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2024 Spring Real Estate Market Outlook

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Summary

This is not your typical cycle. Except for the office market, this cycle has been driven more so by the capital market shifts and rising interest rates versus the fundamentals of supply and demand. This has two important implications. For those strategies that rely more heavily on debt to achieve their hurdle rate, there are fewer investment opportunities available today because the cost of debt is higher than cap rates and the bid-ask spreads are wide. For those strategies that do not rely as much on debt to achieve their return objectives, it is one of the better times to average into the market because of higher yields, stable fundamentals, and less capital market competition for investments.

- From a fundamentals perspective, industrial and retail have the strongest near-term fundamentals, with occupancy rates above average, which should lead to above-average rent growth.
- Apartments are in a transition year as the market absorbs new supply – however, except for a few markets, apartment occupancy rates still hover close to their long-term average and should produce positive rent growth over the next two years.
- Office remains in a tailspin except for a few markets in Florida. While some top-tier office buildings are maintaining occupancy, they are not shielded from higher concessions, lower rents, and potentially further declines in values.
- From their peak, apartment values in NCREIF have fallen 15%, industrial is down 11.4%, office is down 28% while retail is only down 9.4%.
- In contrast, recent data from RCA indicate transaction cap rates are 125 to 200 basis points higher than valuation cap rates, providing investors a higher risk premium and an opportune time to average into the market.
- Like today's environment, the most significant outperformance for new investments occurred during periods of low liquidity in 2001-2002, 2008-2009, and 2020. Assets that investors acquired in those years outperformed the legacy assets in the index by more than 2.3% each year over the ensuing five years – a significant amount of outperformance.

Economy – Stable Growth, Though a Slower Pace

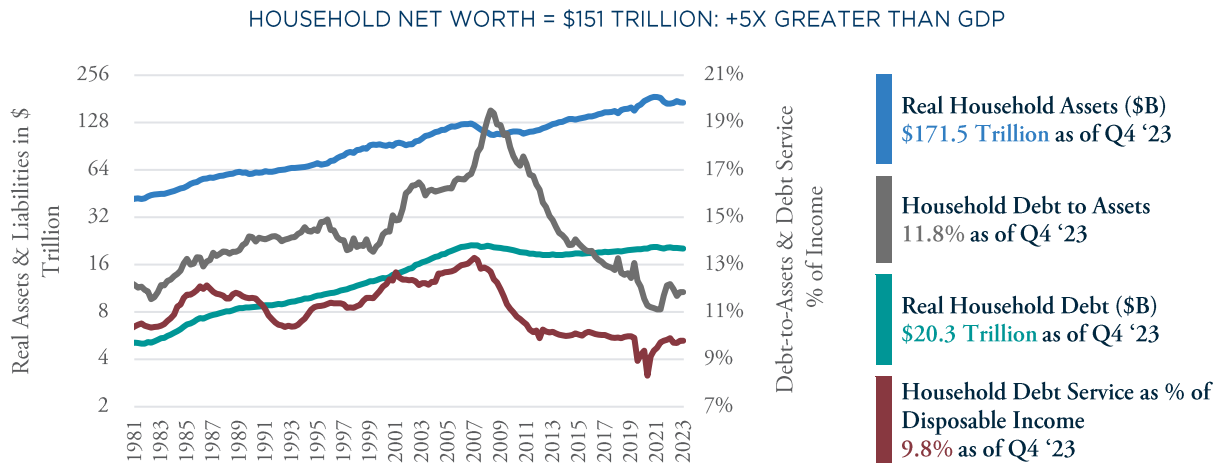
Over the last six quarters, the U.S. economy has grown at an average annual pace of 2.9% compared to the 20-year average of 2.1%.¹ Currently, the Atlanta Federal Reserve estimates growth in the first quarter of 2024 could total 2.1%.² The latest Consensus Economic Forecasts indicate the economy is expected to grow 2.1% in 2024, 1.7% in 2025, and 2.0% in 2026.³

- Healthy household balance sheets led to 2.7% growth in personal consumption in 2023 versus 2.4% historically.⁴
- With higher financing costs, business investment has grown at a slower pace of 1.5% versus 4.7% typically. The largest decline occurred in residential construction, which slid -13.5% since March 2022, when the Federal Reserve started raising interest rates.⁵ Investing in commercial and healthcare facilities has also remained flat.
- Government spending has grown significantly over the last year. The government increased expenditures 4.5% compared to the last 15 years, when they grew 0.7% annually. In addition, government programs that support the semiconductor industry have led to a significant increase in manufacturing construction.

Households – Still on Sound Footing

Overall, household balance sheets are still in the best shape they have been in over 40 years and underpin growth in personal consumption. Household debt-to-assets stood at 11.8% at the end of 2023. They peaked at close to 20% in 2009 in the aftermath of the global financial crisis and have been on a steady decline since.

Exhibit 1: Household Finances Appear to Be in Great Shape



¹ Per the Bureau of Economic Analysis (“BEA”), “inflation-adjusted” real gross domestic product (“GDP”) was \$22.7 trillion at the end of 2023 compared to Q2 2022, when it totaled \$21.7 trillion representing a total increase of 4.43%, or 2.93% on an annualized basis. The 20-year average reflects the period from 2003 to 2023.

² Atlanta Fed GDP Now estimate as of March 20, 2024.

³ Bloomberg Economic Forecasts (ticker symbol “ECFC”) as of March 1, 2024.

⁴ U.S. BEA 2009 – 2023 average.

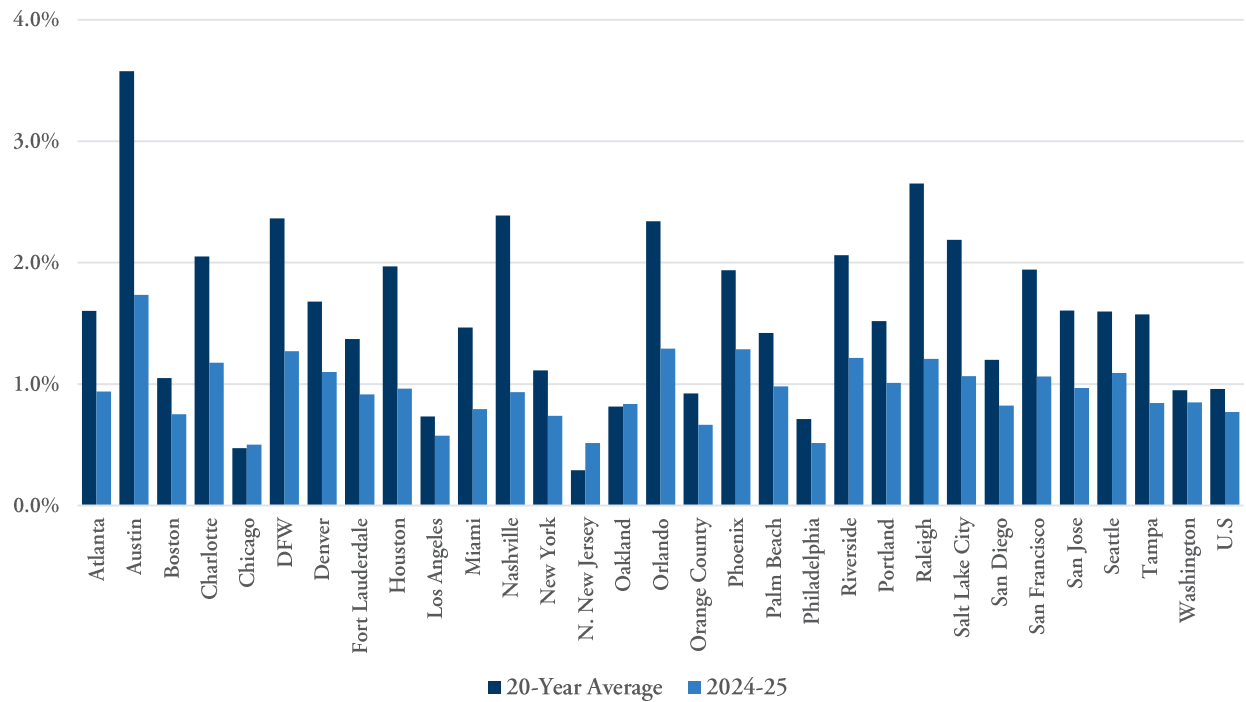
⁵ U.S. BEA March 2022 – December 2023, residential investment declined -13.5%.

Households also took advantage of low interest rates to refinance their debt. Thus, household debt service as a share of disposable income has fallen from over 13% in 2009 to 9.8% at the end of 2023.⁶ Despite potential concerns over higher credit card delinquency rates, which rose from 7.7% at the end of 2022 to 9.7% at the end of 2023, credit card debt only represents about 6% of total debt outstanding in the U.S.⁷ When we evaluate total debt outstanding, overall debt delinquency rates remain near 20-year lows, with 97% of total debt outstanding remaining current on debt payments.

Historically, unemployment lags the increases in interest rates driven by the Federal Reserve. Thus, one can expect to see modest increases in unemployment this year to 4.1%. Nevertheless, the number of job openings remains high. As reflected in the most recent survey from the U.S. Bureau of Labor Statistics, there were still 8.9 million job openings in the U.S., equaling 5.7% of the total workforce.⁸

With fewer people unemployed, employment is likely to grow at a slower pace over the next few years. Over the last 20 years, job growth has averaged 1% per year and consensus forecasts suggest employment growth could decelerate to 0.8% - 0.9% over the next three years.⁹ Many of the Sunbelt markets, such as those in Texas and Florida along with Denver and Phoenix, could see faster employment growth than other regions in the nation. Nevertheless, slower employment growth could lead to slightly lower real estate tenant demand.

Exhibit 2: Employment Growth Slightly Lower Because Unemployment Rates Are Lowⁱⁱ



⁶ Federal Reserve “flow of funds data” via Bloomberg as of December 2023.

⁷ Federal Reserve Bank of New York, quarterly report on household debt and credit as of Q4 2023 and released February 2024.

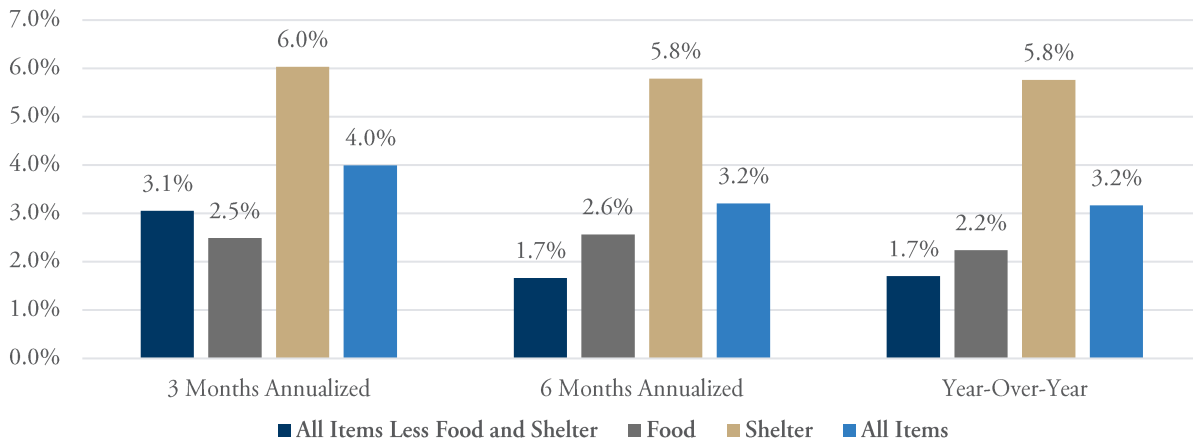
⁸ BLS Job Openings, Layoffs, and Turnover Survey (“JOLTS”) as of March 6, 2024. There were 9 million job openings, which reflected 5.7% of the total number of people employed in the U.S., which was 157.7 million as reported by the BLS.

⁹ Bloomberg as of March 4, 2024, reflecting the composite of economic forecasts from major banks and econometric firms.

Inflation – Grinding Lower

Inflation has decelerated significantly. After reaching a peak of 9% in June 2022¹⁰, it has since decelerated to 3.2% as of February 2024. It rose slightly compared to January’s reading of 3.1%. There are a few main reasons. First, the increase in food prices does not seem to be driven by a shortage in food commodities. The real driver behind rising food prices stems from “food away from home” as consumers are dining out more often than staying at home. “Food away from home” prices have increased 4.5% compared to eating at home, where food prices have only increased 1.0%. Secondly, auto insurance comprises less than 3% of the basket of goods in the consumer price index, where prices rose a staggering 20%. Had this not occurred, inflation in February would have been 0.5% lower, or 2.7% versus 3.2%. Thus, one should be mindful of the random price shocks occurring and the impact those shocks could have on the Federal Reserve achieving its goal of stable prices.

Exhibit 3: Inflation Trending Lower, Though Shelter Rents Are Stickyⁱⁱⁱ

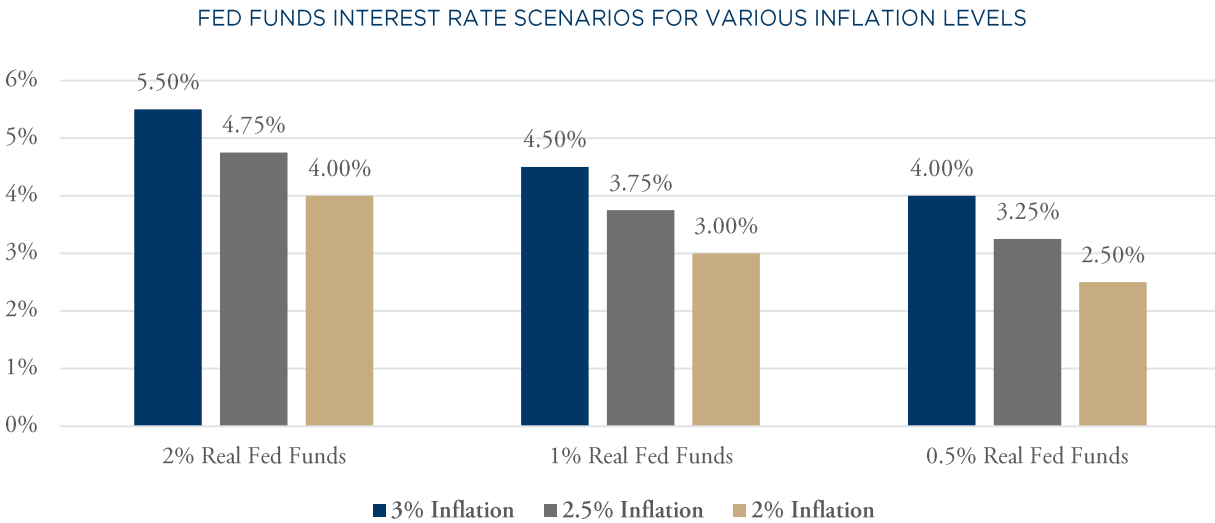


Finally, shelter rents peaked at 8.2% year-over-year at the end of March 2023 and have since decelerated to 6.1%. Over the last 20 years, shelter rent inflation has increased 3% annually. While apartment rents have stabilized in the last year, home prices remain high. Indeed, the Case-Shiller 20-City Composite indicates home prices increased 6.1% in 2023, broadly in line with shelter rent inflation. Surprisingly, over the last year, home price growth across the 20-City Composite ranges from a low of 0.3% in Portland to a high of 8.4% - 8.9% in Los Angeles and San Diego, as a few coastal markets are finally seeing a post-COVID bounce in home prices. It is reasonable to expect that shelter rent inflation continues to fade as apartment rents and home prices decelerate.

Implications for Interest Rates

The deceleration of growth and inflation may eventually provide justification for the Federal Reserve to reduce interest rates. However, inflation is still running higher than the Federal Reserve target of 2% and the economy has been growing faster than many predicted. Given these trends and a targeted real interest rate of 2%, the Taylor Rule would suggest the Fed Funds rate should be equal to its current level of 5.25% - 5.5%.

¹⁰ BLS depicting the US CPI on a year-over-year basis, not-seasonally adjusted.

Exhibit 4: Have We Reached Peak Interest Rates in This Cycle? Presumably Yes.^{iv}

However, assuming growth and inflation decelerate in 2024, the Federal Reserve could reduce interest rates 50 basis points in 2024. Furthermore, Federal Reserve Chair Jerome Powell recently indicated the “policy is restrictive.” One way to interpret this is that the real interest rates are currently too high. At the end of March 2023, real interest rates were 3% compared to their 20-year average of 0%¹¹. Thus, the Federal Reserve seems to have ample dry powder to assist the economy if needed.

Implications for Real Estate Capital Markets

- Over the last 20 years, cap rates on commercial properties exceeded mortgage interest rates by an average of 1.7%¹². By year-end 2023, though, mortgage rates were 0.6% *higher* than cap rates. Similarly, in the apartment market, cap rates have usually exceeded mortgage rates by an average of 1.1% over the last 20 years. But like the commercial sector, mortgage rates were 0.7% higher than cap rates in 2023.
- With lending rates higher than cap rates, transaction volume plummeted -59% from \$675 billion in 2022 to \$319 billion in 2023, as reported by MSCI¹³. Likewise, lending volumes also plummeted by -53%.
- While transaction cap rates remain lower than mortgage rates, they are higher than valuation cap rates, such as those reflected in the NCREIF Index.
- With less debt available and lower liquidity in the market, it could be a suitable time for low-leveraged and all-cash buyers to average into the market. Because transaction cap rates are higher than valuation cap rates, it implies values on held assets could decline further.
- As seen in Exhibit 6, the most significant outperformance for new investments occurred during periods of low liquidity in 2001-2002, 2008-2009, and 2020. Assets that investors acquired in those years outperformed the legacy assets in the index by more than 2.3% each year over the ensuing five years – a significant amount of outperformance.

¹¹ Federal Reserve Bank of Cleveland, 1-year real interest rate, retrieved from FRED, Federal Reserve Bank of St. Louis. The real interest rate was 3.04% at the end of March 2023. From March 2003 to March 2023, the average real interest rate calculated was -0.1%, or 0%.

¹² MSCI Real Capital Analytics reflecting the cost of first mortgage, which had a 7- to 10-year loan with a fixed interest rate as of December 2023.

¹³ Ibid.

Exhibit 5: Mortgage Rates Higher Than Cap Rates Resulting in Lower Transaction Volume & Less Liquidityⁱⁱ

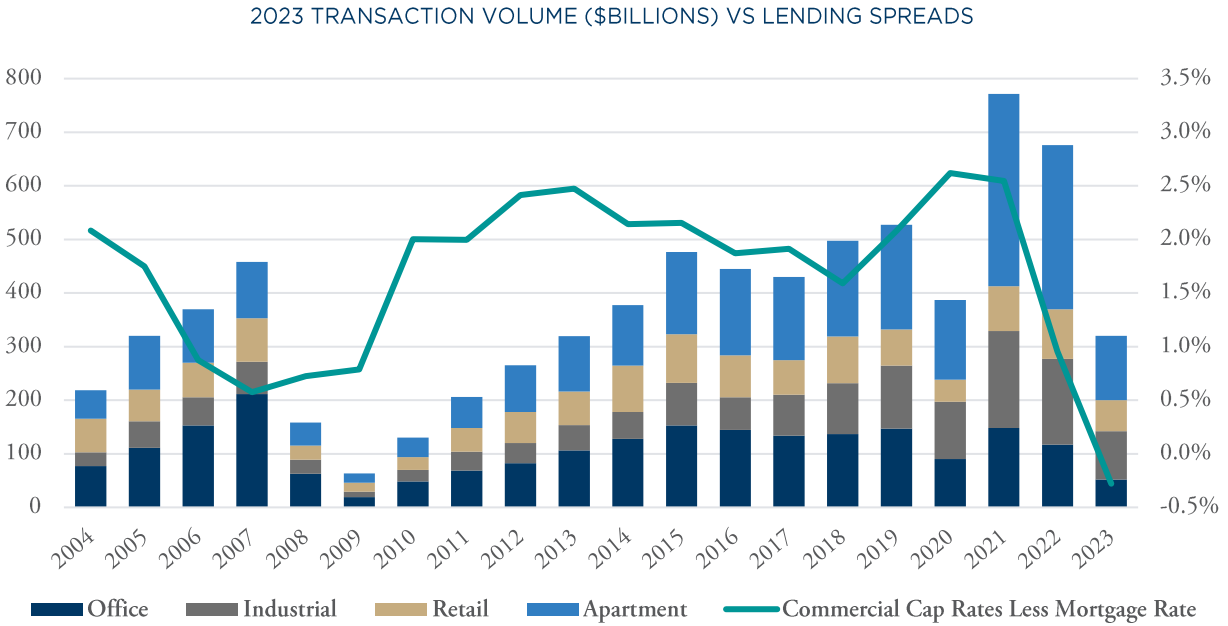
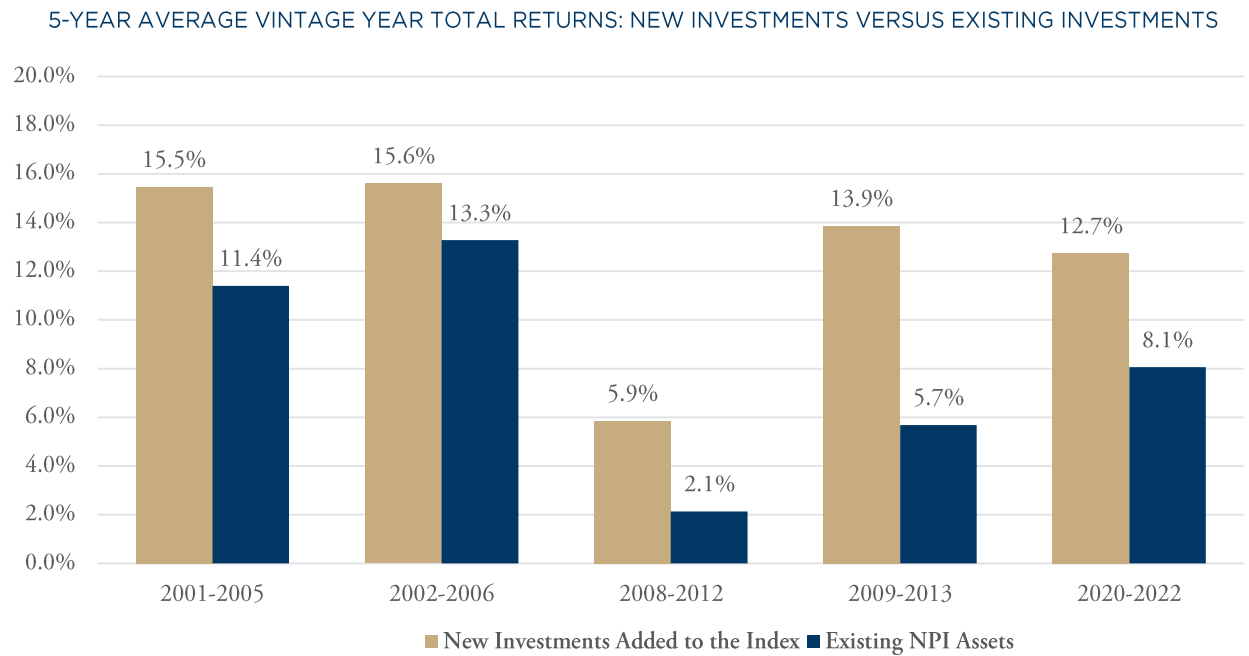


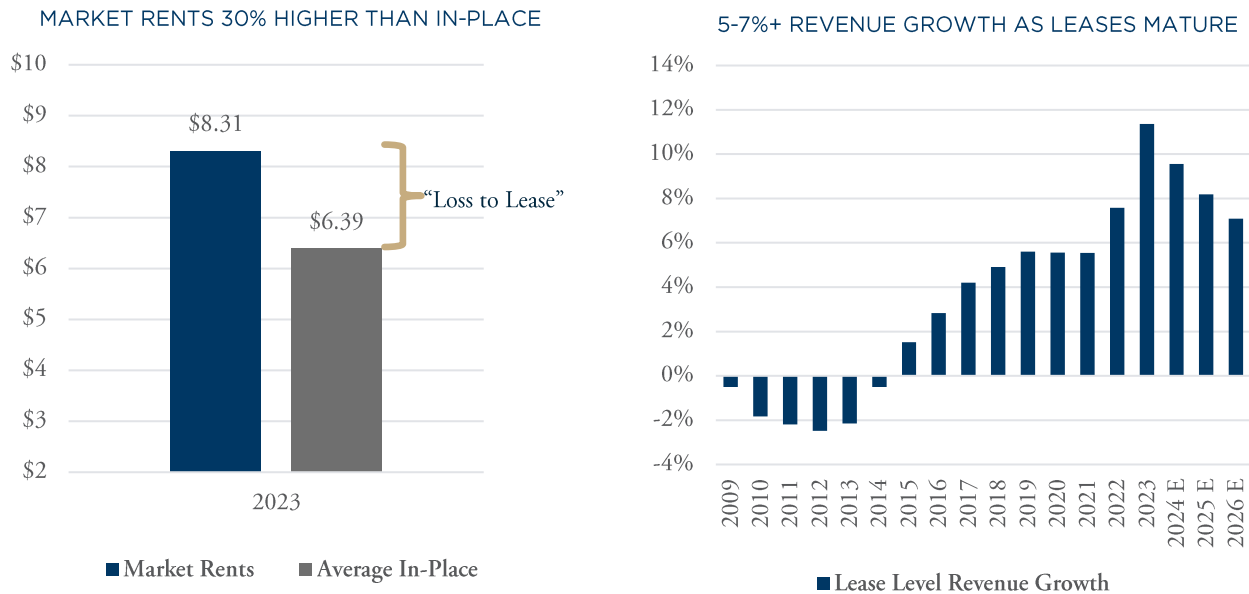
Exhibit 6: Capitalizing Upon Illiquidity – Vintage Year Excess Performance vs the NCREIF Indexⁱⁱ



Industrial Market – Competitive Cap Rates with Higher Growth Potential

The industrial market remains a favored sector because of the strong outlook for revenue growth compared to the other major sectors. As leases are marked-to-market over the next few years, revenues could grow 4% or higher for seasoned assets. Further, valuation cap rates as reflected in the NCREIF Index were 3.9% at year-end 2023 compared to recent transaction cap rates of 5.6%¹⁴. Combining income yields of 5.6% with revenue growth of 4% or more, seasoned investments with leases turning over could provide unleveraged total returns of 9% or more over the next three to five years.

Exhibit 7: Industrial Market – Loss-to-Lease Provides Potential for Resilient Revenue Growthⁱⁱ



The industrial market has two main sources of rent growth. First, occupancy rates over the next two years are expected to remain higher than their long-term average. From 2001 to 2023, national occupancy rates averaged 92.9% and rents grew 3.4% on average each year. Over the next two years, occupancy rates are expected to remain above average at 93.3%. Historically, when occupancy rates were this high or higher, rent growth typically exceeded its long-term average of 3.4%.

Secondly, one may expect higher revenue growth as leases expire, as there is a significant “loss-to-lease” on space that was leased just a few years ago. That is, from the end of 2018 through 2023, asking rents on buildings larger than 50,000 square feet increased from \$5.05 per square foot to \$8.31 per square foot. Thus, leases signed five years ago are priced at a significant discount to today’s market rents. As a result, even if market rents do not increase, revenues could still increase an average of 5.5% for seasoned buildings as rents are marked-to-market.

Also, tenant demand typically grows on pace with population growth. The current amount of occupied space per capita in the U.S. is 52 square feet. With the population expected to increase 0.6% over the next few years, it results in additional tenant demand of 100 million square feet. In addition, e-commerce’s share of retail sales has increased from 3.6% at the end of 2008 to 15.6% by the end of 2023, or an average 0.8% per year over the last 15 years. Each 1% increase in e-commerce’s share of retail sales has required an additional 0.5 square feet of warehouse space per

¹⁴ NCREIF Trends Report Q4 2023 for the NCREIF cap rate and MSCI/RCA warehouse cap rates as of year-end 2023.

capita, or 125 million square feet per year. Thus, we expect stable warehouse tenant demand of 200-225 million square feet per year simply based on population growth and expanding e-commerce retail sales.

During the 2021-22 COVID years, tenants leased a staggering 940 million square feet of industrial space and occupancy rates peaked at 96.1%. In turn, developers delivered a record amount of new supply in 2023, totaling 523 million square feet. Due to the increase in interest rates – not to mention the increase in construction costs – developers tapered development quickly, muting delivery expectations to 325 million square feet in 2024 and an even lesser amount of 160 million in 2025. In 2024, occupancy rates are anticipated to dip slightly yet remain above their historical average. With demand outstripping supply again in 2025 and 2026, it is reasonable to expect occupancy rates to increase.

Office Market – Continuing Its Downward Trend

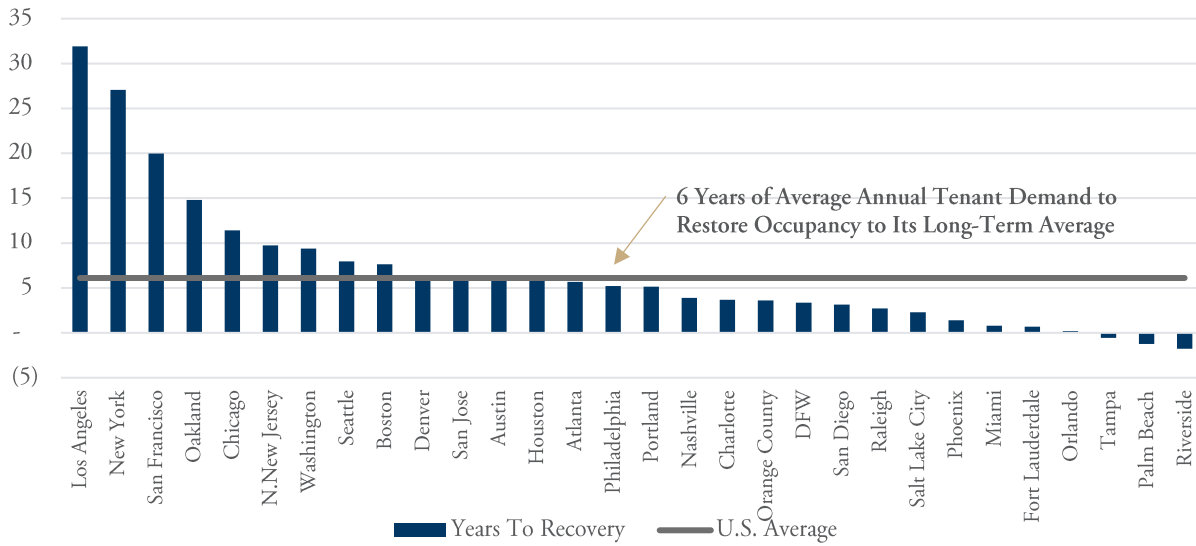
There are many who want to take advantage of the distress in the office market. However, the market has been severely impacted by working from home. Assuming normal tenant demand and limited new construction, it could take an average of six years across the U.S. for the markets to recover to their long-term average occupancy rates.

With 8 billion square feet of office space nationwide, about 1.2 billion square feet of space remains unoccupied. For occupancy rates to recover to their 20-year average, 400 million square feet of space needs to be leased or demolished. Prior to the onset of working from home, 60 million square feet of office space was absorbed each year. Even if tenant demand could recover to this pace, it would still take at least six years for the office market to absorb 400 million square feet.

Over the last 20 years, the U.S. office occupancy rate averaged 89% +/-2%. At the end of 2023, it fell to 86.5% and is projected to decline to almost 84% by the end of 2025. With falling occupancy rates, rents could easily decline an additional -10% in each of the next two years and possibly lead to additional declines in values.

In several markets though, the situation is less dire. For example, each of the major Florida cities are quite attractive. In Miami, Fort Lauderdale, and Orlando, occupancy rates are just slightly below their long-term averages and tenant demand has been more stable. As such, it could take less than a year for occupancy rates to increase and revert to their longer-term average. In Tampa and Palm Beach, occupancy rates are expected to remain higher than their long-term averages. In other cities such as Dallas, San Diego, Raleigh, Salt Lake City, and Phoenix, it could take less than three years for occupancy rates to revert to their longer-term averages. For investors who are anxious to capitalize upon distress in the office market, patience could be warranted.

Exhibit 8: Office Market – A Long Road to Recovery: Years-to-Recovery by Marketⁱⁱⁱ



Apartment Market – Stabilize in 2024, Grow in 2025

After several years of a nationwide housing shortage along with supply-chain challenges during COVID, new construction finally caught up with demand in 2023. From 2018 to 2021, 1.8 million more apartment units were absorbed compared to 1.5 million new units delivered, leading to an increase in the national apartment occupancy rate from 93.5% to 95% by the end of 2021. With occupancy rates well ahead of their 20-year average of 93.2%, effective rent growth averaged 11.3% in 2021 compared to its historical average of 2.5%. High tenant demand along with accelerated rent growth and low financing costs provided the incentive for new construction. By the end of 2022, 1.1 million apartment units were under construction – more than twice the average annual amount under construction over the last 20 years of nearly 500,000 units per year¹⁵.

With the Federal Reserve raising interest rates in 2022 and 2023, the number of new starts has declined from 543,000 new units at the start of 2022 to 344,000 units in January 2024 as reported by the U.S. Census Bureau¹⁶. With the number of new starts declining, the number of units under construction also fell, from 1.1 million to 965,000 units by the end of 2023.

Last year was a peak year for deliveries, with 575,000 units.¹⁷ But due to high construction and financing costs, the number of starts and units under construction should continue to decline, with the number of new deliveries expected to be 450,000 units in 2024 and 350,000 units in 2025.

A reasonable base case estimate for tenant demand is 350,000 to 420,000 units per year. According to the U.S. Census Bureau, the number of new households in the U.S. has grown 0.8% on average over the last 10 years for a total of more than 9 million new households. Of these, 3.5 million, or 38%, were renter households, which resulted in almost 350,000 units of consistent new renter demand each year.

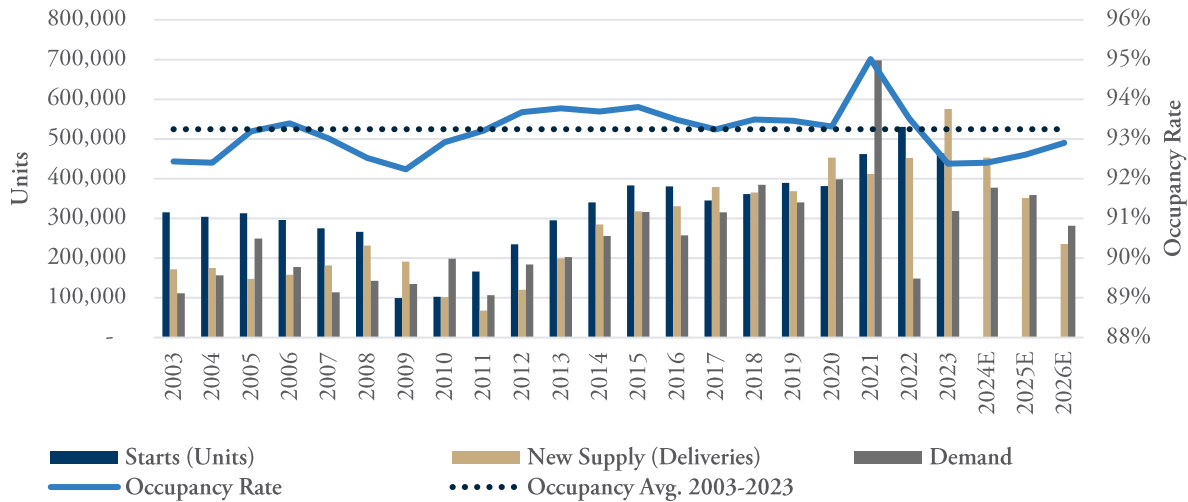
¹⁵ Using CoStar data, the average number of units under construction was 497,934 from 2004-2023.

¹⁶ U.S Census Bureau as of January 31, 2024.

¹⁷ Compares 2023 deliveries to the deliveries each year from 2004 to 2023 using CoStar data as of December 2023.

However, the cost of owning a home has risen significantly compared to the cost of renting. Per Case-Shiller CoreLogic, home prices at the end of last year were 6.2% higher compared to 2022¹⁸. Furthermore, the interest rate for a 30-year fixed mortgage rose from 3.1% at the end of 2021 and currently stands at 6.74%.¹⁹ As such, the average monthly cost of owning a home in the U.S. is estimated to be \$2,542 versus an average of \$1,660 for renting an apartment – about 53% higher.²⁰

*Exhibit 9: Apartment Market – New Starts and Deliveries Declining**



In turn, the homeownership rate has declined from 66% at the end of 2022 to 65.7% by year-end 2023. While a decline of 0.3% may seem minimal, with 131 million households in the U.S.²¹, this amounts to incremental housing rental demand shift of about 390,000 rental units. With elevated single-family housing costs, it is reasonable to expect an additional decline in the homeownership rate of at least 0.1% until mortgage rates and home prices turn down. Assuming this rental shift occurs over the next three years, it results in additional tenant demand of 65,000-70,000 units each year, or 420,000 total units.

Since deliveries are likely to outpace demand in 2024, the national occupancy rate is expected to bottom this year at 92.3%, or nearly 1% lower than its 20-year average of 93.2%. Then, with demand outpacing supply in 2025 and 2026, occupancy rates are expected to rise to 93% in late 2025 or early 2026. However, conditions vary across the U.S. When comparing current excess supply with average annual tenant demand, it could take one to two years for occupancy to revert to its long-term in markets such as Raleigh, Austin, Atlanta, Charlotte, Nashville, and Phoenix. With below-average occupancy rates in these cities, little if any rent growth over the next 12-18 months can be anticipated. Elsewhere, several cities in Florida along with Southern California, Dallas, Denver, Houston, San Jose, and Seattle have less than one-year of excess supply. In these cities, we expect rents could grow 2%-3% in 2024 and 2025.

¹⁸ S&P CoreLogic Case-Schiller 20-City Composite Home Price Index as reported in the St. Louis Federal Reserve database (“FRED”) as of December 2023.

¹⁹ Freddie Mac Primary Mortgage Market Survey as of March 14, 2024, as reported by FRED.

²⁰ Sources: Crow Holdings Research & Strategy using data from Bloomberg for the median home price in the U.S. and CoStar’s effective rent per unit across the U.S. To calculate the monthly cost of homeownership, we assumed a 20% down payment and 80% loan-to-value. A 30-year mortgage rate was assumed to reset quarterly and 1.5% of the median home price was applied to the median home price to account for property taxes and insurance.

²¹ U.S. Census Bureau, Household Estimates as of March 27, 2023.

Retail – Property Fundamentals Strong, Retail Sales Growth Decelerating

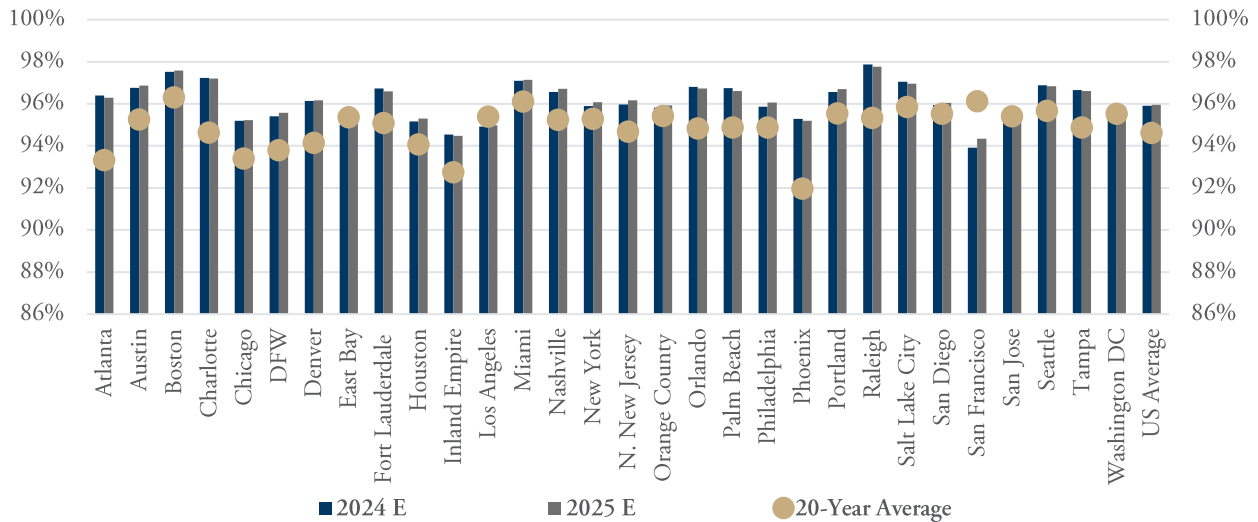
Despite the rise in e-commerce retail sales, many retailers have adapted to omnichannel marketing strategies to raise brand awareness and increase sales through multiple distribution venues. Also, foot traffic at strip center retail locations has improved and is nearly equal to pre-pandemic levels.²² Plus, the overall financial health of the consumer remains resilient. At the end of January 2024, consumer income grew 4.8% over the last year and was slightly greater than overall personal consumption, which grew 4.5%.²³

Looking more closely at retail sales, e-commerce continues to gain market share of overall retail sales. E-commerce share of retail sales increased from 14.9% at the end of 2022 to 15.6% at the end of 2023, surpassing its pandemic peak of 15.1% in 2021²⁴. For the year, e-commerce retail sales grew 7.5% compared to retail store sales, which grew 1.8%. Still, retail store sales remain more than five times greater than e-commerce retail sales.

Part of the shift in the market share of retail store sales is simply due to the decline in retail store sales across a few categories. For example, with fewer home sales occurring, retail sales in home furnishings and home improvement building material stores have experienced a noticeable decline of -5.4% and -6.1%, respectively, in the last 12 months. Gas stations have also seen a noticeable decline, but that can be attributed to an 11% decline in gas prices at the pump.²⁵

While retail sales growth is reverting to its pre-pandemic averages, the retail real estate market is doing remarkably well. Because of the threat of e-commerce as well as pandemic-era challenges, in addition to higher financing and construction costs, the amount of new construction fell -27% from 2019 to the end of 2023²⁶. Prior to the pandemic, an average of 80 million square feet of retail space was delivered each year. From 2021 to 2023, the average amount of space delivered declined to 30 million square feet. Over the next three years, only 28 million square feet are expected to be delivered each year.

*Exhibit 10: Retail Strip Center Market – Strong Occupancy Rates Across the Nation**



²² As reported by Greenstreet in their Strip Center Sector Update, December 2023 using Placer.ai data. Greenstreet also notes foot traffic at strip centers fluctuates at between -5% lower to an equal amount in 2023 compared to early 2020, prior to the pandemic.

²³ U.S. Bureau of Economic Analysis. Figures described are year-over-year seasonally adjusted in nominal terms as of January 31, 2024. In real terms, personal income and personal consumption both grew 2.1%.

²⁴ “FRED” database for e-commerce share of retail sales as reported by the U.S. Census Bureau, December 2023.

²⁵ American Automobile Association national average gas prices of \$3.15 at the end of January 2024 compared to January 2023.

²⁶ Per CoStar, 57.4 million square feet was delivered in 2019, declining to 41.7 million square feet by the end of 2023.

After mild negative tenant demand of -28 million square feet in 2020, tenant demand rebounded with an average of 68 million additional square feet leased in each of the last three years²⁷. With high tenant demand and little new construction, the national occupancy rate increased from 94.9% at the end of 2020 to 96% by the end of 2023. Over the next two to three years, the threat of excessive new construction remains low and as a result, we expect occupancy rates to remain in the range of 96% – well ahead of the 15-year average of 94.5%.

With occupancy remaining near its 15-year high, it is reasonable to expect rents to grow an average of 3.5% to 4.0% each year over the next three years. Just as important, releasing spreads have widened considerably. Coming out of the financial crisis, rents were already depressed, and when the pandemic hit, landlords were more lenient with tenants on rents. With the resurgence in demand, market rents are anticipated to be 10% to 15% higher than in-place rents. Thus, as landlords recapture space, there is substantial embedded growth potential.

Across the U.S., almost all markets have occupancy rates well ahead of their averages, which should support rent growth of 2.5% or more with additional growth potential, as leases are marked-to-market. Notably, there are several Sunbelt markets that had a surge of migration over the last few years and yet little new retail construction occurred. Atlanta, Austin, Dallas, Denver, Phoenix, and the Florida markets all have occupancy rates 1% to 2% higher than their 20-year averages, which should allow rents to grow faster than inflation. In addition, assets are priced attractively in the transaction market, with initial yields providing a risk-premium of 1% to 1.5% higher than the 10-year Treasury yield.

Conclusion

This has been anything but a normal cycle. When the yield curve first inverted in October 2022, many believed the probability of an economic recession occurring had increased. Yet because of strong household balance sheets and ample fiscal stimulus from the federal government, the U.S. economy has been resilient. Stable economic growth has translated into sustained tenant demand for real estate. Nonetheless, rising interest rates and higher mortgage rates have resulted in lower liquidity and declining real estate values.

At the same time, elevated construction and financing costs are leading to less new construction. Furthermore, many open-end real estate funds continue to struggle with valuations and many publicly listed REITs see their shares trading at a discount to net asset values. With less investment demand from those types of buyers today, transaction cap rates trade at a premium to valuation cap rates. As the historical evidence suggests, it could be an excellent time for low-leveraged, all-cash buyers to average into the market and potentially outperform the industry benchmarks.

Still, not all real estate is created equally. Supply, demand, and prices appear more favorable for industrial and strip retail for investments made in 2024. While there is excess supply relative to demand in certain multifamily markets, other markets offer a greater balance. In the office sector, some investors may be tempted to capitalize upon the current dislocation in the market. However, it may take several years for supply and demand to rebalance, and patience may be warranted.

²⁷ Analysis used CoStar strip center retail data from 2007 to 2023 to compare net delivered space and net absorption/tenant demand for the time periods indicated. Data as of December 2023.

Endnotes

ⁱ Exhibit 1 – Source: SMU & Crow Holdings Research and Laffer and Associates using data from Bloomberg, which comes from the Federal Reserve’s flow of funds data. Timeframe used is from March 1975 to December 2023, the latest data available. The flow of funds data is provided in nominal terms. The author deflated those from Q4 2023 using the consumer price index (“CPI”) from the Bureau of Labor Statistics for the time shown. Notably, deflating the asset and debt figures does not change the debt-to-assets ratio over time as both were deflated by the same amount. 21.5% of household net worth reflected in real estate equity; \$45.5 trillion in assets versus \$13 trillion in mortgage loans, reflecting an aggregate loan-to-value of 28.6%.

ⁱⁱ Exhibit 2 – Source: Crow Holdings Capital Research & Strategy using forecasts from CoStar, December 31, 2023.

ⁱⁱⁱ Exhibit 3 – Source: Crow Holdings Capital Research & Strategy using data from Bloomberg as of January 31, 2024.

^{iv} Exhibit 4 – Source: Crow Holdings Capital Research & Strategy as of December 31, 2024. The data reflects a sensitivity analysis of the Federal Funds rate as implied by the Taylor Rule. The Taylor Rule combines the current inflation level plus 50% of the “output gap” plus 50% of the current inflation amount less targeted inflation plus the real, or inflation adjusted Federal Funds rate. 2% GDP growth was used as a base case assumption, which implies no “output gap.” The Fed Funds rate scenarios reflect the level prescribed by the Taylor Rule if inflation ranges between 2% and 3% and the real Fed Funds rate ranges between 0.5% and 2%. Q4 2023 GDP was 3.2% and January 2024 Core-PCE was 2.8%. With the current Fed Funds rate equal to a range of 5.25% to 5.5%, the Fed Reserve is targeting a real Fed Funds rate of between 1.75% and 2.5%.

^v Exhibit 5 – Source: Crow Holdings Research & Strategy using data from MSCI/RCA. The Commercial Cap Rate Less Mortgage Rates reflects RCA’s reporting of both of those figures through the end of 2023. The author used the difference between these two to highlight the “spread” and its relationship to transaction volume. Currently, transaction cap rates as reported by MSCI/RCA are less than mortgage rates. With less positive leverage available, transaction volumes could be lower compared to history.

^{vi} Exhibit 6 – Source: Crow Holdings Research & Strategy using data from NCREIF. Returns represent five-year annual average total returns for new investments following the year of acquisition. For example, investments made in 2000, produced a total return of 15.5% for the five years from Q1 2001 – Q4 2005, inclusive while the NCREIF Index produced a total return of 11.4%. Total returns for 2020-2022 reflects a shorter time period. Returns for investments made in 2019 reflect the three-year period from Q1 2020 to Q4 2022.

^{vii} Exhibit 7 – Source: Crow Holdings Research & Strategy using data from CoStar for market rents on buildings 50,000 square feet and greater. Average “in-place” rents reflect the average of rents over the trailing five years from 2017 to 2022. Estimate of future revenue growth assumes market rents grow an average of 2% annually. The difference between market rents and “in-place” rents reflects the “loss-to-lease.” The revenue growth analysis assumes a 5-year lease term with 20% of leases being released at current market rents. Data and analysis as of December 2023.

^{viii} Exhibit 8 – Source: Crow Holdings Research & Strategy using data from CoStar from 2003-2023. The year to recovery compares the current occupancy less the 20-year average occupancy from 2003 to 2023 multiplied by the year-end inventory. This results in total excess supply. Total excess supply is divided by average annual tenant demand from 2003 to 2019, prior to COVID-19. This represents the number of years of average annual demand required without any new construction before occupancy rates can be restored to their 20-year average.

^{ix} Exhibit 9 – Source: Crow Holdings Research & Strategy using data from CoStar as of February 2024. 2024-2026 reflects CoStar’s estimate. Starts reflecting new, privately owned housing units started in buildings with 5+ units as reported by the U.S. Census Bureau. The figures represent the seasonally adjusted annual rate as of February 2024. The Census Bureau and CoStar do not provide forecasts for 5+ units started.

^x Exhibit 10 – Source: Crow Holdings Research using data from CoStar as of February 2024 and reflect Co-Star’s projection.

Disclaimer

Certain information contained herein has been obtained from third-party sources and has not been verified. The underlying information has been obtained from sources considered to be reliable; the information is believed to be accurate but is not guaranteed. This memo is for information purposes only and is not to be construed as an offer, solicitation, or recommendation with respect to the purchase or sale of any security.