised to impact future real estate decisions in the form of ESG standards. ESG, which stands for "environmental, social, and governance," represents the three generally accepted standards for measuring the sustainability and social impact of companies and investments. While institutional investors have incorporated ESG into their investment decisions for decades, it has experienced a renewed focus in recent years thanks to growing awareness about climate change, equality, and other social issues.

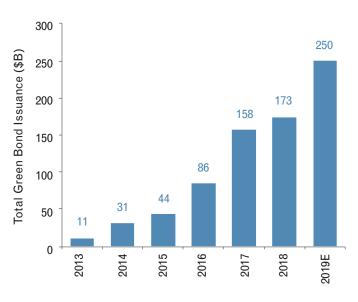
The increased focus on ESG is partly attributable to the elevated social consciousness of the Millennial generation, who increasingly find themselves in positions of power and influence. Within real estate, Millennials' influence extends not only to portfolio management and asset allocation decisions, but also further down the value chain to architecture, engineering, development, and public policy. A 2019 survey by Allianz showed that 77 percent of Millennials factor ESG into investment decisions, the highest of any generational cohort.

Regardless of who is driving the push, today's institutional investors are playing a decisive role in forcing adoption of ESG standards. On the environmental side, many investors recognize that carbon emissions from some investments

could seriously impair the long-term value of other investments in their portfolios. For example, in December 2017 a coalition of institutional investors called Climate Action 100+ formed to exert collective pressure on companies to reduce carbon emissions.

Today, that pressure is being exerted most effectively in the fixed income markets. While many of the worst carbon emitters are private and state-owned companies, as is often the case in the energy sector, they still typically need access to bond markets for financing. Fixed income investors therefore find themselves in an outsized position of influence to force adoption of ESG standards, and they appear keen on

Green is the New Black - Global Green Bond Issuance, 2013 - 2019E



Source: Climate Bonds Initiative, Moody's

exercising it. A growing number of investors are now refusing to lend to fossil fuel companies, and green bond issuance has also surged. The net effect makes clean energy more competitive with fossil fuels on a cost of capital basis.

For private real estate managers, ESG standards are most likely to be enforced during equity raises, as more institutional investors incorporate ESG review as part of their due diligence process. In practice, a commitment to ESG means adopting explicit guidelines on how a manager incorporates ESG factors into investment decisions. Benchmarking and reporting are also key components, with a section in annual reports devoted to discussing ESG targets and performance.

Environmental benchmarks are perhaps the greatest focus for real estate investors given the level of carbon emissions from buildings. Luckily, environmental impacts are also becoming easier to measure and quantify thanks to modern technology. Scores of proptech applications are now available to assist with better collection of property-level data. For example, sub-metering throughout the different floors, rooms, and individual appliances can provide granular data on utility use. Such data could then form the basis of benchmarking and reporting on ESG goals.

Social impacts can best be measured in terms of employee diversity, community relations, and philanthropy. A commitment to safe working conditions and living wages – through a responsible contractor policy, for example – is also an area of focus for many investors, particularly pension funds. Governance typically relates to compliance issues such as anti-money laundering, political lobbying and donations, and employee conduct. Most institutional real estate managers should already have strong policies in these areas, ESG considerations notwithstanding.

Environmental Carbon emissions Resource use Waste management Habitat conservation Social Employee diversity Working conditions Community relations Philanthropy Business ethics Employee conduct Anti-money laundering Political donations

Among the three fields of environmental, social, and governance, there are opportunities for managers to demonstrate proficiency in at least one ESG standard, if not all three. To truly take ESG seriously, managers should have clear benchmarking and reporting standards that are shared with investors. Rhetorical platitudes and "check the box" approaches are no longer sufficient. Given the level of interest in ESG from institutional investors, we believe managers would be wise to adopt their own policies and procedures sooner rather than later.

The 2020 U.S. Presidential Election will be a close contest

10

With the lowa caucus less than a month away, the 2020 presidential race is about to kick into high gear. At least 35 candidates declared their intention to seek the Democratic nomination over the past year. Luckily for voters in Iowa, that field has winnowed somewhat, but the number of choices is still daunting. No clear frontrunner has emerged at any point during the nomination process, and it appears unlikely that one will emerge any time soon. As such, we believe all the right ingredients are in place to produce a scenario the Democratic Party hasn't experienced since 1952; a brokered convention.

At the outset of the race, most political commentators expected that the race would come down to Joe Biden representing the "establishment wing" of the party and one other candidate representing the "progressive wing" in a head-to-head race to the finish. The reality, however, is looking much messier. Polls in Iowa, New Hampshire, Nevada, and South Carolina – which all vote in February – are closely split between five or six top contenders, each with a solid following from various sub-groups of the Democratic base. This makes a decisive win by any single candidate exceptionally challenging, which will likely embolden the rest of the field to press onward in hope of a late breakout.

A compressed primary calendar further complicates matters. After the four contests in February, 35 U.S. states and territories will hold primaries in March. By March 17, more than 75 percent of all delegates will have been awarded. With such a fractured race, it seems unlikely that any single candidate will emerge with a delegate majority. In past contests, such a logjam could be broken by superdelegates, who are unpledged and can vote however they please at the Democratic Convention. But after 2016, in an appeal to grassroots activists, the DNC changed its convention rules to prevent superdelegates from voting until the second ballot. This raises the specter of a floor fight when the Democrats convene in Milwaukee.

Whoever emerges as the Democratic nominee will matter a great deal to how the election ultimately plays out. No sitting president has ever won re-election with an approval rating below 50 percent on election day, and President Trump's approval rating appears to have a natural ceiling of 44 percent. But Trump may still have a chance at re-election if he faces a similarly polarizing Democratic opponent. Approval ratings are not the only predictor of victory: in the post-war era no sitting president has lost re-election when unemployment has been below 7.4 percent, and today's unemployment rate is less than half that. So inevitably, at least one political paradigm will be broken in 2020 (if not several).

2019 Scorecard

In the spirit of staying honest with our readers, we continue our tradition of providing a short "scorecard" on the previous year's Outlook. Each of our market calls is scored on a scale of 1 to 10, with 10 meaning "nailed it" and 1 meaning "not even close." We also include some brief commentary to explain why we scored ourselves the way we did. We admit that this is a highly subjective exercise, and we're fine with that.

 The Fed will proceed with caution on further rate hikes

Score: 9/10

We got several calls right on this one. We predicted that the Fed would continue its gradual rate hikes into 2019, but risked overshooting due to quantitative tightening and the fading effects of fiscal stimulus. We noted that a yield curve inversion seemed likely if the Fed hiked much further, and by August the 10-year/2-year Treasury bond spread was firmly in negative territory. We also said that inflation was too low to warrant further quantitative tightening and that we wouldn't be surprised to see an early termination to the program. Indeed, the Fed ended QT two months early, and by the end of 2019 expansions of the Fed balance sheet had reversed more than half of QT. The one place we erred was in our prediction of no more than one or two rate hikes in 2019, when we should have had more conviction and called for zero. But overall, we're proud of our 9/10 here.

2. The US housing market will hit a soft patch

Score: 7/10

We predicted that the Fed's interest rate hikes in combination with elevated home prices would cause the housing market to slow down in 2019, but that any dip would be mild due to pentup demand from Millennials. We also predicted that the Tax Cuts and Jobs Act of 2017 would hit housing markets in hightax coastal states such as New York, New Jersey, Connecticut, Oregon, Washington, and California. The results were more of a mixed bag. In high-tax coastal markets, home prices have been flat-to-negative in New York, San Francisco, and Los Angeles, but continue to grind higher in Boston, Portland, and Seattle. On a national basis, home price appreciation has certainly slowed, but at roughly 4.5 percent annually it continues to outpace inflation and GDP growth. We attribute much of this resiliency to falling mortgage rates: the average 30-year fixed rate has declined from approximately 4.75 percent in December 2018 to 3.75 percent today. So while the "soft patch" wasn't as soft or as widespread as we thought it would be, our prediction was still in the right ballpark. We'll settle for 7/10.

2019

Scorecard

 US institutional investors will focus on affordable housing, industrial, and experiential retail

Score: 10/10

 Capital will pile into Opportunity Zone Funds

Score: 9/10

Similar to this year, we predicted that the rise of the U.S. knowledge economy, growth in STEM jobs, and shifting demographics would lead to attractive real estate investment opportunities despite potential economic headwinds. We said office would be out of favor due to elevated TIs, but that industrial and affordable multifamily would continue to benefit from strong fundamentals and underlying demand. On retail, we were appropriately balanced in our view, acknowledging the challenges facing the sector but noting the investment opportunities that were likely to arise from the continued disruption. All of these themes more or less played out as we expected, so we're happy to take our 10/10 on this one.

We predicted that Qualified Opportunity Fund ("QOF") offerings would pick up considerably, and that taxable investors would be eager to invest in order to capture the tax advantages. We also stated that traditional investment managers would increasingly purchase properties located in opportunity zones, not for the tax break but to benefit from the influx of QOF-sponsored development. Finding reliable statistics on QOF offerings is difficult due to the private nature of several managers and their investors. Indeed, based on the QOF databases we've reviewed it's clear that such listings undercount the total. The Office of Management and Budget estimates that QOFs are on pace to attract \$8-10 billion annually, so by that measure our prediction appears to be accurate. We also saw multiple examples of managers citing a property's location within an opportunity zone as potentially accretive to long-term value. The only reason we aren't giving ourselves a perfect 10 is because several managers and investors stayed on the sidelines waiting for more regulatory clarity, which tempered QOF investments for much of 2019.

2019

Scorecard

5. Europe's bumpy recovery will continue despite challenges

Score: 9/10

Despite several political and economic headwinds throughout the year, European real estate delivered stable performance in 2019. Cap rates continued to come down across property types as investors sought alternatives to low or negative interest rates. Europe's economy has also continued to expand at a modest pace, though a broad manufacturing slowdown throughout 2019 led to increased recession fears. So our headline prediction and supporting arguments were fairly accurate. On politics, our results were mixed. We correctly suggested that populists would keep gaining support in Italy, leading to growing political uncertainty for the Eurozone as a whole. However, we were wrong in our prediction that Angela Merkel would lose power in Germany; she looks set to hang on until her retirement in 2021. Sometimes it's good to be wrong.

6. Emerging markets will demonstrate economic resilience

Score: 9/10

Several trends made us bullish on emerging markets heading into 2019, particularly Brazil, Russia, India, and China. Despite tightening U.S. monetary policy, falling commodity prices, and trade wars, these markets had continued to exhibit low inflation and stable growth. We believed this was a sign of underlying economic and financial resilience, and that the picture would improve further as some of these pressures receded. This largely proved correct: GDP growth in Brazil and Russia accelerated throughout 2019, and Chinese growth has remained stable despite U.S. trade disputes. India was the exception, with growth slowing sharply over the past year. So not a perfect score, but not bad either.

7. Private real estate capital will continue to be allocated primarily to the largest managers

Score: 10/10

We're happy to affirm our continued understanding of our own business. We said that investors would continue to favor real estate, and in 2019 average target allocations rose further above the 10 percent threshold. We correctly predicted that private real estate fundraising would remain healthy but increasingly concentrated among the largest, most established managers. Indeed, first-time funds reaching a final close have become exceptionally rare. We also said that managers using technology creatively would enjoy better fundraising results, and we witnessed multiple examples of this throughout 2019. Finally, we predicted more M&A among mid-size investment managers, and 2019 saw the announcement of several high-profile transactions. We'll keep our doors open for at least another year.

2019 Scorecard

8. Blockchain securitizations will gain wider adoption in private market transactions

Score: 5/10

We predicted that 2019 would be a foundational year for blockchain-assisted private market transactions, with more regulatory guidance and a series of "firsts" on the deal front. Indeed, there were several notable milestones throughout the year. In July, the computing platform Blockstack announced the first ever SEC-approved Reg A+ token offering, which raised \$23 million from both accredited and non-accredited investors. FINRA has been quietly approving broker-dealers to cover token offerings, so long as such services are clearly noted in their business plan filings. Wyoming also enacted 13 new blockchain-enabling laws, further cementing their reputation as the "Delaware of digital asset law." But despite these achievements, the general progress towards wider adoption of blockchain-assisted private market transactions was much slower in 2019 than we and many others anticipated, largely due to the regulatory complexities. We remain optimistic of blockchain's potential to activate a more liquid secondary market for private interests over time, but the time horizon will be longer than we predicted so we give ourselves a 5/10 on this one.

9. Ridesharing and autonomous vehicles will revolutionize the daily commute

Score: TBD

We predicted that ridesharing innovations would eventually impact real estate values in off-transit markets and neighborhoods, and even change the definition of what is considered on- and off-transit. This new connectivity, particularly in areas with less access to existing public transit infrastructure, would likely result in many opportunities for real estate investors. This was a longer-term prediction, and we expect it will still be several years before we see a meaningful ridesharing impact on real estate values. So despite our confidence that this one will ultimately result in a 10/10, we'll withhold judgement for now.

Everyone will run for President

Score: 9/10

You thought we were kidding... Given President Trump's low approval rating and the intensity of Democratic opposition, we predicted no less than 30 candidates would declare their intention to seek the Democratic nomination for President. We got at least 35 candidates, and that number may rise even further before the primaries are over. We were also correct in our prediction of a historically diverse field, including many with little or no political experience. Our one miss was predicting the final winner of the Democratic primaries, which we admitted was a fool's errand but did it anyway. Needless to say, we badly misread the Democratic electorate's enthusiasm for Beto O'Rourke (as did he).

About Park Madison Partners

Park Madison Partners is a boutique New York-based capital markets and advisory firm for global real estate alternative investments. Since its formation in 2006, Park Madison has participated in the placement of over \$16 billion in private equity capital for a wide range of real estate vehicles and strategies.

Park Madison Partners was founded to offer clients capital raising and strategic consulting services with a high degree of customization, integrity and accountability. Our team comprises professionals with backgrounds across the buy-side and sell-side, and we leverage this experience to provide a thoughtful approach to global real estate capital markets. Our unique expertise allows us to offer a variety of highly customized capital solutions to real estate managers, including commingled funds, separate accounts, programmatic joint ventures, and recapitalizations.

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