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Principal Real Estate

Analyzing the wall of maturities: The plural of anecdotes is not data

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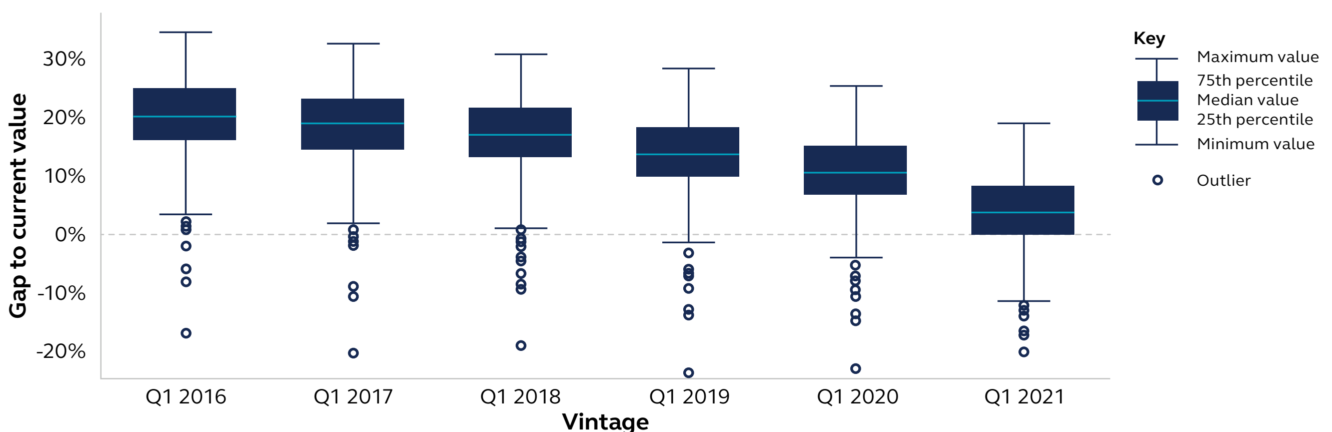
INTRODUCTION

The so-called “wall of maturities” is a perennial source of investor anxiety: will refinancing risk create a wave of defaults? Given nearly $900bn of loans maturing in 2026 and more than $2tn coming due over the next three years, that concern is understandable. However, the experience of recent maturities suggests outcomes have been far less dire than feared and offers a useful roadmap for what lies ahead.

Loans maturing in 2023 ($728bn), 2024 ($929bn), and 2025 ($957bn) did not lead to a collapse in commercial real estate (CRE) debt like many media headlines suggested (“U.S. Commercial Real Estate Is Headed Toward a Crisis” - Harvard Business Review; July 2024). While it is often assumed that lenders are merely “extending & pretending” loans through modifications - effectively kicking the can down the road - data from the CMBS conduit market tells a more nuanced story. A meaningful share of loans have paid off at or before maturity. Specifically, 73% of CMBS conduit loans originally scheduled to mature in 2025 paid off on time versus the 73% payoff rate for 2024 maturities and 81% observed in 2023. This is only slightly below the historical average payoff rate since 2012 of 78%.

Against this backdrop, we introduce a new framework to assess potential capital gaps and surpluses. For each property type, we construct a “box-and-whisker” analysis to visualize the distribution of potential outcomes across nearly 400 markets by quartile, highlighting dispersion, skewness, and outliers in a compact format. This analysis is intended as a theoretical, top-down tool to identify where risks may be concentrated, rather than a substitute for property or loan level underwriting, which is constrained by limited transparency across all lender types. Within any given market, individual asset outcomes may diverge, potentially meaningfully, from the representative result, and such differences should be evaluated separately in asset level decision making.

EXHIBIT 1: Apartments—market-level capital gap distribution by vintage



Source: RCA, CoStar, Principal Real Estate, Q1 2026.

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Our key conclusion is that a relatively small subset of markets and properties accounts for a disproportionate share of capital gaps, reinforcing that refinancing challenges are concentrated rather than systemic.

- **Office** accounts for just 17% of loans across all lender types maturing in 2026. While the sector faces the most pronounced challenges, those pressures are less pervasive than often assumed and are disproportionately concentrated in a small number of markets, like San Francisco, that generate most of the headline attention. Notably, nearly 50% of CMBS conduit loans secured by office that were originally scheduled to mature in 2025 paid off on time, well below other property types, but materially better than widely feared.
- **Industrial** accounts for approximately 15% of loan maturities in 2026. The sector has been the clear outperformer in CRE, with prices rising at an annualized rate of approximately 7% over the past decade. Our analysis indicates capital surpluses across all markets, though the margin for error narrows for later origination vintages given higher leverage and peak cycle valuations. Consistent with this, CMBS conduit payoff rates for industrial loans were near 100% for maturities originally scheduled between 2021 and 2024, before declining to 92% in 2025 as idiosyncratic risks became more pronounced.
- **Retail** represents a relatively small share of 2026 loan maturities at 6.7%. Refinancing outcomes for the sector fall between the structural challenges facing office and the broad resilience observed in industrial. Median capital surpluses are consistently positive across origination vintages, though there are some vulnerabilities to the wall of maturities that are highly market-specific. Reflective of this nuance, the CMBS conduit payoff rates for retail loans originally scheduled to mature in 2025 stood near the sector average at approximately 74%. Additionally, as of January 2026, the private label CMBS retail delinquency rate is approximately 6.5%, broadly in line with the overall CMBS delinquency rate of approximately 6.7%.
- **Apartments** account for the largest share of maturities at 34% in 2026, rising to over 53% by 2030. While the sector is often viewed as having one of the strongest refinancing profiles, surplus cushions erode steadily across vintages and are tightest in Q1 2021, with a median surplus of just +3.9%. The bottom quartile of markets shows limited cushion, with refinancing gaps emerging as early as Q1 2019, when assets were financed at peak valuations ahead of rising rates. CMBS conduit payoff rates remain strong (well into the 90% range), but private-label delinquency rates near 5.5% underscore meaningful idiosyncratic risk.

While our analysis suggests outcomes for the wall of maturities will prove to be far better than feared, this is not to suggest that distress volumes or delinquency rates will not rise. They almost certainly will, and media headlines are likely to worsen before they improve. However, we have consistently argued that these are lagging indicators, reflective of the long tail of the downturn working through the system even as the CRE cycle has moved into recovery by nearly all traditional measures (see 2026 Inside Real Estate Annual Outlook | Cycle for Selectivity). Indeed, CRE debt markets remain open and liquid, with origination volumes rising across lender types, borrower demand increasing, and lending standards beginning to ease from previously tight levels as lenders have built sufficient reserves against losses on existing loans see Private Real Estate Debt: A banner 2025, with more room to run).

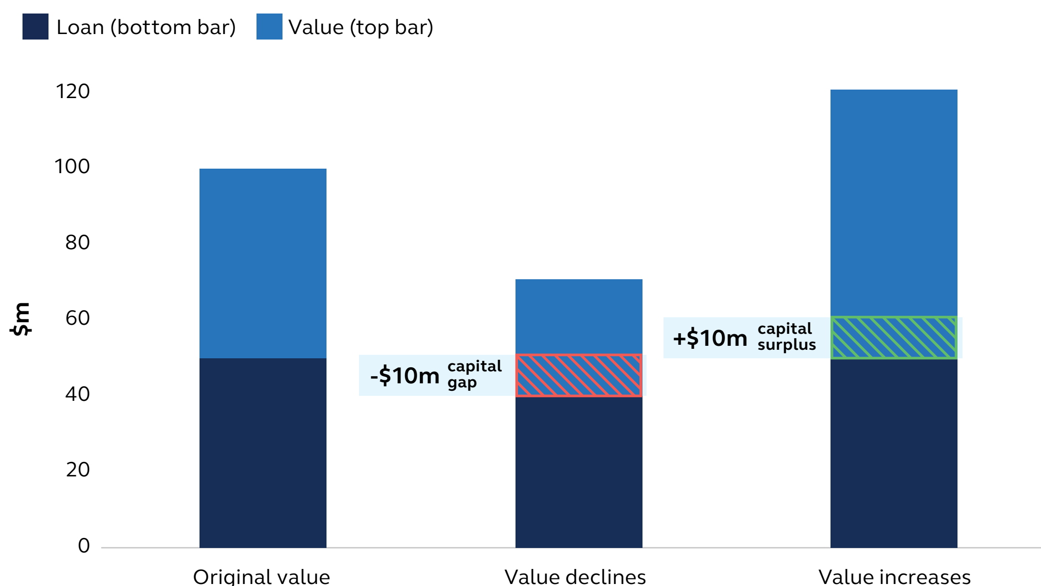
Data on this page sourced from MBA, Q4 2025.

Measuring refinance risk through capital gaps

To evaluate where refinancing risk is potentially most acute, we analyze the range of capital gaps / surpluses across property types and markets assuming loans were originated on a rolling quarterly basis. Using Real Capital Analytics data, we estimate changes in lending conditions at the national level, while CoStar data is used to estimate market level valuation changes driven by NOI growth and cap rate movements. Please see Appendix: Methodology for a more detailed analysis.

The difference between estimated refinance proceeds and the outstanding loan balance at maturity determines whether there's a **gap** (equity required) or a **surplus** (excess borrowing capacity). For example, consider a property valued at $100 million that was financed at a 50% loan-to-value (LTV) ratio in 2016. If the property's value subsequently declined by 20%, the effective LTV would rise to 62.5%. To restore the loan to a 50% LTV, the borrower would need to reduce the loan balance to $40 million to be refinanced, implying a $10 million equity injection (i.e., the gap). By contrast, a 20% increase in property value would reduce the effective LTV to 41.7%, enabling the borrower to increase the loan balance by $10 million to $60 million at refinance (i.e., the surplus).

EXHIBIT 2: Capital gaps explained



Source: Principal Real Estate, Q1 2026.

We plot the range of outcomes across markets in what's known as a "box-and-whisker" analysis or box plot to visualize the five-number summary of the data—minimum, first quartile (Q1), median, third quartile (Q3), and maximum—and highlights dispersion, skewness, and outliers in a compact form. Box-and-whisker analysis is especially useful for comparing distributions across groups (e.g., markets, vintages, or property types) and for assessing downside risk, dispersion, and asymmetry without relying on assumptions about normality.

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This cycle is defined by dispersion, not systemic breakdown

Across U.S. CRE, refinancing outcomes are not uniform but instead show wide dispersion across markets and property types. While many markets retain a positive refinance cushion, others exhibit deep capital impairment that cannot be resolved through modest income growth or incremental leverage adjustments.

The variety of outcomes explains why aggregate indicators can both understate and overstate refinancing risk. And it underscores why headlines are inherently flawed as they are overly simplistic. Indeed, our analysis suggests that a relatively small subset of markets and property types accounts for a disproportionate share of negative capital gaps, reinforcing that refinancing challenges are concentrated rather than systemic. This is consistent with our cycle of selectivity thesis we outlined in our 2026 Inside Real Estate Annual Outlook.

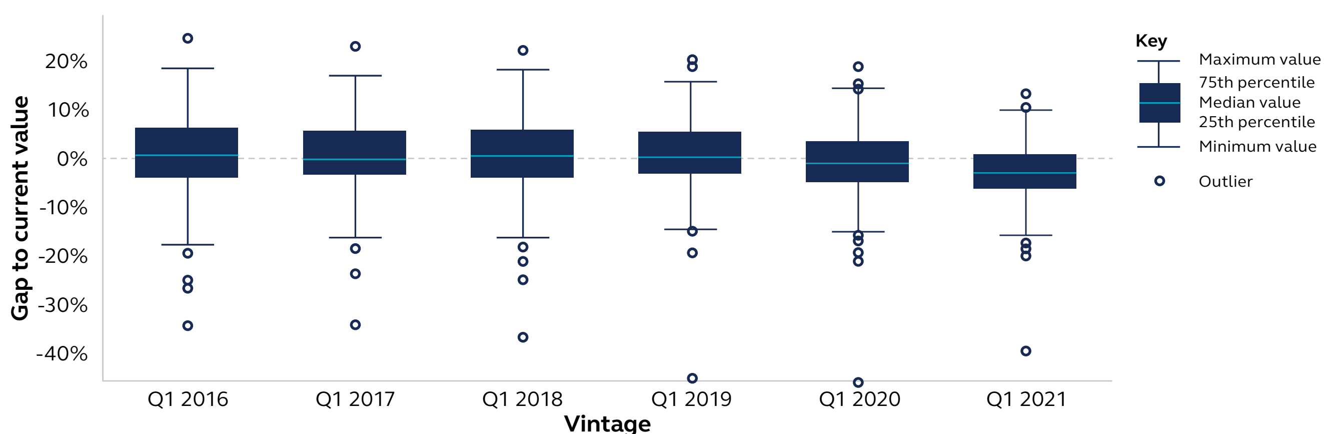
The nature of these nuances becomes clearest when assessed at the sector level, where structural differences in demand, valuation trends, and geographic exposure drive materially different refinancing profiles.

Office: Structural impairment concentrated by market

We begin our analysis with a focus on office, given it is the sector under the most acute distress. That said, it is important to reinforce that office is not the totality of the CRE market – it represents less than 3% of U.S. listed REIT market cap and U.S. ODCE funds (open-ended funds that own core commercial real estate) have less than 16% exposure. Most importantly, only 19% of the loans maturing in 2026 and 2027 are encumbered by office properties according to the Mortgage Bankers Association, and it declines to 13%, 13.7%, and 12.5% in 2028, 2029, and 2030.

The box-and-whisker chart illustrates the distribution of market-level capital gaps or surpluses across the office sector by assumed loan origination vintage, rather than a single representative outcome. At a high level, the distribution confirms that office faces a weaker refinancing profile relative to other property types: across vintages, the median outcomes cluster near breakeven, indicating limited refinance cushion even before accounting for additional late-cycle pressure. However, the chart also makes clear that this weakness is not evenly distributed across markets.

EXHIBIT 3: Office—market-level capital gap distribution by vintage



Source: RCA, CoStar, Principal Real Estate, Q1 2026.

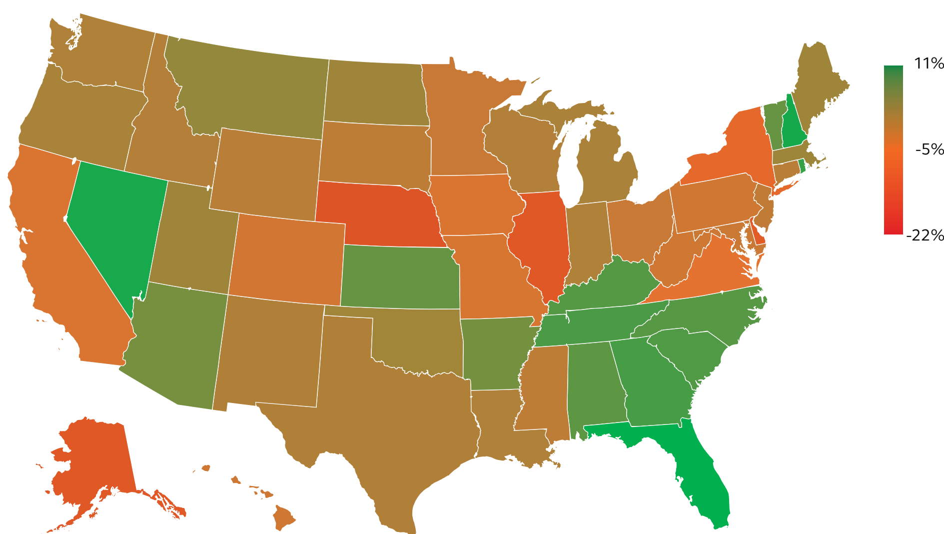
The most severe outcomes appear as distinct downside outliers, with certain markets consistently producing the lowest observations in each vintage. The extreme negative tail is driven by a narrow set of coastal gateway markets, with San Francisco consistently emerging as the most impaired. Estimated refinancing gaps of -34.6% for Q1 2016 originations and -39.4% for Q1 2021 originations place the city as the lowest outlier in each origination vintage. These outcomes reflect pronounced valuation declines and uneven leasing recovery in a handful of high-profile markets that have come to define the broader narrative around office distress.

At the same time, the central portion of the distribution tells a more nuanced story. The median observation in Q1 2016 is a modest capital surplus of 0.45% with the 1st quartile at a capital gap of -3.7% and the 3rd quartile at a capital surplus of +6.0%. In other words, a large share of office markets fall within a relatively narrow band around breakeven (i.e., no equity injection is required), suggesting that while cushion to refinance is narrow, outcomes in many markets are materially less impaired than headline anecdotes imply. The presence of repeated, high-visibility stress in a few markets should not be conflated with uniform distress across the entire office sector. Put simply, the plural of anecdotes does not equal data.

In fact, there are a handful of office markets, regardless of the loan origination vintage, that appear to have an ample capital surplus. For instance, the upper quartile has a surplus of +18%, with a few select outlier markets being even higher, like Fort Myers at 25.1%, highlighting that not all office markets are facing refinancing stress. We again emphasize that this is a top-down analysis, and it's possible, if not likely, that some office properties in Fort Myers may face greater headwinds.

Exhibit 4 reinforces this interpretation by presenting average capital gaps (or surpluses) across all vintages in combination, abstracting from timing effects to highlight geographic structure. The map shows that negative office outcomes are heavily concentrated in coastal and gateway markets, while large portions of the interior and select Southern regions exhibit relatively modest impairment. While these markets often still lack a meaningful refinance cushion, they do not exhibit the same severity observed in the most distressed coastal metros.

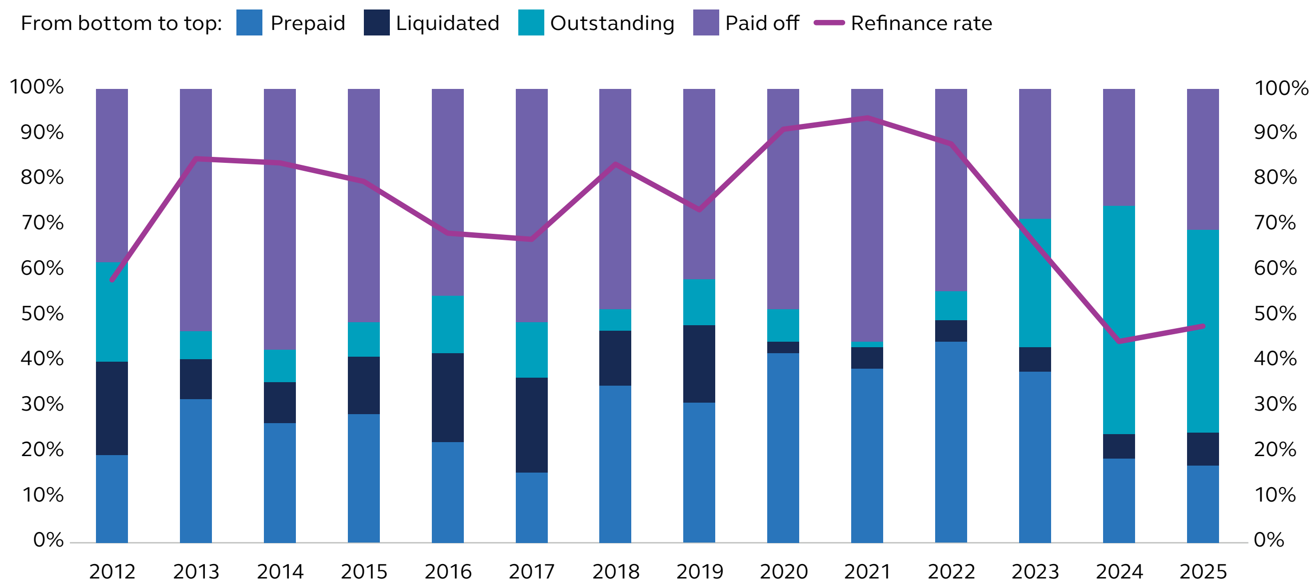
EXHIBIT 4: Office—average capital gap to value, all vintages



Source: RCA, CoStar, Principal Real Estate, Q1 2026.

Indeed, an analysis of pay-off history for office loans securitized in CMBS conduit deals paints a far more nuanced picture with the refinance rate standing at 48% in 2025 and averaging 73% for loans originally scheduled to mature between 2012 to 2025. This clearly highlights office loans are facing very real challenges, but it is wrong to assume that every office loan will default.

EXHIBIT 5: CMBS conduit deals



Source: BofA Global Research, Principal Real Estate, Q4 2025.

BOTTOM LINE: While the office sector does face meaningful challenges, those challenges are less widespread than often portrayed and are driven disproportionately by a limited number of markets. As the market works through the wall of maturities, this distinction matters. In practical terms, an office building in Charlotte or Miami may be able to refinance under current conditions, while a similar building in San Francisco may require significant new equity—even though both face the same maturity schedule.

Industrial: Broad viability with a narrowing margin for error

Industrial represents approximately 15% of maturing loans across all lender types in 2026 compared to approximately 14% in 2027, 15% in 2028, 11% in 2029, and 9% in 2030. The property type has been the darling of the commercial real estate market with prices rising at an annualized rate of approximately 7.1% over the past 10 years, according to GreenStreet, compared to 0.4% for U.S. CRE overall. It is therefore not surprising that the distribution of capital gaps / surpluses for the sector presents a markedly different picture from office.

Across all vintages, the box-and-whisker chart shows consistently positive median outcomes, indicating that the typical industrial market retains a meaningful refinance cushion even as origination vintages move closer to the peak of the prior cycle in 2021. For instance, the median cushion stood at 28.4% in Q1 2016 but steadily declined to around 12.7% in Q1 2021. This reflects compression in refinancing cushion as prices rose but not risk of impairment. This is consistent with the private label CMBS market (conduit and SASB deals) showing the lowest delinquency rates for industrial at just 60bps as of January 2026 compared to 6.7% overall and +11% for office.

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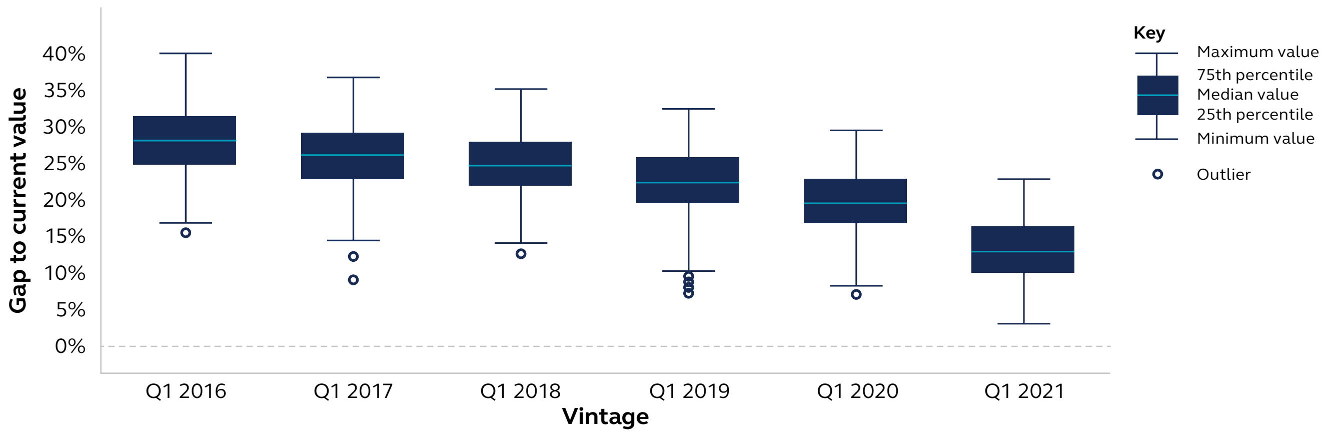
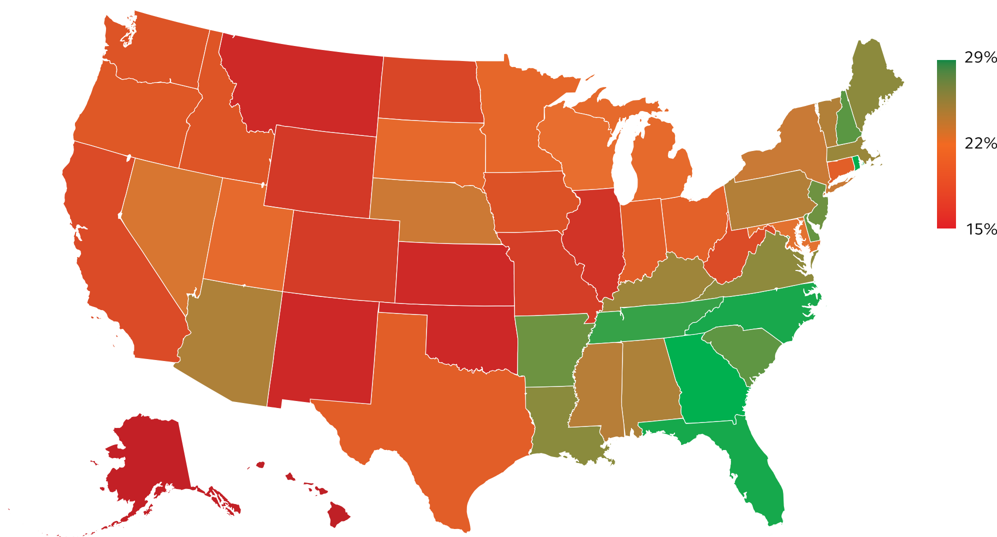
EXHIBIT 6: Industrial—market-level capital gap distribution by vintage



Source: RCA, CoStar, Principal Real Estate, Q1 2026.

Importantly, while the distribution of outcomes tightens and the cushion declines in later vintages, there are still no gaps, unlike what we observed with office. Bottom line, refinancing risk in the industrial sector has increased as buffers have narrowed, not because outcomes have broadly shifted into negative territory. This may lead to the emergence of property-by-property idiosyncratic risks, but not widespread systemic risks. Indeed, our analysis of CMBS conduit payoff rates shows that industrial stood at or near 100% pay-off rates for loans originally scheduled to mature in 2021 to 2024 before dropping to 92% in 2025.

EXHIBIT 7: Industrial—average capital gap to value, all vintages



Source: RCA, CoStar, Principal Real Estate, Q1 2026.

Exhibit 7 reinforces this interpretation. When averaged across all vintages, industrial has capital surpluses across the entire country, with particularly strong outcomes concentrated in the Southeast and in other logistics-oriented regions. Even markets with comparatively weaker outcomes generally remain favorable, indicating that refinancing challenges are not geographically clustered in the same way as they are for office. Unlike office, there is no small set of markets repeatedly anchoring the extreme downside across vintages.

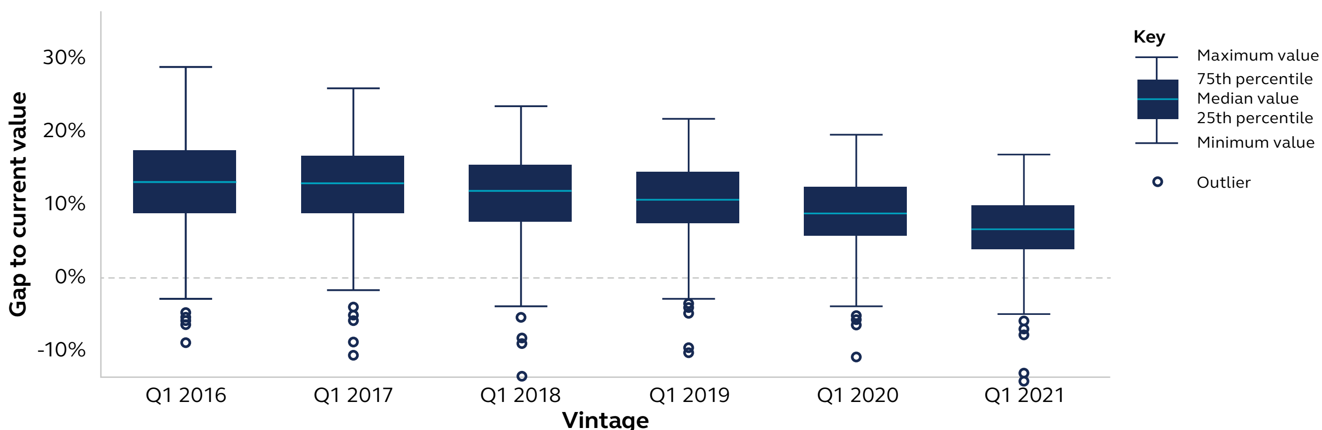
BOTTOM LINE: For the industrial sector, refinancing risk is more cyclical rather than structural. The sector faces some late-cycle pressure as higher leverage and tighter valuation conditions reduce excess borrowing capacity today, but the data does not support broad industrial distress driven by the upcoming maturity wave. Instead, most industrial markets continue to exhibit sufficient income and value support to refinance, albeit with less margin for error than in earlier vintages.

Retail: Incremental risk, highly dependent on market

Retail represents a smaller percentage of maturing loans at 6.7% in 2026 versus 8.1% in 2027, 10.5% in 2028, 10.8% in 2029, and 9.1% in 2030. The property type stands on an attractive fundamental footing today, as tenant demand has meaningfully improved while new supply has been very limited since 2010. This has pushed occupancy rates towards historical highs.

Refinancing outcomes for the property type occupy a middle ground between the structural challenges evident in office and the broad resilience observed in industrial. The distribution of capital gaps across vintages shows consistently positive median outcomes ranging from 12.8% in Q1 2016 to 6.6% in Q1 2021, indicating that the typical retail market retains refinance capacity even as loans move closer to the peak origination years.

EXHIBIT 8: Retail—market-level capital gap distribution by vintage



Source: RCA, CoStar, Principal Real Estate, Q1 2026.

However, the distribution of outcomes reveals moderate downside refinancing gaps across some markets for every vintage, but they occur less frequently and with less severity than in office. For instance, the bottom quartile for loans originated in Q1 2021 reached -4.9%, and the worst-case scenario is a -17.6% refinancing gap for San Francisco in the Q1 2019 origination vintage. In other words, downside outcomes appear episodic and dispersed, reinforcing the view that retail refinancing risk is incremental rather than structural.

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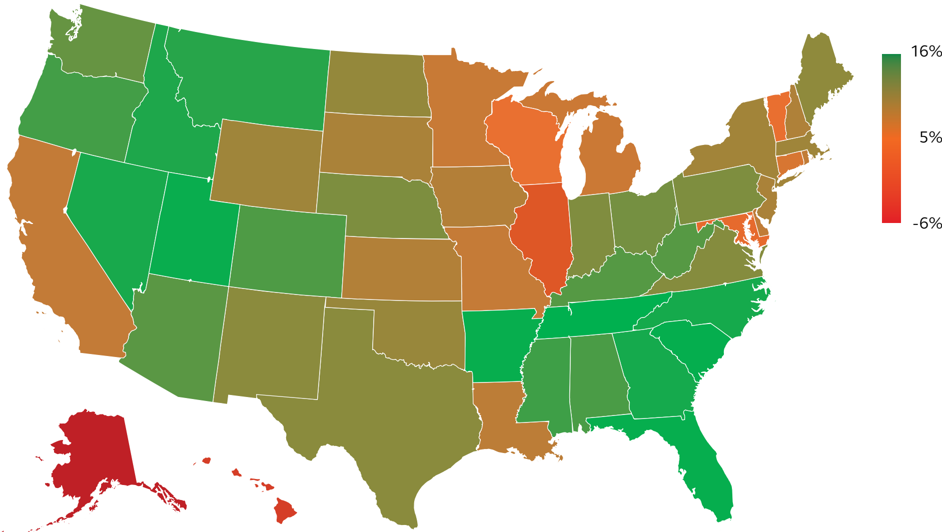
EXHIBIT 9: Retail—average capital gap/surplus to value, all vintages



Source: RCA, CoStar, Principal Real Estate, Q1 2026.

Exhibit 9 reinforces this interpretation. Average capital gaps across all vintages remain positive across much of the Southeast, Sun Belt, and portions of the West, reflecting stronger consumer demand, population growth, and more resilient retail formats. Weaker outcomes are more prevalent in select Midwestern and interior markets, where slower growth and legacy retail stock weigh on refinance capacity. Importantly, these weaker outcomes are not geographically concentrated at the national scale, nor do they dominate the sector's overall profile.

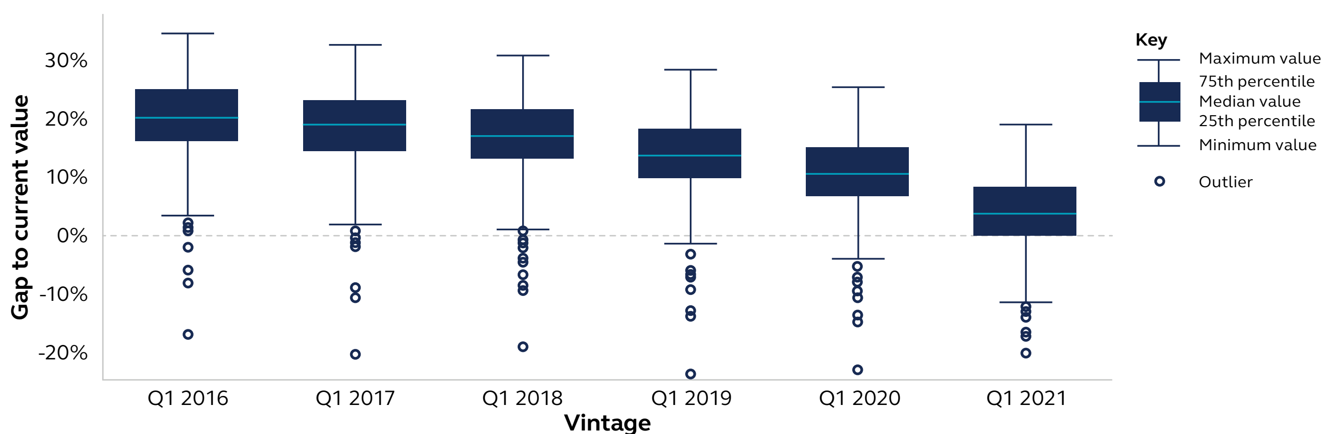
BOTTOM LINE: Taken together, this analysis suggests that retail's vulnerability to the wall of maturities is highly market-specific. This is consistent with our analysis of retail payoff rates across CMBS conduit loans that stand near sector averages at 78% for loans originally scheduled to mature in 2023 vs. 77% in 2024 and 74% in 2025. Furthermore, the private-label CMBS delinquency rate for retail stands at approximately 6.5% as of January 2026, compared to the overall delinquency rate of approximately 6.7%. The sector is neither insulated from late-cycle pressure nor broadly impaired. Instead, refinancing outcomes hinge on local fundamentals, asset quality, and tenant mix, with many markets still retaining sufficient income and value support to refinance under current conditions.

Apartments: Broad refinance viability with late-cycle compression

It's likely not well understood that apartments easily represent the largest percentage of maturing loans across all lender types at 34% in 2026 and rising to more than 53% in 2030.

The good news is that the property type exhibits one of the strongest refinancing profiles across major property types, with consistent refinancing cushion across most origination vintages, especially earlier vintages, with Q1 2016 standing at median values of 20.2%. This reflects the sector's strong operating performance and income durability over the past decade. However, the cushion dissipates consistently across vintages and is tightest for the Q1 2021 vintage with a median value of just 3.9% as properties were financed at peak valuations before interest rates rose.

EXHIBIT 10: Apartments—market-level capital gap distribution by vintage



Source: RCA, CoStar, Principal Real Estate, Q1 2026.

However, the sector is not uniformly insulated from late-cycle pressure as the bottom markets have limited cushion in early loan origination vintages with Q1 2016 at 3.5%, Q1 2017 at 2.0%, and Q1 2018 at 1.2%. Importantly, the bottom quartile shows refinancing gaps in Q1 2019 at -1.3% and declines to -3.9% in Q1 2021.

While outright negative outcomes outliers remain less prevalent than in office, they are not isolated edge cases. There are more than a handful of markets where the refinancing gap is close to -10%, and San Francisco is a consistent outlier across loan original vintages with a refinancing gap hovering around -20%. This pattern suggests that apartment refinancing risk has transitioned from being dominated by strong income growth to being increasingly shaped by valuation, particularly for late-cycle vintages.

Exhibit 11 shows average capital surplus across the vast majority of markets, indicating broad refinancing viability at the national level. Strong outcomes extend well beyond the Midwest and Southeast and include many coastal and high-growth markets, reflecting the sector's ability to generate durable NOI growth even in regions that experienced valuation volatility. However, these high-level statistics don't accurately reflect the downside risks that exist across some markets and vintages, underscoring the need for a more precise analysis.

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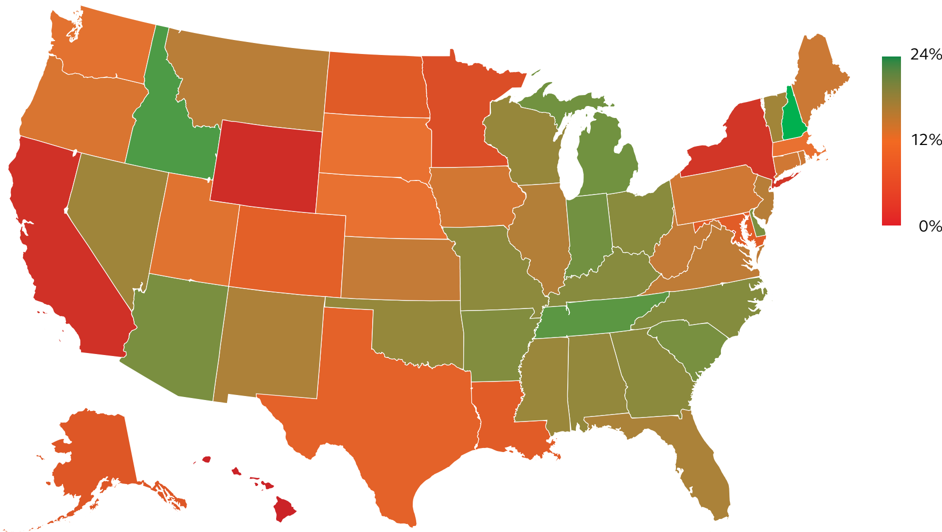
EXHIBIT 11: Apartment—average capital gap to value, all vintages



Source: RCA, CoStar, Principal Real Estate, Q1 2026.

These findings are consistent with our analysis of payoff rates for multifamily loans in CMBS conduit deals that range from 90% for loans originally scheduled to mature in 2024 to 98% for loans originally scheduled to mature in 2022. However, delinquency rates for multifamily in private level CMBS are likely higher than some may expect, at almost 5.5%, reflecting the inherent idiosyncratic risk that exists for the property type.

BOTTOM LINE: Apartment refinancing risk is not driven by large, regionally clustered distress, but by incremental differences in income growth and valuation across markets. This reinforces our views that we expressed in our 2025 report titled America's housing opportunity: Beyond the supply gap. We argued that the U.S. rentership market is highly fragmented. The core challenge is not simply the number of homes, but whether they are in the right places, of the right type, and at prices households can afford. Addressing these dynamics, therefore, requires a holistic approach that spans the full rental spectrum.

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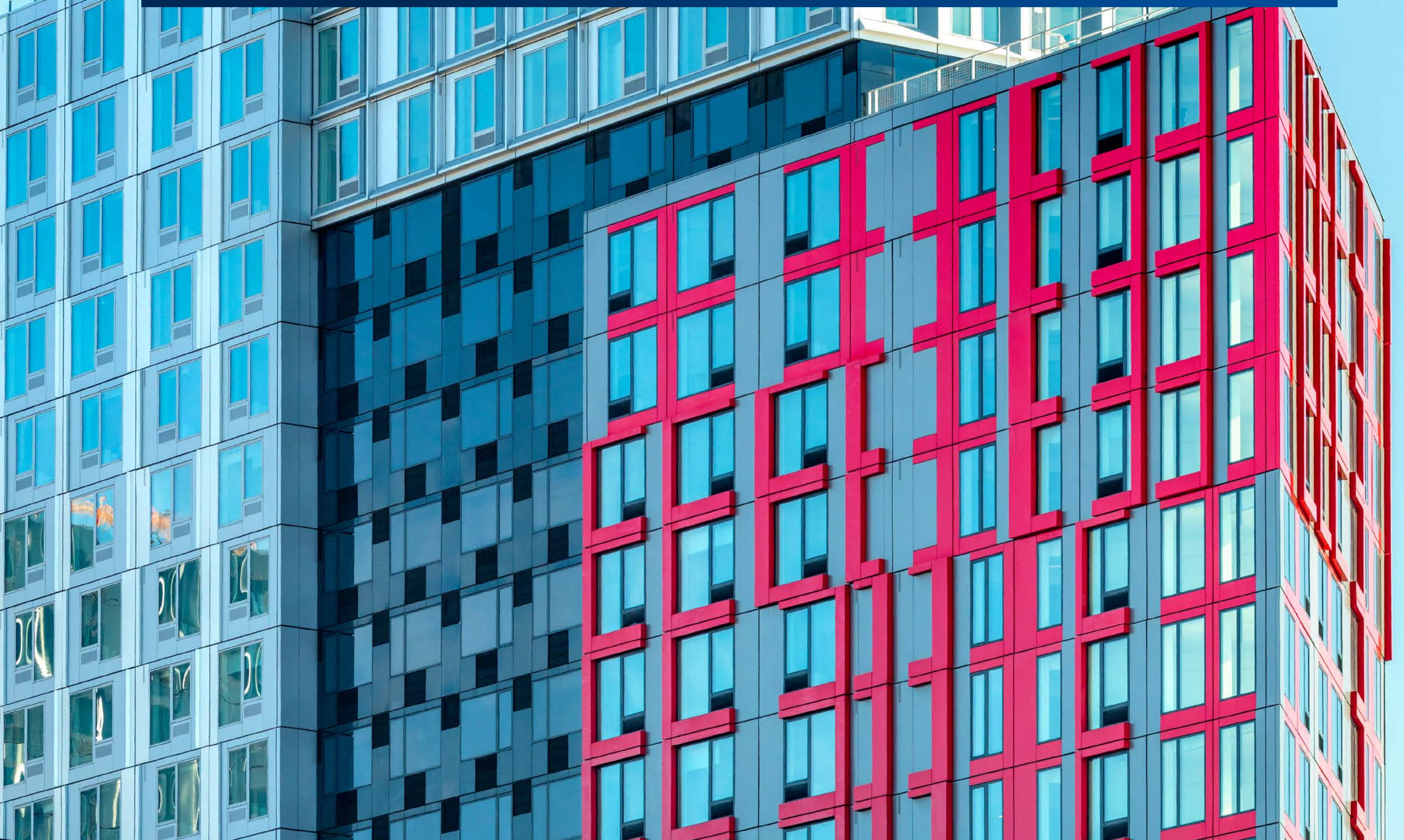
CONCLUSION

Despite persistent concerns around the "wall of maturities," recent refinancing outcomes suggest risks are far more concentrated than systemic. Nearly $900bn of loans mature in 2026 and over $2tn over the next three years yet experience from 2023–2025 shows no broad-based collapse in CRE debt. In fact, CMBS conduit data indicate that roughly three quarters of loans scheduled to mature in recent years paid off on time, only modestly below historical norms, challenging the narrative that lenders are simply extending loans en masse.

Using a new, top down framework that combines national lending conditions with market level valuation dynamics, we find that refinancing stress is driven by a relatively small subset of markets, property types, and vintages. Office faces the most visible challenges, but these are concentrated in a handful of gateway markets. Industrial remains broadly resilient, retail sits in a middle ground with market specific risks, and apartments, while showing strong headline refinancing capacity, exhibit thinning cushions in later vintages and select markets.

Overall, refinancing risk is real but uneven, with outcomes hinging on location, asset quality, and vintage rather than a uniform downturn across the CRE market. We believe this will ultimately result in the outcome for the wall of maturities being far better than feared.



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Appendix: Methodology

Our analysis combines lending market data at the national level from Real Capital Analytics (RCA) with local property market data from CoStar to estimate refinancing outcomes across origination vintages, property types, and geographies. The objective is to assess refinancing feasibility at a market-level under prevailing conditions, rather than to evaluate outcomes for individual loans or assets.

RCA metrics:

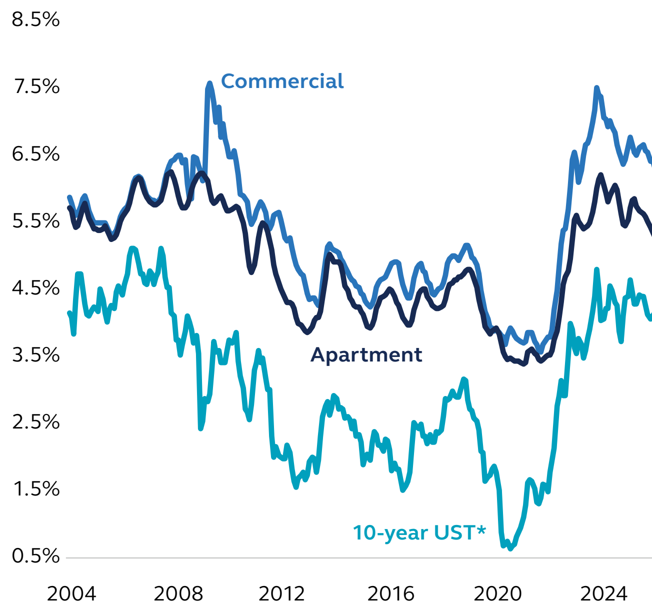
- Mortgage rates
- Loan-to-value (LTV) standards
- Debt service coverage ratio (DSCR) requirements

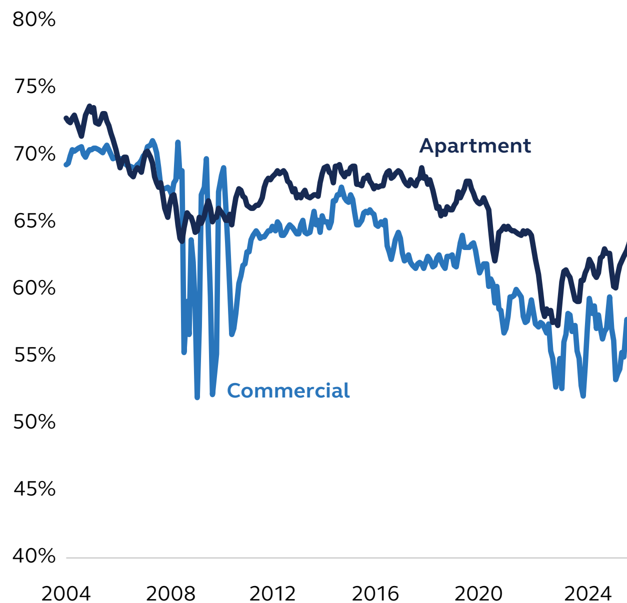
CoStar metrics:

- Asset values*[1]
- Net operating income (NOI) growth
- Market cap rates

First, we estimate changes in lending conditions using RCA data for mortgage rates, loan-to-value standards, and debt service coverage ratios for both core commercial and apartment properties. These metrics are used to approximate the then-current underwriting standards on a quarterly basis for the six-year period from 2016 to 2021 and compare them to current standards. For instance, RCA estimates that LTVs stood at 65% in Q1 2016 compared to 58% today, and DSCR stood at 1.57x compared to 1.68x today. This allows us to isolate the impact of tighter lending conditions on potential capital gaps.

EXHIBIT 12: Debt metrics





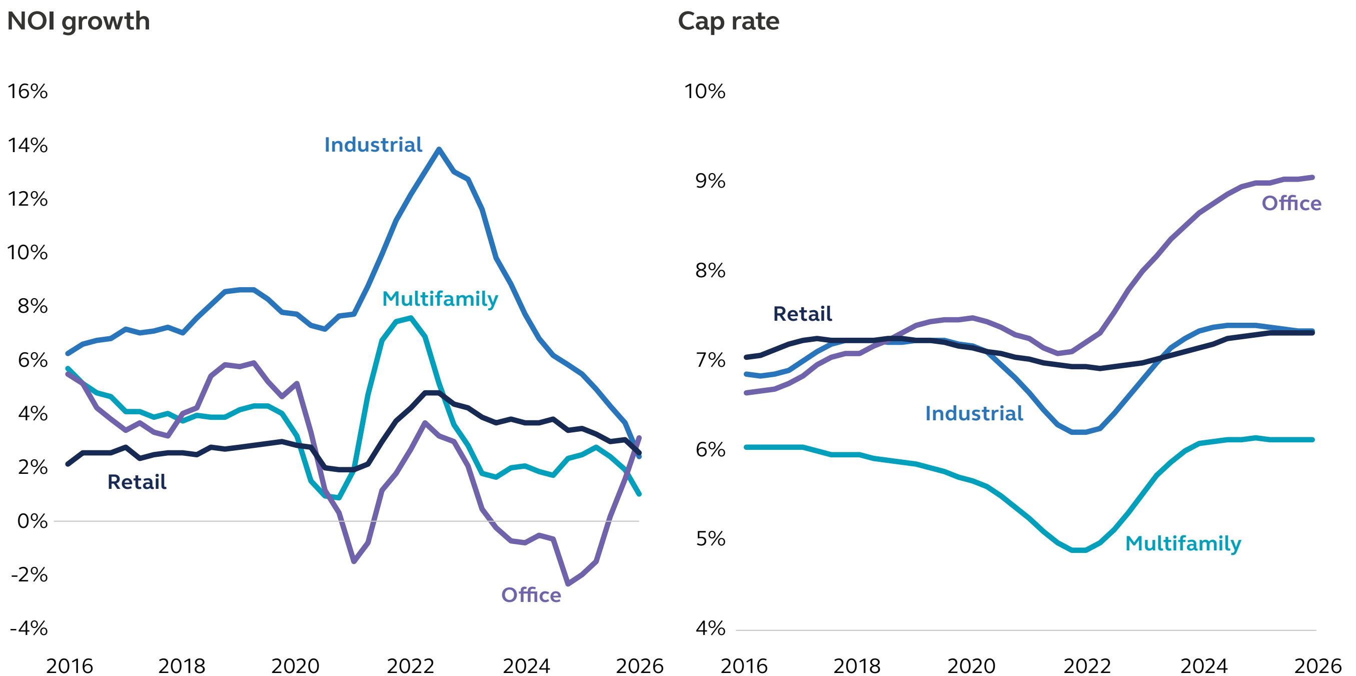
Source: RCA, Principal Real Estate, Q1 2026. * Monthly 10-year treasury data is based on officially published nominal 10-year treasury constant maturities.

*[1] CoStar asset values reflect modeled estimates of current market value derived from a transaction-based, comparable-sales framework. For assets that have not transacted recently, prices are inferred using comparable sales and adjusted for location, size, age, rent levels, and other observable property characteristics. Modeled values are trended forward using same-store rent and occupancy data to capture changes in local income fundamentals, and further adjusted to reflect broad capital market conditions through national cap rate trends.

Next, we use CoStar data to estimate origination-period NOI by using market-level asset values and cap rates. To ensure that changes in inventory are not driving the changes in NOI, we express these inputs on a per-square-foot basis (or per-unit for multifamily), effectively normalizing market-level values before applying growth assumptions. We then apply cumulative NOI growth over the assumed term of the loan to generate an NOI value as of 2026 and capitalize that income using current cap rates to approximate an implied refinance-period asset value for each property type across all markets.

For example, in Washington, DC, for industrial, the NOI index increases by roughly 55% from Q1 2021 to Q1 2026. This more than offsets the modest rise in cap rates from 6.28% to 6.75% over the same time period. As a result, the modeled refinance outcome produces a capital surplus of 17.9% of value, implying excess borrowing capacity even as LTVs modestly tightened from 58.1% to 57.4%.

EXHIBIT 13: Annual NOI growth and cap rates



Source: CoStar, Principal Real Estate, Q1 2026.

This implied value forms the basis for evaluating refinance proceeds relative to current lending standards. Specifically, we calculate the maximum refinance loan amount constrained by both loan-to-value limits and debt service coverage requirements, with the more restrictive of the two determining refinance capacity.

Finally, the estimated loan is compared to the origination loan, generating a capital gap (or surplus) for each property type across markets for a given period. We analyze cap gaps (or surpluses) across quartiles in what's known as a box-and-whiskers (box plot) analysis to visualize the range of potential outcomes across markets. Outliers on the box-and-whiskers charts are identified using a standard methodology designed to highlight observations that differ materially from the typical range of outcomes. For each sector-vintage distribution, results are summarized by the middle 50% of observations that are bounded by the 25th percentile (lower quartile) and 75th percentile (upper quartile). The difference between these two values is referred to as the interquartile range (IQR). Observations that fall more than 1.5 times this range below the lower quartile or above the upper quartile are classified as outliers and displayed separately. This approach highlights markets with outcomes that are meaningfully distinct from their peers without imposing arbitrary thresholds.

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