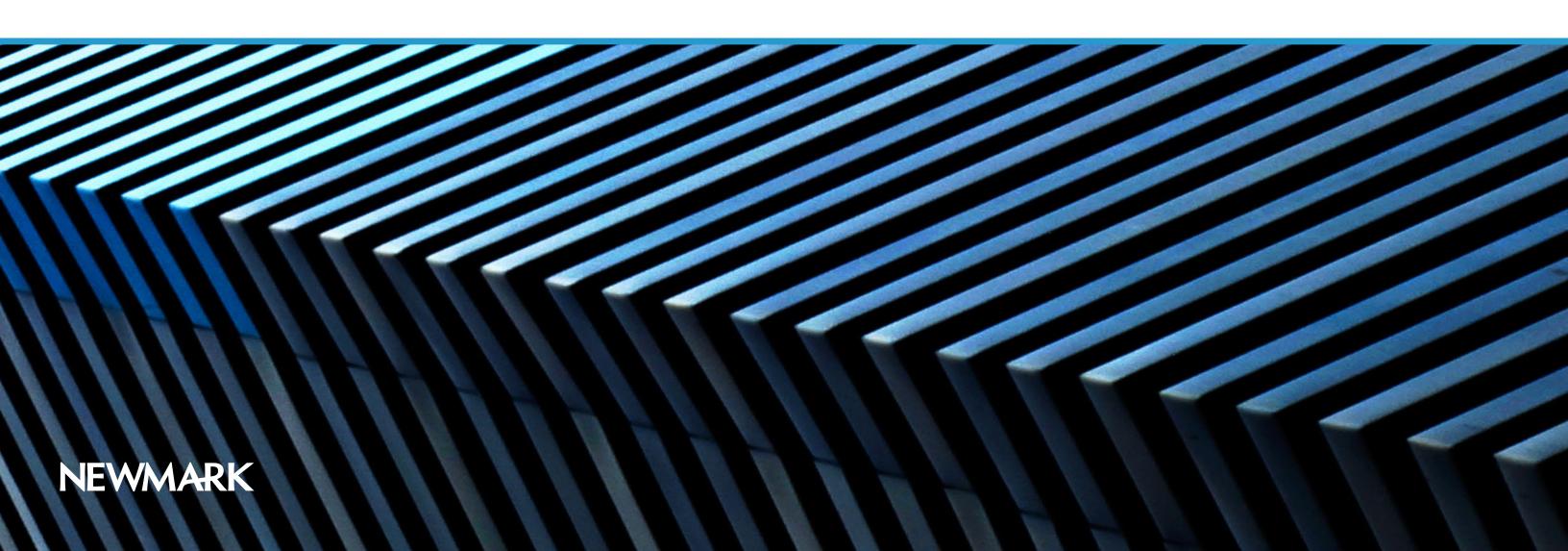
3Q 2022

Capital Markets Report

Real Estate Trends and Analysis for All Property Types



Market Observations

- **Economy**. The U.S. economy continues to grow—but with an increasingly fraught outlook. Labor markets are extremely tight with around 1.7 jobs available for every unemployed person. As a result, wages are growing at their fastest pace in decades, especially for lower-skilled jobs in services industries. The result is high inflation, which has prompted the Federal Reserve to rapidly increase rates. Tightening financial conditions and still-high inflation have pummeled consumer confidence, which is now weighing on consumer spending, the primary engine of the U.S. economy. A recession is widely expected across surveys of business managers, economists and the populace at large. Additionally, market-based indicators, such as the yield curve, suggest an imminent recession is highly likely.
- **Debt Markets.** CRE debt origination activity has declined sharply since May. Originations declined 46% year-over-year in the third quarter of 2022 as opportunistic refinancing has disappeared and acquisition financing has decelerated. Activity is declining across property sectors and lender groups. There is little wonder as to the cause—rising rates. There is very little distress in the market today, but with over \$1 trillion in loans coming due over the next two years and rates expected to be significantly higher than in-place on maturing debt, expect conditions to become more challenged. Recent bridge finance loans and a wide range of office and retail loans are most at risk.
- **Equity Markets.** Investment sales declined 23% year-over-year and 27% quarter-over-quarter in the third quarter of 2022. Even so, it was the second best third quarter on record. Sales declined quarter-over-quarter across property sectors while retail was the only sector to increase year-over-year. Activity was lower in September than in July, speaking to decelerating transaction momentum into the fourth guarter of 2022. Investor allocations remain heavily tilted towards multifamily and industrial assets, though retail and hospitality investment shares are up modestly in the year-to-date. Acquisitions have been declining month-over-month across investor groups, but most strikingly among institutional investors.
- Supply of Capital. Dry powder at closed-end funds currently sits at \$257 billion, a record. The capital is concentrated in opportunistic and value-add vehicles while debt strategies have pulled back. We estimate that 2/3 of this capital is targeting residential and industrial assets. This is mostly a reflection of fundraising from an earlier environment. New fundraising has slowed sharply due to increased uncertainty and negative denominator effects in LP portfolios. Contributions to ODCE funds have declined since their peak in the first quarter of 2022, though they remain in line with 2019 levels. New fundraising in the REIT sector meanwhile has slowed to a halt. Even non-traded REITs, which had been vacuuming up capital, are now slowing.
- Pricing and Returns. The gap between public and private market pricing continues to widen. Transaction cap rates continued to decline across major property sectors even as the cost of debt rose sharply, resulting in negative spreads. REIT-implied cap rates meanwhile have adjusted upwards, though even there, spreads are either historically small (office, retail) or outright negative (apartment, industrial). REIT cap rates are likely to rise further. Reduced and more selective liquidity will continue to obfuscate the price adjustments in the transaction market and still more appraised values. The longer rates remain at or near current levels, the more apparent price adjustments will be. REIT values are down 29% year-to-date with office (-35%) and residential (-33%) underperforming. NCREIF's National Property Index meanwhile has returned 9% year-to-date, but even there, returns rapidly decelerated in the third quarter of 2022 as capital returns slowed or, in some cases, turned negative (CBD) office). As with cap rates, the longer that the public markets remain depressed, the more likely there will be a similar adjustment to private markets.

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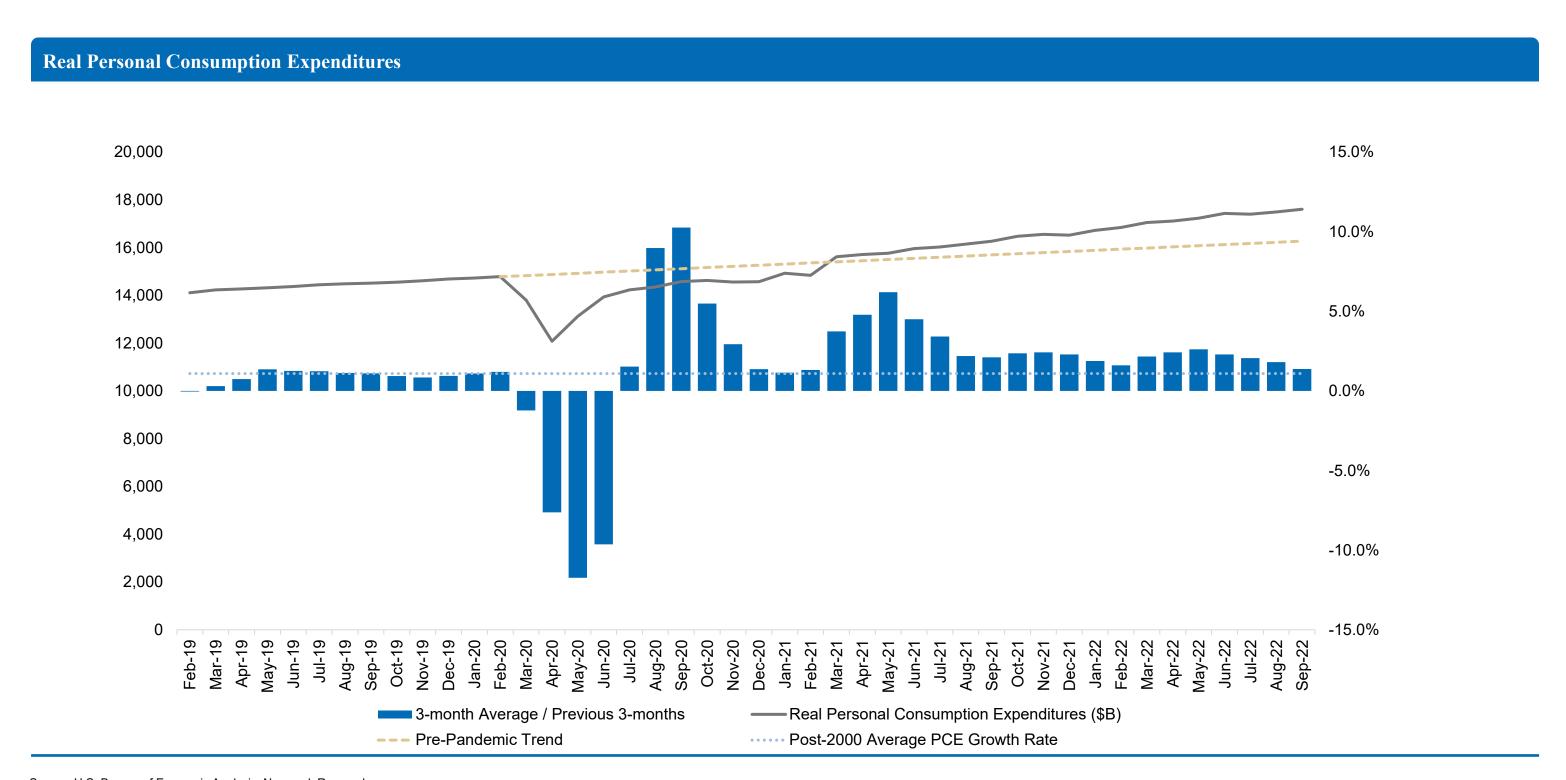
3Q22 CAPITAL MARKETS REPORT

Economy



The Economy Is Not in A Recession (Yet)

Consumer spending is still above the pre-pandemic trend, though the rate of growth is rapidly decelerating.

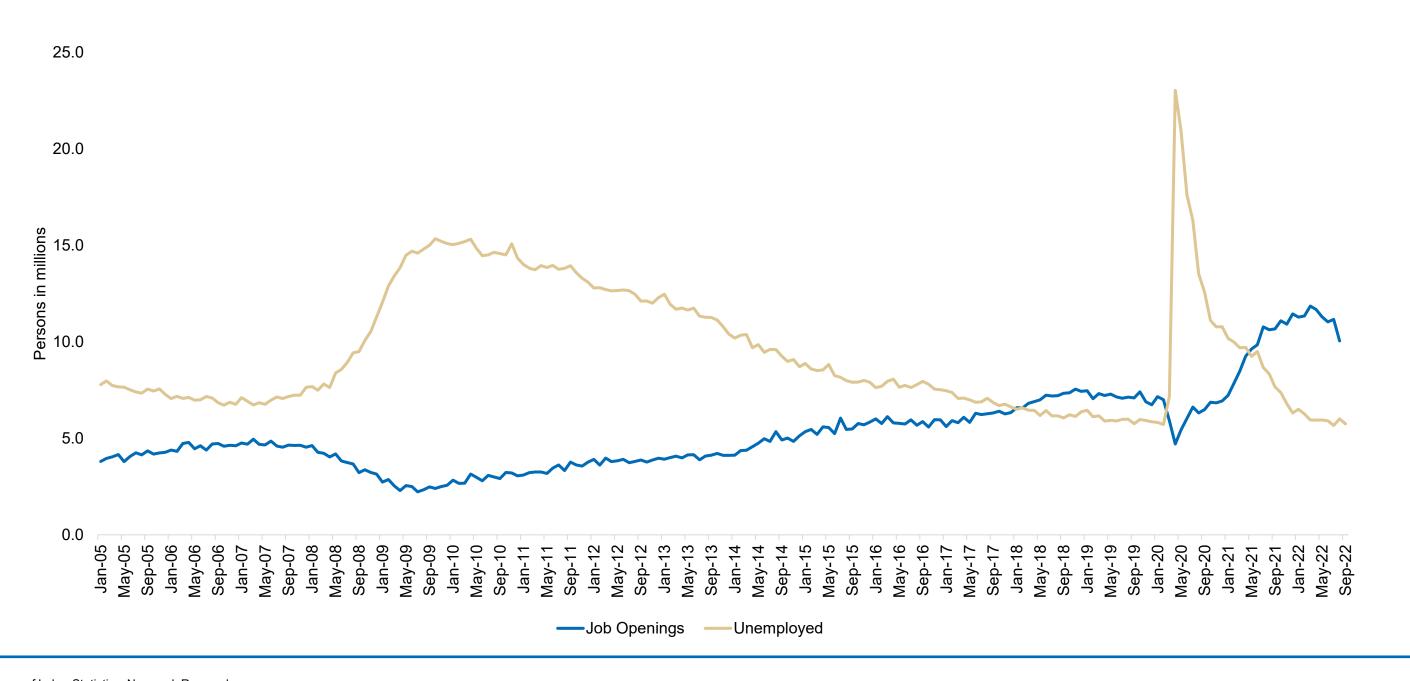


Source: U.S. Bureau of Economic Analysis, Newmark Research

The Economy Is Not in A Recession (Yet)

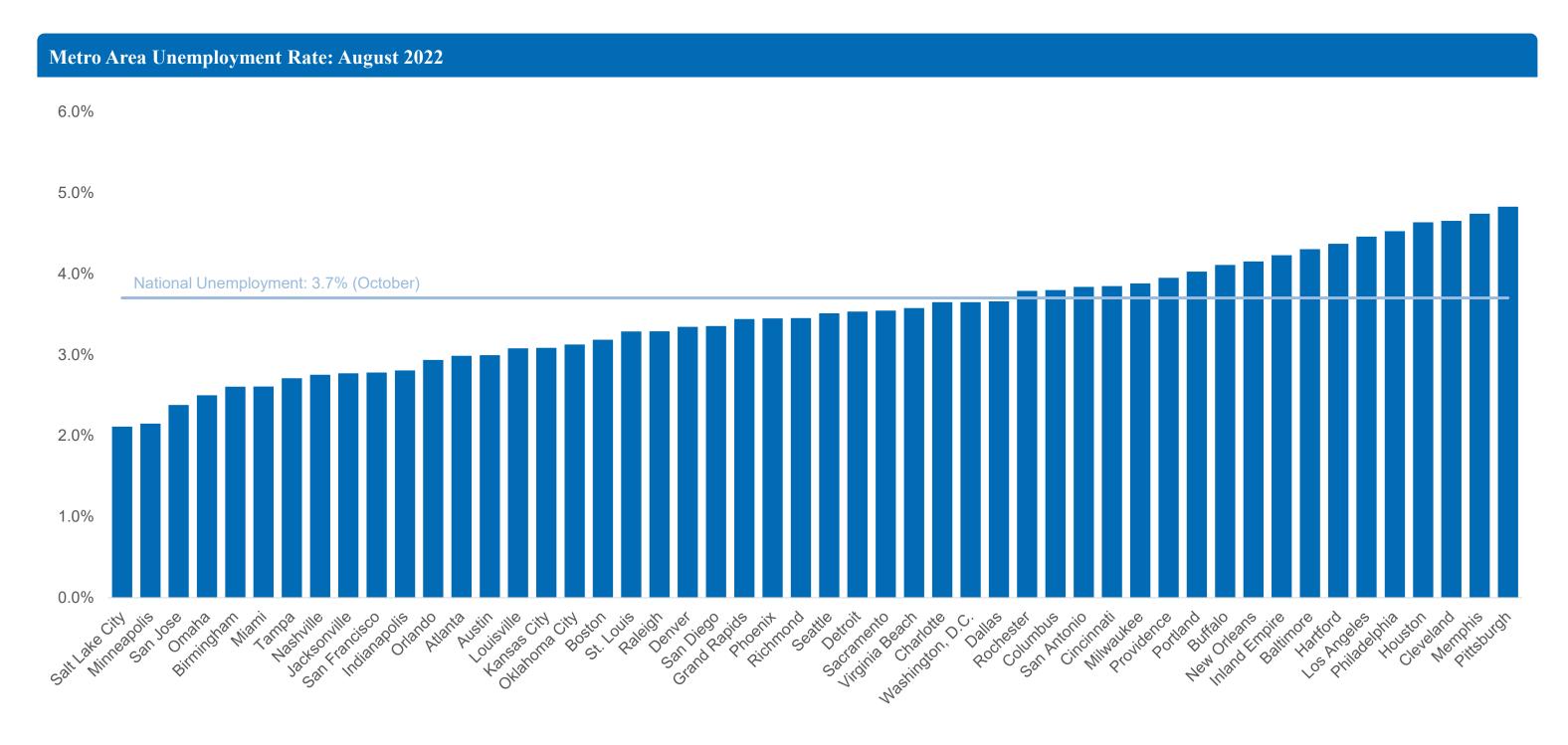
Jobs aren't scarce, but labor is with around 1.7 open positions for every unemployed worker.

U.S. Labor Market Dynamics



Source: Bureau of Labor Statistics, Newmark Research

Labor Tight across Markets

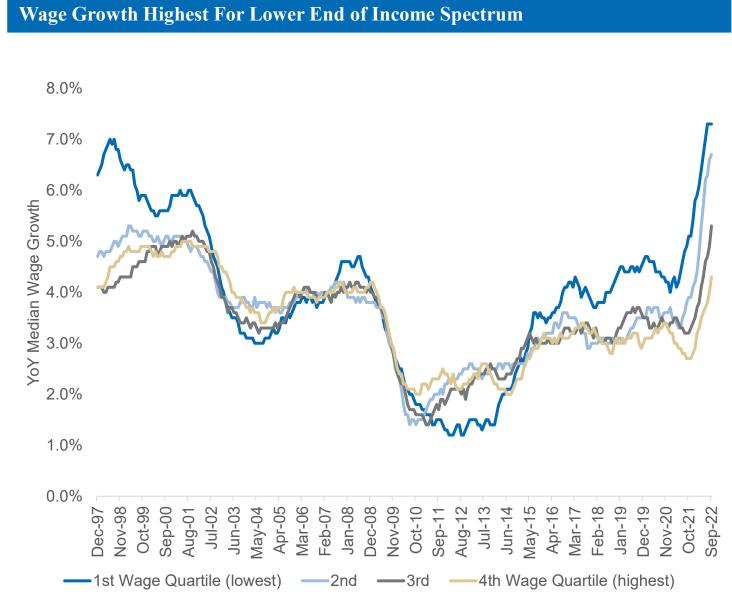


Source: Bureau of Labor Statistics, Newmark Research Metros over 500,000 civilian labor force

Fastest Wage Growth in Decades

Wage growth is broad-based, but lower income workers, service workers and those without a college degree are seeing the greatest wage growth. Even so, prices are rising faster, resulting in negative real wage growth.

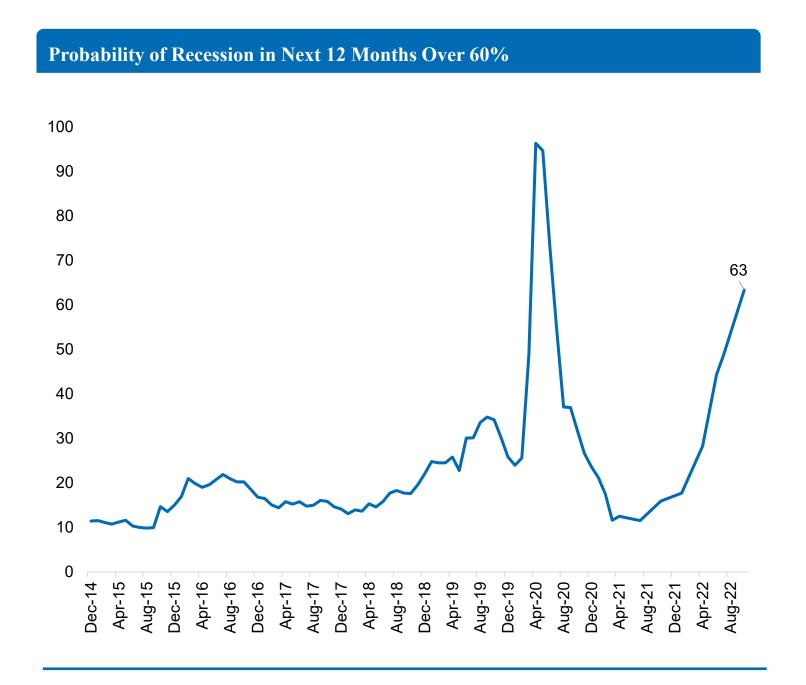




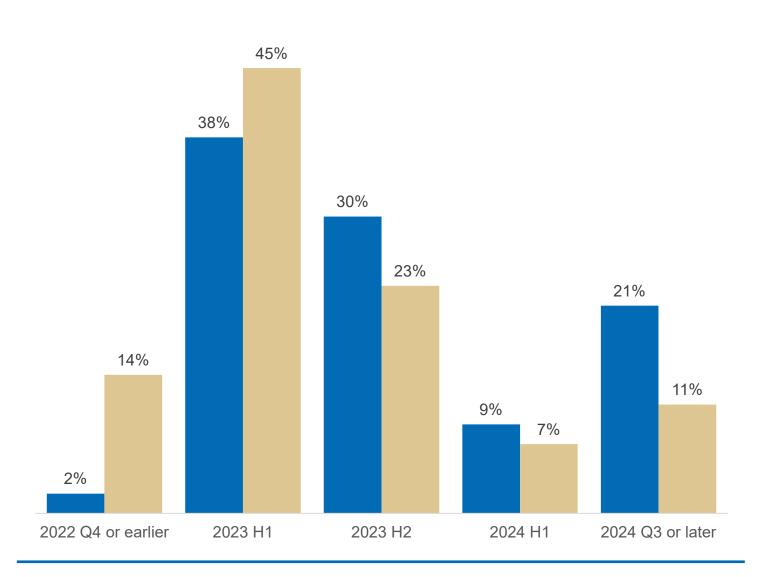
Source: Atlanta Fed Wage Tracker, Newmark Research

But A Recession Is Widely Anticipated

Conference Board estimates a 96% chance of recession in the next 12 months. Moreover, a wide range of yield curve measures are inverted, including the three-month/10-year spread, which has predicted every recession within a year, going back to the 1960s, with no false positives.



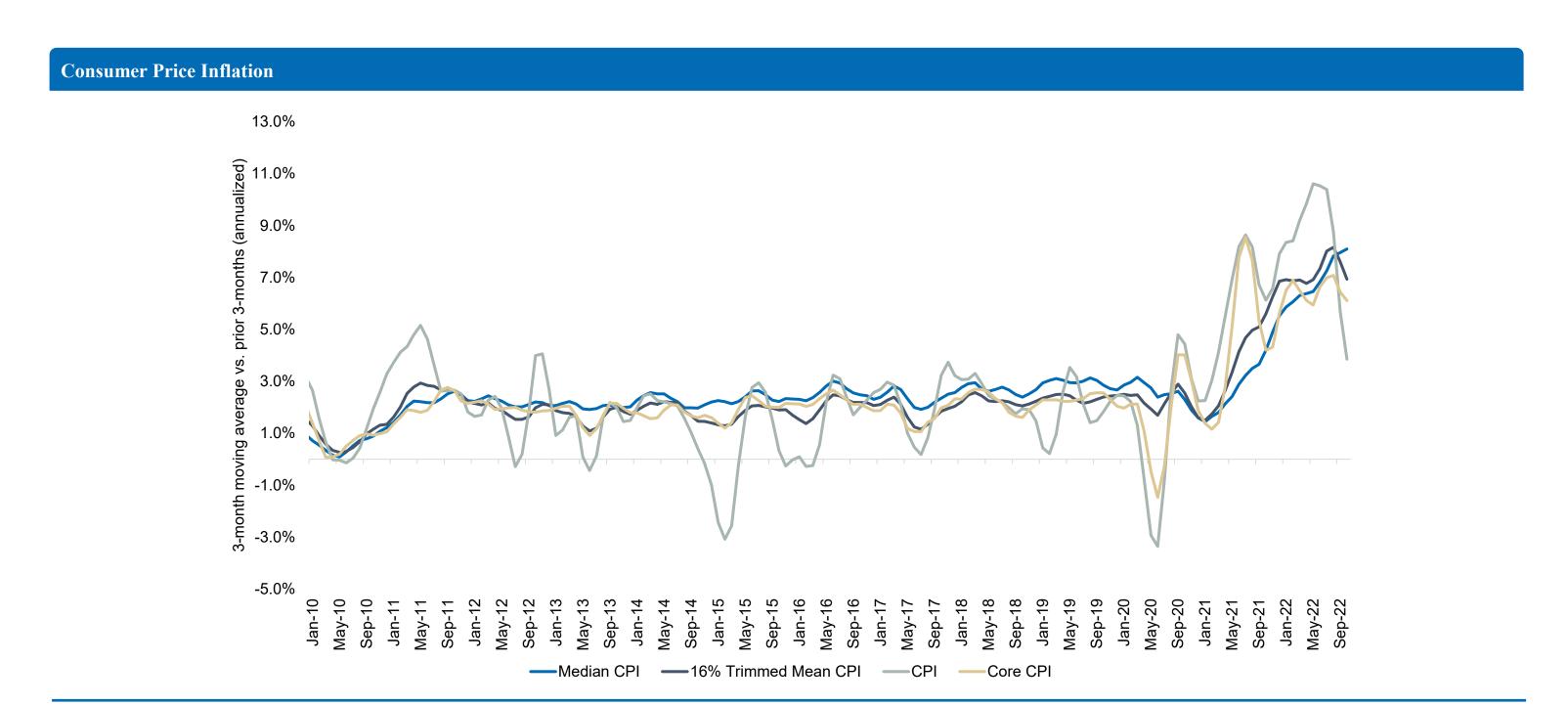




Source: WSJ Economic Forecasting Survey, Financial Times - Chicago Booth Initiative on Global Markets June 2022 Survey, Newmark Research

Because Inflation Is Far From Where The Fed Wants It

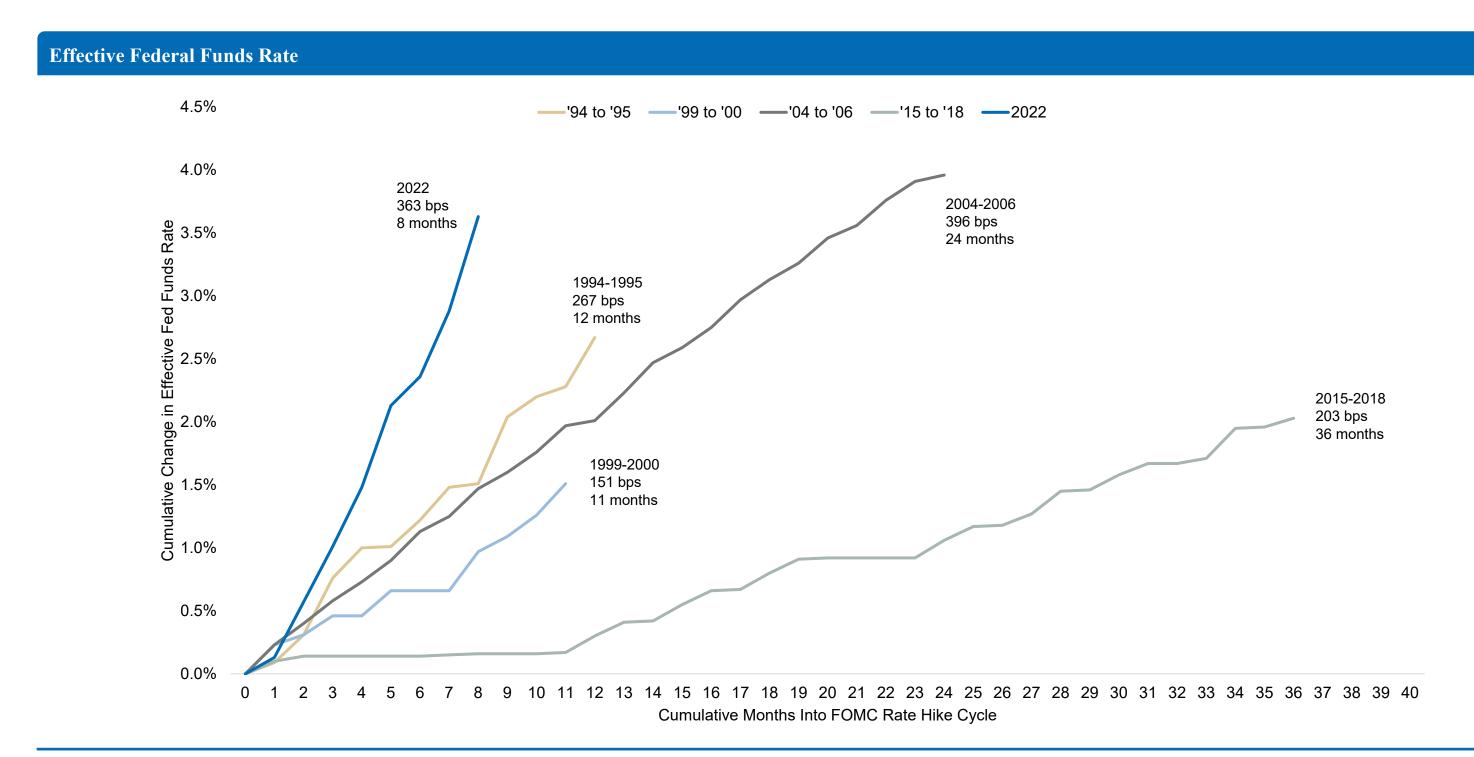
The October inflation print was a large positive surprise, with headline and core CPI dropping sharply. Median and trimmed mean CPI strip out effects of strong outliers and are therefore better indicators of underlying inflation pressure. These too appear to have inflected downwards in October—good news—but they remain a long way from target.



Source: Federal Reserve Bank of Cleveland, U.S. Bureau of Labor Statistics, Newmark Research

FOMC Hiking Rates Faster than Any Time in Modern History

FOMC being caught flat-footed by inflation earlier in the year now means "all gas, no brakes."

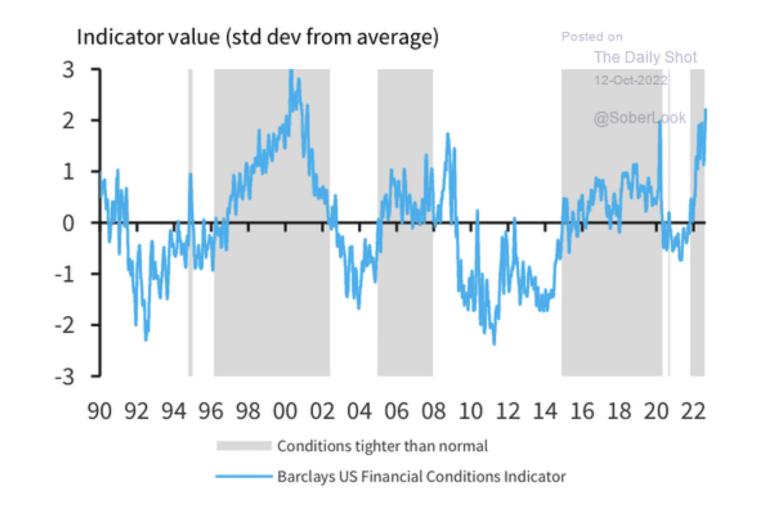


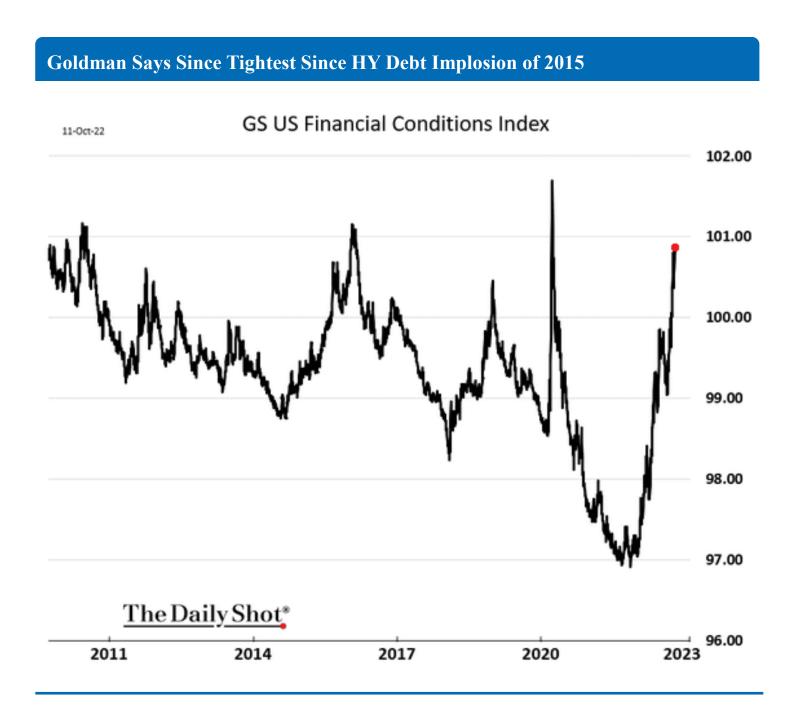
Sources: Newmark Research, Federal Reserve

Tightening Financial Conditions

Meanwhile, 10-year real yields, while the highest they have been in more than a decade, would have been considered normal in the mid 2000s. Similarly, the term premium on a 10year bond, a measure of compensation for rate uncertainty, has increased sharply since bottoming at negative 0.9% in 2020 but now sits at only 0.2%, well below the pre-financial crisis average. All of which is to say that financial conditions, while tight, could reasonably become tighter.

Barclays Says Tighter Than During the Financial Crisis

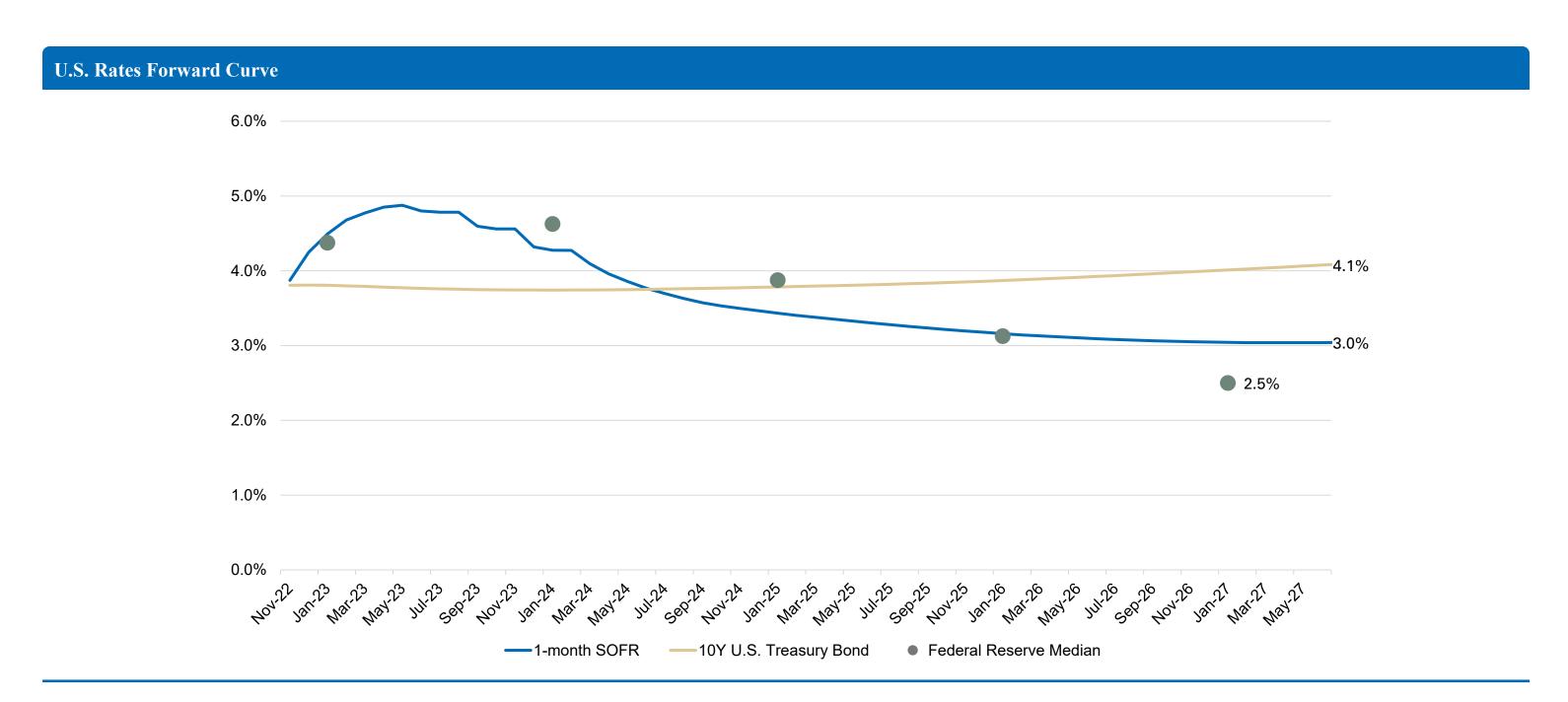




Source: Barclays and Goldman Sachs via the Daily Shot, Newmark Research

Rates Expected to Peak Next Year but Remain over 3% For Years to Come

Rate expectations remain highly data-dependent. The October inflation print surprised to the upside, leading to a sharp reduction in yields across the curve. Even so, markets expect short-term rates to peak near 5% and remain above 3% until the end of the decade. The 10-year forward curve was pricing 4%+ yields prior to the inflation data point, but now has pulled back to just under 4%. As with short-rates, the core message remains higher for longer.

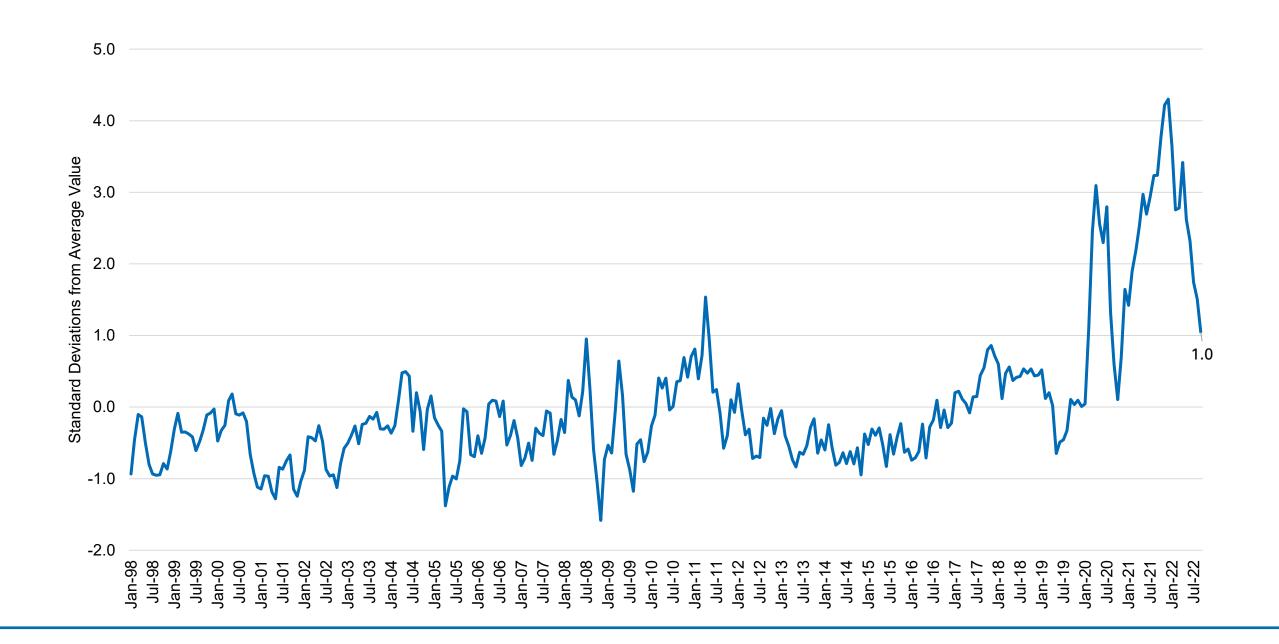


Source: Chatham Financial, Newmark Research

Not All Bad News; Indications That Supply-Side Pressures Are Easing

Stress is still a standard deviation above normal, but the pace of easing has been rapid.

Federal Reserve Global Supply Chain Stress Index

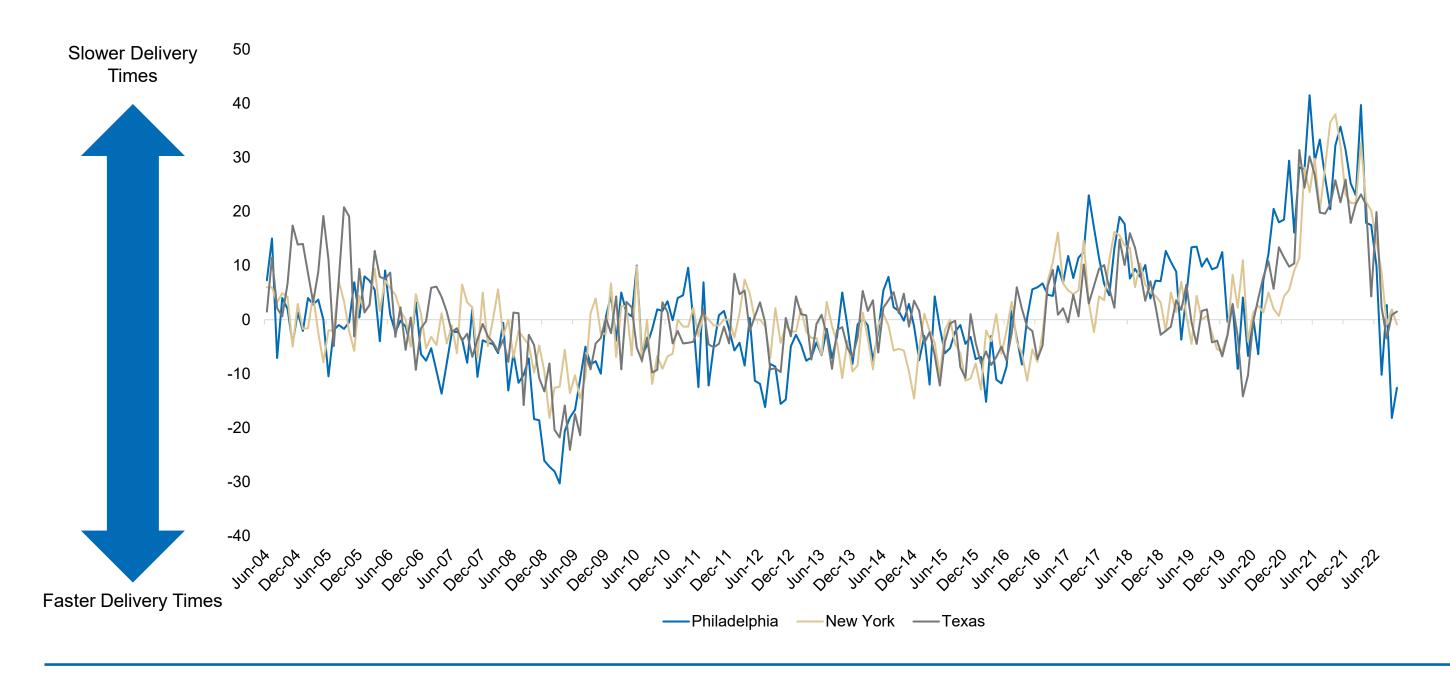


Source: Federal Reserve Bank of New York, Global Supply Chain Pressure Index, Newmark Research

Delivery Times Faster; Declining Order Backlogs

Purchasing managers indices and small business sector surveys show the same trends.

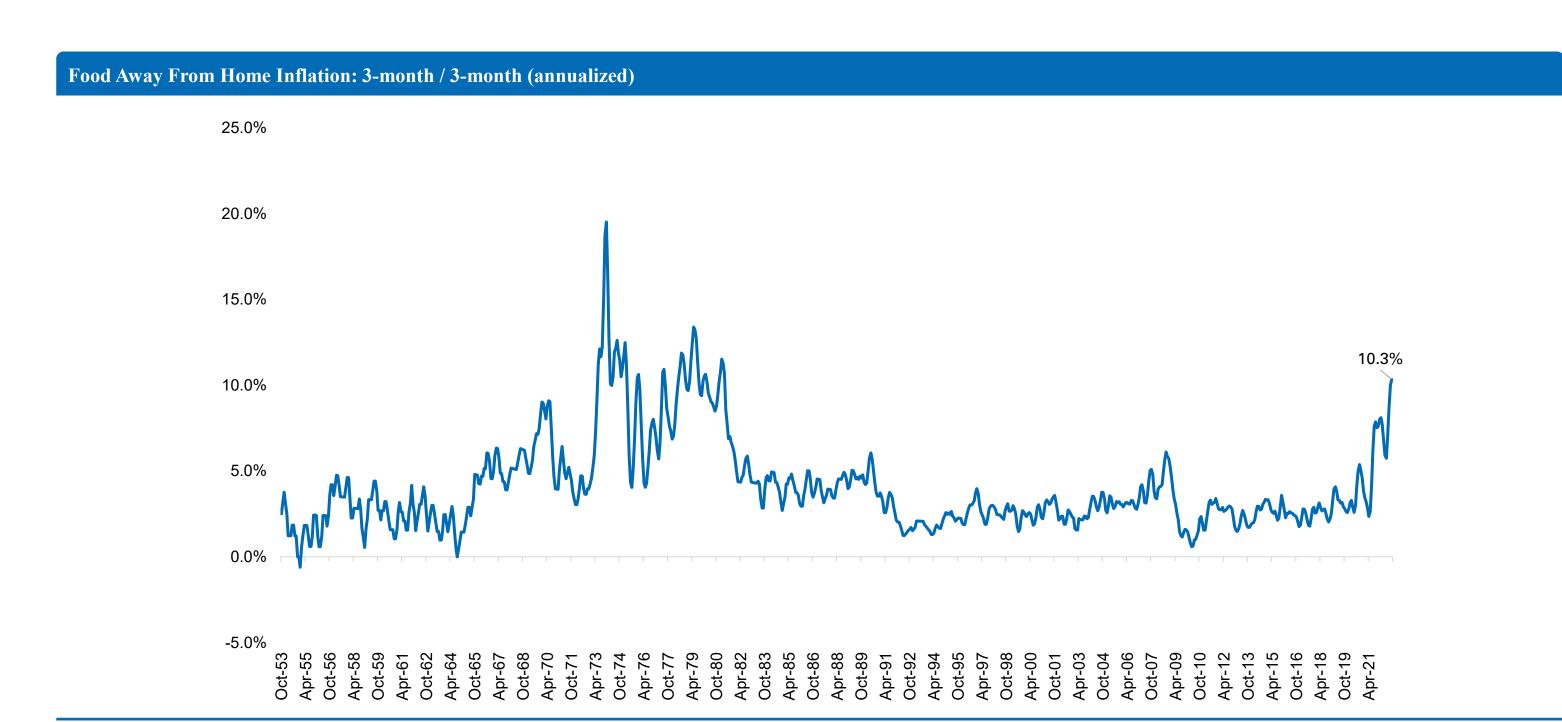
Federal Reserve District Current Delivery Times Diffusion Index



Source: FRB Philadelphia, FRB New York, FRB Texas

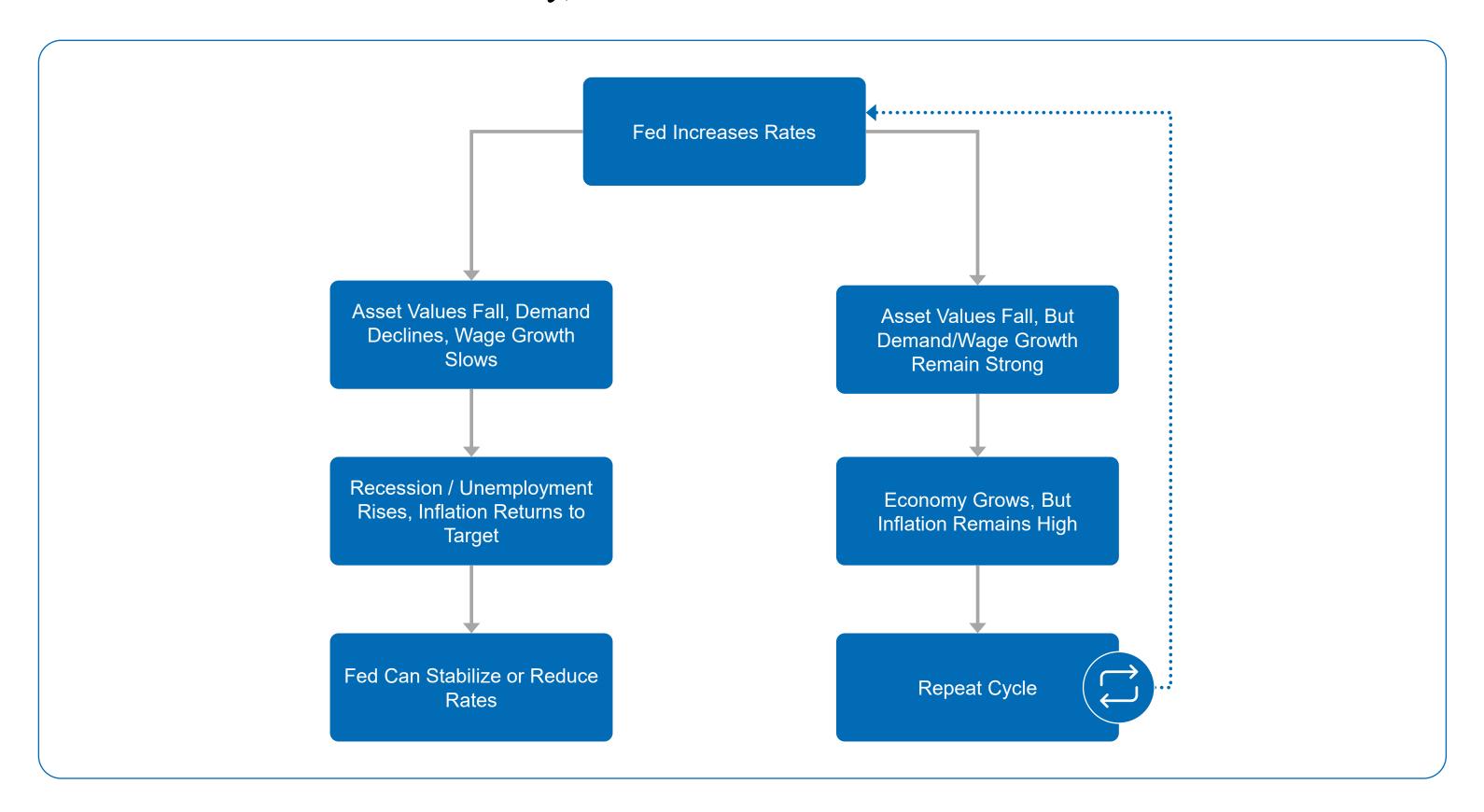
Wage/Labor Scarcity-Driven Inflation Continues to Accelerate

Food away from home is a strong predictor of wage/labor market-driven inflation in the broader economy. Unfortunately, even as supply-side drivers of inflation have waned, the wage-driven, or "endogenous" drivers of inflation have, if anything, accelerated. Inflation will not be controlled until the labor market weakens and endogenous inflation slows.



Source: U.S. Bureau of Labor Statistics, Newmark Research

The More Resilient the Economy, the Harder the Fed Will Push Rates



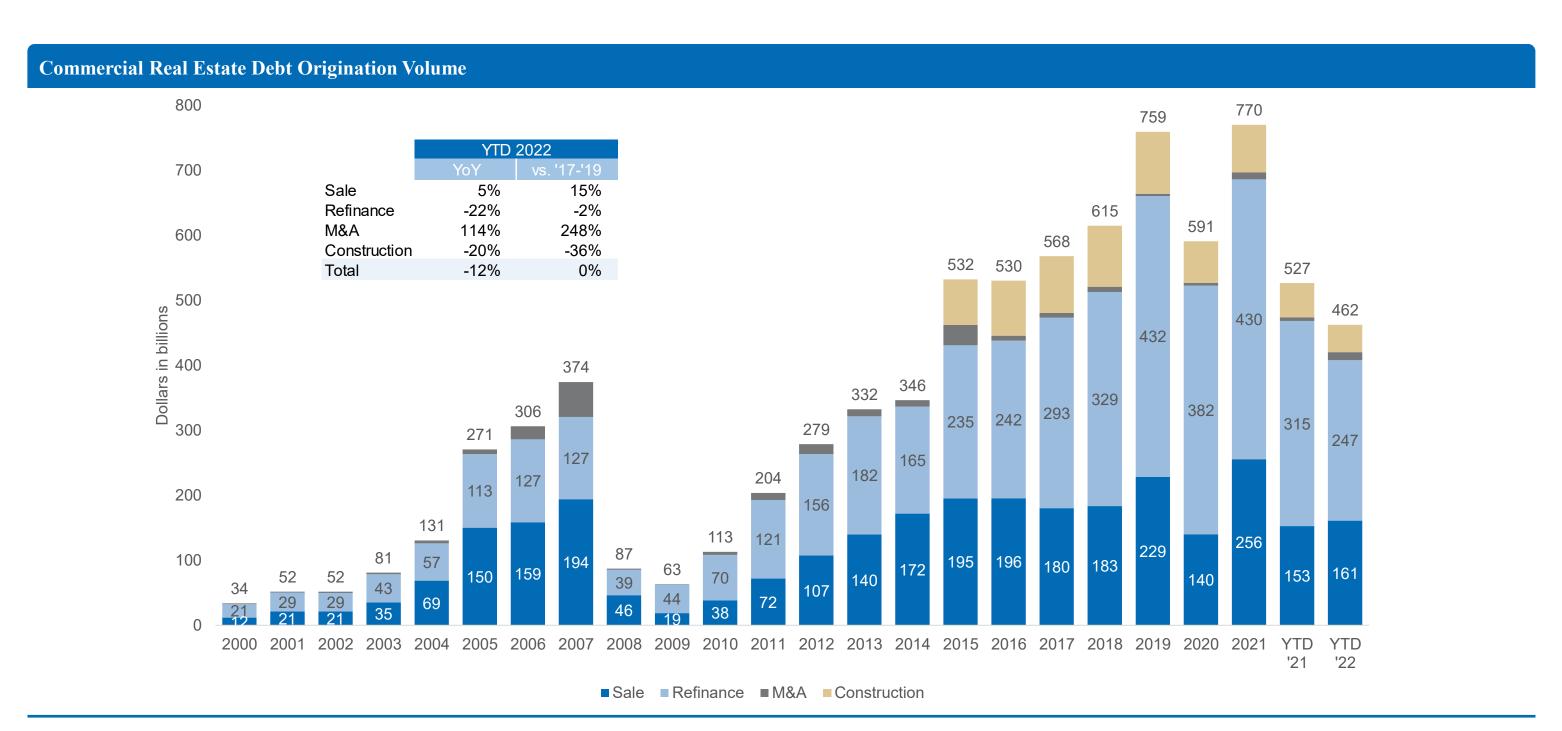
3Q22 CAPITAL MARKETS REPORT

Debt Capital Markets



Debt Origination Activity Down 12% YoY Year-to-Date

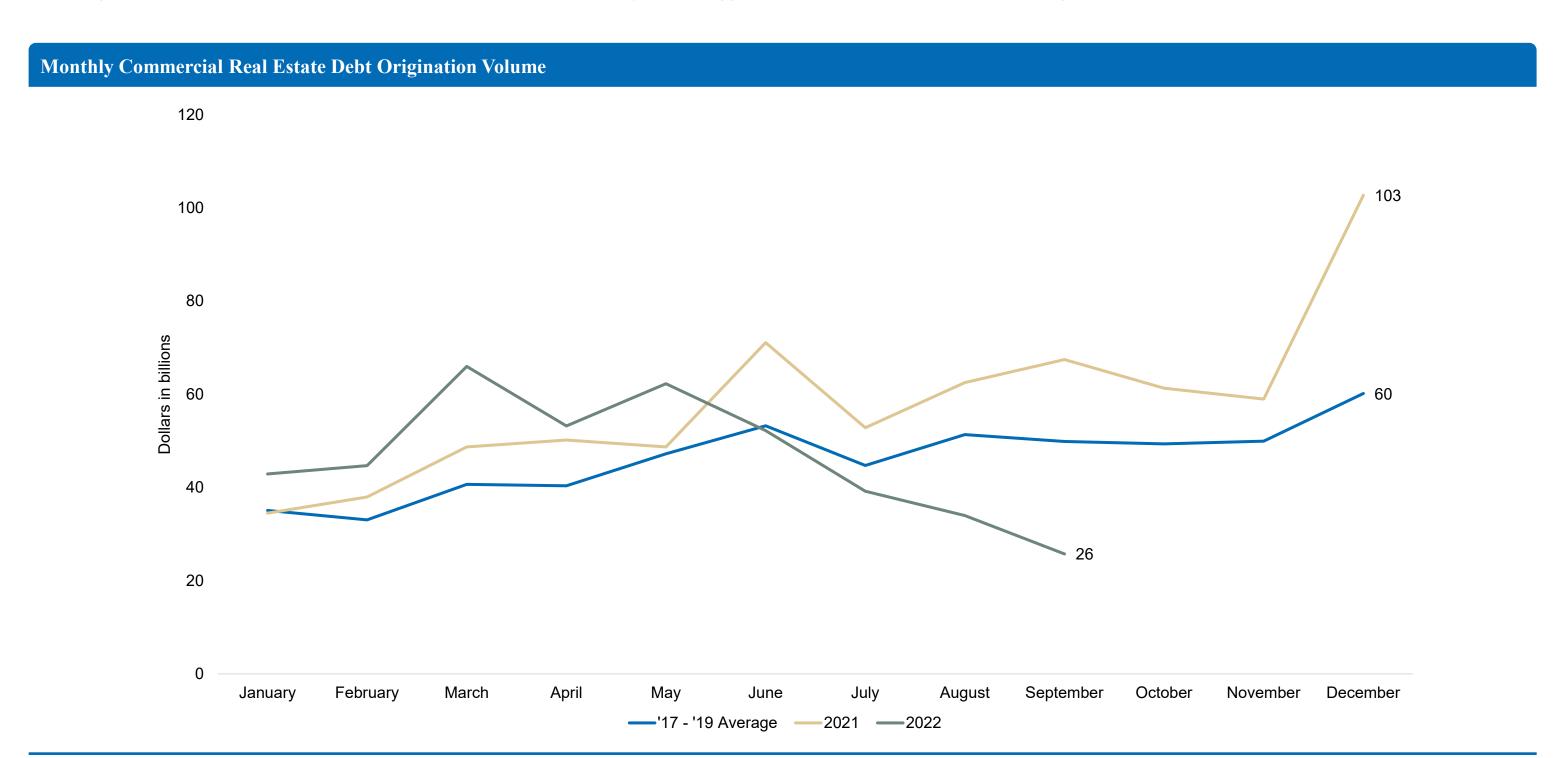
Acquisition financing, however, is up 5% YoY. The decline in activity was due primarily to a sharp fall in refinancings and construction loans. Last year, record low debt costs incentivized high levels of opportunistic refinancing, while low cost of capital and strong fundamentals pushed multifamily and industrial developers. The cost of capital has now increased substantially, while rising recession risk and upward pressure on cap rates reduce the attractiveness of development and, with it, the risk-return profile on construction finance.



Source: RCA, Newmark Research

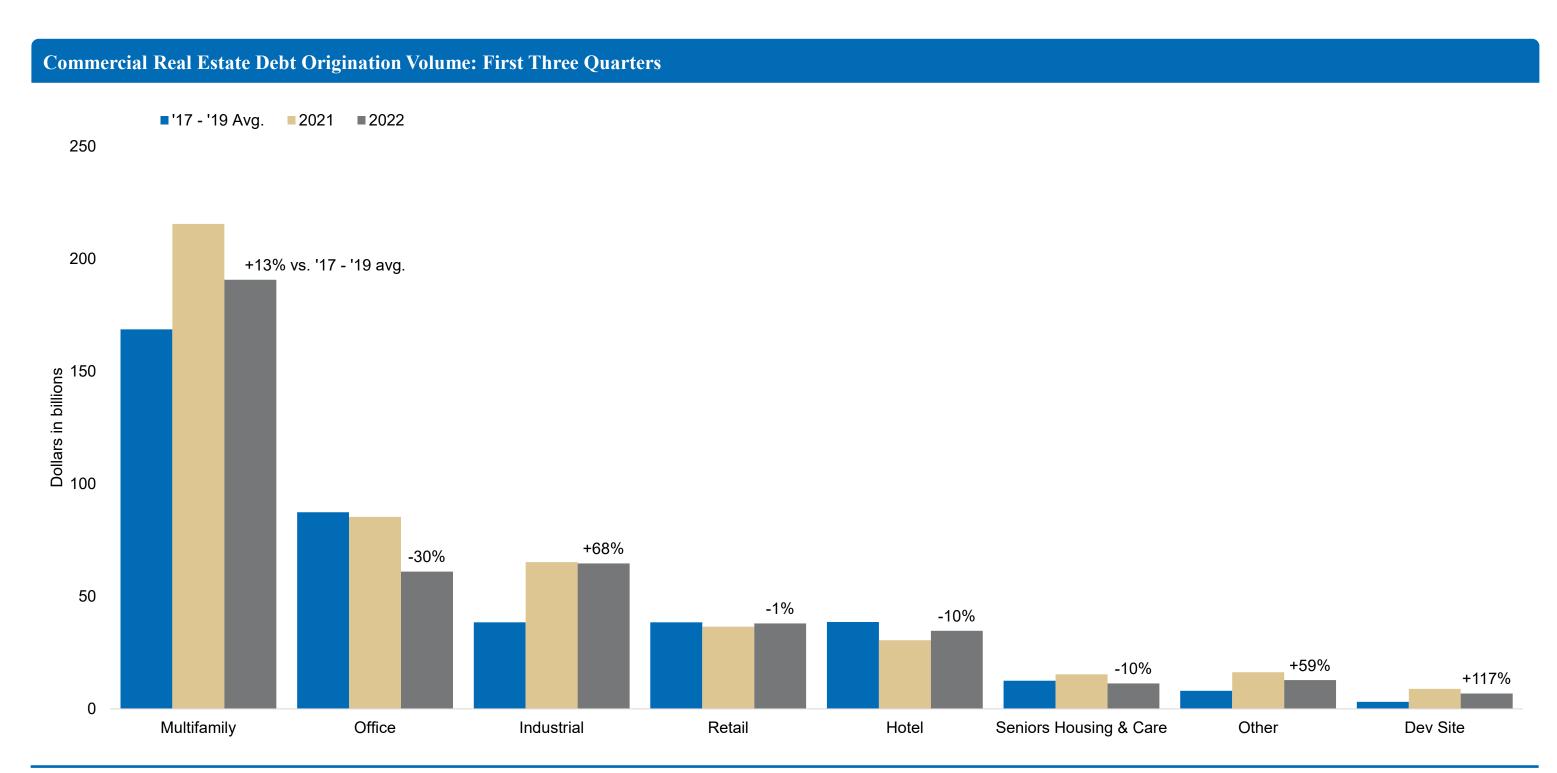
Origination Activity Has Decelerated Strongly since May

Loan originations were down 62% YoY in September. The fall-off in activity earlier lagged the run-up in rates but is now moving in lockstep.



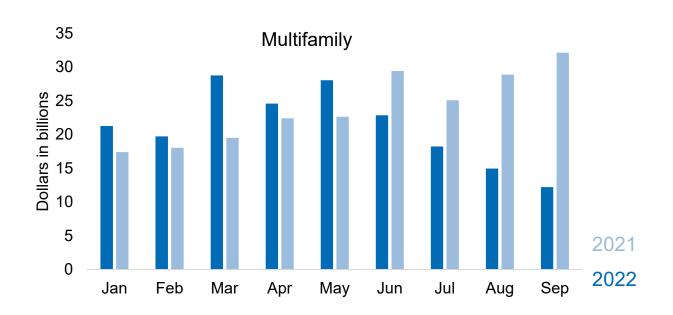
Industrial and Multifamily Originations Remain Up versus Previous Cycle Peak

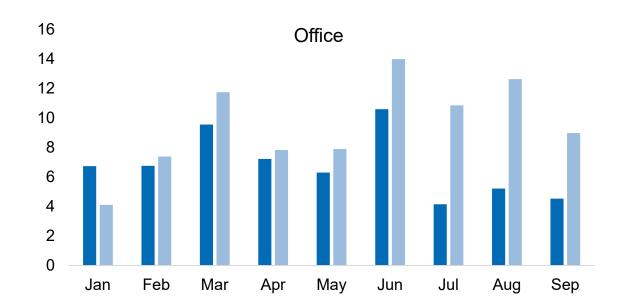
Apartment and office originations are down year-over-year, while industrial, retail and hotel originations are essentially flat.

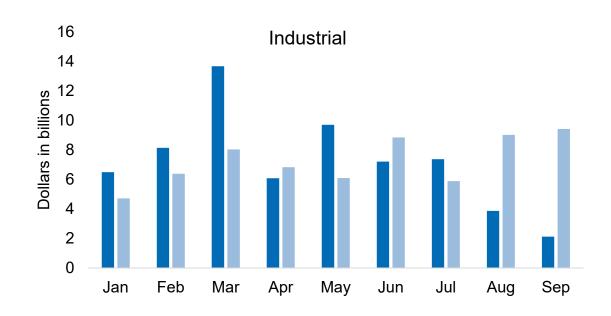


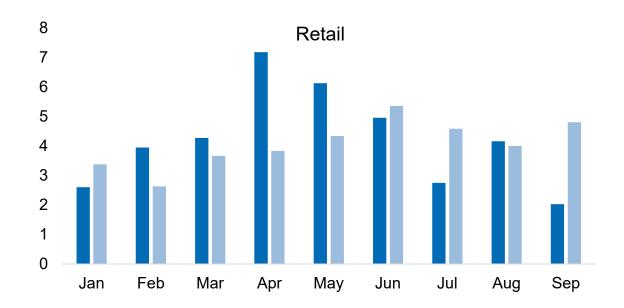
But Originations Slowed Sharply Across Property Sectors in Recent Months

Commercial Real Estate Debt Origination Volume





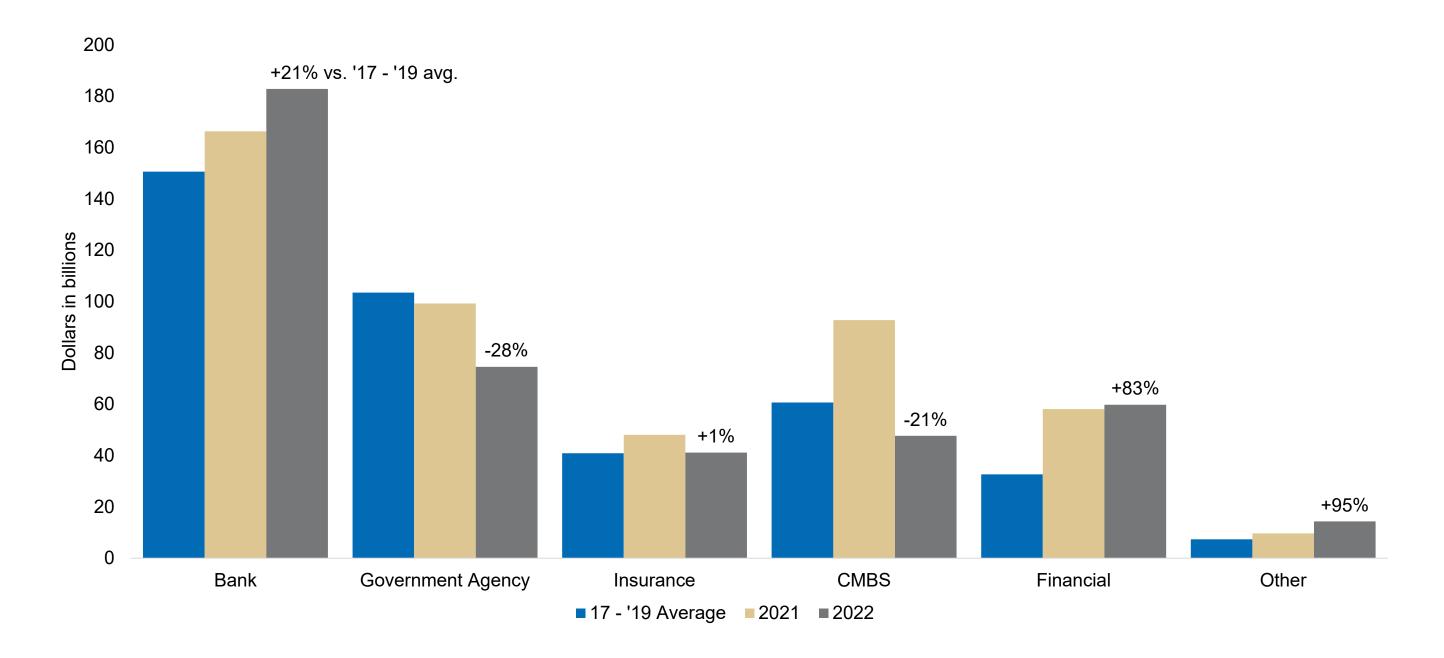




Bank, Debt Fund Originations Remain Well-Above Prior Cycle Peak

CMBS and GSE origination volumes have declined sharply in the year-to-date, both year-over-year and as compared to the pre-pandemic average. Banks, meanwhile, have become more active, as have debt funds ("financial").

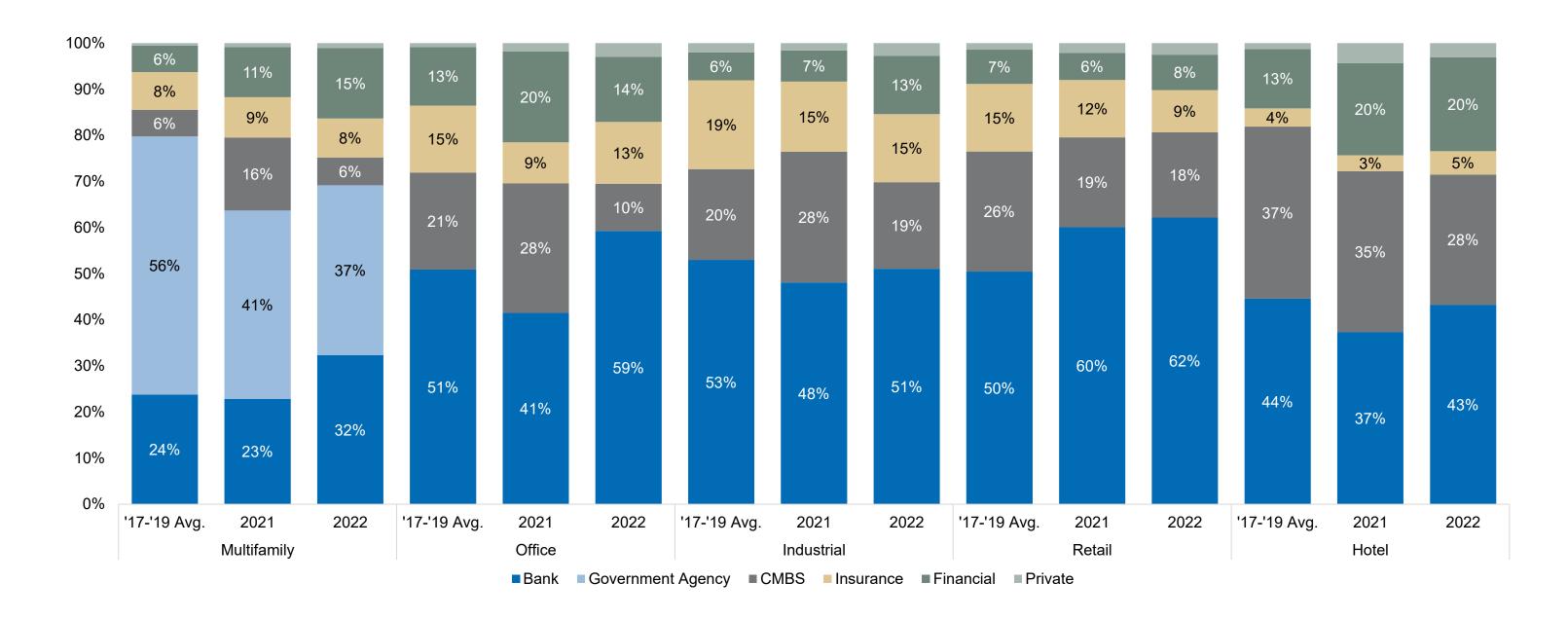
Commercial Real Estate Debt Origination Volume: First Three Quarters



Banks Have Grown Share Across Property Sectors in 2022

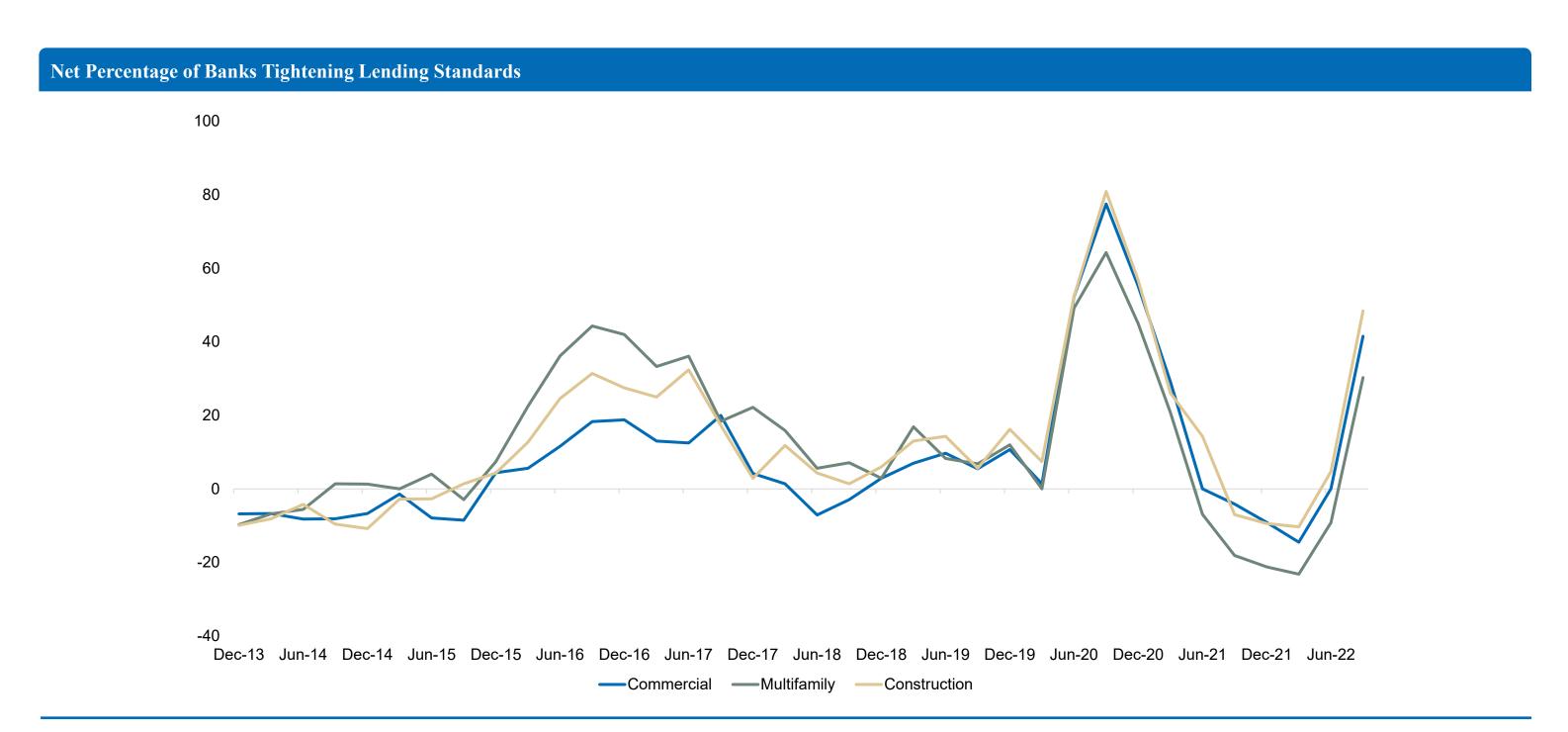
Debt funds' share, however, has pulled back across property sectors, most spectacularly for office. The GSEs, while they remain the largest source of financing for the multifamily sector, have also shrunk in favor of banks and CMBS.

Composition of Commercial Mortgage Debt Originations



However, Bank Lending Standards Have Rapidly Tightened

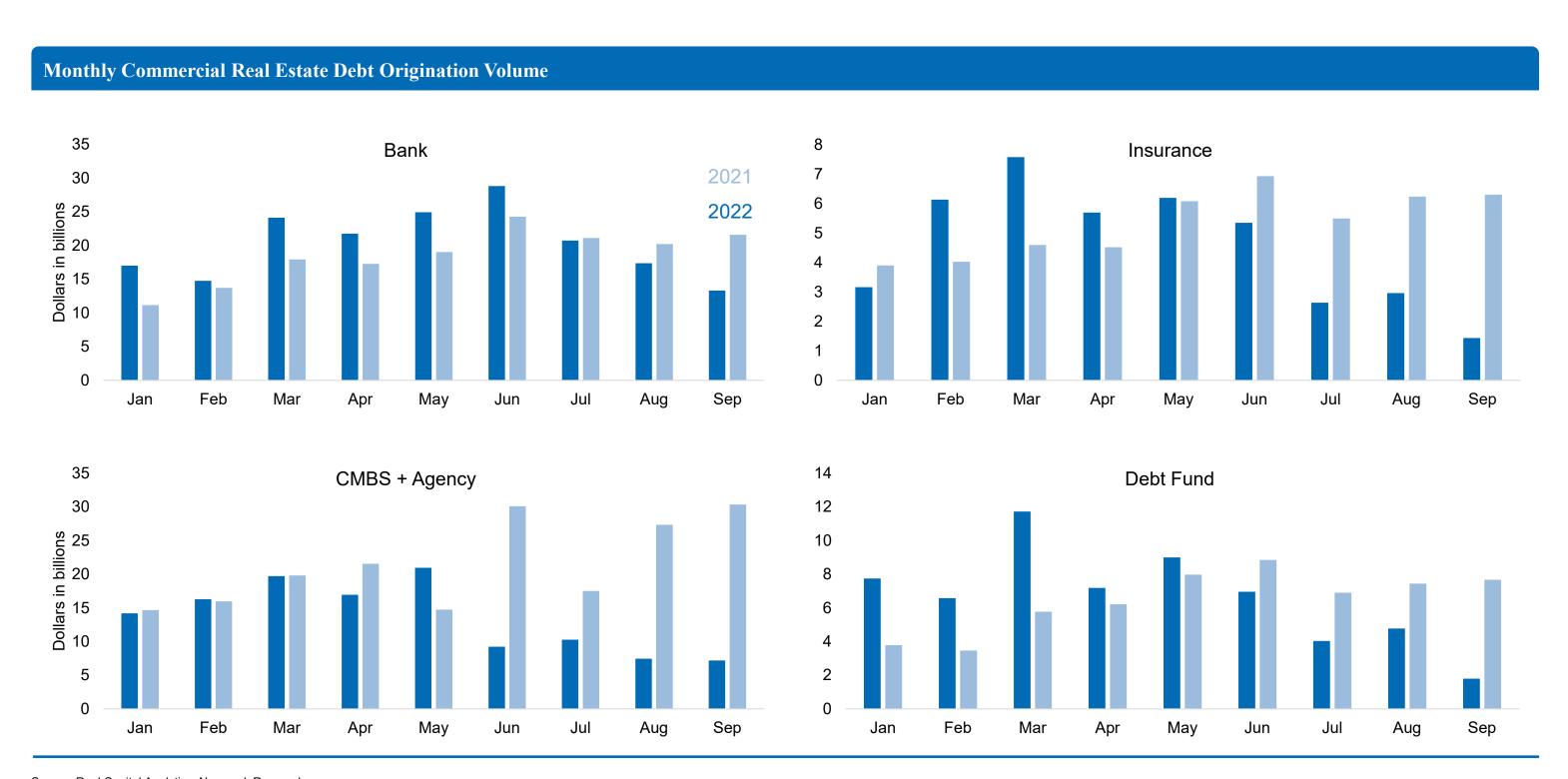
The resurgence of bank lending has been short-lived. Banks are tightening their lending standards, which, as in 2020, means shrinking the profile of not only assets but sponsors with whom they are willing to lend. While delinquencies remain low, bank managers anticipate increased distress across their credit portfolios, including within their CRE books.



Source: Federal Reserve, Newmark Research

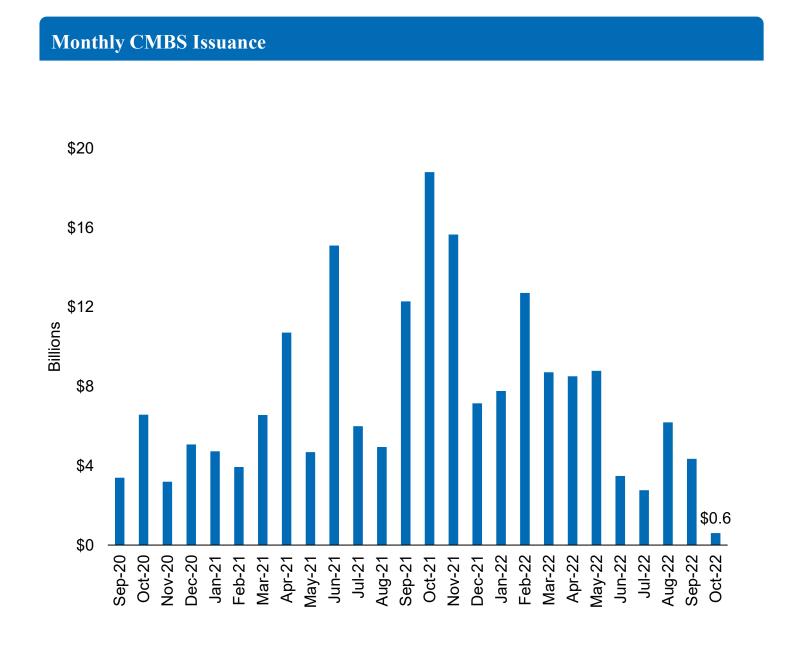
Leading to Declining Origination across Lender Groups

CMBS and GSE lending volumes have declined most sharply, which is notable as these are the lenders for which there is the greatest data transparency.

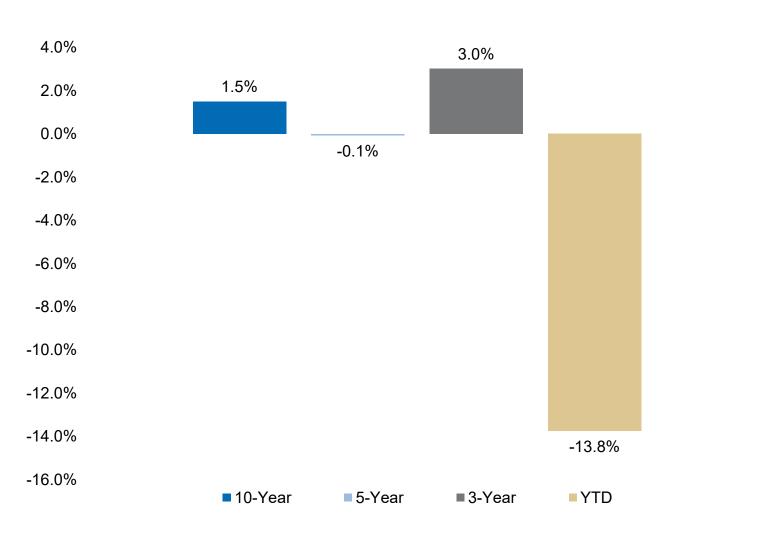


Volatility Has Impacted CMBS Total Returns, Issuance

CMBS issuance collapsed towards the middle of the year. Activity picked up in August / September but fell well short of prior year figures. Meanwhile, CMBS as an asset class has returned negative 13.8% on a total return basis. In this, it is one of the best performing sectors of the fixed income world year-to-date.



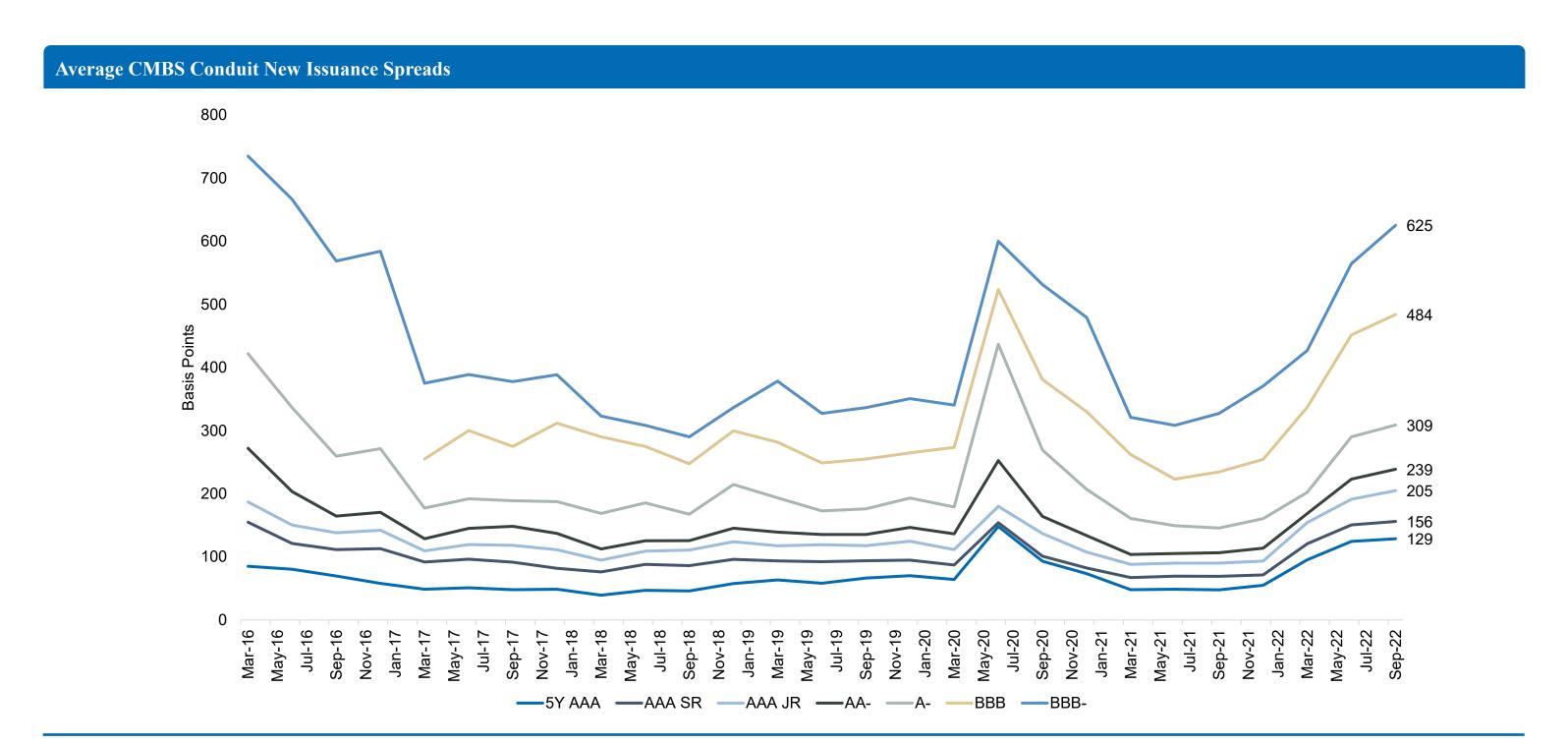
Historical CMBS Total Returns (iShares CMBS ETF)



Source: Green Street, Ishares, Newmark Research

Spreads Have Widened Rapidly across CMBS Risk Tranches

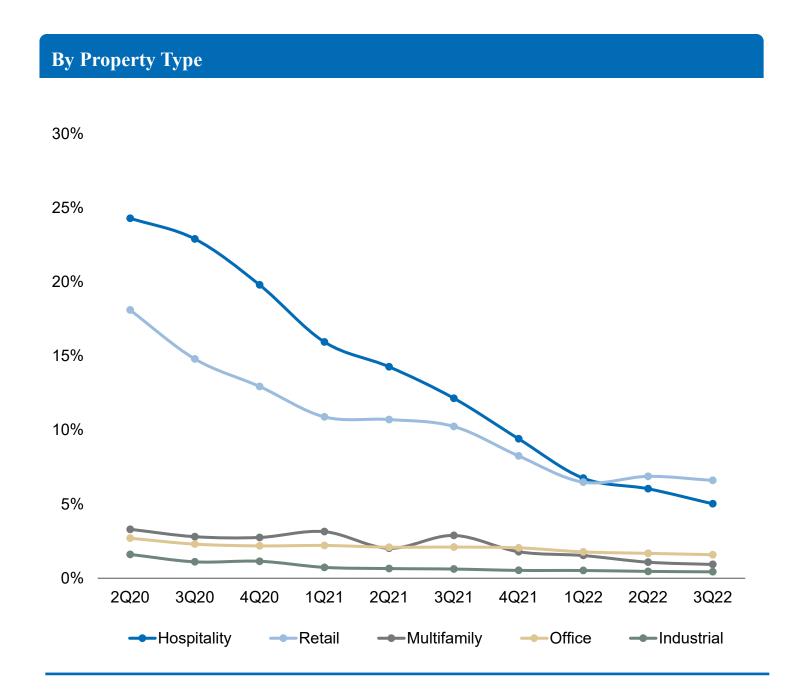
The CMBS market was the first part of the CRE market to begin pricing in the new risk and rate environment.

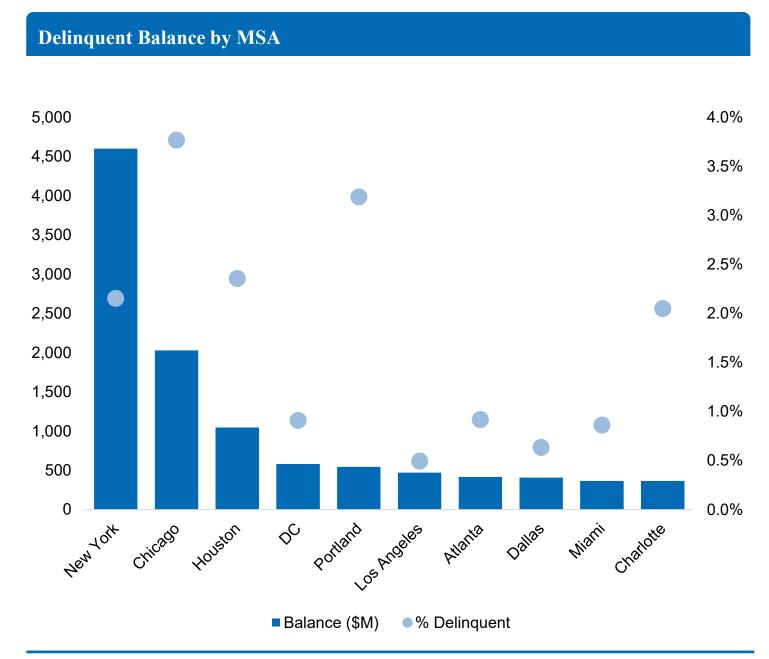


Source: Trepp, Newmark Research

CMBS Delinquency Rates Remain Subdued (so far)

Since the onset of the pandemic, delinquency rates for hospitality and retail have declined by 75.3% and 61.9%, respectively. The lifting of COVID-19 restrictions, combined with high levels of consumer savings and pent-up demand for leisure travel, are contributing to positive investor confidence in both sectors. Workouts between borrowers and lenders have supported the improvement in delinquency, with the focus being on long-term asset value over short-term negative performance caused directly by the pandemic.

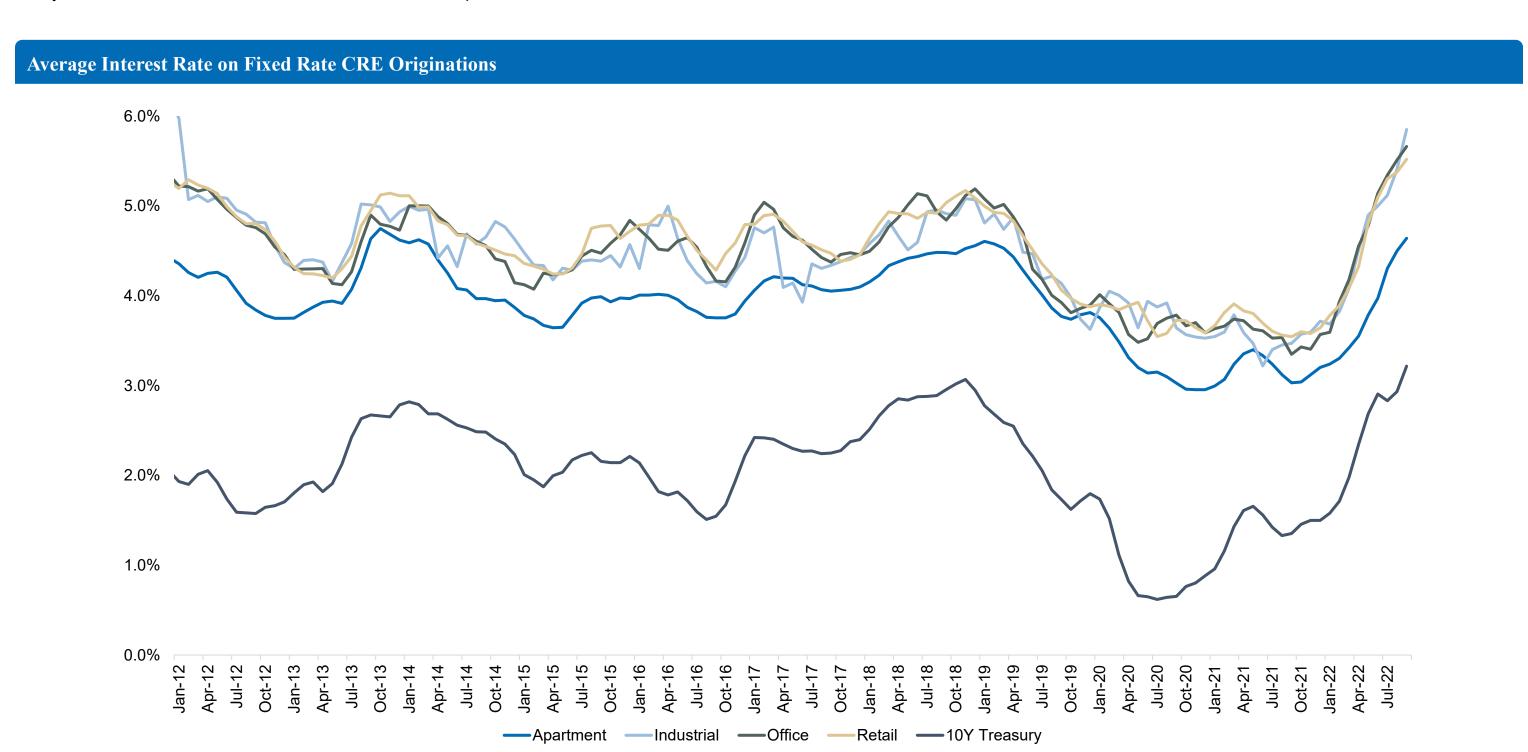




Source: Newmark Research, Trepp

CRE Debt Costs Rising Asymptotically Alongside Treasuries, Corporate Debt

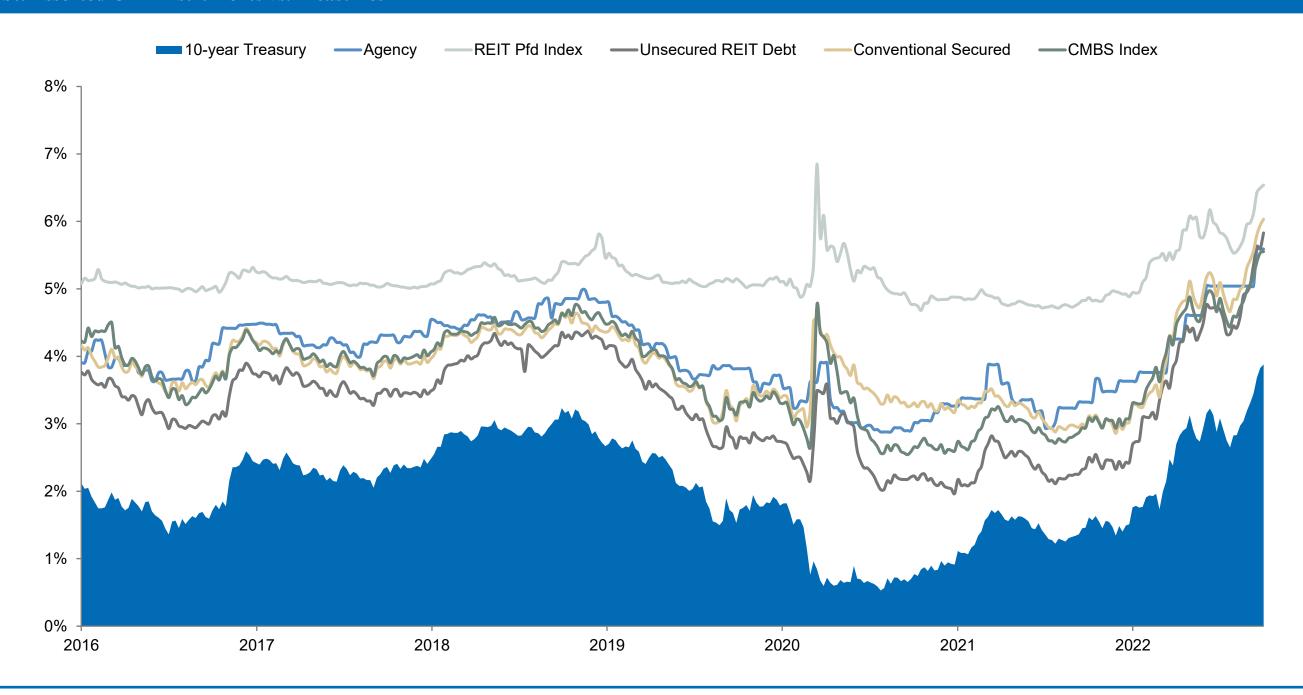
And yet, these transaction debt rates are at least 100 bps under current market rates.



Cost of Debt Capital Has Risen across The Spectrum

All originators have increased mortgage yields to keep a meaningful spread above the risk-free rate.

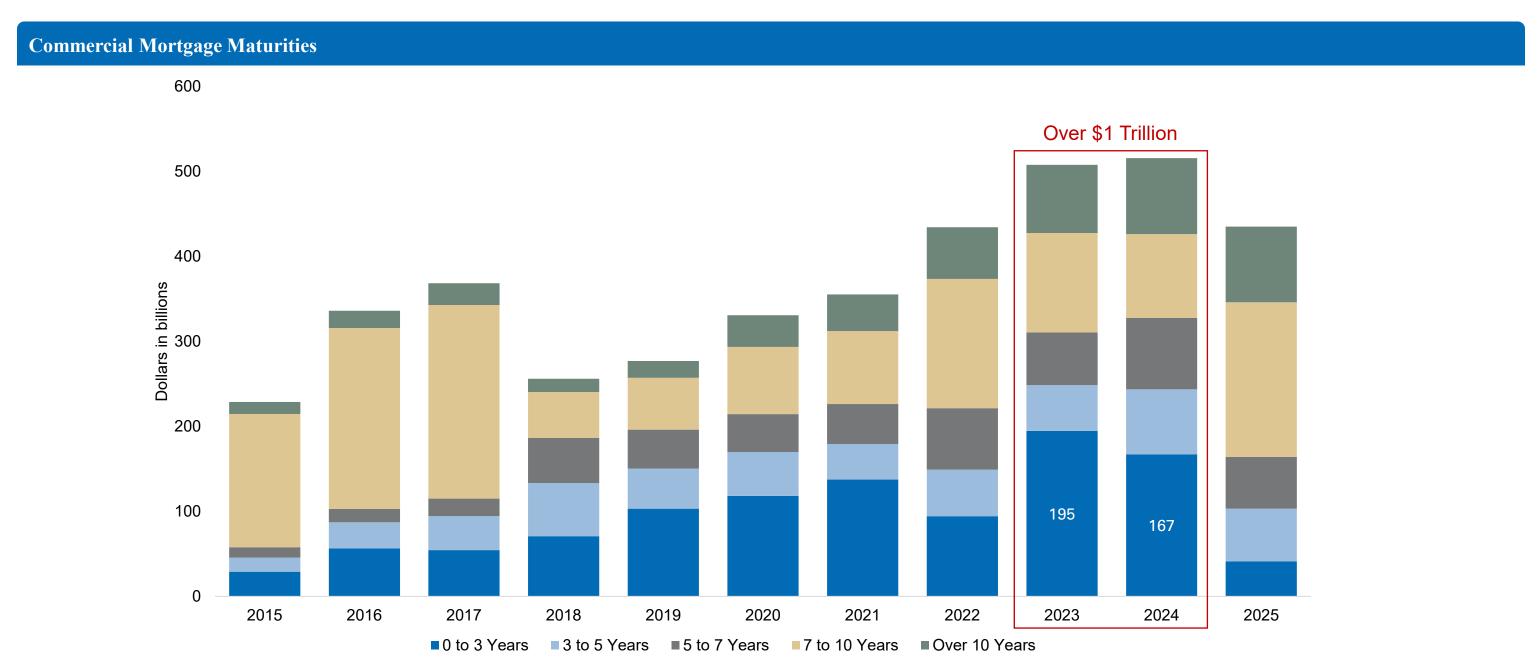
Cost of Debt: Assorted CRE Instruments vs. Treasuries



Sources: Newmark Research, Green Street

Record Quantities of Debt Maturing in 2023 to 2024

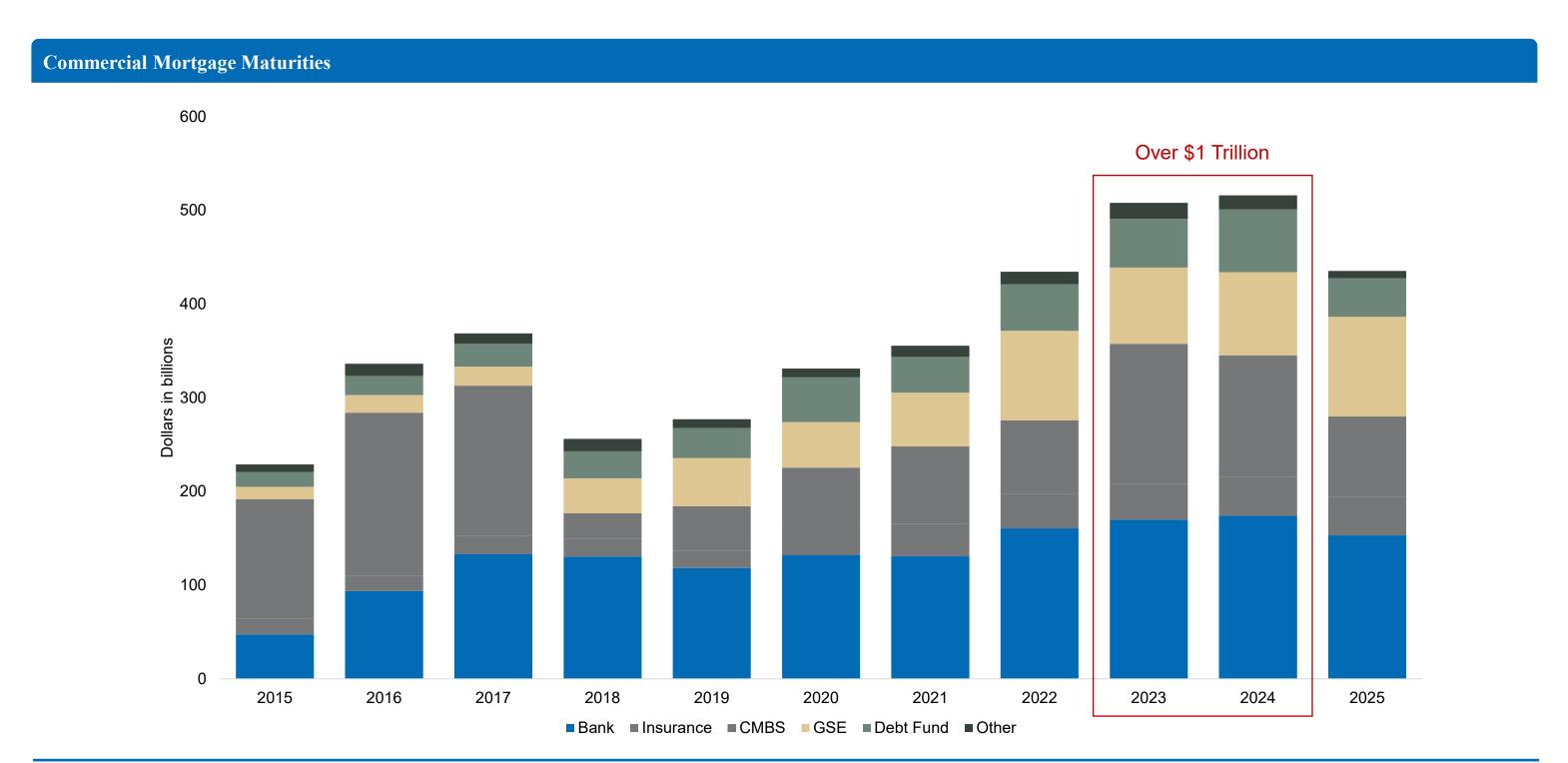
Over \$1 trillion of senior CRE debt is set to mature in 2023 to 2024, of which 1/3 was originally issued in 2020 or later. Debt costs have increased dramatically since the beginning of the year, from 2.8% to 3.2% for core product to 4.8% to 5.5% today. The implication is that these recent loans will need to refinance at significantly higher debt costs. There will be some distressed situations arising from this, particularly should fundamentals slow and values take a hit concurrently. More commonly, however, we will see investors choosing to refinance to lower LTVs than they might have otherwise, especially as multifamily and industrial asset values have increased substantially. Lastly, there will be situations where investors bring in minority equity partners and recapitalize assets.



Source: RCA, Newmark Research

Elevated Debt Maturities across Lender Groups, but CMBS Stands Out

This could be particularly problematic, given that CMBS loans are less amenable to restructurings/modifications in distress.



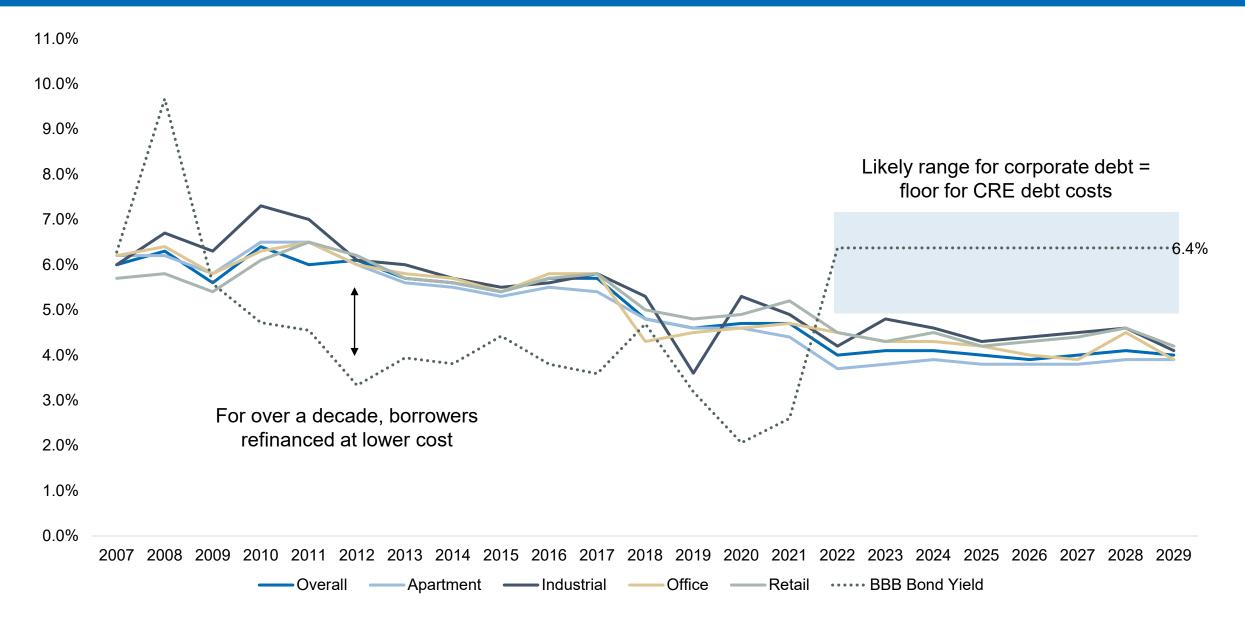
Source: RCA, Newmark Research

^{*}Assumes that loans for which the maturity is unknown have the same maturity distribution as loans with known maturities

Borrowers Will Face Starkly Higher Costs as Loans Mature

Higher debt costs on refinancing will lower return for all and will give rise to a range of reactions within the market. Some borrowers will choose to pay down their debt, especially if the asset has appreciated meaningfully. Others will refinance the principal or partially pay down, whereas in a lower cost of capital environment, they would have re-levered. Still others will be unable to make the math work and will need to pursue a loan modification, return the keys and/or source rescue equity at an appropriate price point.

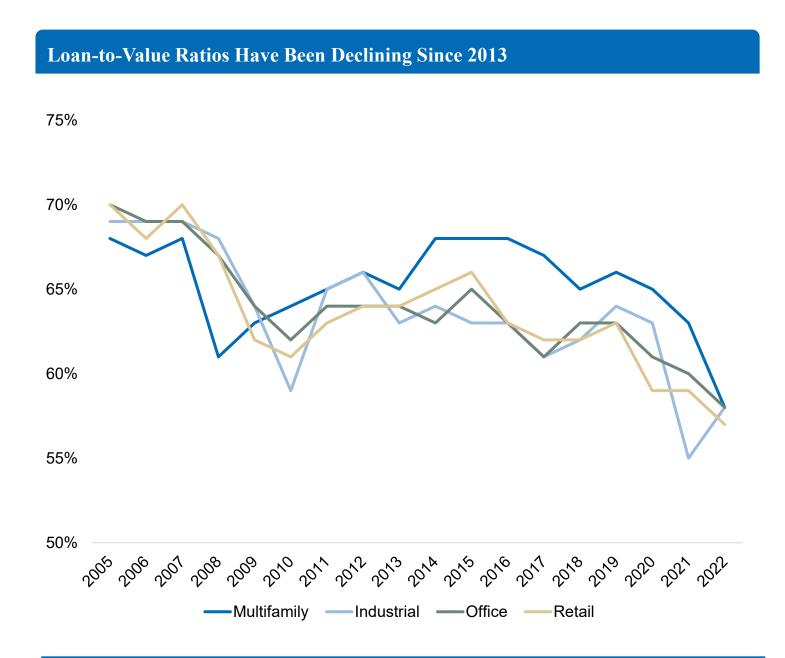


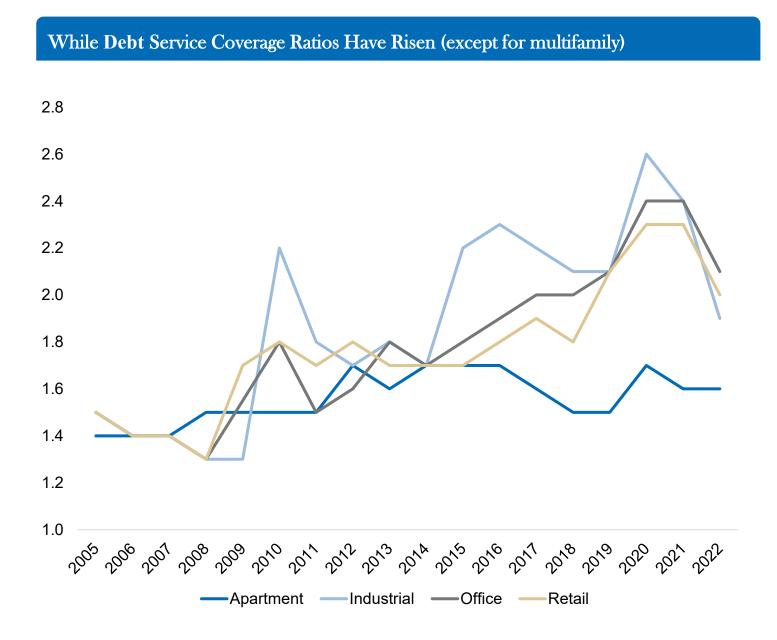


Source: RCA, ICE Data Indices, Newmark Research

Conservative Underwriting Could Help Mitigate Distress

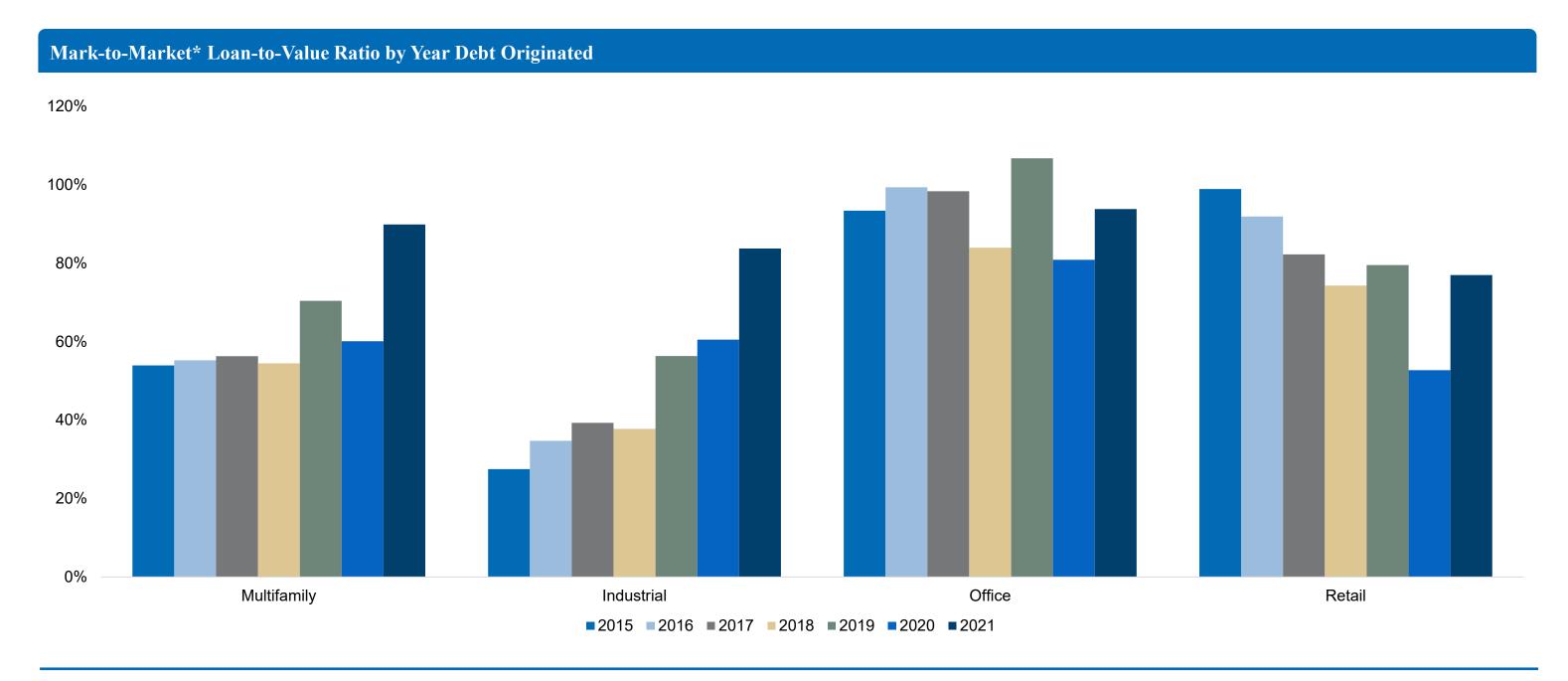
LTV's become elevated and DSCR's depressed in the years preceding the Great Financial Crisis. Both borrowers and lenders learned from this experience with the result that LTV's trended down throughout the 2010's expansion and DSCR's expanded significantly. Even during risk-on periods, lending standards remained conservative on these metrics. This conservatism now provides some "wiggle room" for borrowers to absorb the increased debt costs as loans come due.





But Falling Asset Values Means That Some Loans Are Already Underwater

But perhaps the larger problem comes from the value side of the equation. Appraisers have been and will be slow to write down assets, but the public markets are pointing strongly in the direction of travel. When repricing is complete, a wide range of 2021 borrowers will find themselves "underwater" across property types. Beyond that peak year, multifamily and industrial assets have little risk of distress. The same cannot be said for all office and retail assets.



Source: RCA, NAREIT, S&P Capital IQ, Newmark Research

^{*}We take the average LTV in a given year and then increase the value of the denominator by the cumulative price return of the corresponding NAREIT property sector index since the year the loan was originated. For example, apartment loans made in 2005 had an average LTV of 68%. We would then increase the denominator by the cumulative REIT price return from 2006-2022 YTD.

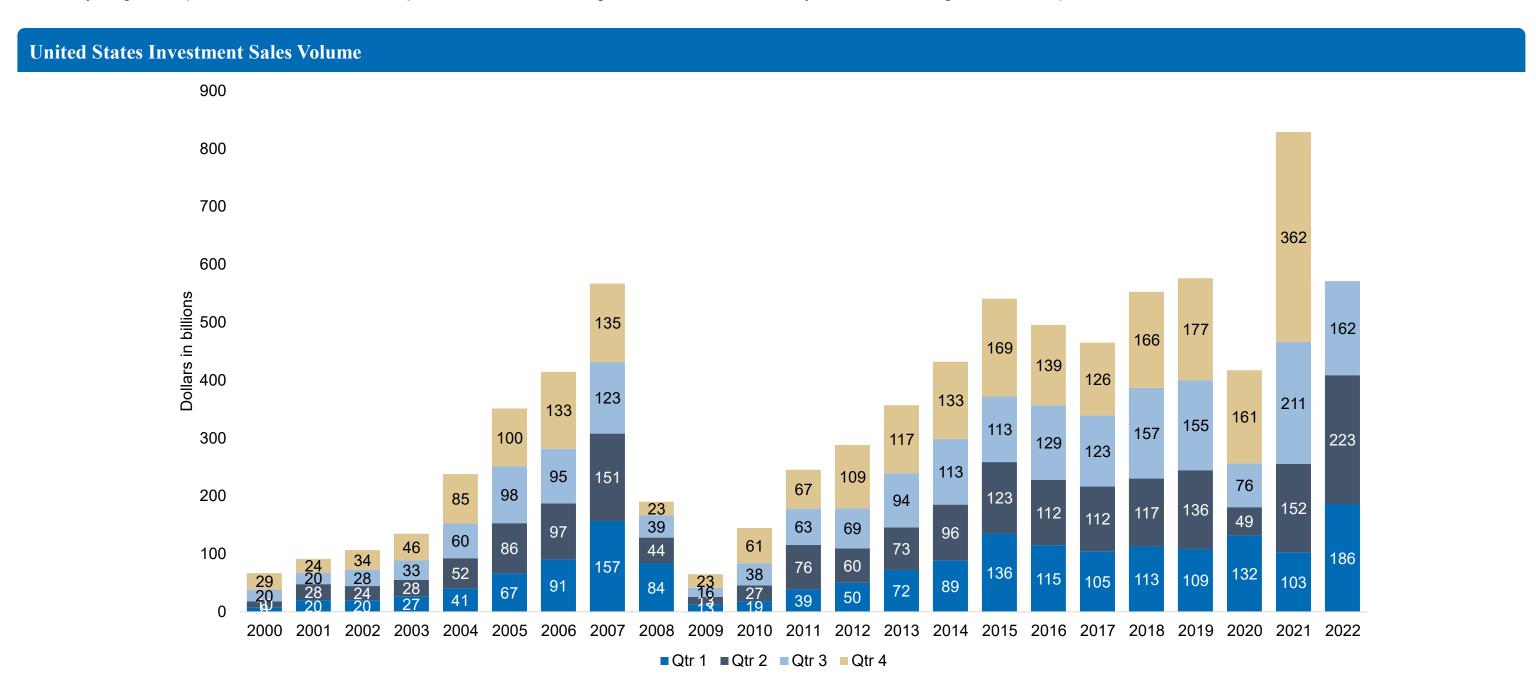
3Q22 CAPITAL MARKETS REPORT

Equity Capital Markets



Transaction Volume Down 23% Year-Over-Year 3Q22

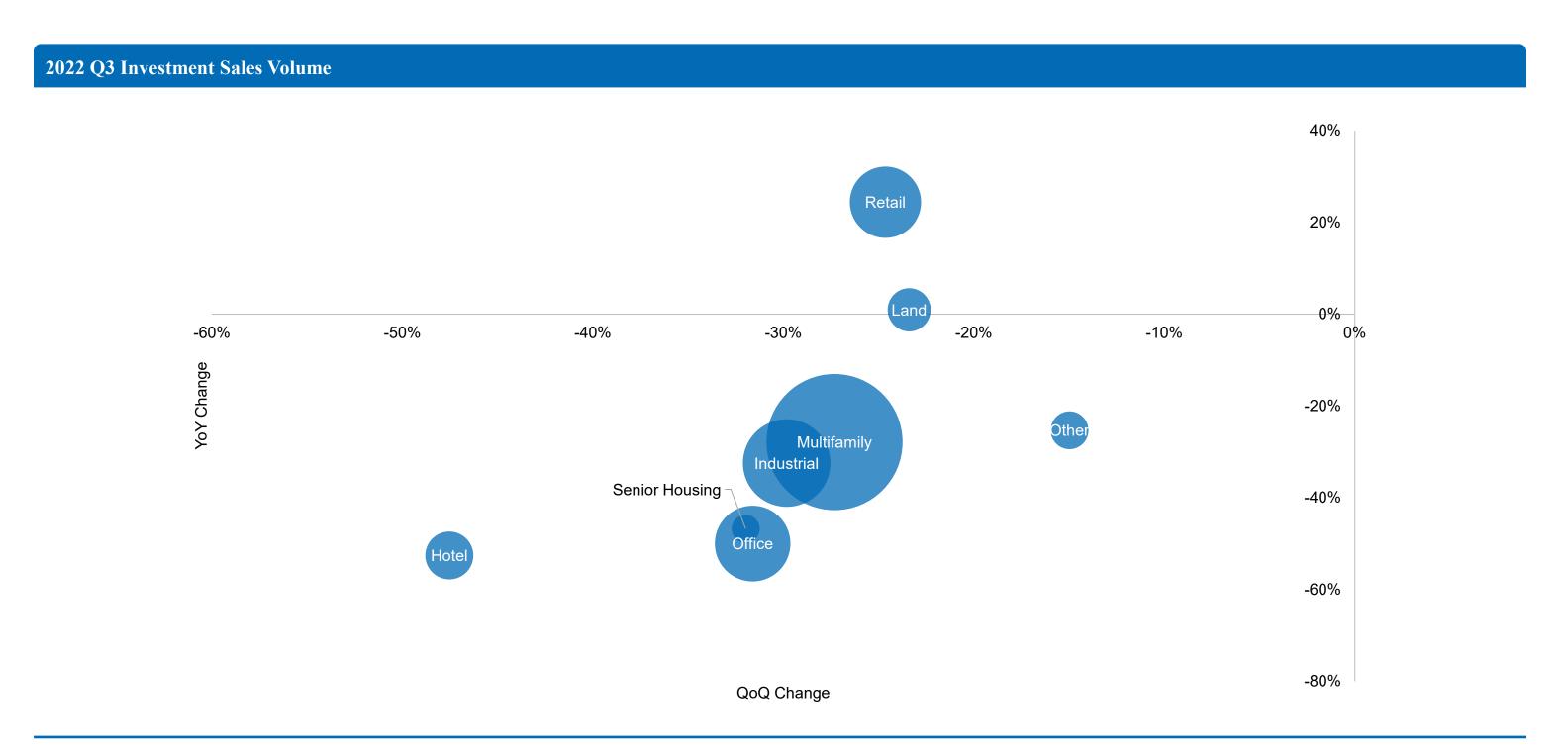
This was still the second best third quarter ever. Indeed, investment sales volumes are presently outpacing the record set in 2021, though this has been driven by an extremely strong first half. What is more remarkable (and, perhaps, more troubling) is that transaction activity decelerated 27% quarter-over-quarter, when sales typically rise 15% from the second to the third quarters. Tightening financial conditions, combined with weaker macroeconomic and property forecasts, began to have a strong effect on deal pipelines in early summer which, by August/September, translated to sharp deceleration in closings. This weakness is likely to extend through the fourth quarter of 2022.



Source: RCA, Newmark Research

Investment Sales Slowed Quarter-Over-Quarter across Property Sectors

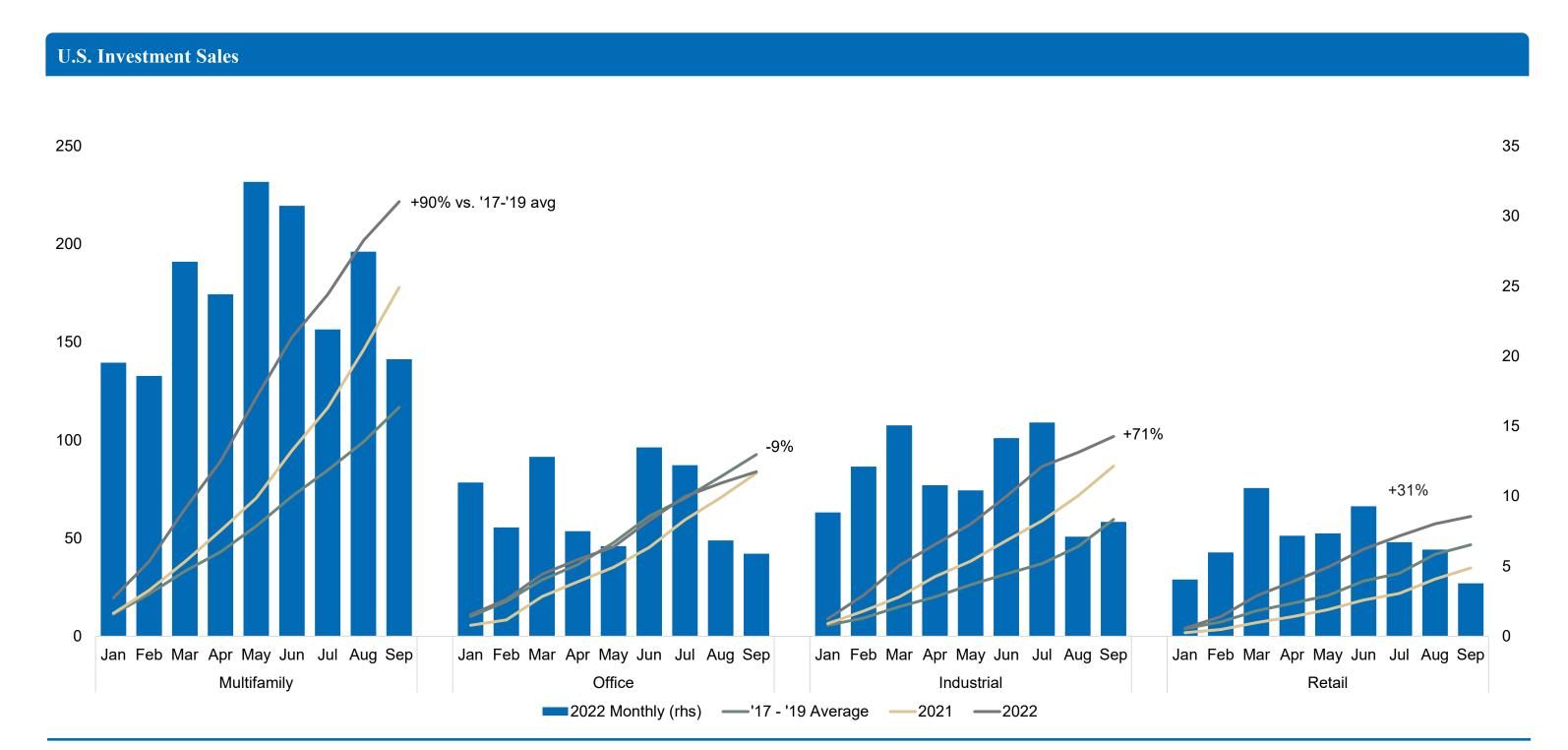
Retail and land sales, nonetheless, increased year-over-year



Source: RCA, Newmark Research *Excludes Entity/M&A deals

Activity Decelerated into September across Sectors

The fall-off in office and industrial has been particularly abrupt.

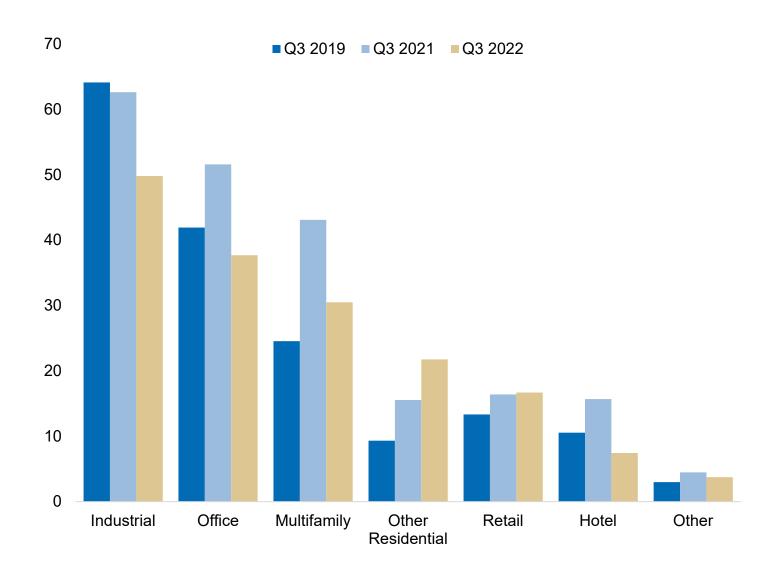


Source: Real Capital Analytics, Newmark Research

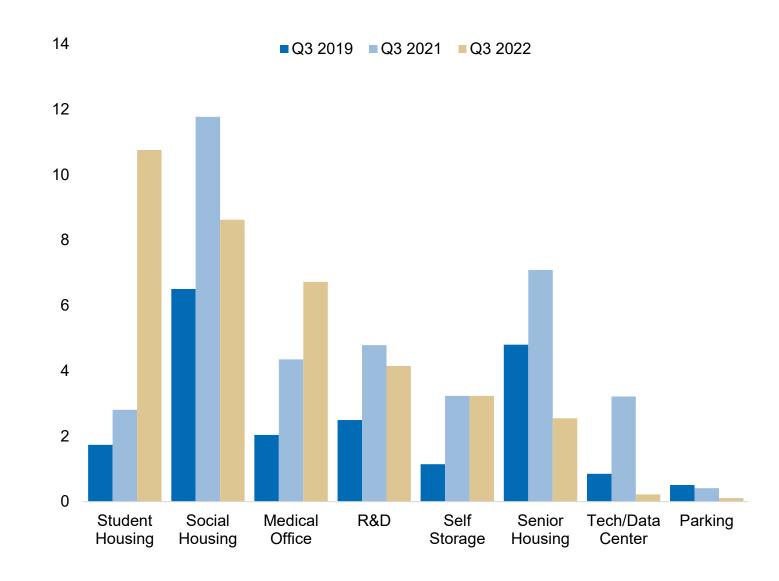
Nonconventional Residential Assets, Medical Office and R&D/Lab Outperforming

Investment Sales Volume (\$B)

Larger Sectors Decelerating Except for Non-conventional Residential



Niche Asset Sector Volumes Generally Above Pre-Pandemic in 3Q22

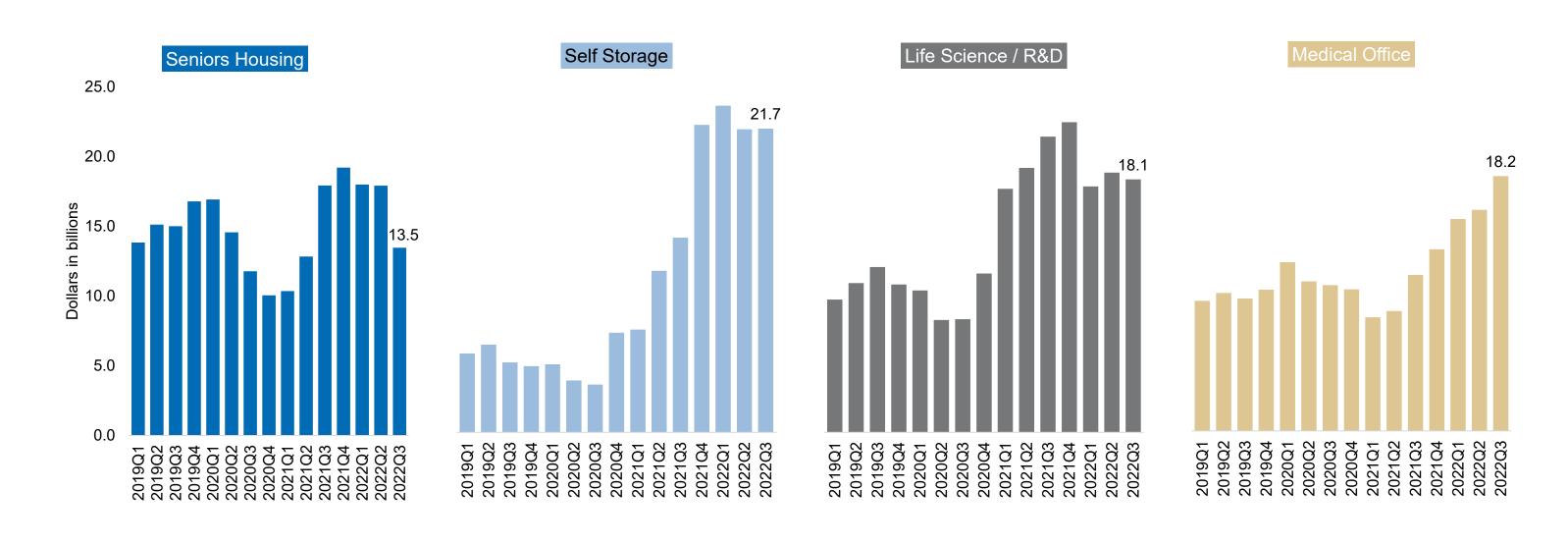


Source: RCA, Newmark Research

Alternative Sectors Remain Robust, Especially Storage and Medical Office

The four largest alternative property type segments have attracted an unprecedented level of institutional investor demand in the pandemic investment landscape, with sales volume hitting a combined \$71.5 billion in the four quarters ending in 3Q22. Life science and medical office continue to benefit from outsized investor demand, particularly as certain segments of office product face disruption and obsolescence as tenants reassess their space requirements and work-from-home policies. Looking forward, expect alternatives as a sector to continue to grow as a share of the overall investment market but at a more measured pace compared to the recent frenzy, befitting the maturation of these markets.



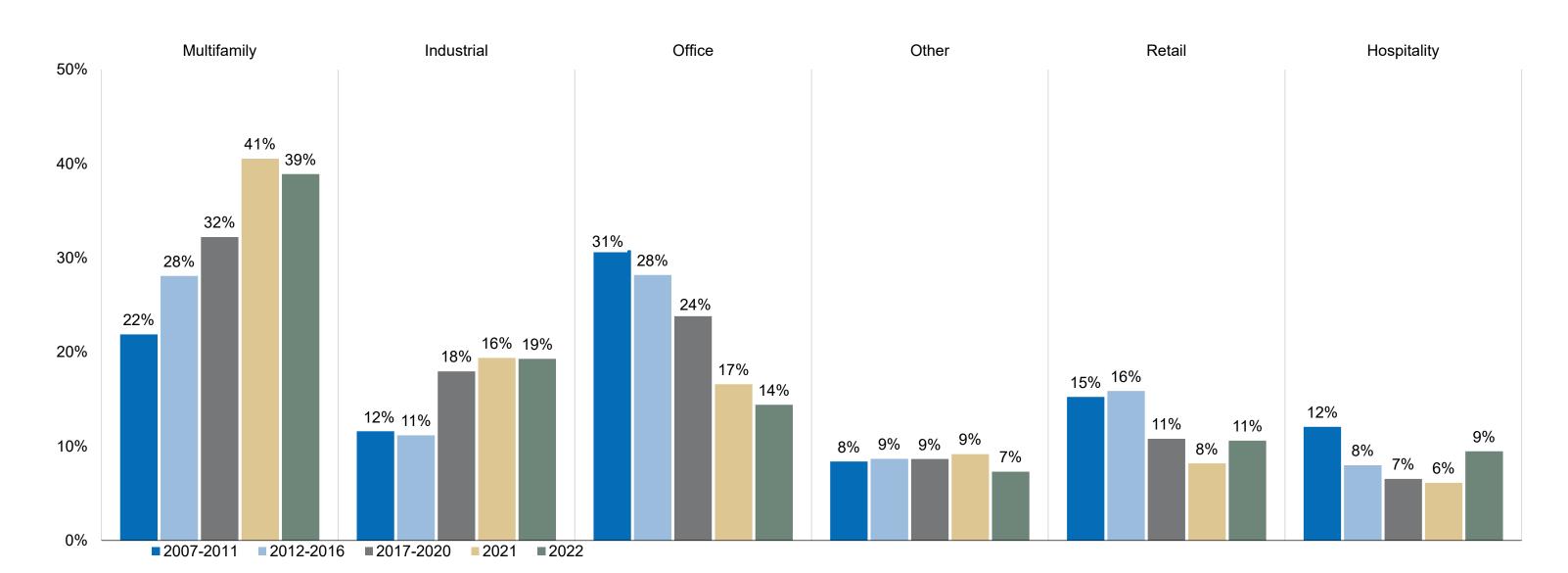


Source: Newmark Research, Real Capital Analytics

Investor Portfolios Shifting in Favor of Multifamily and Industrial Assets

The commercial real estate investment landscape remains bifurcated, with multifamily and industrial attracting 58% of investor allocation in 2022 year-to-date, as both benefit from secular tailwinds, as well as high levels of rental and pricing growth.

Investor Allocation Over Time



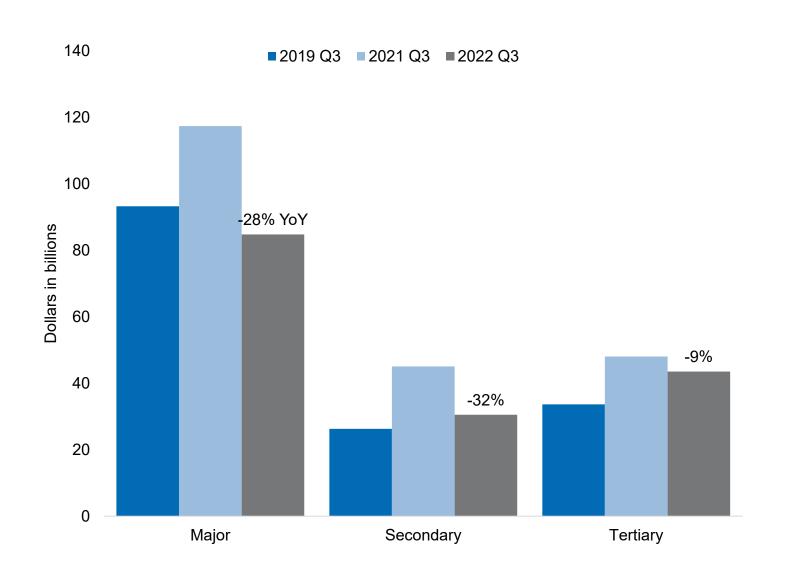
^{*}Life science / R&D, medical office, data centers, age-restricted housing student housing, seniors housing, manufactured housing, self storage

Investor Allocation Over Time

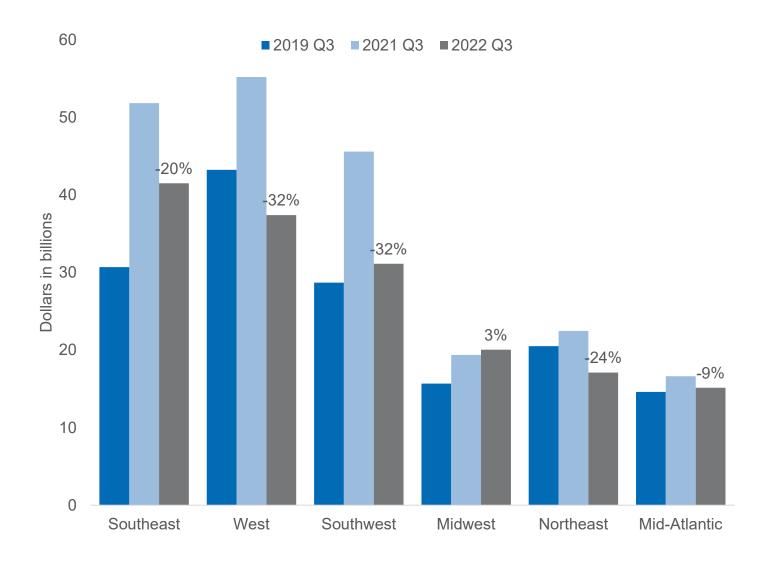
Tertiary Markets, Mid-West and Mid-Atlantic Most Resilient in Q3 2022

All Market Tiers Down YoY, but Secondary and Tertiary Markets Up vs. 2019

All Market Tiers Down YoY, but Secondary and Tertiary Markets Up vs. 2019



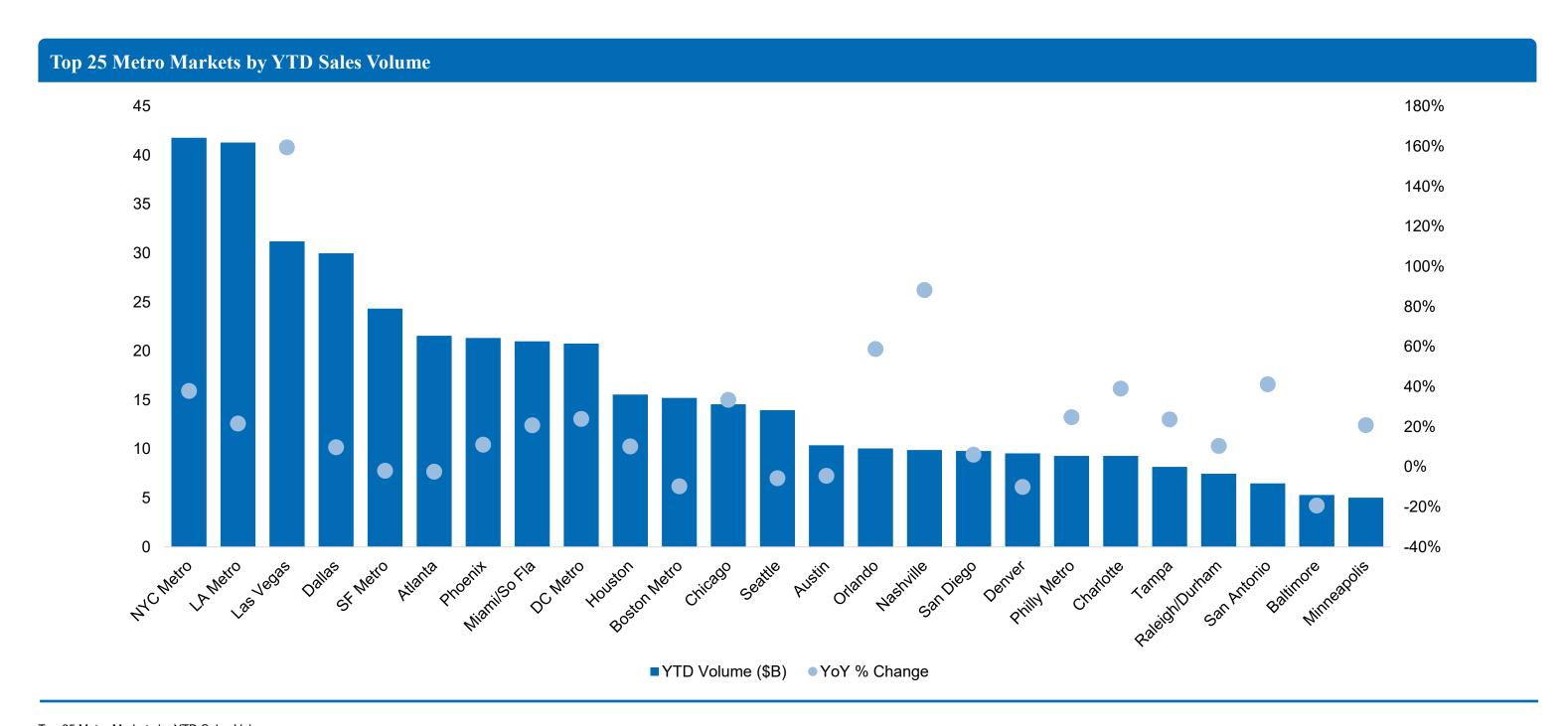
Midwest Only Region Up YoY, Sunbelt Volumes Hold On to Post-2019 Gains



Source: RCA, Newmark Research

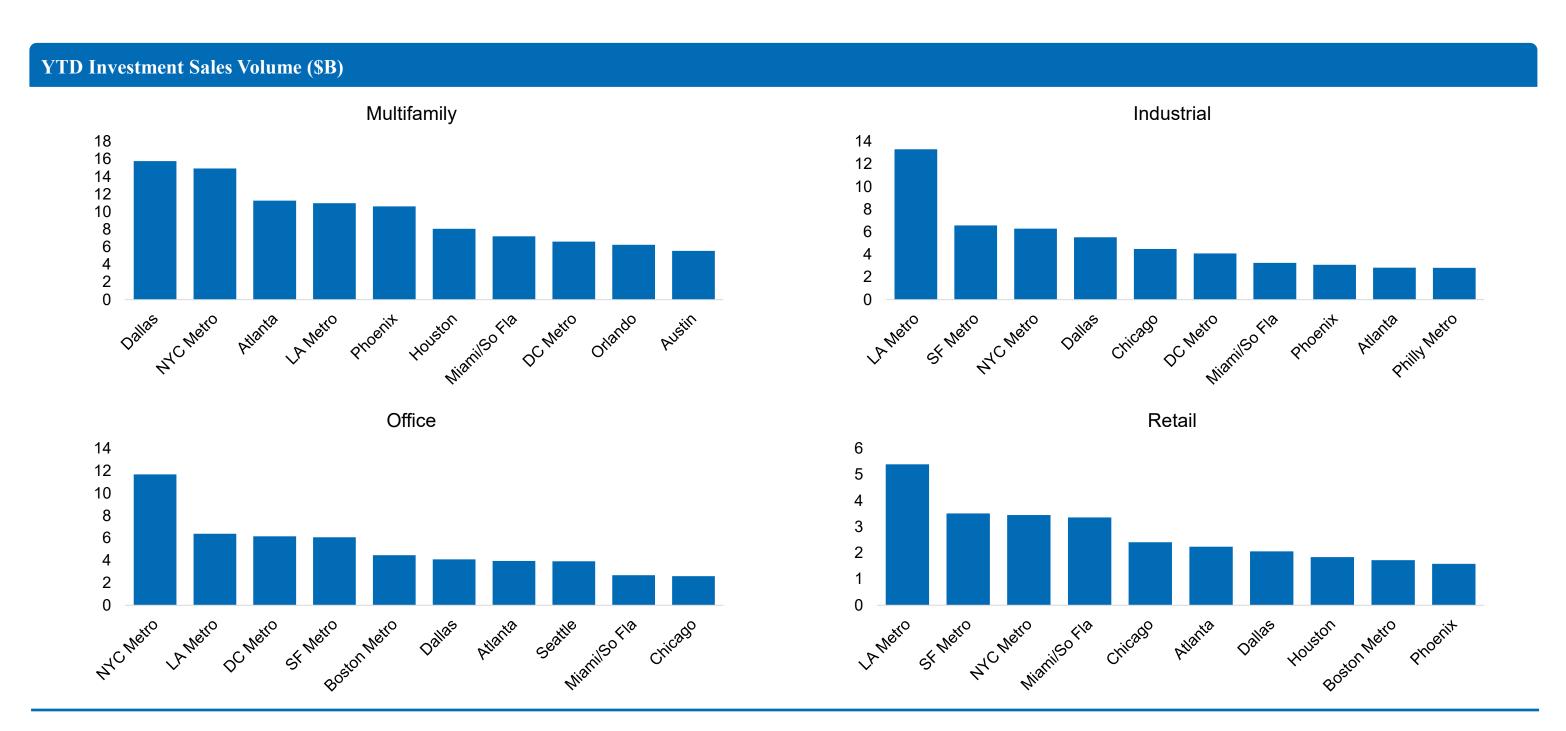
Top United States Markets by Investment Sales Volume

NYC Metro attracted the most investment volume of any market in the US in the year-to-date with \$42 billion, up 38% year-over-year. LA Metro and the San Francisco Bay Area also topped the rankings, alongside leading Sun Belt markets such as Dallas, Atlanta and Phoenix. The greatest year-to-date increases have been in Sun Belt markets, notably Orlando, Nashville, Charlotte and San Antonio.



Top Investment Sales Markets by Property Type

Sunbelt markets drove multifamily sales in the year-to-date, accounting for seven of the top 10 markets by volume – eight, if Los Angeles is included. The traditional major coastal and inland distribution hubs dominated the top 10 industrial markets, led by Los Angeles. Manhattan retained its crown as the largest office market, though still down from pre-pandemic levels, followed by Los Angeles, DC and the San Francisco Bay Area. Gateway markets led the retail rankings, particularly LA Metro.

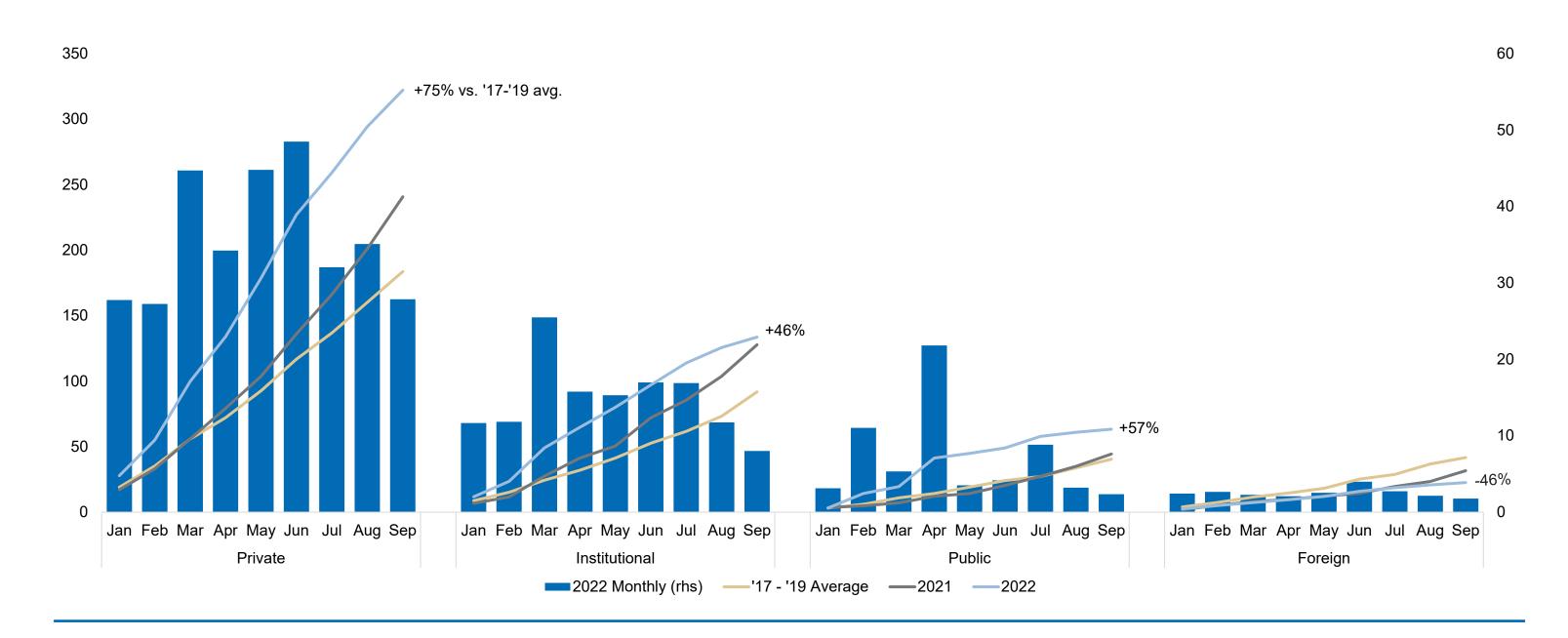


Source: RCA, Newmark Research

All Capital Groups but Foreign Have Been Highly Active in 2022, but Rapidly Slowing

Deceleration in acquisitions by institutions has been particularly rapid since July.

Acquisition Volume by Capital Group (\$B)



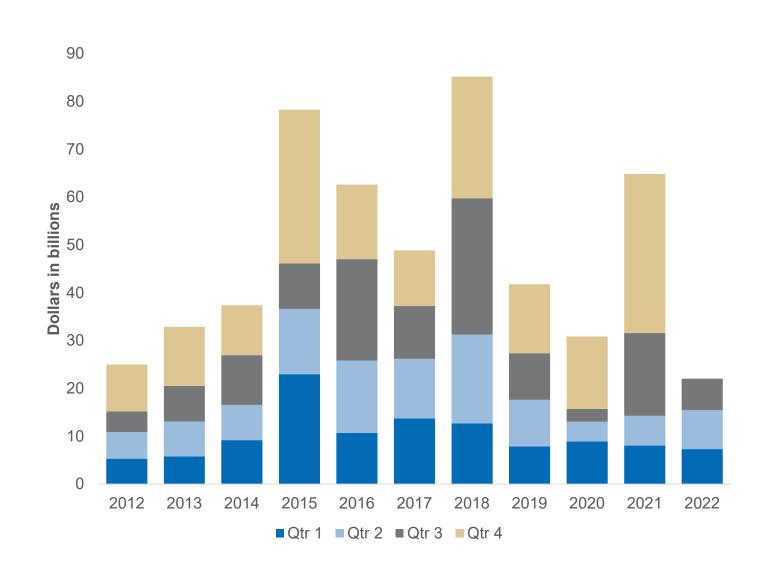
Source: Real Capital Analytics, Newmark Research.

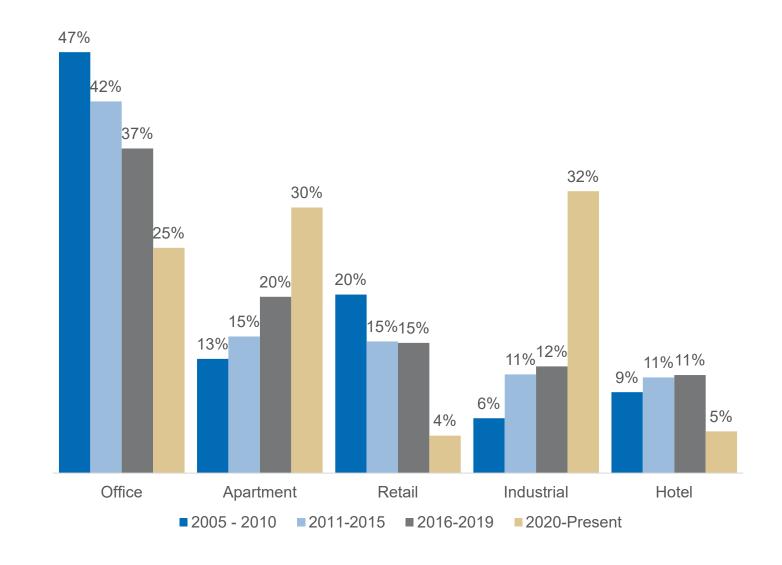
Foreign Investment Declining but Remains Focused on Residential, Industrial

The combination of tightening global liquidity conditions, the strengthening dollar and rising hedging costs has conspired against inbound investment, despite weaker economic outlooks in many investors' home countries, notably in Europe.

Cross-Border Acquisitions Down 30% YTD YoY, Down 62% in Q3 Alone

Allocation of Cross-Border Capital Shifting To Residential and Industrial

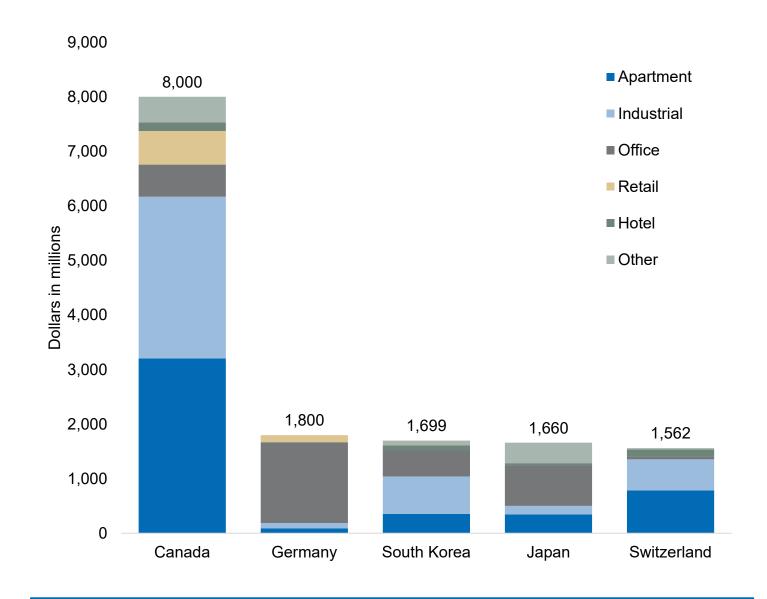




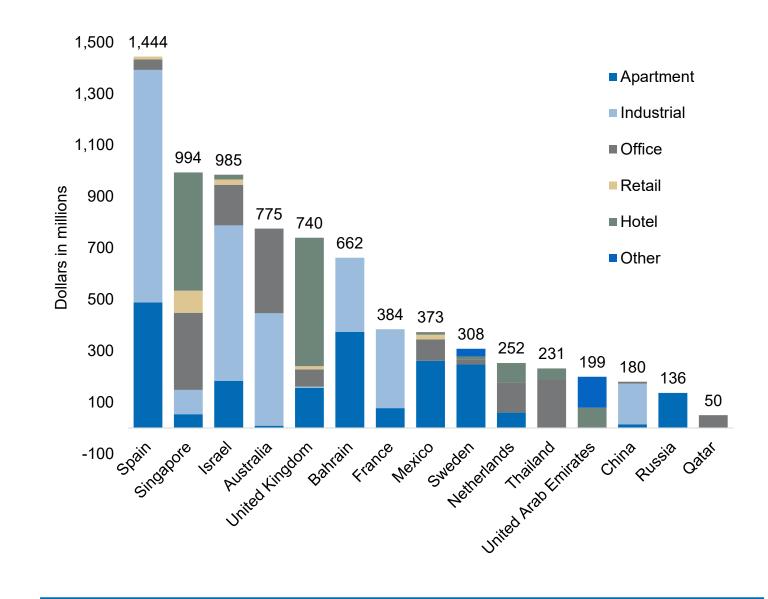
Source: Newmark Research, Real Capital Analytics

Sources of Inbound Capital

Top Five Sources of Inbound Capital: 2022 YTD



Next 15 Sources of Inbound Capital: 2022 YTD



Source: RCA, Newmark Research

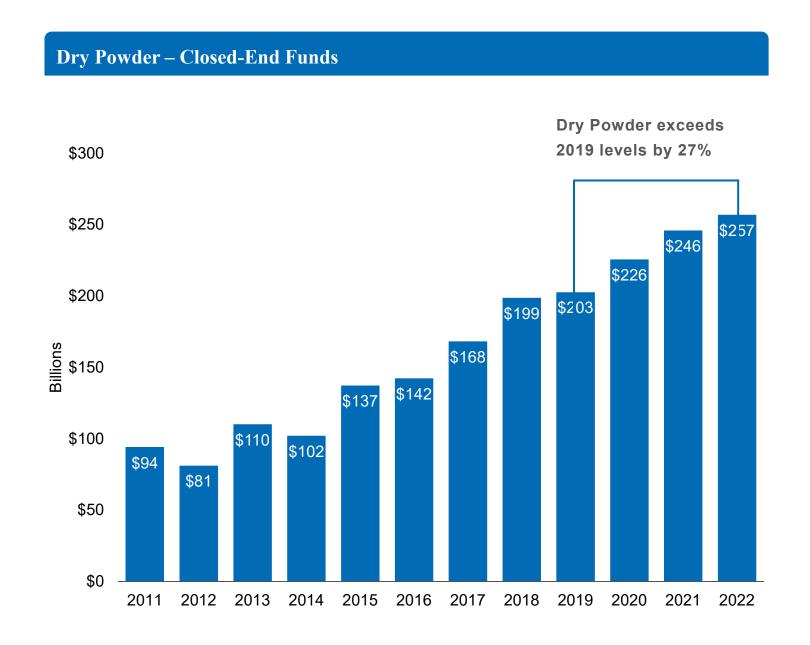
3Q22 CAPITAL MARKETS REPORT

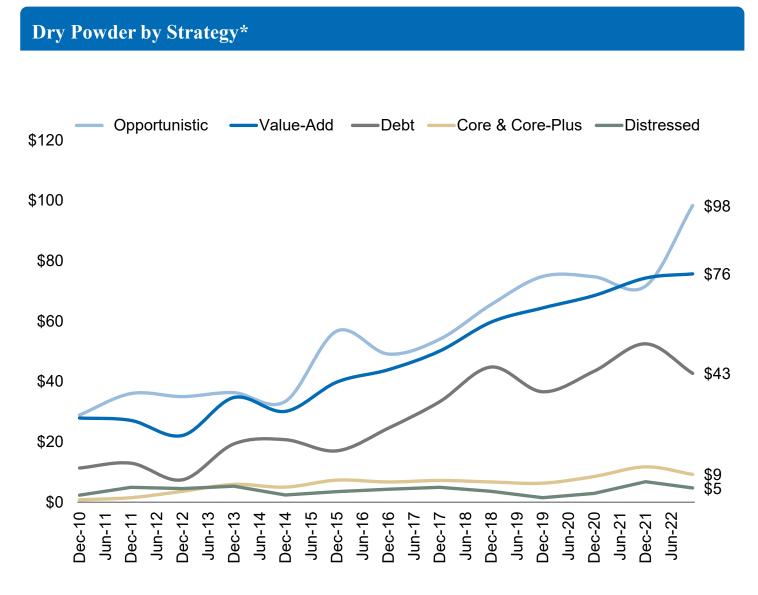
Supply of Capital



Private Equity Dry Powder Still at Record Levels

Following an all-time record year for capital deployment, dry powder accumulated by North America-focused real estate funds rose to \$257 billion as of November 2022. Dry powder at opportunistic funds has increased in the year-to-date through a combination of new fundraising and slower capital deployment. By contrast, debt funds which have rapidly accumulated capital in the last several years have been challenged by the higher rate environment.



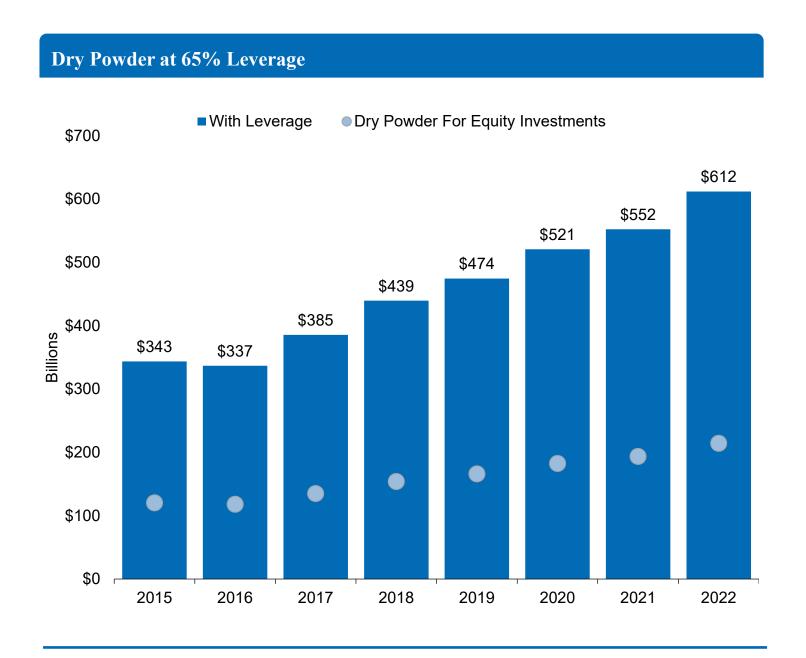


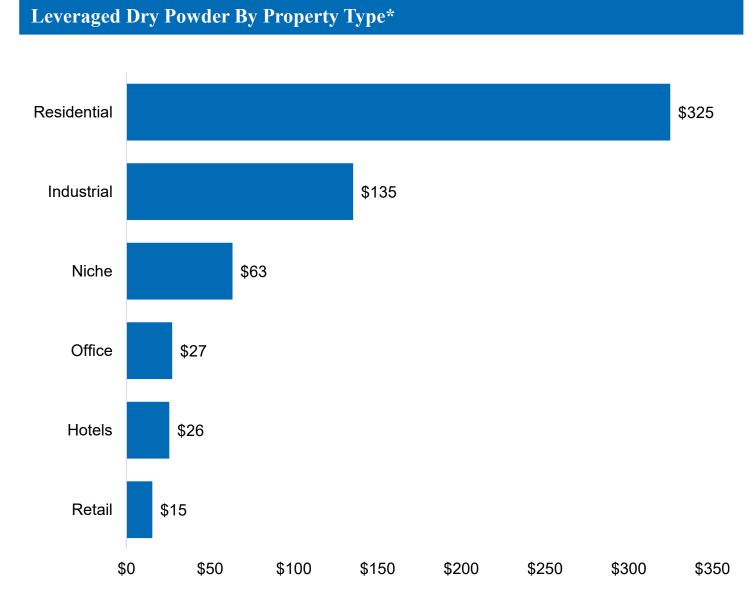
Source: Newmark Research, Preqin (July 2022)

^{*}Not shown: Fund of funds, co-investments, and secondaries strategies

Dry Powder with Leverage

The \$214 billion in dry powder raised for equity investments, not including dry powder raised for debt strategies, equates to a leveraged purchasing power of \$612 billion, using a 65% of the strategies of the s loan-to-value ratio. We estimate that over half of this capital is targeted at residential assets, with most of the remainder focused on industrial assets. The capital targeting office and retail assets is quite small by comparison, which could ultimately represent a contrarian opportunity.



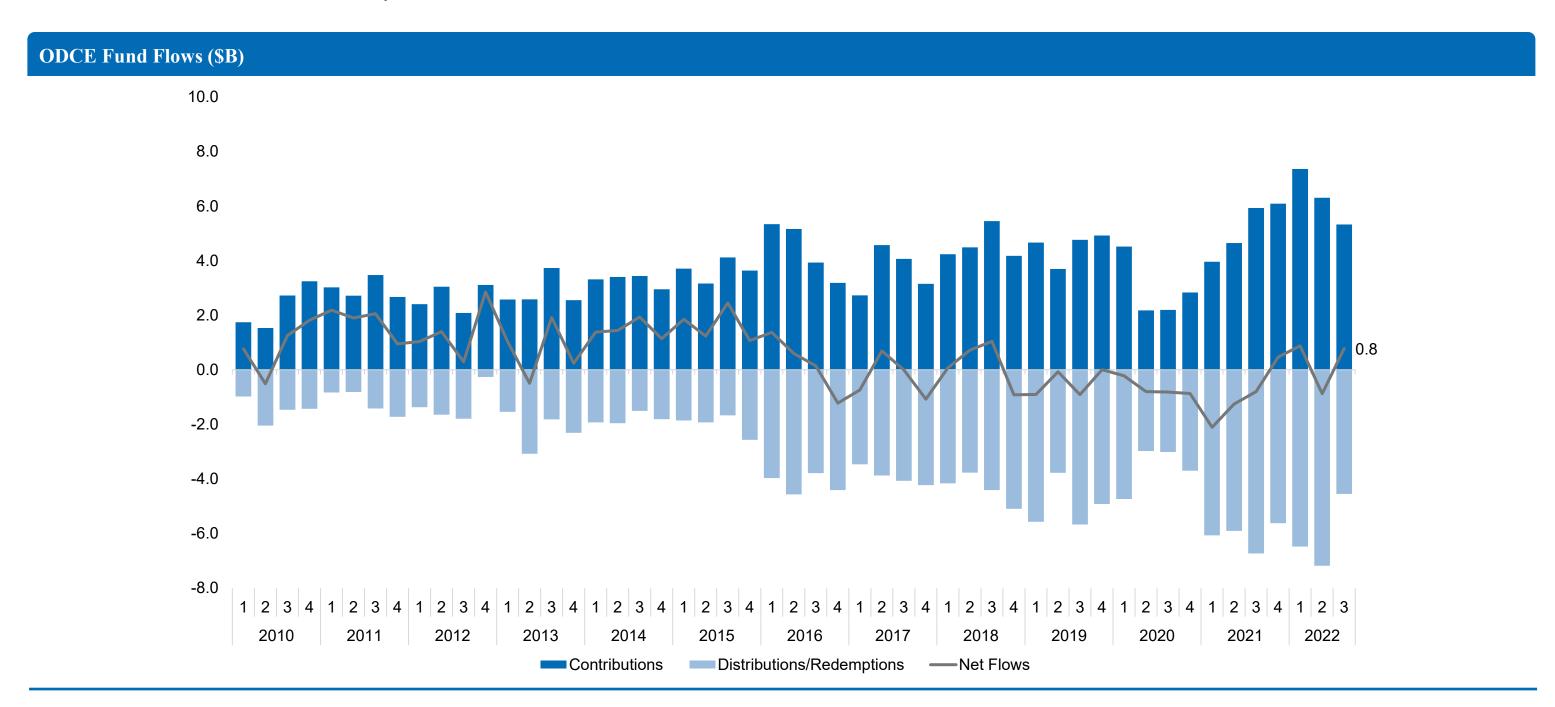


Source: Newmark Research, Real Capital Analytics, Pregin

^{*}We looked at the percent called by vintage year and applied this to the total amount fundraised in each year to calculate the amount of uncalled capital (i.e. dry powder), broken out by main property type. Roughly half the dry powder was at diversified funds. This was allocated to the various property types in proportion to their share of total dry powder, excluding diversified funds. Finally, we grossed up the dry powder assuming 65% leverage would be used.

ODCE Fund Flows Slowed in 3Q22

Contributions to ODCE funds pulled back from the record level set in the first quarter of 2022, even as distributions went on to new heights. The high level of cash outflows is mostly attributable to distributions, following several years of above-average capital appreciation. There are anecdotal reports that the selloff in other risk assets is not only impacting new flows into CRE but also, in some cases, resulting in larger redemption queues. This is something that will obviously bear watching in the coming quarters. For now, a continued moderation in contributions is the most likely outcome.

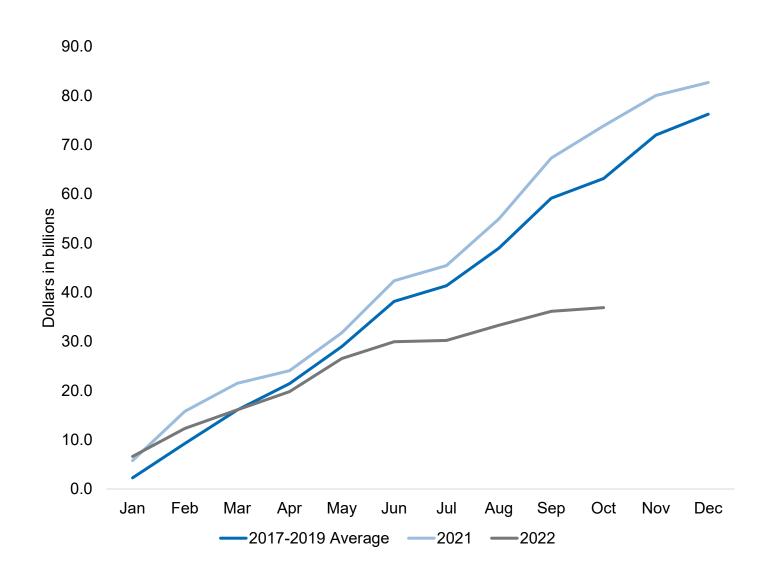


Source: Newmark Research, NCREIF

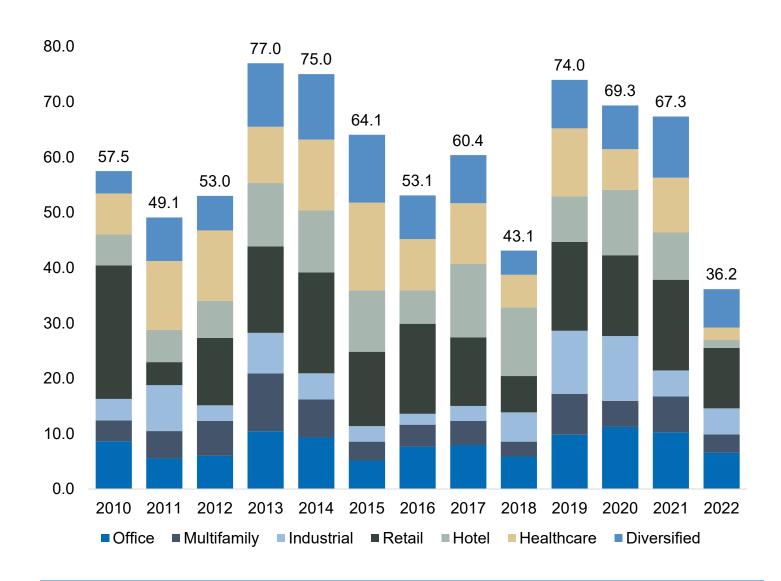
Public Markets Sending Signal that "New" Fundraising Slowing

New capital raising has slowed to a crawl since June, impacting all property sectors.

Real Estate Security Offerings: First Three Quarters



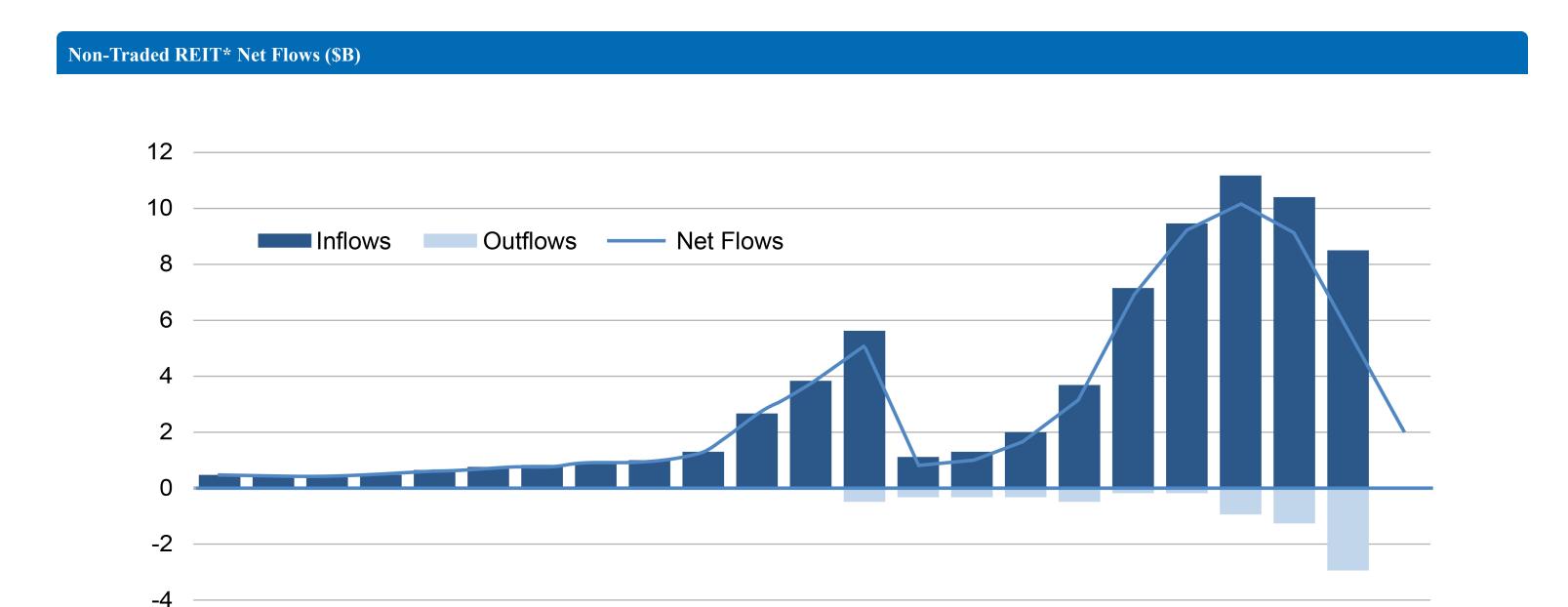
Real Estate Security Offerings: First Three Quarters



Source: S&P Capital IQ, Newmark Research as of 5/25/2022 Excludes offerings with no listed property type target.

Net Capital Flows into Nontraded REITs May Soon Turn Negative

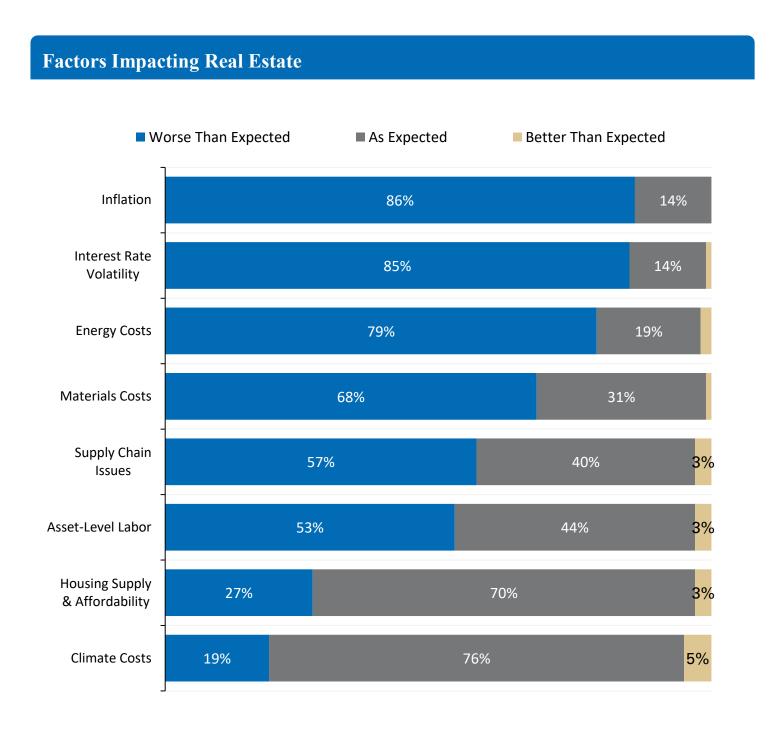
New commitments have declined as redemptions have gained momentum, creating negative pressure on net flows and raising cash through refinancing.

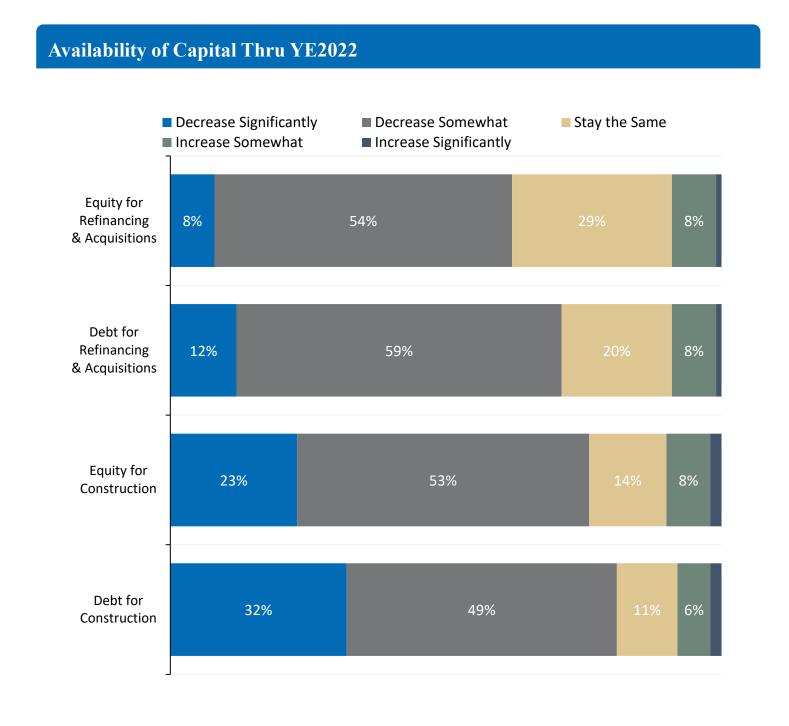


Sources: Newmark Research, Green Street

CRE Investors Surprised at Volatility and Higher Costs; Expect Lower Liquidity

Inflation is clearly more trenchant in components of the index, resulting in a more stubborn fight for the FOMC.



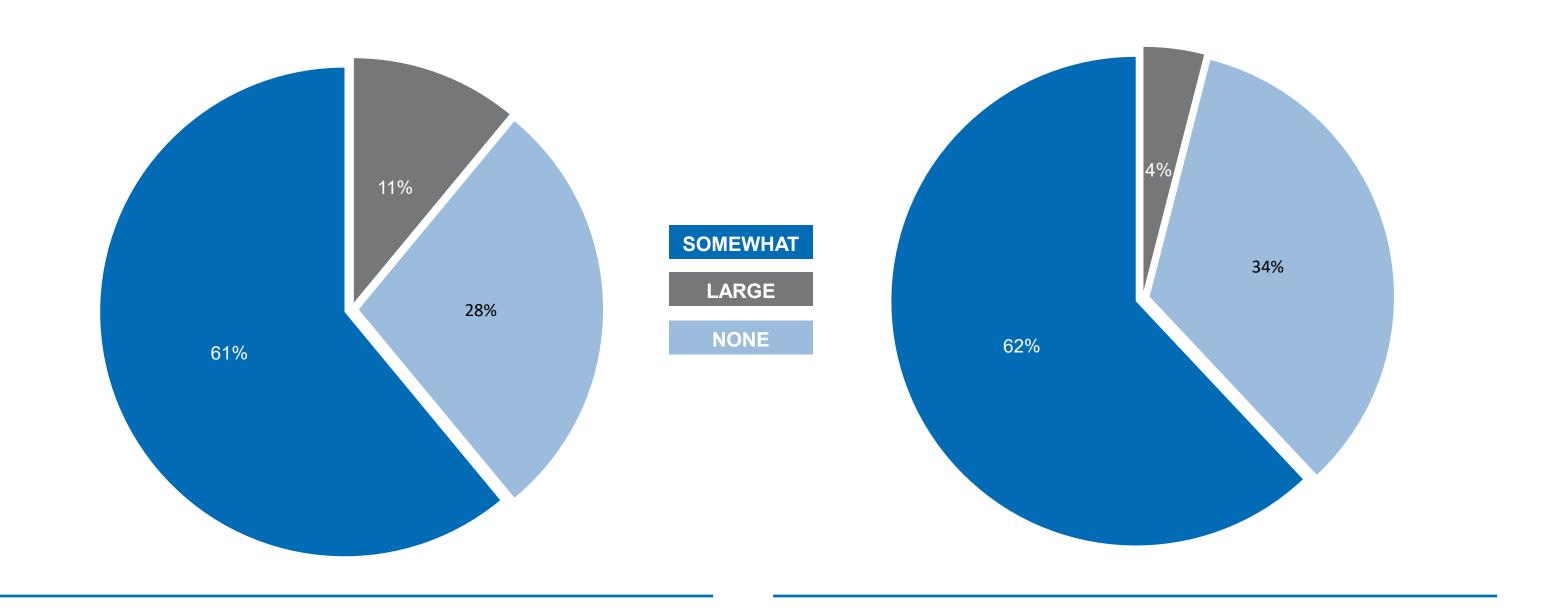


Sources: Newmark Research; Association of Foreign Investors in Real Estate, Summit, Summer/Fall 2022

Investor Interest in CRE Plateauing?

Flattening of demand for institutional real estate?

Increase in capitalization rates for institutional real estate?



Sources: Newmark Research; Association of Foreign Investors in Real Estate, Summit, Summer/Fall 2022

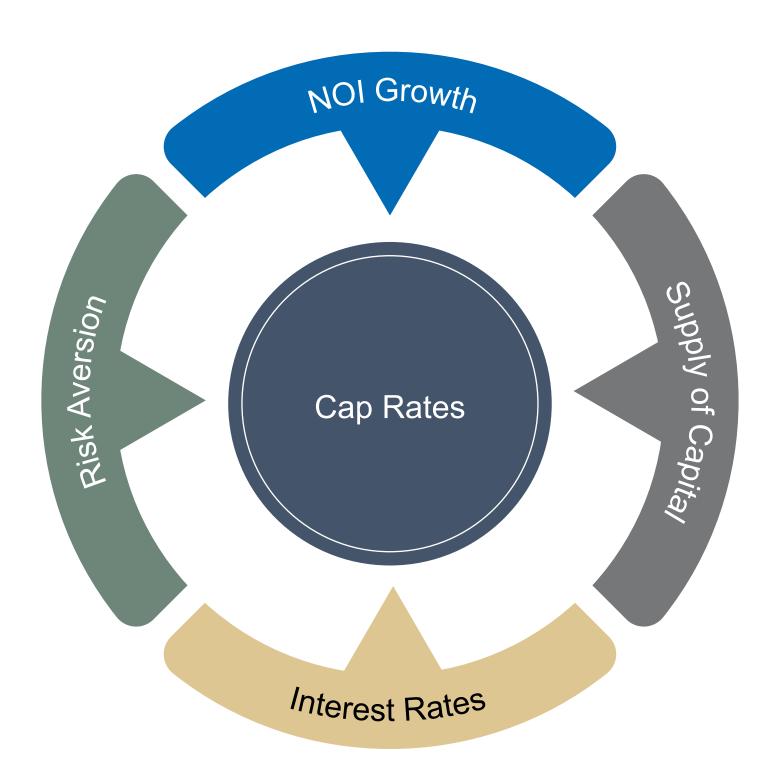
3Q22 CAPITAL MARKETS REPORT

Pricing and Returns



Upward Pressure on Cap Rates Across the Board

What Factors Determine Cap Rates



Interest rates rates have risen across maturities, placing downward pressure on the value of all financial assets.

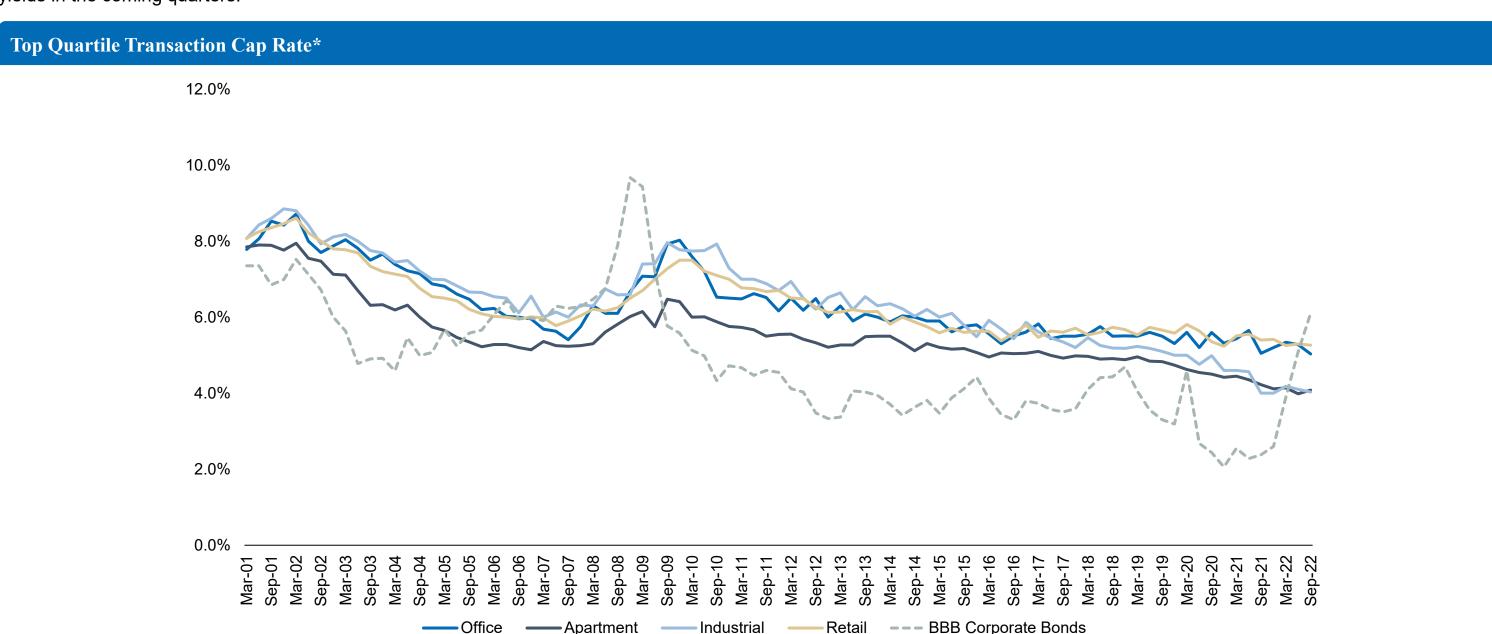
Risk aversion has risen sharply since the beginning of the year as reflected by widening spreads between risk-free rates and a range of financial instruments: credit, equities and indeed commercial real estate.

Anticipated NOI growth over the next 1-2 years can provide an argument for accepting lower in-place yields, but across property types, NOI forecasts are lower today than at the beginning of the year and more uncertain.

There remains significant dry powder, particularly in the close-end fund space. This capital is the one factor that could place a floor under valuations and liquidity. More likely, the supply of capital will lead to a fast recovery in sales activity following repricing rather than averting repricing outright.

Rising Cost of Debt Placing Pressure on Cap Rates

Transaction cap rates continued their recent trajectories in the third quarter of 2022, industrial and multifamily yields compressing, while retail and office yields remain stable. It is rare that we see such a large gap between the statistics versus impressions on the ground across the industry. The cost of debt across instruments and property types has risen dramatically, here represented by the BBB corporate bond rate (dotted line). The resulting negative leverage is placing significant upward pressure on cap rates, even if the transaction market has been slower to reflect the new dynamic. Should these higher debt costs be sustained – and all signs point to this being likely –expect to see more headline movement in yields in the coming quarters.

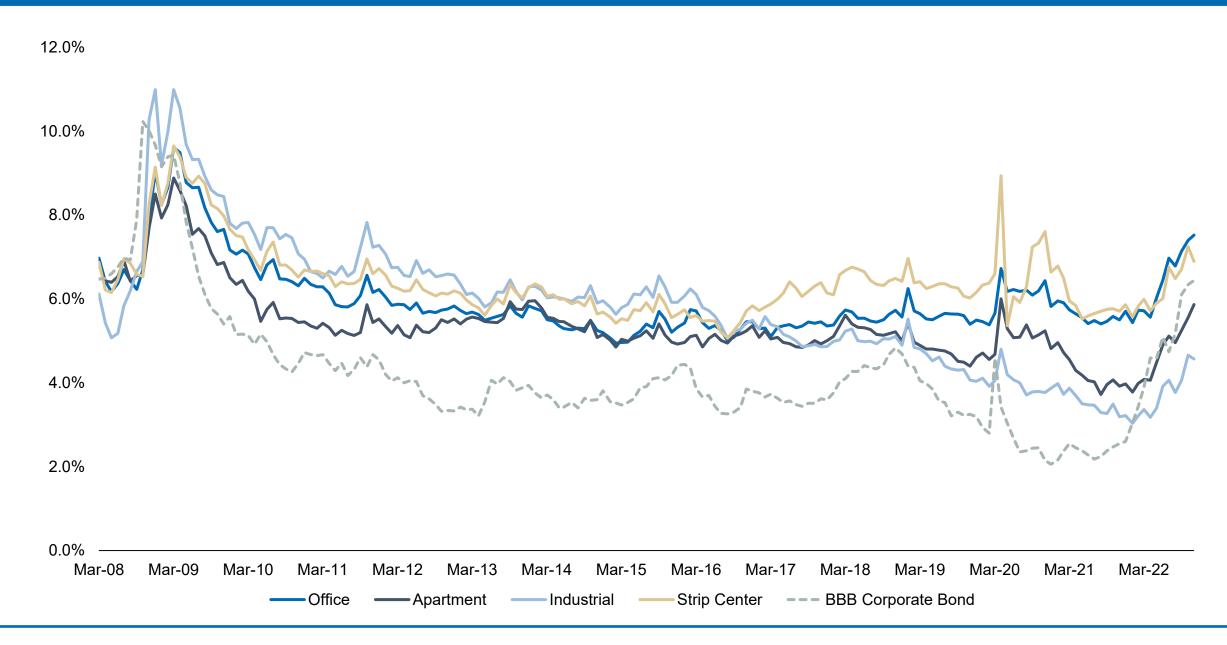


Source: Real Capital Analytics, Federal Reserve Bank of St. Louis, Moody's *Quarterly

Public Markets Presage Adjustment in Private Markets

Public markets have moved more quickly to reflect changing valuations. The change in corporate bond yields led the movement, suggesting that value adjustments thus far have mostly been due to general financial conditions rather than any specific deterioration in property fundamentals. The same is true for the broader equity markets where earnings growth forecasts remain robust, seemingly at odds with rising recessionary sentiment. As such, even if debt costs remain range bound, changes in the economic and, ultimately, leasing market outlook could be a catalyst for further movement in cap rates and price performance.

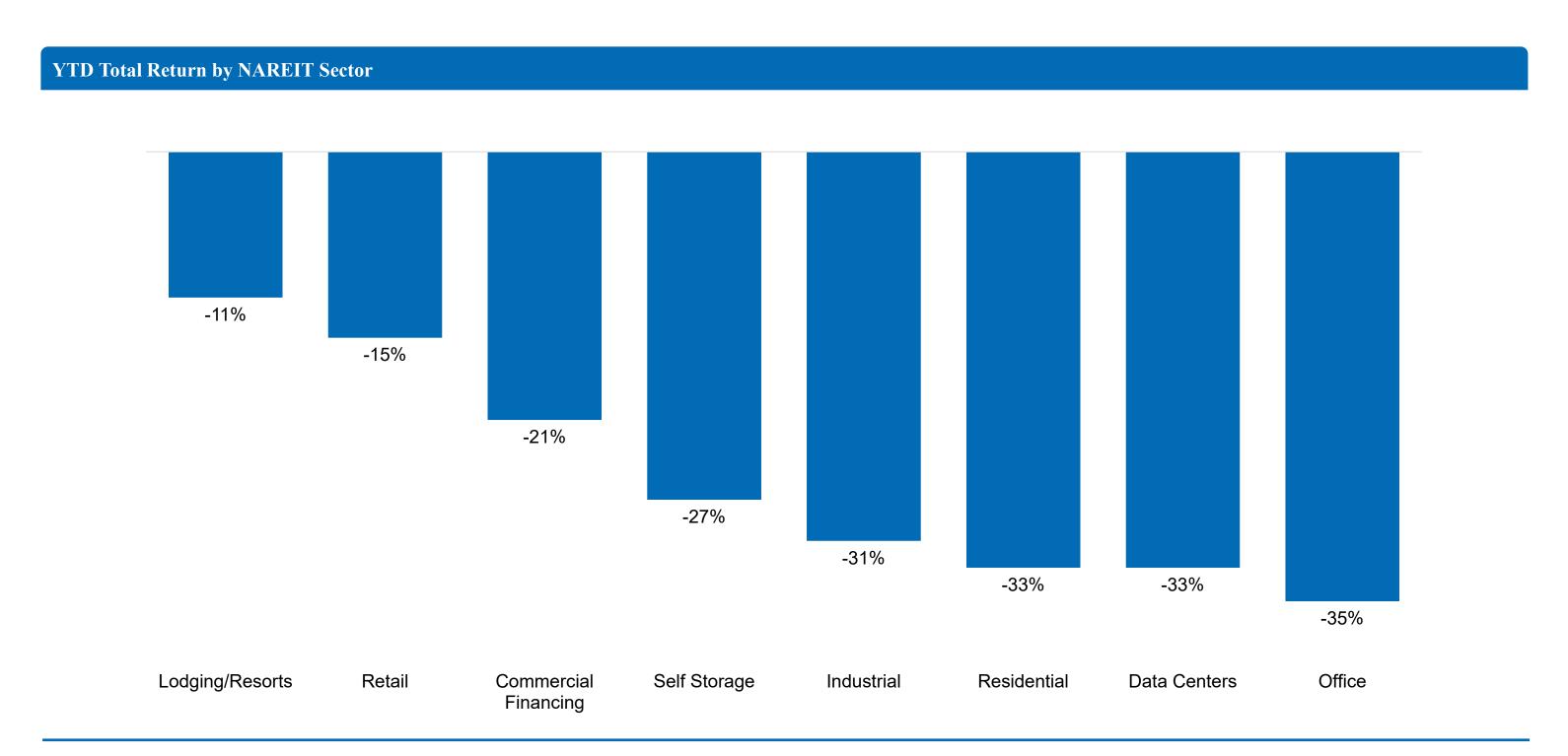




Source: Green Street, FRED, Moody's, Newmark Research

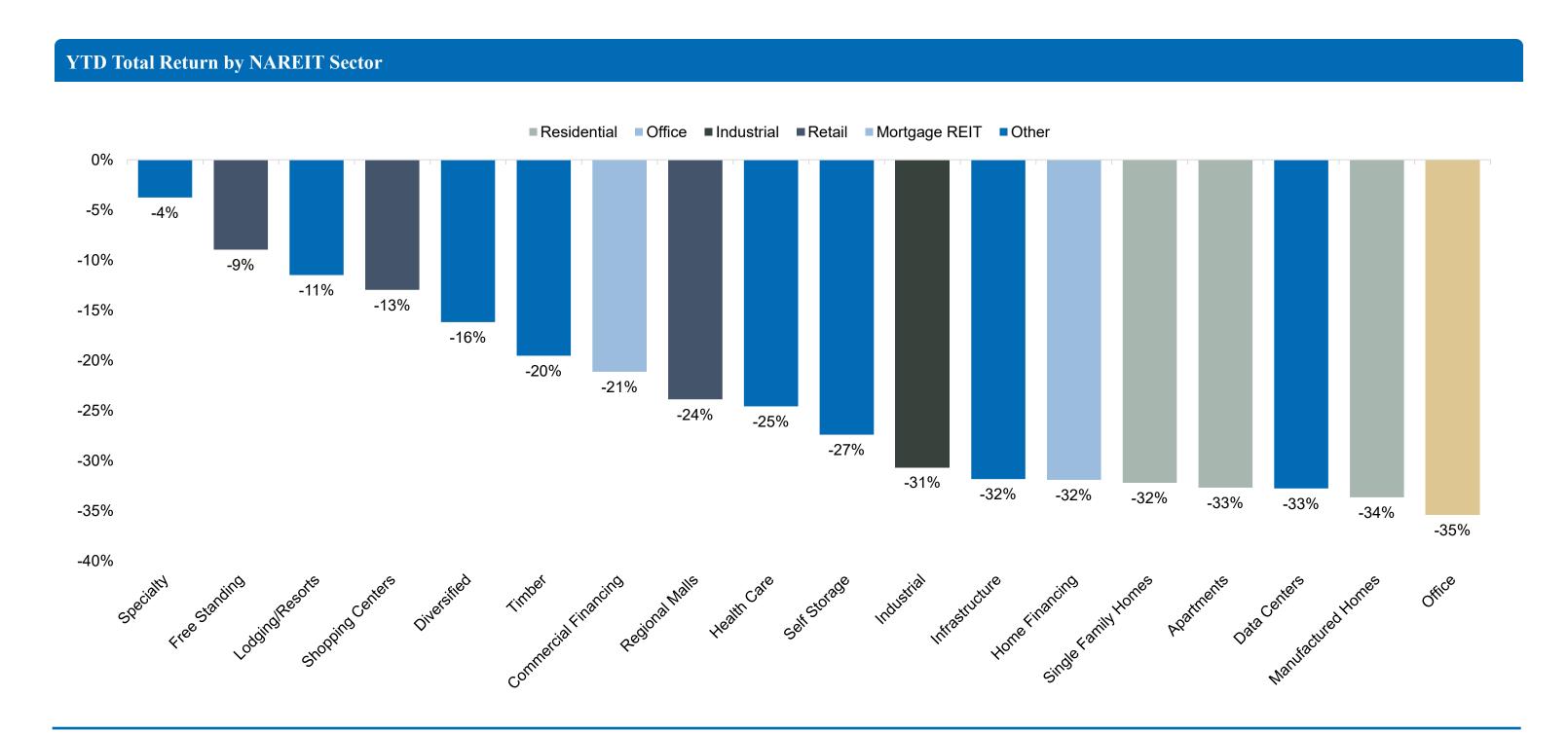
REIT Valuations Have Declined across Sectors

Existential threats are facing the office sector, while forward growth expectations for multifamily and industrial have faded, necessitating expansion of acquisition capitalization rates.



Sources: Newmark Research, Green Street

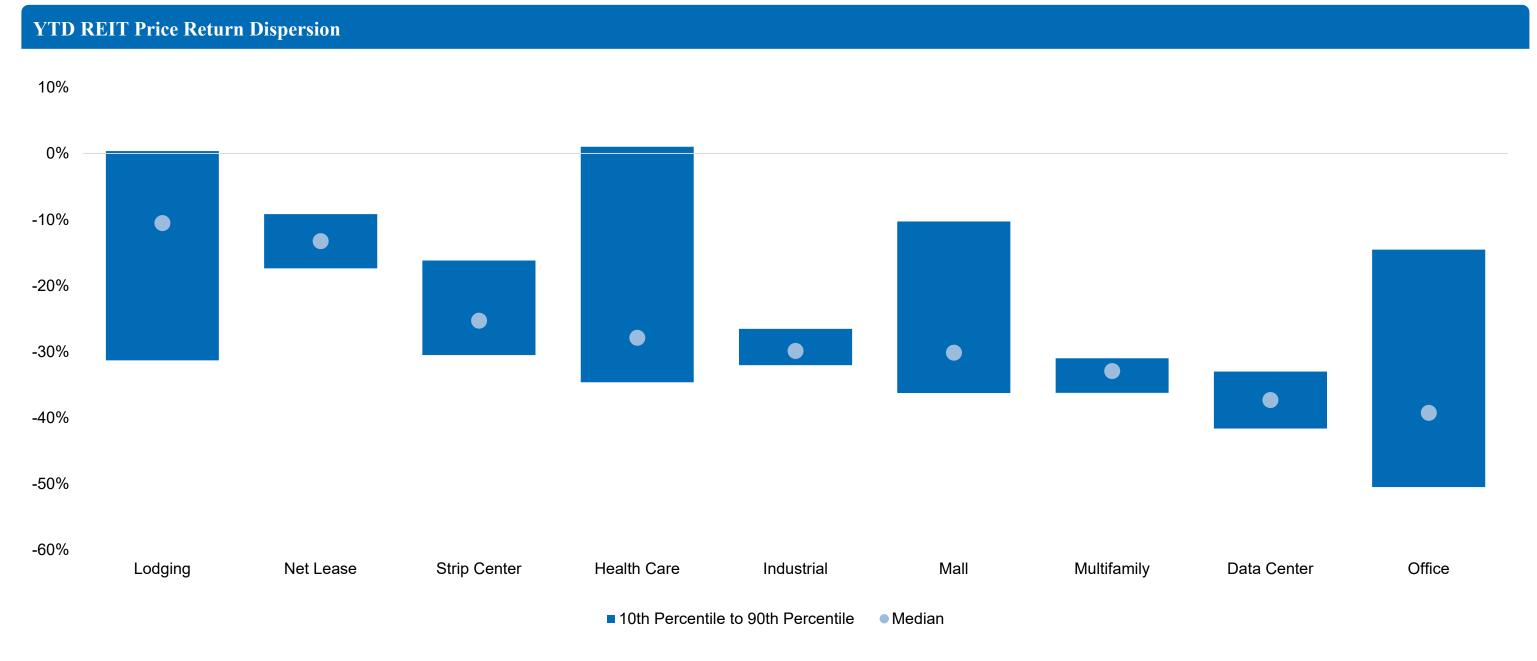
Office and Residential Most Impacted; Hotel, Retail Least



Sources: Newmark Research, Green Street

Significant Variance across Individual REITs

REIT returns have been broadly negative year-to-date, similar to broader equity markets. The S&P 500 has declined 22% compared to a 29% decline for the FTSE NAREIT All Equity Index. Property sector performance and (even more so) individual REIT performances have been varied. The lodging, net lease, healthcare and strip center REITs have performed best on average. In the middle, apartment, industrial, healthcare and mall REITs have been impacted in line with the overall index, though with large dispersion in the healthcare and mall sectors. Multifamily and industrial REIT price declines are largely a result of having the lowest cap rates and, as such, greater interest rate sensitivity. Office REITs, while having higher cap rates, have recently been under pressure due to recessionary concerns and the downstream implications for office recovery.

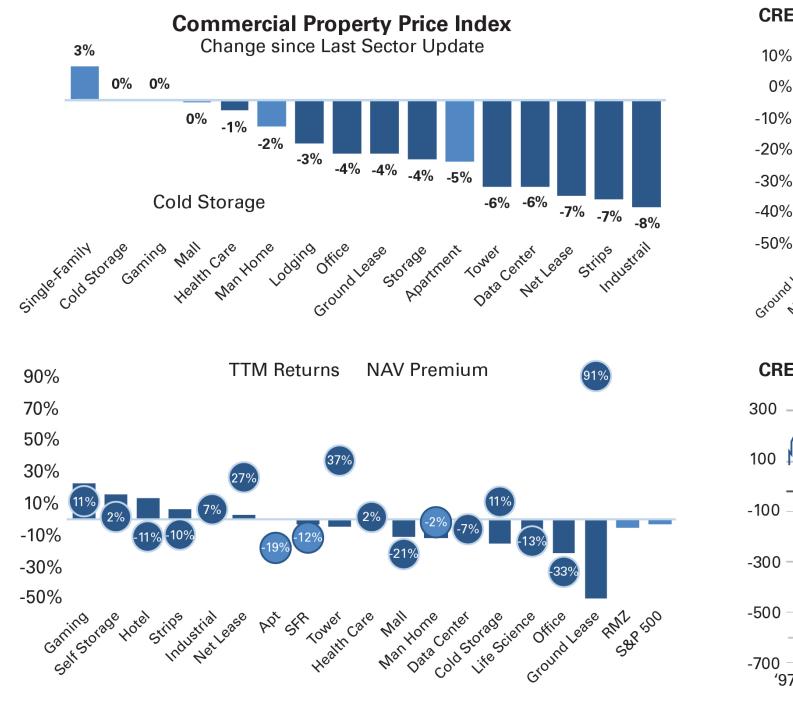


Source: Green Street, Newmark Research as of 11/8/2022

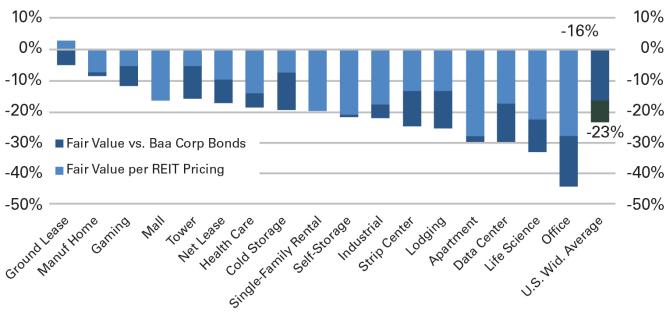
^{*}Represents the range from the 10th to 90th percentiles of REIT stock returns

Further Declines in Value Likely

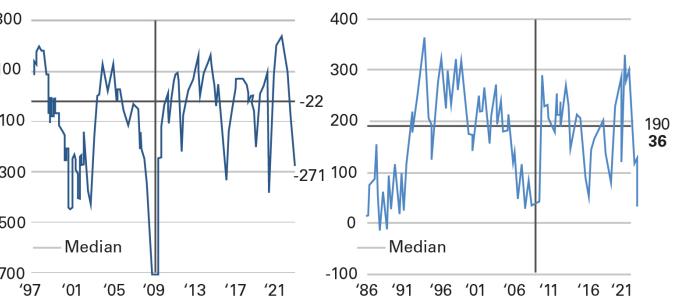
Real Personal Consumption Expenditures



CRE: Fair Value vs. Corporate Bonds and Implied by REIT Pricing



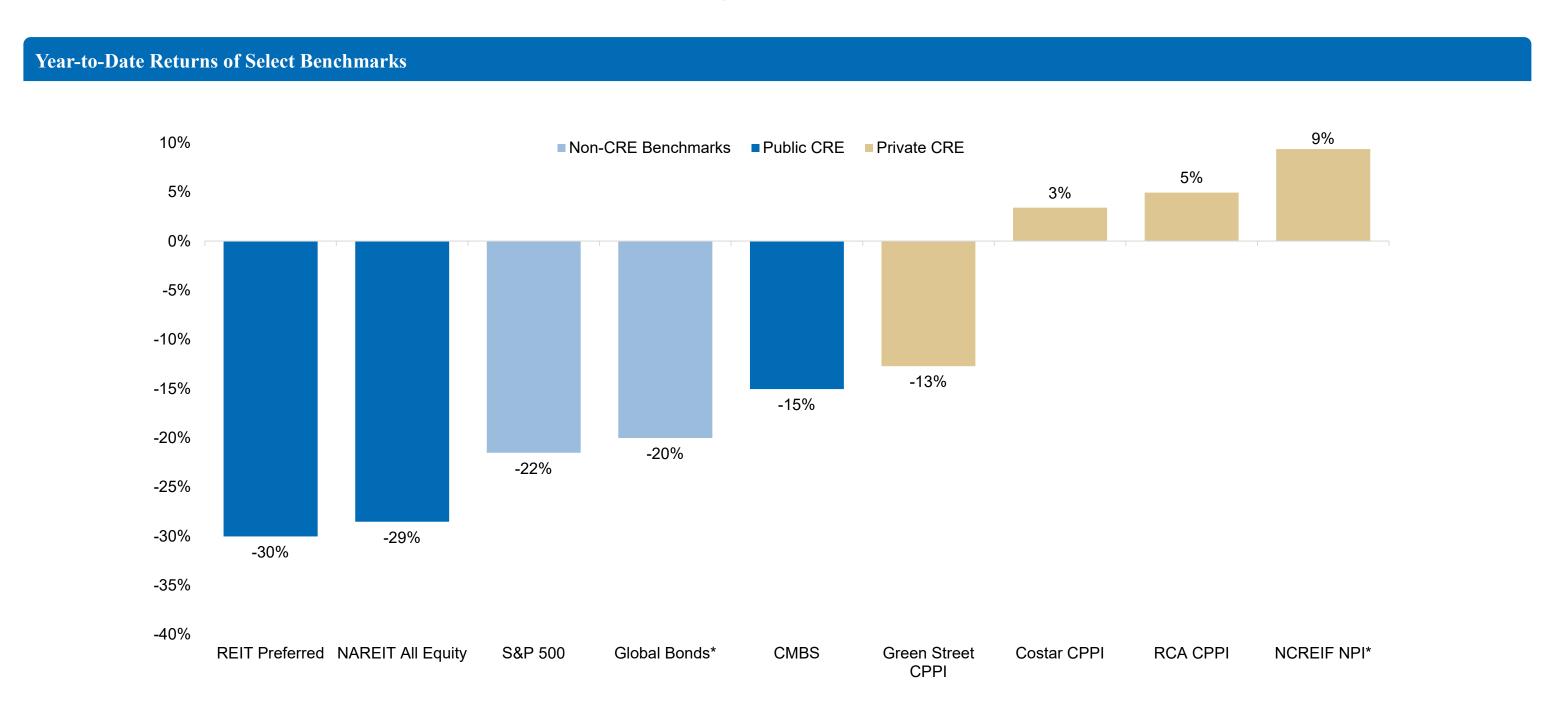
CRE vs. High-Yield Bonds (spread bp) CRE vS. Baa Corporates (spread bp)



Source: Green Street, Newmark Research

Not Everyone Has Gotten the Memo

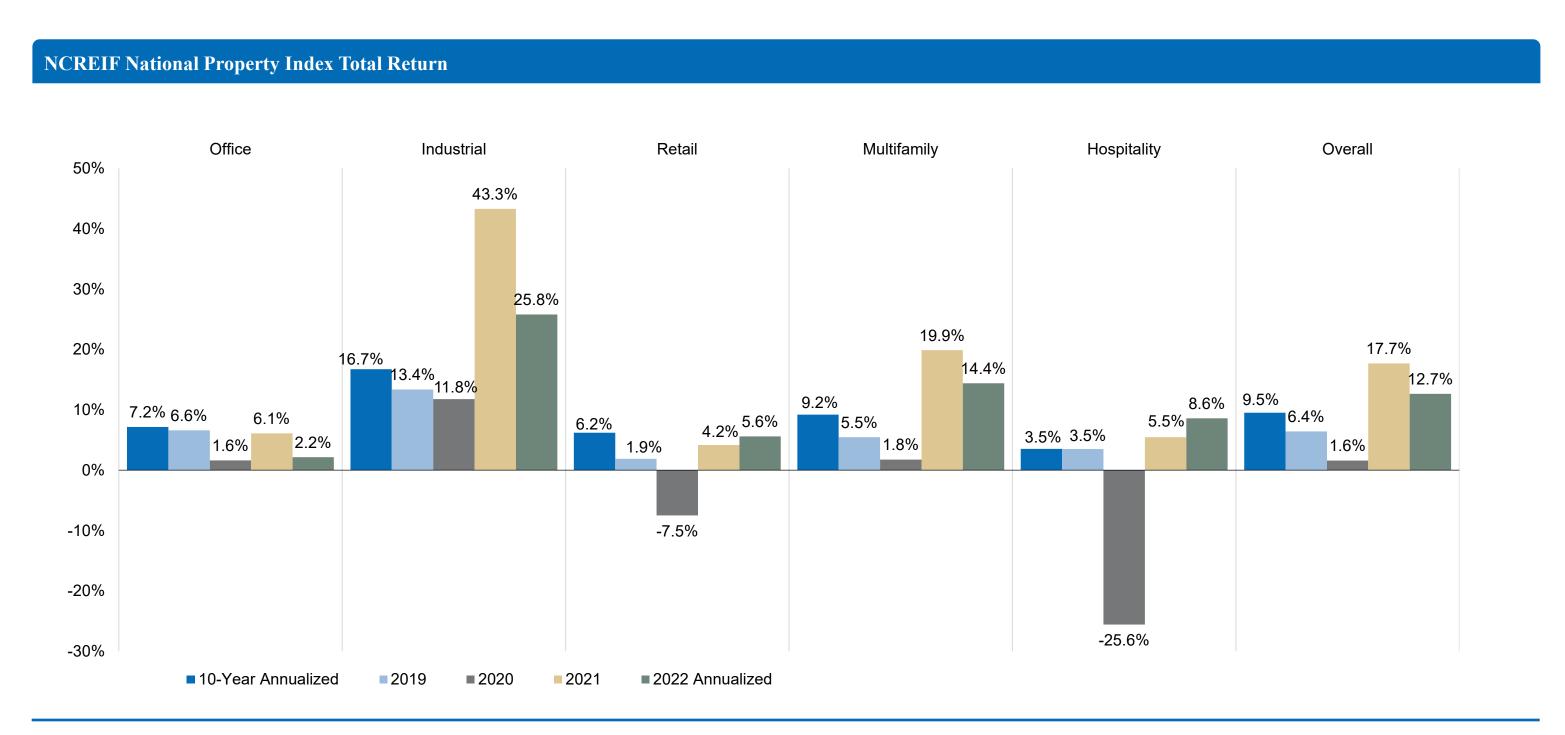
Repeat sales and appraisal-based Return Benchmarks are slower to reflect the change in market conditions.



Source: Standard & Poor's, NAREIT, Bloomberg, iShares, RCA, Green Street, Costar *Total Return; all else price return

Private Markets Reporting Still-Strong Year-to-Date Returns on Institutional Assets

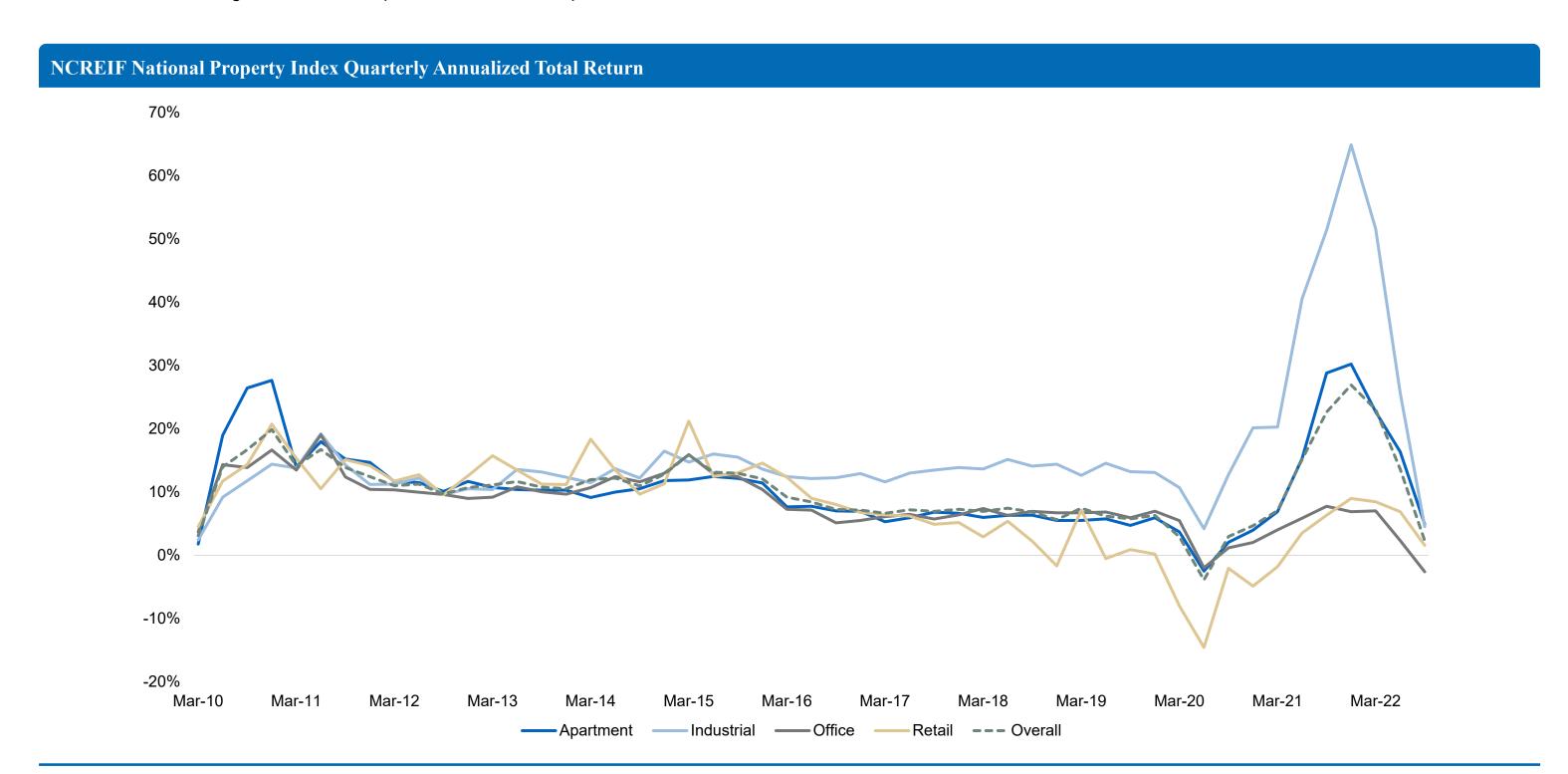
Institutional assets have generated a strong performance of 12.7% annualized in the first three quarters of 2022. Following the trend of recent years, the industrial and multifamily sectors have driven performance, followed by hospitality. Retail and office are both below their 10-year averages.



NCREIF National Property Index Total Return

However, Returns Are Rapidly Decelerating across Property Sectors...

Office returns turned negative in the third quarter of 2022, while apartment and industrial returns returned to earth.

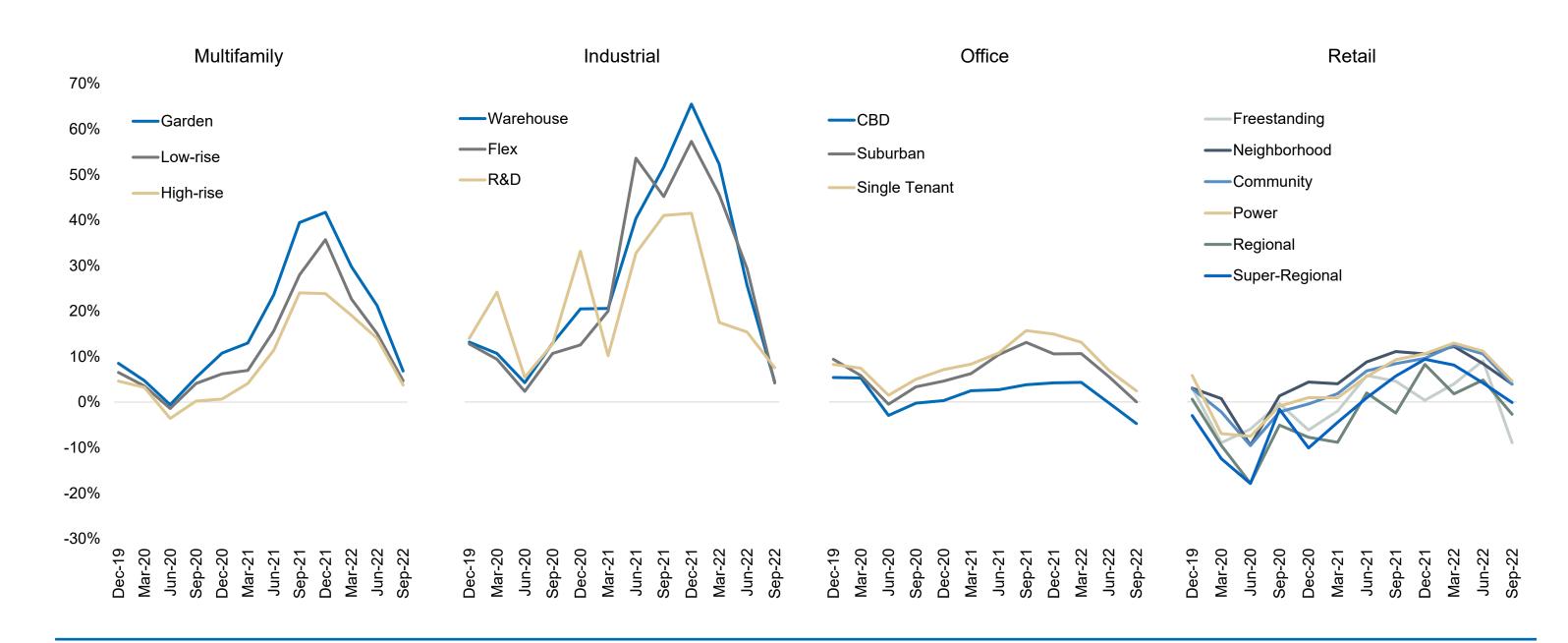


Source: NCREIF, Newmark research

...And Property Subtypes

CBD office and mall returns turned negative in the third quarter of 2022.

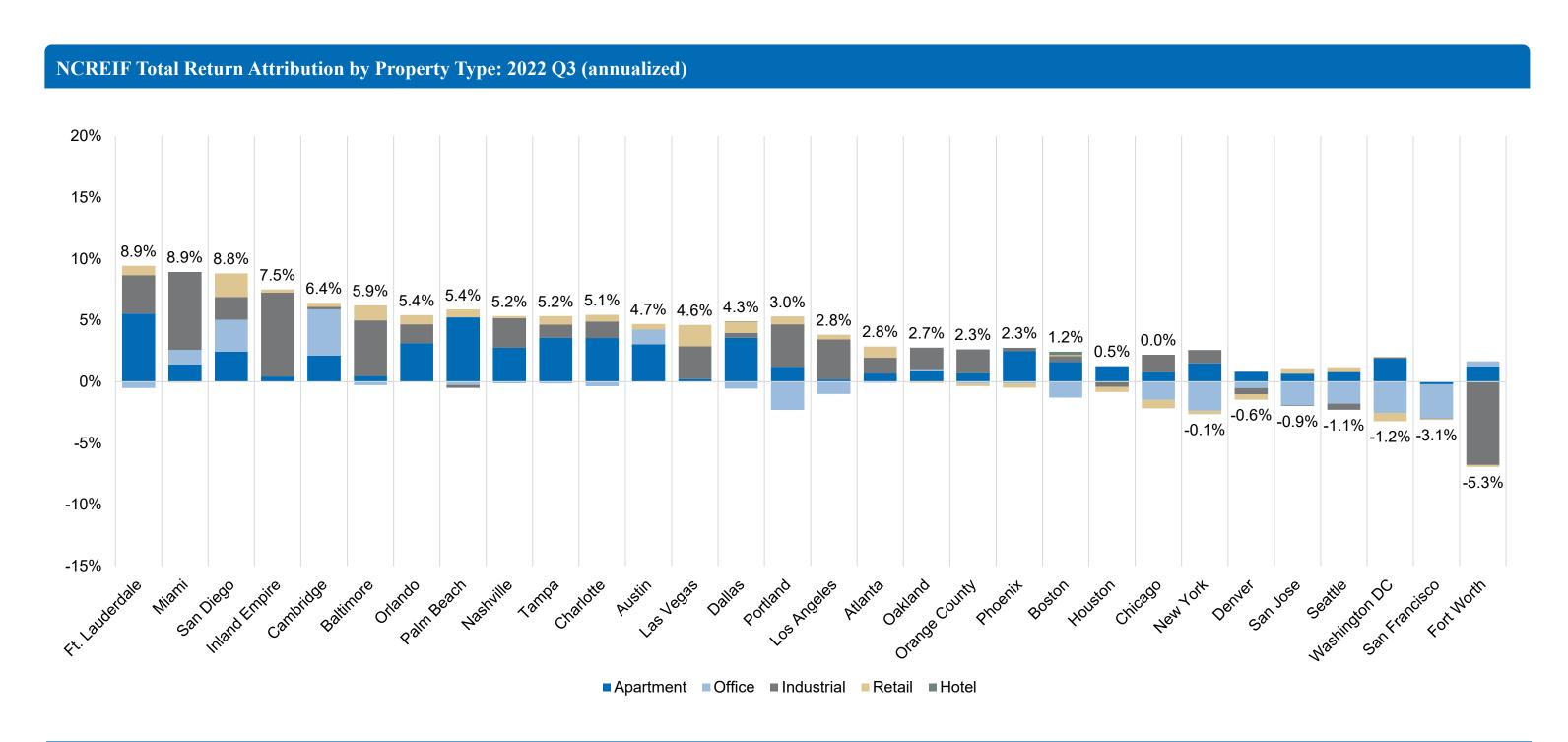
NCREIF National Property Index Quarterly Total Return (Percent Annualized)



Source: NCREIF, Newmark Research

Florida and Life Science Markets Leading; Gateway Markets Lagging Comparatively

Top 30 Markets by NCREIF Holdings



Source: NCREIF, Newmark Research

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Newmark has implemented a proprietary database and our tracking methodology has been revised. With this expansion and refinement in our data, there may be adjustments in historical statistics including availability, asking rents, absorption and effective rents. Newmark Research Reports are available at nmrk.com/insights.

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