SFERS
San Francisco Employees' Retirement System

San Francisco City and County
Employees' Retirement System

INVESTMENT COMMITTEE MEETING CALENDAR SHEET
October 9, 2024

To:	Investment Committee
From:	Alison Romano CEO & CIO
Date:	October 9, 2024
Agenda Item:	Real Estate Outlook

Recommendation:
This is a discussion only item.

Background:
Real Estate markets have fluctuated over the last several years as interest rates increased and supply and demand dynamics continued to evolve from one sector to the next. Cambridge Associates will present an update on broad Real Estate trends, including a review of major themes and changes within Real Estate fundamentals. The discussion will incorporate market outlooks on primary Real Estate sectors such as Industrial, Residential, Data Centers, Office, and Retail.

Attachment:
Consultant Presentation – Cambridge Associates

SAN FRANCISCO EMPLOYEES' RETIREMENT SYSTEM

REAL ESTATE OUTLOOK

CAMBRIDGE ASSOCIATES

OCTOBER 2024

Agenda

1. **Real Estate Themes**
2. **Real Estate Market Outlook**
3. **Sectors Outlook**
   - Industrial
   - Residential
   - Data Centers
   - Office
   - Retail
4. **Appendix**
   - Real Assets Themes & Role In Portfolio
   - Bio

Section 1

Real Estate Themes

2024 Real Estate Themes

Better values in attractive property types

The rise in interest rates has put downward pressure on valuations and reduced the availability of credit, creating a liquidity need for some property owners. Transaction volume remains limited despite ample dry powder available to be deployed. The level of dislocation varies by property type, and many distressed assets will not necessarily represent attractive opportunities. Our focus in 2024 will be on strategies targeting resilient property types trading at more attractive values given the dislocation in capital markets and on opportunistic managers that will benefit from distress.

Favorable Sectors

Industrial – demonstrates resilience, driven by on-shoring, "just-in-case" inventory strategies, e-commerce penetration and consumer preferences.

Retail 2.0 – recovery and resilience in necessity and grocery-anchored sector

Residential – demographic trends favorable for multifamily and senior housing. Should see distressed opportunities

Niche real estate – remains attractive due to low capex requirements and fragmented, non–institutional ownership (student housing in Europe; self storage; manufactured housing)

Additional / Dislocation Opportunities

A challenging environment to sell assets and to fundraise create opportunities for liquidity solutions providers – secondaries, co-GP capital

Many assets with broken capital structures will require capital infusions, creating opportunities for funds that can position themselves as a "solution providers".

Potential Opportunities

Office is distressed – despite that, many lower quality assets remain uninteresting. Office-to-residential conversions are difficult. Unclear if the office properties in the "winner" category will trade at attractive pricing.

Section 2

Real Estate Market Outlook

CAMBRIDGE ASSOCIATES

Our Views | North American Real Estate Outlook

Core Property Market View:

- Over the last 2 years since the market peak, core funds comprising the NFI ODCE Index have recorded a 24.3% decline in value. Over the last year ending in Q2 2024, the index generated a total gross return of -9.3%, comprised of a 3.9% income component and a -12.8% appreciation component. While core real estate may see another quarter of negative returns, the magnitude of repricing is likely to be small as interest rates have begun to decline. The current industry consensus is that valuations are nearing a bottom. Further, despite the market dislocation, income distributions from core funds remained relatively stable and slightly ahead of 3- and 5-year averages. Redemption queues remain at elevated levels: between 13% and 28% of total NAV. Not surprisingly, most core funds remain net "sellers" in 2024 as they seek to generate liquidity by often selling more desirable assets below original underwriting.

Value-Add and Opportunistic Market View:

- Capital market conditions continue to burden highly leveraged owners that need to address debt maturities. Approximately $1.1 trillion of debt will mature in 2024 and 2025[2], and approximately one-third of that debt was originated in 2020 or later, during a period of record low interest rates and high valuations. Owners with strained capital structures may require additional equity or other forms of rescue capital to maintain ownership, else they may be forced to sell in a softening market, creating potential opportunities for value-add investors in each case. As capital market uncertainty persists, new capital will likely continue to target less traditional real estate sectors demonstrating promising growth.

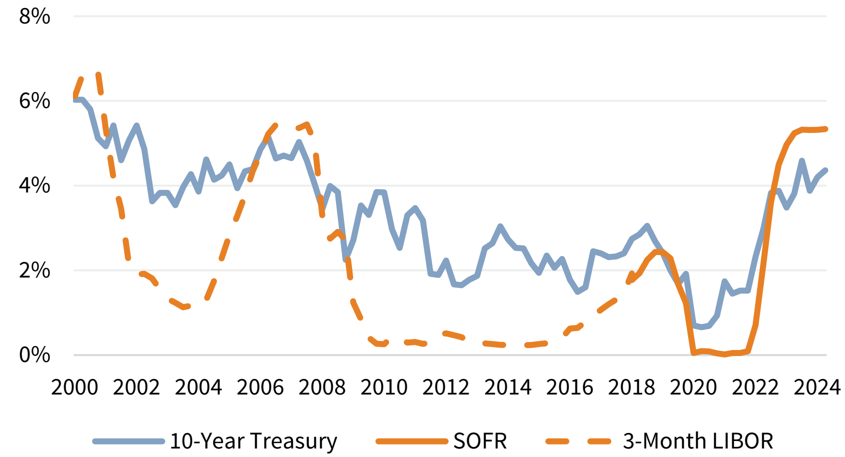
REITs

- US Real Estate Investment Trusts (REITs) have badly underperformed US equities since the beginning of 2020, driven initially by the impact of the pandemic and then due to the rapid rise in interest rates. However, REITs began outperforming US equities in the second half of 2024 in anticipation of interest rate cuts and increased interest in the asset class, generating close to a 20% return in Q3-2024 . REITs have been able to access the capital markets which positions them well to make accretive acquisitions in a favorable environment, which should allow them to grow asset values and dividends going forward. The REIT sector is now trading at a slight discount to net asset value, roughly in line with the long-term average.

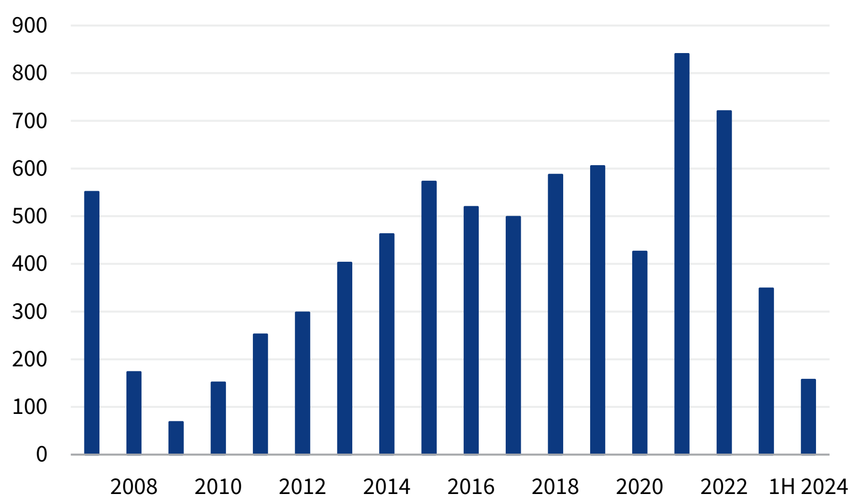
[1] Source: CBRE Research as of December 31, 2023
[2] Source: Trepp, Inc. as of December 31, 2023

Elevated interest rates and market uncertainty have stalled transaction activity, but some rebound is expected in 2024 and onwards

10-YEAR US TREASURY YIELD, SOFR, AND 3-MONTH LIBOR
Q1 2000 – Q2 2024



COMMERCIAL REAL ESTATE SALES VOLUME
2017 - Q2 2024 • ($) Billions



- The aggressive rate hike cycle, beginning in early 2022, along with market uncertainty and price discovery, has stalled real estate transaction volumes and negatively impacted property valuations due to expanding discount rates.
- Further, commercial real estate (CRE) is predominantly financed by floating rate loans priced over SOFR (aside from core funds that tend to finance assets with fixed-rate loans), which is directly influenced by the Federal Funds Rate. Thus, rapidly increasing borrowing costs have put pressure on assets' cash flows making it difficult to service debt, creating additional strain.
- US CRE investment volume fell by 3% year-over-year in Q2 2024 to $86 billion. This was an improvement from the 15% year-over-year drop in Q1 2024.
- With the recent and anticipated interest rate cuts and growing confidence that valuations have bottomed, transaction volume is expected to pick up in the 2H 2024, though it will be market- and sector-specific.

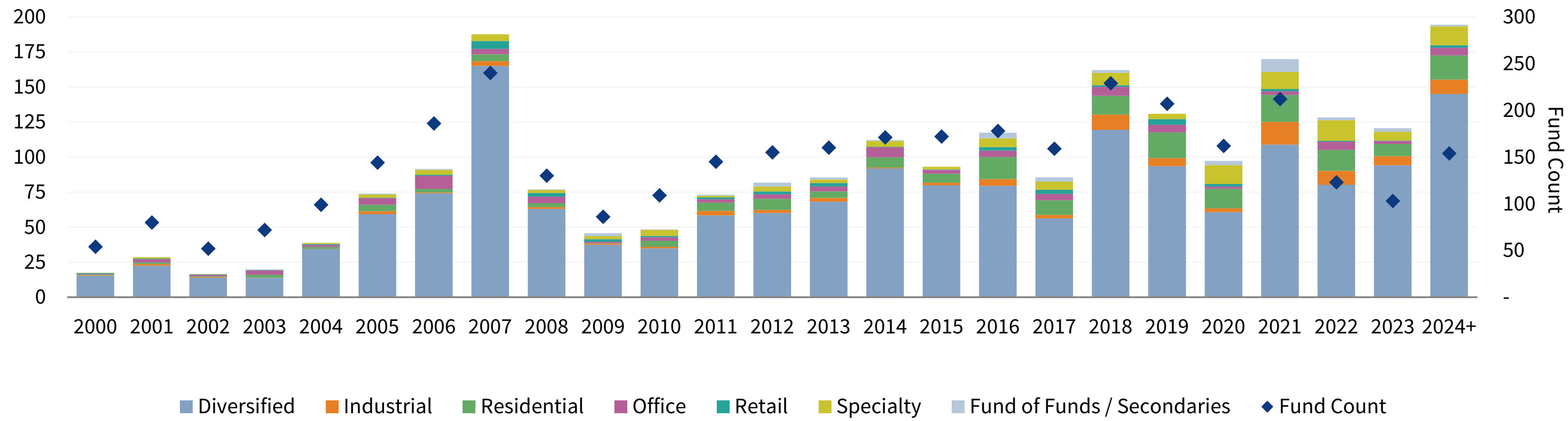
Sources: United States Department of Treasury, Federal Reserve Bank of New York, European Central Bank, CBRE

Real Estate Fundraising

Real Estate fundraising dipped in 2023 but the level of "dry powder" held by closed end RE funds remains near all time highs.

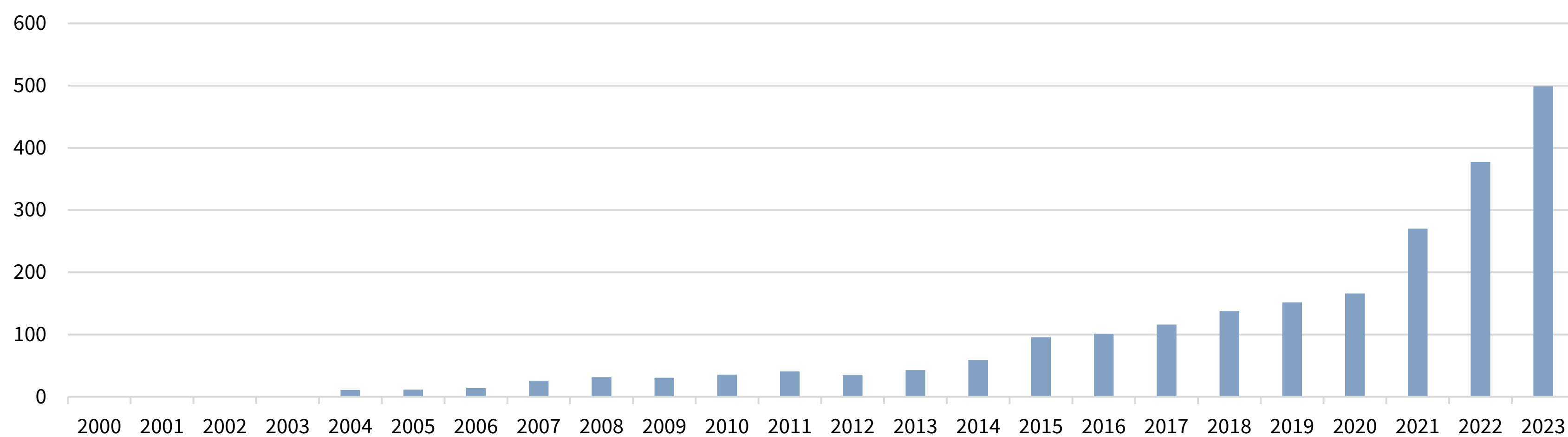
CLOSED-ENDED REAL ESTATE HISTORICAL FUNDRAISING BY SECTOR

As of December 31, 2023• Billions ($)



REAL ESTATE DRY POWDER

As of December 31, 2023• Billions ($)

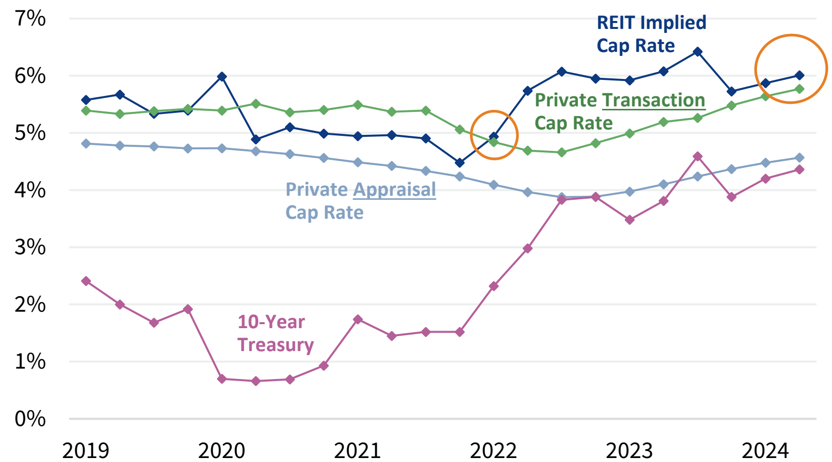


Source: Cambridge Associates LLC.

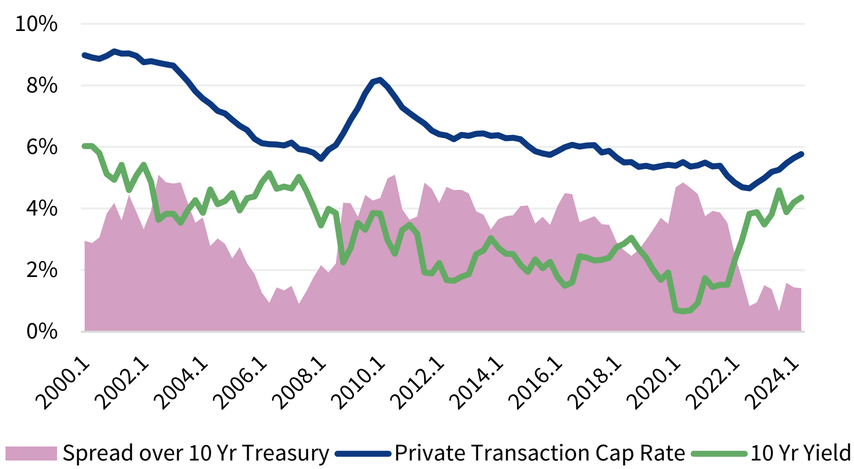
Notes: Notes: Data is as of December 31, 2023. Data includes close-ended funds tracked by Cambridge Associates. Open-ended funds are not included. Fundraising represents total target fund size by fund vintage year. The period of 2024 and Beyond includes the total number of real asset funds and fundraising amounts, as in our database, that are set to launch over the next two years. Dry powder for each vintage year reflects the sum of estimated dry powder remaining in funds for that year and the five prior years. For example, 2023 dry powder includes capital raised but uninvested in 2023 along with estimated uninvested capital raised between 2000 and 2022.

US private markets have not yet repriced to the degree of public markets, though the spread between public and private market cap rates is tightening

PUBLIC CAP RATES VS PRIVATE APPRAISAL CAP RATES
As of Q2 2024



US TRANSACTION CAPITALIZATION RATES SPREAD OVER 10-YEAR TREASURY
First Quarter 2000 – Second Quarter 2024 • Percent (%)



- Within private real estate, there remains a gap between appraisal cap rates (from asset appraisals during a given quarter) and transaction cap rates (which reflect actual sales in the market), likely signaling additional write-downs to come.
- REITs began to reprice in 2022 with implied cap rates staying above private cap rates ever since, but the spread between public and private valuations is tightening.
- Further, as of Q2 2024, the spread between the 10-year Treasury rate and private cap rates is tighter than historical averages.
- Specifically, the spread between Transaction cap rates and the 10-year Treasury was 140 bps as of Q2 2024, whereas the spread has been 330 bps on average since Q1 2000. Declining interest rates should help to widen this spread.

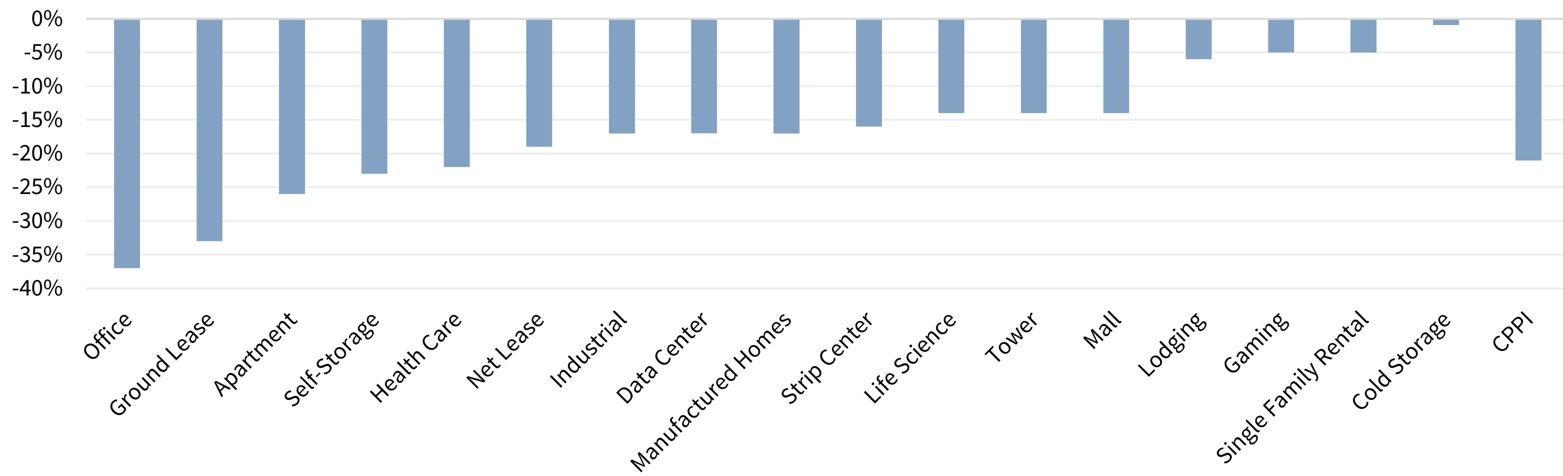
Sources: NAREIT, National Council of Real Estate Investment Fiduciaries, RCA, Green Street RE Alert
Note: All cap rate calculations utilized historical, or backward looking, net operating incomes (NOI). Cap rates are 4-Quarter moving averages.

Cap Rates & Valuations

Rise in interest rates and deteriorating operating fundamentals have put pressure on property valuations as reflected in higher cap rates across all sectors

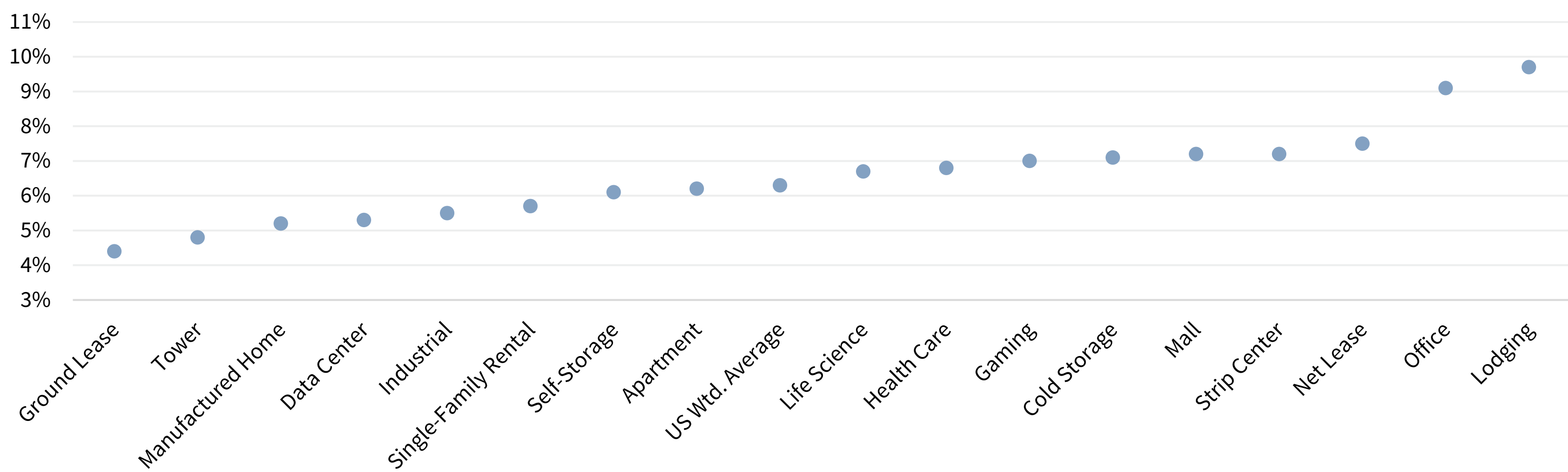
CHANGE IN PRIVATE PROPERTY PRICES FROM RECENT PEAK IN 2021

As of June 2024 • (%)



CAP RATES ACROSS PROPERTY TYPES

As of June 2024 • (%)



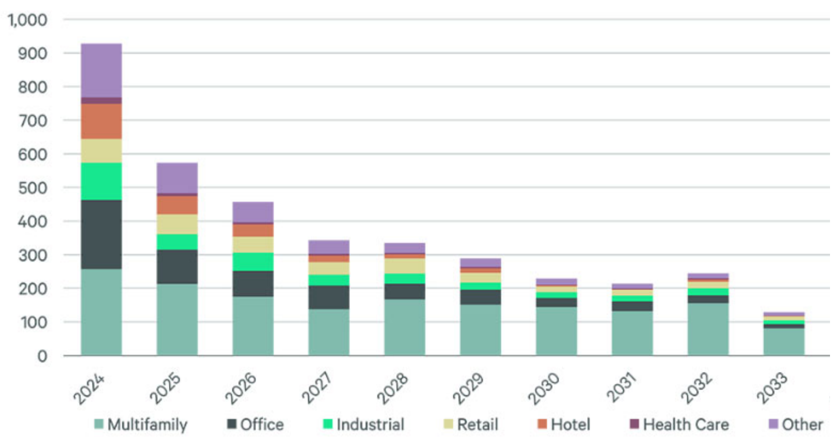
Source: Green Street, Berkshire Property Partners, Newmark, Cambridge Associates LLC.

CRE Loan Maturities, Spreads, and Delinquencies

Maturities upcoming across sectors, construction lending down, and signs of distress across sectors (except for industrial)

COMMERCIAL REAL ESTATE LOAN MATURITIES BY PROPERTY TYPE

As of May 2024 • ($B)



- Multifamily and office make up the largest portion of upcoming maturities.
- Traditional lenders have been pulling back from construction lending, providing potential opportunities for alternative lenders to finance new supply, but asset and market selectivity is key.
- The CMBS market is showing increasing signs of stress across all sectors except for industrial, which has proven resilient. Multifamily delinquencies have been increasing. Office continues to be high. Retail special servicing is more driven by malls, whereas grocery-anchored retail is well positioned.

SENIOR CREDIT SPREADS

SECTOR	SOFR SPREADS (BPS)
MULTIFAMILY	200 – 325
INDUSTRIAL	200 – 350
RETAIL	300 – 425
HOSPITALITY	320 – 550
OFFICE	400 – 550
SOFR	4.84% (SPOT) / 5.40% (PEAK)
10-YEAR TREASURY	3.80% (SPOT) / 4.92% (PEAK)

CMBS SPECIAL SERVICING RATE BY PROPERTY TYPE

As of August 2024

PROPERTY TYPE	AUG-24	3 MO.	6 MO.	1 YR.
INDUSTRIAL	**0.39%**	**0.41%**	**0.41%**	**0.33%**
LODGING	7.42%	7.82%	6.87%	7.07%
MULTIFAMILY	5.71%	5.43%	2.22%	3.58%
OFFICE	11.91%	10.52%	10.04%	7.72%
MIXED-USE	9.59%	8.94%	8.40%	6.93%
RETAIL	10.92%	10.87%	9.81%	10.07%
OVERALL	**8.46%**	**8.21%**	**7.14%**	**6.67%**

Notes: SOFR and Treasury spot rates of September 26, 2024. Peak rates occurred in 2023.
Source: Mortgage Bankers Association, Newmark Research, Trepp, CNBC, New York Fed

Capital Market Activity by Sector

Declining CRE valuations combined with a retreat from traditional lenders should create opportunities for real estate funds to fill the void and generate attractive returns

MULTIFAMILY

- As the sector continues to navigate the current wave of new supply, and valuations begin to reset, there may be opportunities to inject capital at an attractive basis due to poorly capitalized development projects, as well as others, that are facing a wave of loan maturities that were financed during low-rate environments.
- There will be bridge lending opportunities for those that can provide capital solutions and managers are reporting actionable credit deals currently in the market as these dynamics have begun to play out.

INDUSTRIAL

- Industrial loans maturing this year total $110 billion, significantly smaller than other commercial real estate sectors. The CMBS market is not showing any signs of distress for industrial assets, with loans in special servicing below 0.5% compared to over 6.4% across all sectors and 3.3% in multifamily.
- Credit opportunities in industrial have not materialized to the same extent as multifamily, but the valuation reset has been more muted and the sector is still positioned for long term growth in need of supply, potentially signaling lending opportunities on the horizon.

RETAIL

- Due largely to historically low new construction since the Greater Financial Crisis (GFC), retail valuations have not fluctuated as much as other sectors. Capital structures are not as upside down as other sectors and banks are actively lending to grocery-anchored retail.
- Retail has become less trafficked by institutional capital, leaving opportunities for nimble managers to finance well-capitalized sponsors. Nevertheless, construction lending is not attractive as development costs largely exceed acquisition costs.

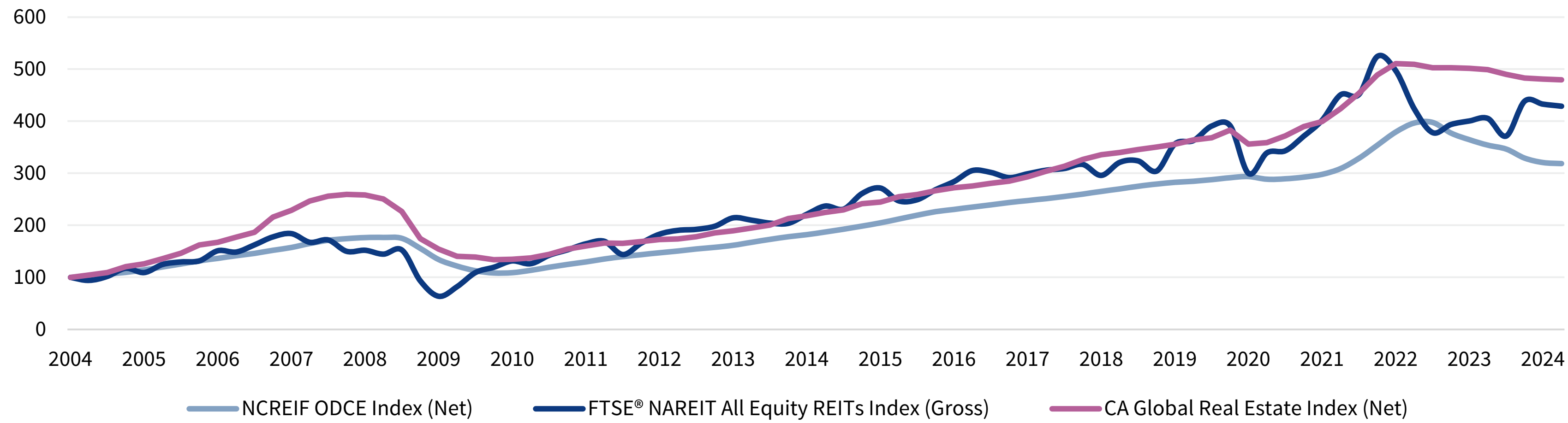
OFFICE

- Banks have largely retreated from office sector and existing loans reaching maturity either require a meaningful paydown or cannot be refinanced–this leaves opportunity for managers who can be highly selective and properly structure capital to avoid excessive leasing risk.
- Nevertheless, with the flight of capital from the sector, the exit market is unclear. There is a preference for returns to be generated primarily from cash flow in a structured priority position, while still being able to participate in valuation upside. The traditional credit return of capital plus interest does not match the risk for most of the sector.

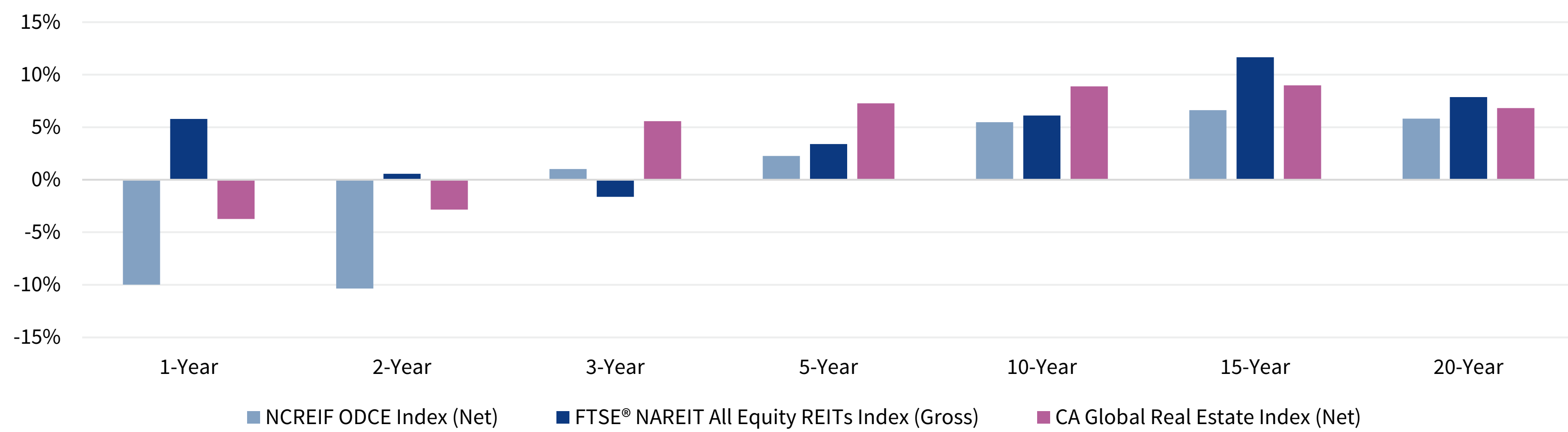
Private vs Public Returns

REIT returns exhibit more volatility than private RE as they are quicker to reflect in changes in market fundamentals and capital markets. However, longer term returns are comparable to private RE.

CA REAL ESTATE INDEX CUMULATIVE RETURN COMPARED TO CORE AND PUBLIC MARKET EQUIVALENT
January 1, 2004– June 30, 2024 • US Dollar • Indexed to 100



TRAILING PERIOD AVERAGE ANNUAL COMPOUNDED RETURNS (AACR)
As of Jun3 30, 2024



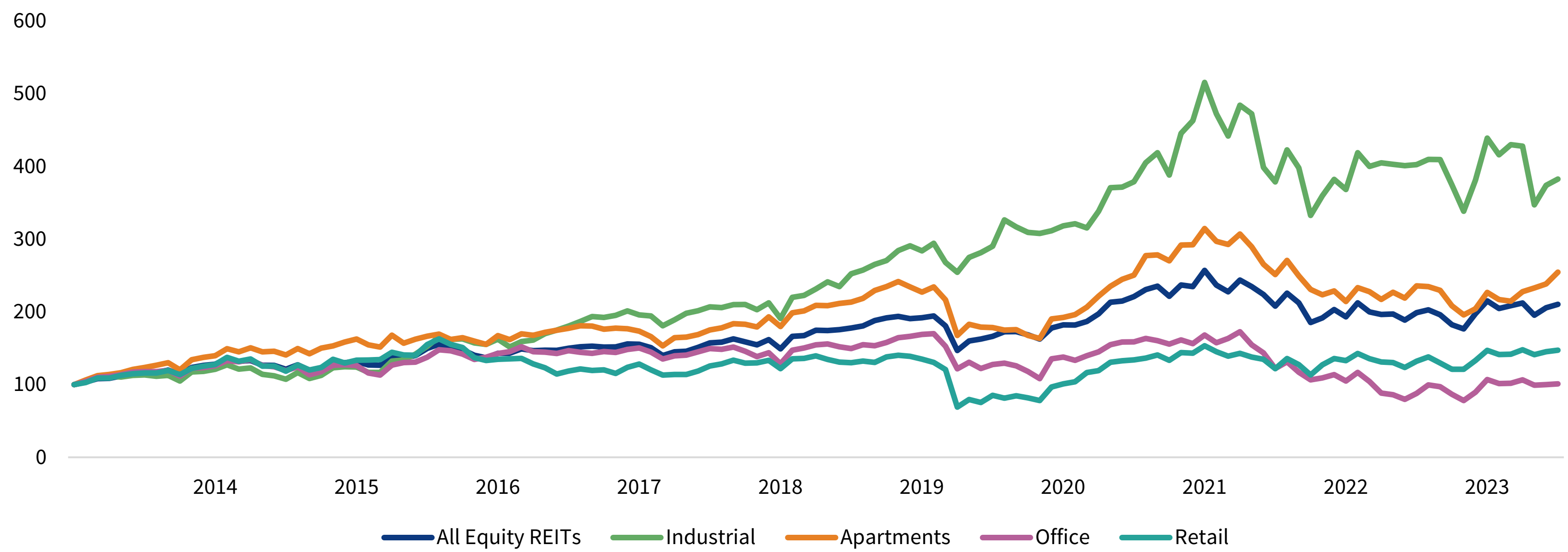
Sources: Cambridge Associates LLC, National Council of Real Estate Investment Fiduciaries (NCREIF), FTSE International Limited, National Association of Real Estate Investment Trusts
Notes(s): CA Global Real Estate Index represents preliminary Q2 2024 returns which reflects 60% of the Q1 2024 benchmark NAV as of September 23, 2024.
The NCREIF ODCE Index represents quarterly, unleveraged composite total return for private commercial real estate properties held for investment purposes only. All properties in the ODCE have been acquired, at least in part, on behalf of tax-exempt institutional investors and held in a fiduciary environment. US REITs are represented by the FTSE ® NAREIT All Equity REITs Index representing both income and appreciation. The CA Global Real Estate Index data are pooled horizon internal rate of return (IRR) calculations (net of fees, expenses, and carried interest) based on data compiled from real estate funds (including opportunistic and value-added funds).

REIT Performance

Industrial REITs have meaningfully outperformed the FTSE NAREIT All Equity REIT Index in recent years

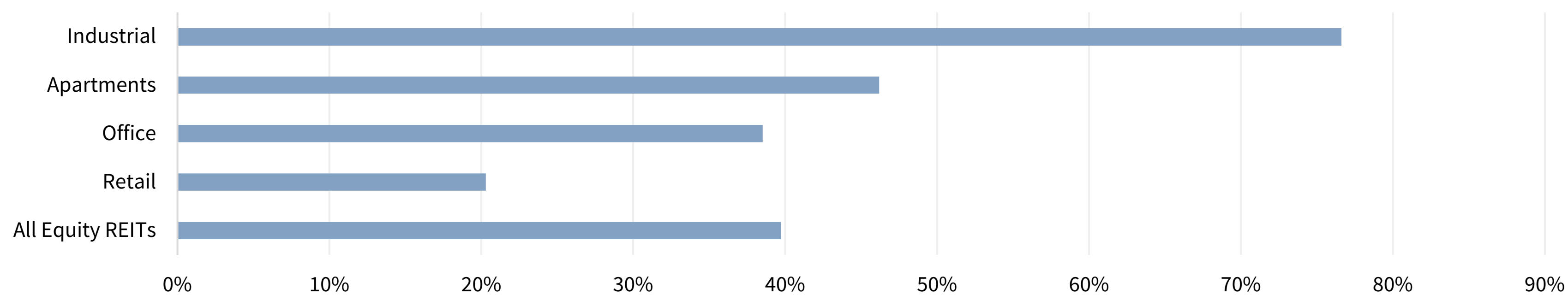
PUBLIC MARKET PERFORMANCE BY SECTOR

2014 – June 2024 • Total Return • Indexed to 100



PERCENT CHANGE IN SAME STORE NOI

Q1 2014 – Q1 2024 • % Change



Source: National Association of Real Estate Investment Trusts, Cambridge Associates LLC.

Section 3

Sectors Outlook

INDUSTRIAL

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Key Takeaways

Industrial markets continue to cool in 2024 following a decade of outperformance stemming from E-commerce, consumer preference, and household growth, along with new trends that emerged from the COVID-19 pandemic, such as near/on-shoring.

Record levels of new supply along with declining absorption have slowed rent growth and pushed vacancy rates up. While some markets continue to benefit from undersupply and rent continues to account for a relatively small percentage of the overall supply chain costs, overall rent growth is reverting to historical levels.

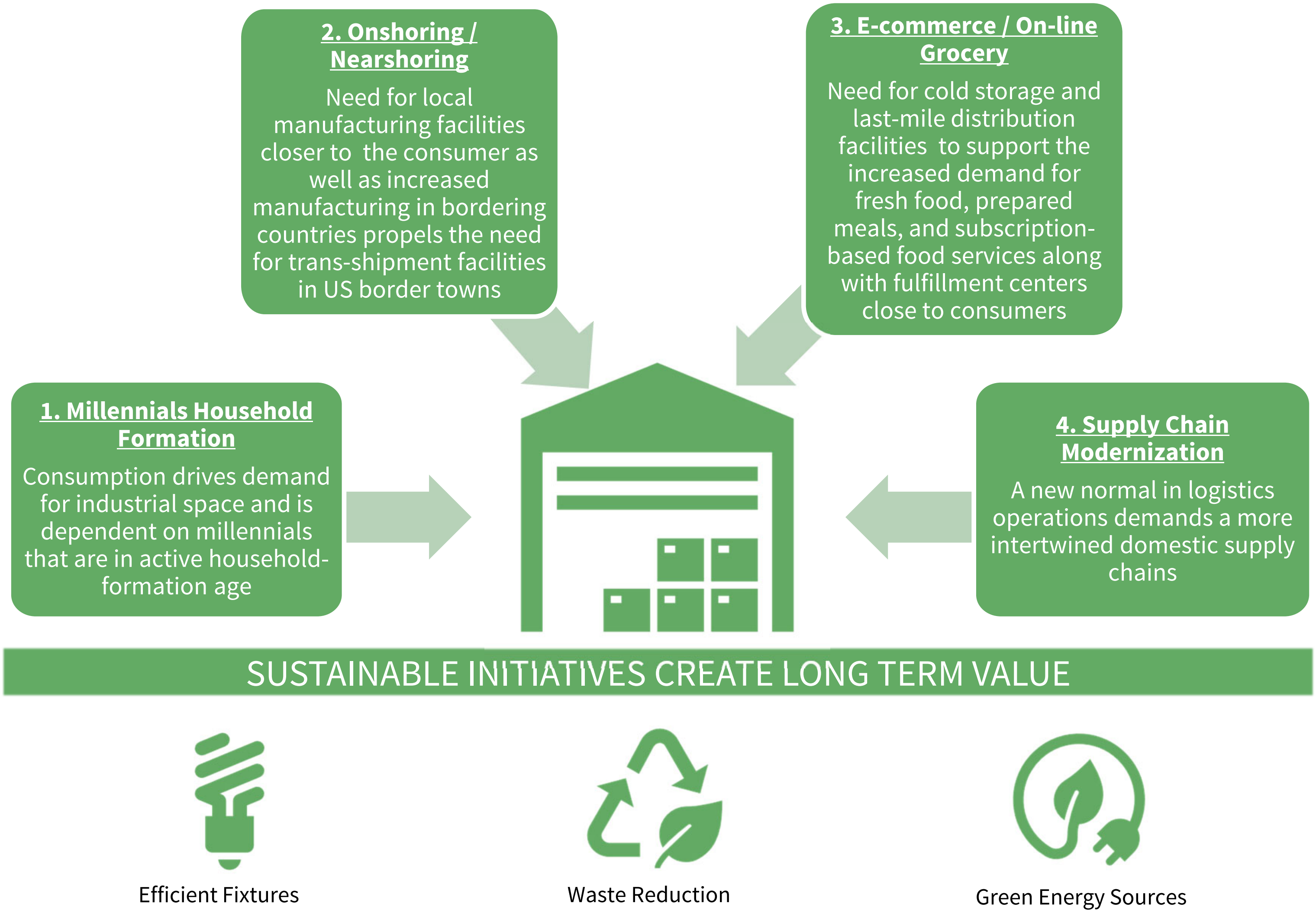
While supply remains high, new construction activity has slowed down due to tight lending conditions and as a result, market participants expect a recovery later in 2025-2026.

Over the last 10 years, industrial sector REITs have meaningfully outperformed the FTSE NAREIT All Equity REITs index. Similarly, valuation declines for industrial assets have been smaller compared to other sectors signaling market confidence in the sector. Importantly, lenders continue to look favorably at the sector which should offer more liquidity and likely result in fewer distress opportunities

From a portfolio construction perspective, exposure to traditional industrial and niche sectors like industrial outdoor storage, cold storage, light industrial will offer an opportunity to capture a broader set of trends that support the sector while also benefiting from relatively attractive entry points. Manager selection remains key with preference given to those with investment experience throughout cycles and operational expertise.

Industrial Tail Winds

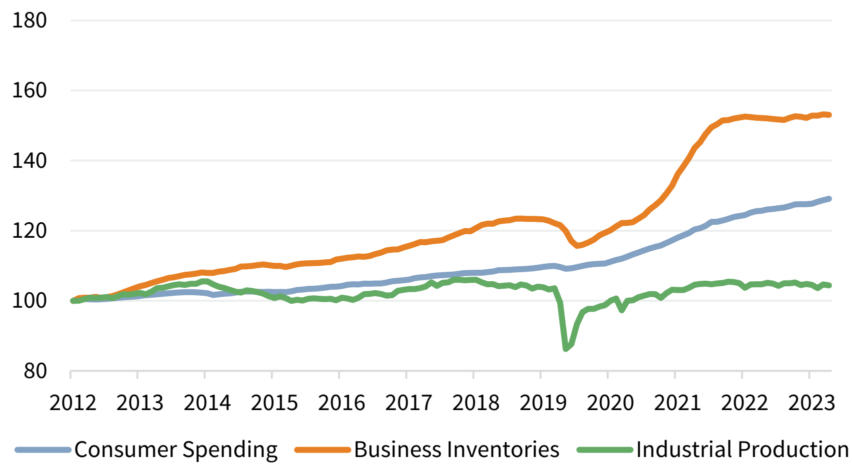
Industrial assets have benefited from a multitude of tailwinds post Covid-19



Onshoring / Nearshoring

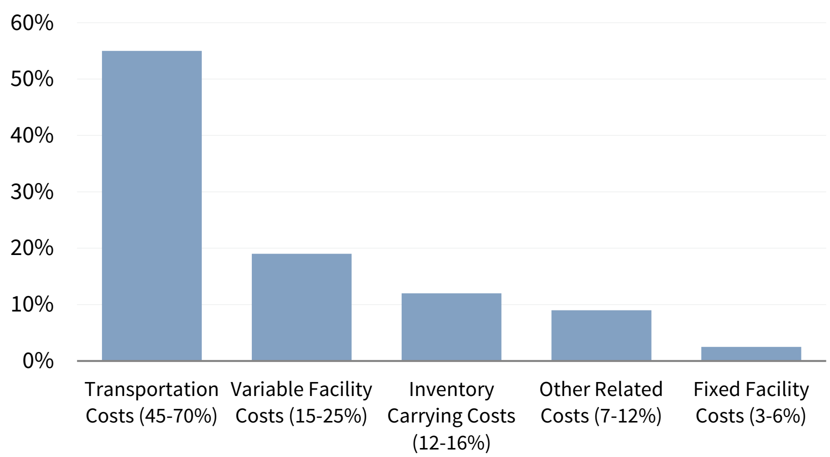
Covid-19 related supply shock and global political instability forced suppliers to reconsider their distribution networks, bringing more production on- and near-shore.

US SUPPLY CHAIN COSTS
January 2013 – March 2024 • Indexed to 100

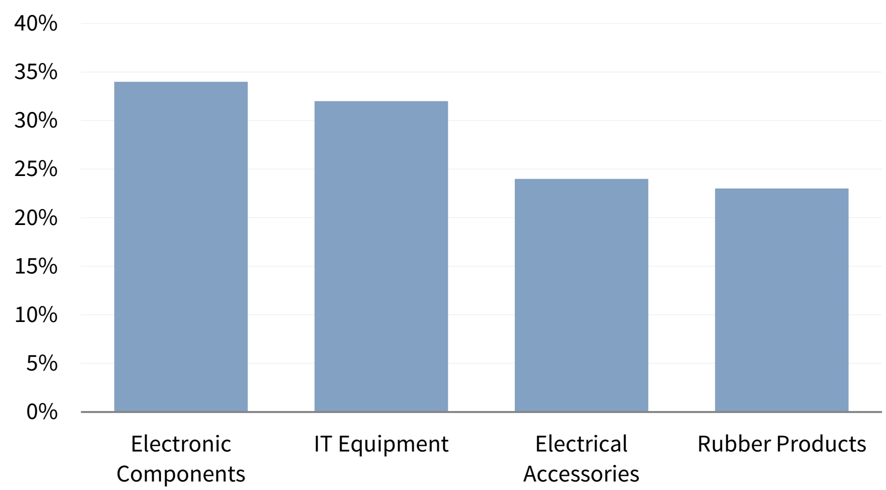


- Demand for goods spiked during and post-Covid-19 as retailers simultaneously faced a global supply chain shock. Traditionally lean supply chain networks became major risks to retailers, forcing them to expand onshore production and add storage capacity, sending business inventories to record levels.
- Increased trade between the US and Mexico propels the need for quality industrial assets located near border crossings.
- Demand has exploded for trans-shipment facilities in US border towns and warehouse space located on inland distribution routs to support the increased traffic of goods coming into US.
- Rent remains a small fraction of the overall transportation and logistics costs for a tenant, allowing landlords of industrial assets to continue to push rents further even as markets slow down.

LOGISTICS OPERATING EXPENSES
As of April 2023 • (%)



MANUFACTURING ACTIVITY GROWTH IN MEXICO BY SECTOR

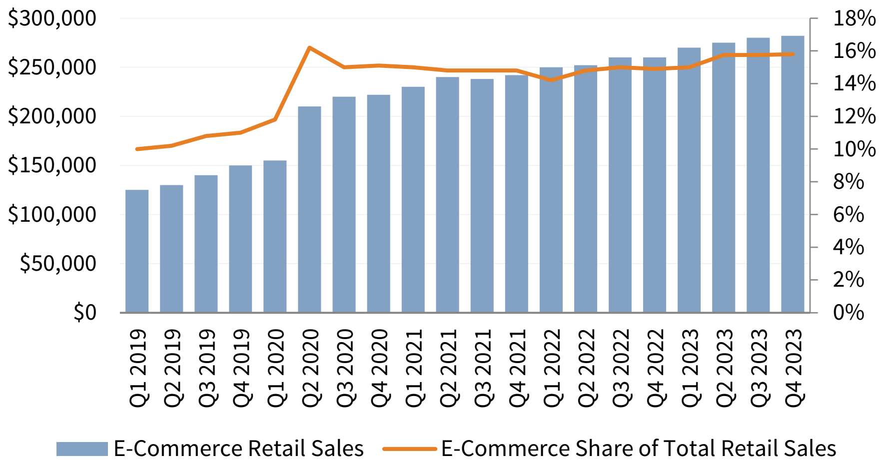


Sources: Federal Reserve of St. Louis, Newmark Research

E-Commerce / Online Grocery

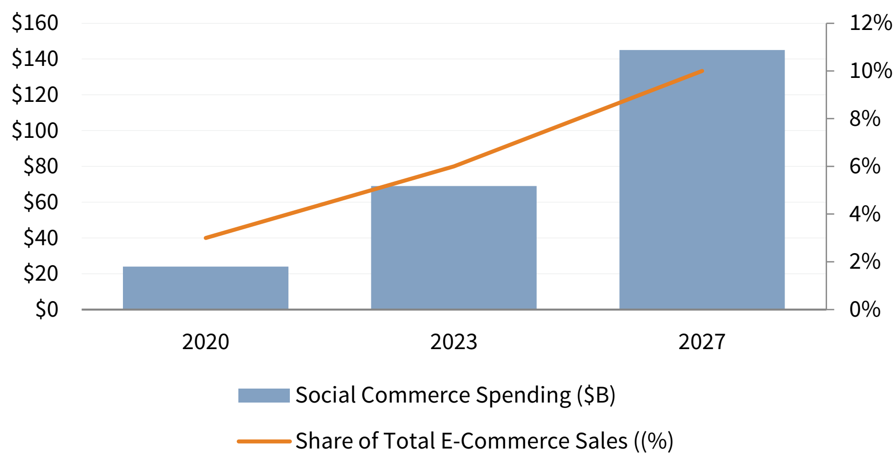
Adoption accelerated by pandemic era shopping

US E-COMMERCE SALES RELATIVE TO TOTAL RETAIL
Q1 2019– Q4 2023 • ($M), (% Share)

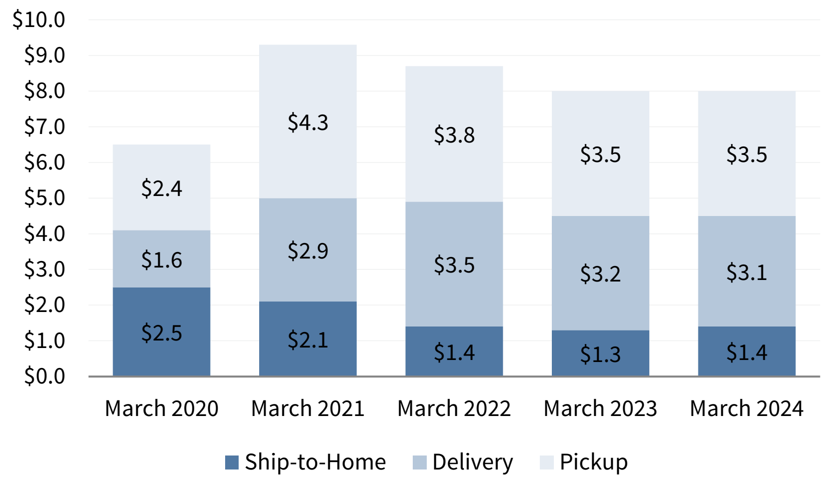


- Uncertainly around the "stickiness" of consumer behavior post-Covid-19 has cleared. E-commerce (with $1 trillion of sales recorded in the US in 2022) is expected to continue to be a secular growth engine, as evolving consumer preference, along with social media platforms monetizing global audiences, and new players in the e-commerce space contribute to this demand.
- Demand from online sales will be robust for the foreseeable future, especially as the pandemic introduced a new consumer base to online sales. E-commerce requires roughly three times more industrial space than traditional retail due to the need to accommodate pick-and-pack and reverse logistics.
- Consumer preferences for fresh foods and year-round produce availability, along with temperate sensitive pharmaceutical products, have accelerated demand for cold storage since Covid-19.

US HISTORICAL AND FORECASTED E-COMMERCE GROWTH
2020 – 2027 • ($B), (% Share)



U.S. ONLINE GROCERY SALES
March 2020 – March 2024 • ($M)

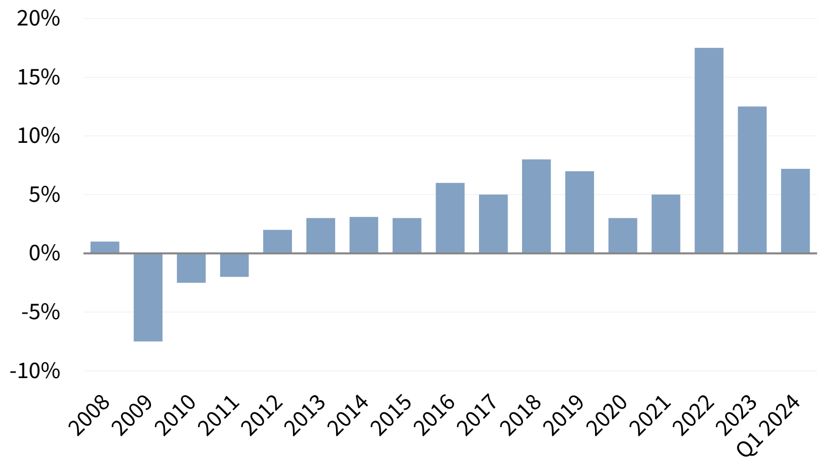


Source(s): Newmark Research, CBRE, Blackstone

Market Dynamics

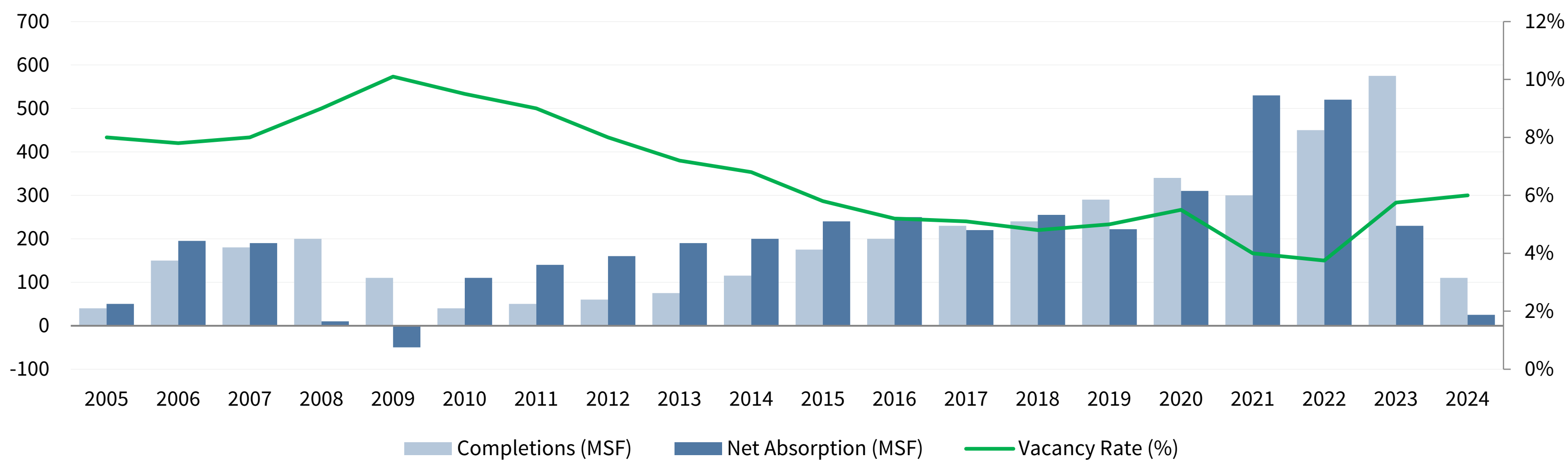
Despite a wave of new supply and softening demand, the sector continues to exhibit positive rent growth

YEAR OVER YEAR RENT GROWTH
2008 – Q1 2024 • (%)



- Year-over-year, rent growth remained positive but it is quickly trending down after peaking at 18% in 2022. While certain markets such as Jacksonville, New Jersey Corridor, and Nashville continue to benefit from favorable supply demand dynamics, the double digit rent growth story is over for most markets.
- Vacancy rate that bottomed out at 3.75% in 2022 is trending up to 6%, as markets navigate new supply that delivered almost 600 million sq. ft. of new product in 2023 alone.
- Overall market uncertainty and cooling down of the economy have impacted absorption that is now on par with the pre-COVID levels.

US INDUSTRIAL UPTAKE
Q1 2019 – Q1 2024 • (MSF), (%)



Source: Newmark Research, Colliers
* An outsized share of the Silicon Valley industrial market is R&D space which contributed to the relatively high overall asking rent.

Industrial Assets

CHARACTERISTICS OF DIFFERENT INDUSTRIAL SUB SECTORS

	Niche/Alternative				Traditional	
	IOS					
	OPEN AIR	TRUCK TERMINALS	LIGHT INDUSTRIAL	COLD STORAGE	BIG BOX	MANUFACTURING
						
Rent Metric	Per Acre	Per SF	Per SF	Per Cubic Foot	Per SF	Per SF
Avg. Lease Term >5 Years	Yes	Yes	No	Yes	Yes	Yes
Institutional Ownership	Low	Medium	Medium	Low	High	Medium
Supply Risk	Low	Low/Medium	Medium	Low	High	Medium
% Credit National Tenants	High	High	Low	Medium	Medium	Medium
Redevelopment Optionality	High	Medium	Low/Medium	Low	Low	Low

Source: Compiled by Cambridge Associates LLC

RESIDENTIAL

CAMBRIDGE ASSOCIATES

Key Takeaways

Real estate values have declined in the current environment of high interest rate, tight liquidity, and general softening. The degree of impact varies across markets and sectors, and while fundamentals of the residential sector remain solid, it is not immune from the overall repricing.

Rent growth for traditional multifamily has slowed down as elevated levels of new supply have hit the market. Property taxes and insurance costs have risen meaningfully, further pressuring net operating income. However, a general slowdown in new construction activity due to tight lending conditions and attractive acquisition opportunities for existing assets should support a recovery later in 2025-2026.

Ongoing housing affordability issues, amplified further by high interest rates, and evolving demographic trends support demand for the residential sector. This is especially pronounced in the affordable housing segment for low-income households (Section 8 and LIHTC) which continues to demonstrate strong occupancy rates and sustainable rent growth due to product shortage.

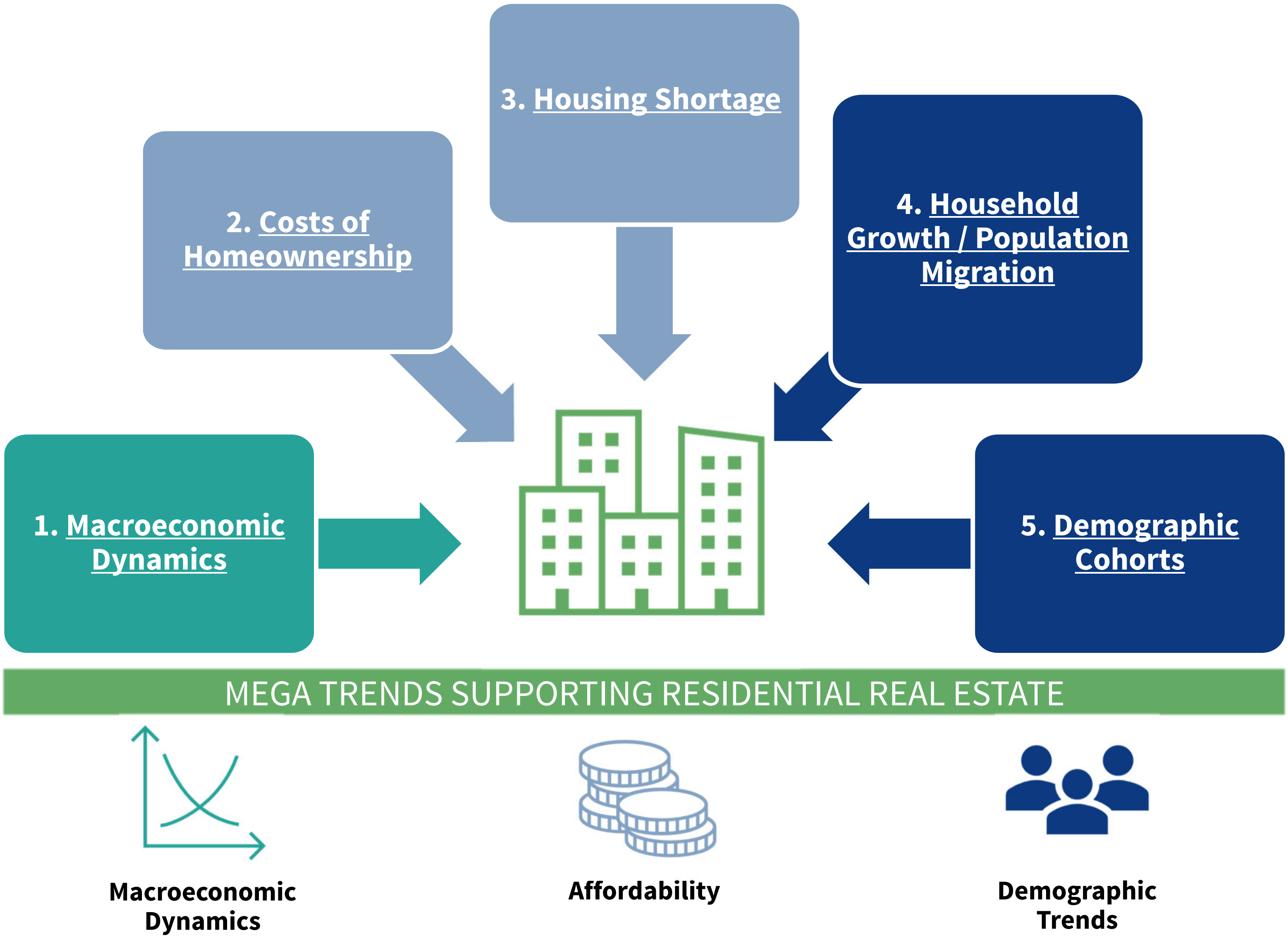
Alternative residential sectors appear more resilient and have historically benefited from higher barriers to entry and fragmented ownership structures. However, sectors like student housing and senior living have been susceptible to oversupply, which has created attractive opportunities.

Over the last 10 years, alternative residential sectors such as manufactured housing and single-family rental REITs have meaningfully outperformed the FTSE NAREIT All Equity REITs; traditional multifamily performance was in line with the index.

From a portfolio construction perspective, exposure to traditional multifamily and niche residential sectors will offer an opportunity to capture long-term demographic trends while benefiting from attractive entry points. Manager selection remains key with preference given to those with investment experience throughout cycles and operational expertise.

Source: Cambridge Associates LLC.

Residential has proven resilient, and the sector is positioned well for long-term growth.

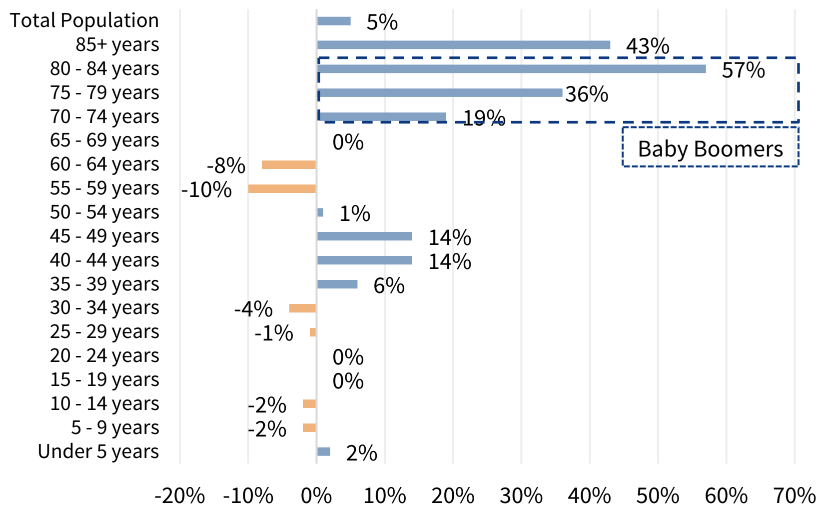


Source: Cambridge Associates LLC.

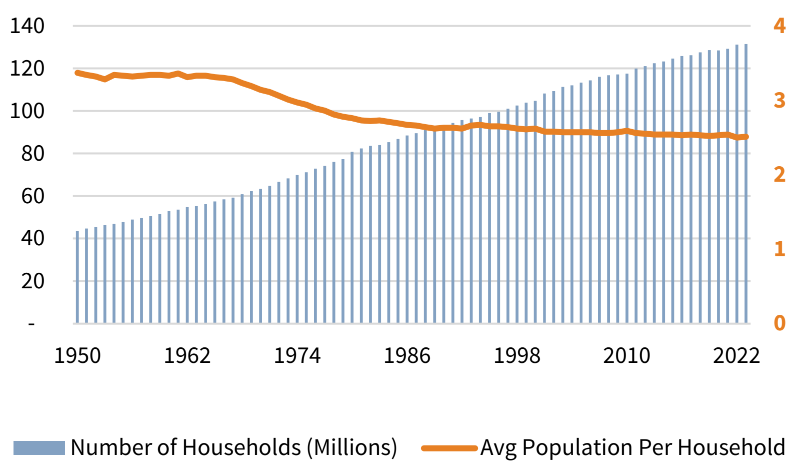
Demographics

The Baby Boomer generation is the largest demographic cohort by age in the US and will drive demand for senior housing over the next ten years

POPULATION GROWTH BY AGE
Population growth projection through 2032



NUMBER OF US HOUSEHOLDS VS AVG POPULATION PER HOUSEHOLD
1950– 2023



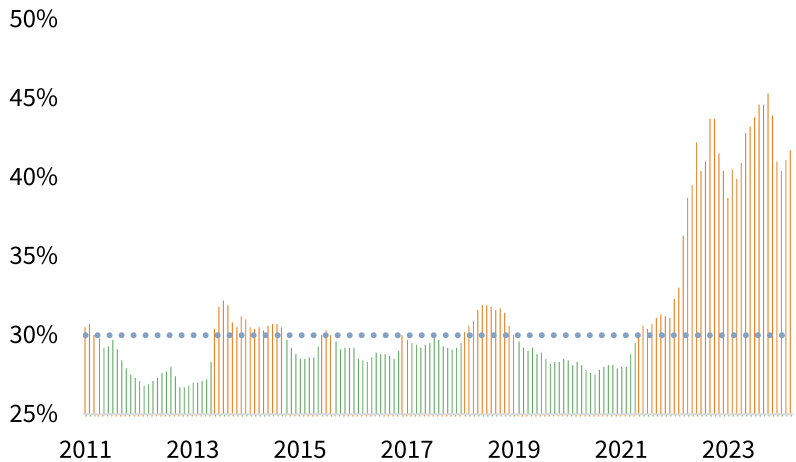
- An increasing number of Baby Boomers are beginning to age out of homeownership and move into various types of rental housing arrangements, providing a tailwind for senior housing demand
- Aging population has led to the emergence of differentiated age-restricted housing, active adult, that serves as transitional housing between home ownership and senior housing
- Millennials delaying or forgoing both marriage and starting families haven driven down the average size of a household, supporting demand for residential as more total households emerge
- Older Millennials (35-44 age cohort) are likely to be the largest consumer of the more affordable housing options such as single-family rental and build-to-rent housing, while the younger millennials continue to support demand for traditional multifamily; Generation Z will be a main consumer for student housing in the near term
- The larger number of the 65-74 age cohort of Baby Boomers that is now reaching retirement age ("Silver Tsunami") is expected to grow at ~5% annually over the next 5 years, representing a deep and growing potential tenant base for the active adult sector and senior housing in general

Source: JLL Research, U.S. Census Bureau, Lightcast, Freddie Mac, Cambridge Associates LLC.

Costs of Ownership

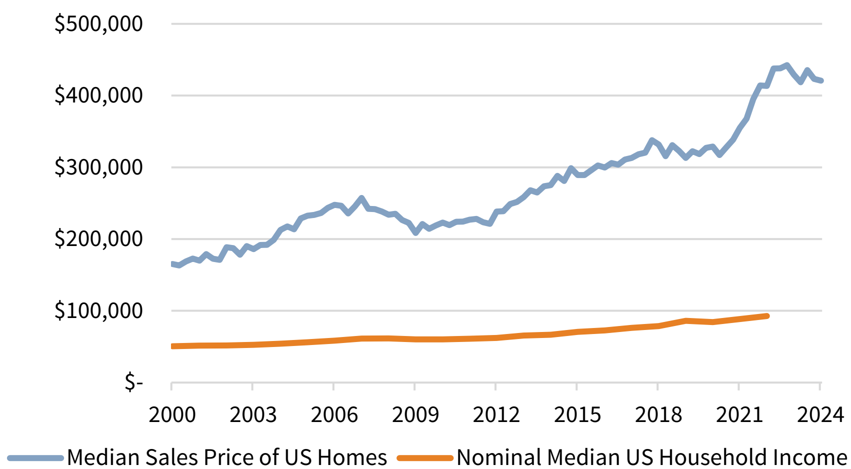
Interest rate hikes have driven up the costs of homeownership, restricting buyers and disincentivizing sellers

US HOMEOWNERSHIP PAYMENTS SHARE OF MEDIAN INCOME
January 2011 – March 2024

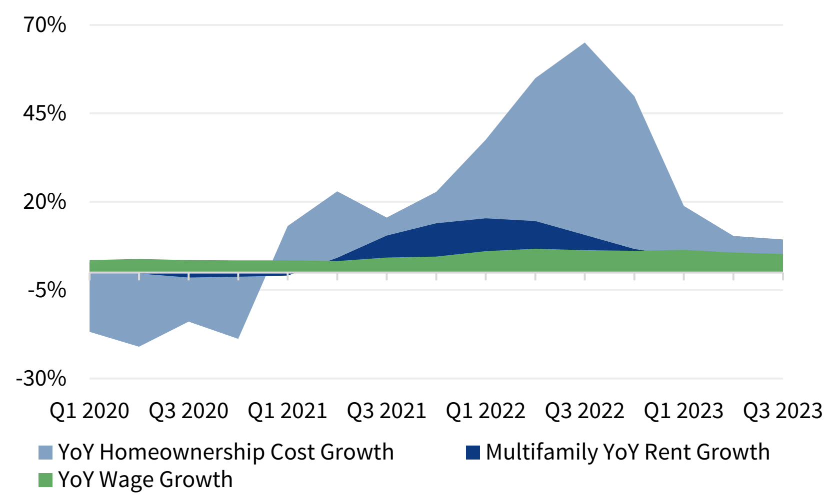


- Interest rate hikes pushed the average 30-year fixed mortgage rate above 7% for the first time since 2002. Yet, home prices continue to rise due to lack of inventory
- Costs of median homeownership reached 45% of median household income in Q3 2023, well above the 30% affordability threshold, supporting demand for rental alternatives such as SFR & BTR, especially from millennials that are in the active household formation phase

MEDIAN US HOME SALES PRICE VS US MEDIAN HOUSEHOLD INCOME
2000 - 2023



GROWTH IN COST OF HOMEOWNERSHIP VS RENT VS INCOME
January 2020 – September 2023 • YoY Percent Growth (%)

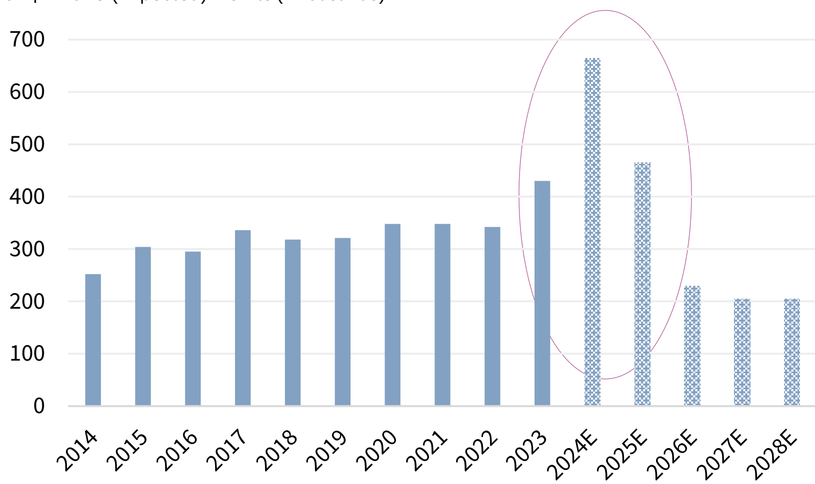


Source: FRED Economic Data, Federal Reserve Bank of Atlanta National Home Ownership Affordability Monitor (HOAM), Cambridge Associates LLC.

Supply & Demand

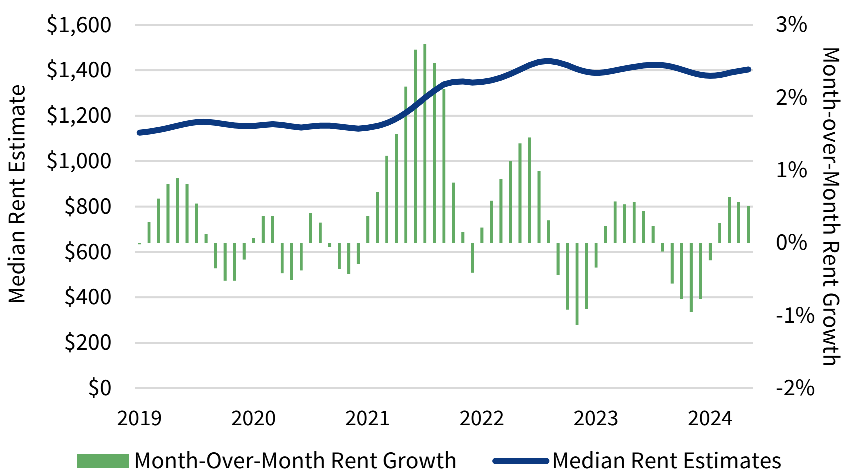
2024 is likely to be a challenging year for the multifamily sector as it is currently navigating through a wave of new supply

NUMBER OF MULTIFAMILY UNITS COMPLETED[1]
2024 – 2028 (Expected) • Units (Thousands)

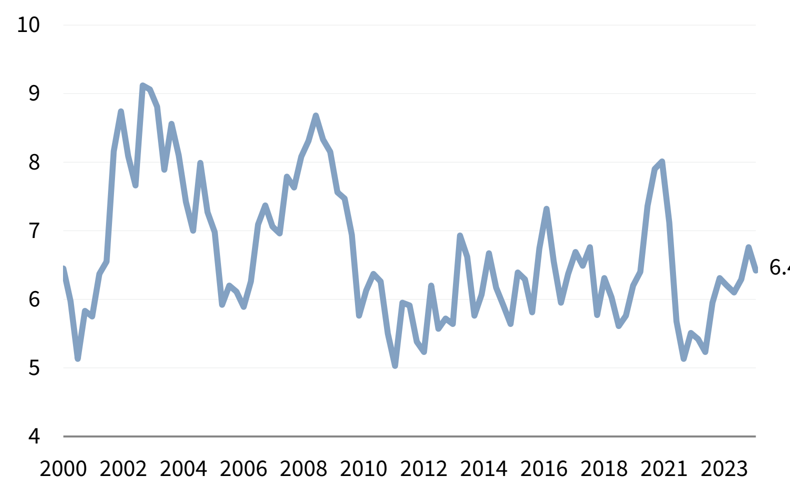


- Strong demand in 2021 and 2022 prompted a surge in construction starts that are now reaching completion and lease up
- After a record high 2023 (with ~440,000 units delivered to the market), 2024 will likely reach all-time highs adding over 650,00 new units. New supply represents approximately 2.3% of existing stock and is expected to peak at 3.5% later in 2024
- Further, new construction starts have focused on higher-end projects leaving supply for middle-market apartments more in check. Generally, investments in Class B properties can be viewed as a safer alternative to investments in luxury Class A properties

MONTH-OVER-MONTH RENT GROWTH
2019 – May 2024



VACANCY RATE
2000 – Q1 2024 • Percent (%)



Notes: [1] Projections based on Berkshire Property Advisors market research
Source: US Census Bureau, CBRE Research, Cushman & Wakefield, Cambridge Associates LLC.

DATA CENTERS

CAMBRIDGE
ASSOCIATES

Key Takeaways

Data centers are well positioned to outperform other real estate sectors in the long term due to secular tailwinds. Exponential data growth from a rapid increase in device usage and technology advancements in AI, cloud computing, 5G, and the internet of things (IoT) are accelerating the need to store, process, and interconnect data – fueling demand for data centers

Data center fundamentals remain strong with record tenant demand, significant barriers to entry due to operational complexities, the highly fragmented ownership in the sector, and availability of power that contribute to historically low supply. As a result, the sector benefits from low vacancy rates, strong rent growth and growing valuations.

Steady NOI growth, longer-term leases, credit-worthy "sticky" tenants, and lower risk of missed rent payments results in strong recurring cash flows. Despite several credit market constraints, data centers benefitted from ample debt financing options across traditional and non-traditional commercial real estate lenders and infrastructure funds, among others, in 2023. Robust development pipelines, a more stable lending environment, and heightened investor interest has supported strong capital markets activity in 2024.

From a portfolio construction perspective, data centers offer investors exposure to a fast-growing digital sector with defensive attributes and favorable tailwinds. Manager selection remains key with preference given to those with sector knowledge, development and operational expertise, and national reach. Considerations include powerful tenant super-users with leverage in negotiating leases, obsolescence risk (i.e., limited ability to repurpose/convert data centers), rising land values and overall development risk (construction costs, planning approvals, and access to power).

Source: Green Street, CBRE, Cambridge Associates

Data Center Tail Winds

Demand for data center assets is driven by a permanent secular shift towards a digital world

1. Artificial Intelligence

Training and delivering AI requires enormous amounts of computing power and data storage

2. Internet of Things

From medical devices to autonomous vehicles, IoT edge devices are transforming a range of industries and companies need to leverage the power of local data centers to facilitate delivery of IoT strategies

3. Big Data

The amount of digital data created over the next five years will be greater than twice the amount of data created since the advent of digital storage, creating a secular mega trend of demand for more physical data center space

4. 5G

With speeds 20-times faster than 4G, giving users quicker downloads and network operators greater efficiencies, demand for data and lower latencies will spur data center developments, particularly in edge markets

5. Cloud Computing

Shift to cloud–due to its reliability, interconnectivity, security, and cost competitiveness of data management–requires a network of Data Centers to facilitate instantaneous storage

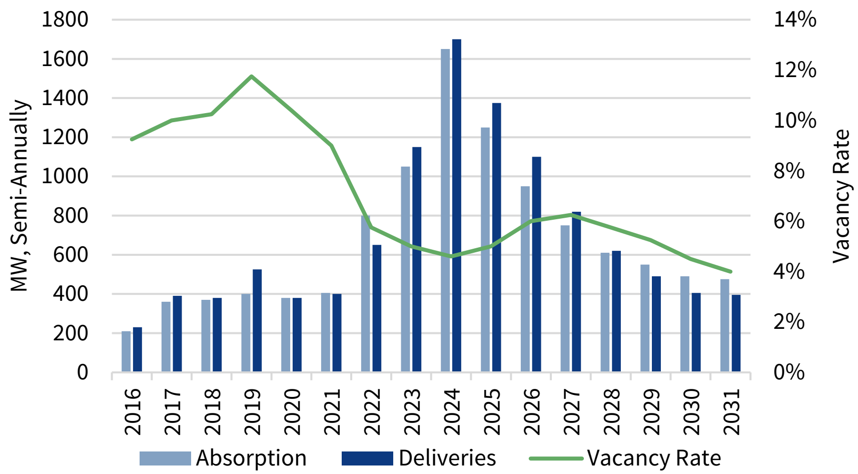
Increased Data Storage and Processing Needs = Data Center Demand

Sources: Digital Realty, Principal Real Estate, JLL, Silverback Data Center Solutions, Cambridge Associates

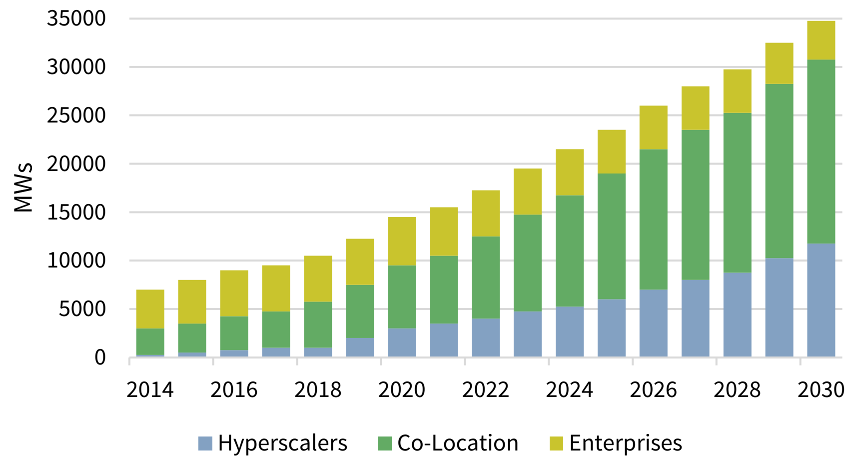
Data Center Market Dynamics

Demand for data centers is growing exponentially while supply faces multiple challenges, resulting in a strong fundamental outlook for data center assets in the near and medium term

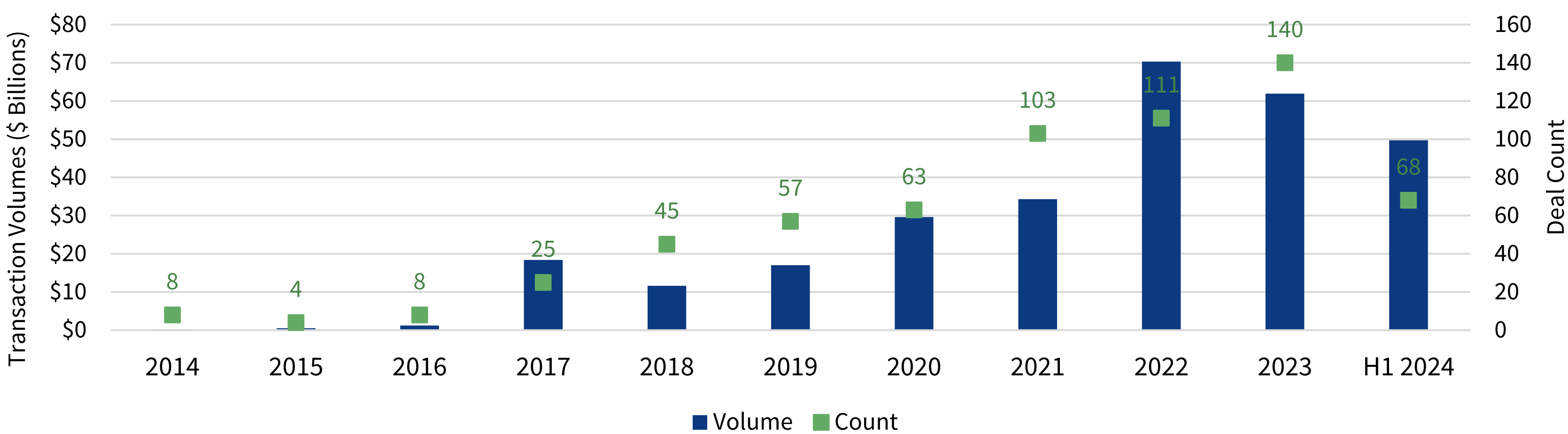
US DATA CENTER SUPPLY, DEMAND, AND VACANCY
2016 – 2031E



DATA CENTER POWER CONSUMPTION BY PROVIDERS/ENTERPRISES
2014 – 2030E



GLOBAL DATA CENTER TRANSACTION VOLUMES ($ BILLIONS)
As of June 30, 2024



Source: Infralogic, McKinsey & Data Tech Informed, fifteeenfortyseven Critical Realty, CBRE, Cambridge Associates

Risks

Data centers represent a highly attractive investment opportunity, but investors should understand risks and be targeted in manager selection before committing capital

1. Operations/Execution

Owning and operating data centers requires specialized experience different from other property types; proven operators with long track records are critical.

2. Development

Less pronounced for build-to-suit strategies that execute long-term leases with credit quality tenants prior to construction. However, speculative strategies with no planning approvals and/or visibility to power access are risky. Complexity of data center buildings and overall scale of such developments is an additional risk.

3. Exit Options

Uncertainty around exits is driven by relatively limited (until recently) transaction activity along with a scale of individual investments and potential obsolescence risk. Long-term leases with credit quality data center tenants are likely to attract institutional investors, but uncertain around generating liquidity at exit remains

4. Access to Power

Enormous amounts of power required by data centers is the biggest barrier for increasing data center supply. In competitive primary markets like Northern Virginia, the lead time to power new data centers can be more than three years and there may not be enough power generation capacity to meet the growing demand.

5. Potential Oversupply

While demand currently outpaces supply, supporting robust development pipelines, changing market conditions and technology evolution may lead to oversupply, particularly in primary markets.

Data centers amount to a highly specialized sector; risks cannot be disregarded but can be mitigated

Sources: CBRE, Cambridge Associates

OFFICE

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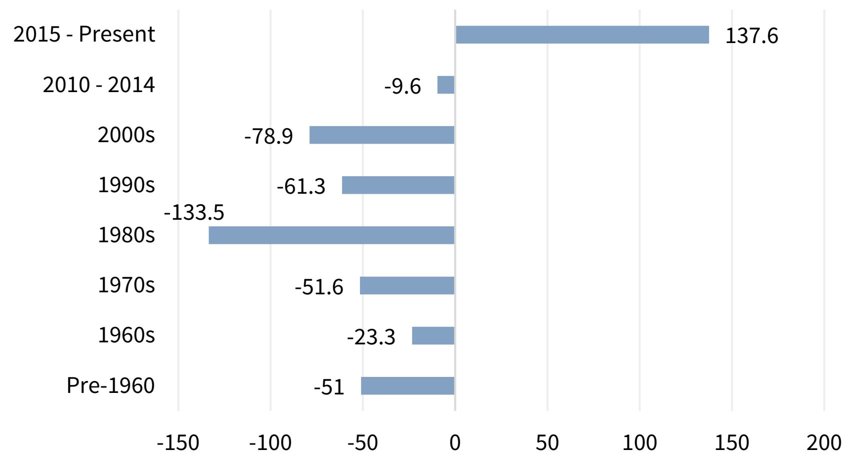
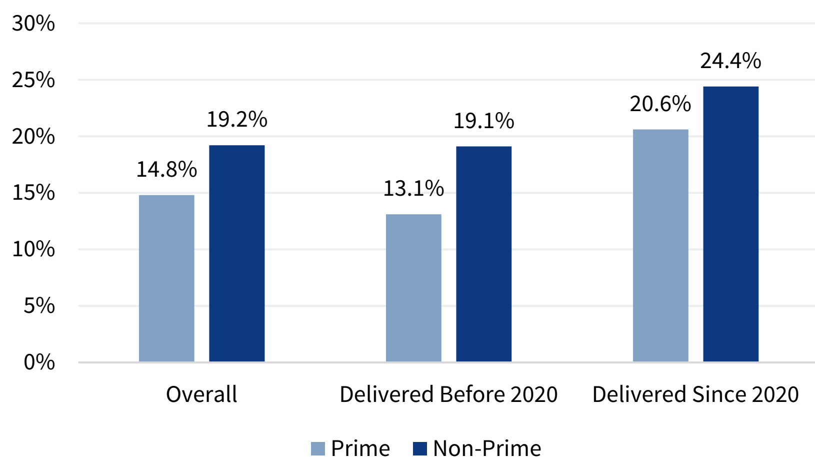
Office

Proceed with caution but opportunities will exist given the dearth of capital and lack of construction activity

NET ABSORPTION BY BUILDING VINTAGE
Cumulative net Absorption from Q2 2020 – Q2 2024 • Million Square Feet



PRIME VS. NON-PRIME OFFICE VACANCY RATE BY AGE
As of Q1 2024 • Vacancy Rate



- Office is undergoing a structural rerating given low utilization and corporate downsizing as companies adjust to hybrid/work from home dynamics post-pandemic.
- Commodity, undifferentiated "non-prime" office buildings, especially larger scale pre-2000 vintages, are at risk of becoming obsolete. Inventory is going to be removed, renovated, or repurposed; the latter of which is very difficult and requires substantial capex.
- All major US office markets have seen an increase in overall vacancy rates compared to Q1 2020, but vacancy is particularly pronounced in San Francisco, Atlanta, Austin, and Denver. In San Francisco, for example, vacancy has risen from 12.3% in Q1 2020 to 36.6% in Q2 2024.
- There are signs that leasing velocity is beginning to pick up. Across the US, 72.1 million square feet of office space was leased in Q2 2024 representing a 38.1% increase over Q1 2024. Further, according Avison Young, vacancy rates for prime office assets are expected to return to the pre-pandemic rate of 8.2% by 2027.
- That said, leasing has come at a cost to asset owners. Tenants are receiving 26.3% of lease value in concessions per year on average across US gateway markets.

Source: JLL Research, CBRE Research, Avison Young

RETAIL

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Retail

Idiosyncratic risk with asset/market selection being key

RETAIL FUNDAMENTAL STATISTICS Q2 2024

FUNDAMENTALS	MALL	POWER CENTER	NEIGHBOR HOOD CENTER	STRIP CENTER	ALL
INVENTORY (MSF)	901	791	2,978	710	12,129
VACANCY RATE (%)	8.7%	4.3%	5.9%	4.6%	4.1%
NET ABSORPTION (MSF)	(0.7)	1.2	(0.0)[1]	0.6	7.7
NET DELIVERED (MSF)	(0.2)	0.6	0.5	0.4	7.0
UNDER CONSTRUCTION (MSF)	2.8	0.9	6.7	3.2	50.3
UNDER CONSTRUCTION (% OF TOTAL)	**0.3%**	**0.1%**	**0.2%**	**0.5%**	**0.4%**
MARKET ASKING RENT/SF	$33.67	$26.72	$24.19	$23.00	$25.02
ASKING RENT GROWTH Q/Q	0.4%	0.7%	0.7%	0.5%	0.3%
ASKING RENT GROWTH Y/Y	**2.4%**	**3.3%**	**3.5%**	**3.0%**	**2.6%**

- High quality assets in markets that have consistent demand with few substitutes, a healthy employment/income population base, and amenities mixed with in-person experiences are best positioned to outperform.
- Malls will continue to struggle, and high-street retail will remain cyclical based on discretionary consumer spending and economic cycles.
- Due largely to historically low new construction since the GFC, retail valuations have not decreased as much as other sectors, with cap rates remaining relatively steady around 5% – 6% since ~2015.
- Suburban assets such as neighborhood and strip centers have performed well and maintain decent fundamental characteristics.
- Traditional lenders continue to finance these assets; however, the sector has become less trafficked by institutional capital.

Notes: 1. Neighborhood Center Net Absorption was (29,665) SF
Source: JLL Research

Section 5

Appendix

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REAL ASSETS THEMES & ROLE IN PORTFOLIO

C|A CAMBRIDGE ASSOCIATES

Six Foundations for Real Assets Themes in 2024

Decarbonization

- Energy transition 2.0 along with increasing focus on energy security has created a broad spectrum of opportunities including nuclear, green metals, and improved efficiencies of traditional energy.
- Increased financing/construction costs, interconnection challenges, and oversupply in certain markets will create opportunities to fill a capital need to acquire or develop assets. The drive to net zero is ongoing but with increased nuance on the varying solutions needed.

Demographics

- Population shift to more affordable markets and corresponding oversupply of multifamily product created short-term dislocation but also opportunity. Affordability challenges and fragmented ownership in niche sectors such as manufactured housing, SFR, and affordable housing create opportunities.
- Aging population continues to support demand for senior housing.

Digital

- Strong continued demand and AI growth support digital infrastructure assets (data centers, fiber, towers), as well as increasing demand for electricity and grid reliability.
- Higher rates have slowed M&A activity and decreased multiples, especially in markets such as fiber, which could create opportunities but also pressure returns on existing investments.

Source(s): Cambridge Associates, LLC

Six Foundations for Real Assets Themes in 2024

Distress

- High interest rates, challenging refinancing environment, maturity wall, and general slow down in rent growth continue to pressure borrowers.
- Degree of dislocation in RE varies—office is in distress due to fundamental oversupply and utilization; multifamily experiences short-term oversupply in certain markets, but affordability issues support long term tailwinds of rental residential; senior housing continues to recover from post-COVID operational challenges that create attractive opportunities in current market. Overall level of distress to come in this cycle still unclear.
- Infrastructure generally not seeing distress although sectors such as offshore wind, fiber, distributed solar have struggled with higher financing/development costs, leading to potential distressed opportunities.

Distribution/Deployment

- Transaction volumes for many sectors remain below pre-pandemic levels, reducing exit activity. In addition, refinancing is difficult in the current credit environment. These dynamics should create an attractive environment for secondaries buyers, while the challenging fundraising environment should create more opportunities for co-investments, co-GP funds.

Diversification

- The less correlated nature of private real assets compared to other private asset classes can provide diversification benefits and is especially distinct for natural resources and infrastructure (listed and private) that help diversify risk in investors' portfolios. RE offers some diversification but to a lesser degree.

Source(s): Cambridge Associates, LLC

The role of real assets in a portfolio

RETURN ENHANCEMENT

Generate a total return above that of the funding source (typically public equities or an equity/bond mix).

A well constructed real assets program can generate equity-like returns, but should not be viewed as a private equity substitute.

DIVERSIFICATION

Reduce the volatility of total portfolio returns.

This benefit comes through a higher yield than equity strategies, demand drivers not fully correlated to capital markets, and downside protection underpinned by solid, well-located assets.

YIELD ENHANCEMENT

Generate current income superior to that of investment grade corporate/government bonds.

The quality of cashflow is linked to quality of tenant for equity strategies, but real estate debt strategies are also compelling in a high valuation environment.

INFLATION PROTECTION

Maintain long-term purchasing power while preserving value during periods of rising unexpected inflation.

Rental adjustments/contract terms based on CPI provide some direct linkage to local CPI.

BIO

CAMBRIDGE
ASSOCIATES

Biography

Maria Surina
Investment Managing Director,
Real Assets Investment Group

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Maria is an Investment Managing Director of the Real Assets Investment Group and a member of the Investment Committee. This global group sources and monitors real asset investments (real estate, infrastructure and global natural resources), manages real asset portfolios for clients, and researches trends that impact the real assets industry.

Maria is a real estate specialist and focuses on investment idea generation and due diligence in North American and European real estate markets and across different structures such as funds, co-investments, and direct investments. In addition, Maria works with US pensions, E&Fs, and family offices. She serves on several industry committees and advisory boards.

Prior to joining Cambridge Associates in 2018, Maria had roles with Bain Capital Real Estate (the spin out of Harvard Management Company's Real Estate Investment Group), DESCO Group (real estate operator of the Schnuck Markets grocery chain), and Altus Group. She has experience in portfolio management, direct real estate investment and asset management, and worked as a designated commercial appraiser, completing property valuations, due diligence reports, and feasibility studies. Maria started her career in 2006.

EDUCATION

MBA, *Valedictorian of MBA Class of 2013,* Finance, Washington University in St. Louis

BCom, Housing and Real Estate Management, University of Guelph, Canada

Source: Cambridge Associates LLC