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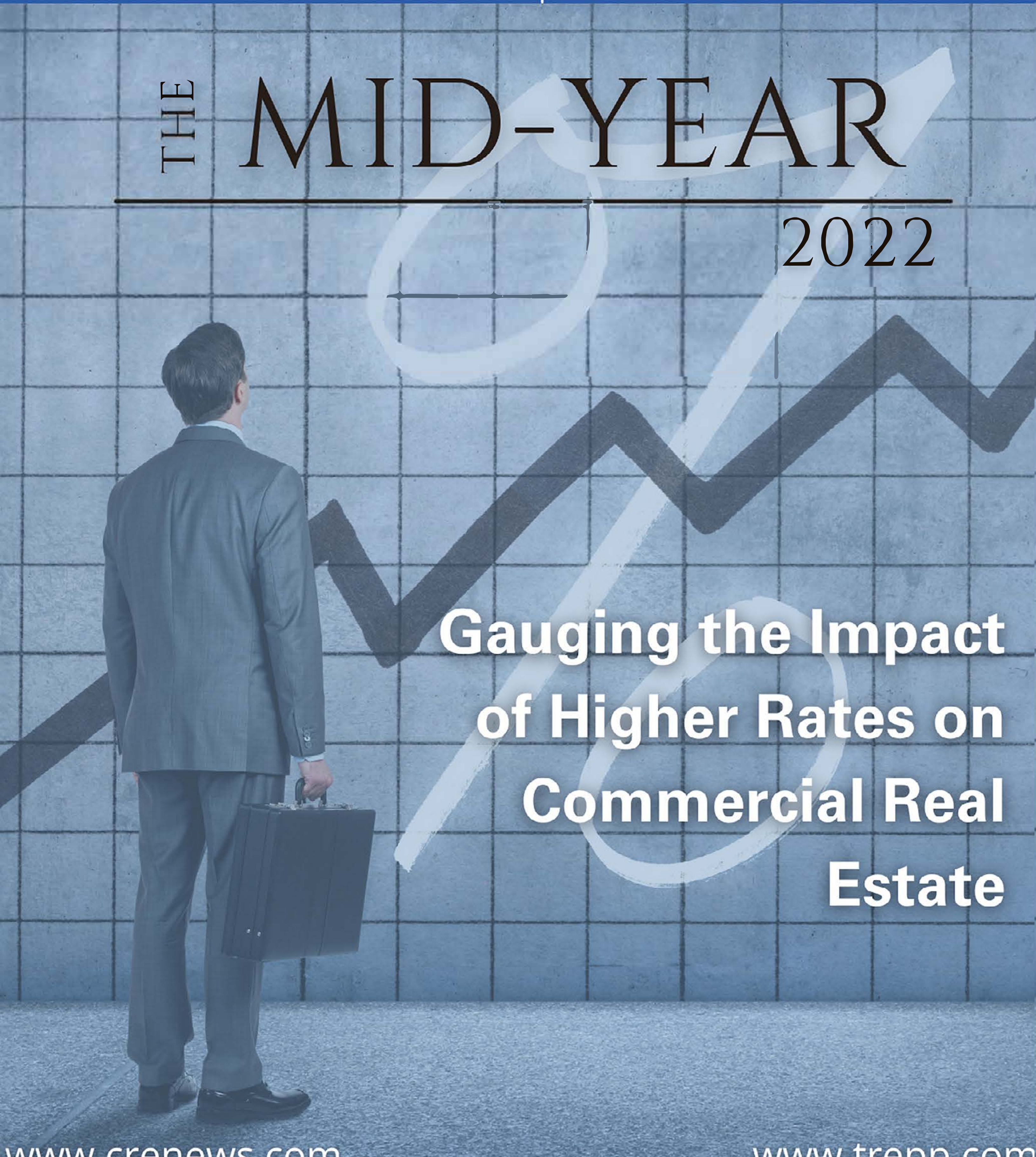
Trepp®

THE MID-YEAR 2022



Gauging the Impact of Higher Rates on Commercial Real Estate

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LETTER FROM THE EDITOR:

Orest Mandzy
Managing Editor

Two years ago, the global economy was hit by a black swan—the coronavirus pandemic. The government efforts to stem the spread resulted in a relatively short recession that drove commercial mortgage delinquency rates to levels not seen since the Global Financial Crisis. Hardest hit were loans against hotels and retail properties.

That swan hasn't quite swum away, evidently having left some of its progeny—inflation and possibly stagflation—in its trail.

What have commercial property and mortgage investors done? Well, they're demanding greater compensation for the risks they're taking, as evidenced by the spread widening in the CMBS market and what now appears to be greater capitalization rates on the properties they buy. That all could have long-term repercussions that might not quite be evident yet.

In the following pages of this, our ninth Mid-Year magazine, we try to point you to the potential landmines that might lie ahead. We've pored through the Trepp Inc. CMBS database to help figure out what sort of impact various degrees of rate increases might have on the ability of conduit loans to refinance in the coming three years.

Without giving away too much of the plot, the relatively conservative underwriting among CMBS lenders since the Global Financial Crisis was fortuitous, as the refinancing risk appears to be relatively muted.

We also did a deep dive into the historical correlation between inflation and property values and found that while commercial real estate often serves as a good hedge against inflation, real rates of return in the sector likely will flatten as rates increase. Oh, and cap rates already have increased, which means property prices have softened.

Mortgage values also have gotten clobbered, as evidenced by the latest LifeComps Index (a benchmark for commercial real estate mortgages held by insurance companies), which we highlight in the following pages.

Higher rates typically result in a spike in corporate bankruptcies. That could be bad news for properties leased to single tenants. So, we looked into the CMBS database to see what sort of risk investors might face. The good news is that only $10 billion of securitized loans are backed by single-tenant properties. While those suffered from an outsized default rate at the start of the pandemic, they've recovered nicely. The risk going forward, again, is relatively muted.

We hope you find the information we've provided in these pages valuable. We always look forward to your feedback.

Best Regards,

Orest Mandzy

3 Pillars of Commercial Real Estate in Transition

Commercial real estate sits at the confluence of three distinct markets: space, equity and debt. It's hard to imagine a time when there was as much transition in all three at once.

SPACE

If one ever wanted a lesson in the differences between commercial real estate property types, the Covid-19 pandemic provided one. Hotel, retail and office properties were immediately and dramatically shuttered at its onset, all while apartments became our new workplaces and industrial properties undergirded a surge in demand for e-commerce delivery. Two-plus years later, those markets continue to be shaped not only by that initial response, but also by its echoes and the structure of leases.

Demand

Demand for commercial and multifamily real estate space is being driven by an economy that is hot enough that the Federal Reserve has embarked on the most dramatic tightening of liquidity in a half-century. People are traveling again—STR reported that as of mid-May hotel occupancy was within 6 percent of 2019 levels and revenue per available room was 4 percent higher.

Consumers are continuing their buying binge—increasingly going to brick-and-mortar stores after a pandemic-fueled surge in the share of sales coming through e-commerce. The housing market is filled to capacity—according to the U.S. Census Bureau, vacancy rates are just above recent 40-year lows for homes for rent. Of all the major property types, office retains the greatest uncertainty, as "back-to-the-office" policies continue to morph, and companies work through what those policies may or may not mean for how much space they need and how to use it.

Leases and Income

But differing lease structures for different property types create bottom lines that are reacting in distinct ways. Hotel incomes, which most immediately and dramatically felt the onset of the pandemic, are also immediately and dramatically experiencing the current rebound in travel.

For apartments, as renters have returned to the large gateway markets, incomes have bounced back as well, with net operating income climbing in the first quarter of the year by 23 percent from a year earlier, putting NOI for properties tracked by the National Council of Real Estate Investment Fiduciaries 11 percent higher than they were before the pandemic.

Office properties, with longer lease terms, saw NOI hold remarkably steady during the first two years of the pandemic. Even though Kastle Systems data showed office usage fell to less than 15 percent in 2020, the first quarter of 2022—when card usage was closer to 40 percent—was the first quarter to see year-over-year declines in office property NOI, of 1.2 percent.

Supply

New supply is responding to these dynamics, again in very property type-specific ways. Developers are on pace this year to put in-place more than $50 billion of industrial and $100 billion of multifamily properties—both records. There are now 800,000 multifamily units under construction, the most since the mid-1970s.

Construction of office properties has declined from pre-pandemic levels, but remains at 2018-levels. New construction of lodging, meanwhile, is at half the pre-pandemic level. Retail construction is at its lowest level since at least the early 1990s.

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EQUITY

Equity markets take all of the above into consideration and put a price on it. The multi-trillion-dollar question is how to set the right price.

Entering the pandemic, capitalization rates for commercial and multifamily properties were at record lows, which led to record high property valuations. Over the course of the pandemic, cap rates fell lower still. Given how low yields on other investment options were, those cap rates were still attractive. But now, as interest rates have climbed, and valuations of other types of business generally have declined, the question of what happens to cap rates (and, therefore, property valuations) has come into vogue.

Commercial real estate continues to hold a special place in the hearts of investors, and large allocations of capital remain focused on the space. It remains to be seen whether and how that healthy interest offsets recent broader equity market changes in terms of property pricing.

DEBT

In addition to the space and equity markets, commercial real estate is driven by the $4 trillion mortgage debt market. Just as the space and equity markets are working through dramatic transitions, so too are the debt markets.

As recently as last December, members of the Federal Reserve Open Markets Committee expected inflation to come in at 2.7 percent over the course of 2022 and the Fed Funds rate to end the year at 0.9 percent. By this past March, the Fed's expectation for 2022 inflation had jumped to 4.1 percent. For the Fed Funds, it expected a 1.9 percent mark at the end of the year. Those numbers both are likely even higher today.

The result has been a recalibration in borrowing costs. Base rates for long-term loans and debt-related instruments have roughly doubled since the start of the year. The 10-year Treasury jumped to just less than 3 percent in late May from an average of 1.47 percent at the end of last year. The credit spreads on top of those base rates have climbed, as well. The spread on 10-year AAA CMBS on the secondary market, for example, ended 2021 at 72 basis points. By late May, it had climbed to nearly 130 bps.

It's not necessarily that lenders have greater concerns about the creditworthiness of commercial and multifamily mortgages. Rather, loan and other spreads have had to increase in order to compete with other investment options, like corporate bonds and equities.

The result has been a continued availability of commercial and multifamily loans, but at a higher cost, which can then ripple through the market in terms of the amount of debt a property's income can cover.

The U.S. economy is in a period of transition that is driving change in nearly every corner of the market. For commercial real estate, three different markets—space, equity and debt—that are in the midst of three different transitions hold the keys. ■

Jamie Woodwell is vice president of commercial real estate research at the Mortgage Bankers Association.

Gauging the Impact of Higher Rates on Maturing CMBS Loans

Commercial property owners have had an amazingly strong tailwind, with interest rates declining sharply over 20 years, pushing them to near-record low levels during the coronavirus pandemic. That gave owners the ability to increase the debt leverage on their properties.

For example, a property that generated $1 million of annual net operating income would cover, by 1.82 times, the interest-only payments on a $10 million loan that had a 5.5 percent coupon.

If that loan was to have been refinanced 12 months ago, the property owner might have gotten a coupon of 3.5 percent. Assuming similar proceeds, the loan's debt-service coverage ratio would jump to 2.86x. And to maintain a coverage level near the previous loan's level, the property owner would qualify for a $15.5 million loan. That, in part, explained the strong growth in property values in recent years.

But unfortunately for borrowers, when rates reverse course—as they have done over the last six months—the opposite is true.

In some cases, properties generating enough NOI to comfortably cover their current interest payments could fail a 1.2x coverage test in a refinancing, given higher rates. In those cases, the borrower may not be able to take out a mortgage big enough to pay off an existing loan, requiring them to raise additional, higher-cost equity or mezzanine debt.

A total of roughly $97 billion of CMBS conduit loans mature within the next 36 months. Removing delinquent loans, those with DSCR levels of 1.0x or less and those for which only partial 2021 financial data are available leaves nearly $60 billion of performing loans, most of which were originated after the Global Financial Crisis. Those have a weighted average coupon of 4.46 percent, but some have coupons of less than 3 percent.

To determine the ability of those loans to refinance, we first recalculated all loans to assume they required only interest payments, putting them all on equal footing. That resulted in a weighted average DSCR for the universe maturing within the next 36 months of 2.78x.

We then recalculated the annual interest requirement for each loan assuming it would refinance into a 6 percent loan. That reduced the weighted average DSCR to 2.4x. Almost 4.6 percent of the loans would have DSCR levels of less than 1.2x.

If we use a 6.5 percent rate, the weighted average DSCR would drop to 2.28x and the percentage of loans with DSCRs under 1.2x would jump to 7.8 percent.

And at a 7 percent rate, the weighted average DSCR would drop to 2.17x and the percentage of loans with DSCRs under 1.2x would jump to 12.3 percent.

The analysis above is a little blunt for several reasons. First, it is unlikely that all property types would have similar rate structures. It's more likely that the same rate distinctions in place today would apply in the future. That is to say, multifamily would probably still get the lowest rates, while hotels and certain retail the highest.

In addition, since multifamily is considered a stable asset, loans are usually made at lower DSCR levels than hotel or retail loans.

With that in mind, we assumed that in a higher rate environment, multifamily or industrial loans would be made at a 6 percent coupon; retail loans would be made at 7 percent; hotel loans at 7.5 percent; and loans against all other property types would carry 6.5 percent coupons. That, of course, is a relatively simplistic analysis as other factors, such as leverage levels, go into determining actual coupons.

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Single-Family Rental Market Grows Sharply

The issuance of CMBS transactions backed by loans against single-family rental, or SFR, properties this year is on track to well exceed 2021's record of $16.13 billion.

During the first quarter, $7.76 billion of deals were issued, putting issuance on track to top $31 billion for the year.

The market, which since 2013 has seen $68.07 billion of total issuance, has been dominated by a relatively small number of players, including Progressive Residential, CoreVest American Finance, Invitation Homes and Tricon, which accounted for more than half of all SFR issuance.

Th SFR market has grown steadily in recent years. What started out as an opportunistic play by certain investment managers in the wake of the Global Financial Crisis has become a distinct asset class dominated by a relatively small number of institutional investors.

And whereas investors initially had purchased over-leveraged houses, either through portfolios

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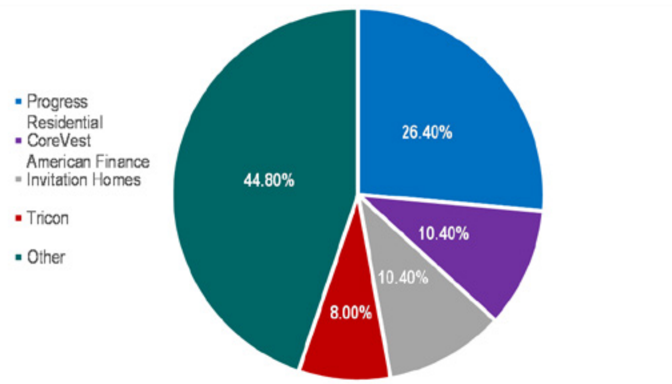
Largest Issuers of SFR Loans - % of Total Deals



Source: Trepp Inc.

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Under this view, industrial loans holds up very well. In fact, no conduit loan would have a DSCR of less than 1.2x if refinanced at 6 percent. This is a function of the loans being made five to 10 years ago, before the industrial market became so hot. Accordingly, loans made during those years were underwritten relatively conservatively, with higher DSCR levels than the norm. Since then, rents and cash flows have soared, driving DSCR levels higher.

In this second scenario, 11.6 percent of hotel loans would have DSCR levels of less than 1.2x, assuming a 7.5 percent refinance rate. This number would undoubtedly be higher—probably multiples higher—had we not removed delinquent loans or loans already with DSCR levels below 1.0x from the reviewed cohort.

In the same scenario, 1.84 percent of multifamily loans, by balance, would see DSCR levels decline to less than 1.0x; office loans would see 6.1 percent; and retail loans would see 14.44 percent.

The relatively large percentage of office and retail loans to see such fates shouldn't be a surprise given the decline in revenue at such properties over the past two years. A rebound in revenue this year would go a long way towards improving these rate-stressed DSCR levels.

So, the possibility that some borrowers will struggle to get take-out financing in a higher rate environment is neither negligible nor catastrophic, as long as loan coupons stay in the 6 percent to 7 percent range. In addition, the fact that some borrowers may struggle to get take-out financing may lead to another wave of loan extensions for borrowers with cusp-y properties, meaning those that might struggle to generate sufficient cash flow to refinance fully.

This will have ramifications for CMBS bondholders. For those holding interest-only paper, it would be a plus. But it'll be a mixed bag for those holding early-pay bonds, depending on whether those bonds are marked at a premium or discount.

Underwriting Trends - Single-Family Rentals

Origination Year	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
Deal Count	1	12	14	11	8	12	11	17	28	11
Loan Count	1	12	457	327	95	248	293	407	240	11
Securitization DSCR NCF (avg)	2.10	2.45	1.44	1.43	1.38	1.37	1.42	1.48	1.53	1.32
Securitization LTV (avg)	75.00	71.03	65.86	66.38	68.15	66.44	68.57	68.40	70.42	92.31
Securitization Occupancy (avg)			96.18	96.79	96.00	96.00	95.45	96.10	96.46	

Source: Trepp Inc.

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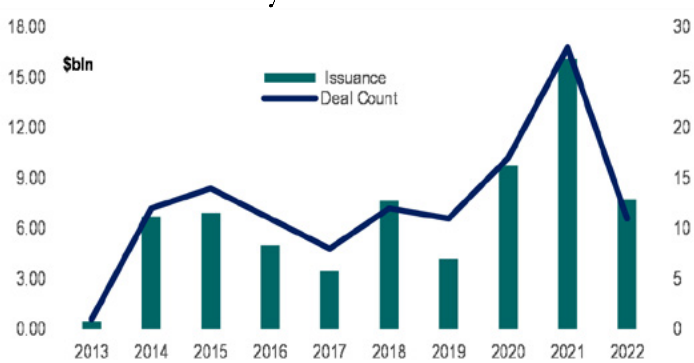
or individually, they're now developing entire communities of purpose-built SFRs that are akin to horizontal multifamily properties.

Driving the market's growth is a combination of strong demand for housing and increasing house prices, which were exacerbated by what had been super-low interest rates, thus making it more challenging for buyers, particularly those wanting more space than in a typical apartment, to afford houses.

SFR Issuance by Deal Count and Volume



Source: Trepp Inc.

The shift to what's now commonly referred to as "built-to-rent" houses has grown sharply in recent years and in last year's fourth quarter accounted for 26 percent of all properties added to the portfolios of SFR owners, according to John Burns Real Estate

Delinquent SFR Loans (90+ Days)

Loan Name	Bal $mln	DQ Status	Sp Serv TX Date	DSCR NCF	LTV %	Cpn %
NJ 74 Refi	9.16	90+ days	Mar 18, 2022	1.25	69.90	4.61
RG Holdings Term	5.29	90+ days	Dec 29, 2021	1.23	75.10	5.40
RSN Properties Term II	2.96	90+ days	Dec 16, 2021	1.35	37.40	5.32
Kitterman Properties	2.72	Foreclosure	Nov 11, 2021	1.20	69.90	5.85
24341 (21 houses in Sullivan City, N.Y.)	1.96	90+ days	Jan 15, 2020	1.36	69.40	6.33

Source: Trepp Inc.

Consulting. That's up from 3 percent in 2019. At the same time, the purchase of individual homes declined to 57 percent of all deals from 81 percent, according to the Irvine, Calif., research company. The trend is easily explained as a built-to-rent community provides certain management and operating efficiencies that a portfolio of scattered SFRs can't.

The CMBS SFR deals that were issued so far this year have an average debt-service coverage ratio of 1.32x and loan-to-value ratio of 92.31 percent.

Such deals generally have performed well, reporting relatively low delinquency rates. Nonetheless, some loans do sour.

Bank Originations of Commercial Real Estate Loans Increased in 2021; Delinquencies Declined

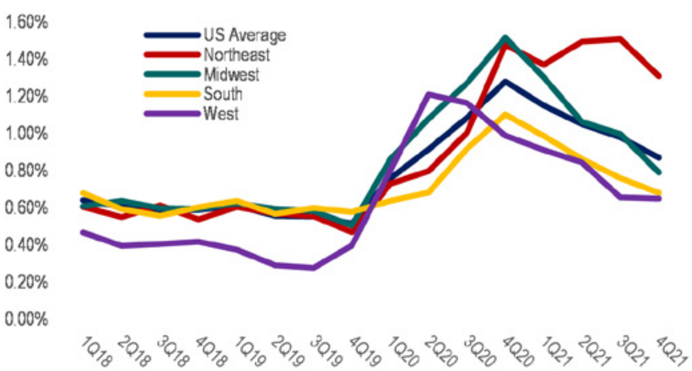
Banks increased their origination of commercial real estate mortgages by just less than 17 percent last year when compared with 2020, while delinquencies continued to trend lower after a moderate rise in 2020.

In last year's fourth quarter, meanwhile, originations were up about 30 percent from the same period in 2019.

That's according to Trepp's Anonymized Loan-Level Repository, or T-ALLR, data set, comprised of information on commercial real estate loans on balance sheets of a number of banking institutions.

Given that investor interest in industrial and multifamily properties was strongest among all property types, bank originations also were skewed to the two sectors in every region tracked by the T-ALLR data set. In the Southern region, for example, loan originations against the two property types were up 50 percent from 2019 levels.

Bank Commercial Real Estate Loan Delinquencies



Source: Trepp T-ALLR

And loan originations for office properties had increased from the prior years, at the same time that delinquency rates edged higher. Banks in large urban areas have not yet ratcheted down their risk ratings on office loans. Meanwhile, origination of retail and hotel loans—the two sectors

Delinquency Rate - Bank Loans

	Lodging	Retail	Office	Multifamily	Industrial
Northeast					
2021 Q1	14.83%	1.55%	1.20%	0.78%	0.40%
2021 Q2	19.52%	1.35%	1.36%	0.68%	0.25%
2021 Q3	19.58%	1.17%	1.08%	0.76%	0.32%
2021 Q4	17.87%	1.62%	1.82%	0.94%	0.56%
Midwest					
	Lodging	Retail	Office	Multifamily	Industrial
2021 Q1	5.79%	12.52%	1.79%	0.05%	0.00%
2021 Q2	5.70%	11.35%	1.74%	0.06%	0.00%
2021 Q3	6.61%	10.71%	1.70%	0.05%	0.00%
2021 Q4	5.90%	6.11%	1.68%	0.13%	0.00%
South					
	Lodging	Retail	Office	Multifamily	Industrial
2021 Q1	2.01%	2.44%	0.36%	0.07%	0.00%
2021 Q2	1.07%	2.66%	0.68%	0.07%	0.00%
2021 Q3	2.23%	2.79%	1.32%	1.06%	0.10%
2021 Q4	2.37%	2.32%	1.47%	0.63%	0.00%
West					
	Lodging	Retail	Office	Multifamily	Industrial
2021 Q1	0.76%	2.32%	0.04%	0.28%	0.09%
2021 Q2	0.51%	2.19%	0.04%	0.68%	0.00%
2021 Q3	0.51%	2.42%	0.00%	0.07%	0.00%
2021 Q4	0.55%	2.35%	0.04%	0.22%	0.00%

Source: Trepp T-ALLR

hardest hit during the pandemic—has picked up, but delinquencies haven't yet fully recovered.

But overall, delinquencies have improved since peaking at 1.3 percent in the fourth quarter of 2020.

In last year's fourth quarter, the delinquency rate, which reflects loans that are at least 30-days late with their payments and those classified as non-accrual, was 0.9 percent. The non-current rate, a subset that captures loans that are more than 90 days late with their payments and those classified as non-accrual, was 0.7 percent.

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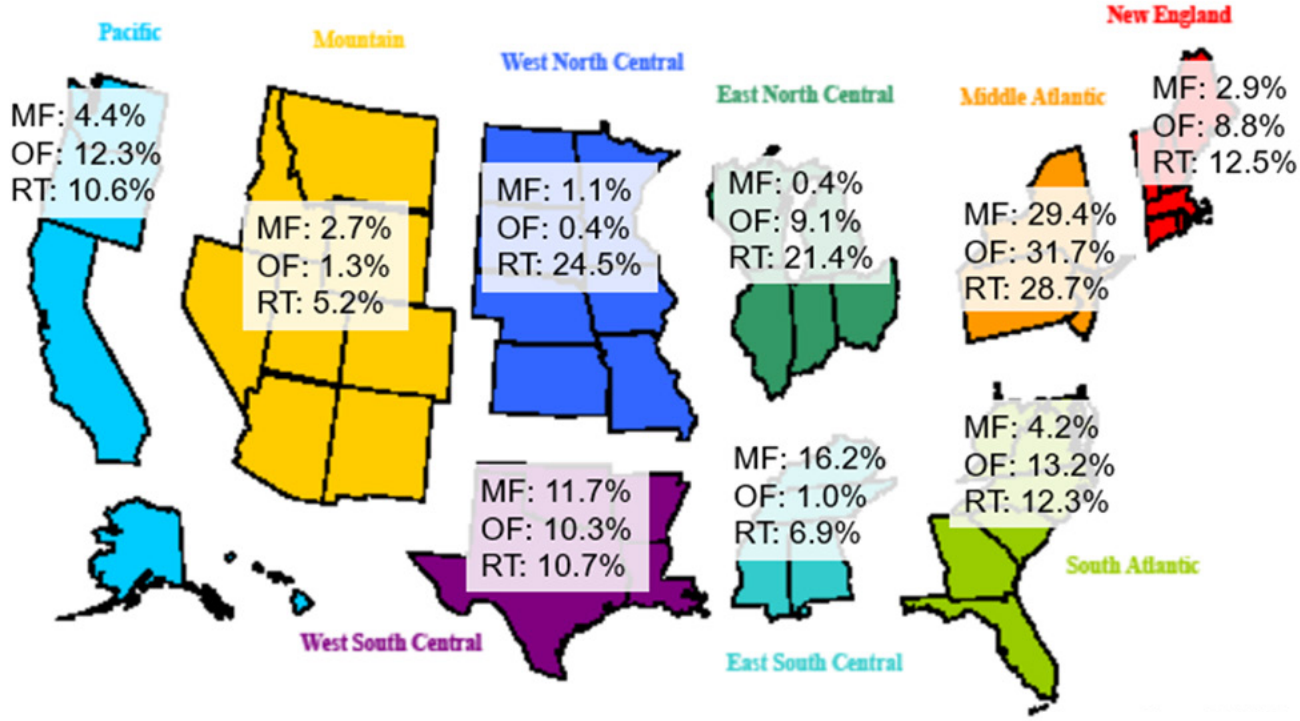
Criticized Loans by Region - 4Q 2021



Source: Trepp T-ALLR

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The overall delinquency rate for loans against properties in the Northeast was 1.31 percent, the highest of all regions, as loans against both hotels and retail properties recovered more slowly than those in other regions, and loans against office properties have continued to struggle.

In contrast, the recovery in the Midwest and South has been relatively robust, with overall delinquency rates declining. But data for individual property types was mixed.

In the Midwest, the delinquency rate for retail loans was slashed to 6.11 percent from 10.71 percent in the third quarter. And for hotel loans, it declined to 5.9 percent from 6.61 percent.

While the hotel delinquency rate in the South had risen, to 2.37 percent from 2.23 percent, that for retail fell to 2.32 percent from 2.79 percent.

Criticized loan rates show significant variation across geographies and property types.

When the pandemic hit in the first quarter of 2020, lenders were allowed to offer forbearance, which typically involved allowing for the deferral of debt-service payments for a few months, to Covid-impacted borrowers.

If forbearance was granted, the loan receiving the benefit would not be marked as delinquent. But risk ratings were expected to change to reflect lenders' expectations for the ultimate repayment of any amounts deferred. So, while delinquency rates didn't change much to the economic disruption of 2020, risk ratings were adjusted immediately.

In the Mid-Atlantic, criticized loan levels for every major property type are at elevated levels. In the overall Midwest region, more than one-fifth of bank loans are criticized.

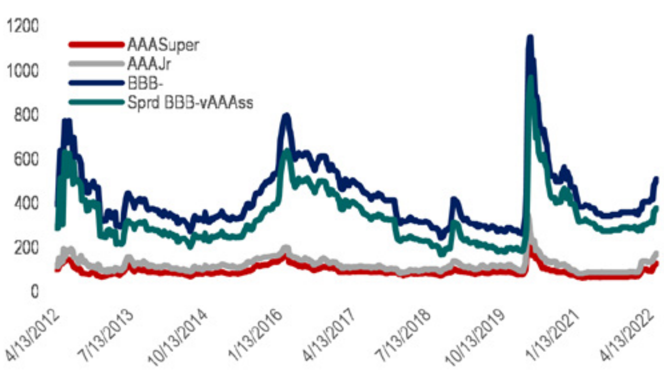
There are several pockets of concern across the Southern region. In the West and East South-Central regions, the multifamily sector reported elevated rates. Meanwhile, in the West South Central and South Atlantic regions, both office and retail loans are areas of concern. ■

CMBS Conduit Spreads Widen Substantially So Far in 2022

CMBS conduit spreads on both the primary and secondary markets have widened substantially so far this year, as investors have grown concerned about inflation and an economic slowdown.

The last conduit deal to price in May, BANK, 2022-BNK42, saw its benchmark class, with a 10-year average life and the highest possible ratings, price at a spread of 158 basis points more than swaps. That compares with a 100-bp spread for the year's first conduit, BANK, 2022-BNK39. And that deal had more conservative underwritten risk metrics.

CMBS Conduit Spreads Since GFC



Source: Commercial Real Estate Direct

The widening of lower-rated bond classes has been even more dramatic, with the BBB- bond class from the BNK42 deal pricing at a spread of 540 bps more than swaps versus 360 bps for the BNK39 deal.

The big difference in that time has been market sentiment. Inflation is now the big concern, as is the risk of an economic slowdown. So, investors are itching for additional yield.

The yield on the 10-year Treasury note has jumped by nearly 100 bps since the start of the year, to 2.78 percent from 1.85 percent when the BNK39 deal priced.

The same story is being told in the secondary market, where median spreads for generic bonds have climbed by 85 percent since the beginning of the year to 129 bps more than swaps for benchmark bonds. The spread widening down in credit hasn't been as dramatic. But the difference between the yields that investors are seeking from the highest-rated CMBS paper and that rated BBB- has grown by roughly one-third, to nearly 400 bps from just less than 300 bps at the start of the year.

Spreads on the secondary market remain tighter than they were when the coronavirus pandemic began. But they're as wide as they were in early 2016, when turmoil in the energy market caused a pullback from risk. With oil then declining to less than $30/barrel, the worry was that a rash of energy companies would file for bankruptcy, pushing prices for energy-related loans lower and increasing credit concerns, both in energy and other markets. That drove spreads for all credit securities wider.

Median spreads for conduit benchmark bonds then had ballooned to 165 bps more than swaps. They then started their decline and began stabilizing at about 85 bps more than swaps. But once the pandemic hit they blew out, with benchmark bonds widening to close to 280 bps more than swaps and BBB- bonds widening to 1,500 bps more than swaps from about 300 bps. ■

Winners of Trepp's Futu

Trepp Inc. is pleased to announce the winners of its June 2022 Future Commercial Real Estate Leaders Awards program. Through Trepp's E sector upon graduation. This year, we wanted to not only recognize the efforts of our undergraduate students, but also those with an MBA or M

Commercial Real Estate Influencers

Yifan Chen
Pennsylvania State University

Teo Nicolais
MIT

Maxence Valentin
Pennsylvania State University

Graduate Leaders

Bruce Burton
Georgetown University

Tony June
Pepperdine University

Jared Lawrence
Florida State University

Yue Lyu
Cornell University

Chasidy Miles
Cornell University

Jordan Owen
MIT

Cody Perez
Cornell University

Musa Sultan
Cornell University

Undergraduate Leaders

Nick Belbas
University of Utah

Jake Berger
University of Virginia

John Butner
University of Mississippi

Sam Collins
Univ. of Wisconsin - Madison

ure CRE Leaders Awards

ducation Segment, the program was designed to recognize stand-out undergraduates looking to make an impact in the commercial real estate
lasters in Real Estate, as well as our CRE influencers. Trepp congratulates the June 2022 winners! Read their complete profiles at www.trepp.com.

Undergraduate Leaders

Ben Dunlap
Drew University

Kirsten Evans
Texas Tech University

Angela Geraci
DePaul University

Lawson Lawrence
University of Central Florida

Edward LeBoyer
Richmond, American International Univ. - London

Val McWilliams
University of Florida

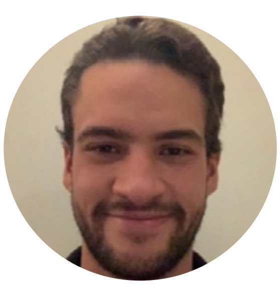
Mackenzie Merson
University of Florida

Sahil Modi
Lehigh University

Sonia Moors
University of Virginia

Chris Nordstrom
University of Missouri

Nick Parker
Southern Methodist Univ.



Santiago Salem
NYU - Shanghai

Jack Watson
Rochester Institute of Technology

Matt Wilcox
University of Utah

Interest Rates and Commercial Real Estate: What to Expect?

The Federal Reserve has increased the federal funds rate twice this year—in March and again in May—signaling an end to the extremely low interest rate environment of the last two years.

Inflation at more than 6 percent is much hotter than the Fed's goal of at most 2 percent. The Fed appears to remain hopeful that it will not have to tighten dramatically in order to bring down inflation, but further rate hikes are virtually guaranteed.

Interest-rate increases make credit more expensive, which would have a disproportionate impact on capital-intensive industries, such as real estate. More expensive credit also increases investors' return requirements, which is reflected in higher capitalization rates for commercial real estate investments. Higher cap rates have a negative impact on prices, meaning that future property appreciation would need to rely more heavily on rental income growth than cap-rate compression.

As the Fed follows through with more increases this year—and possibly beyond—investors and lenders should prepare for slower commercial real estate price growth. Real (inflation-adjusted) returns will be close to zero or minimally positive, as inflation reduces the value of higher nominal values. Even nominal (non-inflation-adjusted) growth will likely be reduced by 300 to 500 basis points when compared to the recent strong appreciation of the 2019-2021 period.

Correlations

Interest rates, inflation and commercial real estate price growth are positively correlated with each other, although some relationships are stronger than others. The table above shows correlations for interest rates and trailing one-year growth measures for inflation and commercial real estate prices from 1954 to the first quarter of 2022.

Correlations - Interest Rates, Inflation, Commercial Real Estate Price Growth (3Q 1954 - 1Q 2021)

	Fed Funds Rate	10-Year T-Bond Yield	CPI (Total)	GDP Deflator	CRE Prices
Fed Funds Rate	1.000				
10-Year T-Bond Yield	0.916	1.000			
CPI (Total)	0.734	0.641	1.000		
GDP Deflator	0.721	0.646	0.931	1.000	
CRE Prices	0.258	0.099	0.377	0.433	1.000

Note: Trailing One-Year Change for CPI, GDP Deflator and CRE Prices
Sources: Federal Reserve, Bureau of Labor Statistics, Bureau of Economic Analysis, Trepp Inc.

- Interest rates are highly correlated across the maturity spectrum—the 10-year Treasury note yield and Fed Funds rate are very highly correlated, with a correlation rate in excess of 90 percent.
- Interest rates are strongly correlated with inflation, with correlation rates of 65 percent to 75 percent.
- Commercial real estate prices show moderate correlation with inflation (correlation rates of 43 percent and 38 percent vs the Gross Domestic Product Deflator and Consumer Price Index, respectively) and weaker correlation with interest rates. When general price levels increase, real estate rental income tends to increase as well. This is what provides real estate with its reputation as an inflation hedge.
- So, despite negative impacts on the pricing of future cash flows, real estate tends to be somewhat shielded from the impacts of higher inflation, at least in nominal (non-inflation adjusted) terms.

Recent Commercial Real Estate Price Performance

Economic, financial and commercial real estate indicators delivered mixed results during first quarter, in contrast to the benign conditions of 2021. Direct real estate investment delivered still-strong returns in first quarter, as evidenced by the 18.5 percent annualized increase in the National Council of Real Estate Investment Fiduciaries, or NCREIF, price index. But public market real estate prices fell during the period, with the National Association of REITS, or NAREIT, equity index falling by -8.3 percent, as

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Recent Performance - Economic and Financial Indicators

	CRE Price Growth*			Interest Rates**		Economic Indicators		Inflation*	
Year	Fed Index	NCREIF	NAREIT	Fed Funds	10-Year T-Bond	GDP Growth*	Unemployment Rate**	CPI (Total)	GDP Deflator
2019	7.7%	3.6%	9.7%	2.2%	2.1%	2.3%	3.7%	2.3%	1.6%
2020	5.1%	-1.1%	-12.5%	0.4%	0.9%	-3.4%	8.1%	1.3%	1.3%
2021	12.4%	14.6%	29.4%	0.1%	1.4%	5.7%	5.4%	7.1%	5.9%
1Q22	NA	18.5%	-8.3%	0.1%	1.9%	-1.4%	3.8%	8.6%	6.8%

** Annual (Annualized) Change*
*** Annual Average*
Note: NAREIT = Equity REIT Price Index
Sources: Federal Reserve, Bureau of Labor Statistics, Bureau of Economic Analysis, NCREIF, NAREIT and Trepp Inc.

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investors digested the expected impacts of higher interest rates. Other indicators also are mixed. Labor markets remain strong, with low unemployment and a large number of unfilled job positions. But inflation is high and interest rates have been increasing, raising the cost of capital.

During the last two years, commercial real estate prices have benefited in a low rate environment. When the coronavirus pandemic hit in early 2020, the Fed boosted liquidity through lower interest rates as well as numerous lending programs. These actions helped support commercial real estate while the economy went through wrenching plunges in output and a surge in unemployment. Commercial property prices posted a 5.1 percent gain that year, as liquidity was propped up by sharply lower rates.

Commercial real estate prices have held up even better as the economy has recovered. Property prices increased by 12.4 percent in 2021, and as GDP grew, the unemployment rate retreated and interest rates remained low. Interest rates remained low despite higher inflation, as price increases were initially seen as likely a temporary phenomenon.

Interest Rates and Commercial Real Estate Price Growth

Higher interest rates appear to be having an impact on commercial real estate prices, pushing cap rates higher in aggregate and for most property types.

Cap rates have increased by 60 bps overall since the third quarter of 2021. For the most popular property types—industrial and multifamily—cap rates have increased a relatively modest 20 bps since then. But for the office and hospitality sectors—two property types where investors and lenders have been treading more cautiously—cap rates have increased by 60 and 90 bps, respectively. Retail is the only major property type to enjoy a reduction in cap rates, with a drop of 100 bps from the third quarter of 2021. However, it should be noted that the recent cap rate figures are based on a relatively small number of transactions.

Capitalization Rates by Property Type

Capitalization rates on valuations from new loan originations.
Source: Trepp Inc.

The increases in cap rates during the last few quarters imply a beta versus the 10-Year Treasury of about 0.4. That relationship has been fairly steady

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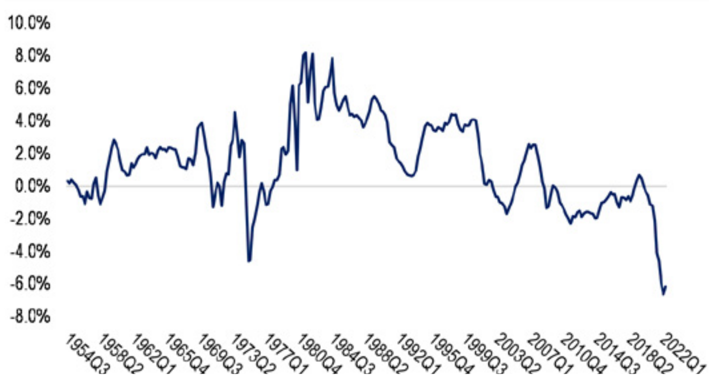
during the most recent quarters, ranging from 0.24 to 0.47 per quarter. The beta can shift if cap rate spreads versus Treasury yields either compress or expand. But the positive relationship would imply that future increases in long-term Treasury yields will tend to drive cap rates higher, which will have a negative impact on commercial real estate prices, at least over a short time frame.

How High Will Rates Go?

Market expectations have been volatile since the Fed's rate increases began in March. Future rate expectations reached a recent peak in early May, when the Fed tightened for the second time this year. Bond market pricing at that point implied further rate hikes of as much as 300 bps over the next two years—160 bps this year and up to 140 bps next year. Since then, recession fears have had an impact on financial markets, with lower stock market prices and tempered interest-rate expectations. As of late May, the bond market was pricing in 230 bps of increases over the next two years, with 130 bps this year and 100 bps next year.

Real Fed Funds Rate



Sources: Federal Reserve, Bureau of Economic Analysis and Trepp Inc.

Pressure on the Fed to address inflation remains high. In its May rate hike announcement, the Federal Open Market Committee, or FOMC, reiterated its goal of achieving a maximum inflation rate of 2 percent. In recently-released notes from the May meeting, the Fed noted that the Personal Consumption Expenditures, or PCE, Price Index—its preferred inflation measure—was running at an annual rate of 6.6 percent as of March, while core PCE price inflation was running at an annual rate of 5.2 percent. The FOMC also noted that economic conditions remain strong.

It is possible that the Fed will need to tighten further still, beyond the 200-plus bps that are currently priced into financial markets. Real rates (the Fed Funds rate minus trailing inflation)—at nearly negative 6 percent—are the most negative they have been in the last 60 years, as shown in the chart to the left.

Inflation pressures are significant. Oil prices had surged as high as $137/barrel in early March before retreating to $115/barrel. That's still 72 percent higher than a year ago. Tight labor markets may be contributing to a wage-price spiral. And supply-chain disruptions that began at the onset of the pandemic are still contributing to imbalances that have helped drive prices higher.

The Bottom Line

Interest rates will increase further this year and possibly next. The Fed will tighten further, which will drive short-term rates higher. Long-term interest rates could also go higher, but judging from recent trends, it is possible that there will be a flattening of the yield curve and long-term rates could remain in the near 3 percent range. If inflation remains high, however, further Fed rate increases could be coming, which could drive long-term interest rates beyond the 3 percent range.

For investors, the strong appreciation of the last several years will be interrupted. Real (inflation-adjusted) returns will be flat, likely in the 0 percent to 1 percent range, compared to the recent real growth rates of 5 percent to 6 percent. Nominal returns will fare somewhat better, driven by rental income growth, which will at least partially offset higher cap rates. Nominal returns will likely be in the 3 percent to 5 percent range, down from the recent 8.4 percent average of 2019-2021.

Continue on next page

Federal Policy in 2022 Has Shifted to Regulators

As we predicted in our January update, federal policy this year has largely shifted to regulators from legislators, as Congress turns its focus to the midterm elections.

First Half 2022 Recap

While Congress and the Biden Administration have yet to reach a breakthrough on major budget reconciliation, a handful of major bills made it to the President's desk, including a government funding bill and aid to Ukraine. We may see more legislation before the election or in the lame-duck session after the midterms. A few key proposed rule-makings also were issued.

Libor Bill Enacted

The Commercial Real Estate Finance Council's marquee legislative accomplishment was the passage of a federal legislative fix for financial contracts that do not consider Libor's permanent cessation and have no workable fall backs (so-called "tough legacy" contracts).

CREFC worked with key partners across the financial industry to build bipartisan support for the bill, which ultimately was included in the 2022 government spending bill and signed by President Biden in March. The Libor bill will minimize the risk of litigation and adverse economic impacts associated with the transition to SOFR and provide greater certainty to investors, businesses and consumers.

SEC Climate Disclosure Proposal

In March, the SEC released its long-awaited proposed rule that would require registrants to include certain climate-related information in a variety of public reports, including Form 10-K.

While asset-backed issuers are specifically excluded from this proposal, the rule captures many CREFC members that are public companies and registrants. At the time of this writing, CREFC is finalizing comments that will likely request that the SEC:

• Allow the commercial real estate finance industry to develop its own best practices, including use of the CREFC Investor Reporting Package™, to address climate-change risk, which will be carefully tailored to its market participants;

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For debt markets, higher interest rates will mean higher costs for borrowers, especially floating-rate borrowers. Debt-service coverage ratios on existing floating-rate loans will decline, making these loans riskier. New debt will become more expensive, which will have a near-term depressing effect on demand for debt.

Over a somewhat longer time frame—beyond the one-year outlook—higher rental income will boost property net operating income and nominal price growth, which would improve DSCR and loan-to-value ratios on existing fixed-rate loans. So, while floating-rate loans will become riskier with higher interest rates, fixed-rate loans will become less risky.

Overall, real estate capital flows should remain positive, with both equity investors and lenders contributing capital. There may be some near-term volatility in 2022, but higher rates will attract capital later in the year and beyond.

For equity investors, the still-positive nominal returns of commercial real estate will attract fresh investment when fixed-income investments, like bonds, fall in value. For lenders, higher interest rates will mean increased income and, with the prospect of longer-term income and appreciation, loans made today will seem less risky in the years ahead. ■

Continued from previous page

• Provide more clarity and guidance on how the commercial real estate finance industry should approach the reporting of scopes 1, 2 and 3 emissions[1];

- If scope 3 disclosures are required for the commercial real estate finance sector, grant appropriate industry-specific safe-harbors and exemptions, require disclosure only annually and only require disclosure of reasonable estimates.
- If scopes 1 and 2 disclosures are required for the commercial real estate finance sector, grant appropriate industry-specific safe-harbors and exemptions for at least scope 2 reporting, only require disclosure annually and only require disclosure of actual data.

• Consider delaying any implementation of the reporting threshold for the aggregate impact of severe weather events, other natural conditions, transition activities and identified climate-related risks until after the Financial Accounting Standards Board, or FASB, sets accounting rules for such reporting and there are further developments on improving the ability of industry participants to gather the relevant information.

CREFC and other respondents were successful in their request to extend the comment deadline by one month, but policymakers and the industry continue to be concerned with the heavy volume and wide scope of SEC rule-making since the end of 2021, as many of these proposals overlap. For example, the SEC just proposed two rules related to the investment fund naming processes and disclosures which would:

• Ensure named funds with a stated investment goal (e.g.: Environmental, Social and Governance, or ESG) properly align their investments to that goal, and

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1 *The proposed rule defines scope 1 greenhouse gas (GHG) emissions as direct emissions from operations that are owned and controlled by a registrant; scope 2 GHG emissions as indirect emissions from the generation of purchased or acquired electricity, steam, heat or cooling that is consumed by operations owned or controlled by a registrant; and scope 3 GHG emissions as all indirect emissions not included in scope 2 and include all upstream and downstream activities that are linked to the company's operations.*

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- Require funds to provide additional specific disclosure requirements regarding ESG strategies and require certain environmentally focused funds to disclose the greenhouse gas, or GHG, emissions associated with their portfolio investments.

Community Reinvestment Act (CRA) Proposal

Federal banking regulators finally are all on the same page in regards to revising the CRA, which mandates that banks meet the credit needs of the communities in which they do business, with a particular focus on low- and moderate-income communities. For commercial real estate and multifamily finance, key questions include what types of activities count toward CRA credit, such as mortgage-backed securities investments in affordable housing, and how can affordable housing be created or preserved. CREFC will respond to the proposal; comments are due Aug. 5.

Anti-Money Laundering and Russia Sanctions

Regulators continue their focus on preventing money laundering and other forms of illicit finance. Real estate is a major target of their efforts. CREFC responded to Treasury's Financial Crimes Enforcement Network (FinCEN) advanced proposal on extending certain regulations to non-financed real estate transactions and urged FinCEN to distinguish true "all-cash" transactions from commercial real estate mortgages made by non-banks. The proposal is still in the preliminary stages, but FinCEN will likely issue a decision by year's end.

The Russian invasion of Ukraine has drawn sharp repudiation on the world stage, with both official sanctions and many multinational firms exiting Russia. A critical component of this response is sanctions compliance, including ensuring no sanctioned parties are involved in the ownership of U.S. commercial real estate or borrowing against it.

In March, House Financial Services Chairwoman Maxine Waters (D-CA) sent a letter to CREFC and 30 other trade associations asking them to survey their member companies on their business activities in Russia and compliance with sanctions. As CREFC members' lines of business are focused on U.S. real estate, CREFC responded generally that the industry has significant "Know Your Customer" controls to identify and comply with sanctions.

Midterms and Beyond

With under five months until the midterm elections, Congress may make another push for tax reform and social spending. But time is running out, and the political environment continues to sour for Democrats and President Biden. As of now, Republicans are widely expected to retake the House of Representatives, where they need to only flip five seats to reach a 218 majority. Over in the Senate, the 50-50 split leaves both parties with zero margin of error to defend their current seats.

What does it mean if one or both chambers flip?

Neither party will be able to pass their initiatives without bipartisan support. A divided government is also unlikely to affect regulatory activities and new rule-makings. While Republicans could haul regulators to hearings and pass messaging bills in the House and Senate, they would be unable to repeal regulations without Biden's signature. The most likely avenue for overturning Biden's regulations is the courts, which over the past decade have become increasingly skeptical of regulatory power.

Some observers are hopeful a divided government could lead to more bipartisanship on some issues, including housing. As they have during the Biden administration, the parties will have to work together to pass government spending and debt-ceiling bills, which could heighten risk for shutdowns or brinkmanship. ■

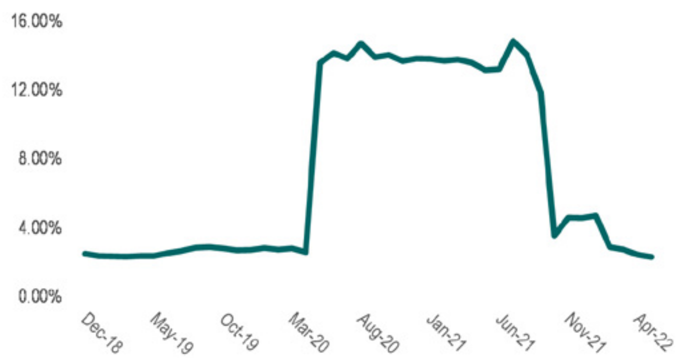
Justin Ailes is managing director of government relations, Sairah Burki is managing director of regulatory affairs and David McCarthy is managing director and head of policy at CREFC.

CMBS Loans Against Single-Tenant Properties Got Hammered During Covid, Recovered Nicely

The CMBS universe includes more than $10 billion of loans against properties leased to single tenants.

The delinquency rate for single-tenant properties spiked following the coronavirus pandemic and subsequent recession, as shown in the chart below.

Delinquency Rates - Single Tenant CMBS Loans



Source: Trepp Inc.

That's no surprise, given that the vast majority of single-tenant properties are leased to retail tenants, most of which were especially hard hit by actions put in place in an effort to stem the pandemic, including massive shutdowns of all but "essential" outlets. Particularly hard hit were fitness centers, which in many areas suffered from extended closures. And loans typically become delinquent when their collateral doesn't generate sufficient cash flow to service them.

The delinquency rate for loans against single-tenant properties had spiked to 13.57 percent in May 2020 from 2.58 percent the month before. It floated around that level until August 2021, when it receded to 11.86 percent. And a month later, it plunged to 3.54 percent. In May, it stood at 2.3 percent—lower than it was during pre-pandemic times.

That handsome recovery has been the result of an across-the-board increase in net operating income at single-tenant properties backing CMBS loans.

A sample of 530 loans for which 2020 and 2021 collateral financial performance data are available shows a 5.21 percent overall increase in collateral NOI. The largest properties—those with 200,000 square feet or more—saw an outsized 19.44 percent increase in NOI, while the smallest—those with 15,000 sf or less—saw a 4.9 percent increase.

While the performance of single-tenant loans in CMBS deals has recovered, they could be in for rocky times, particularly if the economy softens. Single-tenant properties typically are leased on a relatively long-term basis. But the fortunes of that single tenant determine the fate of the property and any loan it backs. As such, the risk is said to be binary, in that if the tenant remains in business, the property it leases performs as expected. But if it goes out of business, the property goes dark and its loan defaults. ■

Largest Single-Tenant CMBS Loans

Property Name	Location	Bal ($mln)	Deal Name	Tenant	Lease Exp. Date	Loan Maturity Date
1551 Broadway	Manhattan	172.40	GSMS 2011-GC5	American Eagle	2/29/2024	7/6/2021
Stop & Shop Portfolio	Various	45.00	BANK 2020-BN25	Stop & Shop	12/31/2026	1/1/2030
155 Mercer St.	Manhattan	41.00	COMM 2015-LC21	Dolce & Gabbana	11/30/2022	5/6/2025
Best Buy - Sherman Oaks	Sherman Oaks, Calif.	32.25	BMARK 2018-B4	Best Buy	1/31/2028	5/1/2028
One Stockton	San Francisco	30.00	WFCM 2020-C55	T-Mobile	11/30/2026	12/6/2029
141 Fifth Ave.	Manhattan	25.00	MSBAM 2017-C33	HSBC Bank	10/31/2022	5/5/2027
Home Depot - Livonia MI	Livonia, Mich.	24.70	WFCM 2019-C50	Home Depot	1/31/2026	4/11/2029
BJ's Wholesale Club - Kendall	Miami	22.10	BMO 2022-C1	BJ's Wholesale Club	1/31/2027	1/6/2032

Source: Trepp Inc.

LifeCos' Commercial Mortgage Returns Take Hit as Interest Rates Climb

Commercial mortgages held by life insurance companies generated a 4.71 percent negative total return in the first quarter, according to the LifeComps Index, which is managed by Trepp Inc. That compares with a 0.21 percent return in the fourth quarter of last year.

The latest quarter's negative return was driven by the 5.66 percent decline in loan values, which was offset slightly by the 0.95 percent income generated by life company loans.

The negative loan values were prompted by an increase in the 10-year Treasury yield to its highest point since early 2019. As yields increase, loan values decline. The yield on the 10-year Treasury note had averaged 1.95 percent in the first quarter, up from 1.53 percent in the fourth quarter. The Treasury ended the first quarter at 2.32 percent, up from 1.52 percent at the end of last year.

LifeComps Balance & Performance

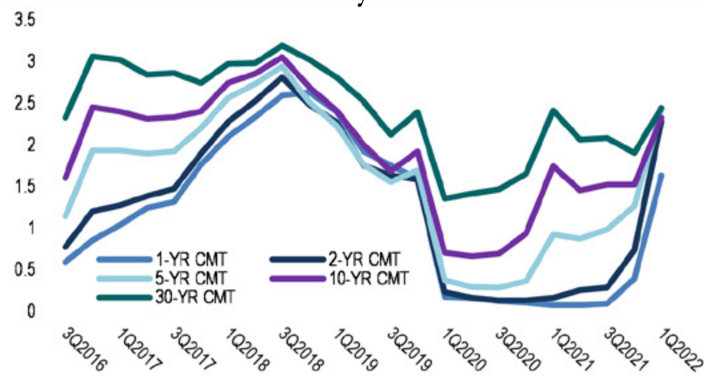
	2Q2021	3Q2021	4Q2021	1Q2021
Loan Count	7,996	7,991	7,882	7,828
Balance ($Bln)	155.00	157.50	157.30	158.30
Value ($Bln)	164.30	166.30	164.60	156.40
Duration	5.214	5.229	5.259	5.14
Index	495.703	498.812	499.841	476.313
Total Return	**2.288**	**0.627**	**0.206**	**-4.707**
Income	1.008	0.998	1.037	0.952
Appr.	1.280	-0.371	-0.831	-5.659

Source: Trepp LifeComps Index

The index tracks 7,828 loans with a balance of $158.3 billion, which represents about 27 percent of all commercial mortgages held by life insurance companies. The loans in the index have an average term-to-maturity of 5.14 years.

Values had declined in the fourth quarter, by 0.83 percent, also because of an increase in yields. But the decline was relatively muted as yields had increased only marginally.

Treasury Rates



Source: Trepp LifeComps Index

Loans against hotel properties outperformed those backed by any of the other major property types, in both the latest quarter and the latest 12-month period, with a 3.08 percent negative return, or loss, in the latest quarter and a 3.49 percent total return during the latest 12-month period.

Retail loans had a 3.32 percent loss in the latest quarter and 0.41 percent return in the latest 12-month period.

Total Returns

Prop Type	1Q Return	12 Mos.
Multifamily	-5.328	-2.553
Lodging	-3.081	3.489
Industrial	-5.168	-2.115
Office	-4.315	-1.755
Retail	-3.322	0.412

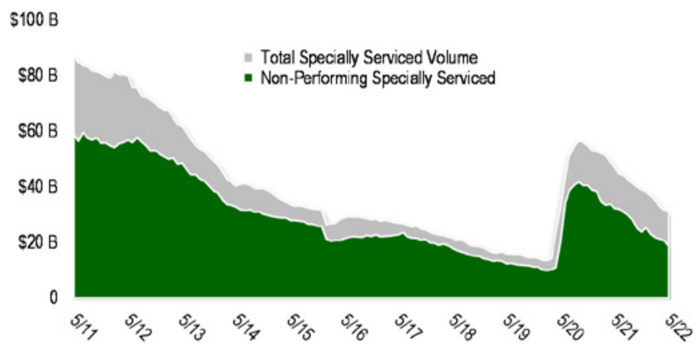
Source: Trepp LifeComps Index

The two benefited from the fact that investors are no longer blacklisting the two property types, as risks tied to the coronavirus pandemic have subsided, increasing demand for loans against them.

Over the long haul, the LifeComps index has steadily increased, but it has fluctuated during certain periods as interest rates either declined or increased.

The index, formally launched in 2003, was based on mortgage performance data that a group of life insurers had been compiling since 1996. Those insurers were Equitable Life, John Hancock Life, Northwestern Mutual, Principal Financial and Prudential Insurance. Those five since have been joined by Allstate Life, Connecticut General, Sun Life, Symetra and TIAA. ■

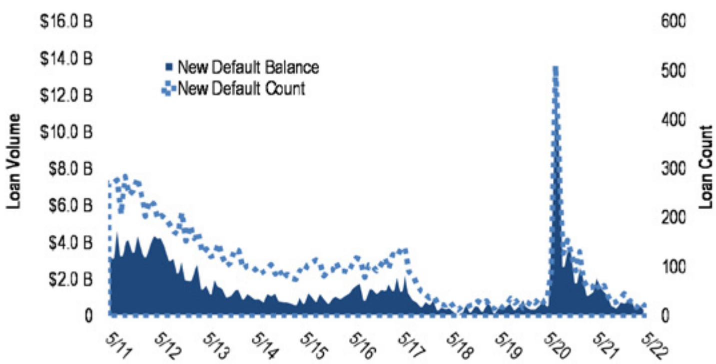
Special Servicer Volume



Source: Trepp Inc.

In May, a total of $30.78 billion of loans were in special servicing, marking the 20th-straight month in which the volume has dropped. Last month's volume compares to $46.96 billion at the same time last year and $32.05 billion in May 2020, more than two months into the coronavirus pandemic. In May 2019, $15.79 billion of loans were in special servicing.

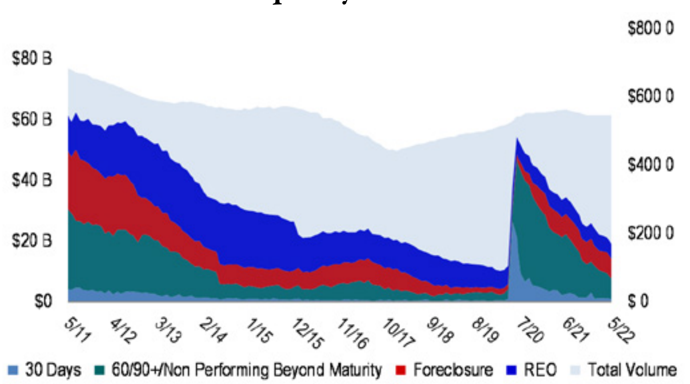
Monthly New Defaults



Source: Trepp Inc.

So far this year, an average of $640.92 million of loans defaulted each month. That's down sharply from the $1.97 billion monthly average in the first half of last year and compares to the $1.47 billion monthly average during the first half of 2020.

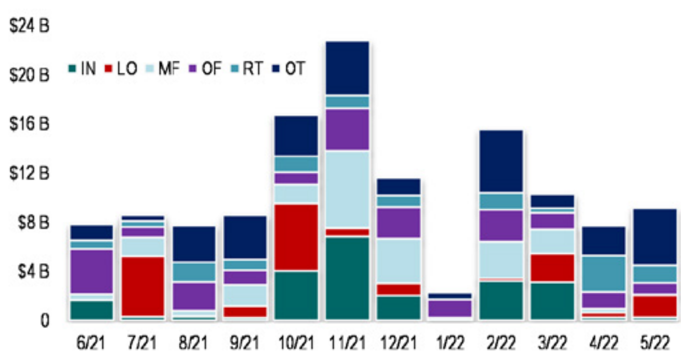
Delinquency Breakdown



Source: Trepp Inc.

The volume of loans that are more than 30 days late totaled $18.87 billion in May, or 3.14 percent of the $600.86 billion CMBS universe. That percentage is down from 3.51 percent in April and is the lowest delinquency rate since April 2020, when it was 2.42 percent. The rate had spiked to 10.32 percent in June 2020.

CMBS Issuance by Property Type



Source: Trepp Inc.

A total of $45.06 billion of CMBS has been issued so far this year. That's up from the $39.72 billion of issuance through the first half of 2021. The issuance this year had a $6.83 billion, or about 15.16 percent, concentration of industrial loans. Meanwhile, hotel and retail loan, both of which suffered greatly during the pandemic, had $4.81 billion and $6.12 billion concentrations, respectively, through the end of last month.

Become a CRE Finance Council Member Today!

CREFC is the “Voice of the Commercial and Multifamily Real Estate Finance Industry” dedicated to promoting liquidity, transparency, and efficiency in the commercial real estate finance markets.

CREFC plays a vital role in setting market standards and best practices and providing numerous educational opportunities to its members. It importantly acts as a legislative and regulatory advocate for the industry, which while always important is certainly more so in the current pandemic environment and a new Administration in Washington, D.C.

CREFC’s member companies are integral components of the US economy through the financing of office, industrial, retail, hotel and multifamily real estate.

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- Events
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For more info please visit www.crefc.org or email membership@crefc.org

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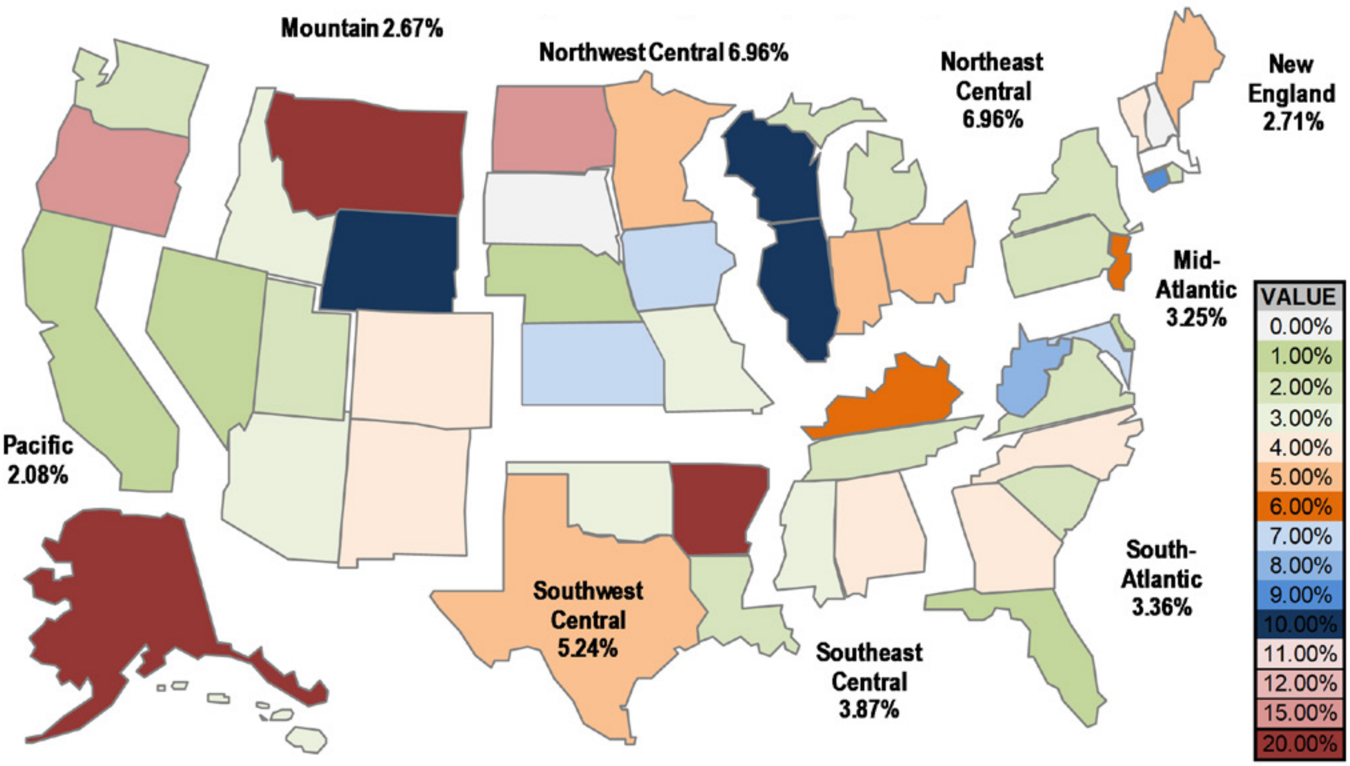
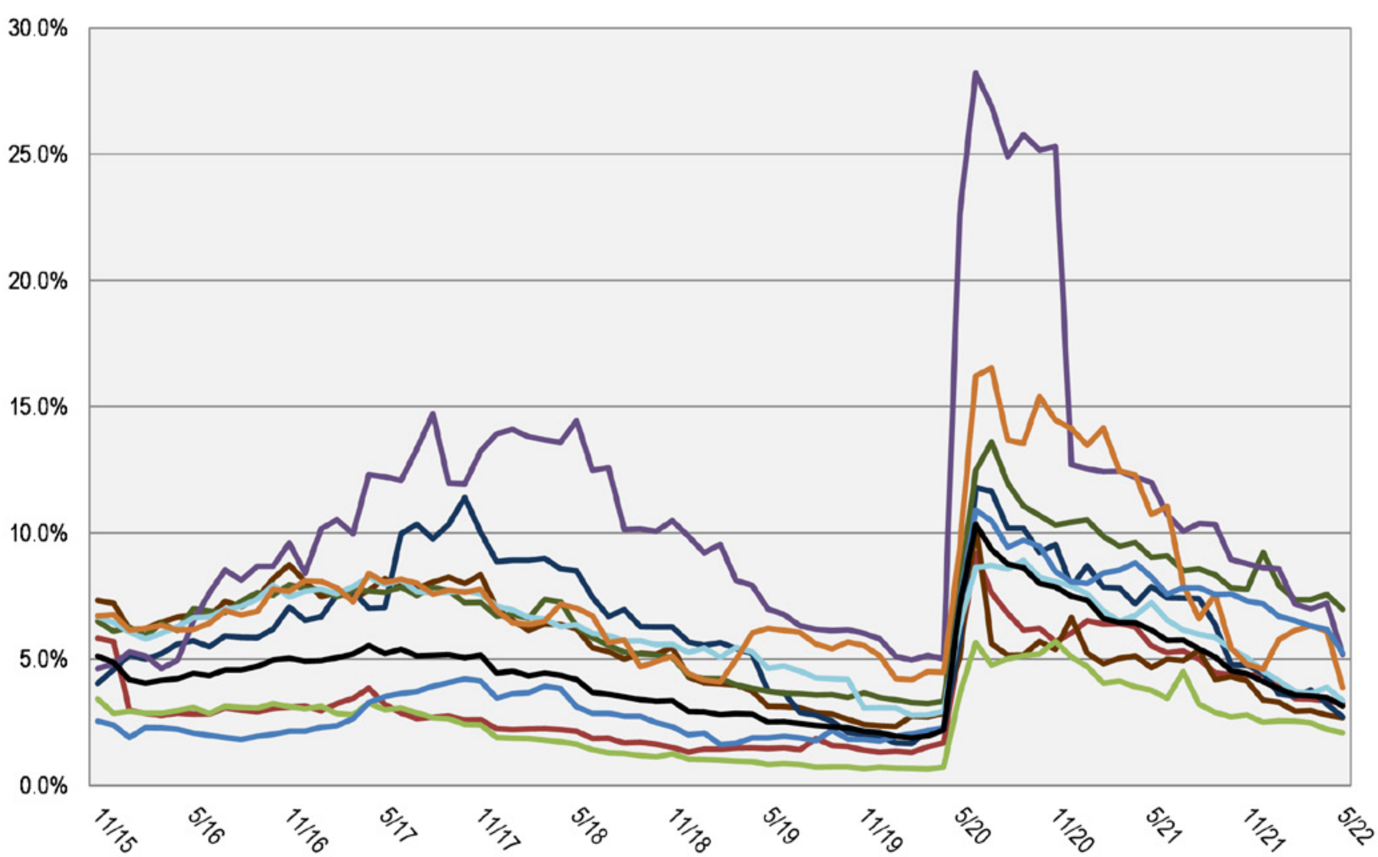
Delinquencies by State and Region - May 2022



Delinquencies by Region - May 2022



Source: Trepp Inc.

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