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MEMORANDUM

TO: Members of the Investment Committee, CalPERS
FROM: Meketa Investment Group
DATE: March 18, 2024
RE: Semi-Annual Real Estate Performance Review as of December 31, 2023

In our role as the Board Real Estate Consultant, Meketa Investment Group ("Meketa") conducted a quarterly performance review of the Real Estate Portfolio ("the Portfolio") based on data provided in Wilshire's California Public Employees' Retirement System ("CalPERS") Real Assets Performance Analysis Review for the period ended December 31, 2023, and selected CalPERS reports.[1] This memorandum provides the Portfolio performance data and information on key policy parameters, along with summary market commentary.

Performance[2]

Portfolio-Level Returns

CalPERS ("the System") assigns the goals of diversification from public securities, current income and inflation protection to its Real Assets portfolios, of which real estate comprises 77.1%. The Portfolio's diversification is serving the System as different property sectors experience varying demand and supply dynamics. Similarly, CalPERS' focus on the highest quality locations and materials that attract credit worthy tenants provides defensive characteristics. Across real estate markets, no property type or geographic region necessarily outperforms over the long-term, so diversification is critical.

CalPERS' Real Estate Portfolio returns underperformed the benchmark for all time periods presented. While we anticipate near-term performance to continue to be challenging, the income return is generating reliable, positive cash flow to the System, fulfilling the role of the asset class in the broader CalPERS portfolio.

Measured by a percentage of Loan to Value ("LTV"), CalPERS has historically used more leverage than the benchmark (33.8% versus the benchmark of 24.4%). When property values are rising, this accelerates returns. When values decline, this detracts from performance. Measured by the 2.4x multiple of Net Operating Income to debt service, ("coverage ratio", or "DSCR"), and the strength of the tenancies, this is nevertheless deemed to be a prudent level of debt. Both LTV and DSCR are well within policy guidelines of <50% and >1.5x, respectively.

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1 Real Assets Program Allocation, Characteristics, and Leverage Reports (PDF) and Datasheets (Excel), Period Ending September 30, 2023, and Real Assets Quarterly Performance Report, Partnership Financial Statements as of September 30, 2023.
2 Per Wilshire's CalPERS Real Assets Performance Analysis Review for the period ended December 31, 2023 reported with a 1-quarter lag, so effectively as of September 30, 2023.

Net Returns December 31, 2023	1 Year (%)	3 Year (%)	5 Year (%)	10 Year (%)
Real Estate Returns	-13.1	5.4	4.5	6.9
Real Estate Policy Benchmark[1]	-12.8	6.1	4.7	7.2
Over (under) Performance	-0.3	-0.7	-0.2	-0.3

Institutional real estate has benefitted from more than a decade of low interest rates and economic growth tailwinds. Slower economic growth and higher interest rates have caused a repricing of the entire real estate sector in 2023. Meketa anticipates relative performance will be challenging to assess until the dust settles on the property and capital markets. We continue to expect significant near-term volatility in valuations; shorter-term performance should be viewed skeptically.

Performance Attribution

The portfolio continues to generate reasonable absolute returns over longer time periods with low leverage and a low risk profile, but near-term performance is challenging. Ten-year net returns of 6.9% missed the benchmark by 30 basis points but delivered both solid income and appreciation returns to the System. Three- and five-year net returns trailed the benchmark by 70 and 20 basis points, respectively, largely as a result of somewhat less robust appreciation and a higher retail allocation than the benchmark. But the portfolio continues to generate consistent income with which CalPERS can pay its beneficiaries and the income return exceeded that of the benchmark for all time periods presented.

The big outlier in absolute performance is the one-year return. For the one-year period, the portfolio posted a negative 13.1% net return, consisting of 3.2% current income and negative appreciation of 16.3%. The total net return underperformed the benchmark by approximately 30 basis points. Within the portfolio, data center, industrial, and retail properties outperformed the benchmark for the one-year time period. It should be noted that the 30 basis point shortfall in performance relative to the benchmark nearly equals the 40 basis point contribution to the benchmark returns made by the mark to market of debt, which CalPERS does not include in its performance calculations.

The market continues to produce a remarkable dispersion of returns across property types and locations, with clear winners and losers from a space demand perspective. Even among core holdings where we would expect to see less volatility in performance, there was a wide range of returns. Data center buildings, which represent 5.8% of the core portfolio, generated a one-year return of negative 2.1%. Data center buildings are benefiting from increased cloud computing and technological device usage. At the other end of the spectrum were office buildings, which represent 11.3% of the core portfolio, and which generated a negative 29.5% one-year return in addition to negative returns for the current quarter, three-, and five-year time periods. While CalPERS' underweight to office relative to the benchmark is a positive, the sector is very challenged and further deterioration is expected.

[1] CalPERS Real Estate Policy Benchmark, with historical composition as follows: As of July 1, 2018 is the MSCI/PREA US ACOE Quarterly Property Fund Index (Unfrozen), Net of Fees. From July 1, 2011 through June 30, 2018, the Policy Benchmark was the NCREIF Fund Index Open-End Diversified Core Equity, Net of Fees. The. Policy Benchmark results are shown on a blended basis during the relevant trailing periods.

Industrial and multifamily returns have moderated from recent highs; both portfolios generated negative returns during the one-year period. CalPERS' industrial portfolio, representing 32.6% of the core portfolio, posted returns for the one-year time period of negative 12.0%. CalPERS' multifamily portfolio, representing 26.4% of the core portfolio, posted returns for the one-year time period of negative 17.3%. Both sectors are experiencing slowing rental rate growth, and industrial properties with longer leases at below market rents are getting penalized for the lost potential revenue (the "loss to lease").

Longer term performance for these property types is expected to be strong as both benefit from resilient demand drivers and moderating new supply. Industrial buildings continue to benefit from greater e-commerce volume and onshoring of manufacturing, while multifamily properties benefit from the shortage and lack of affordability of single family homes.

Mall retail property investments, to which CalPERS has had a material overweight compared to the benchmark, and which account for 10.7% of the core portfolio, posted a total return of negative 6.8% for the one-year time period. Since inception, these investments have produced a 6.8% total net return.

The other portion of CalPERS' retail holdings, grocery anchored shopping centers, which amount to 10.4% of the core portfolio, generated a return of negative 0.7% for the one-year time period. Shorter average lease terms, relative to big box retailers, and little new development have given owners of grocery anchored shopping centers the ability to more proactively push rents, especially given historically low vacancy within the sector.

As of this reporting period, the core risk portfolio, comprised of completed, leased and cash flowing assets, and representing 87.7% of the Real Estate Portfolio, produced longer-term returns of 5.1% for the five-year return, and exceeded the Real Estate Policy benchmark returns by 40 basis points. Strong ten-year returns of 8.7% handily exceeded the 7.2% benchmark return. Virtually all core properties are held directly in lower cost separate accounts (as opposed to investing in open-end-commingled pools).

Net Returns As of December 31, 2023[1]	NAV ($B)	1 Year (%)	3 Year (%)	5 Year (%)	10 Year (%)
Core	46.9	-13.7	6.1	5.1	8.7
Value Add	4.0	-12.1	0.1	1.5	3.9
Opportunistic	1.3	-14.6	1.0	0.2	2.2
Real Estate Policy Benchmark	--	-12.8	6.1	4.7	7.2

[1] Private Investment data are one quarter lagged, so effectively as of September 30, 2023.

Key Policy Parameters

The Real Estate Portfolio is compliant with all key parameters related to diversification and other limits applicable at the Portfolio level, as demonstrated in the following table.

Key Portfolio Parameter	Policy Range/Limit	NAV 12/31/23 Exposure[1]
Risk Classification	(%)	(%)[1]
Core	75-100	87.7
Value Add	0-25	8.1
Opportunistic-All Strategies	0-25	4.2
Geographic Region	(%)	(%)[2]
United States	75-100	93.6
International Developed	0-25	3.8
International Developing	0-15	2.5
International Frontier	0-5	0.0
Manager Exposure[3]	(%)	(%)
Largest Partner Relationship	20 max	15.6
Investments with No External Manager	20 max	0.0
Leverage[4]		
Loan to Value	50% max	33.8%
Debt Service Coverage Ratio	1.5x min	2.4x

Implementation

The Real Estate Portfolio had a market value of $52.3 billion at the end of the current reporting period, representing 77.1% of the Real Assets program and 10.8% of the total portfolio. Including Forestland and Infrastructure, the Real Assets program currently comprises 14.0% of the total portfolio against a long--term target allocation of 15.0%, within the policy range of 8% to 18%. CalPERS has a very small exposure to overseas properties, and almost no exposure to the hospitality industry in its private real estate holdings.

The CalPERS business model for real estate emphasizes control, transparency, alignment and governance. CalPERS' market advantages are its size, scale and ability to hold assets for longer periods. The implementation of this business model is primarily through direct investing with separately managed accounts, in which CalPERS has effectively complete control. Cancellable separate accounts are created with expert, aligned fiduciary managers/partners. These relationships are overseen by Staff with the benefit of independent consultants' prudent person opinions and monitored on behalf of the Trustees by the Board Consultant. This provides a replicable, scalable model that can grow as the

[1] Real Assets Quarterly Performance Report as of September 30, 2023 and Real Assets 2023.9.30 Characteristics Report (PDF), based on asset-level risk.
[2] Real Assets Quarterly Performance Report as of September 30, 2023 and Real Assets 2023.9.30 Characteristics Report (PDF), based on asset-level geography.
[3] CalPERS Real Assets Portfolio Allocation Report (Excel), Period Ending September 30, 2023: calculated based on manager- and account-level NAV. Percent calculated using relevant NAV plus total unfunded commitments for relationships/investments and same for the Real Assets Program ($78.7 billion).
[4] CalPERS Real Assets Portfolio Leverage Report (pdf), Quarter Ending September 30, 2023.

Total Fund size grows and invest within the strategic ranges based on market conditions and alternative investments available to the Total Fund. As the System grows and markets evolve, this method of investing helps control risk and reduce costs.

CalPERS continues to be an industry leader in creating and embracing Responsible Contractor Policies and ESG best practices at its properties. Additionally, during the last five years, the Staff has made progress harmonizing several of the private asset classes under the Real Assets Unit. This has improved continuity of research, decision-making, risk mitigation and reporting, as well as providing increased knowledge across INVO. This is consistent with a System wide, Total Fund approach rather than a collection of independent asset "silos."

Real Estate Market Commentary

The year 2023 ended with the trajectory of the US economy remaining uncertain and investors adjusting their return expectations assuming a higher for longer interest rate environment. More recent decades-high inflation and the corresponding monetary policy actions of the Federal Reserve have had a widespread and negative impact on commercial real estate. As commercial real estate assets re-price amid greatly reduced transaction volume and restrictive capital markets, some asset owners with maturing debt are struggling to refinance or sell their asset(s). Determining "fair value" has also been challenging due to a lack of comparable sales and instances of wide dispersion of appraisal inputs. We anticipate some continued volatility in the coming quarters.

While headline inflation moderated during 2023, the pace at which inflation moderated has been slower than expected and it remains above expectations. Core inflation (excluding food and energy) slightly declined in the fourth quarter on a year-over-year basis. Both of the preceding metrics continue to be driven by high shelter costs, such as rent. The multiple interest rate increases by the Federal Reserve during 2022 and 2023 aimed at reducing inflation have caused rent growth to slow dramatically across property types and locations, and for debt costs to more than double. For the first time in more than a decade, market conditions are resulting in "negative" or non-accretive leverage, meaning the cost of new debt financing exceeds the going-in-yield of the real estate acquisition. While "hard assets" such as real estate offer protection from inflation over the mid to longer term because of their ability to raise rents, the timing and amount of correlation vary depending on the individual rent roll (weighted average lease terms), market supply and demand for competing space (also affected by changing usage needs), legislation, and other factors. While the likelihood of distress is increasing, it is not anticipated to be widespread.

Investors with upcoming loan maturities, expiring interest rate caps, and other situations requiring a refinancing of current debt could have difficulty obtaining financing and be forced to sell their commercial real estate asset(s) or to give the asset(s) back to the lender. Those holding office, hotel and retail property types will have more difficulty getting new financing than those holding industrial and/or multifamily assets. While this situation could create buying opportunities for well capitalized, low leverage investors, the current economic uncertainty coupled with thin transaction volumes (and therefore comparable sales) makes finding reasonable price and return expectations challenging.

Commercial real estate loan exposure at large banks is generally less than at smaller, and/or regional banks. While some smaller banks may be experiencing stress, primarily due to high interest rates, commercial office building high vacancy coupled with declining values of these buildings, the situation is currently not anticipated to be a risk to the entire US banking system. However, there is more concern with non-bank mortgage lenders as they can have less liquidity options and cannot access the Federal Reserve's discount window through which the Federal Reserve is able to lend money directly to eligible banks.

As of December 31, 2023, the NCREIF ODCE index has recorded six consecutive quarters of negative appreciation. Trailing one-year net appreciation returns of negative 15.2% and trailing one-year net total returns of negative 12.7% are vastly different than the record-setting returns notched during calendar 2021 and the first half of 2022. During the second half of 2022 and throughout 2023, rent growth slowed dramatically across property types and locations. While overall fundamentals, such as occupancy, remain healthy, softening demand is causing some property level fundamentals to be under pressure.

While investors continue to evaluate the overall attractiveness and investment return potential of various property types and markets as they form their target allocations, asset selection has increasingly become paramount. Investors have become hyper-focused on using various criteria to narrow down the specific asset(s) they want to target. The increasing amount of data available and technological tools able to compile and analyze various data points and performance metrics is only anticipated to grow.

Core investors have been actively rebalancing their portfolios in light of portfolio growth, liquidity needs, increasing interest rates, and declining commercial real estate values. The redemption queues at many large open-end funds increased throughout 2023. While some funds satisfy redemption requests on a first-come first-serve basis, some will distribute redemption proceeds on a pro-rata basis. Given the dearth of transaction volumes and new commitments to core funds, it is unclear how long it will take to satisfy these redemption requests.

There remains significant dry powder equity capital (nearly $405 billion) raised and sitting on the sidelines ready to invest. However, capital raising slowed significantly in 2023, down 40% as compared to a year earlier. Low transaction volumes have kept capital tied up in existing investments, so there have been fewer distributions of invested capital back to investors. Additionally continued price opacity and costly debt financing have severely constrained new capital deployment. Investors have been navigating both numerator and denominator effects on real estate allocations over the last few years and are likely to remain discerning around new capital commitments in today's uncertain markets.

Increasing interest rates, lack of construction financing, rising input costs (labor and materials) and a slowing economy are causing a reduction in construction starts and, therefore, new supply. This represents an opportunity for investors like CalPERS with high quality, well-located assets to maintain long-term resilient income streams, and also- for those with quality development projects far enough along in the development pipeline with certainty around execution pricing and timing.

March 18, 2024

Conclusion

CalPERS' continued discipline, long-term investment horizon in this illiquid asset class, and its focus on the intended role the asset class, should continue to serve the needs of the System. Adhering to the Strategic Plan, particularly in times of market uncertainty and disruption, will ensure the real estate program continues to scale in an appropriate manner and contribute to achieving CalPERS' investment objectives.

Please do not hesitate to contact us if you have questions or require additional information.

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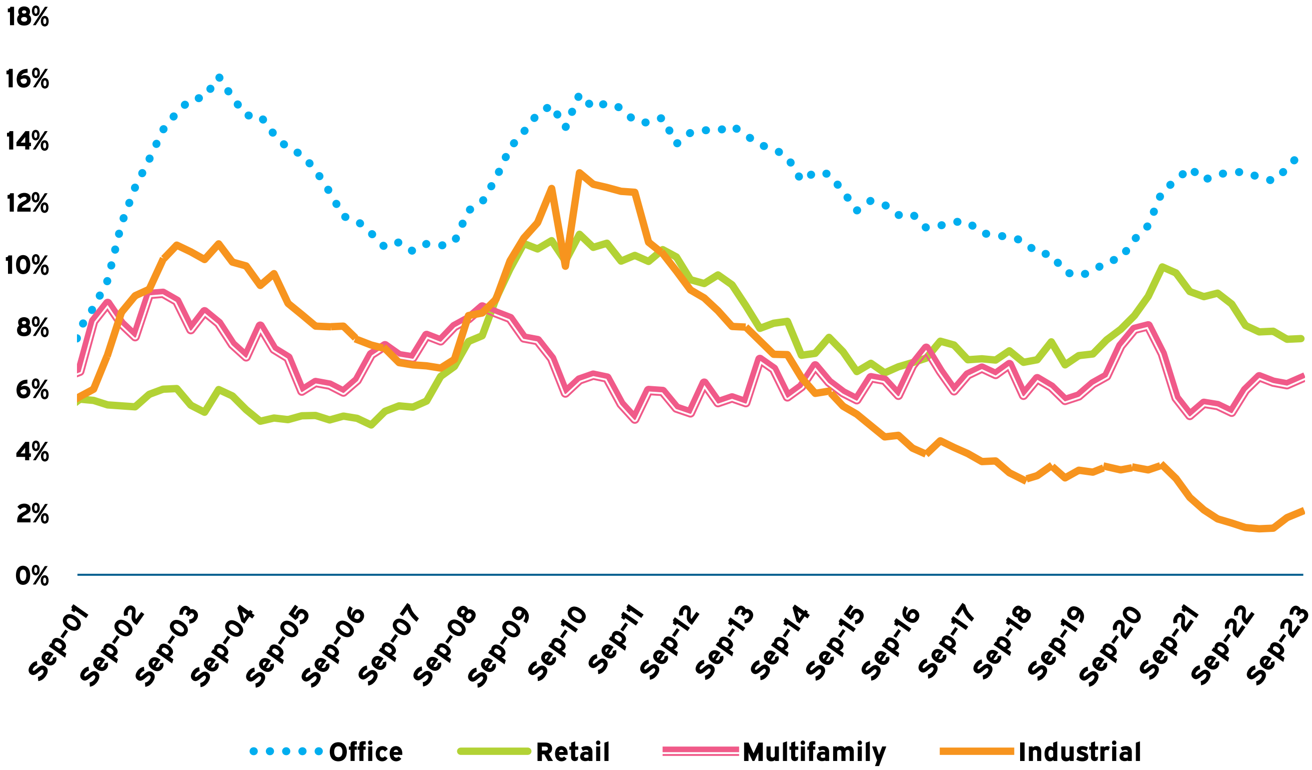
Attachment

Real Estate Market Views – Q3 2023

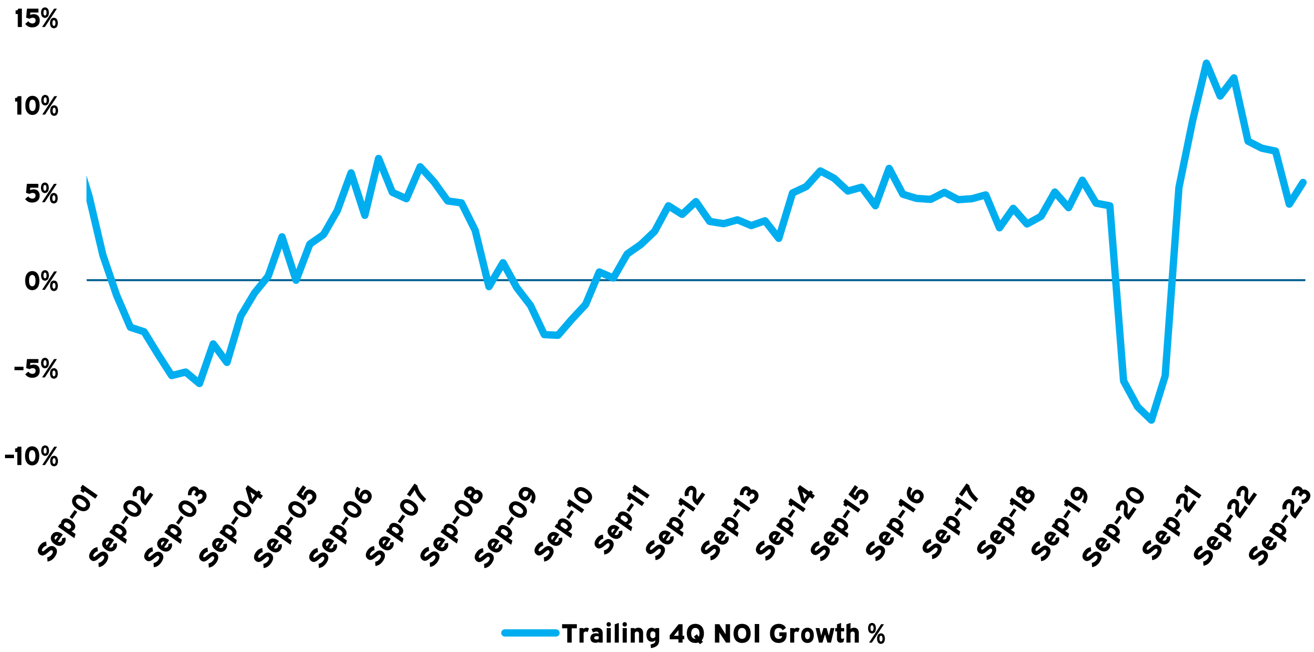
Vacancy by Property Type[1]



In the third quarter of 2023, vacancy rates increased for all property types, with retail vacancies increasing only by a negligible 0.02% during the quarter. Generally, retail vacancies continue to trend downwards, decreasing by 42 basis points overall year-over-year, representing the only property type to experience a decline in vacancy rates over the past year. Both the multifamily and industrial sectors experienced an increase in vacancy rates of 0.19% during the third quarter, further contributing to their year-over-year increase in vacancy rates of 0.37% and 0.51%, respectively. Office vacancies increased by 0.52% in the third quarter, constituting the highest amount for the quarter relative to other property types. Notably, the office sector maintains the steepest upwards line year-over-year with a 0.62% increase compared to Q3 2022., bringing current vacancies to 13.59%, the highest vacancy rate for office since Q3 2014.

[1] Source: NCREIF.

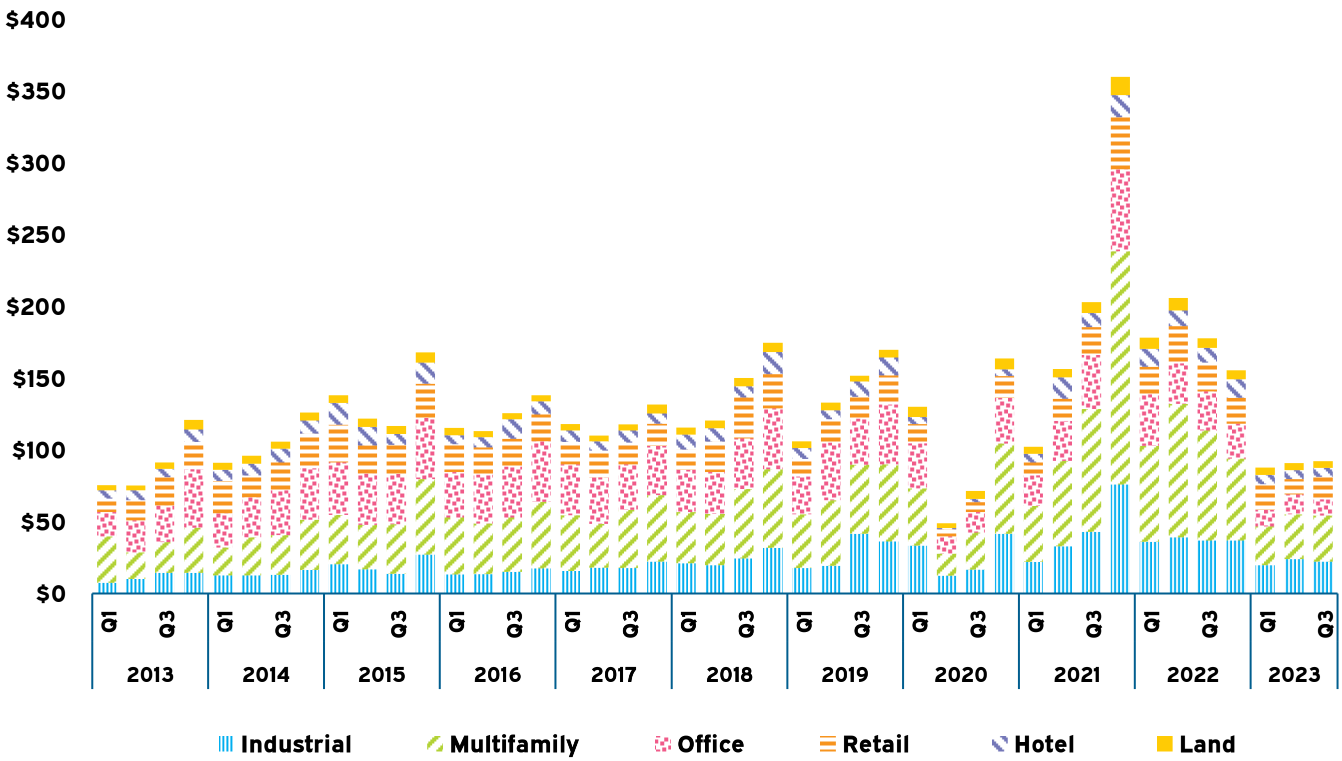
NOI Growth[1]



The trailing twelve-month NOI growth rate accelerated in Q3 2023 to 5.6%, as compared to 4.3% in Q2 2023, representing a meaningful increase over the past quarter of 124 basis points. Only office and retail saw an increase in NOI growth for the trailing twelve months ending in Q3 2023, constituting the primary drivers for the overall quarterly increase. Retail experienced the highest acceleration (+493 basis points), resulting in a positive trailing 12-month NOI growth rate of 4.2% as of September 30, 2023, compared to a negative growth rate last quarter. Despite continued distress in office, the sector also experienced a material increase of 361 basis points over the quarter, denoting 4.6% NOI growth year-over-year. Notably, Q3 2023 is the first quarter since Q2 2021 in which office NOI growth exceeded that of multifamily, which decelerated to 3.5% for the trailing twelve months as the market continues to absorb the near-term excess of asset deliveries. Industrial NOI growth also decelerated in Q3 2023 to 9.8%, still maintaining the highest trailing 4Q growth rate across all property types by over 500 basis points.

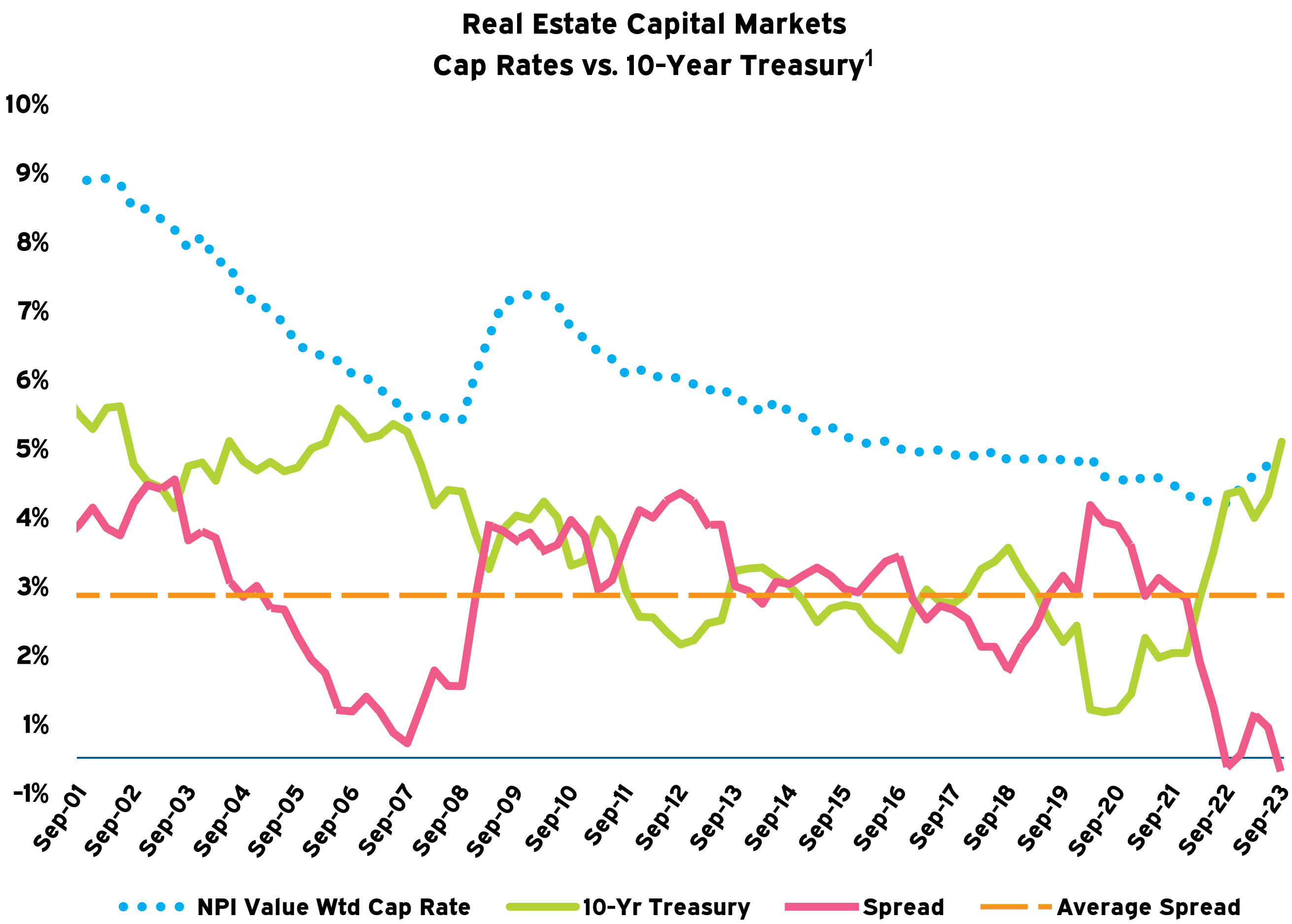
[1] Source: NCREIF.

Transaction Volume ($B)[1]



Private real estate transaction volume for properties valued over $2.5 million was $92.1 billion in Q3 2023, slightly up from the $90.9 billion total last quarter, but remaining generally low overall relative to prior quarters as a result of the rising rate environment and continued market volatility. The retail sector experienced the largest increase in transaction volume from the prior quarter of $5.0 billion. The only other sector to report a positive change in transaction volume was industrial, increasing by $1.0 billion over the quarter. Transaction volume in both office and multifamily slowed over the quarter, decreasing by $2.6 billion and $1.8 billion, respectively. Hotel and land volumes also declined by minimal amounts of less than $500 million from the prior quarter.

[1] Source: PREA.



The NPI Value Weighted Cap Rate increased slightly to 4.34% (+9 basis points) in Q3 2023. The 10-year Treasury yield increased by 78 basis points in Q3 2023 to approximately 4.6%, resulting in a negative spread of 25 basis points between cap rates and treasury yields. This represents only the second time that the treasury yield has exceeded the NPI cap rate over the last 20 years, with the first instance occurring in Q3 2022 when the Fed began consistently raising interest rates by 75 basis points.

[1] Source: NCREIF and US Department of the Treasury.

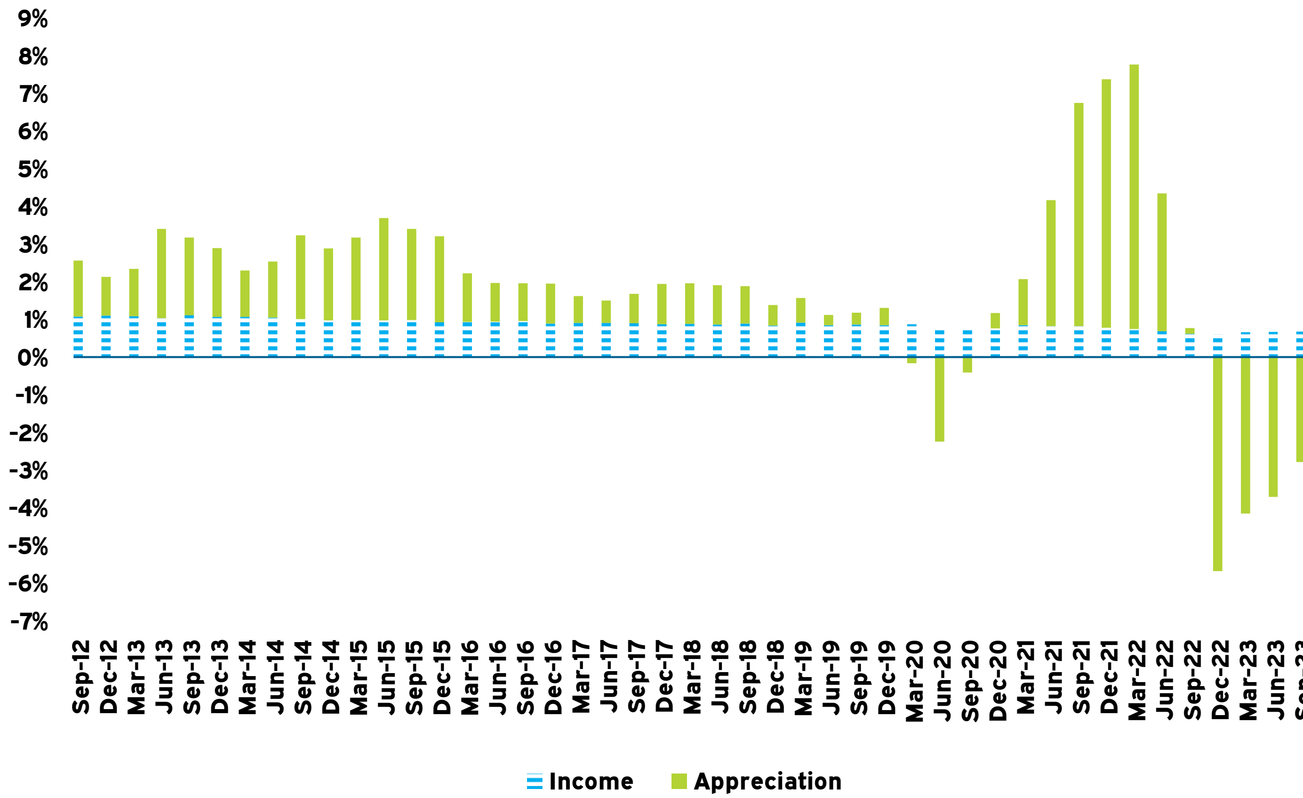
Trailing Period Returns[1]

As of September 30, 2023	Quarter	1 Year	3 Years	5 Years	10 Years
NFI-ODCE (Equal Weight, net)	-2.1	-13.1	6.7	5.2	7.6
NFI-ODCE (Value Weight, net)	-2.1	-12.9	6.2	4.7	7.2
NCREIF Property Index	-1.4	-8.4	6.0	5.3	7.4
NAREIT Equity REIT Index	-8.3	-1.7	2.7	2.8	6.1

Private real estate indices generated negative returns in Q3 2023, as well as over the one-year time horizons. The 3-year, 5-year, and 10-year horizons remained positive. The NFI ODCE Equal Weight Index posted a negative return in Q3 2023 of -2.1%, representing a slight increase of 93 basis points from Q2 2023, however all other time horizons experienced a decline in returns over the last quarter. The Equal Weight Index's one-year return saw the largest change from the prior quarter of -257 basis points, representing the first one-year time horizon in which the NFI-ODCE Equal Weight Index generated a negative overall return in each of the four prior quarters. Over the long-term, private core real estate has generally outperformed the NAREIT Equity REIT Index for all periods presented, apart from the one-year time horizon in which the public index represents the highest performing metric as of Q3 2023.

[1] Source: NCREIF.

ODCE Return Components[1]
(Equal Weight, Net)



In Q3 2023, the NFI-ODCE Equal Weight Index reflected a net return of -2.1%, representing its fourth consecutive negative return, although increasing by 93 basis points from Q2 2023. This result was driven by a -2.8% appreciation return for the quarter, which was slightly offset by a 0.9% income return. Upward adjustments to the discount rate, used in valuations to reflect increasing interest rates and the cost of debt financing, continue to negatively impact the appreciation component of returns. Over the last four quarters, the NFI-ODCE Equal Weight Index has reported a cumulative negative appreciation return of -15.4%.

[1] Source: NCREIF.