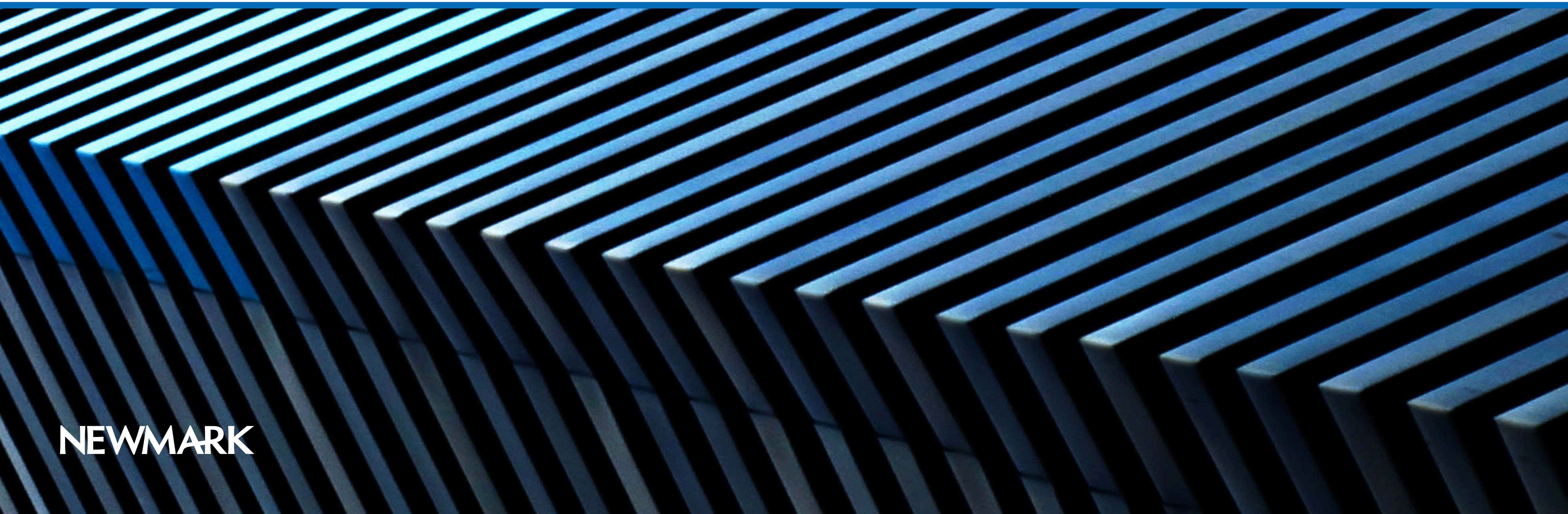
4Q 2022

United States Capital Markets Overview



Market Observations

- **Economy**. The U.S. economy continues to grow, but with an increasingly fraught outlook. Labor markets are extremely tight, with roughly 1.9 jobs available for every unemployed person. As a result, wages are growing at the fastest pace in decades, especially for lower-skilled jobs in service industries. The result has been high inflation, which has prompted the Federal Reserve to rapidly increase rates. Beginning in mid-November, markets became more optimistic that inflation was falling sharply, supported by data to this effect, and would ultimately enable the Federal Reserve to reduce rates earlier than expected without a recession. Long-term yields came down while corporate bond spreads returned to normal levels, which in turn enabled the stock market to perform strongly in January and for corporate debt issuance to surge. The combination of hawkish statements by the Federal Reserve and recent inflation data that shows a bumpier path to normalization appear to have popped this bubble. While a still-strong labor market and mixed data on consumption suggest a recession is not imminent, in each of the most likely outcomes, the cost of capital will remain elevated for the foreseeable future.
- **Debt Markets.** CRE debt origination activity has broadly decelerated since May, most clearly in the securitized sectors. Preliminary data suggests that there was a surge of originations in December as both spreads and rates declined; however, it's far from clear whether this was an exception or an inflection. What is clear is that commercial banks drove an outsized share of lending activity in 2022, particularly in the second half. The banks have overreached and will most likely need to pull back significantly in 2023 and perhaps beyond. The risk of a liquidity squeeze has increased, particularly should securitized markets remain anemic. 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 rates 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 63% year-over-year and 24% quarter-over-quarter in the fourth quarter of 2022. Sales declined year-over-year across property sectors, while hospitality was the only sector to increase quarter-over-quarter. There were small seasonal increases in December deal closings, except for multifamily. Even so, investor allocations remain heavily tilted towards multifamily and industrial assets, though retail and hospitality investment shares were up modestly 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 $237 billion. The capital is concentrated in opportunistic and value-add vehicles, while debt strategies have pulled back. We estimate that 3/4 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 declined sharply in the fourth quarter of 2022. New fundraising in the REIT sector, meanwhile, has slowed to a halt. Even nontraded REITs, which had been vacuuming up capital, are now slowing and indeed being forced to limit redemptions.
- **Pricing and Returns.** The gap between public and private market pricing remains wide. Transaction cap rates began to increase in the fourth quarter of 2022, albeit modestly. REIT-implied cap rates have been more responsive, though even there, spreads are either historically small (office, retail, multifamily) or outright negative (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. The longer rates remain at or near current levels, the more apparent price adjustments will be. REIT values are down 12% in the last 12 months, with office (-34%) and apartment (-20%) underperforming. NCREIF's National Property Index returned 9.4% in 2022 but returns continued a rapid deceleration in the fourth quarter of 2022. Total returns, to say nothing of capital returns, were negative for every property sector and every property subsector. Moreover, returns were negative in all the largest 30 markets and in each property sector in those markets.

Strategy Recommendations

- **Mind the gap.** Cap rate spreads are distinctly unattractive, even in the public markets where REIT implied cap rates have moved more aggressively. Spreads are generally narrower than long-term averages in an environment where both risk and uncertainty are elevated. The only way this makes sense is if the market is pricing in a sharp fall in interest rates which, for a variety of reasons, is unlikely to materialize—at least to the extent that would be necessary to make valuations sensible on a risk-adjusted basis. As a result, much commercial real estate investing looks like a highly directional interest rate play, but in an extremely capital inefficient manner. CRE investors should not play this game and instead exercise pricing discipline in requiring greater risk compensation, or alternatively should commit to low-leverage, long-term basis plays in cashflowing assets.
- **Public vs. private arbitrage.** While public markets may still be overvalued (broadly speaking—this is not individual security advice), private markets are overvalued to an even greater degree. Investors can maintain sector exposure through a mix of REIT holdings and cash, while private markets adjust. Investors should also be on the lookout for REITs that become oversold. If REIT share repurchase announcements are any indication, there are management teams that believe this is already the case. These can be targets for asset acquisitions or privatizations.
- **Capital imbalances.** Banks are likely to pull back in 2023, and other lending sectors will struggle to fill in the gaps. Equity funding is heavily slanted towards multifamily and industrial assets, while distress is brewing for a wide range of office loans and older vintages of retail. There will be significant funding gaps for both debt and equity resulting from this milieu, and this presents opportunity for investors with cash and risk appetite.
- **Distress will be a journey.** Even at current pricing, wide swaths of the office market is likely to find itself in a challenged financing position. For lower-quality buildings, the outlook is bleak, with over 50% write-downs likely necessary to make them economically viable either as office or as redevelopment plays. The media likes to talk about residential conversions, but these rarely pencil. The only way out is through…devaluation. None of this will happen overnight. While there will be distressed investing opportunities, investors should be prepared for extended workouts. If this is not attractive, then loan and asset sales (even at what seem like high discounts today) may seem like a blessing tomorrow.
- **Movin’ on up (the capital stack).** With liquidity likely to be constrained in 2023, seller financing will be especially attractive to prospective buyers. This can be attractive to sellers, as well, in cases where they like the asset but need some near-term liquidity or otherwise wish to de-risk the portfolio. As mentioned, equity spreads are not attractive on a risk-adjusted basis compared with debt spreads.
- **Package deals for private capital.** Private capital has long provided ballast to the transaction market. Private investors tend to use less leverage, focus on smaller assets and hold longer time periods with a focus on basis plays and tax efficiency. Institutional investors have tremendous capital at the ready, but 2023 will likely continue to be more of a “sharpshooter” market. This means that private capital will be the most reliable bidder pool for non-trophy asset dispositions. Play to them: these are the natural owners of commodity product with an uncertain future.

TABLE OF CONTENTS

1. Debt Capital Markets 5
2. Equity Capital Markets 26
3. Supply of Capital 38
4. Pricing and Returns 45

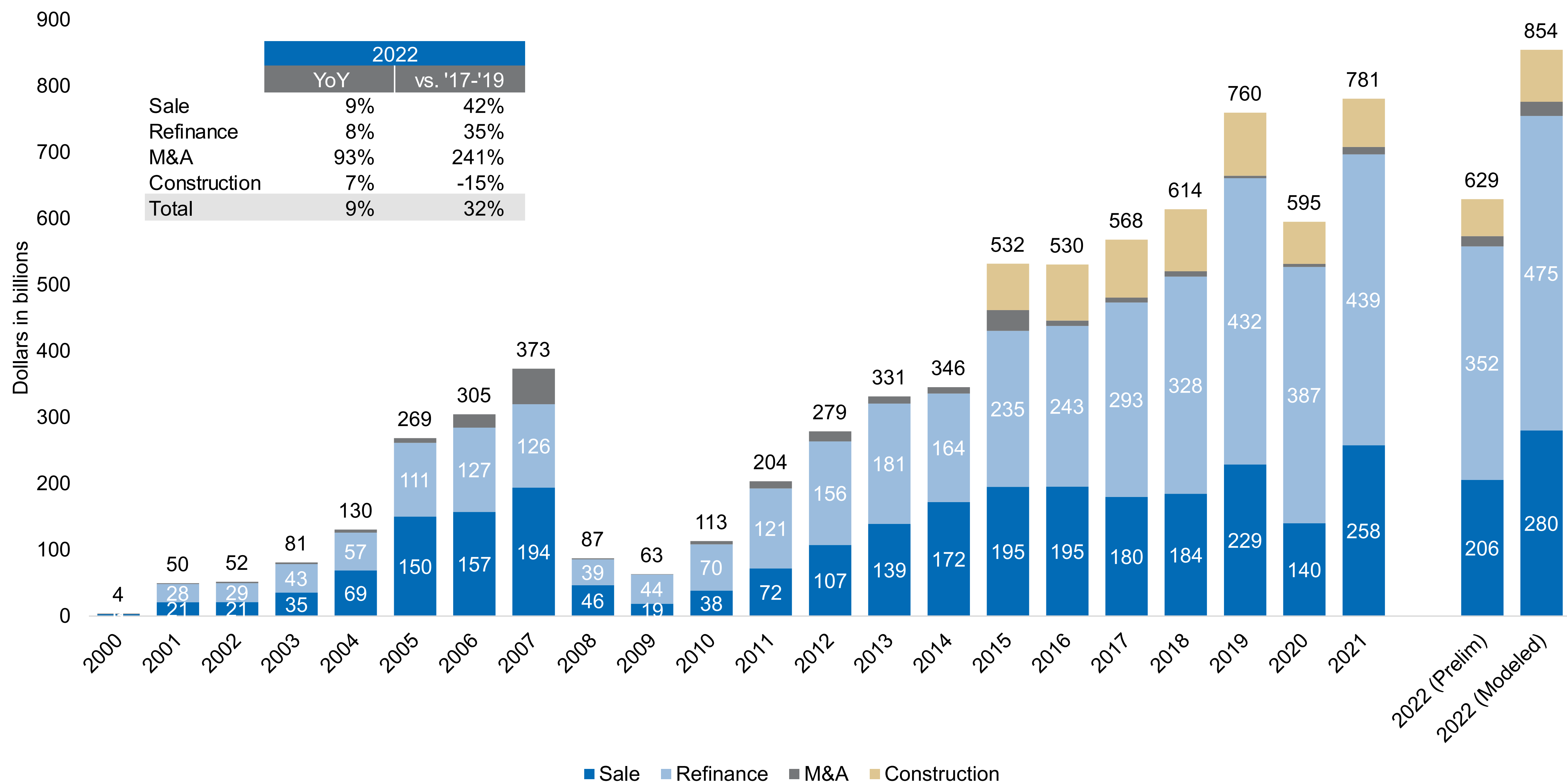
4Q22 CAPITAL MARKETS REPORT

Debt Capital Markets

Projected Debt Origination Activity up 9% Year-over-Year in 2022

Trends are more nuanced at the quarterly level. Origination volumes were up strongly in the first half, both for sale and refinance. By the third quarter of 2022, rising cost of capital and greater risk aversion on the part of both borrowers and lenders contributed to slowing activity. We project that originations were down 3% year over year and 13% year-over-year in the third and fourth quarters of 2022, respectively.

Commercial Real Estate Debt Origination Volume*

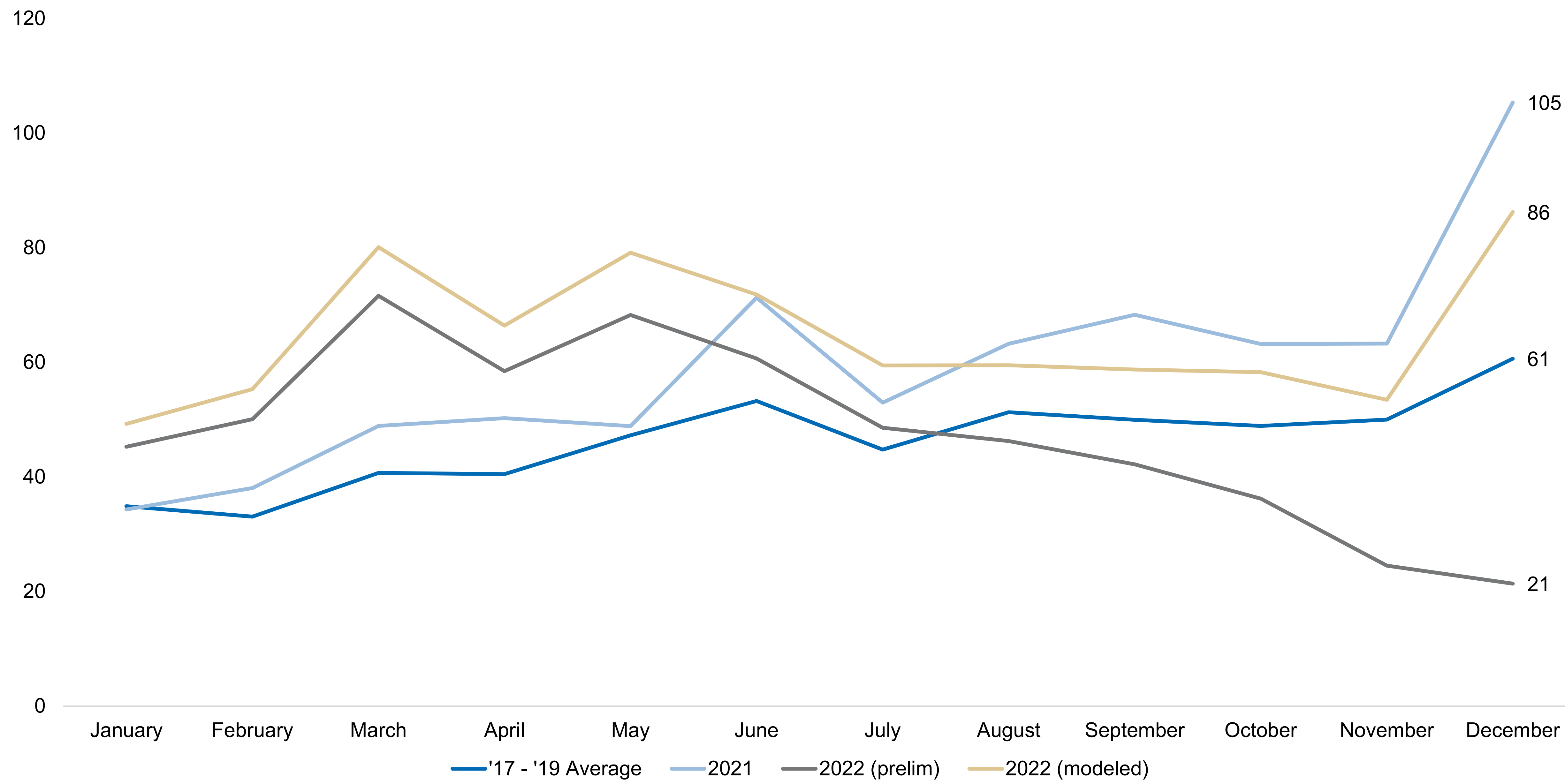


Source: RCA, Newmark Research as of 1/18/2022
*Preliminary volumes are based on loans identified as of the date the data was pulled. Modeled origination volumes are adjusted for expected future revisions to origination volumes based on patterns observed in the 2020 Q1 to 2021 Q4 quarterly periods. The revision factors were calculated based on total quarterly origination volumes but for simplicity applied equally to different debt origination categories.

Origination Activity Has Decelerated since May

Loan originations outpaced 2021's record levels through July before decelerating in the second half of the year under the cumulative force of rising rates and greater economic uncertainty. Historical revision patterns suggest that financing activity spiked seasonally in December but remained down 18% compared to December 2021. This most likely represents a best-case scenario.

Monthly Commercial Real Estate Debt Origination Volume*



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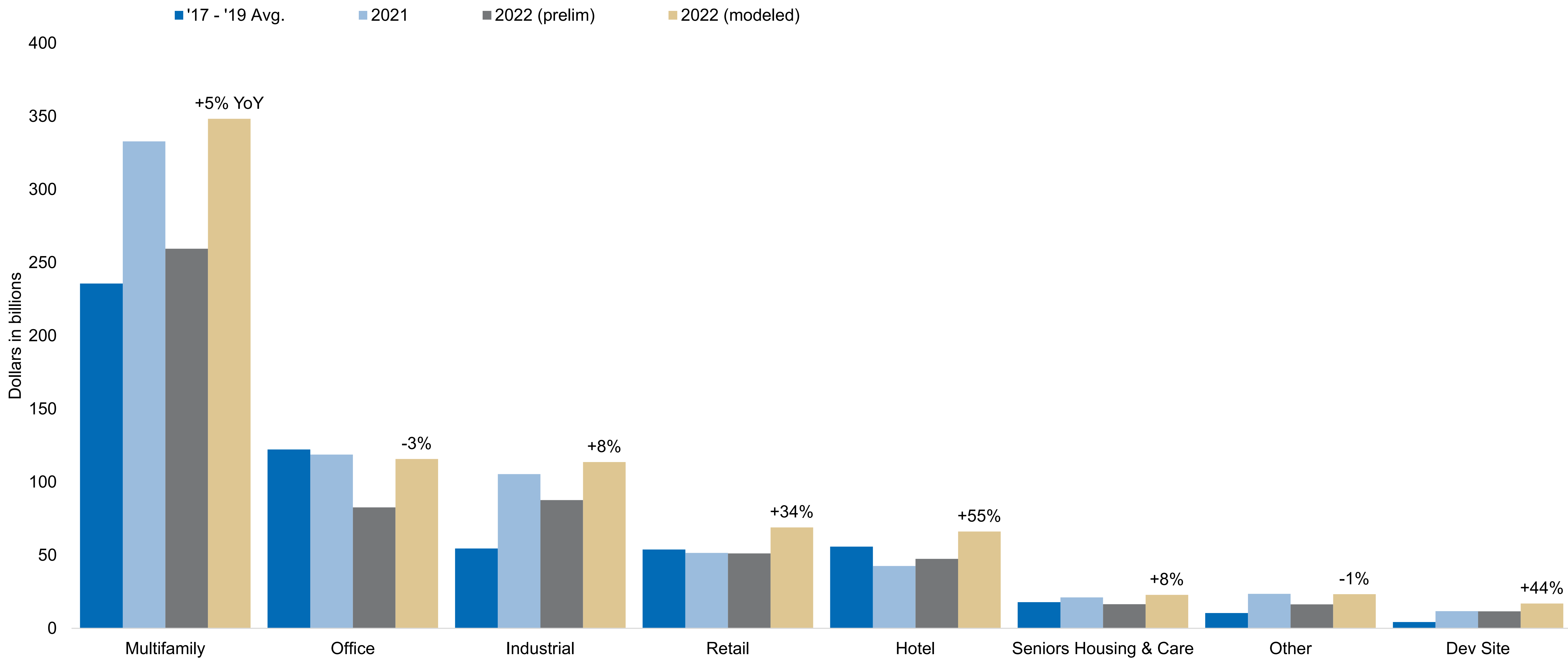
Originations above 2021 Levels across Property Types (Excluding Office)

However, these impressive annual figures were mostly driven by activity in the first half.

Commercial Real Estate Debt Origination Volume*



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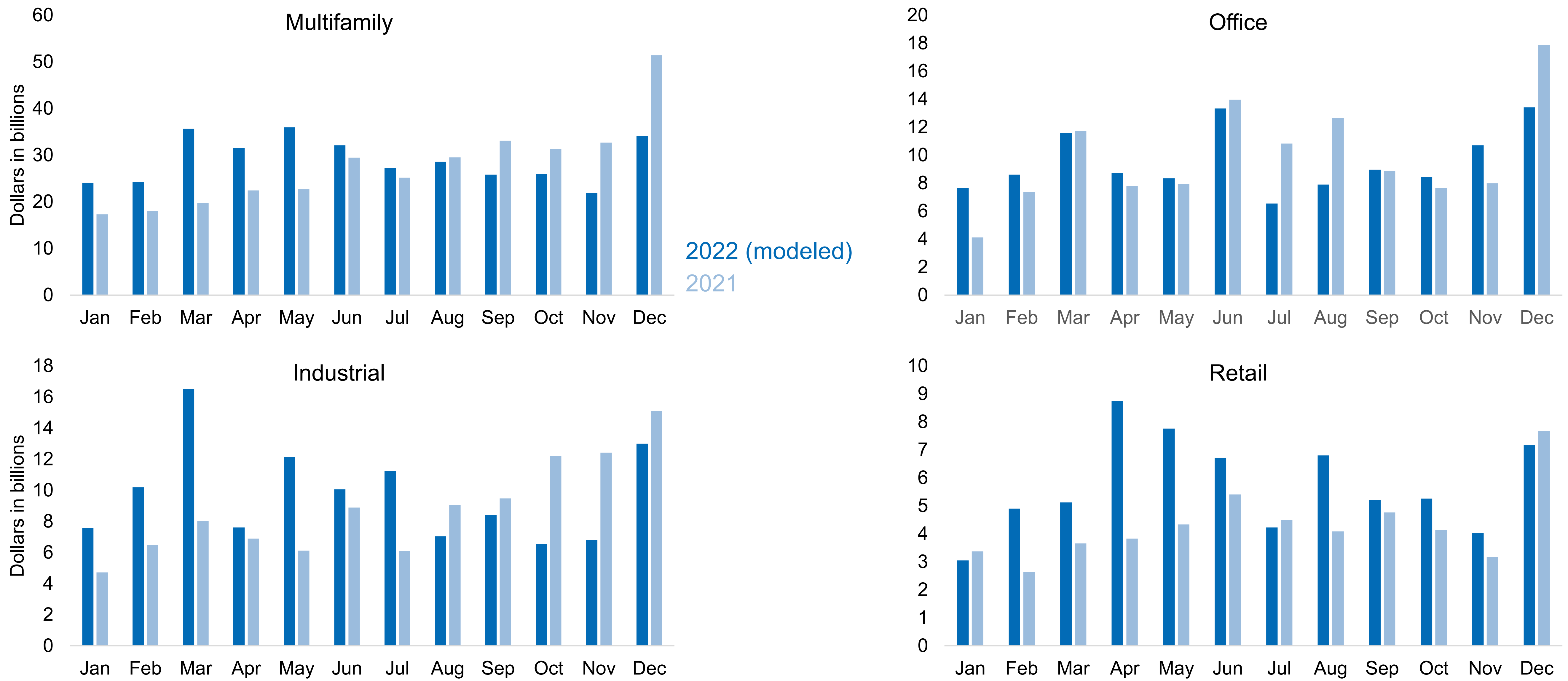
Originations Have Broadly Slowed since Mid-Year, despite December Surge

Commercial Real Estate Debt Origination Volume*



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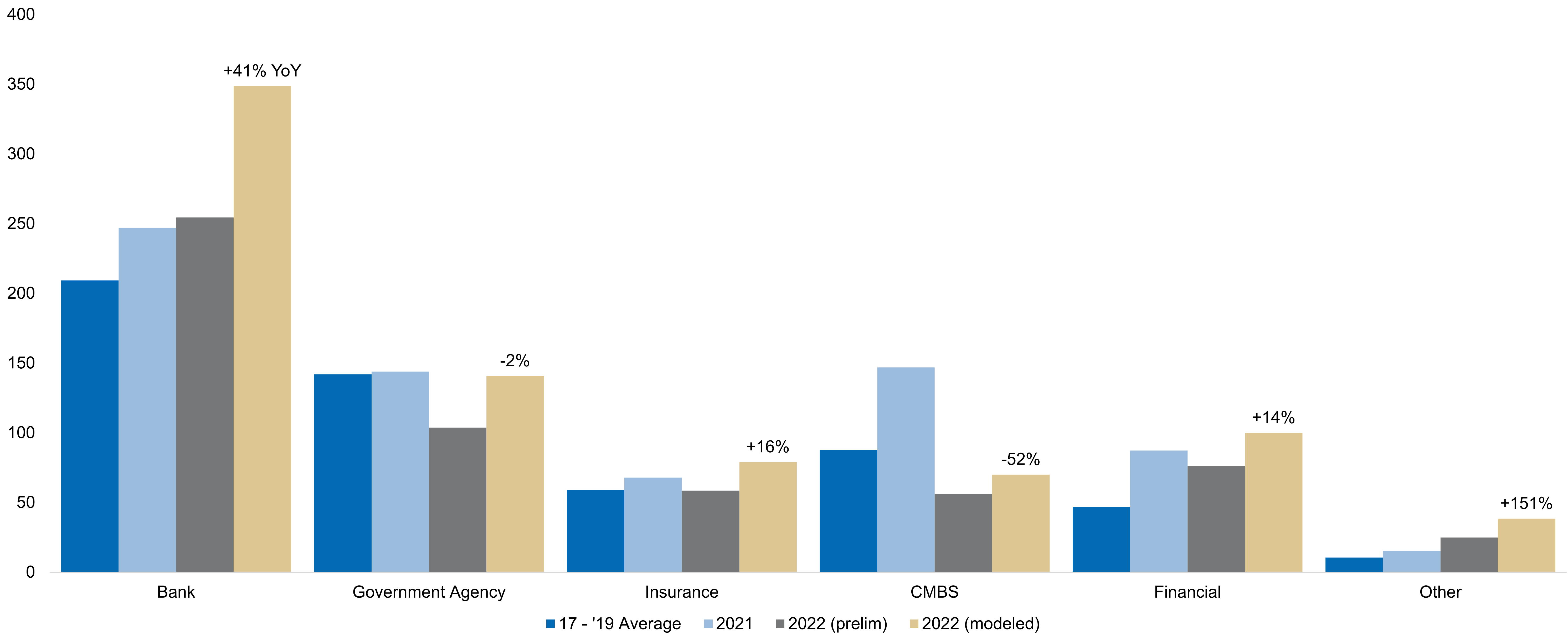
Bank Originations Exploded in 2022

Debt funds and insurance companies are also projected to have increased their lending activity while CMBS issuance declined sharply due to: 1) more direct exposure to the broader weakness in public debt markets; and 2) CMBS being the preferred financing solution for "less-favored" asset types (e.g., suburban office).

Commercial Real Estate Debt Origination Volume: First Three Quarters



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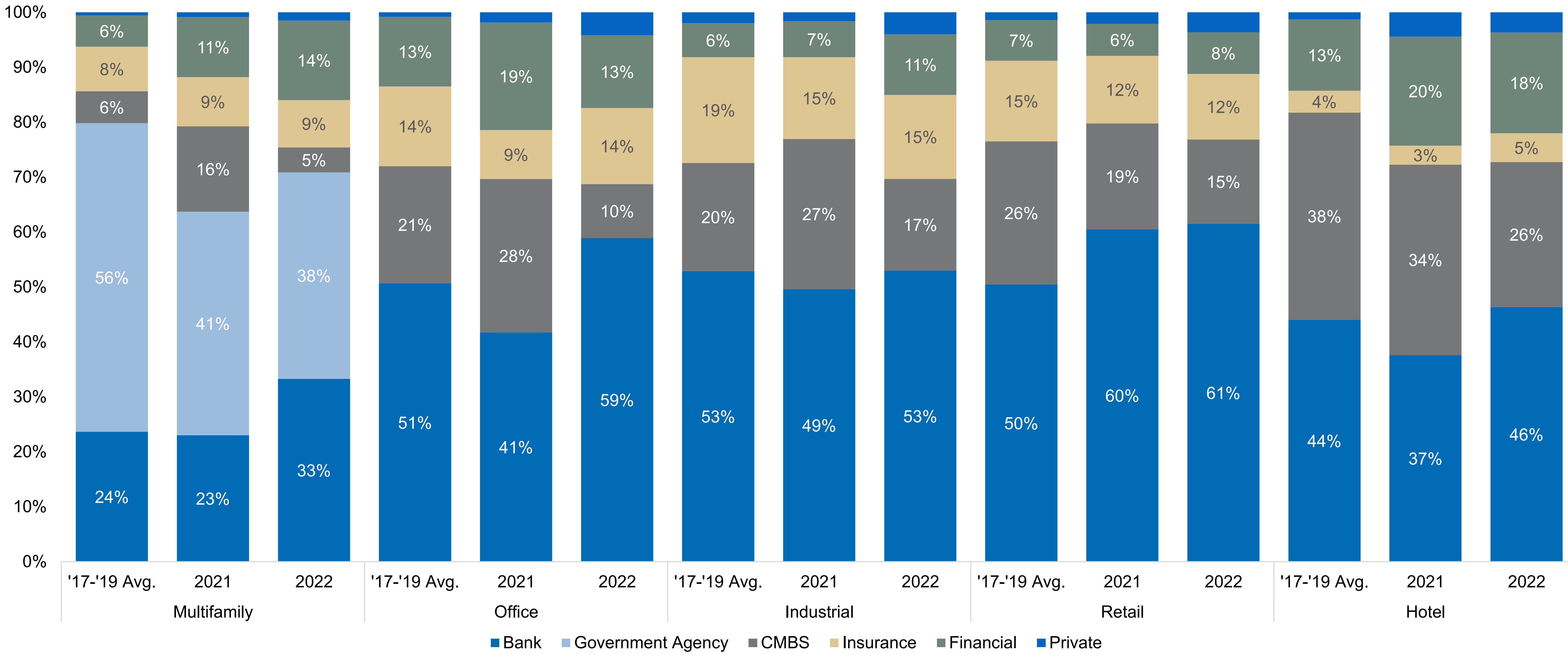
Banks Have Grown Share across Property Sectors in 2022

Debt funds' share, however, has pulled back across property sectors, most notably 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

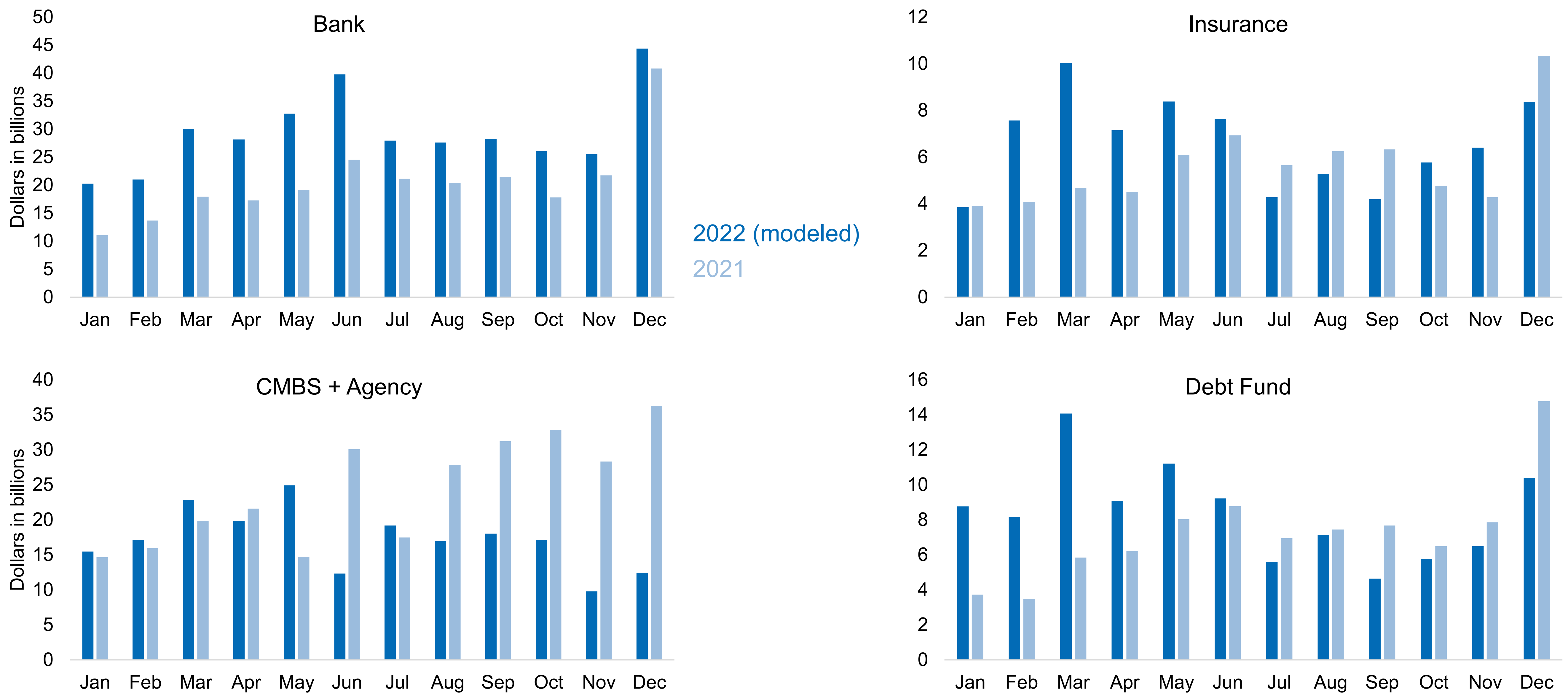


Source: Real Capital Analytics, Newmark Research

Bank Originations Remained Strong Even as Other Sectors Slowed

This has taken place in the context of a broader slowdown. 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.

Monthly Commercial Real Estate Debt Origination Volume



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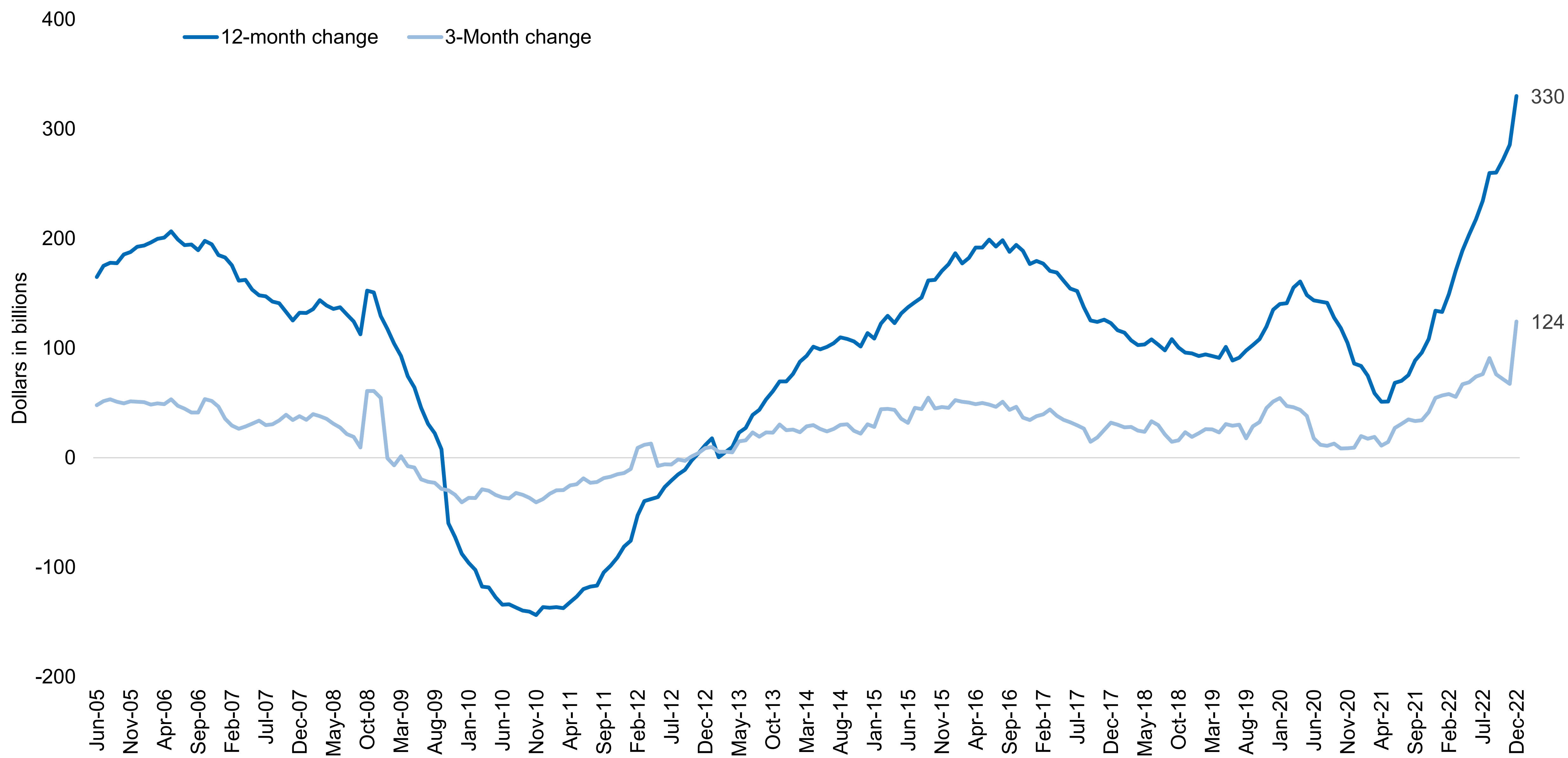
History Suggests Sharp Deceleration in Bank Lending after 2022 Bonanza

Banks increased their exposure to commercial real estate in 2022 to the tune of $330 billion, including $124 billion in the fourth quarter of 2022 alone. There is simply no precedent for this dramatic a move. The only other times that bank lending has even been in the same ballpark were in 2006-2007 and 2015-2016, both of which were followed by significant decelerations in lending and outright declining exposure in the GFC. At a minimum, investors should expect a sharp reduction in the pace of bank lending, a retrenchment that will likely extend beyond 2023.

Bank CRE Loan Exposure

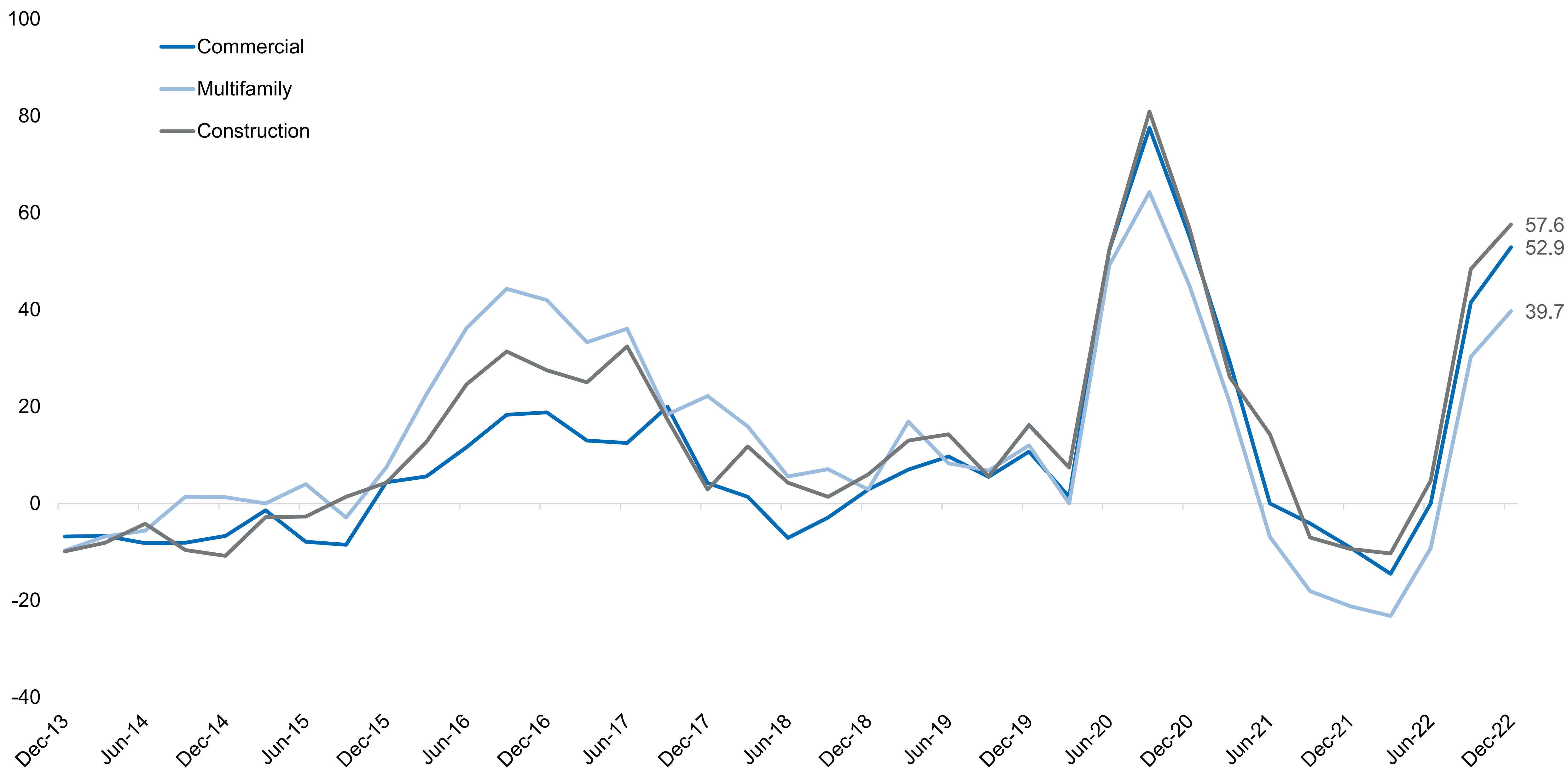


Source: Federal Reserve, Newmark Research

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.

Net Percentage of Banks Tightening Lending Standards

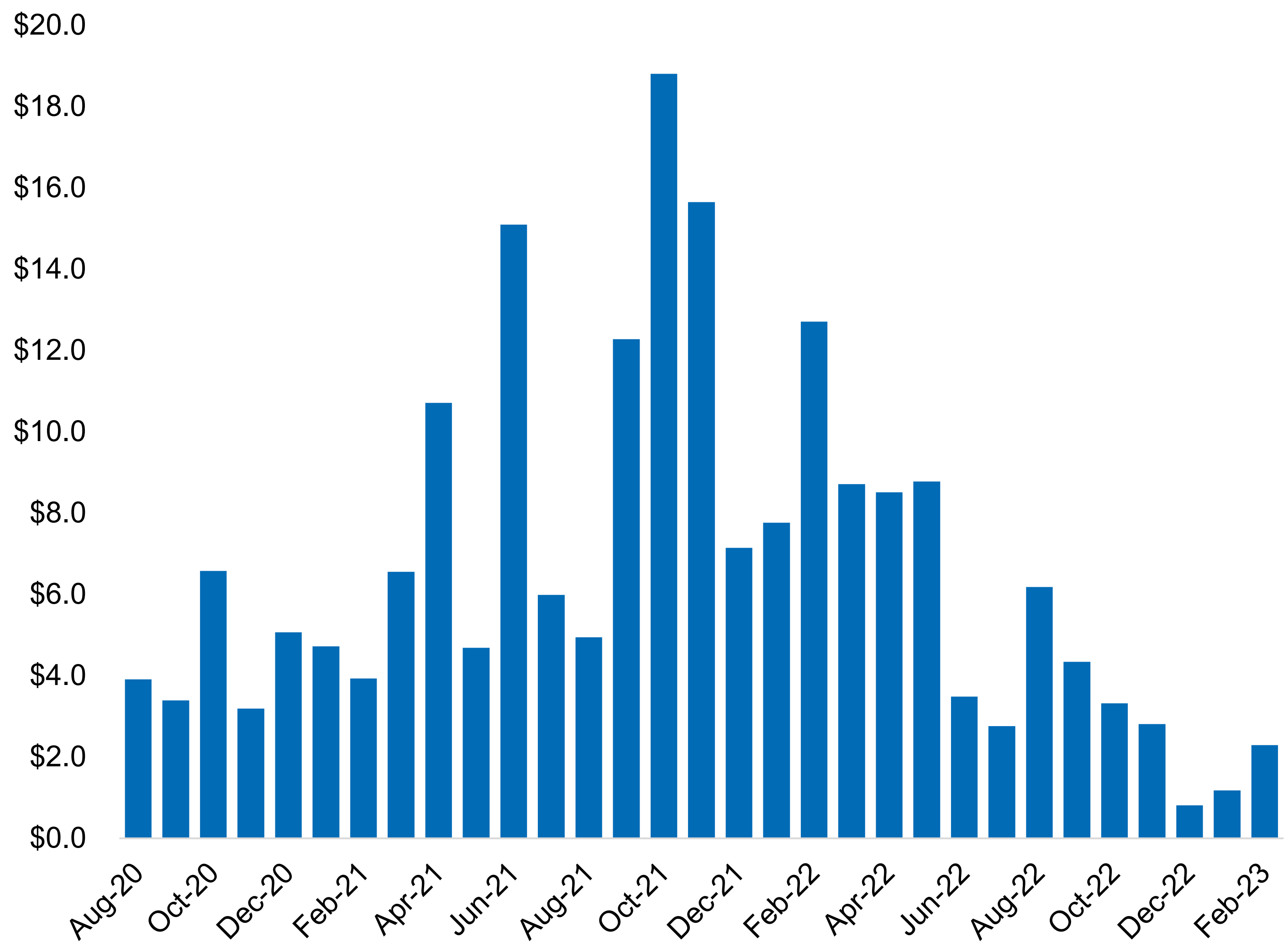


Source: Federal Reserve, Newmark Research

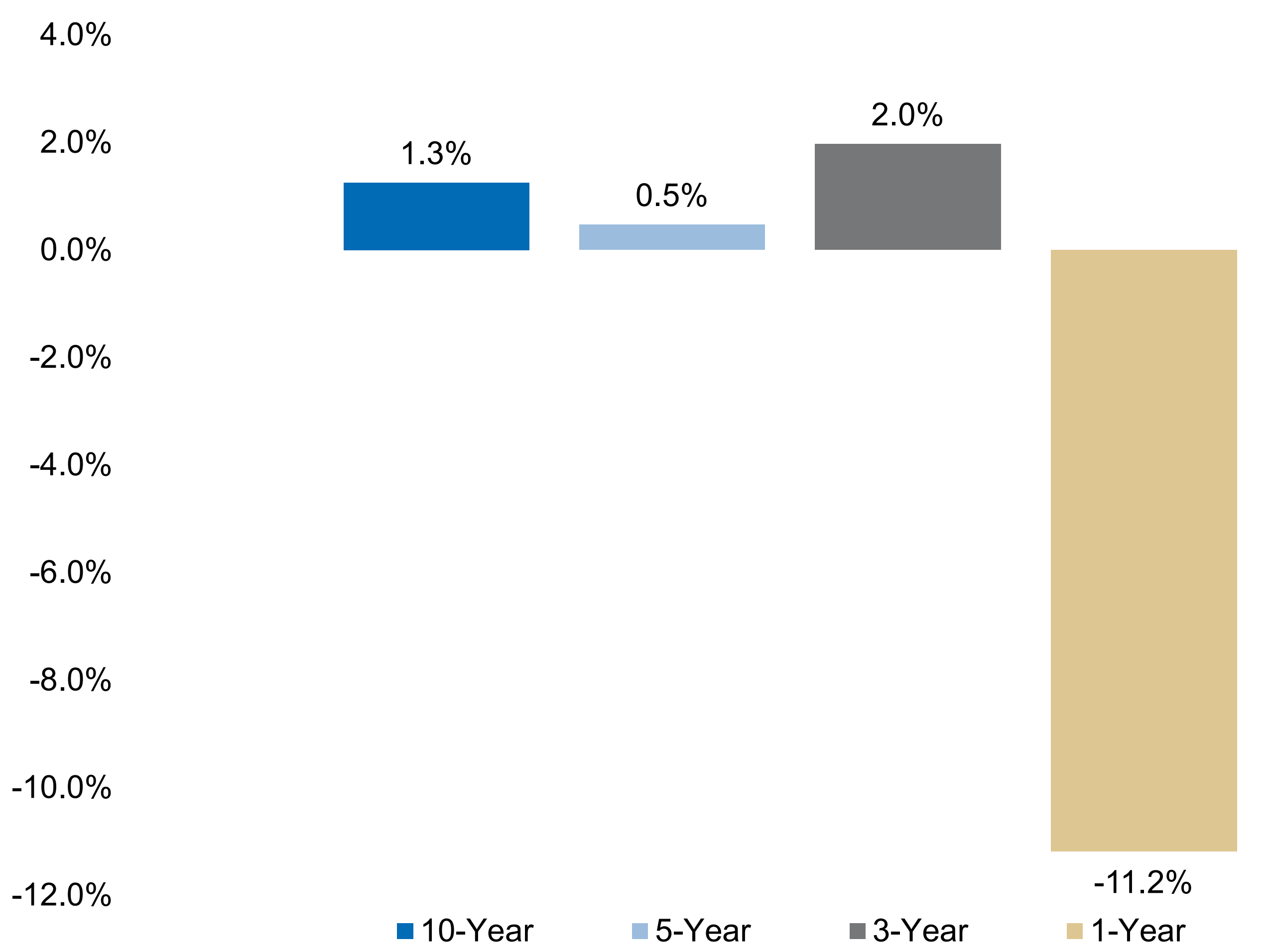
Securitized Markets Have Seized Up

CMBS issuance collapsed towards the middle of the year. Activity picked up in August / September only to lose momentum once again in Q4 2022. Meanwhile, CMBS as an asset class has returned negative 11.2% on a total return basis in the last 12 months. The 10-year average annual return is now just 1.3%.

Monthly CMBS Issuance



Historical CMBS Total Returns (iShares CMBS ETF)

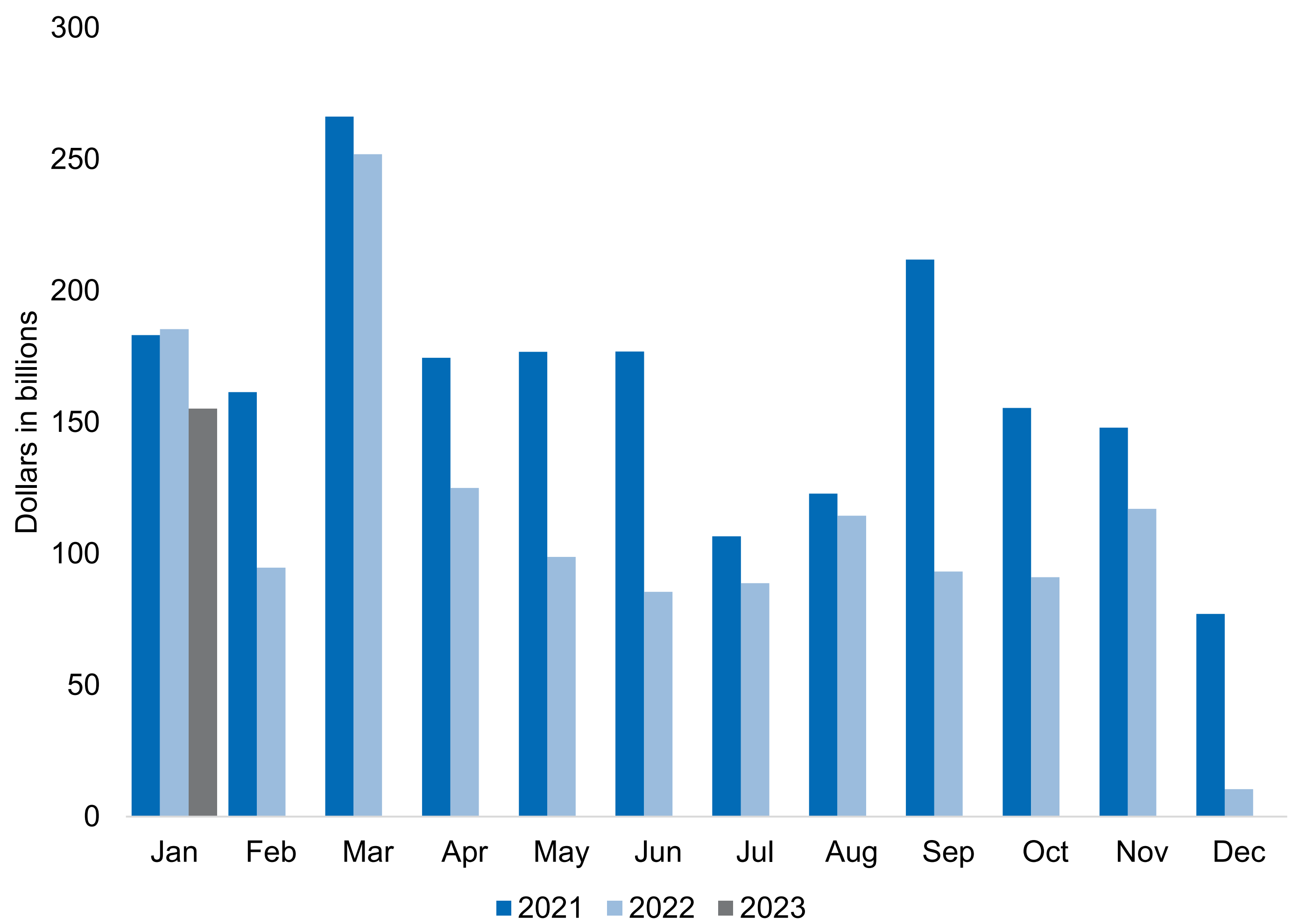


Source: Green Street, Ishares, Newmark Research as of 2/25/2023

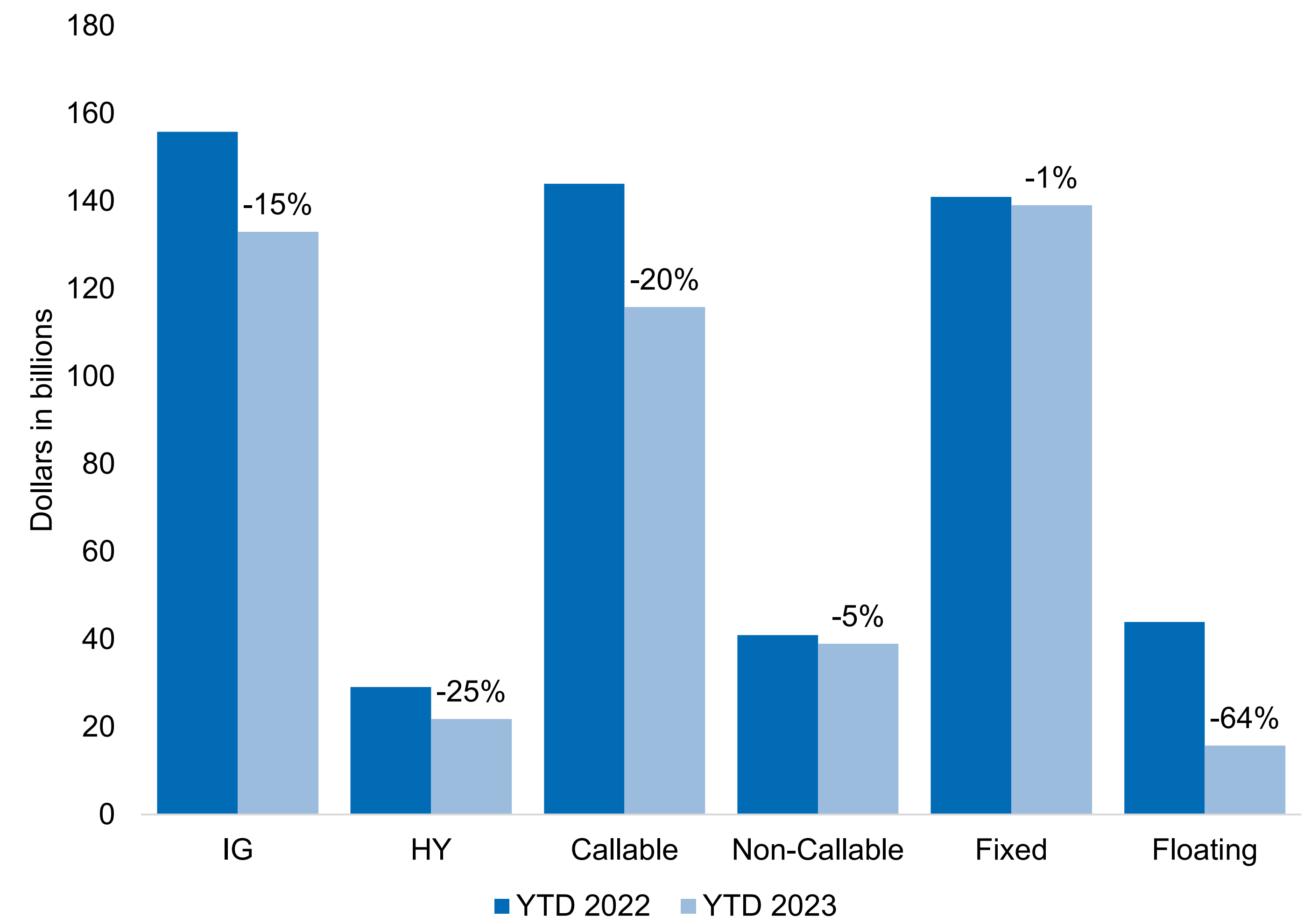
However, Corporate Debt Issuance Rose Sharply in January as Rates Declined

Should investor appetite for corporate debt remain strong, expect to see a similar move in securitized CRE markets. The question is whether the surge was purely opportunistic as markets became convinced that the Fed was close to a pivot, the battle with inflation won. If nothing else, recent price action ishows that these questions have not yet been resolved.

U.S. Corporate Bond Issuance Recovered Sharply in January



Issuance Has Favored Stronger Credits, Fixed Rate Debt

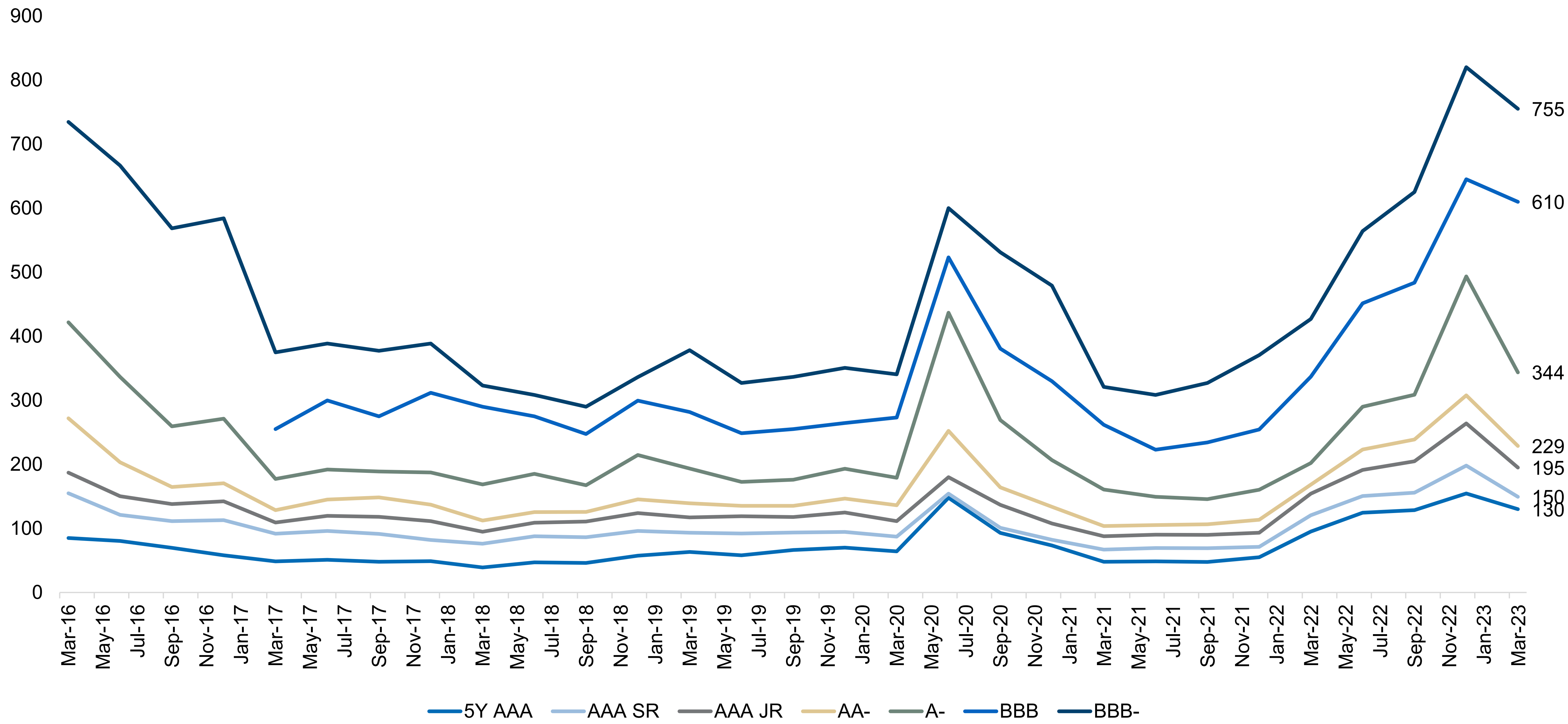


Source: SIFMA, Newmark Research as of 2/25/2023

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.

Average CMBS Conduit New Issuance Spreads to SOFR

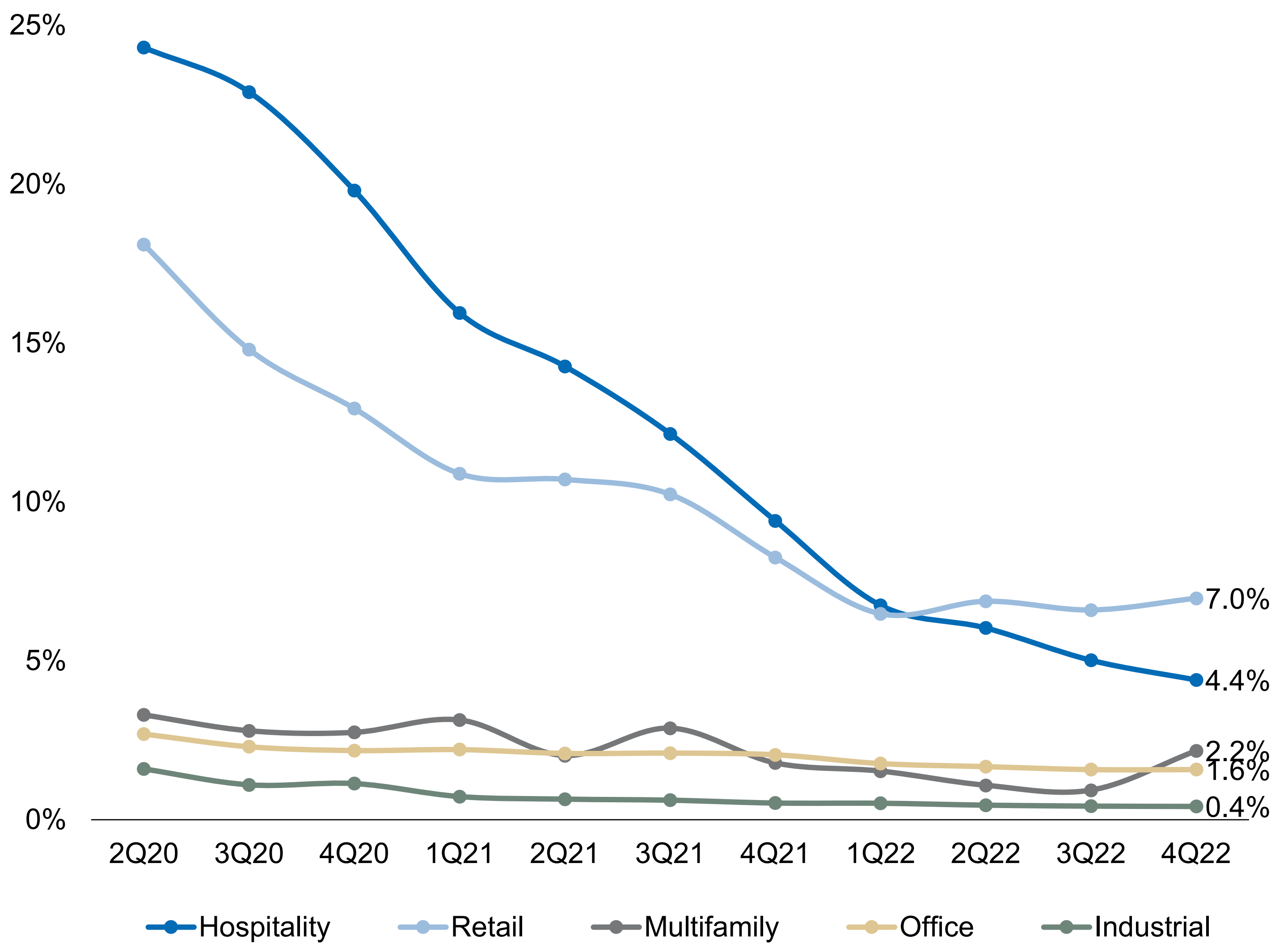


Source: Trepp, Newmark Research as of 2/27/2023

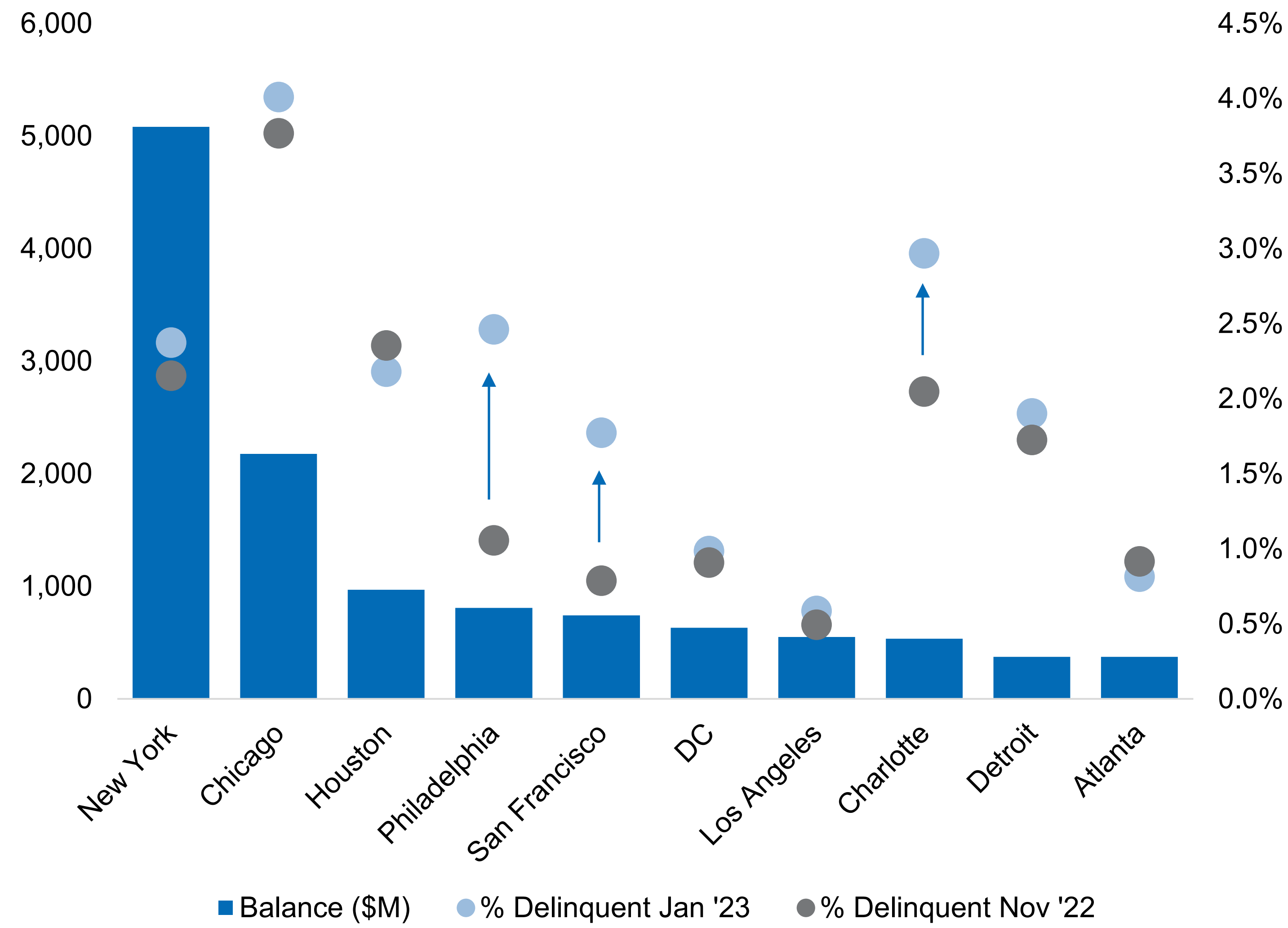
CMBS Delinquency Rates Remain Subdued (So Far)

Retail and hospitality delinquency rates have largely returned to pre-pandemic levels with hospitality delinquencies continuing to fall supported by strong property level fundamentals. Delinquency rates have remained extremely subdued across the other major property types, including office. This could soon change if recent news headlines are any indication. At the market level, delinquency rates remain well-contained across the markets with greatest exposure; however, the trend is towards increasing rates.

By Property Type



Delinquent Balance by MSA

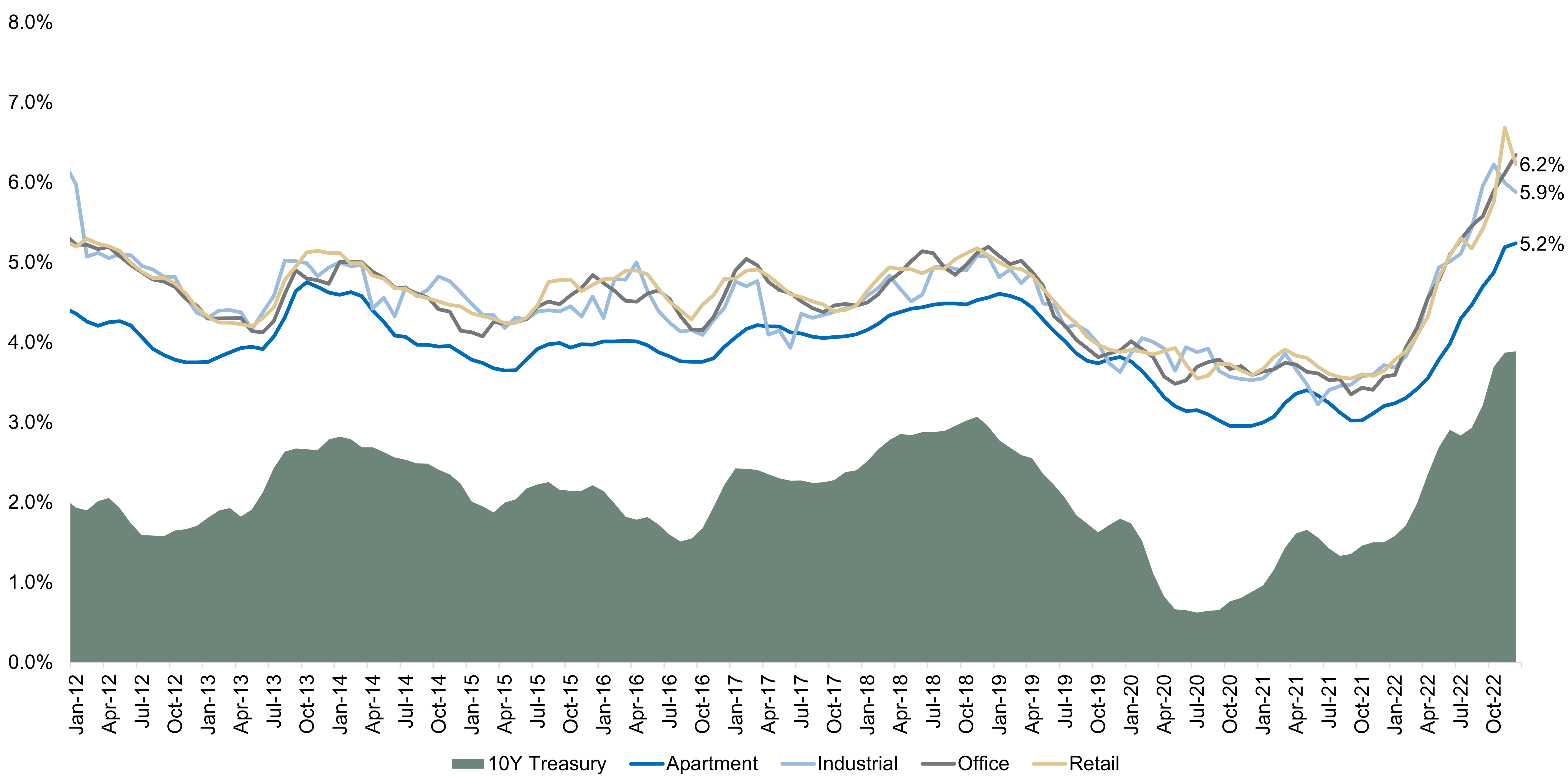


Source: Newmark Research, Trepp

CRE Debt Costs Rising Asymptotically Alongside Treasuries, Corporate Debt

While the recent rally in treasury yields have cut short hopes of seeing a more material reduction in debt costs, corporate bond spreads have come back down to long-term averages, which could extend into CRE finance. CMBS new issuance and secondary market spreads have already responded, and if sustained, will likely extend to other lending sectors.

Average Interest Rate on Fixed Rate CRE Originations

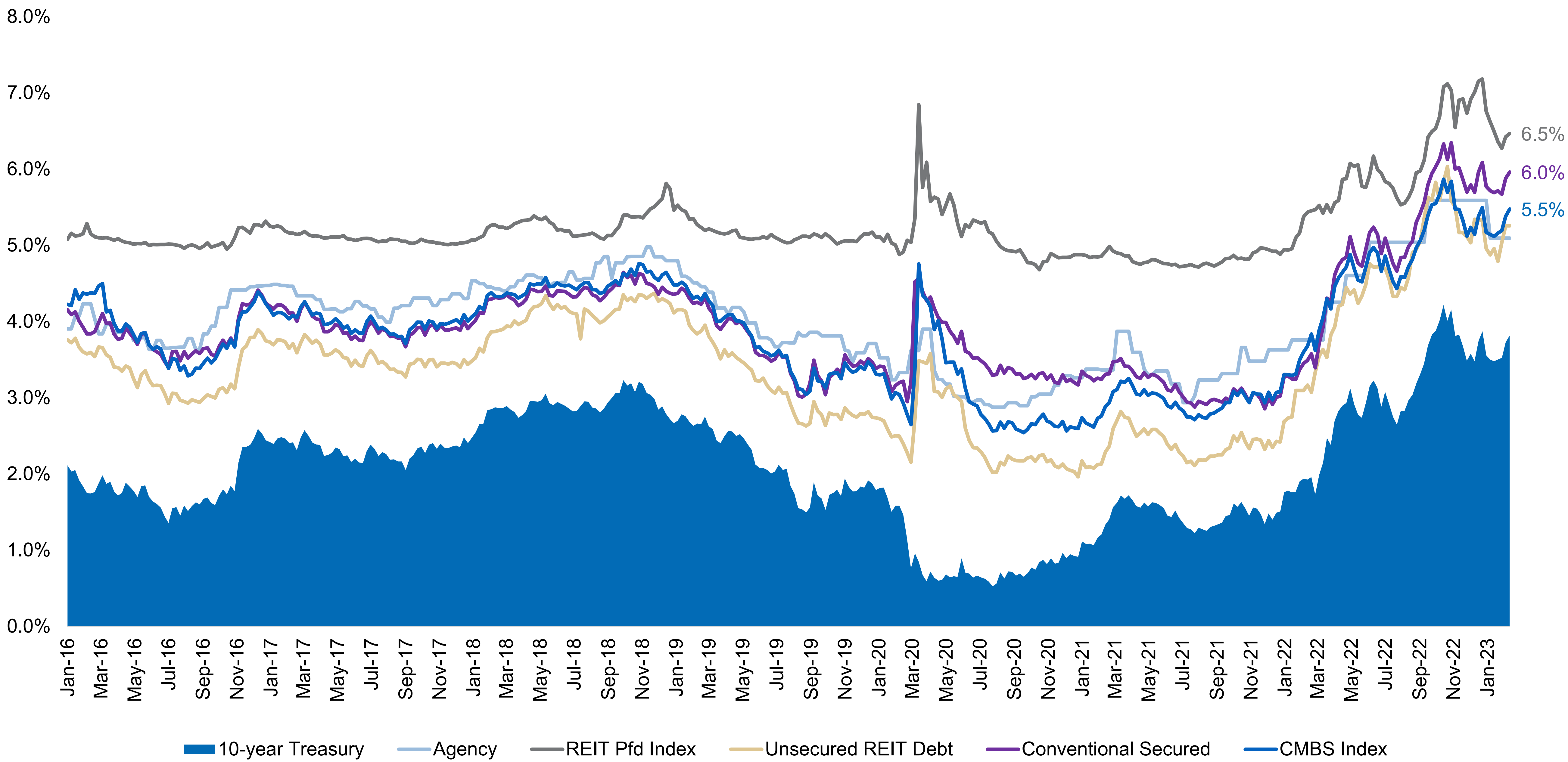


Source: Real Capital Analytics, Newmark Research

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

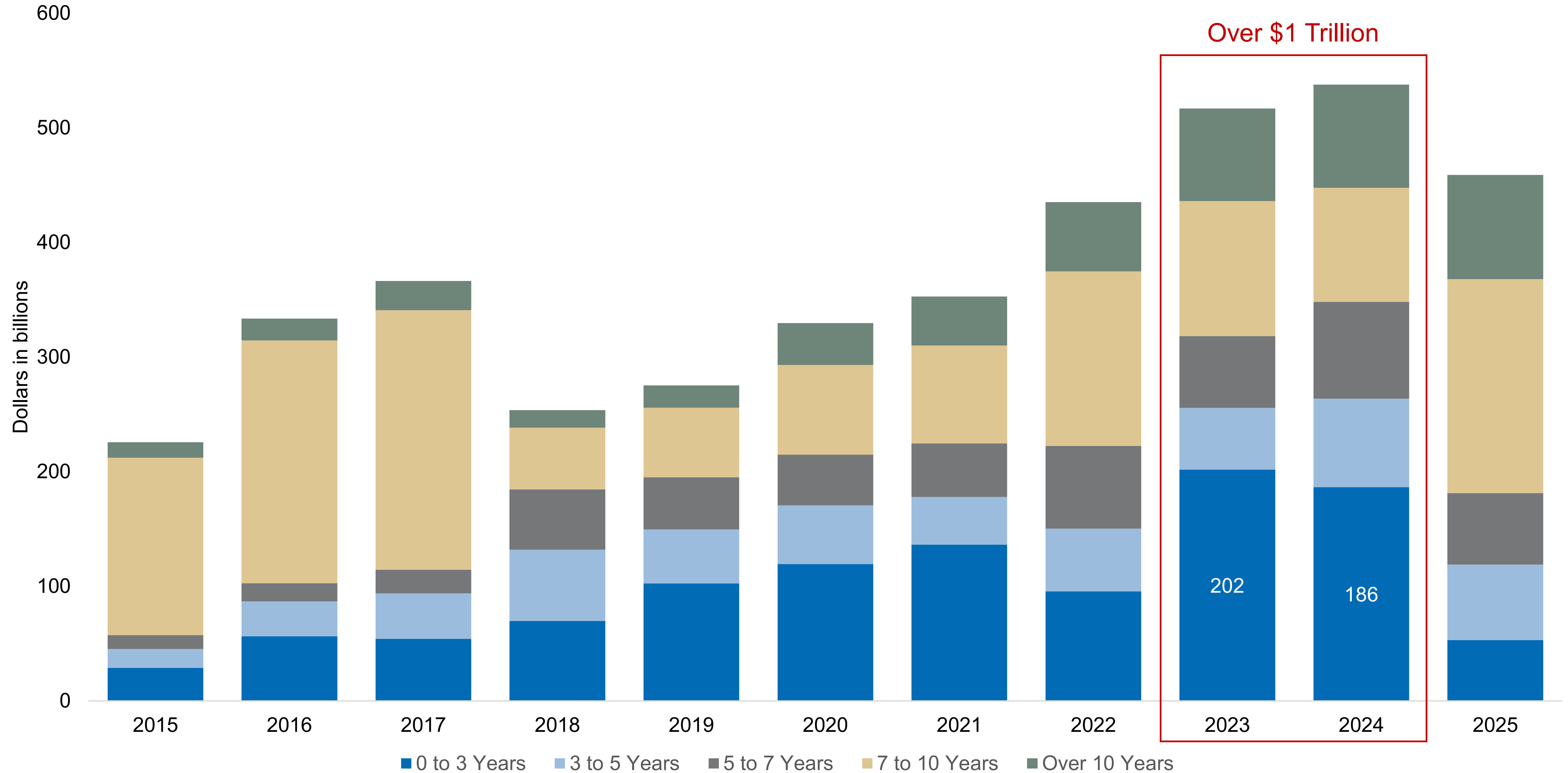


Sources: Newmark Research, Green Street as of 2/17/23

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, investors will choose 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.

Commercial Mortgage Maturities

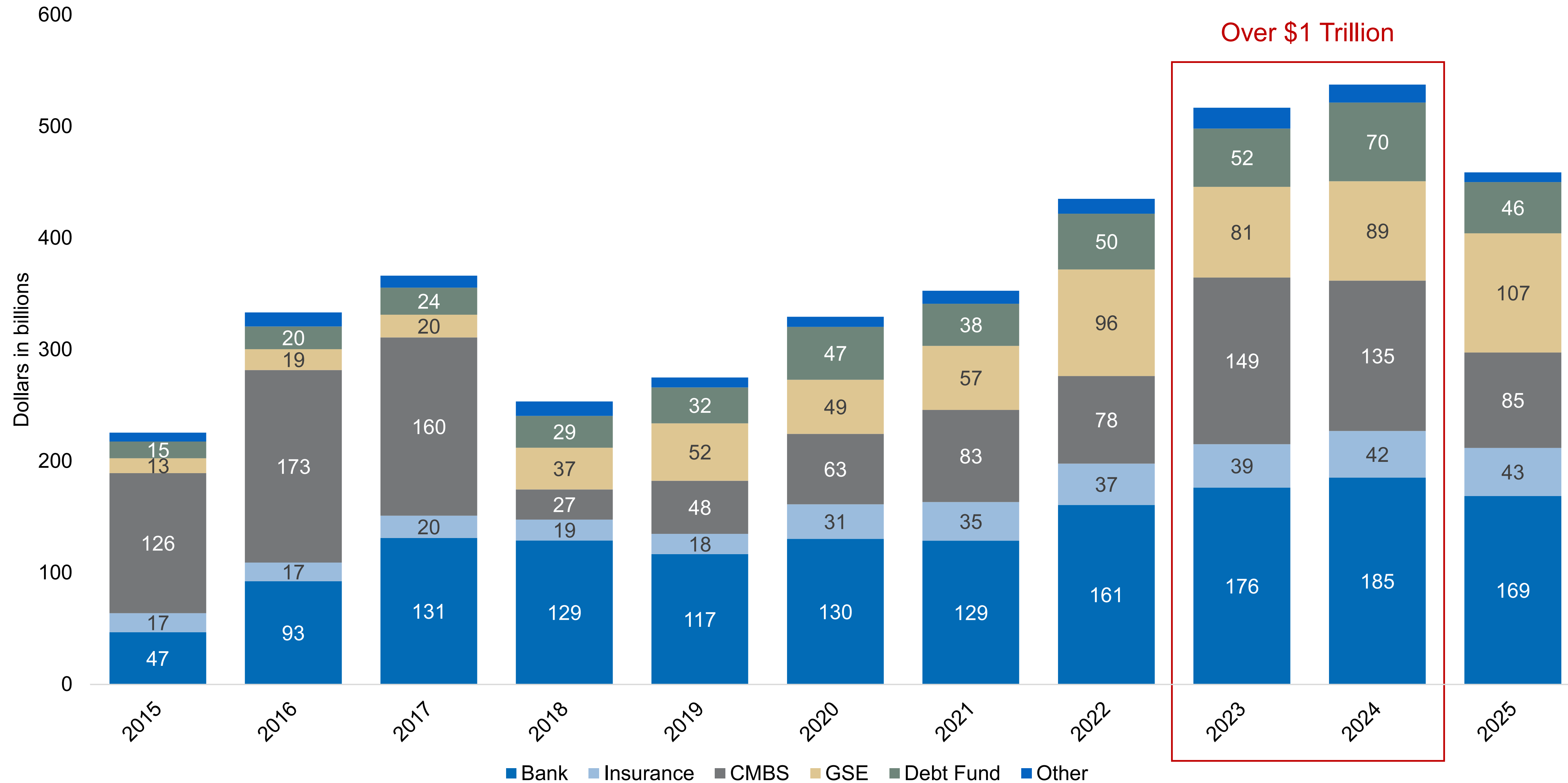


Source: RCA, Newmark Research
*Excludes construction loans. Maturing volumes are not a simple summation of individual loans as maturity date is not available for all loans in the data set. For these, a maturity year is inferred from the maturity profile of loans with known maturity years. Other adjustments are then made to ensure that total maturing volumes are consistent across analyses for a given year.

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.

Commercial Mortgage Maturities



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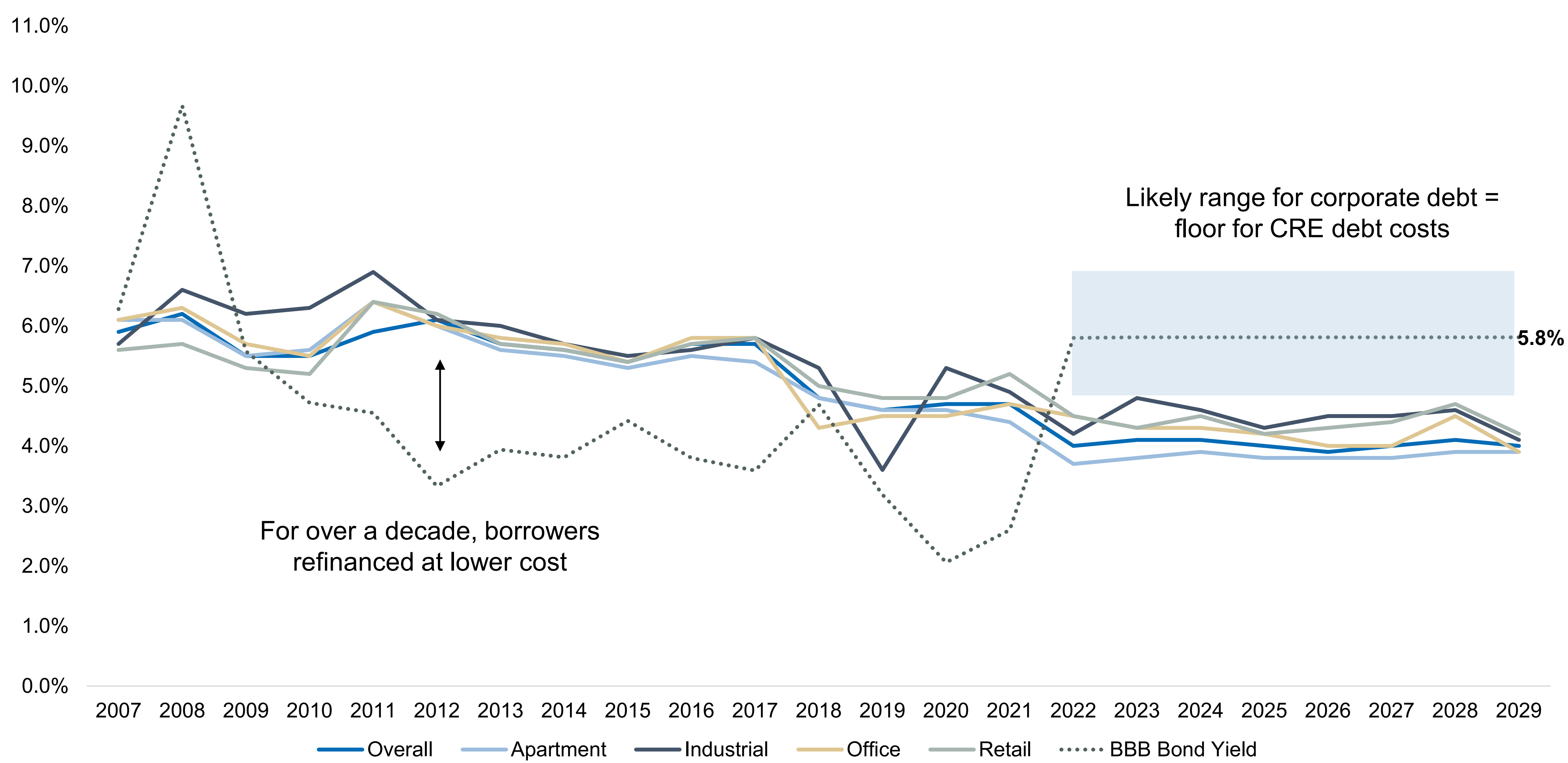
Borrowers Still Face Starkly Higher Costs as Loans Mature

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.

Weighted Average Interest Rate on Maturing Debt vs. Prevailing Bond Yields



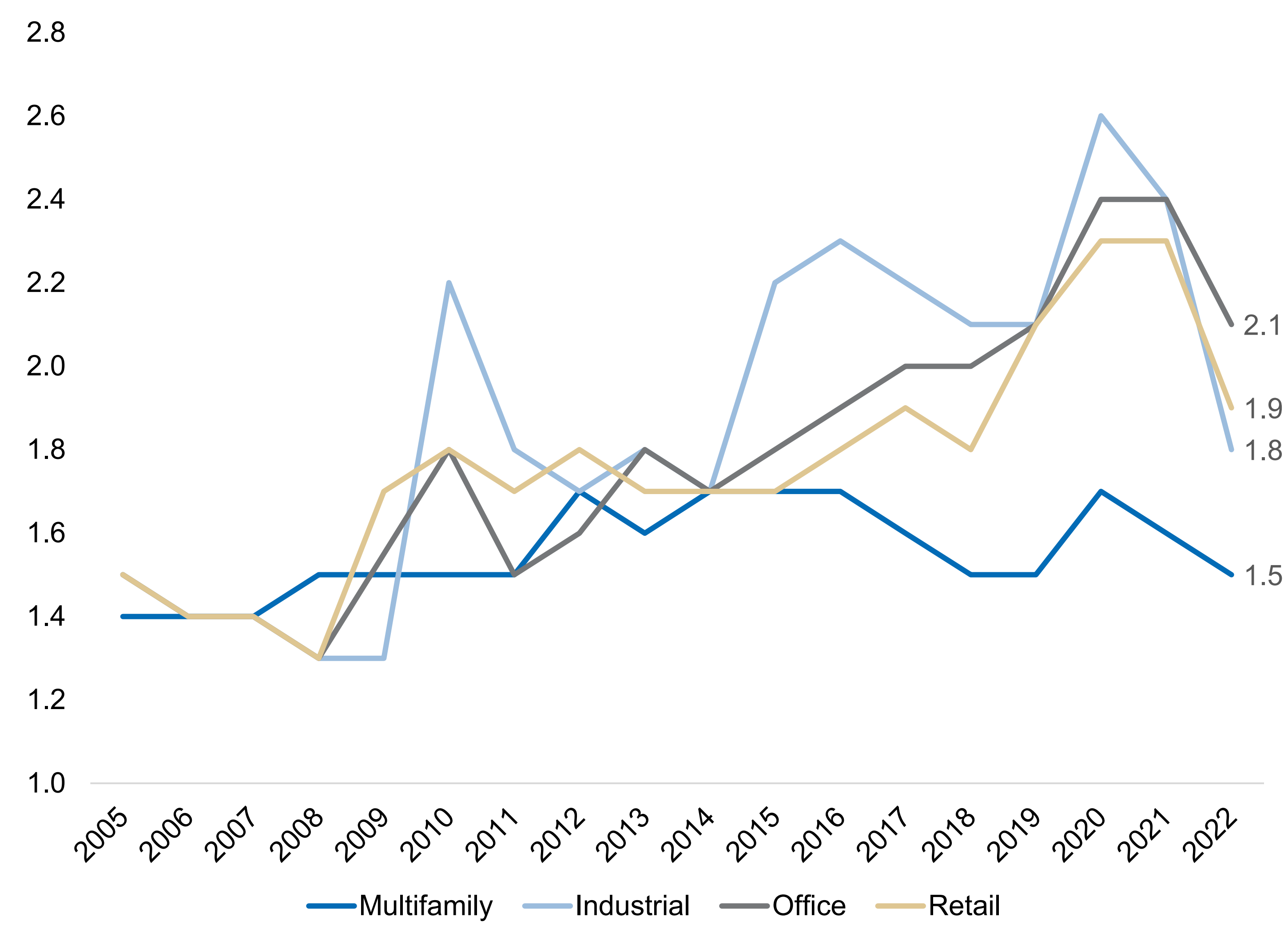
Source: RCA, ICE Data Indices, Newmark Research

Conservative Underwriting Could Help Mitigate Distress

LTV's became 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.

Loan-to-Value Ratios Have Been Declining Since 2013

While Debt Service Coverage Ratios Have Risen (except for multifamily)

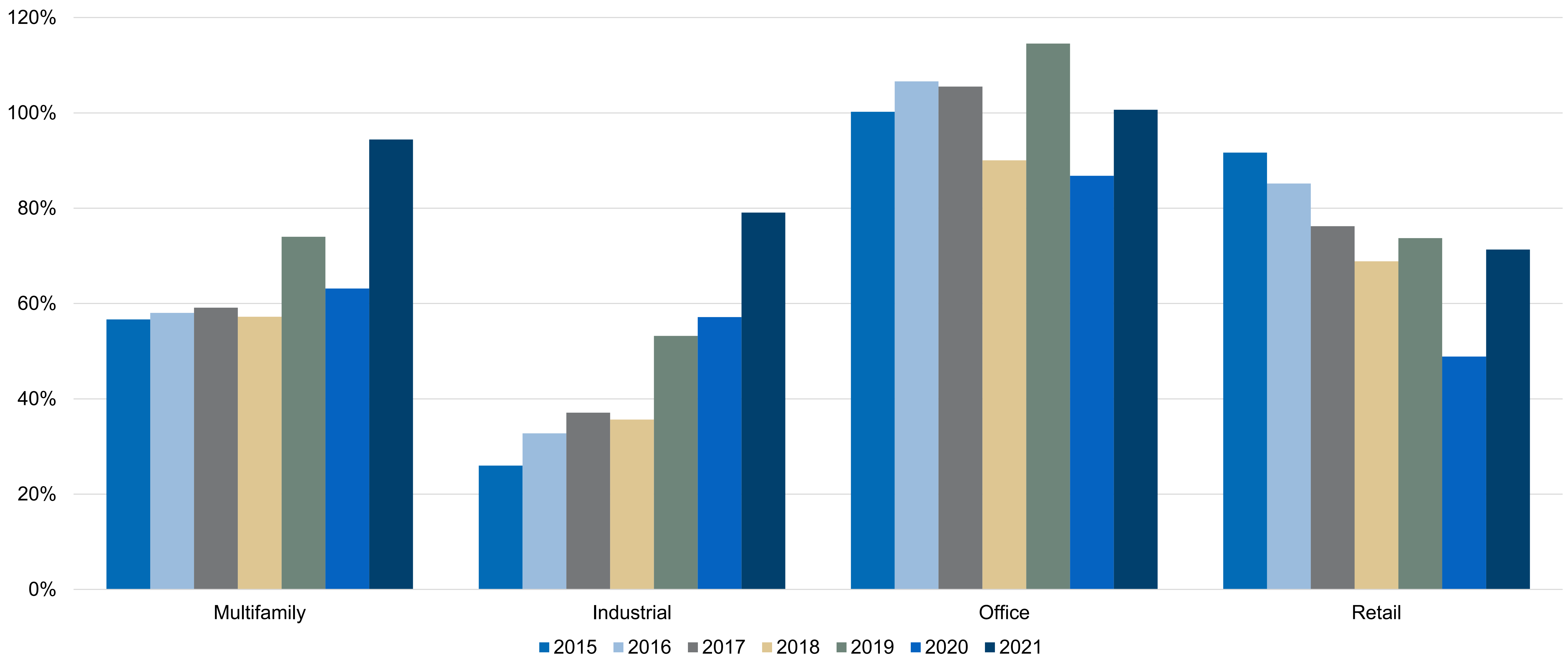


Source: Real Capital Analytics, Newmark Research

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.

Average Mark-to-Market* Loan-to-Value Ratio by Year Debt Originated



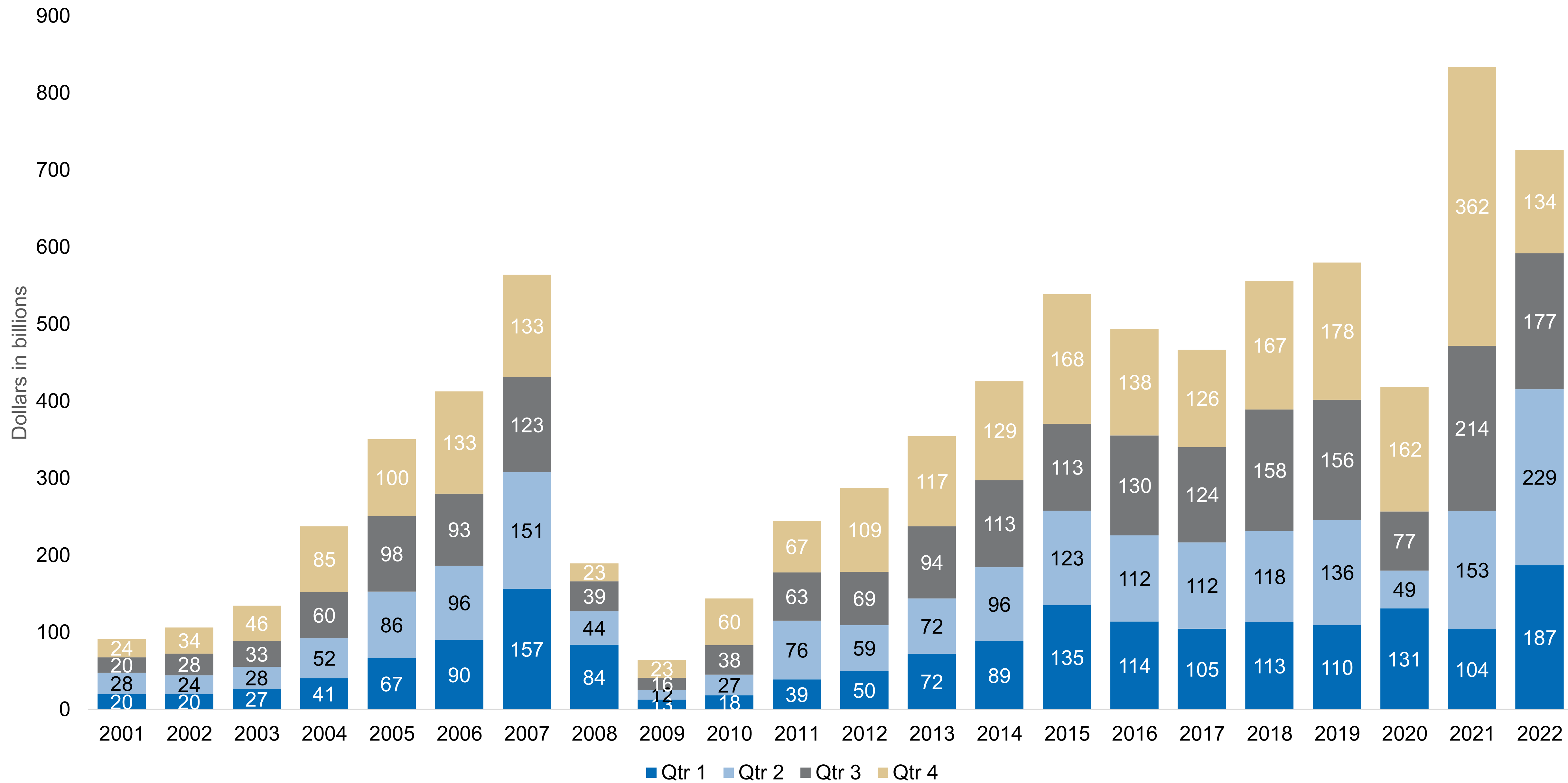
Source: RCA, NAREIT, S&P Capital IQ, Newmark Research as of 12/31/22
*We take the average LTV in a given year and then increase the value of the denominator by the cumulative price return of the corresponding NAREIT property sector index since the year the loan was originated. For example, apartment 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.

Equity Capital Markets

Transaction Volume Down 63% Year-over-Year in 4Q22

Volume for the year totaled $727 billion – down 13% from 2021 but still the second highest annual volume on record. The same could not be said for the fourth quarter, which had the lowest fourth quarter volume going back to 2017 or even worse in inflation-adjusted terms. Additionally, volumes were down 24% from the third quarter of 2022; the only other such decline was in 2008. This bad quarter had been some time coming—as sentiment clearly turned negative in early summer but with enough deals in the pipeline to mitigate deceleration in the third quarter of 2022.

United States Investment Sales Volume



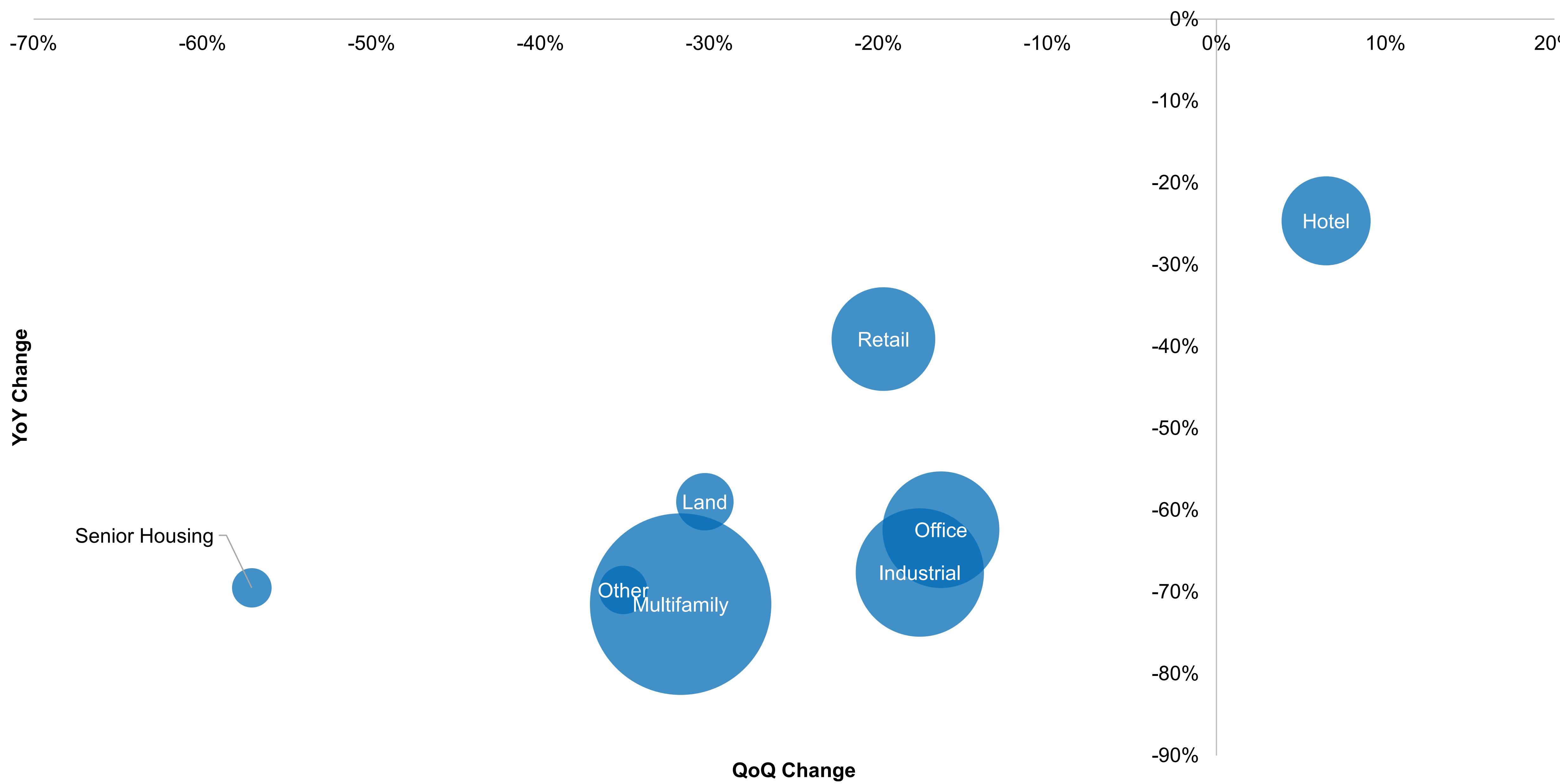
	Qtr 1	Qtr 2	Qtr 3	Qtr 4
2001	20	28	20	24
2002	20	24	28	34
2003	27	28	33	46
2004	41	52	60	85
2005	67	86	98	100
2006	90	96	93	133
2007	157	151	123	133
2008	84	44	39	23
2009	13	12	16	23
2010	18	27	38	60
2011	39	76	63	67
2012	50	59	69	109
2013	72	72	94	117
2014	89	96	113	129
2015	135	123	113	168
2016	114	112	130	138
2017	105	112	124	126
2018	113	118	158	167
2019	110	136	156	178
2020	131	49	77	162
2021	104	153	214	362
2022	187	229	177	134

Source: RCA, Newmark Research

Investment Sales Slowed Year-over-Year across Property Sectors

Sales also decelerated broadly quarter-over-quarter with the lone exception of hotel properties. While still down, retail properties also outperformed.

2022 Q4 Investment Sales Volume

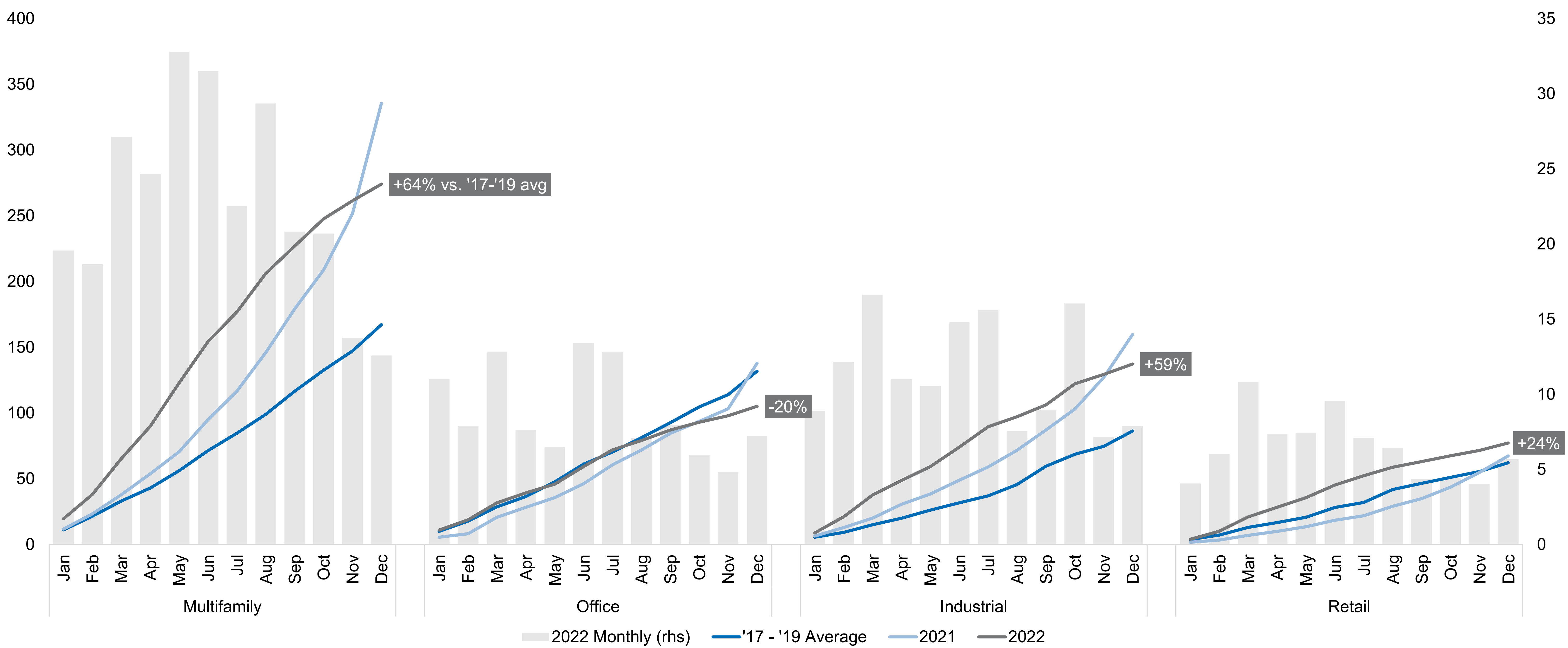


Source: RCA, Newmark Research
*Excludes entity/M&A deals

Activity Decelerated through 4Q22

Office, industrial and retail appear to have had small bumps in activity in December but not enough to offset the overall impression of declining activity. Multifamily sales, meanwhile, fell sharply after October.

U.S. Investment Sales

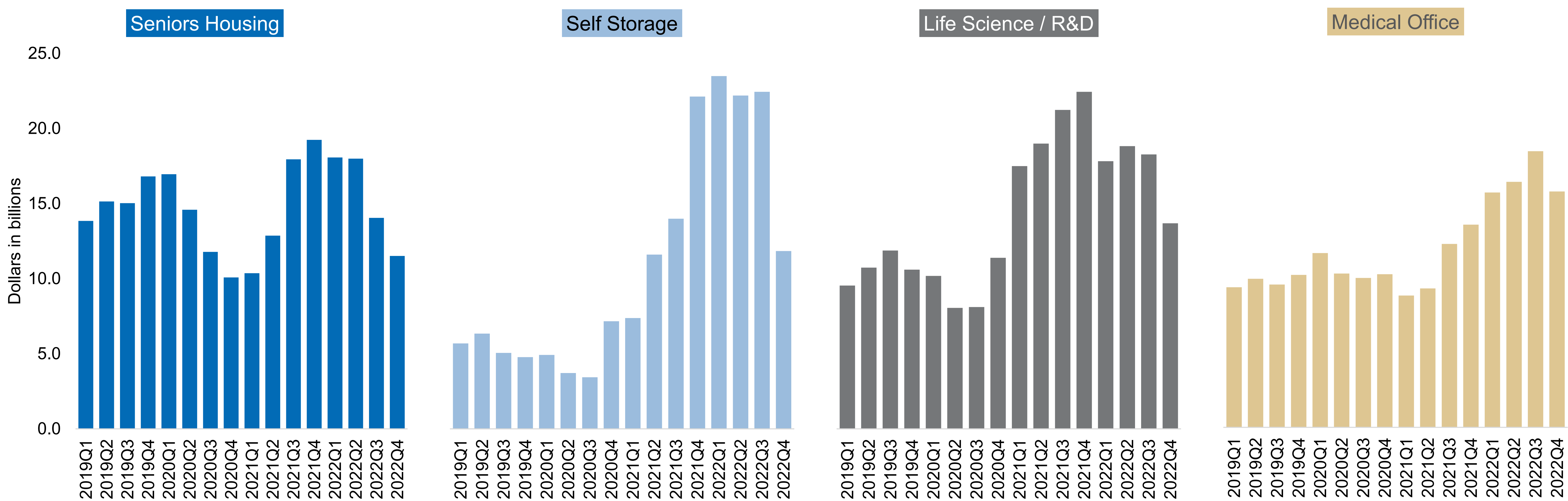


Source: Real Capital Analytics, Newmark Research

Alternative Sectors Outperform Overall Market but Not Immune to Market Slowdown

Alternative property sectors have attracted tremendous investor interest since the pandemic, offering investors exposure to long-term demographic trends as well as some insulation from work-from-home transition risk. While the long-term potential for these sectors remains intact, these sectors felt the impacts from a more fraught investment environment through the second half of the year, culminating with weak fourth quarter sales – down 32% YoY across these four property types. However, they still easily outperformed the overall market – down 63% YoY in the same period. Medical office has been most resilient, with sales up 16% YoY in the fourth quarter of 2022.

Rolling 12-Month Investment Sales Volume

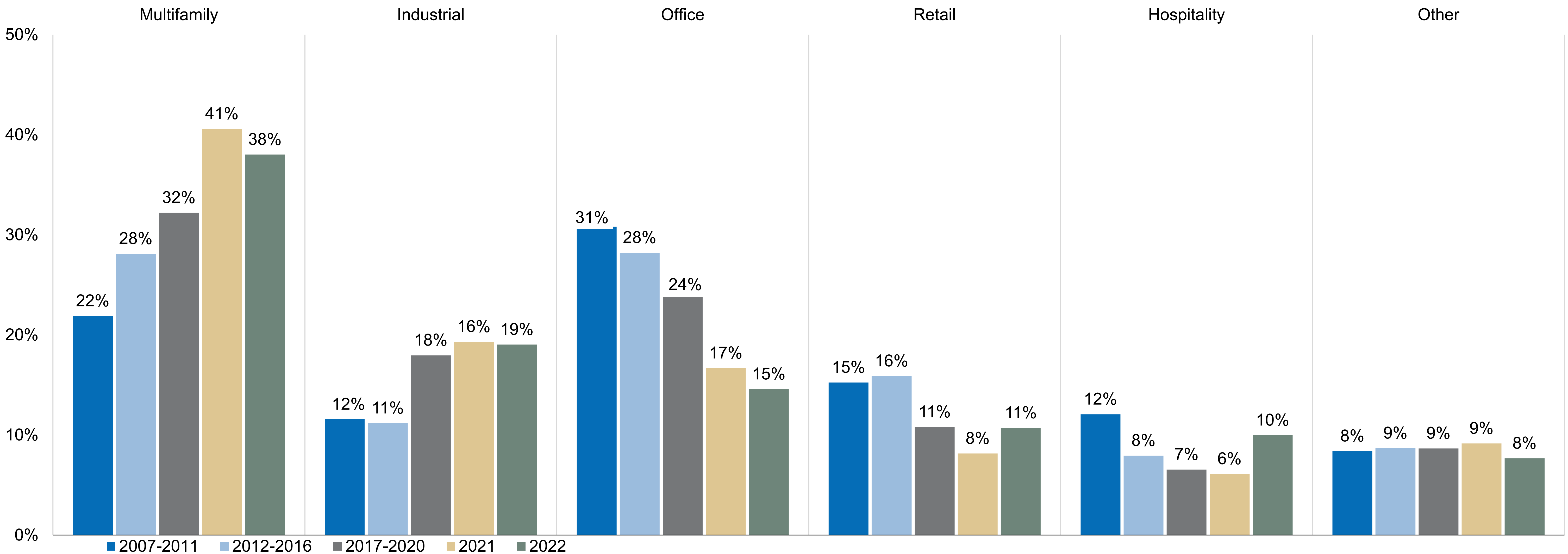


Source: Newmark Research, Real Capital Analytics

Investor Portfolios Continue to Favor Multifamily and Industrial Assets

The commercial real estate investment landscape remains bifurcated, with multifamily and industrial attracting 57% of investor allocation in 2022, as both benefit from secular tailwinds and strong operating fundamentals.

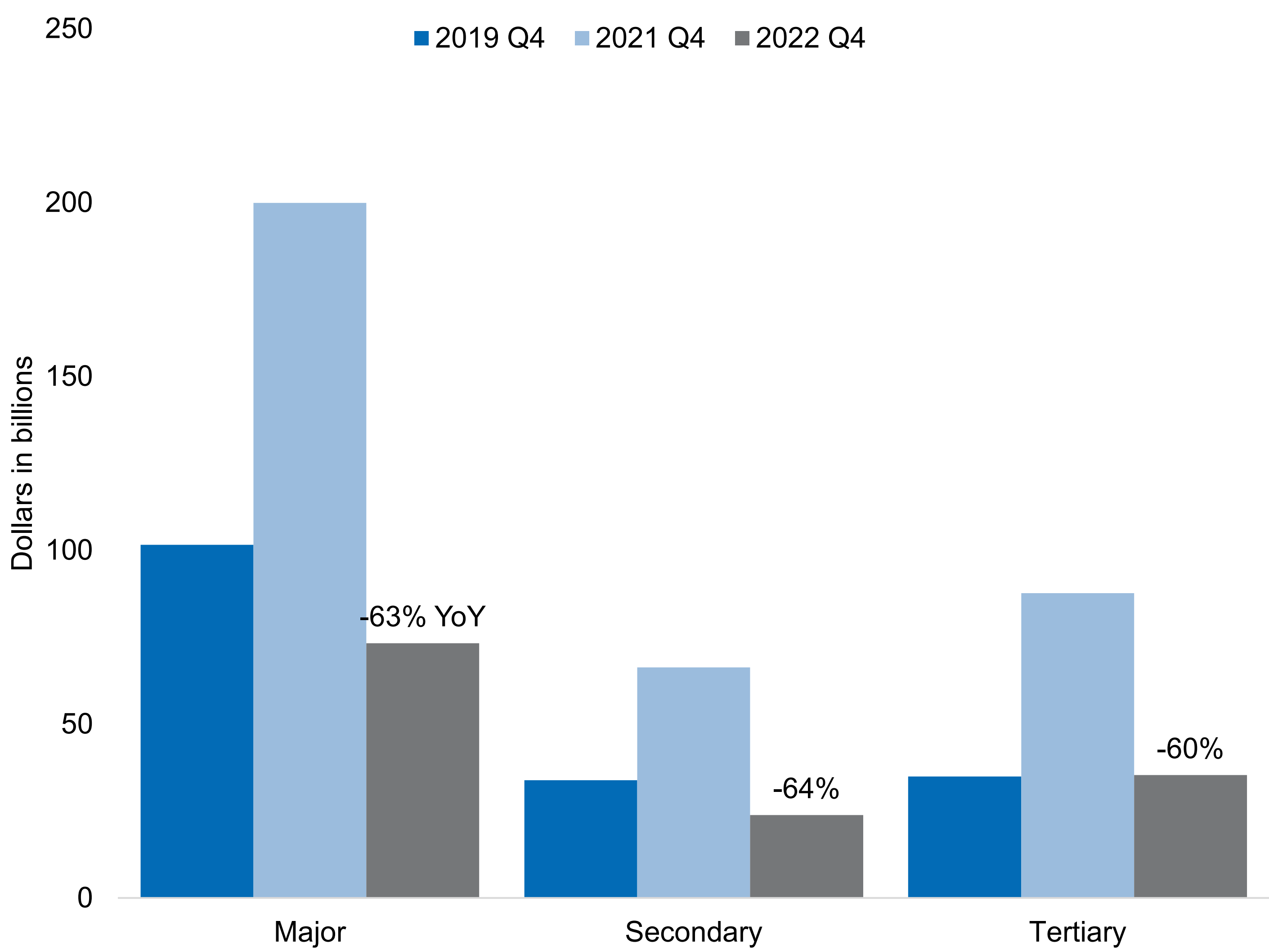
Investor Allocation Over Time



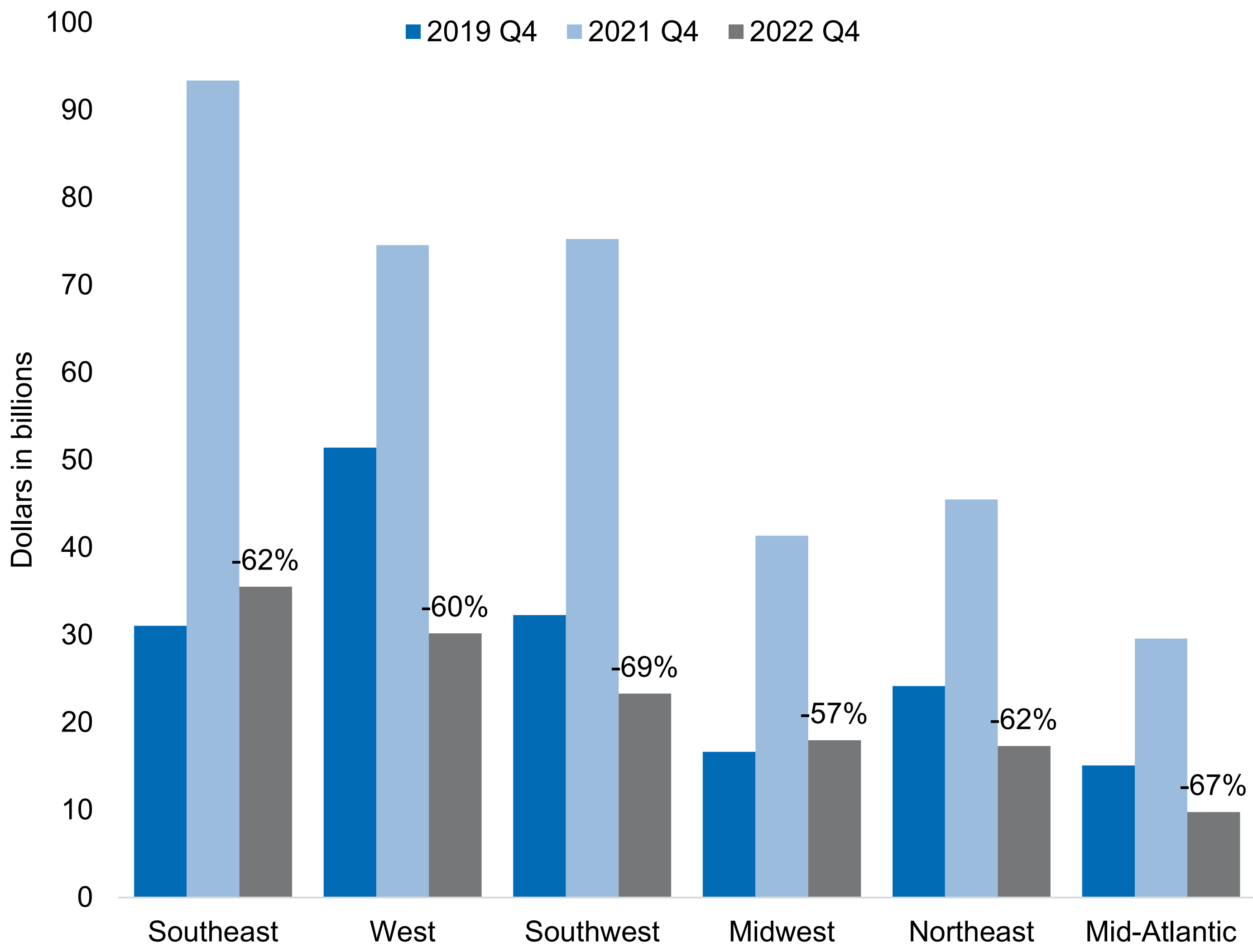
Source: Real Capital Analytics, Newmark Research

Sales Volume Fell Sharply across Market Tiers, Regions Compared to 2021

All Market Tiers Down YoY, Tertiary Markets Flat vs. 2019



All Regions Down YoY, Southeast and Midwest Alone Flat/Up vs. 2019

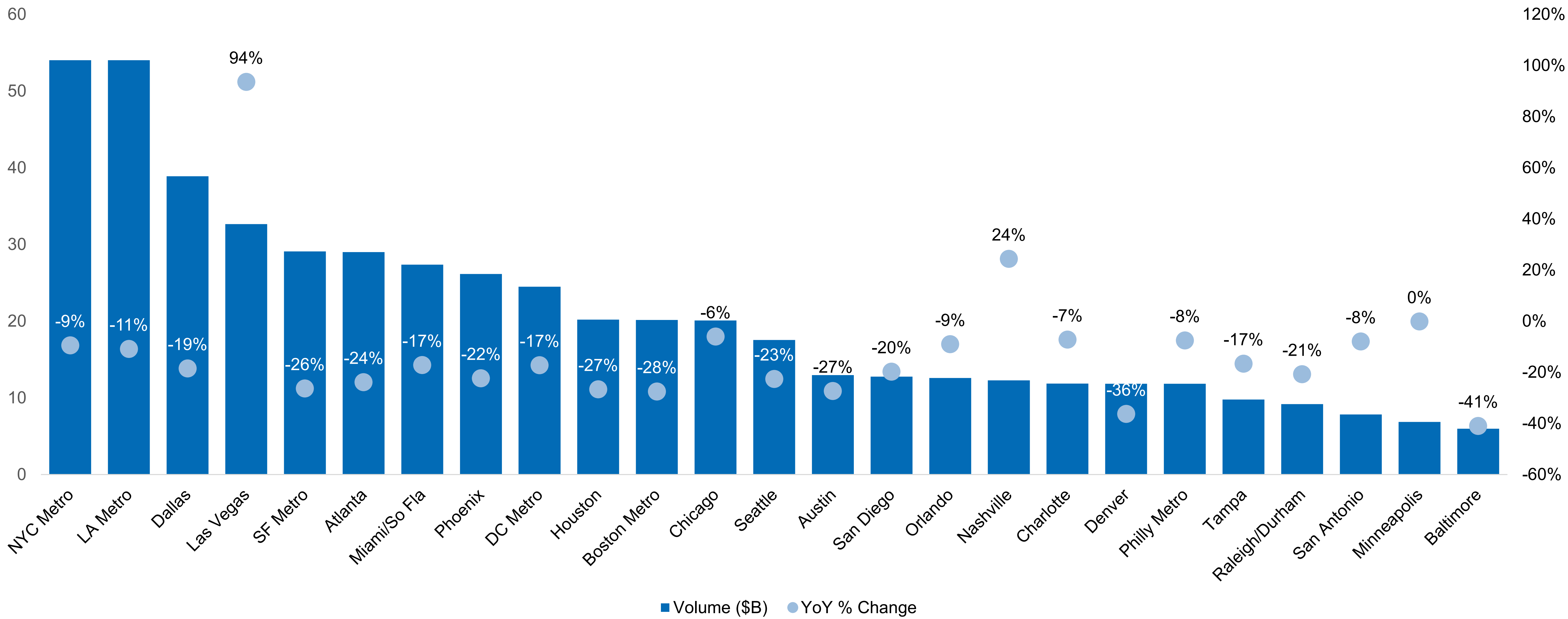


Source: RCA, Newmark Research

Top United States Markets by Investment Sales Volume

NYC Metro and LA Metro tied as the top markets by investment volume in the US in 2022, both with $54 billion, down 9% and 11% year-over-year, respectively. Sunbelt markets rounded out the top 10, including Dallas, Las Vegas, Atlanta, Miami, Phoenix and Houston. The SF Bay Area was also in the top five on the strength of performance earlier in the year. Following an abysmal fourth quarter, only two of the top 25 markets recorded flat or higher volumes in 2022 compared to 2021. These were Nashville (+24%) and Minneapolis (+0%).

Top 25 Metro Markets by 2022 Sales Volume

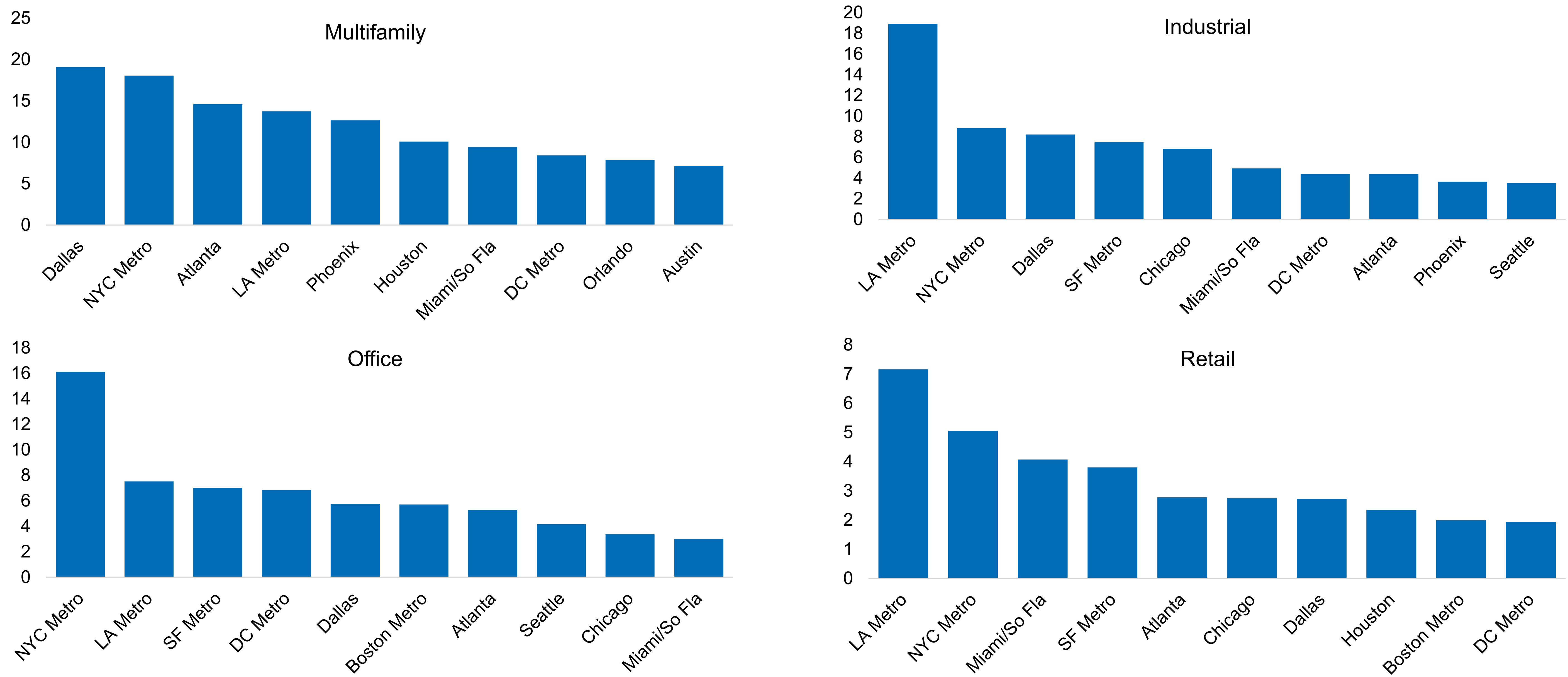


Top 25 Metro Markets by YTD Sales Volume

Top Investment Sales Markets by Property Type

Sunbelt markets drove multifamily sales in 2022, 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, the San Francisco Bay Area and the Greater DC area. Gateway markets led the retail rankings, particularly LA Metro.

2022 Investment Sales Volume ($B)

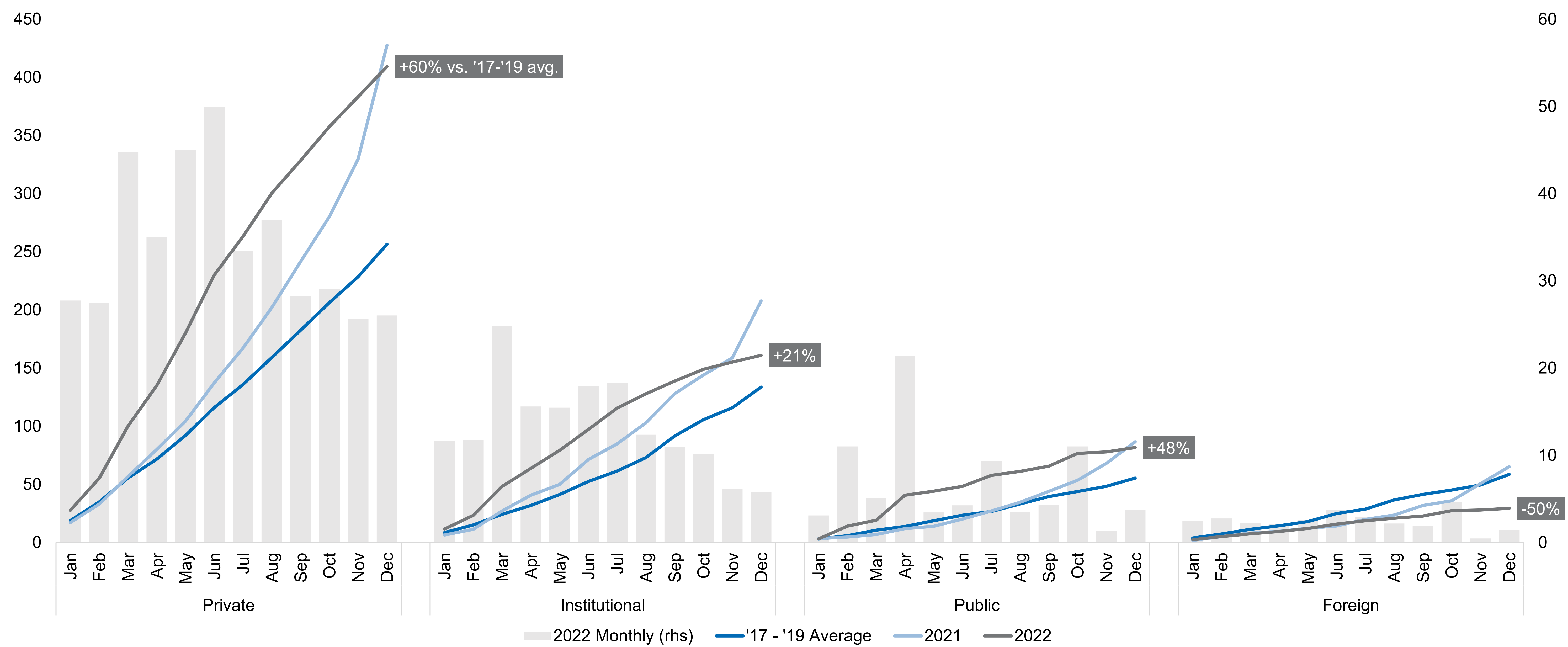


Source: RCA, Newmark Research

Acquisitions Volumes Decelerated in the Second Half of 2022

While most investors were more active in 2022 than they were in the years leading up to the pandemic (foreign capital being the exception), momentum faltered after mid-year, particularly among institutional investors. Private capital remains the most active investor group but well down from recent levels. Foreign investors appear to have been largely on hold in 2022.

Acquisition Volume by Capital Group ($B)

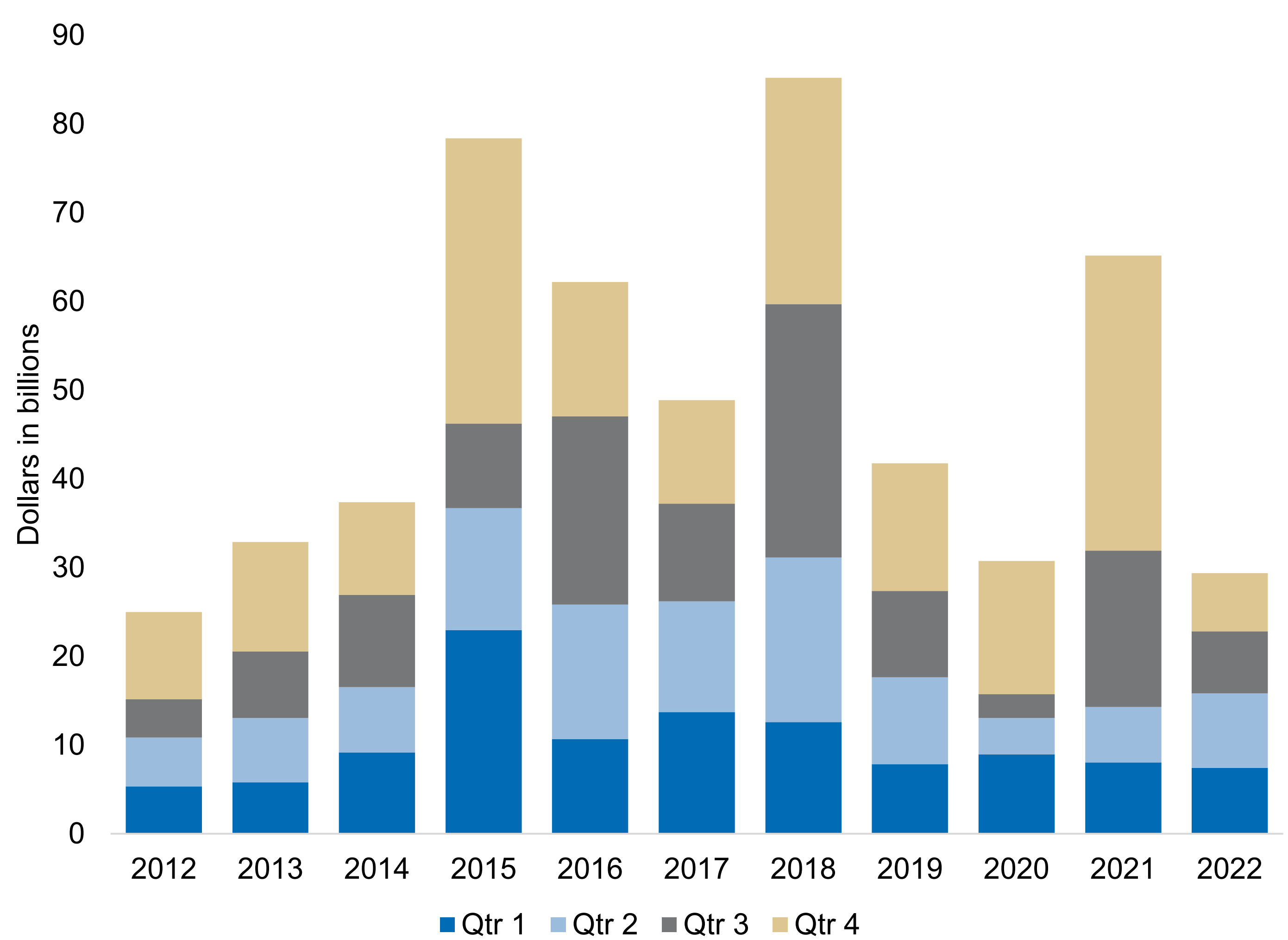


Source: Real Capital Analytics, Newmark Research.

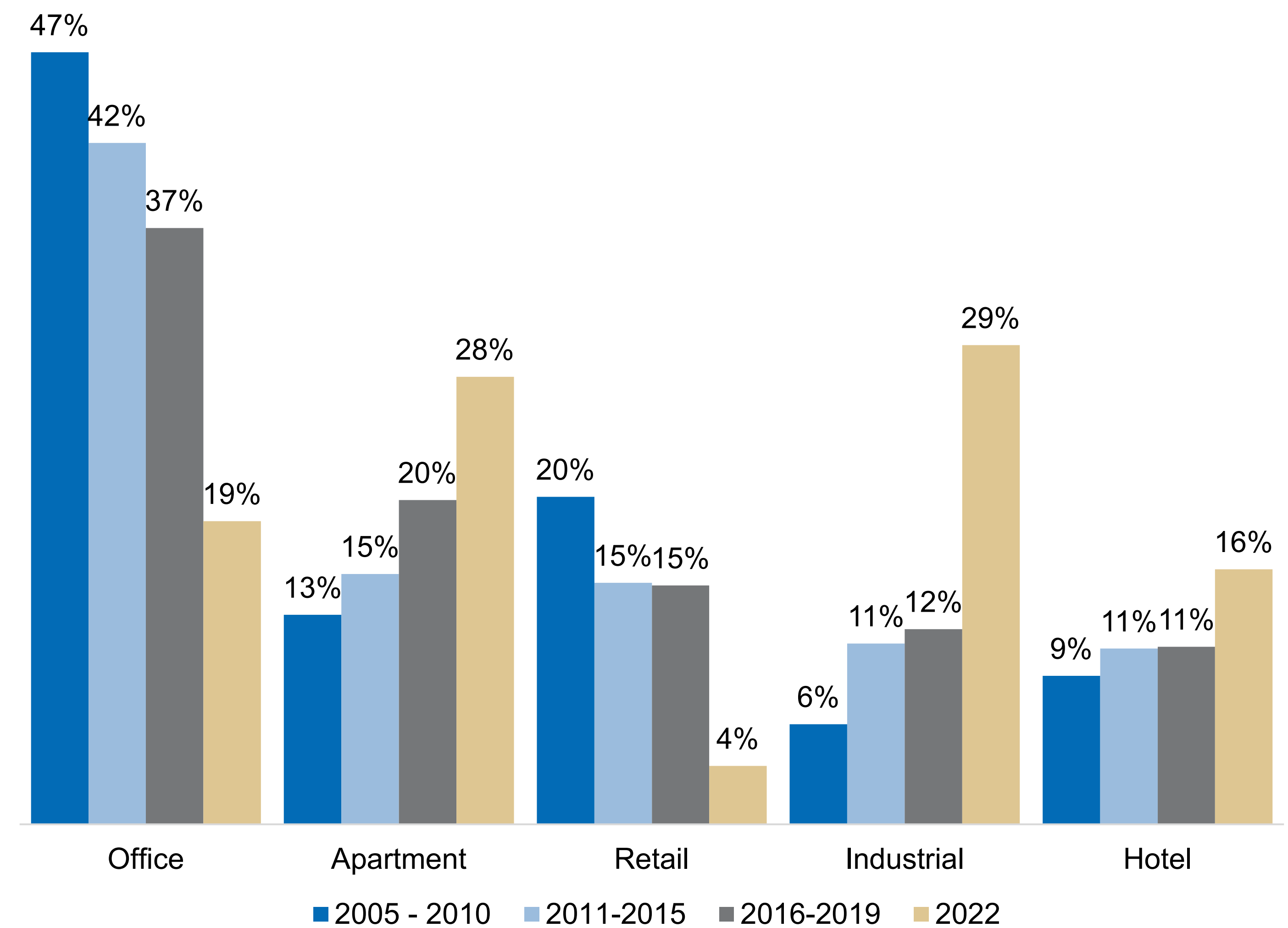
Foreign Investment Declining but Remains Focused on Residential, Industrial

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 Europe.

Cross-Border Acquisitions Down 55% YoY, Lowest Since 2012



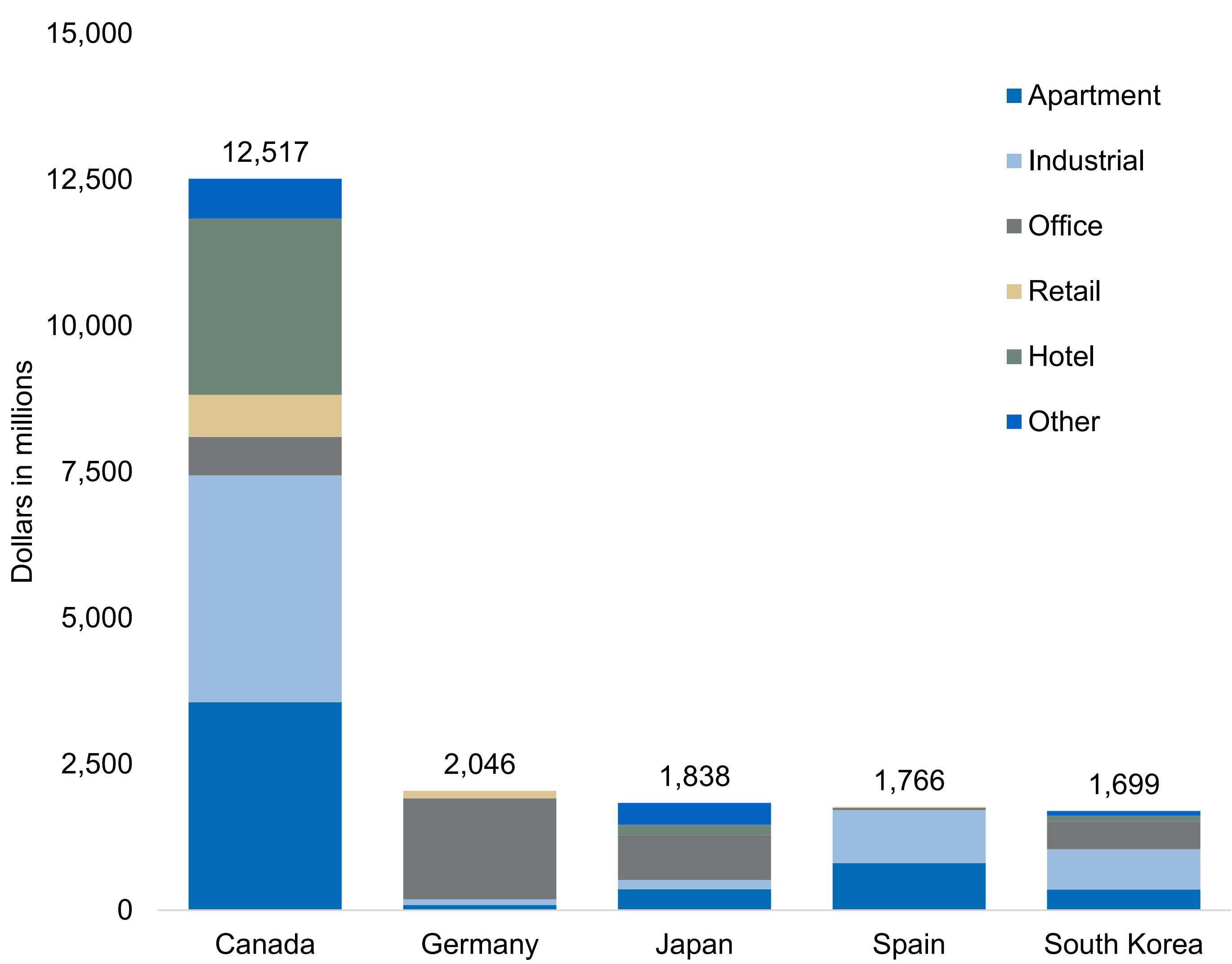
Allocation of Cross-Border Capital Shifting To Residential and Industrial



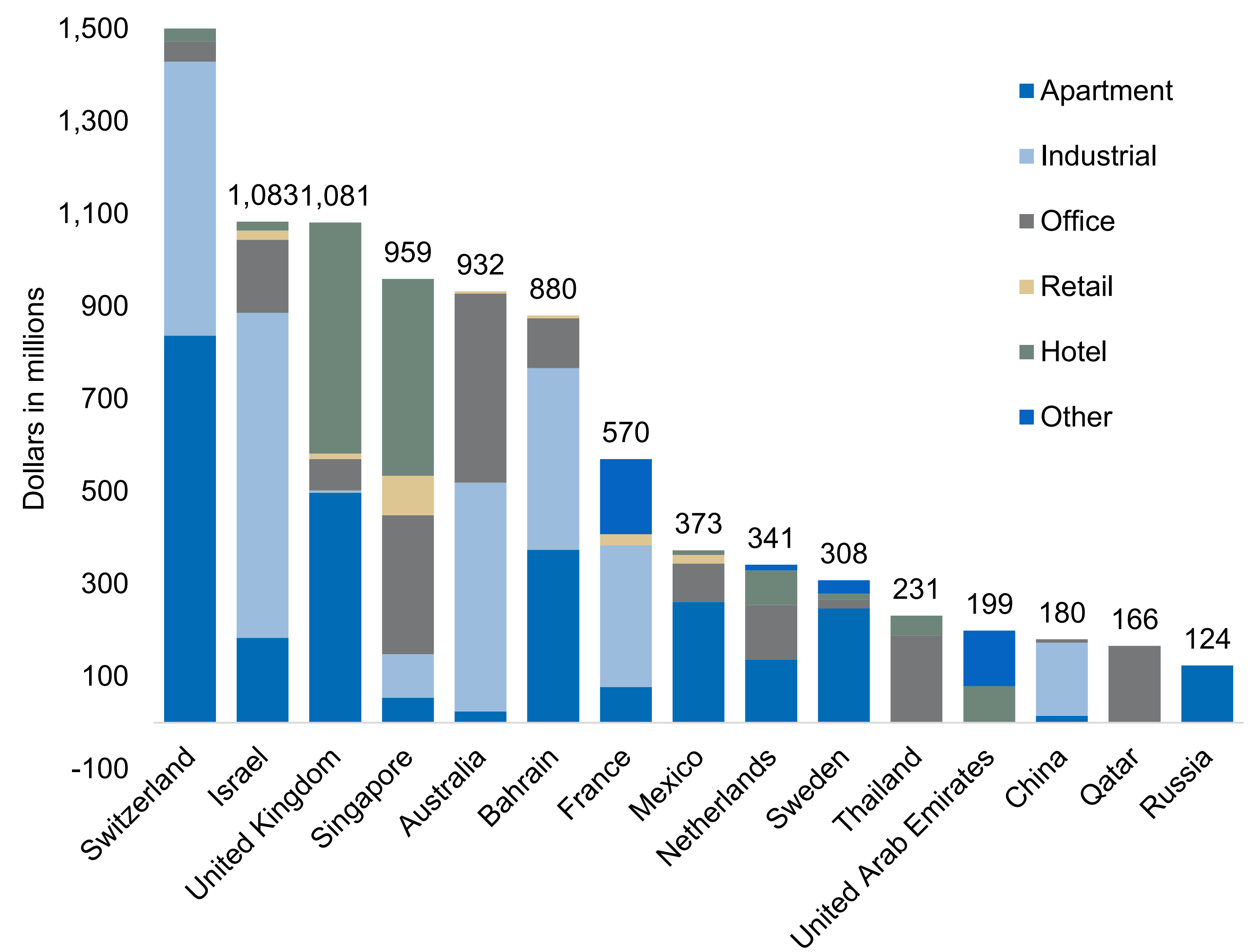
Source: Newmark Research, Real Capital Analytics

Sources of Inbound Capital

Top Five Sources of Inbound Capital: 2022



Next 15 Sources of Inbound Capital: 2022



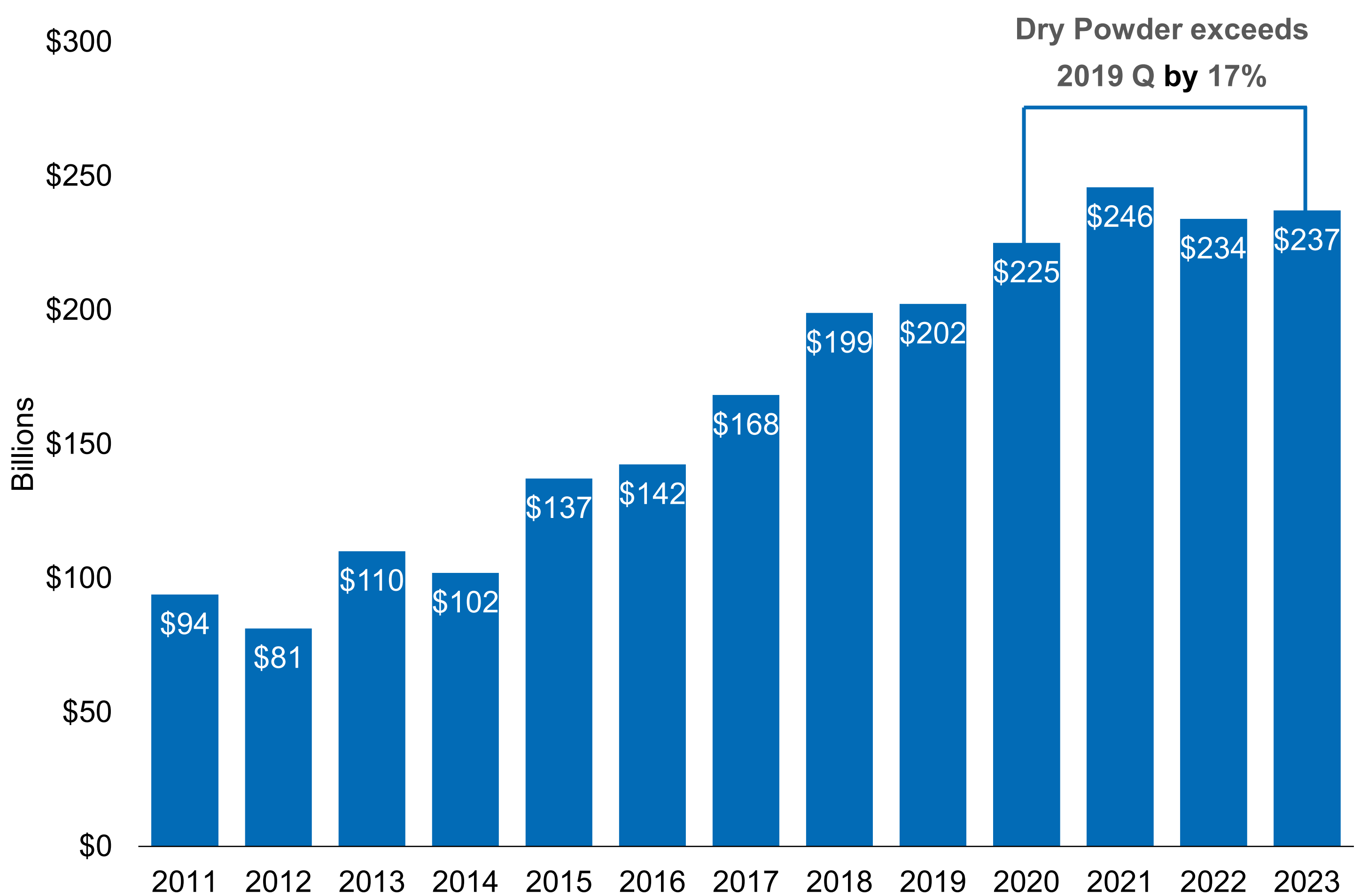
Source: RCA, Newmark Research

Supply of Capital

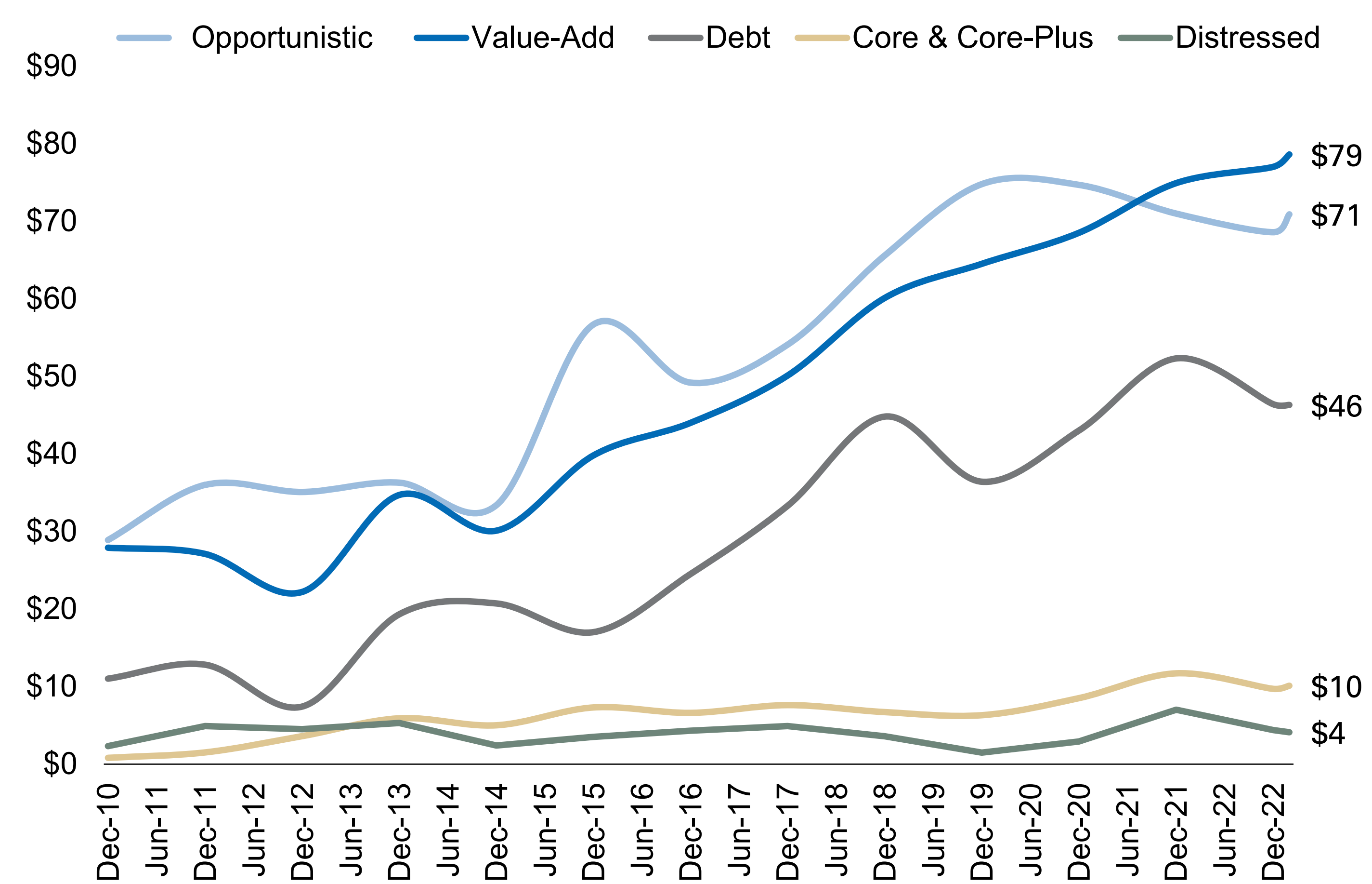
Private Equity Dry Powder Still Near Record Levels

Dry powder declined modestly in 2022 from its 2021 peak. Capital deployment and new fundraising were strong in the first half of the year but decelerated in the second half. Even so, the overall picture is one of tremendous investment potential. This is particularly true for value-add strategies which have accumulated new records of committed capital. Meanwhile, dry powder at opportunistic and debt funds have pulled back at least partially due to decreased risk appetite (opportunistic) and a more challenging financing environment (debt funds).

Dry Powder – Closed-End Funds



Dry Powder by Strategy*

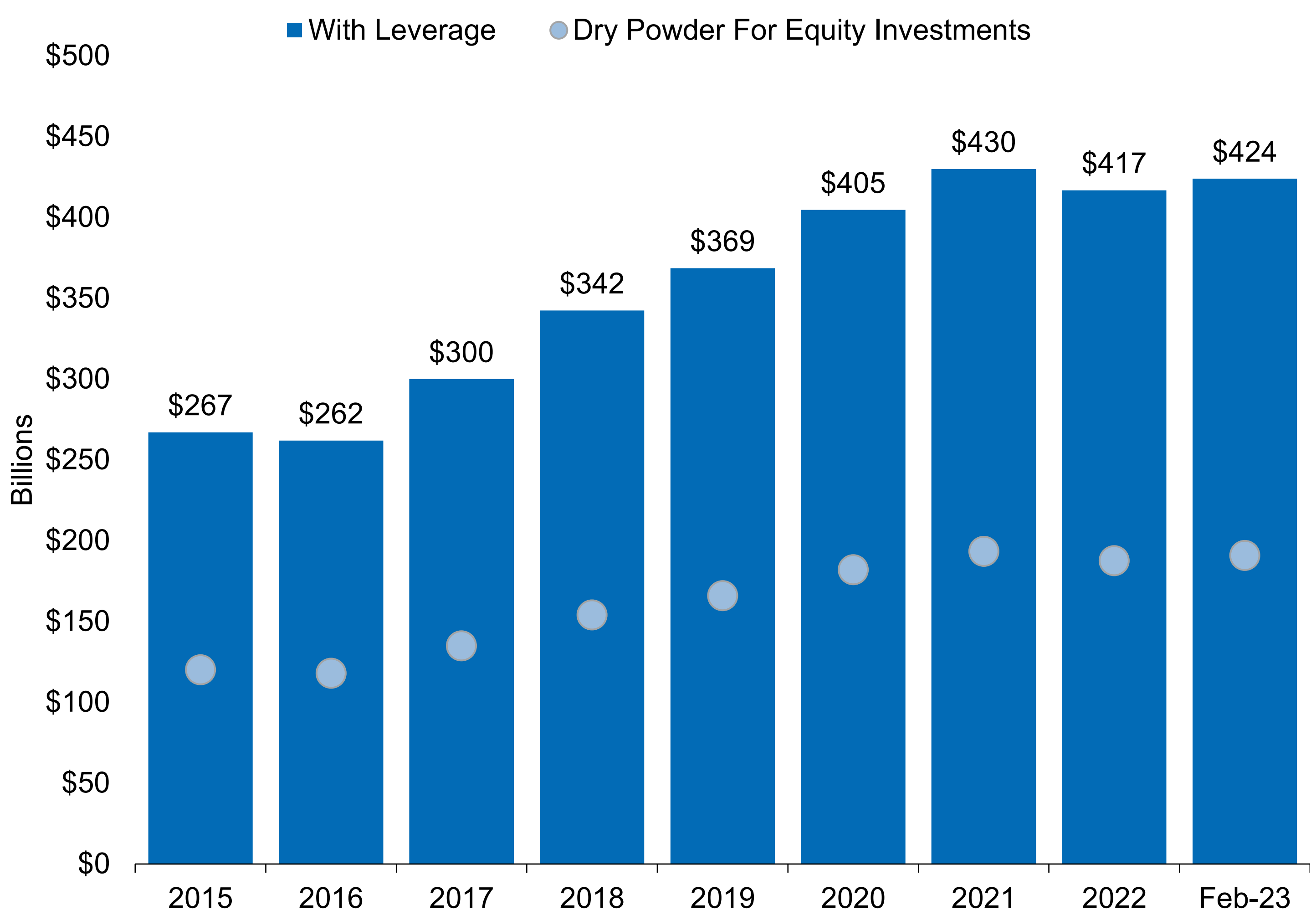


Source: Newmark Research, Preqin
*Not shown: Fund of funds, co-investments, and secondaries strategies

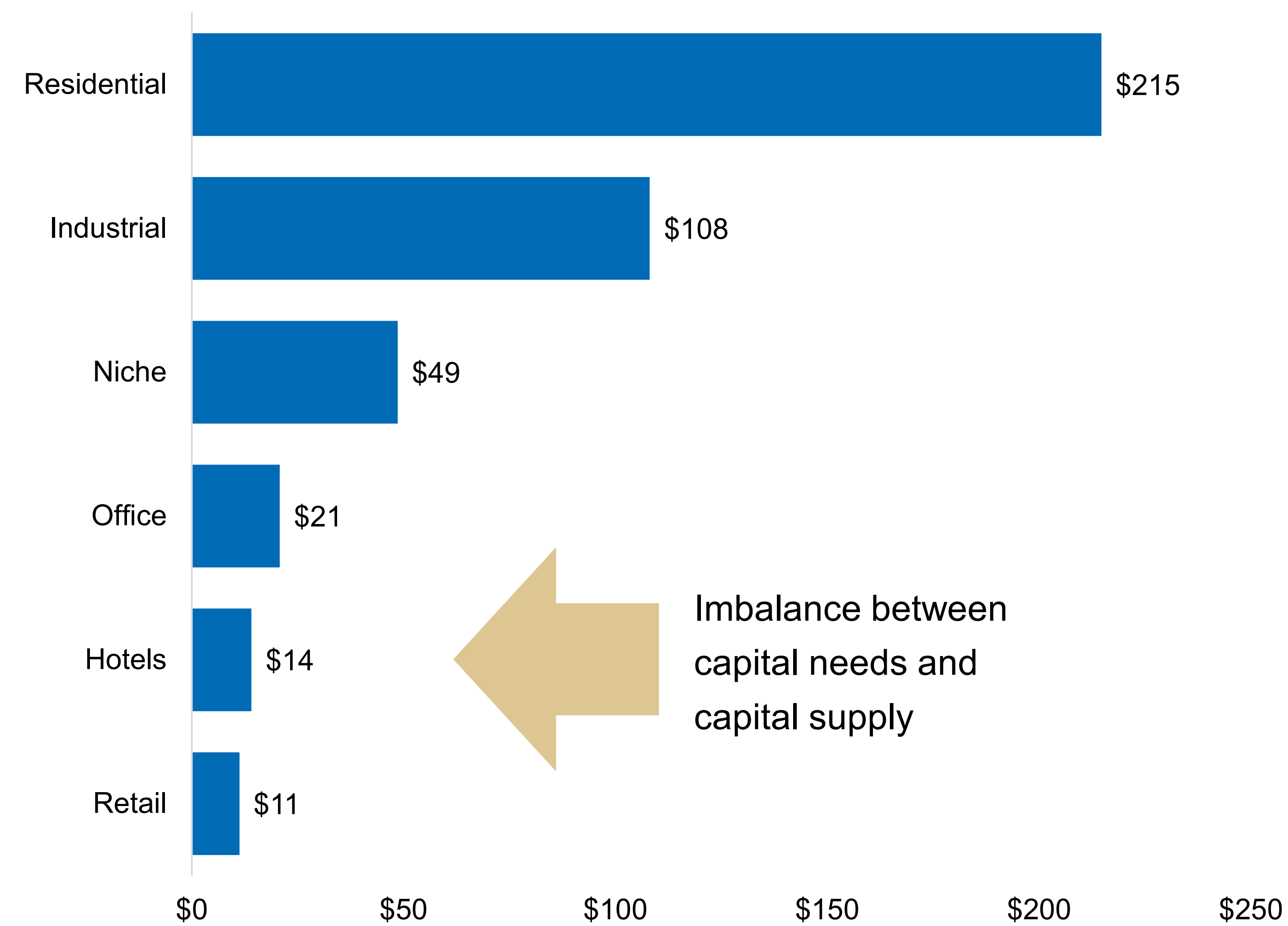
Dry Powder Heavily Biased Towards Multifamily, Industrial Investment

The $191 billion in dry powder raised for equity investments, not including dry powder raised for debt strategies, equates to a leveraged purchasing power of $424 billion, using a 55% 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.

Dry Powder at 55% Leverage



Leveraged Dry Powder By Property Type*

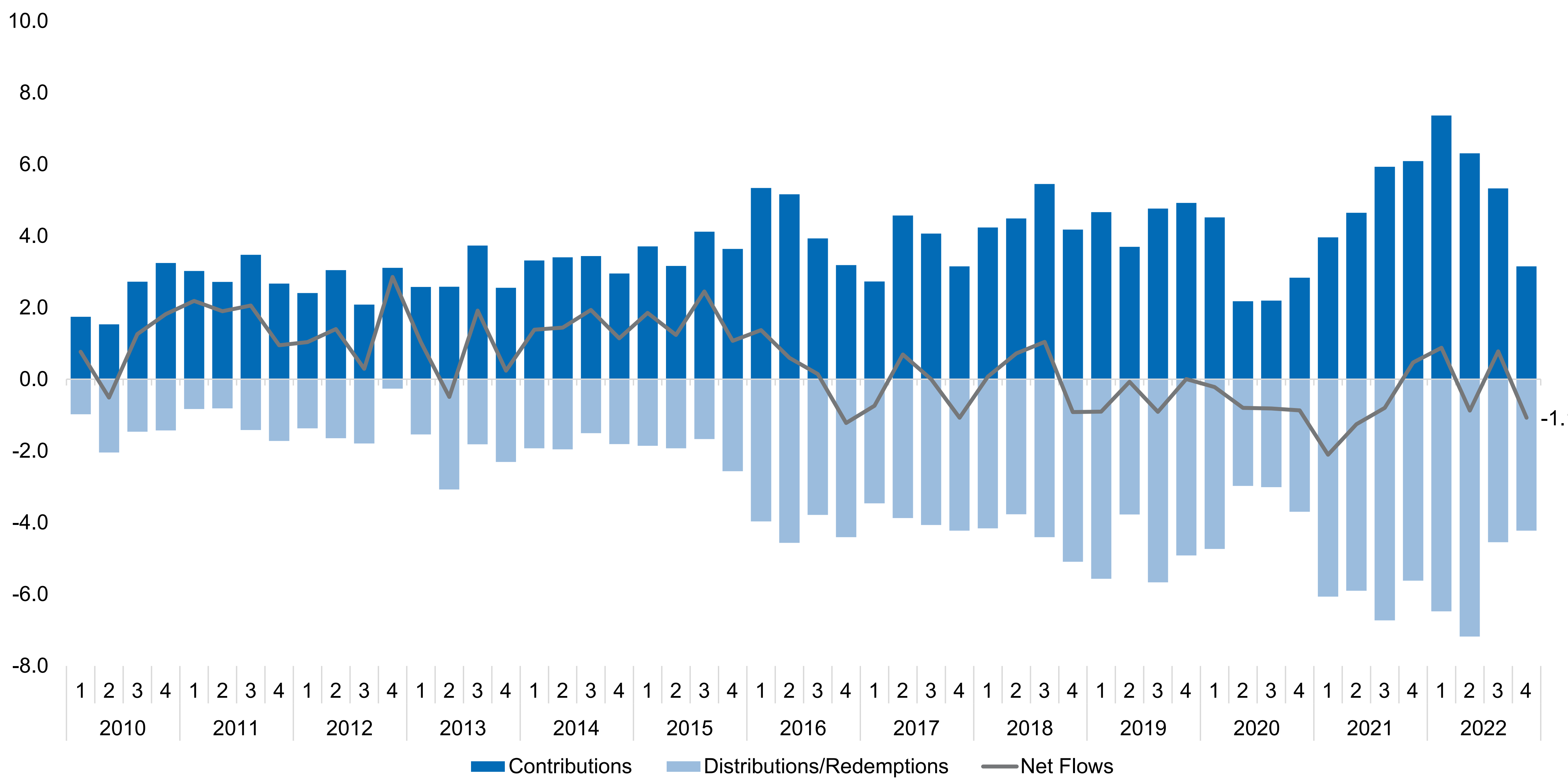


Source: Newmark Research, Real Capital Analytics, Preqin
*We looked at the percent called by vintage year and applied this to the total amount fundraised in each year to calculate the amount of uncalled capital (i.e. dry powder), broken out by main property type. Roughly half the dry powder was at diversified 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 55% leverage would be used.

ODCE Fund Flows Slowed Sharply in 4Q22

Contributions to ODCE funds continued to slow in the fourth quarter of 2022, down 41% quarter-over-quarter. Distributions also moderated reflecting the broader decline in sales. Anecdotally, most funds now face redemption queues which will weigh on cash flows over the course of the year. On the plus side, recent positive performance in the equity and fixed income markets means less denominator pressure on the margin. Perhaps the larger problem is that—as with the non-traded REITs—ODCE fund assets are marked at significant premia to public markets, making them attractive targets for portfolio rebalancing.

ODCE Fund Flows ($B)

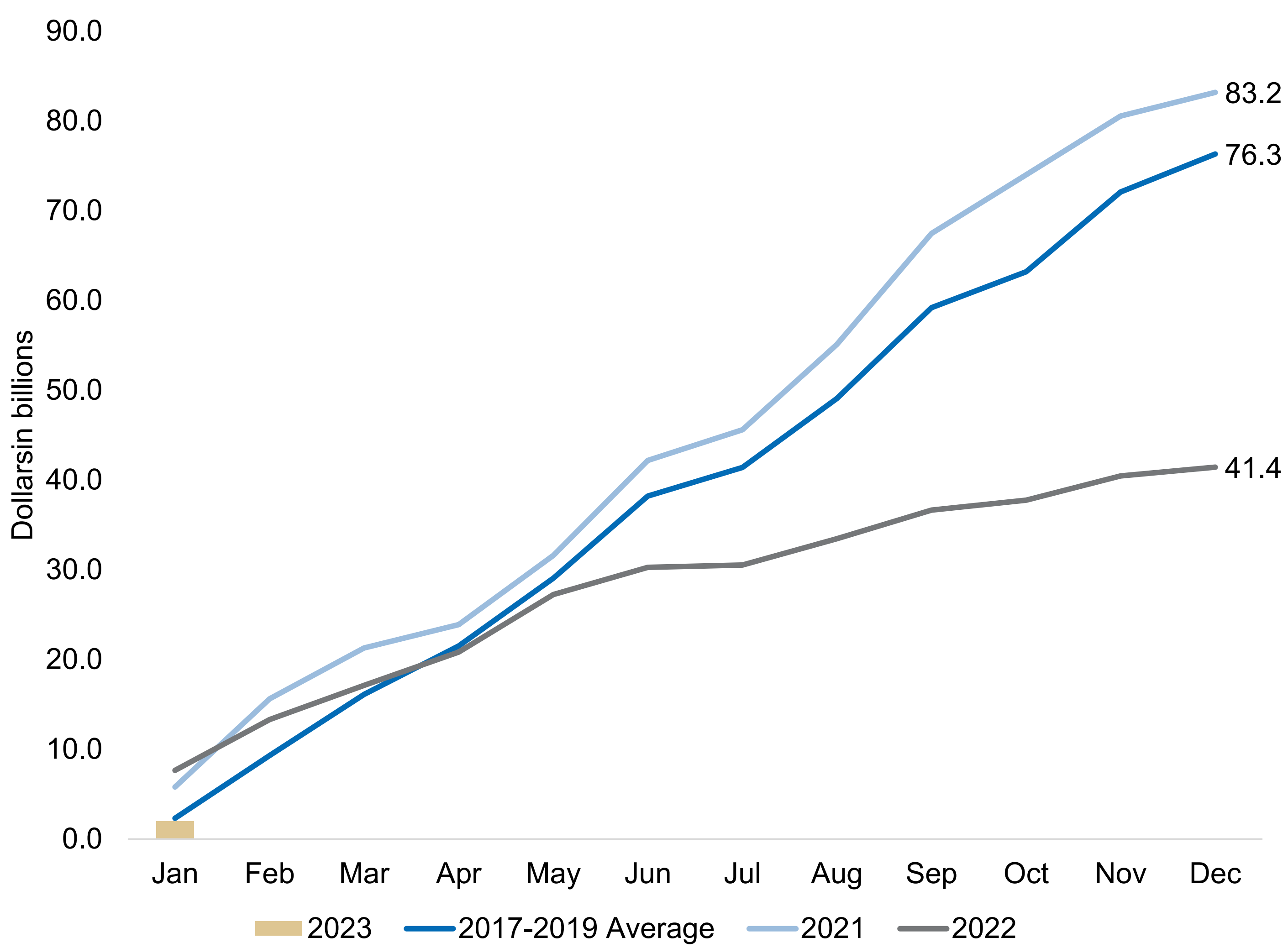


Source: Newmark Research, NCREIF

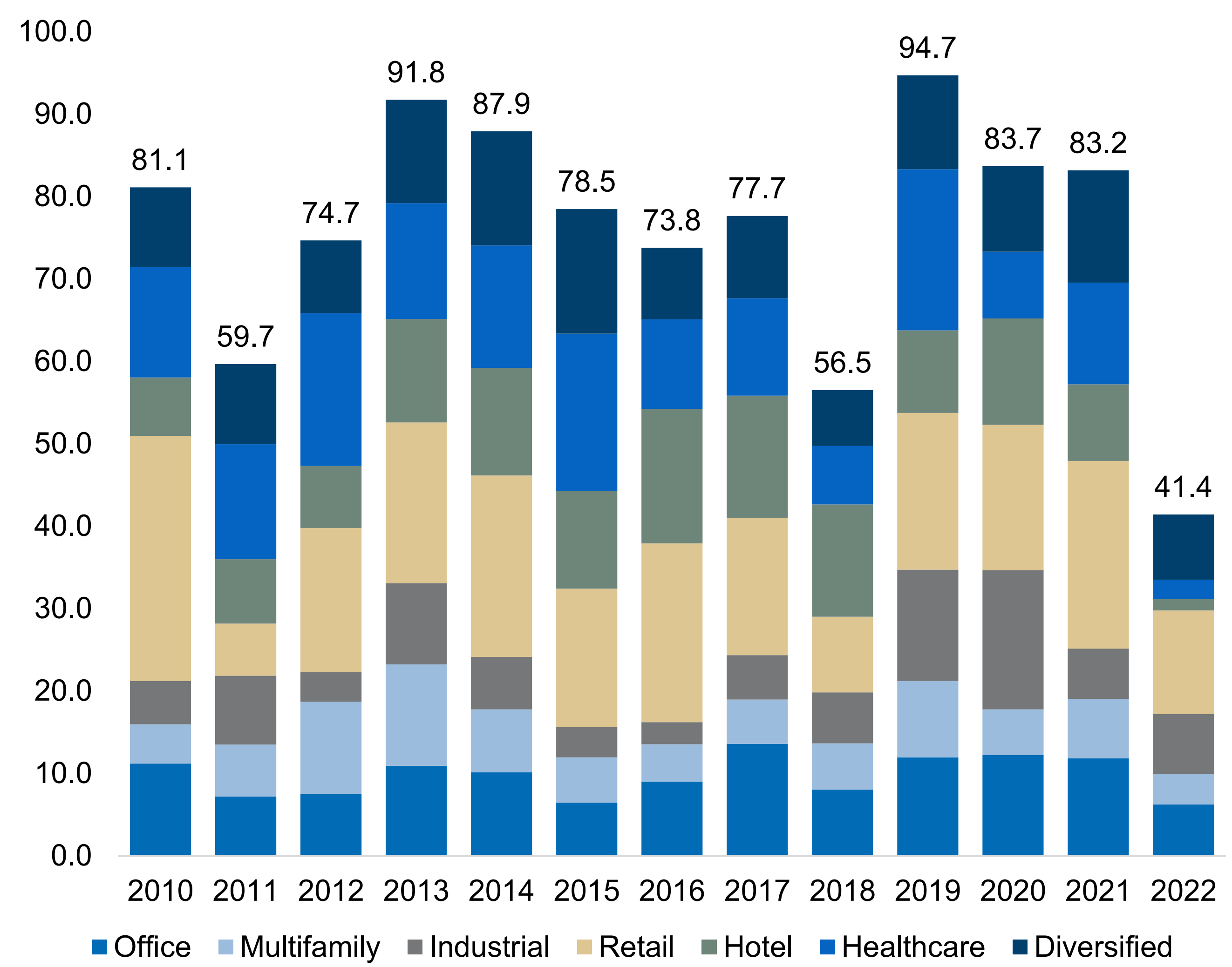
Public Markets Sending Signal That New Fundraising is Slowing

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

Real Estate Security Offerings



Real Estate Security Offerings

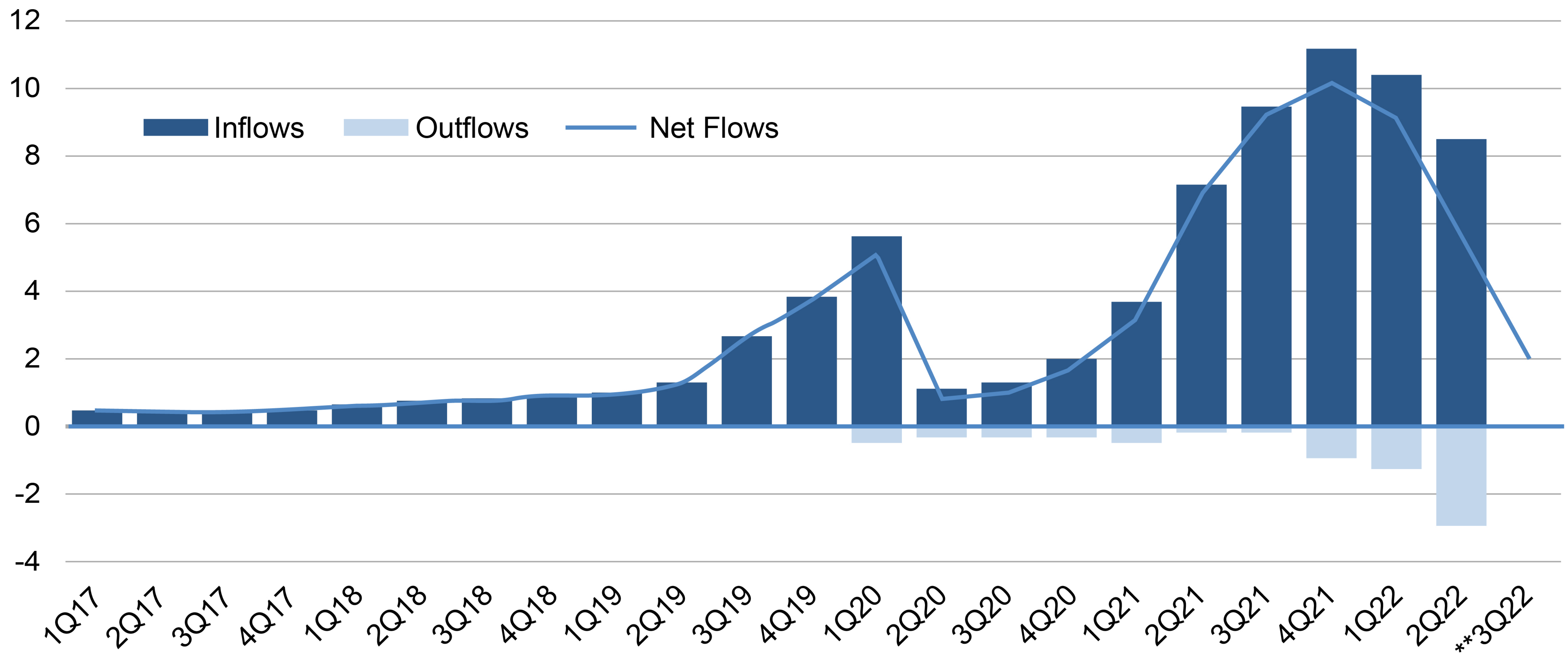


Source: S&P Capital IQ, Newmark Research as of 2/2/2023
Excludes offerings with no listed property type target.

Net Capital Flows into Nontraded REITs Slowing Sharply

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

Non-Traded REIT* Net Flows ($B)



Sources: Newmark Research, Green Street

Redemption Queues Will Weigh on Cash Flows for Some Time

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

Non-Traded REIT* Net Flows ($B)

Blackstone's $69 Billion Real Estate Fund Hit Monthly Redemption Limit in January

- BREIT fulfilled withdrawal requests for 2% of net asset value
- Gray has warned that firm is working through request backlog

Starwood REIT Joins Blackstone REIT in Limiting Redemptions

December 6, 2022

Investors Line Up to Make $20B in Core Property Fund Withdrawals

KKR blocks REIT withdrawals in latest redemption wave

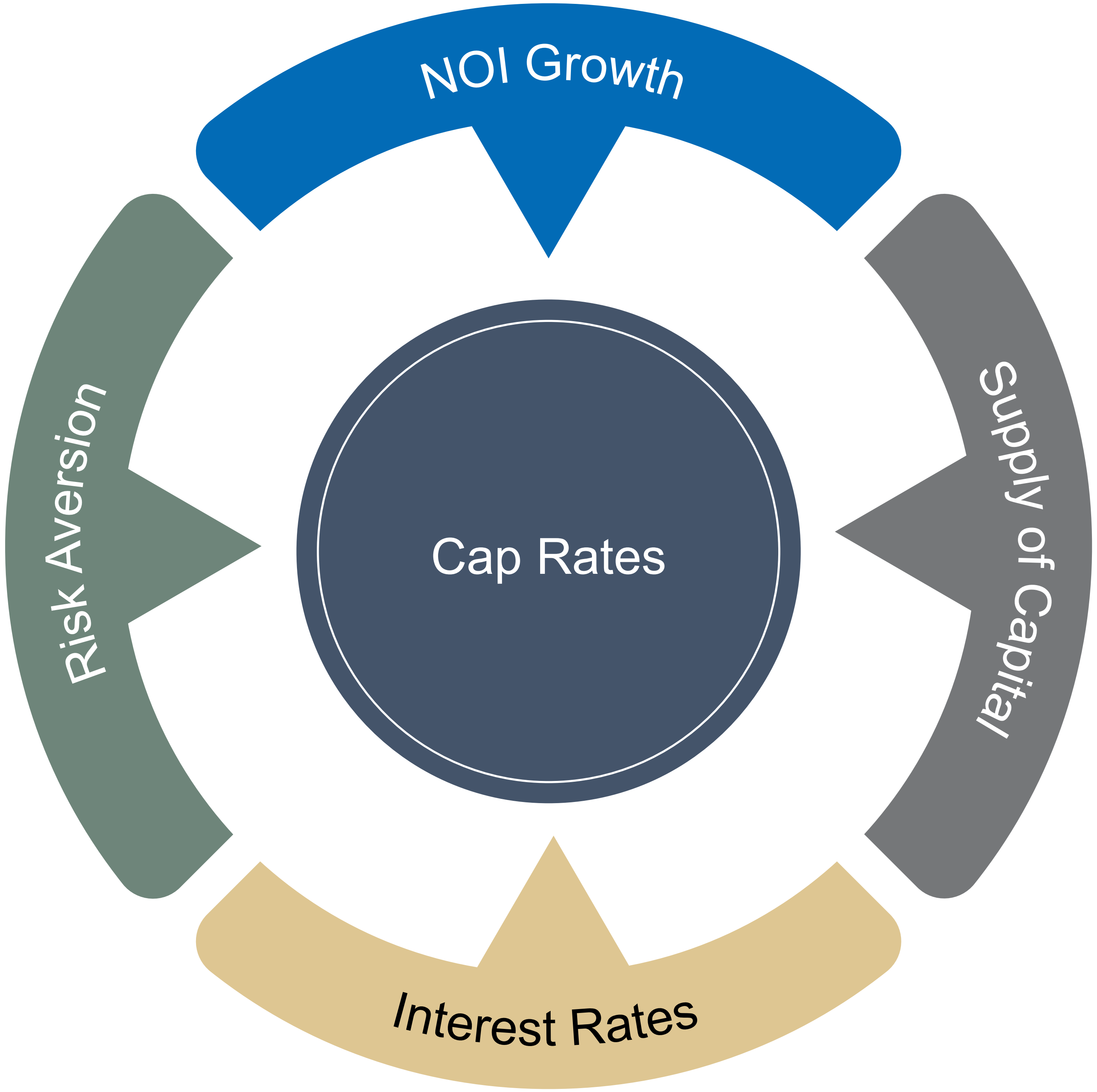
Sources: Newmark Research, Green Street

4Q22 CAPITAL MARKETS REPORT

Pricing and Returns

What Factors Determine Cap Rates

Forces Aligning to Drive Asset Repricing



Interest 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.

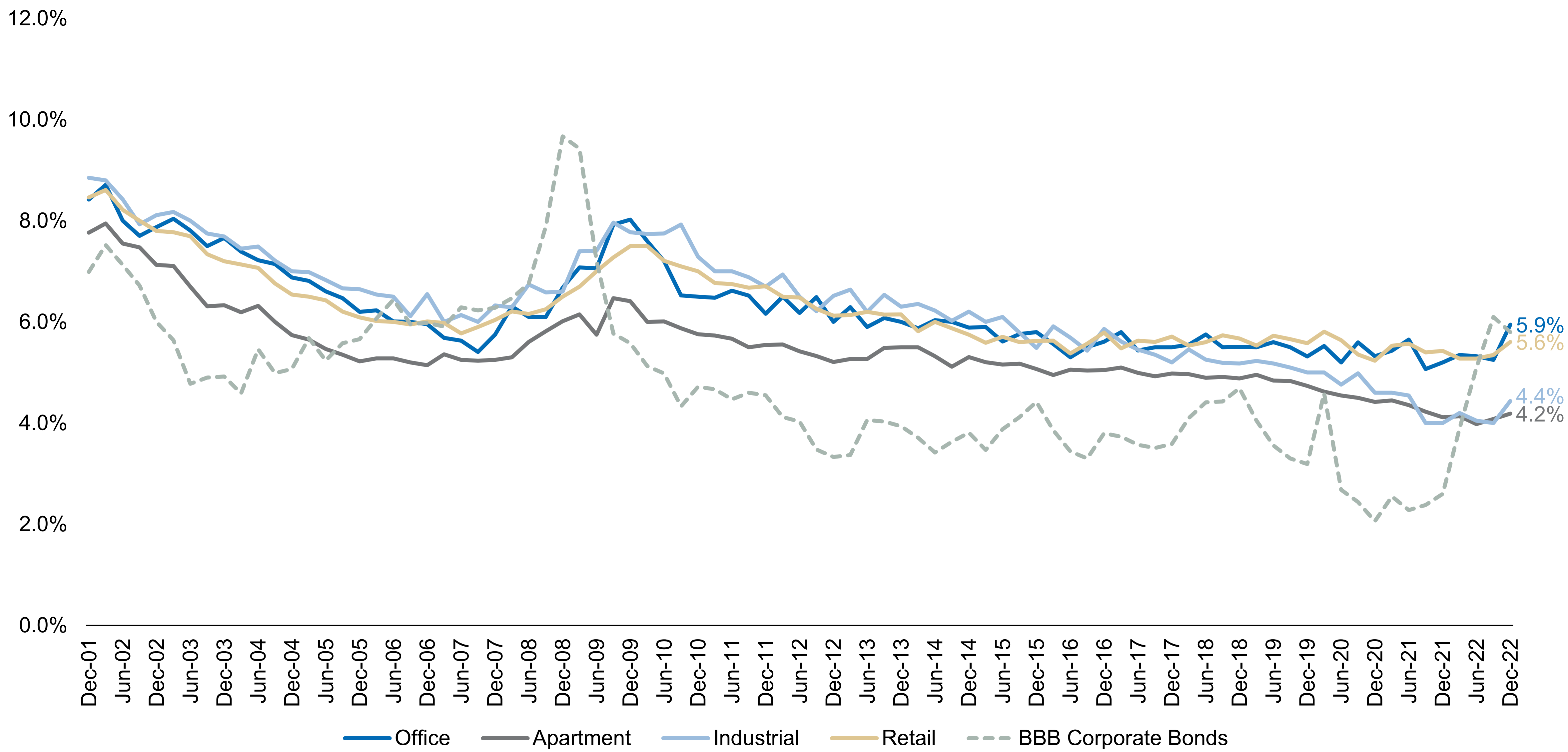
Anticipated NOI growth over the next one to two years can provide an argument for accepting lower in-place yields, but across property types, NOI forecasts are lower today than at the end of 2021 and more uncertain.

There remains significant dry powder, particularly in the closed-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 (finally) inflected upwards in the fourth quarter of 2022. The movement was most noticeable for office and retail properties, though industrial and multifamily cap rates also increased quarter-over-quarter. Though the cost of debt has declined in recent weeks, it continues to place significant upward pressure on cap rates across sectors. Transaction cap rates can be misleading in a low liquidity environment, such as the one that prevailed in the fourth quarter of 2022 and is extending into early 2023. Expect cap rates to continue to trend upwards over the course of 2023.

Top Quartile Transaction Cap Rate*

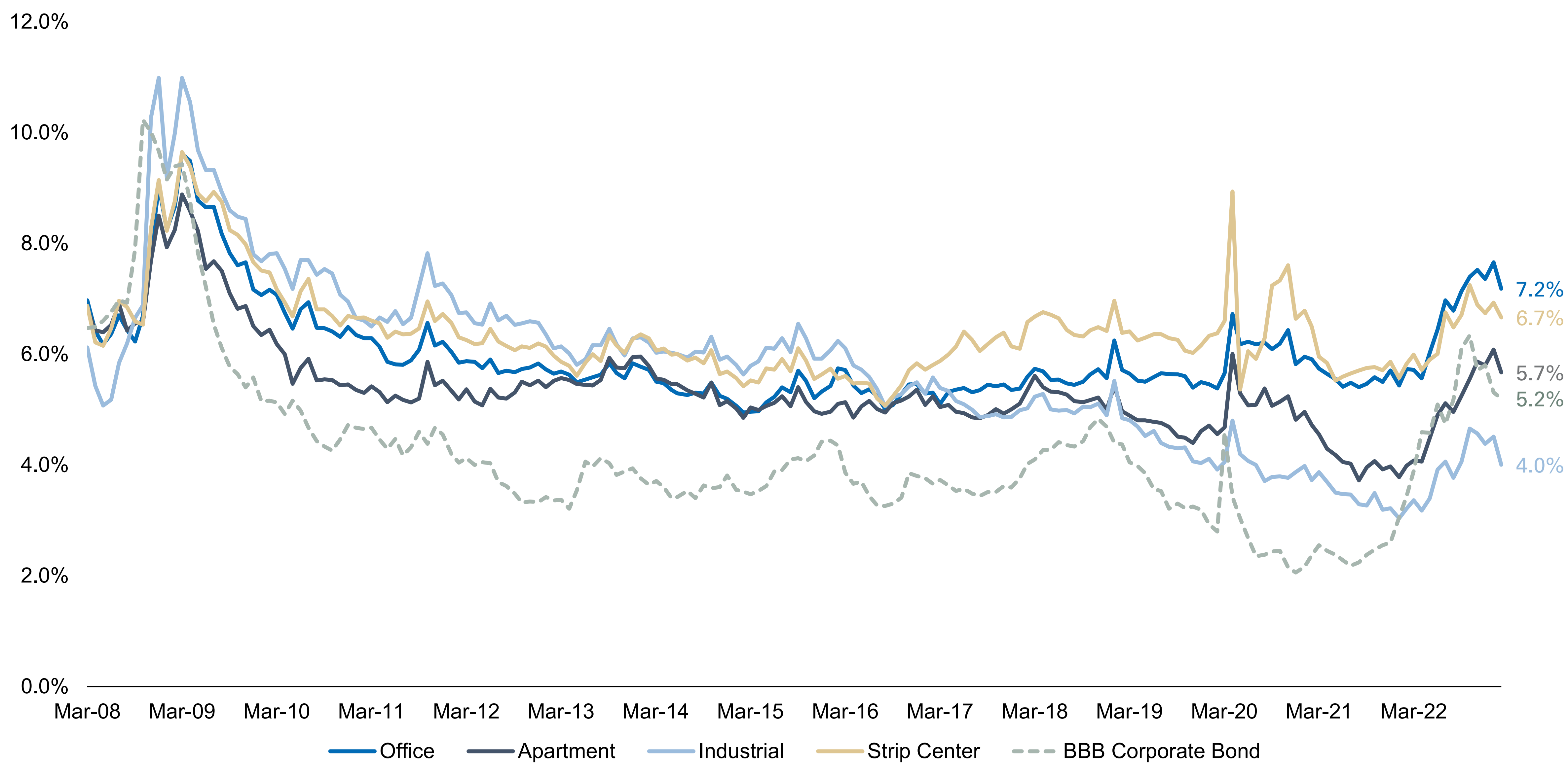


Source: Real Capital Analytics, Federal Reserve Bank of St. Louis, Moody's
*Quarterly

Public Markets Presage Further Adjustment in Private Markets

Public markets have moved more quickly to reflect changing valuations. Corporate bond yields led the movement, suggesting that value adjustments have mostly been due to general financial conditions rather than any specific deterioration in property fundamentals. Bond yields have declined recently; this has translated—along with a broader rally in equities—into lower REIT implied cap rates. Further significant declines in debt costs would be necessary for further declines. This seems unlikely. It is also notable that at current debt costs, spreads across property types are extremely narrow relative to history or even negative. Either bond yields need to come down sharply or cap rates will rise further.

REIT Implied Nominal Cap Rate

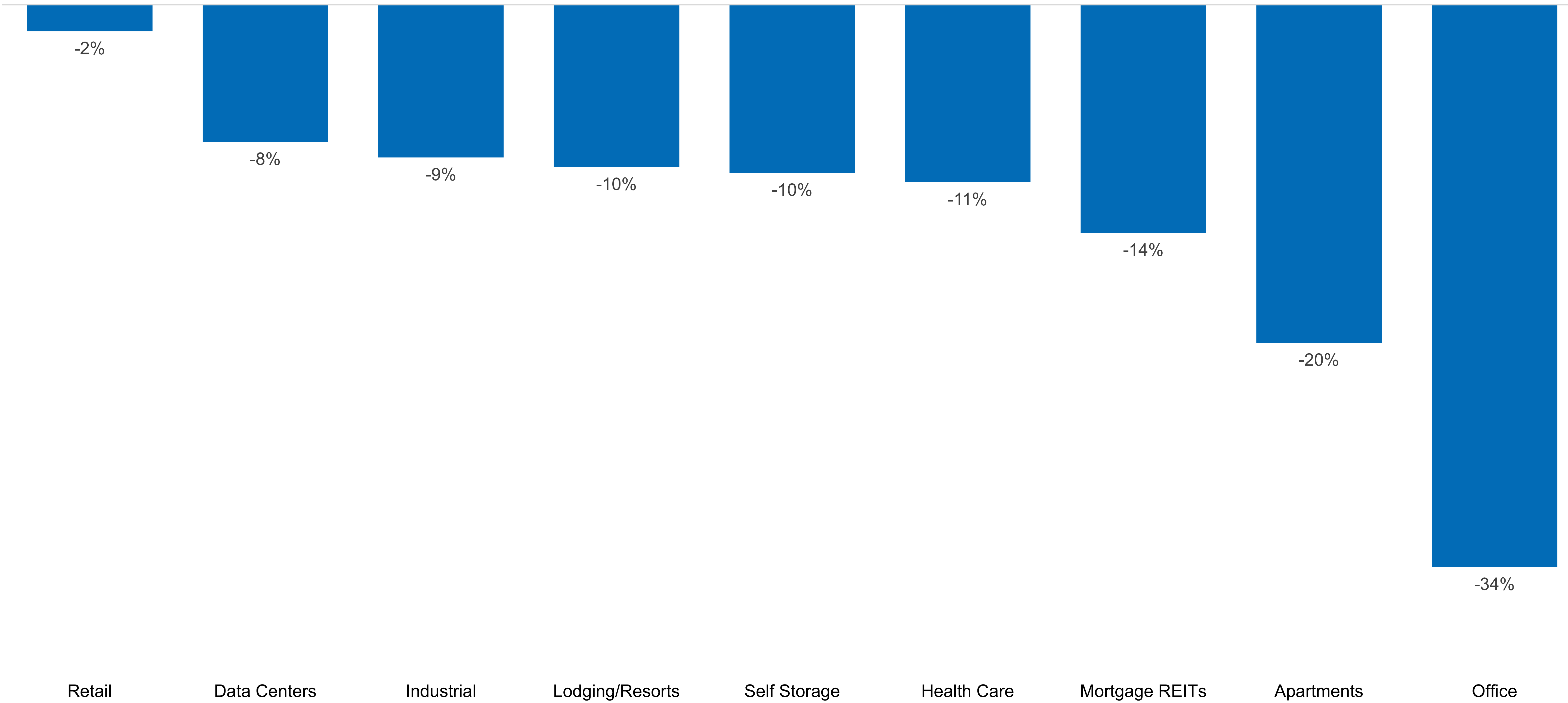


Source: Green Street, FRED, Moody's, Newmark Research as of 2/2/2023

REIT Valuations Have Broadly Declined in The Last 12 Months

Office and apartment REITs have been most impacted while hospitality, retail and industrial have proved more resilient.

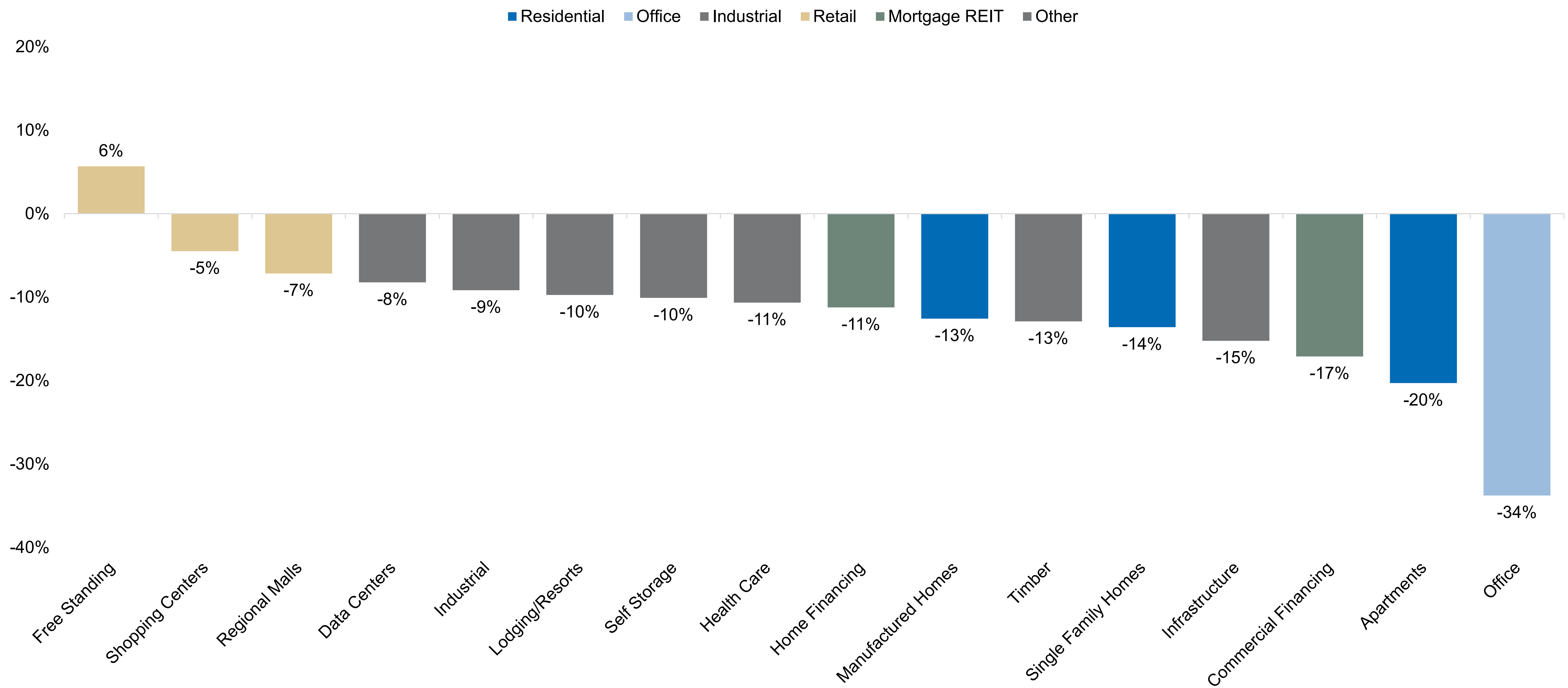
LTM Total Return by NAREIT Sector



Sources: Newmark Research, NAREIT as of 2/24/2023

Office and Residential Most Impacted; Hotel, Retail Least

LTM Total Return by NAREIT Sector

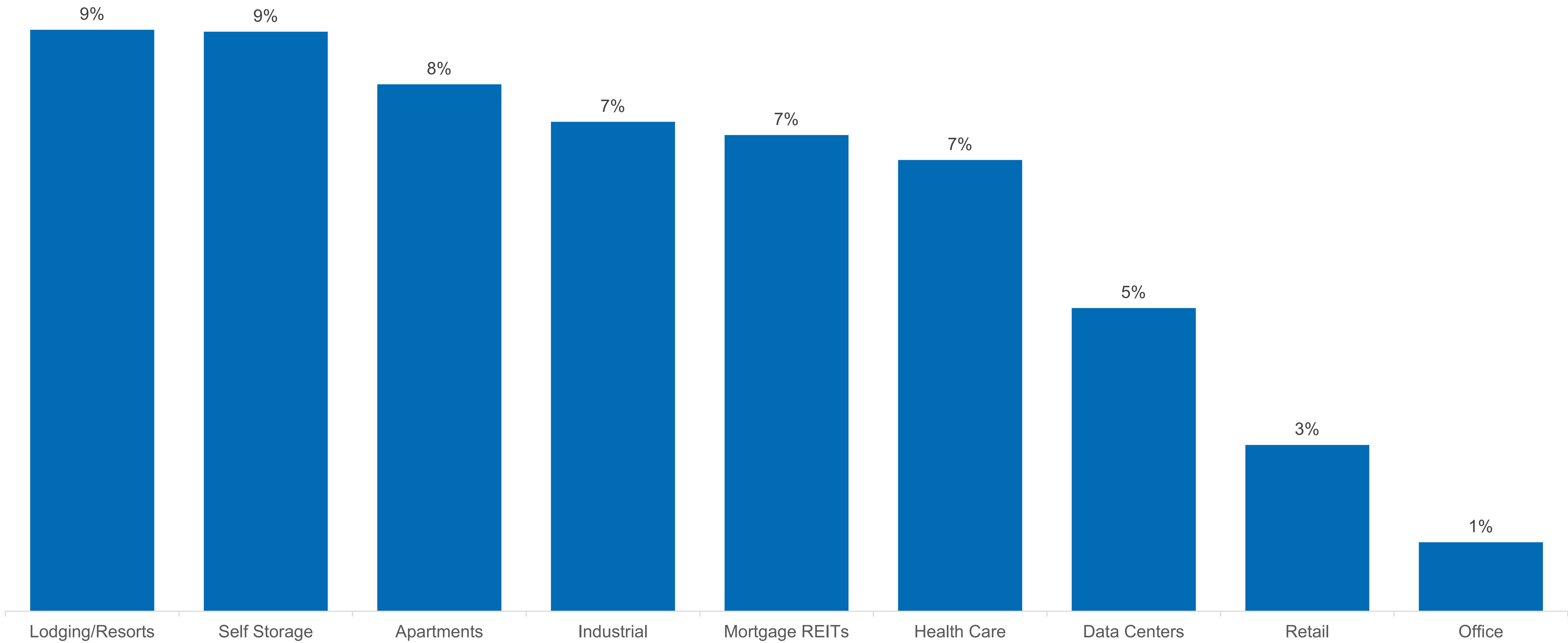


Sources: Newmark Research, NAREIT as of 2/24/2023

REITs Have Rallied Strongly So Far in 2023

Hospitality has outperformed amid strong fundamentals and inflation protection followed by self-storage. Apartment and mortgage REITs benefited from falling rates and spreads from late-November 2022 until early February 2023. Industrial has also benefited from these factors in addition to strong operating performance.

YTD Total Return by NAREIT Sector

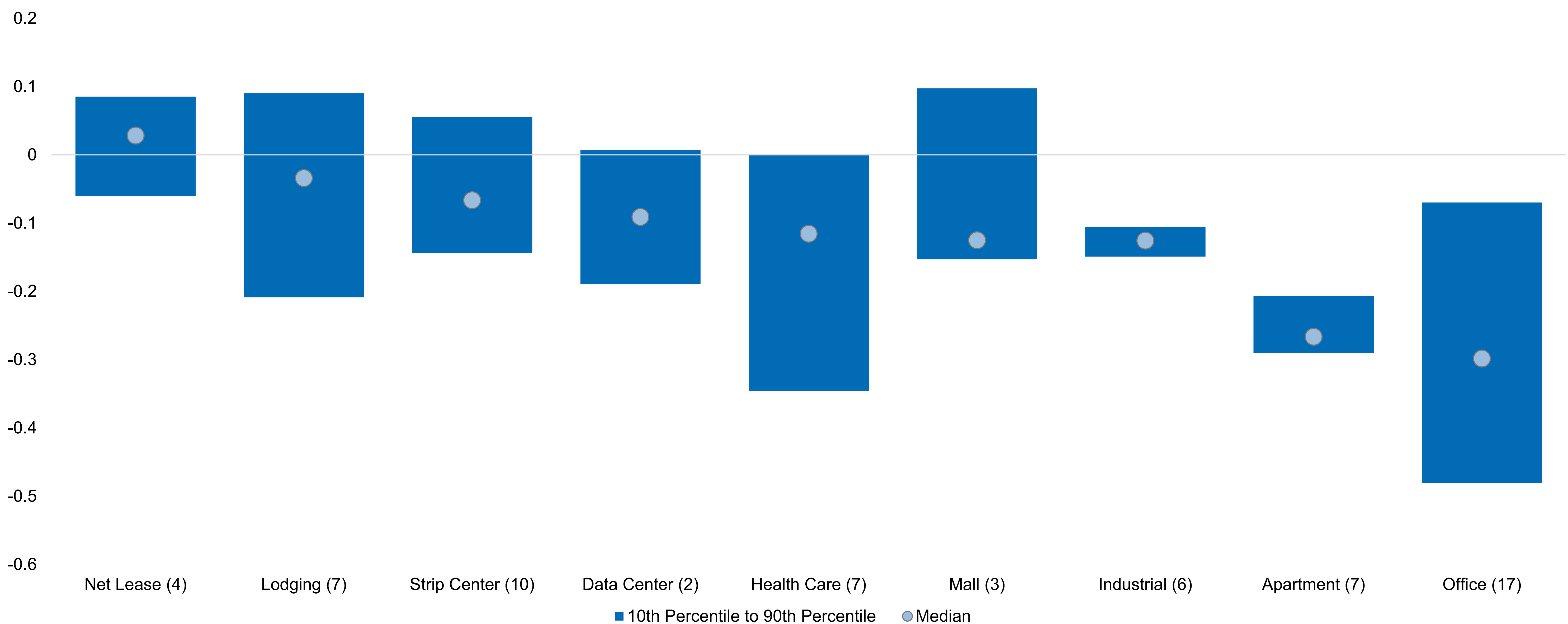


Sources: Newmark Research, NAREIT as of 2/24/2023

Significant Variance across Individual REITs

Amid the broader sell-off (and recent rally) in REIT stocks, there has been considerable variation within the various sectors. Lodging, health care and office REITs have exhibited the widest ranges in returns while industrial and apartment REITs have been more tightly clustered, suggesting that their movements have been largely determined by market factors – like interest rates—as compared to security-specific risks.

LTM REIT Price Return Dispersion

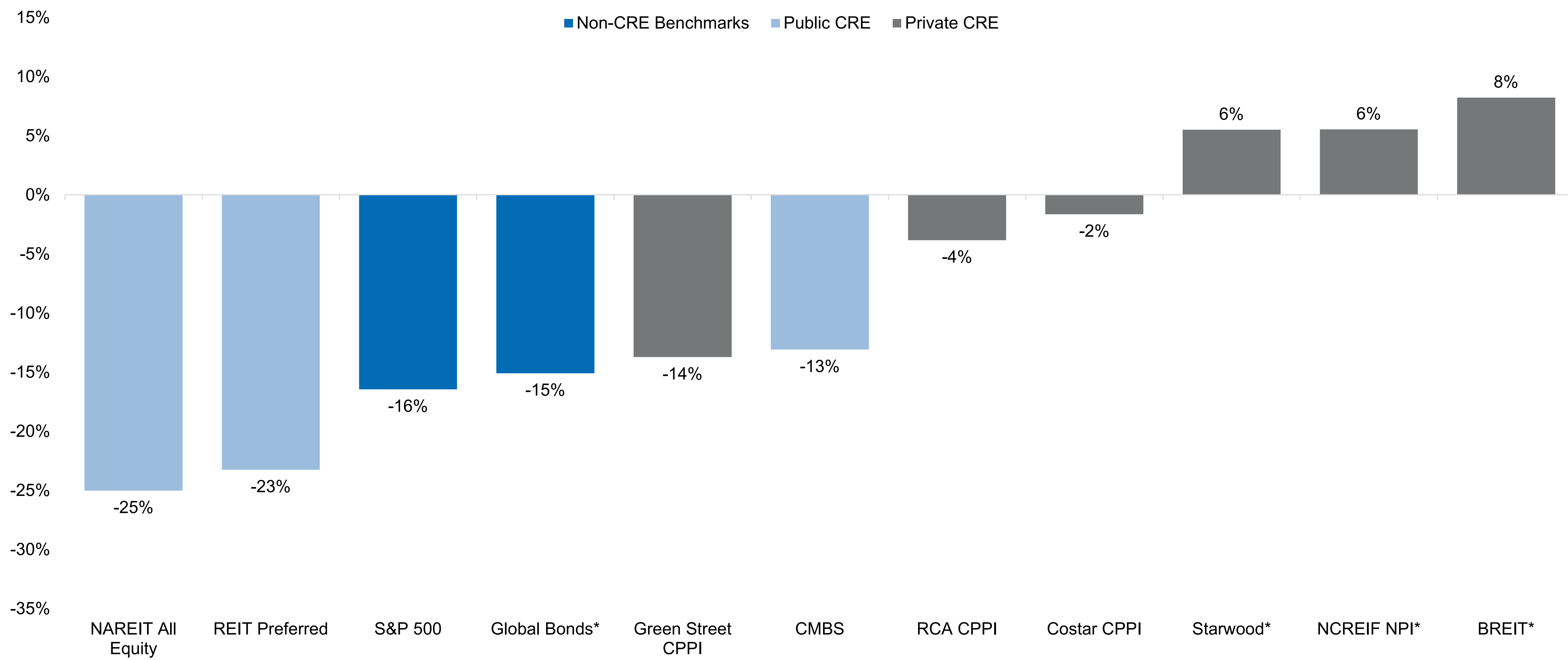


Source: Green Street, Newmark Research as of 2/2/2023
*Represents the range from the 10th to 90th percentiles of REIT stock returns Numbers in parentheses refers to the number of underlying REIT stocks.

Private and Public Have Been Telling Very Different Stories

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

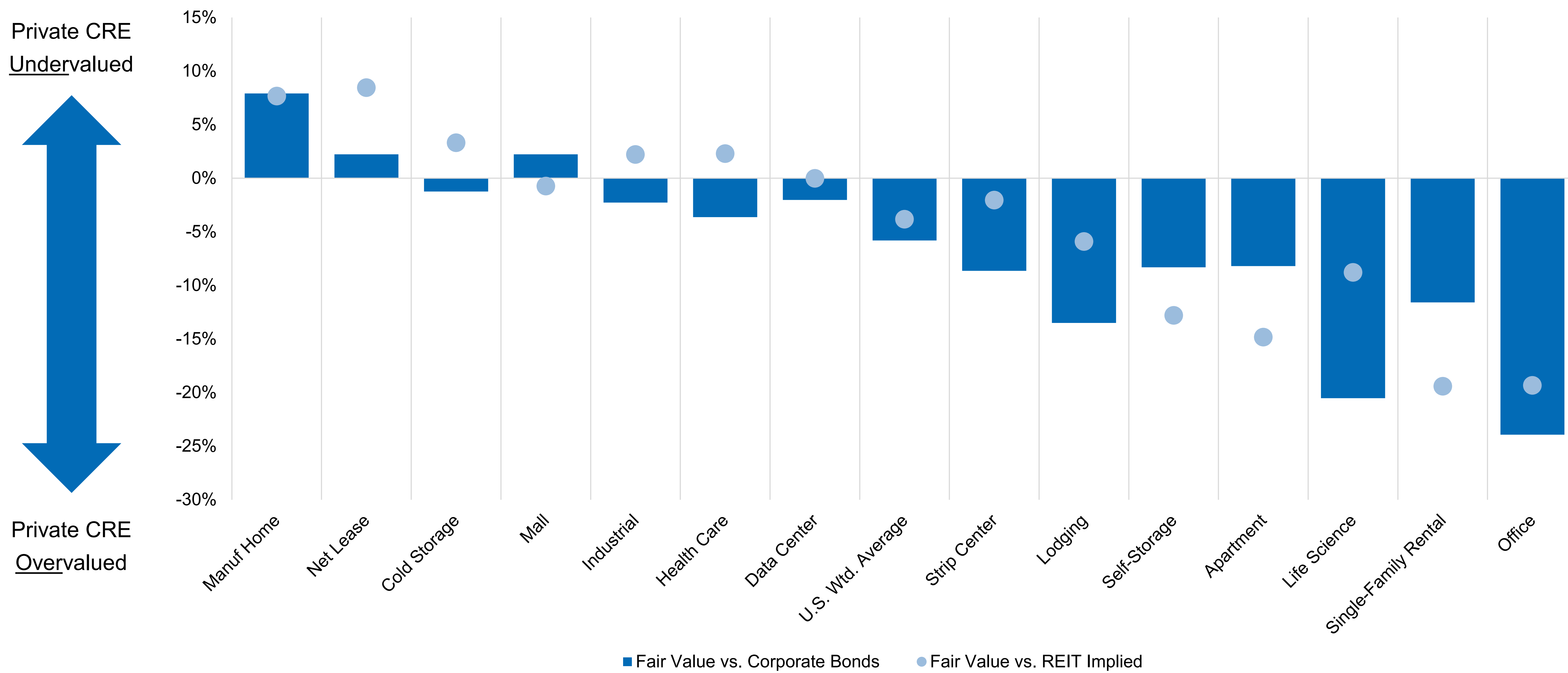
Cumulative Return Since December 2021



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

Private Real Estate Broadly Overvalued Relative to Investment Alternatives

Green Street Private CRE Fair Value vs. Corporate Bonds & Implied by REIT Pricing

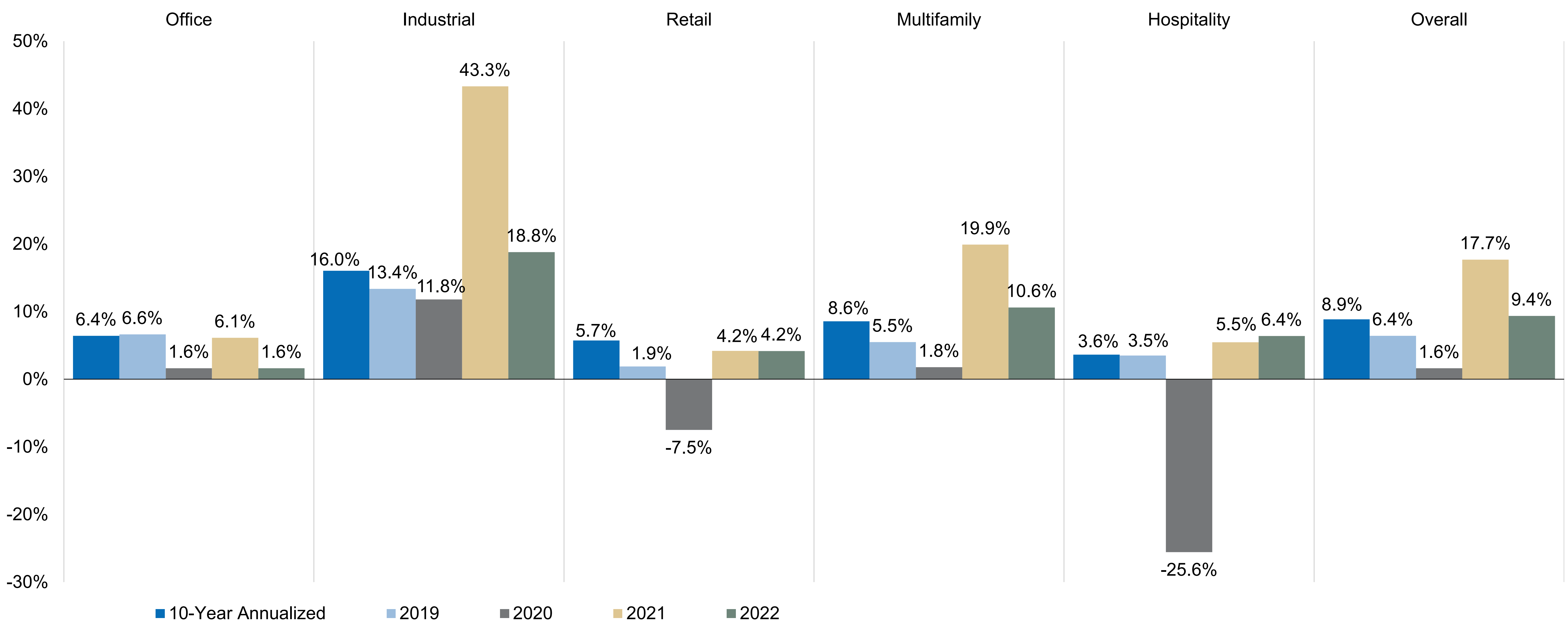


Source: Green Street, Newmark Research as of 2/25/2023

Private Markets Reported Above-average Returns on Institutional Assets in 2022

According to NCREIF, institutional core property returned 9.4% unlevered in 2022. This was down from 2021's 17.7% return but still above the 10-year average (8.9%). Multifamily and industrial continued to outperform. Office was the worst-performing sector, returning 1.6% as it did in 2020.

NCREIF National Property Index Total Return

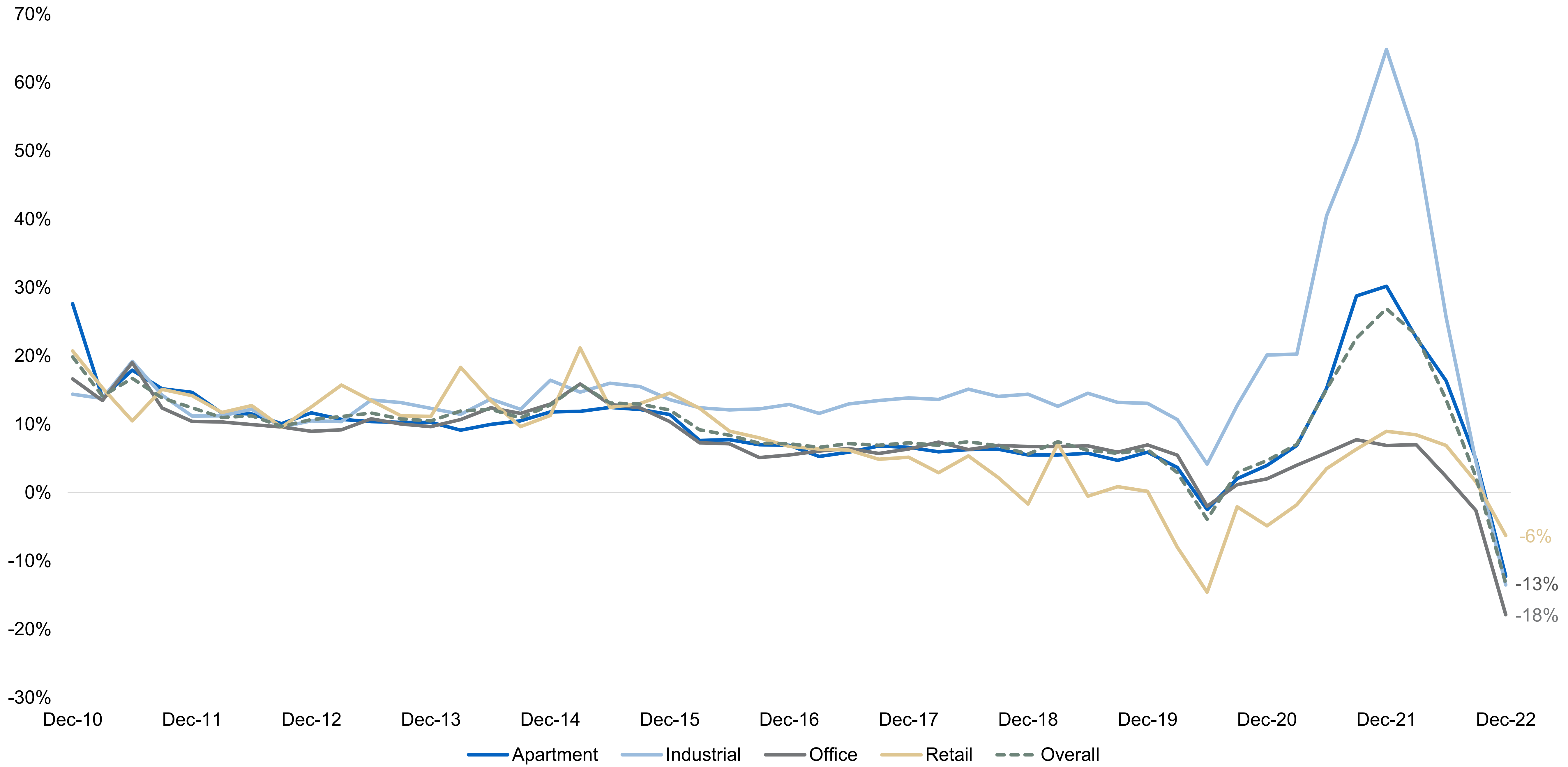


NCREIF National Property Index Total Return

However, Returns Turned Negative across Sectors in Q4

Industrial total returns were 26% annualized in the second quarter but down 13% annualized in the fourth quarter of 2022. Similarly, apartment total returns went from 16% to negative 12%. Office, meanwhile, returned negative 18% annualized in the fourth quarter of 2022. All these figures are on a total return basis—the capital losses were more severe.

NCREIF National Property Index Quarterly Annualized Total Return

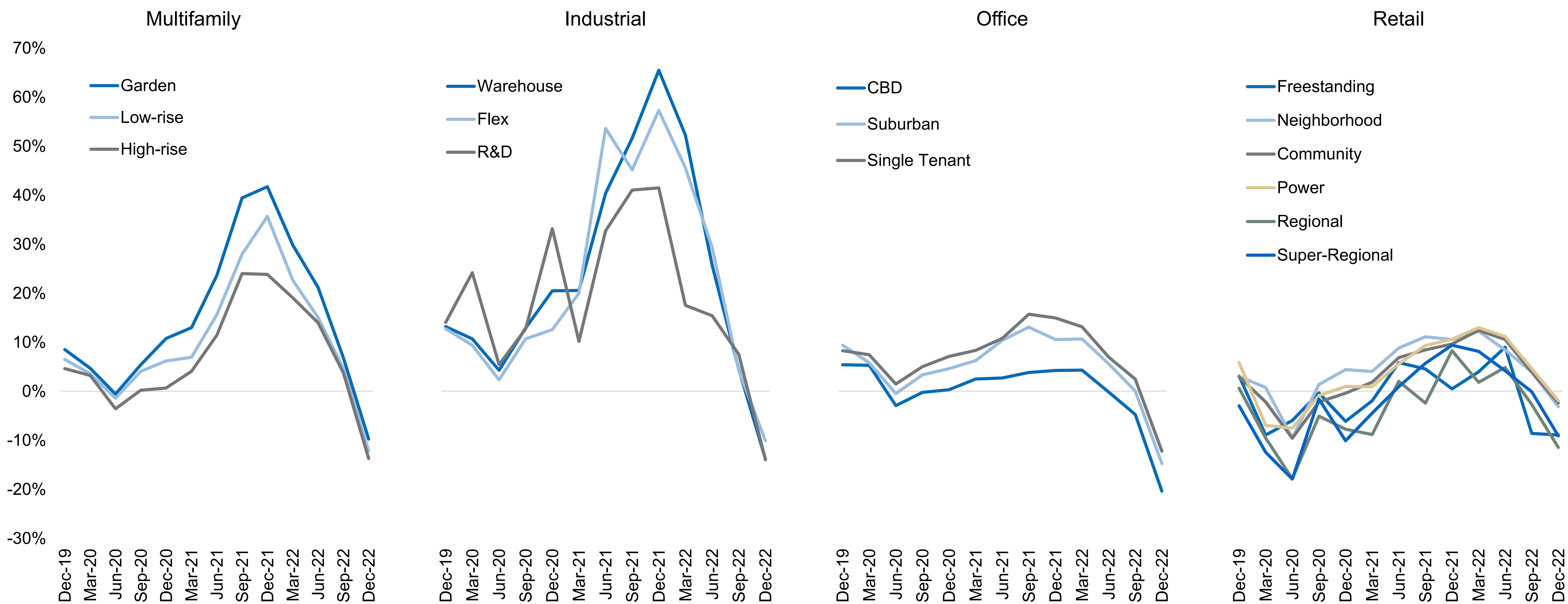


Source: NCREIF, Newmark Research

Returns Have Collapsed across Property Subtypes

Neighborhood and community centers were the best-performing properties in the fourth quarter of 2022.

NCREIF National Property Index Quarterly Total Return (Percent Annualized)

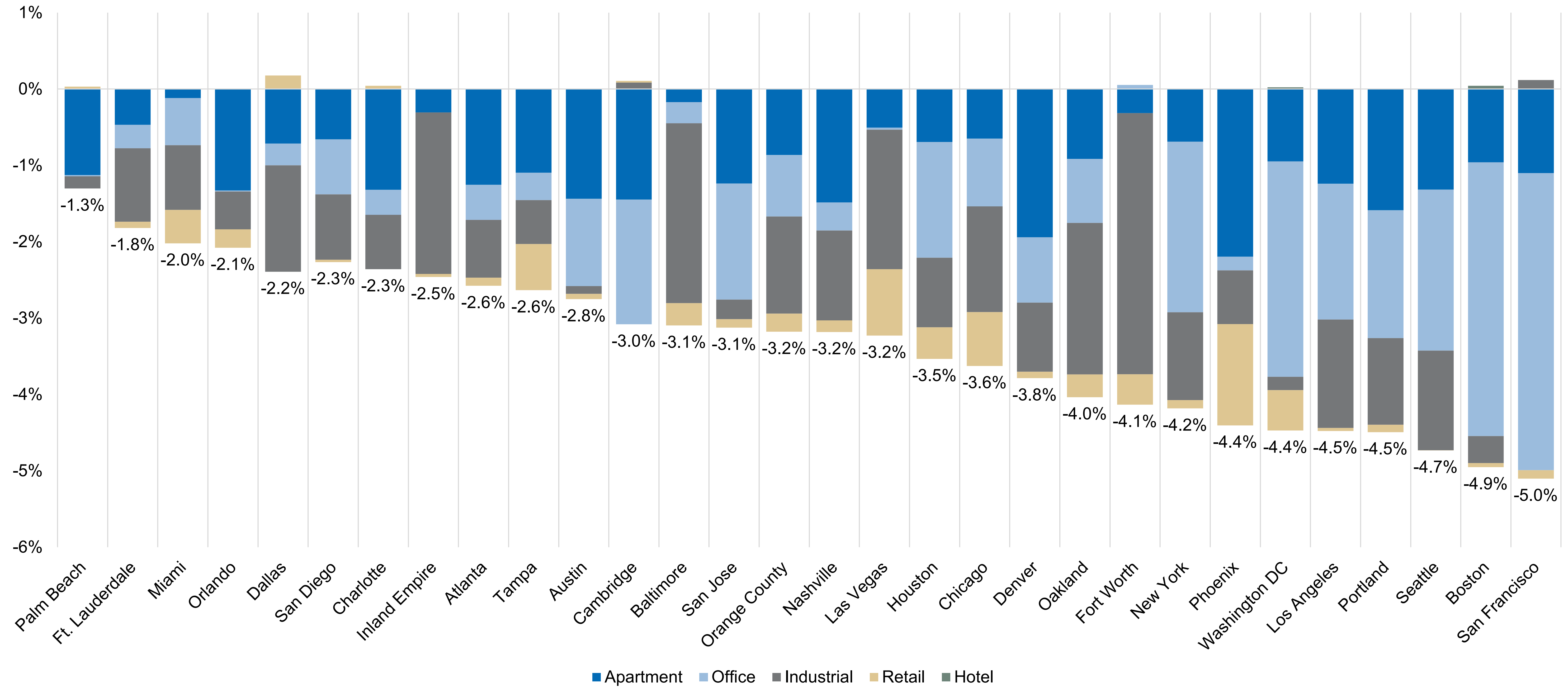


Source: NCREIF, Newmark Research

Negative Returns across Top 30 Markets, Sunbelt Markets Outperformed

Top 30 Markets by NCREIF Holdings

NCREIF Total Return Attribution by Property Type: 2022 Q4 (annualized)



Source: NCREIF, Newmark Research

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