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REAL ESTATE INVESTING IN AN ERA OF GREAT CHANGE

Once a year, our private real estate team shares its views on the investment climate for real estate. While not a detailed blueprint for investing, it explains our investment posture and tactics for the coming year in the context of both secular and cyclical trends. In this paper, we address two overarching questions:

1. What are the most important characteristics and risks of the current investment climate?

2. How should investors think about real estate investment in these conditions?

There are many reasons to be optimistic about near-term economic growth; however, we are keenly aware that after an extended period of economic expansion, we must be prepared for a mean-reverting environment. Currently, our posture is cautious but active—paying close attention to three potential macro risks: the end of the economic cycle, high asset prices and the rapid obsolescence of a significant portion of commercial real estate (CRE) inventory. Finally, we are realistic about future returns, and are not willing to take big risks to generate outsized returns. Capital appreciation for real estate assets from the trough of the global financial crisis (GFC) has been impressive at a 9% compound annual growth rate (per Green Street Advisors Commercial Property Price Index). Investments made today are unlikely to appreciate at the same rate. We expect most of the returns from real estate for the foreseeable future to come from income, not appreciation.

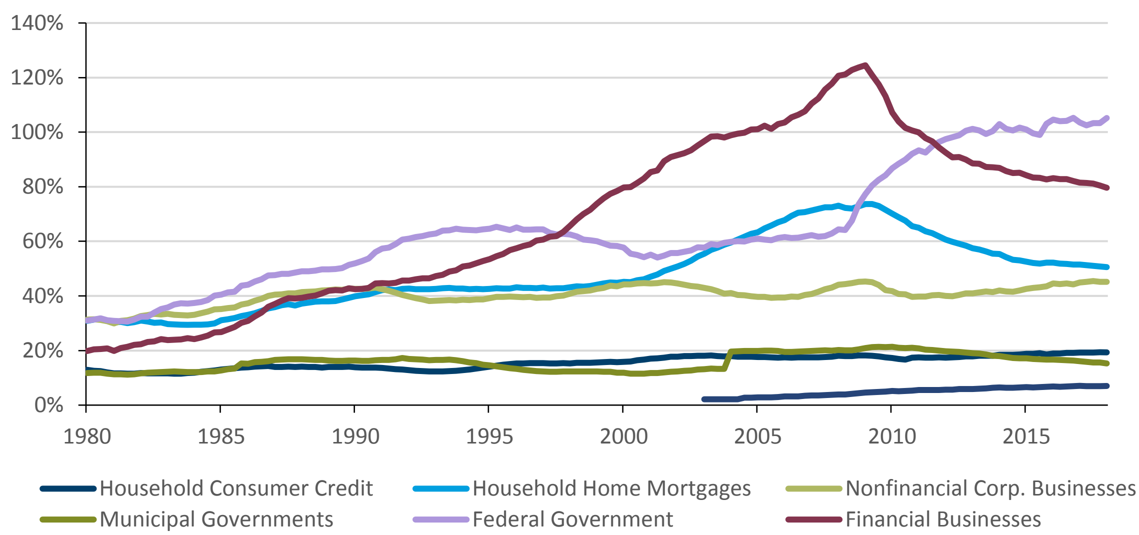
This is as it should be in real estate.

The investment climate

We are now in the second-longest economic expansion since World War II. Growth during this extended period has been positive but lacking in vigor, and by recent indicators it is now showing signs of weakness. While unemployment remains remarkably low, wages have risen, and leverage in the economy as a percent of GDP is less today than it was at the onset of the GFC, there are many causes for concern.

Federal debt is high, having more than doubled over the last decade from $9.7 trillion (66% of GDP) to $21.7 trillion (105% of GDP)—an unprecedented level in the U.S. outside wartime (Exhibit A: Debt outstanding in the U.S.). Productivity growth has been low at 1.2% for a decade, exactly half of what it averaged between 1990 and 2008. Finally, a recent flattening of the yield curve on the risk-free rate suggests the possibility of inversion, which, historically, has been a predictor of recession.

Exhibit A: National Debt as % of Nominal GDP



Source: Federal Reserve Economic Data; through July 2018

Leverage in the system has largely declined since the GFC, except for the federal government. Excluding federal debt, leverage in the system declined from 287% of GDP in January 2009 to 216% of GDP. Household mortgage debt has returned to about 50% of GDP from the pre-GFC high of 74%. Financial sector debt has declined significantly from 125% of GDP in 2009 to 80%.

Despite concerns, we believe that the economic cycle could last several more years. Other developed countries—such as Australia, Canada and the Netherlands—have enjoyed uninterrupted economic cycles spanning two decades. Although U.S. expansions have historically lasted less than a decade, we cannot be certain that the future will mimic the past. On the other hand, we see imbalances in the system created by quantitative easing and historically low interest rates. As we unwind these historic policies, there are likely to be some bumps along the way. As a result, we believe that today every investment must have the capacity to withstand a downturn reasonably well and possess strong prospects for thriving in a recovery.

Elevated asset prices

Assets of all types are now expensive by many standards. Stocks as a whole should grow in line with GDP; however, U.S. stock market growth has outstripped U.S. GDP growth over the last decade, and prior to the December 2018 sell-off, valuations were significantly extended. The capitalization of the stock market (Wilshire 5000) is now at 1.47x GDP vs. a long-term average of 0.8x (Exhibit B: Stock market statistics). If the capitalization of the stock market declined to a more normalized 1.0x GDP (still above the historical norm) from the current level, almost $10 trillion of institutional and household assets would evaporate. A decline of this magnitude would dramatically change consumer behavior, possibly leading to a recession.

Exhibit B: Wilshire 5000 market cap to GDP ratio

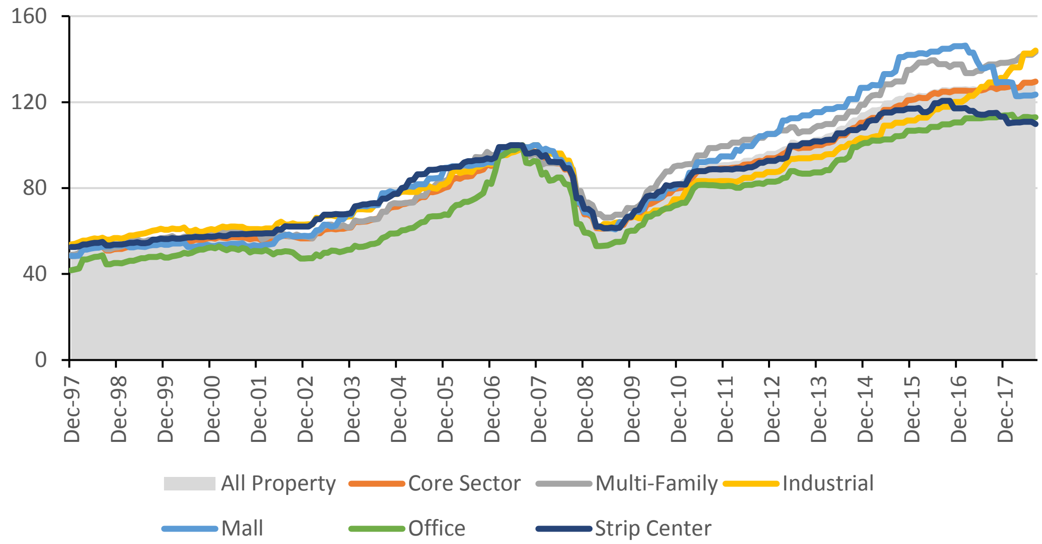
Sources: U.S. Bureau of Economic Analysis, Wilshire Associates, fred.stlouisfed.org

Stock market valuation relative to GDP peaked at a high of 1.41x in 2018, compared to the 40-year average of 0.76x. In the two previous peaks of June 2006 and March 2000, the ratio peaked at 1.05x and 1.37x, respectively.

Commercial real estate fundamentals

Following nine years of economic growth with mostly disciplined capital allocations that have largely controlled new supply, CRE’s supply/demand fundamentals appear uniformly healthy. In fact, all four major asset types—office, multifamily, retail and industrial—are enjoying occupancies and price appreciation above their long-term averages. (Exhibit C: Commercial property price index) Given the length of the expansion and the relative control of new supply, strong occupancy shouldn’t be a big surprise. However, we firmly believe that today’s apparent strengths mask weaknesses that will be revealed during the next downturn.

Exhibit C: Commercial property price index



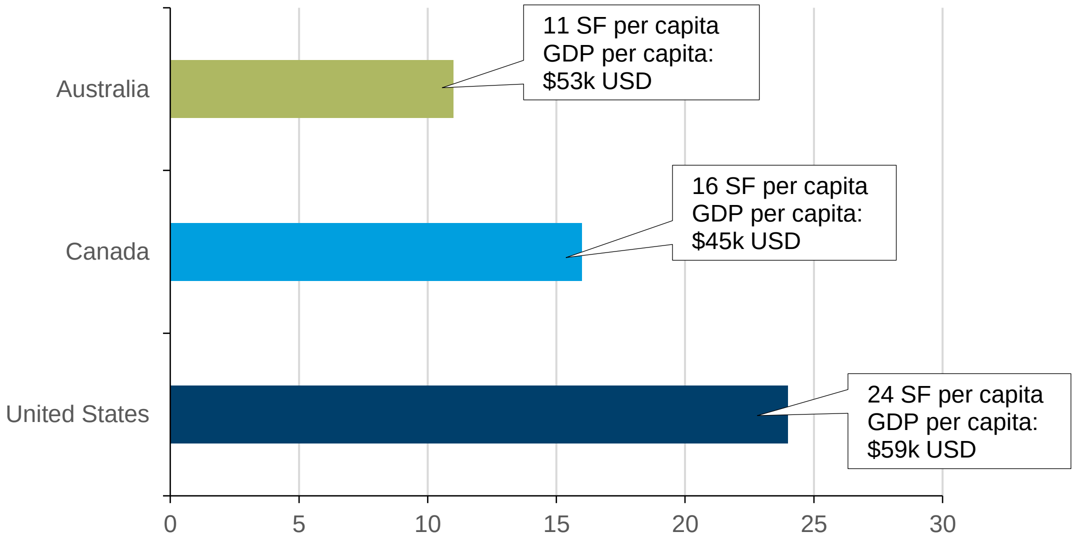
Source: Green Street Analytics; through August 2018, based on a proprietary index.

Property prices are at an all-time high across all property types. The largest gains have been in the industrial sector.

Industrial and multifamily are the strongest asset classes, and we believe they will be the most resilient in a cycle change. Both are justifiably strong—industrial because the growth of e-commerce requires additional industrial spaces, and multifamily because of a preference to rent instead of own. Both asset classes have experienced strong occupancies, rent growth and capital appreciation over the last decade. In general, we expect these asset classes to prove durable during the next downcycle. This doesn't mean that obsolete industrial or multifamily will wear well during the downturn, but we don't see systemic weakness.

On the other hand, we *do* see systemic weakness, as well as potentially severe problems during a recession, for both retail and office over the next decade. Looking at retail, the U.S. has long been over-retailed relative to other countries. Currently, we have 24 square feet of retail per capita versus 16 in Canada and 11 in Australia (Exhibit D: Retail square footage per capita). This excess is particularly problematic given the massive disruption within retail. Over the next decade, we expect a significant portion of existing retail to become functionally obsolete. Second-rate regional malls and power centers that proliferated in the 1990s and 2000s are probably at greatest risk. However, these assets will present opportunities for redevelopment and densification over time as their cash flow becomes progressively less durable.

Exhibit D: Retail square footage per capita – top 3 countries



Source: Morningstar Credit Ratings, World Bank; as of 2015

On a relative basis, the U.S. seems to be vastly oversupplied in retail with 24 square feet of retail space per person. This will have major implications, with the growth of e-commerce reducing the need for retail space.

Office is also set to struggle in our view. Despite job growth, the biggest headwind is likely to be modest demand for space over the next decade, as companies make increasingly efficient use of office space. Simply put, all businesses are increasing the density of workers in their office spaces. Digitization of information reduces the need for storage space, and open-concept design reduces the need for enclosed offices. While investors previously paid attention to proximity to where the decision-makers live—i.e., short commutes to executive housing—now, the “boss” is less important. Winning and losing in business today increasingly depends on recruiting and retaining the best human capital at all levels of the organization. We believe these trends makes many old rules of thumb far less valuable.

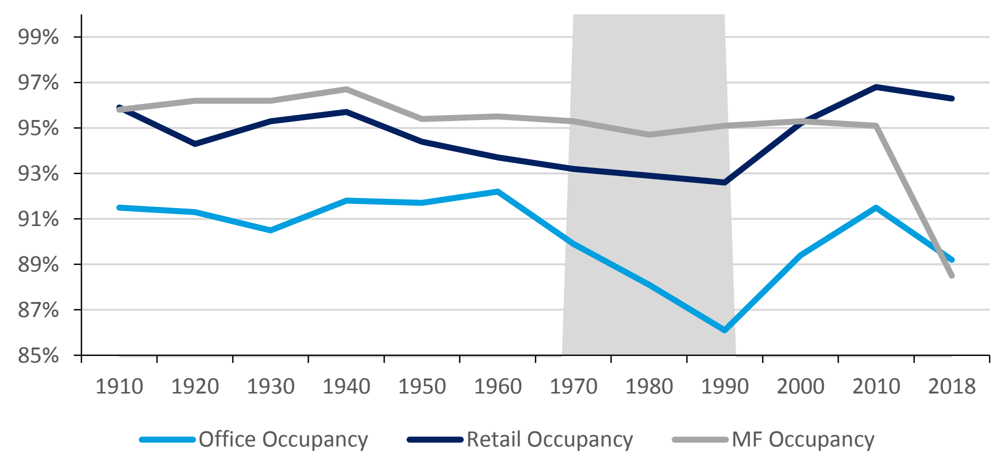
This means offices will likely face rapid obsolescence of three types: location, physical plant and user experience. The first two forms of obsolescence are easy to define and understand. The last one—user experience—is more ambiguous, but it also presents the greatest opportunity for those who understand it.

Locational obsolescence occurs in cities that are declining in economic importance, or in submarkets that are out of favor in a digitizing, urbanizing economy. Locational obsolescence correlates highly with vintage. Office buildings built between 1960 and 1990 are more likely to experience locational obsolescence than older or newer assets due to the development patterns of that era. About half of U.S. office inventory was built between 1960 and 1990. (Exhibit E: Office occupancy by vintage)

Physical obsolescence refers to buildings that have inefficient floor plates, low ceiling heights, antiquated heating and cooling systems, asbestos, constrained light and air, bad window lines or tenant improvements that are more than eight to ten years old. Some of these deficiencies are fixable with the right amount of capital. The degree of locational obsolescence often determines whether fixing physical obsolescence is worthwhile.

User experience is the hardest-to-define form of obsolescence because it combines experiential qualities with locational and physical elements. We believe that the future of office, retail and multifamily is a curated experience not unlike the hospitality industry. Bricks and mortar are no longer enough: property owners and managers must evolve their thinking to an approach akin to "office as a service." High-quality tenants want high-touch, often concierge-level service, flexible working options that accommodate collaborative work on some days and individual work on others, the ability to mix business and pleasure with ease, optionality to manage a rapidly changing economy, and an evolving definition of status. Gone are the days of granite and glass mausoleum lobbies; in their place are warm, communal spaces that invite serendipitous encounters that enrich our businesses and our lives. The best offices today are in vibrant, mixed-use communities that have density and multimodal transportation options. Immediate access to a variety of food and beverage options is increasingly essential.

Exhibit E: Office occupancy by vintage



Source: CoStar Group; through 2018

Buildings built in the 1980s exhibit an architectural style and location not desired by most users today. Across all property types, there seems to be a desire for walkable urban locations found in old/revitalized or brand-new projects.

Obsolescence risk is increasing as our economy reshapes what work is most valuable and how it gets done. When coupled with high prices, obsolescence presents a major risk for investors. To address this, investors must marshal their best thinking about how cities work, how neighborhoods are evolving, and the needs of the people who are driving the digital economy.

Understanding the bifurcation in location

One of the many lessons of the GFC is that the U.S. economy has separated into people and places that are thriving in a digitizing economy and people and places that are not. Based on our study of U.S. employment, approximately 30 million workers—20% of the total payroll employment base—disproportionately drive U.S. GDP growth. This division has important social and political implications, and as investors we recognize these factors as we also consider the investment potential of any location and specific investment opportunity.

These thriving jobs are broadly in the fields of technology, entertainment, energy and medicine (TEEM), and these 30 million people are increasingly drawn to a select group of U.S. cities that have the specific ecosystem for success in the digital economy. In our view, the ability to recognize these locations is now critical to succeeding as a real estate investor and is an essential component to building resilient portfolios that may better withstand an economic and property downturn in the U.S.

At our own firm, using a diverse set of objective data points to determine whether a city has the right ecosystem, we have identified 17 U.S. cities that we believe will continue to attract the most productive people in our economy. Within these 17 cities, we focus on approximately 170 proprietary submarkets that have the highest concentrations of TEEM jobs. We call these submarkets Permanent Economic Zones (PEZs). In aggregate, these submarkets represent 500 square miles, a fraction of the country's urban geography. We believe this type of analytics-based approach is critical to pinpointing the micro-locations and specific assets that are most likely to be in strong demand for the foreseeable future.

Real estate capital markets

We see real estate capital markets today as relatively disciplined and capital-abundant. This means we don't see systemic imbalances similar to the years preceding the GFC. However, the environment offers few, if any, bargains. Easy, outsized returns are behind us, following several years of robust appreciation. The debt market also shows CRE lenders' discipline. CRE debt as a percentage of GDP is just above 21%, compared to a peak of nearly 24% in 2009 and a trough of 12% in 1997. Additionally, lender composition is balanced among the various lender types, especially compared to 2007, when commercial mortgage-backed securities (CMBS) represented 54% of debt. In contrast, CMBS lending is relatively modest, despite steady growth from the post-GFC wipeout. We are concerned about the rapid growth of debt funds that may be relaxing covenants and loan-to-value ratio requirements by a large degree. We think it is too early to conclude that these relatively new entrants are disrupting pricing, but we will keep an eye on these practices.

Capitalization rate spreads are another important measure of market discipline. Currently, total CRE spreads stand at approximately 300 basis points (bps) above the risk-free rate, which is about 20% below the long term average spread of 375 bps. Depending on the exact source and measure, we may be approaching a standard deviation variance of one. This is a concern; although, this cap rate compression is nothing like what occurred in the lead-up to the GFC when spreads approached zero for a short time. Nonetheless, it is only reasonable to assume cap rates will expand over the next three to five years by 50 to 100 basis points. It's noteworthy that industrial cap rate spreads have actually fallen below one standard deviation, as a result of strong investor interest in the growth of e-commerce.

Total real estate transaction volume is a potential indicator of overheating, though it doesn't say anything directly about pricing. CRE transaction volumes have fallen by about 14% since peaking in 2015, due partly to a reduction in foreign investment. Volumes in 2018 were up slightly relative to 2017, but they are still down relative to 2015 and 2016. In short, we don't see the exuberant top-of-market volumes that we experienced in 2007. While transaction volume is down, ample liquidity for CRE continues. Private equity "dry powder" for CRE is at an all-time high of $178 billion after five years of banner fundraising. That includes $75 billion raised in the last four years. CRE debt originations in 2017 topped the previous peak of 2007, as many owners took advantage of continued low interest rates. Figures for 2018 show continued, modest growth from the 2017 peak. In short, real estate capital markets are mostly rational in a capital-abundant, yield-starved environment. If a mistake is being made, it is the overpayment for assets with obsolescence risk.

Our posture going forward

This challenging investment climate will require discipline, patience and investors' very best thinking and decision-making. Our posture in this environment is active but highly selective about the risks we are willing to take. For every investment—new or existing—we are considering the three macro risks that concern us most: the end of the cycle, high valuations and obsolescence. We will continue to look for opportunities in most of our 17 internationally competitive cities, but we will prioritize cities that have high concentrations of TEEM jobs without the high cost structures of gateway coastal cities. Examples of these include Austin, Denver/Boulder, Pittsburgh and Salt Lake City. Mixed-use assets with limited obsolescence risk will be our highest priority. The ability to withstand a normal-grade recession with limited long-term impact is key. It is worth noting that now is the time to be especially careful with leverage—it is essential to have a margin of safety in all aspects of debt (DSCR, LTV, term) with appropriate equity reserves to solve big unexpected problems.

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