

Giliberto-Levy Commercial Mortgage Performance Index (G-L 1)

Monitor First Quarter 2022



GILIBERTO-LEVY
COMMERCIAL REAL ESTATE DEBT INDEXES

Giliberto-Levy Commercial Mortgage Performance Index

First Quarter 2022 Summary

| Total Return: (in %) | | Spreads: (as of 3/31/2022) | | Index Statistics: (as of 3/31/2022) | |
|----------------------|-------|----------------------------|-----|-------------------------------------|--------|
| Office | -3.87 | Office | 199 | Capitalization (\$ billion) | 291.03 |
| Multi-family | -4.68 | Multi-family | 176 | Duration (years) | 5.18 |
| Retail | -3.96 | Retail | 200 | Coupon (%) | 3.89 |
| Industrial | -4.70 | Industrial | 167 | Maturity (years) | 7.11 |
| Total (all sectors) | -4.41 | | | Book LTV (%) | 45.32 |

Spreads are averages for new ten-year loans at 60%-65% loan-to-value ratio.

Source: Giliberto-Levy

The Giliberto-Levy Commercial Mortgage Performance Index (G-L 1) posted a **-4.41% total return for 1Q 2022**.¹ Treasury yields rose at all points on the yield curve, leading to a -5.32% capital value decline in the index. Commercial mortgage credit spreads compressed slightly early in the quarter but shot up in March (see Chart 1).

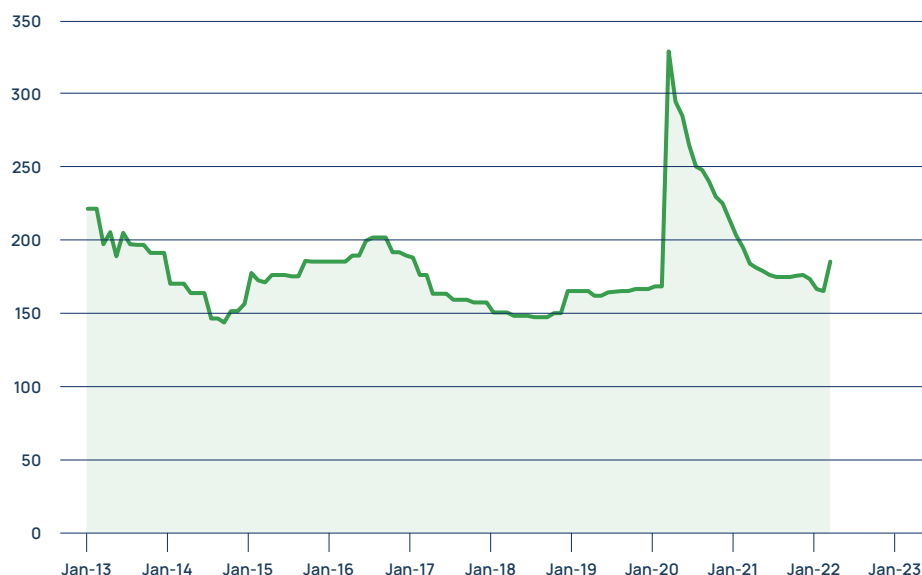
We have pointed out in the past that about two-thirds of the time a change in Treasury yields goes with a credit-spread move in the opposite direction. 1Q 2022 fell into the one-third of instances in which Treasury yields and mortgage spreads moved in the same direction.

Chart 1

Spreads over Treasuries for Ten-year Commercial Mortgages

(In basis points, reflecting 30/360 day count convention)

Source: Giliberto-Levy. Chart data are equally weighted averages of office, apartment, retail and industrial property loans at 60% to 65% LTV.



¹ The Index's components are fixed-rate commercial mortgage loans held on balance sheets of institutions such as life insurance companies and pension funds. Index returns are a market-value-weighted blend of office, apartment, retail, industrial, lodging, mixed-use and other miscellaneous property types. Index performance tracks senior loans only; it does not include construction loans, mezzanine and other subordinate instruments and bridge loans made by such institutions.

All maturities in the U.S. Treasury yield curve exhibited increases (see Charts 2 and 3). The curve flattened as yields from one to five years increased more than longer-term yields. Measured across select maturities, e.g., three years compared to ten years, the curve was slightly inverted. Inversions sometimes precede recessions, so this phenomenon roiled investors.

Chart 2

US Treasury Yields

(In %)

Source: U.S. Treasury; Giliberto-Levy

◆ Dec 31, 2021
■ Mar 31, 2022

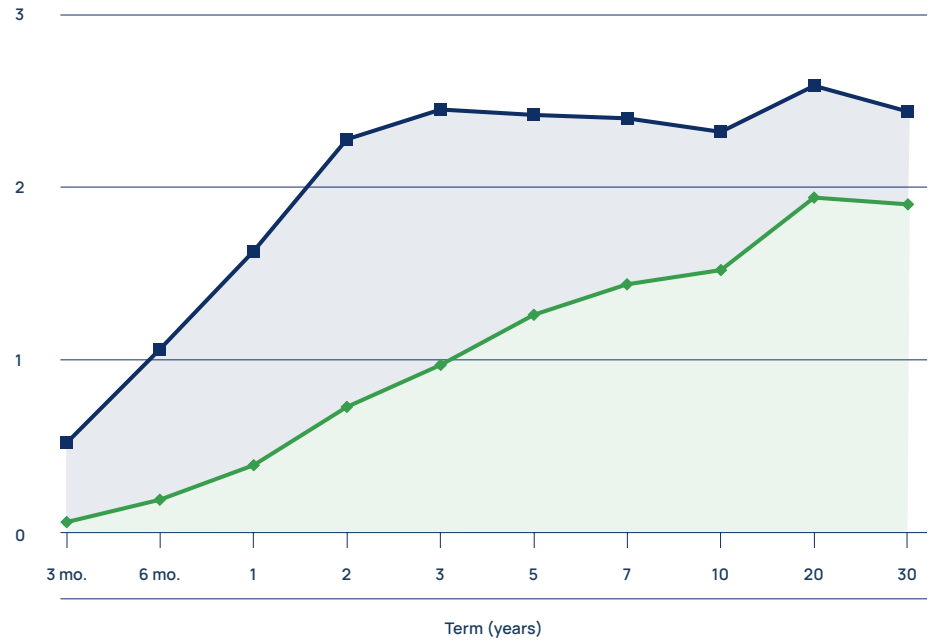
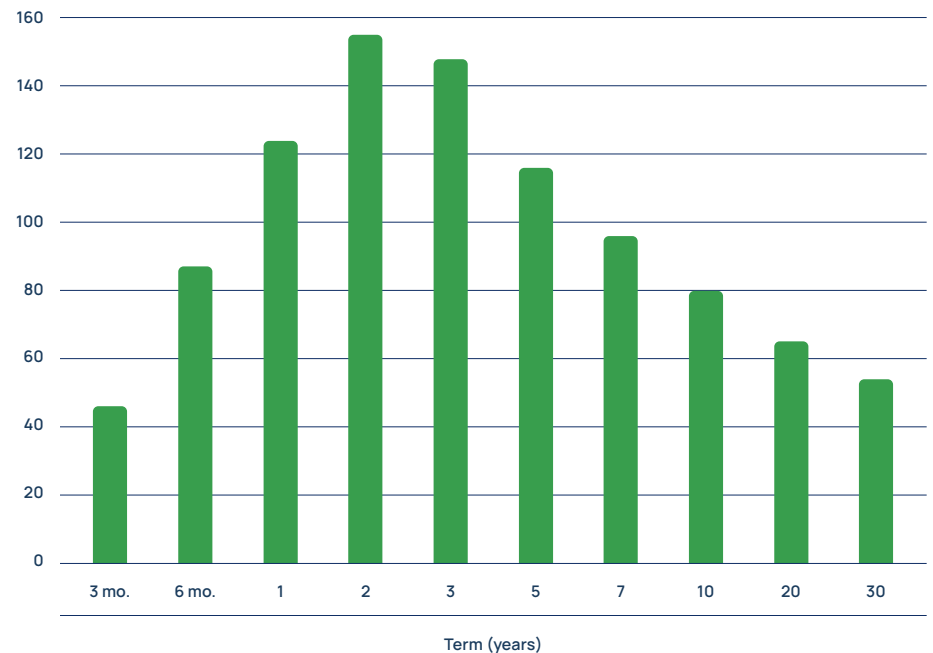


Chart 3

Changes in US Treasury Yields December 31, 2021 to March 31, 2022

(In basis points)

Source: U.S. Treasury; Giliberto-Levy



Market Trends: 1Q 2022

Table 1

Key Rates: (in %)

| | 12/31/2021 | 3/31/2022 | Change |
|-------------------------------|-------------|-------------|-------------|
| 20-year Treasury Yield | 1.94 | 2.59 | 0.65 |
| 20-year Mortgage Spread | 1.73 | 1.85 | 0.12 |
| 20-year Mortgage Yield | 3.67 | 4.44 | 0.77 |
| 10-year Treasury Yield | 1.52 | 2.32 | 0.80 |
| 10-year Mortgage Spread | 1.73 | 1.85 | 0.12 |
| 10-year Mortgage Yield | 3.25 | 4.17 | 0.92 |
| 7-year Treasury Yield | 1.44 | 2.40 | 0.96 |
| 7-year Mortgage Spread | 1.73 | 1.85 | 0.12 |
| 7-year Mortgage Yield | 3.17 | 4.25 | 1.08 |
| 5-year Treasury Yield | 1.26 | 2.42 | 1.16 |
| 5-year Mortgage Spread | 1.98 | 1.85 | -0.13 |
| 5-year Mortgage Yield | 3.24 | 4.27 | 1.03 |

Source: U.S. Treasury; Giliberto-Levy

- Table 1 shows the effect of rising yields and spreads on loan yields. **We estimate that the “double whammy” of Treasury yield and spread increases caused coupon rates on ten-year loans to rise by more than 90 bp from December 31, 2021 to March 31, 2022.** This is likely to dampen the pace of lending in 2Q 2022.
- The yield curve flattening eliminated (in March 2022) the 25-bp term premium that had appeared in some previous quarters for five-year loans. That reduction more than offset the overall rise in credit spreads, leading to a slight dip in the five-year spread quarter over quarter.
- We measured a 25-bp size premium across all sectors for loans below \$10 million. Not all small loans had premiums, but on average premiums were statistically significant.
- Several fixed-rate hotel/lodging loans were reported in 1Q 2022. Spreads ranged from 200 bp to 300 bp. LTVs generally were below 60%.
- The National Council of Real Estate Investment Fiduciaries (NCREIF) Property Index produced a 4.6% price increase for the quarter. All sectors gained. Office, retail and lodging were each up less than 1.5%. Apartment and industrial continued their stellar runs, gaining 4.6% and 10.4%, respectively. Prices reflect both property sales and appraisals.

Credit Tracker

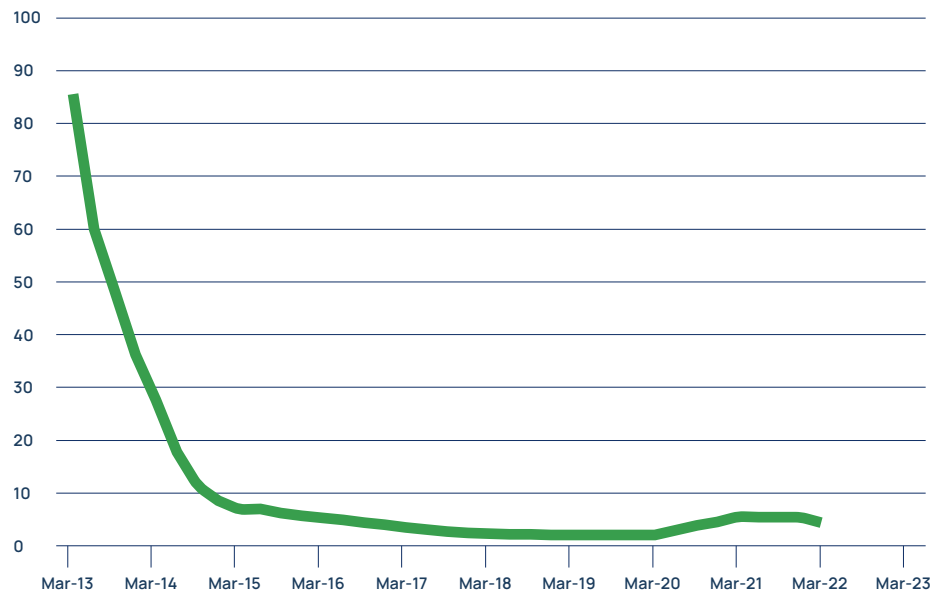
With property values appreciating and income streams holding up, trailing four-quarter credit effects came in at 4 bp, down 1 bp from the prior quarter (see Chart 4). Annualized quarterly credit effects held steady at about 3 bp.

Chart 4

Commercial Mortgage Credit Effects

Rolling four-quarter effect as a percentage of book value, in basis points

Source: Giliberto-Levy



As announced in the 4Q 2021 *Monitor*, we introduce in this issue ongoing tracking of key credit risk indicators for the G-L 1 (see Table 2). The heat-map format is the same as we use when assessing risk for loans scheduled to mature in the upcoming year. However, Table 2 here includes all active loans as of the end of the most recent quarter end.

Table 2

Credit Quality Distribution: All G-L 1 Loans

As a percentage of March 31, 2022 balances of these loans

| DSC | LTV | | | | | | Total |
|--------------|--------------|--------------|-------------|-------------|-------------|-------------|---------------|
| | 0% to 50% | 50% to 60% | 60% to 65% | 65% to 70% | 70% to 75% | above 75% | |
| 1.0 and less | 0.7% | 1.0% | 0.1% | 0.4% | 0.3% | 0.3% | 2.8% |
| 1.01 to 1.15 | 0.6% | 1.1% | 0.2% | 0.2% | 0.2% | 0.0% | 2.3% |
| 1.15 to 1.5 | 4.5% | 5.8% | 1.2% | 0.7% | 0.4% | 0.1% | 12.7% |
| 1.5 to 1.75 | 5.5% | 4.8% | 1.0% | 0.5% | 0.2% | 0.0% | 12.0% |
| above 1.75 | 45.7% | 16.7% | 4.8% | 1.1% | 0.5% | 0.1% | 68.9% |
| Unknown | 0.7% | 0.5% | 0.0% | 0.0% | 0.0% | 0.0% | 1.3% |
| Total | 57.7% | 30.0% | 7.3% | 3.0% | 1.6% | 0.5% | 100.0% |

LTV and DSC are updated from the original underwriting to reflect seasoning and market movements.

| | | | | |
|--------------|-------------|-------------|--------------|-------------|
| Zone | Red | Amber | Green | Unknown |
| Total | 3.1% | 3.3% | 92.3% | 1.3% |

Source: Giliberto-Levy

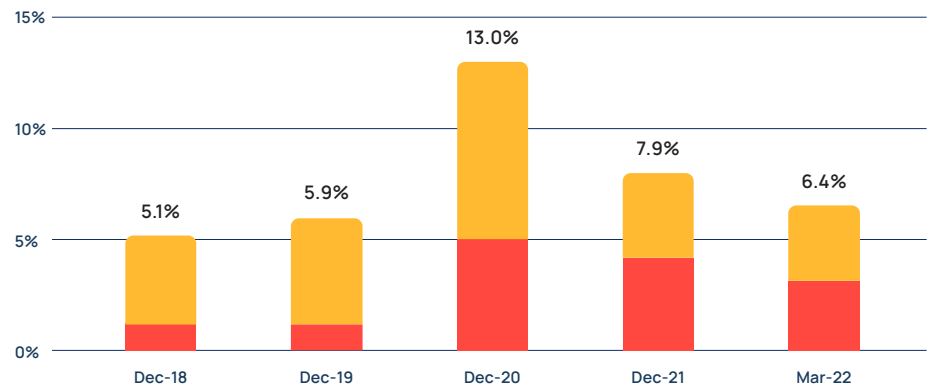
To supply context, we generated comparable summaries for year-end 2018 through 2021. Chart 5 summarizes the higher risk red and amber zones for those years alongside March 2022's level.

Chart 5

Potential At-Risk Loans

As a percentage of loan balances at month end

Source: Giliberto-Levy



We find this chart quite interesting. Declining collateral values – on a mark to market basis – and reduced income streams due to the onset of COVID caused a spike in potential at-risk loans in 2020. An uptick, albeit a modest one, in 2021 credit effects followed. Economic rebound, accompanied by firming property values and earnings, have reduced the at-risk total back toward pre-COVID levels. It is worth noting, though, that the current red zone is larger than prior to COVID.

Relative Performance

Treasury yield increases caused investment-grade fixed-income investments to have a horrible 1Q 2022 (see Table 3).

Table 3

Total Return as of March 31, 2022

| Index | Total Return (%) | | | Duration as of 3/31/2022 |
|----------------------------|------------------|-------|----------|--------------------------|
| | 1Q 2022 | YTD | Last 4 Q | |
| Commercial Mortgages* | -4.41 | -4.41 | -1.38 | 5.18 |
| Duration-adjusted Baa Bond | -5.97 | -5.97 | -4.19 | 5.18 |
| CMBS: Investment Grade | -5.56 | -5.56 | -4.40 | 4.90 |
| CMBS 2.0 | -5.36 | -5.36 | -4.12 | 4.40 |
| TSY Int. Term | -4.21 | -4.21 | -4.17 | 3.93 |
| TSY 5-7 yr. Term | -5.63 | -5.63 | -4.94 | 5.73 |
| Credit Int. Term | -5.07 | -5.07 | -4.05 | 4.32 |
| A Int. Term | -5.05 | -5.05 | -4.19 | 4.28 |
| Baa Int. Term | -5.45 | -5.45 | -4.01 | 4.57 |
| High-yield Int. Term | -4.42 | -4.42 | -0.68 | 3.65 |
| Ba Int. Term | -5.26 | -5.26 | -1.52 | 3.97 |

* Giliberto-Levy Total Index, includes office, retail, apartment, industrial and other

Sources: Bloomberg Barclays Indices; Giliberto-Levy

Investment-grade CMBS generated -5.56% total return, according to Bloomberg Barclays Indices. As noted in earlier reports, G-L 1's income return is higher, coming in 16 bp above CMBS for 1Q. CMBS capital values declined about 100 basis points (bp) more than G-L 1. Most of the difference in the capital value effect arose from the shorter weighted-average maturity for CMBS: about five years for CMBS versus a bit more than seven years for G-L 1. Per Chart 3, Treasury yield increases averaged 136 bp for issues with one to five years of remaining term, while the average increase for seven years and greater was 74 bp.

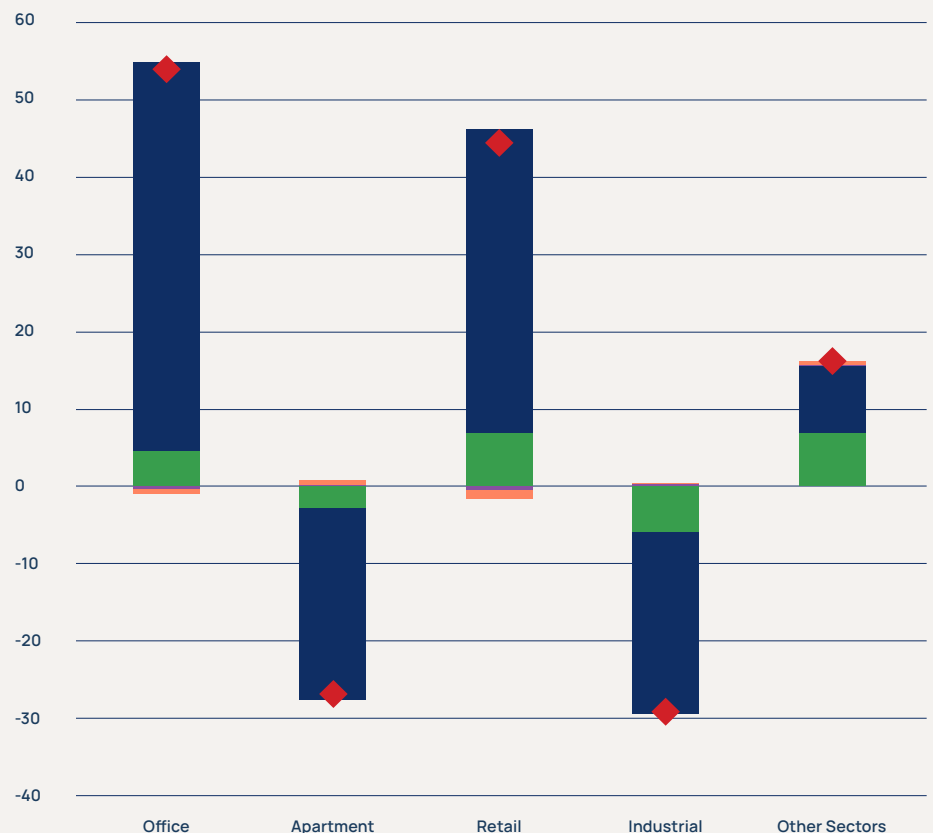
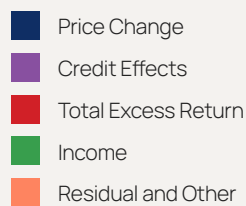
Property sector relative (to the overall index) performance variation is largely explained by differences in duration and income yields (see Chart 6). Duration is a driver of price performance. With commercial mortgage yields moving up, as shown in Table 1, most of this quarter's performance differences resulted from different maturity/duration distributions within property sectors.

Chart 6

Sector Performance Attribution 1Q 2022

Sector performance minus Total index performance, in basis points

Source: Giliberto-Levy



Lending Activity

Observations are based on data received at the time we prepared this report. These statistics are subject to change as we receive more information about lending activity. *Please note that any such revisions do not alter posted G-L 1 returns.*

Table 4

G-L I Lending Activity Summary

| | Most Recent Period 1Q 2022 P | Prior Period 4Q 2021 | Year Ago Comp. Period 1Q 2021 |
|---------------------------|---------------------------------|-------------------------|----------------------------------|
| Loan Volume (\$ billions) | 12.7 | 11.3 | 6.6 |
| Weighted Average: | | | |
| LTV | 59.1% | 60.7% | 59.9% |
| DSCR | 1.96 | 2.16 | 2.38 |
| Coupon Rate | 3.57% | 3.08% | 3.03% |
| Spread (basis points) | 163 | 158 | 168 |
| Term to Maturity (years) | 10.6 | 9.6 | 11.0 |
| Loan Size (\$ millions) | 39.2 | 34.2 | 20.0 |

Spread is reported with respect to comparable maturity U.S. Treasury yield.
P Preliminary and subject to revision

Source: Giliberto-Levy

There often is a seasonal lending volume effect: 1Q volume tends to be a little lower than the quarterly average pace. But 2022 bucked the historical pattern. **Volume outpaced 4Q 2021** (see Chart 7).

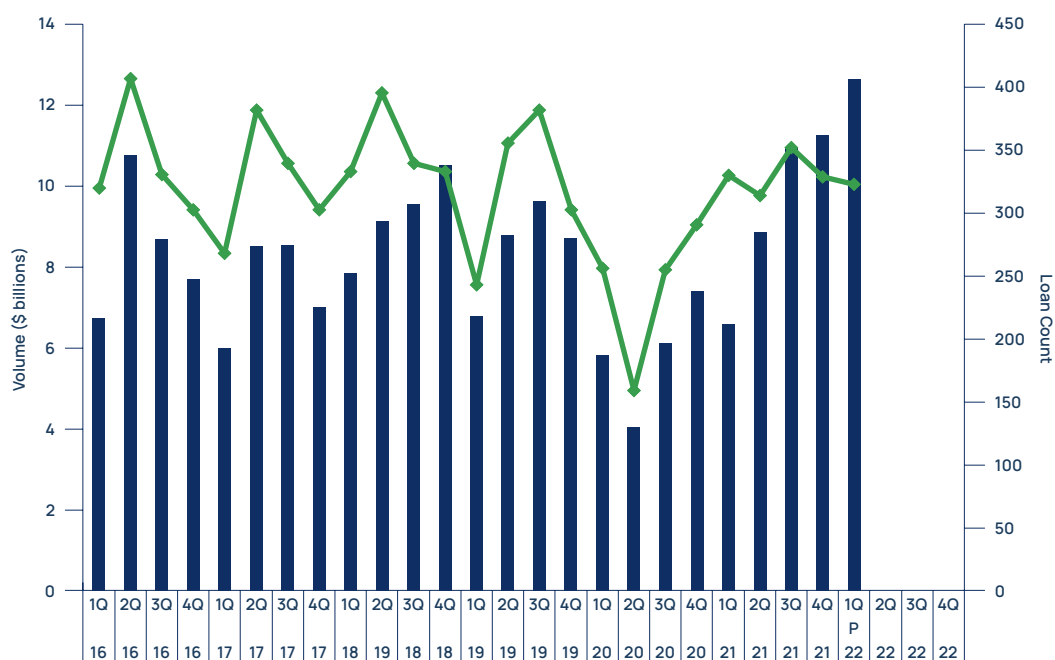
Chart 7

Index-eligible
Loan Production

P Preliminary and subject to
revision

Source: Giliberto-Levy

◆ # of Loans
— Volume



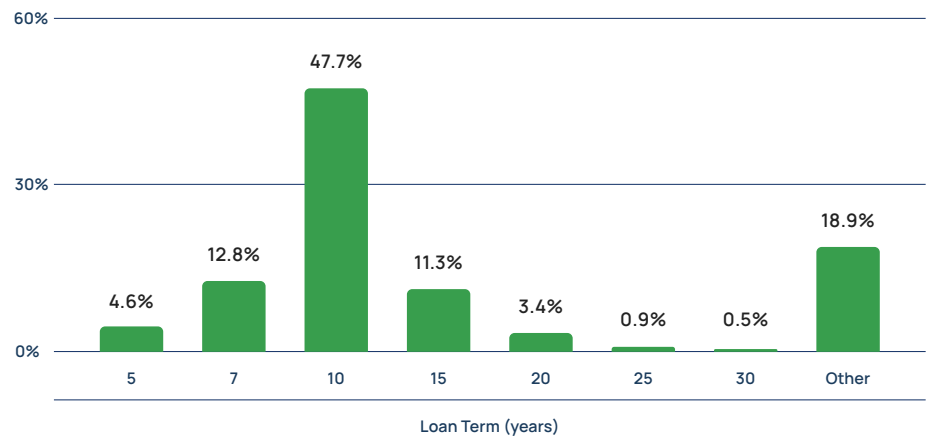
The ten-year segment's market **share by volume was almost 50%**, which was a considerable gain from 38% in 4Q 2021 (see Chart 8). The 19% share for "other" terms tilted slightly toward terms greater than ten years.

Chart 8

Distribution of Lending Activity

by Term to Maturity, 1Q 2022

Source: Giliberto-Levy



New loan production was **44% full-term interest-only loans, 52% loans with partial amortization, and 4% fully amortizing loans**. (Sum may differ from 100% due to rounding.) Partially amortizing loans often include an interest-only period up front; more than 70% of these loans, by volume, had an interest-only period this quarter.

We added more than \$17 billion of new loans to the Index (see Table 5a for details). This came from two sources: (1) loans originated in December 2021, and January and February 2022 (see Table 5b) and (2) loans originated from January 2021 through November 2021 that were reported too late to be included during the right quarters of 2020 (see Table 5c).² March 2022 loans, which are included in the production number cited above and depicted in Chart 7 will be added to the Index for 2Q 2022.

Table 5a

Total Index Additions to G-L 1

| | Amount (\$) | Number of Loans | Weighted-Average | | | | |
|--------------|-----------------------|-----------------|------------------|-------------|------------|-------------|-------------|
| | | | Coupon | Spread (bp) | DSCR | LTV (%) | Term Years |
| Office | 852,950,000 | 20 | 3.44% | 180 | 2.05 | 59.6 | 9.8 |
| Apartment | 8,153,278,000 | 243 | 3.20% | 152 | 2.08 | 61.3 | 10.7 |
| Retail | 1,001,397,500 | 59 | 3.27% | 175 | 2.65 | 57.0 | 10.3 |
| Industrial | 5,935,807,942 | 150 | 3.23% | 153 | 2.10 | 58.3 | 9.5 |
| Other | 1,154,302,048 | 32 | 3.79% | 194 | 1.90 | 58.0 | 12.1 |
| Total | 17,097,735,490 | 504 | 3.26% | 158 | 210 | 59.7 | 10.3 |

Source: Giliberto-Levy

² Before inclusion in G-L 1, late loans are processed identically with loans that were received "on time". Collateral value, income and loan market value are updated from each loan's pricing date through December 31 of the origination year.

Table 5b

Index Additions: New Loans from Dec 2021, January and February 2022

| | Amount (\$) | Number of Loans | Weighted-Average | | | | |
|--------------|-----------------------|--------------------|------------------|----------------|-------------|-------------|---------------|
| | | | Coupon | Spread (bp) | DSCR | LTV (%) | Term Years |
| Office | 411,100,000 | 10 | 3.63% | 191 | 1.88 | 61.1 | 8.7 |
| Apartment | 5,802,593,000 | 162 | 3.27% | 151 | 2.00 | 61.2 | 10.5 |
| Retail | 668,187,500 | 38 | 3.39% | 177 | 2.27 | 61.6 | 10.2 |
| Industrial | 4,137,562,942 | 86 | 3.36% | 153 | 1.99 | 58.0 | 9.5 |
| Other | 1,093,702,048 | 25 | 3.80% | 195 | 1.87 | 58.1 | 12.0 |
| Total | 12,113,145,490 | 321 | 3.37% | 158 | 1.99 | 59.8 | 10.2 |

Source: Giliberto-Levy

Table 5c

Index Additions: Late-Reported Loans from January through November 2021

| | Amount (\$) | Number of Loans | Weighted-Average | | | | |
|--------------|----------------------|--------------------|------------------|----------------|-------------|-------------|---------------|
| | | | Coupon | Spread (bp) | DSCR | LTV (%) | Term Years |
| Office | 441,850,000 | 10 | 3.25% | 170 | 2.20 | 58.1 | 10.8 |
| Apartment | 2,350,685,000 | 81 | 3.02% | 153 | 2.27 | 61.5 | 11.0 |
| Retail | 333,210,000 | 21 | 3.03% | 170 | 3.41 | 47.8 | 10.7 |
| Industrial | 1,798,245,000 | 64 | 2.93% | 154 | 2.34 | 59.0 | 9.4 |
| Other | 60,600,000 | 7 | 3.43% | 168 | 2.36 | 56.0 | 18.9 |
| Total | 4,984,590,000 | 183 | 3.01% | 156 | 2.37 | 59.3 | 10.4 |

Source: Giliberto-Levy

Please note that spreads reported in Tables 5a, 5b and 5c are weighted averages of loans made during periods prior to March 2022. These averages do not stand for quarter-end pricing parameters. Pricing spreads are reported in the summary table at the top of this report for standardized ten-year loans at 60% to 65% LTVs. These standardized spreads also appear in Table 1. Standardized spreads are generated from new loan originations and form the baseline for marking to market all loans in the Index.

Commercial Mortgage Perspective

We compiled our annual review of the change in the Index's outstanding principal balance over the prior calendar year.

New loans added during 2021, including late reports from 2020, totaled about \$41 billion (see Chart 9). This was a considerable increase from 2020's \$27 billion. Activity rose as the economy started to recover from the COVID-induced slump of 2020.

Consequently, the Index's outstanding principal balance gained about \$18.4 billion compared with an increase of less than \$9 billion in 2020.

Chart 9

Components of G-L 1 Index Principal Balance Change from Year-end 2020 to Year-end 2021

Source: Giliberto-Levy

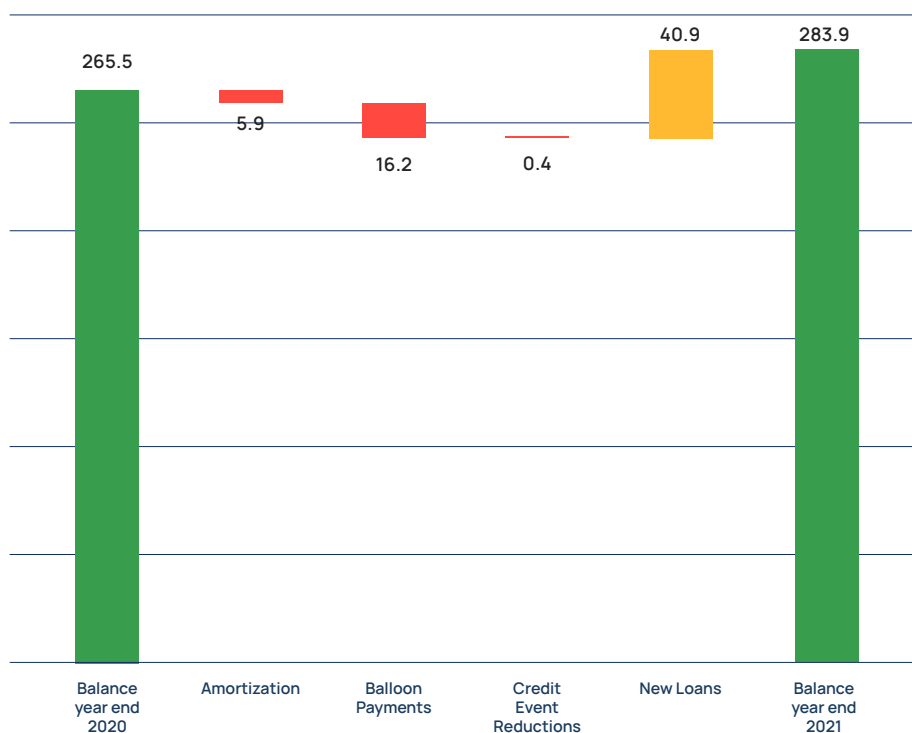


Chart 9 reconciles the gap between the net increase in principal and the amount of new loans. Amortization and balloon payments at loan maturity explained almost all the \$22.5 billion difference.

Loans removed due to credit issues added up to roughly \$380 million, or about 0.14% of the beginning-of-2021 outstanding principal. This was comparable to 2020's experience. Loss severity, according to our credit model, was 24%, in line with 25% recorded in both 2019 and 2020.

We believe 2Q lending will pull back, possibly substantially, from 1Q's fast pace. The double whammy we mentioned earlier has produced significant coupon rate increases (see Chart 10).

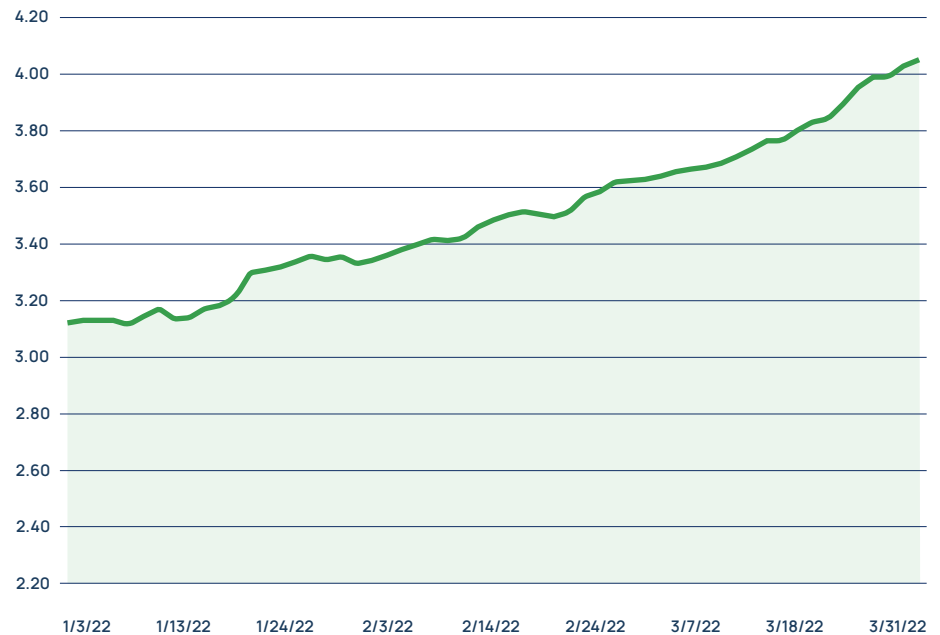
Chart 10

Transaction Coupon Rates

(In percent)

Source: Giliberto-Levy

Note: Each data point is the average coupon rate on loans made over the most recent twenty business days. To minimize potential biases from term, loan size and property type premiums, chart data only include loans on major property sector assets for seven or more years that exceed \$10 million in size.



The rise in spreads likely reflects higher risk aversion, especially given the Treasury yield moves.

Investors are, rightly, worried that asset values could experience downward pressure. It reminds us of a catchphrase often heard on Wall Street in decades past "Do you want to try to catch a falling knife?" We suspect a version of this question will be voiced in many investment shops in coming weeks.

As always, we welcome your comments and questions.

May 2022

Chart 11

Commercial Mortgage Performance

Rolling four-quarter total return for Total Index

Source: Giliberto-Levy

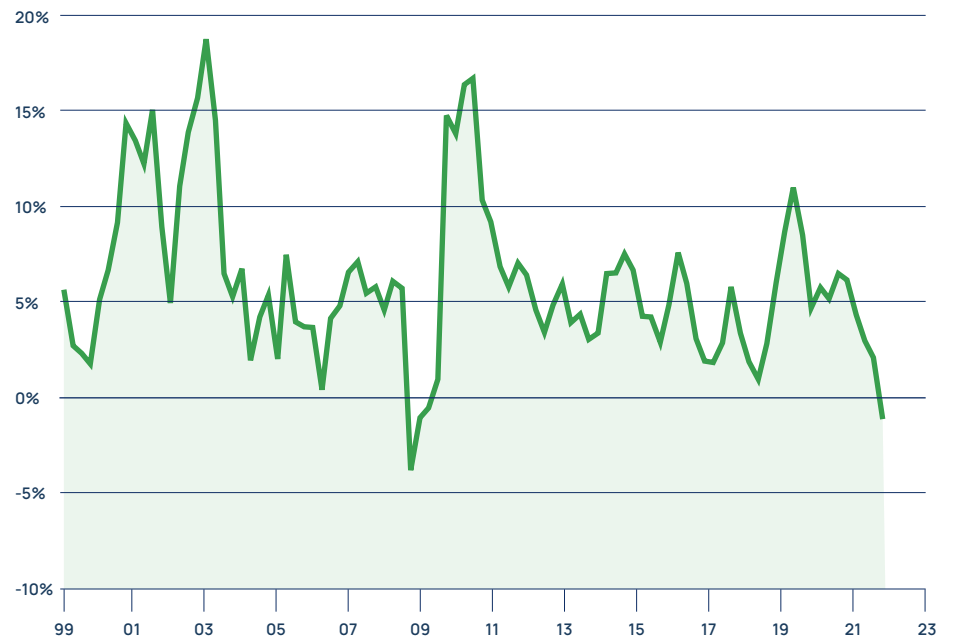


Chart 12

Commercial Mortgage Credit Effects

Rolling four-quarter effects as a percentage of book value, in basis points

Source: Giliberto-Levy

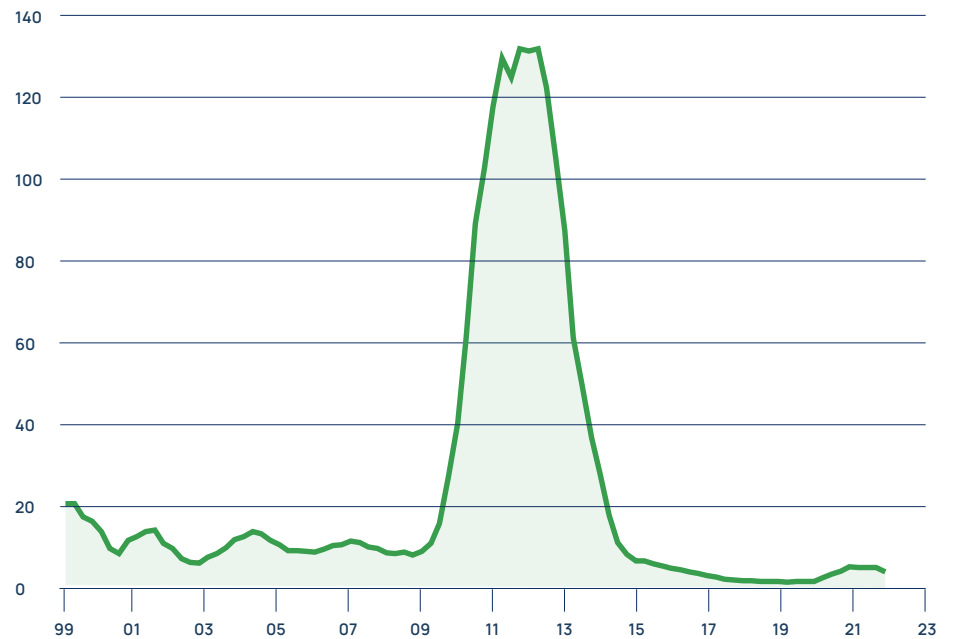


Table A

Giliberto-Levy Commercial Mortgage Index (G-L I) Performance by Property Sector

For the quarter ended March 31, 2022

| Sector | Returns (%) | | | | | | Index Level | Credit Effects (book value; bp) | | |
|------------|---------------|-------|-------|-------|-----------|----------------|-------------|---------------------------------|-----|-----------------|
| | Last 3 months | | | | YTD Total | Last 12 Months | | Last 3 Months | YTD | Lasat 12 Months |
| | Income | Price | Other | Total | | | | | | |
| Office | 0.96 | -4.84 | 0.01 | -3.87 | -3.87 | -1.22 | 2348.50 | 1 | 1 | 5 |
| Apartment | 0.88 | -5.59 | 0.03 | -4.68 | -4.68 | -1.44 | 3043.88 | 1 | 1 | 3 |
| Retail | 0.98 | -4.95 | 0.01 | -3.96 | -3.96 | -0.99 | 2792.27 | 1 | 1 | 7 |
| Industrial | 0.85 | -5.57 | 0.02 | -4.70 | -4.70 | -2.10 | 2730.90 | 0 | 0 | 2 |
| Others | 0.98 | -5.25 | 0.03 | -4.25 | -4.25 | -0.32 | N/A | 1 | 1 | 4 |
| Total | 0.91 | -5.34 | 0.02 | -4.41 | -4.41 | -1.38 | 2559.38 | 1 | 1 | 4 |
| Aggregate | 0.91 | -5.34 | 0.02 | -4.41 | -4.41 | -1.45 | 4140.51 | 1 | 1 | 4 |

Aggregate excludes Other Sectors (hotel/motel, mixed-use and miscellaneous)

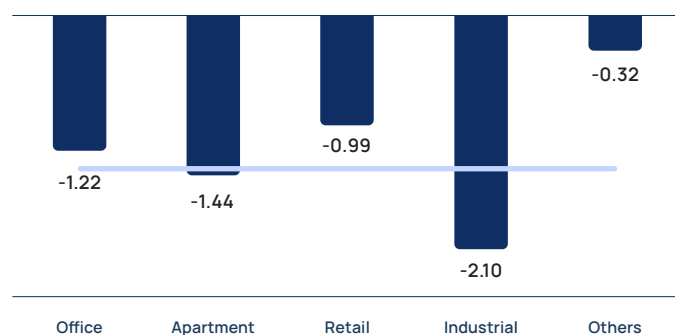
Other Return is paydown return and compounding

Index bases: Aggregate Dec. 1971 = 100; Total and major sectors Dec. 1977 = 100

bp basis points

Total Return by Sector

Last 12 months; in percent



Credit Effect by Sector

Last 12 months

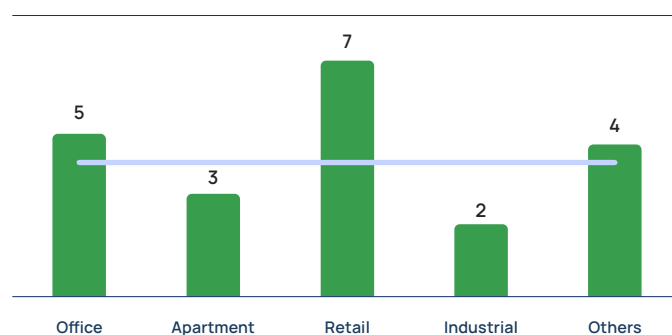


Table B

Giliberto-Levy Commercial Mortgage Index (G-L I)

Performance by Property Sector

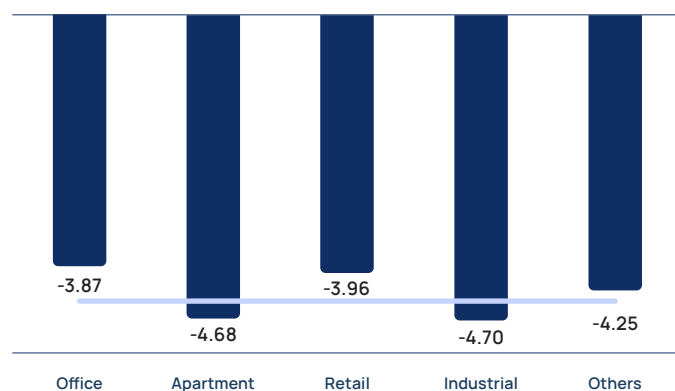
For the quarter ended March 31, 2022

| Sector | Returns (%) | | | | Statistics | | | | | | |
|--------------|-------------|--------------|-------------|--------------|---------------|-------------|-------------|-------------|-------------|-------------------|-----------------|
| | Income | Price | Other | Total | Mod. Duration | Coupon | Maturity | Price | Yield | Pct. of Portfolio | Num. of Cohorts |
| Office | 0.96 | -4.84 | 0.01 | -3.87 | 4.45 | 4.09 | 6.27 | 98.9 | 4.12 | 17.1% | 2237 |
| Apartment | 0.88 | -5.59 | 0.03 | -4.68 | 5.60 | 3.77 | 7.51 | 97.8 | 4.05 | 45.2% | 6282 |
| Retail | 0.98 | -4.95 | 0.01 | -3.96 | 4.59 | 4.18 | 6.96 | 98.5 | 4.29 | 14.7% | 3572 |
| Industrial | 0.85 | -5.57 | 0.02 | -4.70 | 5.20 | 3.64 | 6.96 | 97.7 | 3.91 | 16.7% | 2921 |
| Others | 0.98 | -5.25 | 0.03 | -4.25 | 5.52 | 4.12 | 8.42 | 96.6 | 4.65 | 6.3% | 1170 |
| Total | 0.91 | -5.34 | 0.02 | -4.41 | 5.18 | 3.89 | 7.11 | 98.0 | 4.11 | 100.0% | 16182 |
| Aggregate | 0.91 | -5.34 | 0.02 | -4.41 | 5.16 | 3.87 | 7.02 | 98.1 | 4.08 | 93.7% | 15012 |

Aggregate excludes Other Sectors (hotel/motel, mixed-use and miscellaneous)

Total Return by Sector

Last 12 months; in percent



Portfolio Composition by Sector

in percent

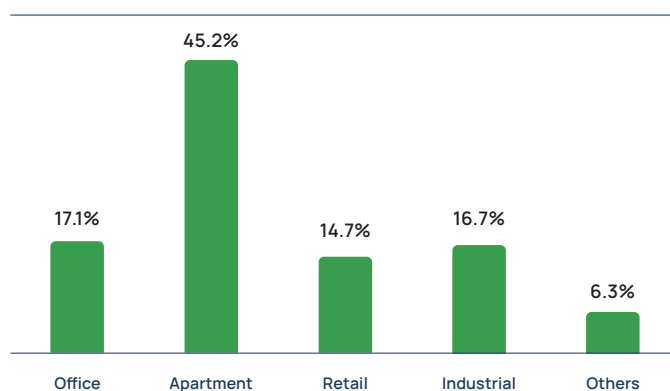


Table C

Giliberto-Levy Commercial Mortgage Index (G-L I)

Performance by Book LTV Classification

For the quarter ended March 31, 2022

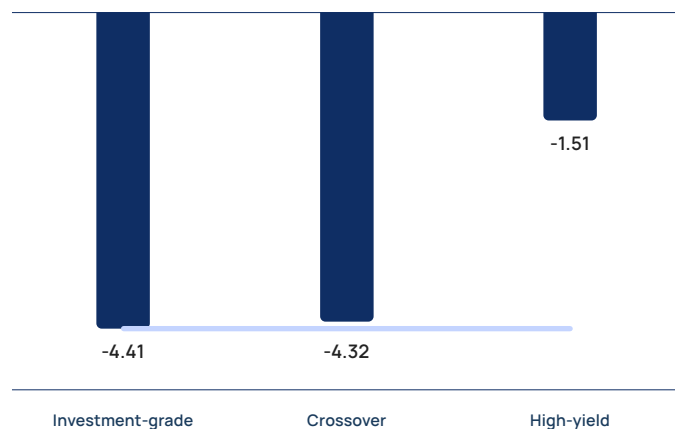
| Credit quality using book value | Returns (%) | | | | Statistics | | | | | | |
|---------------------------------|-------------|--------------|-------------|--------------|---------------|-------------|-------------|-------------|-------------|-------------------|-----------------|
| | Income | Price | Other | Total | Mod. Duration | Coupon | Maturity | Price | Yield | Pct. of Portfolio | Num. of Cohorts |
| Investment-grade | 0.91 | -5.34 | 0.02 | -4.41 | 5.17 | 3.89 | 7.10 | 98.0 | 4.10 | 97.7% | 15864 |
| Crossover | 0.95 | -5.31 | 0.04 | -4.32 | 5.62 | 3.99 | 7.82 | 95.7 | 4.70 | 2.3% | 315 |
| High-yield | 1.07 | -2.61 | 0.02 | -1.51 | 3.32 | 4.41 | 3.99 | 93.1 | 5.84 | 0.0% | 3 |
| Total | 0.91 | -5.34 | 0.02 | -4.41 | 5.18 | 3.89 | 7.11 | 98.0 | 4.11 | 100.0% | 16182 |

| Credit quality definition | Book LTV | |
|---------------------------|----------|---------|
| | Minimum | Maximum |
| Investment-grade | NA | 70.0% |
| Crossover | 70.1% | 85.0% |
| High-yield | 85.1% | NA |

Please note that all G-L I loans are senior loans. "Crossover" loans are those with LTVs above 70% and below 85%. They are not subordinate positions that "attach" at 70% LTV and go up to 85% of the capital stack.

Total Return by Credit Quality

For the quarter; in percent



Portfolio Composition by Credit Quality

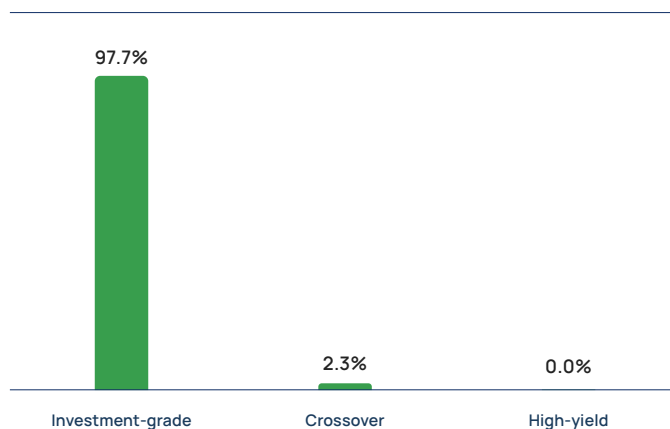


Table D

Giliberto-Levy Commercial Mortgage Index (G-L I)

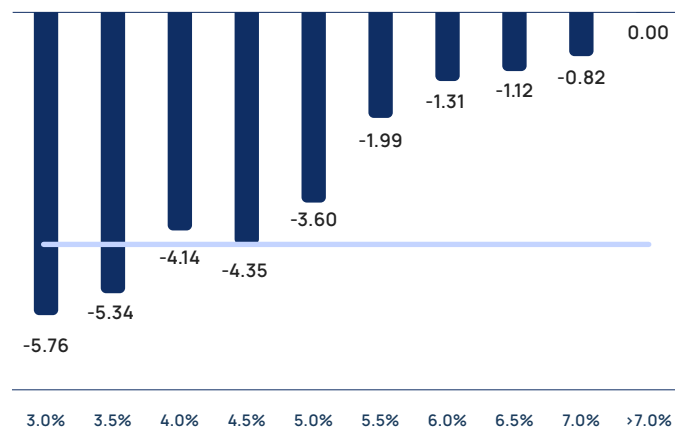
Performance by Coupon Rate

For the quarter ended March 31, 2022

| Coupon Rate | Returns (%) | | | | Statistics | | | | | | |
|--------------|-------------|--------------|-------------|--------------|---------------|-------------|-------------|-------------|-------------|-------------------|-----------------|
| | Income | Price | Other | Total | Mod. Duration | Coupon | Maturity | Price | Yield | Pct. of Portfolio | Num. of Cohorts |
| 0.0% to 3.0% | 0.68 | -6.47 | 0.04 | -5.76 | 6.60 | 2.74 | 8.28 | 91.7 | 4.07 | 10.9% | 1123 |
| 3.0% to 3.5% | 0.79 | -6.16 | 0.04 | -5.34 | 6.26 | 3.28 | 8.29 | 94.7 | 4.08 | 19.2% | 2244 |
| 3.5% to 4.0% | 0.89 | -5.06 | 0.03 | -4.14 | 4.44 | 3.78 | 5.88 | 98.2 | 4.09 | 29.3% | 3870 |
| 4.0% to 4.5% | 0.98 | -5.35 | 0.02 | -4.35 | 5.00 | 4.25 | 7.19 | 100.2 | 4.16 | 25.9% | 3730 |
| 4.5% to 5.0% | 1.07 | -4.68 | 0.01 | -3.60 | 4.96 | 4.72 | 7.38 | 102.4 | 4.17 | 9.5% | 1672 |
| 5.0% to 5.5% | 1.20 | -3.15 | -0.03 | -1.99 | 4.29 | 5.23 | 7.04 | 104.2 | 4.12 | 2.1% | 612 |
| 5.5% to 6.0% | 1.31 | -2.53 | -0.09 | -1.31 | 3.62 | 5.74 | 6.48 | 105.3 | 4.06 | 1.4% | 884 |
| 6.0% to 6.5% | 1.42 | -2.40 | -0.14 | -1.12 | 3.02 | 6.24 | 5.41 | 105.8 | 4.05 | 0.9% | 787 |
| 6.5% to 7.0% | 1.53 | -2.21 | -0.14 | -0.82 | 2.98 | 6.71 | 5.44 | 106.3 | 4.07 | 0.3% | 285 |
| 7.0% & above | 1.73 | -1.47 | -0.26 | 0.00 | 2.88 | 7.61 | 5.49 | 107.8 | 3.94 | 0.5% | 975 |
| Total | 0.91 | -5.34 | 0.02 | -4.41 | 5.18 | 3.89 | 7.11 | 98.0 | 4.11 | 100.0% | 16182 |

Total Return by Coupon Rate

For the quarter; in percent



Portfolio Composition by Coupon Rate

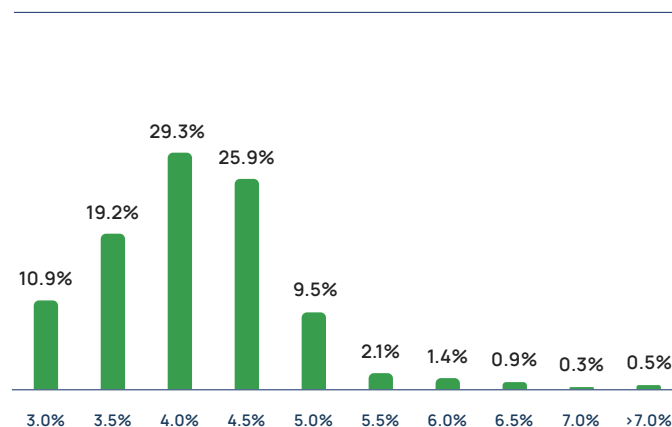


Table E

Giliberto-Levy Commercial Mortgage Index (G-L I)

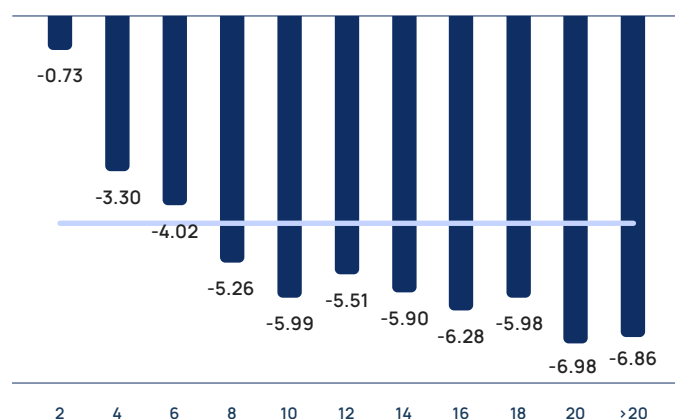
Performance by Remaining Term to Maturity

For the quarter ended March 31, 2022

| Maturity Cell | Returns (%) | | | | Statistics | | | | | | |
|-----------------|-------------|--------------|-------------|--------------|---------------|-------------|-------------|-------------|-------------|-------------------|-----------------|
| | Income | Price | Other | Total | Mod. Duration | Coupon | Maturity | Price | Yield | Pct. of Portfolio | Num. of Cohorts |
| 0 to 2 years | 1.01 | -1.72 | -0.01 | -0.73 | 1.02 | 4.15 | 1.07 | 100.4 | 3.54 | 12.6% | 2640 |
| 2 to 4 years | 0.96 | -4.27 | 0.01 | -3.30 | 2.76 | 4.02 | 3.06 | 99.0 | 4.35 | 17.2% | 3116 |
| 4 to 6 years | 0.90 | -4.95 | 0.02 | -4.02 | 4.27 | 3.85 | 4.95 | 98.2 | 4.22 | 18.5% | 2669 |
| 6 to 8 years | 0.91 | -6.19 | 0.03 | -5.26 | 5.74 | 3.92 | 6.95 | 98.3 | 4.16 | 18.1% | 2285 |
| 8 to 10 years | 0.81 | -6.83 | 0.03 | -5.99 | 7.23 | 3.44 | 9.11 | 94.9 | 4.09 | 15.0% | 2078 |
| 10 to 12 years | 0.91 | -6.44 | 0.02 | -5.51 | 7.76 | 3.99 | 11.06 | 98.7 | 4.07 | 5.0% | 859 |
| 12 to 14 years | 0.89 | -6.82 | 0.03 | -5.90 | 8.25 | 3.89 | 12.99 | 97.5 | 4.11 | 4.1% | 837 |
| 14 to 16 years | 0.90 | -7.21 | 0.03 | -6.28 | 8.91 | 3.94 | 14.82 | 96.9 | 4.16 | 3.3% | 581 |
| 16 to 18 years | 0.94 | -6.95 | 0.03 | -5.98 | 9.18 | 4.17 | 16.94 | 99.4 | 4.19 | 1.9% | 385 |
| 18 to 20 years | 0.84 | -7.88 | 0.06 | -6.98 | 9.55 | 3.60 | 19.03 | 93.4 | 4.23 | 1.6% | 326 |
| 20 years & more | 0.92 | -7.82 | 0.04 | -6.86 | 11.62 | 4.06 | 26.11 | 97.0 | 4.24 | 2.7% | 406 |
| Total | 0.91 | -5.34 | 0.02 | -4.41 | 5.18 | 3.89 | 7.11 | 98.0 | 4.11 | 100.0% | 16182 |

Total Return by Maturity Cell

For the quarter; in percent



Portfolio Composition by Maturity Cell

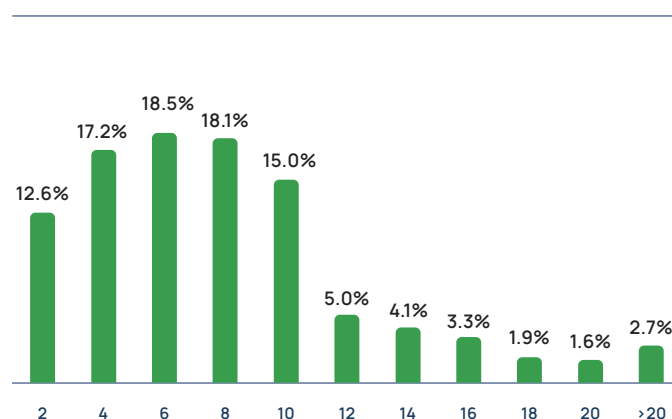


Table F

Giliberto-Levy Commercial Mortgage Index (G-L I)

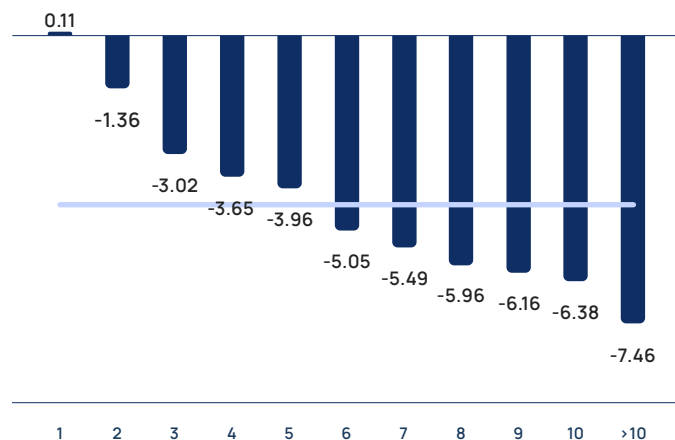
Performance by Duration

For the quarter ended March 31, 2022

| Duration Cell | Returns (%) | | | | Statistics | | | | | | |
|-----------------|-------------|--------------|-------------|--------------|---------------|-------------|-------------|-------------|-------------|-------------------|-----------------|
| | Income | Price | Other | Total | Mod. Duration | Coupon | Maturity | Price | Yield | Pct. of Portfolio | Num. of Cohorts |
| 0 to 1 year | 1.01 | -0.86 | -0.04 | 0.11 | 0.49 | 4.08 | 0.52 | 100.4 | 3.00 | 5.2% | 1509 |
| 1 to 2 years | 1.03 | -2.38 | -0.01 | -1.36 | 1.40 | 4.31 | 1.56 | 100.5 | 3.93 | 7.9% | 2013 |
| 2 to 3 years | 0.97 | -4.00 | 0.01 | -3.02 | 2.44 | 4.06 | 2.97 | 99.2 | 4.36 | 10.4% | 2032 |
| 3 to 4 years | 0.95 | -4.62 | 0.02 | -3.65 | 3.45 | 4.01 | 4.08 | 98.8 | 4.32 | 11.7% | 1847 |
| 4 to 5 years | 0.91 | -4.88 | 0.02 | -3.96 | 4.37 | 3.89 | 5.38 | 98.6 | 4.21 | 12.3% | 1830 |
| 5 to 6 years | 0.93 | -6.00 | 0.03 | -5.05 | 5.40 | 4.03 | 6.79 | 99.2 | 4.16 | 13.2% | 1764 |
| 6 to 7 years | 0.87 | -6.38 | 0.03 | -5.49 | 6.37 | 3.73 | 8.53 | 97.2 | 4.15 | 12.0% | 1649 |
| 7 to 8 years | 0.83 | -6.82 | 0.03 | -5.96 | 7.38 | 3.57 | 10.12 | 96.0 | 4.10 | 10.0% | 1402 |
| 8 to 9 years | 0.82 | -7.02 | 0.04 | -6.16 | 8.25 | 3.53 | 11.81 | 95.2 | 4.09 | 8.1% | 955 |
| 9 to 10 years | 0.86 | -7.27 | 0.04 | -6.38 | 9.30 | 3.74 | 14.73 | 96.4 | 4.11 | 4.1% | 553 |
| 10 years & more | 0.86 | -8.37 | 0.05 | -7.46 | 11.48 | 3.74 | 20.61 | 94.6 | 4.19 | 5.0% | 628 |
| Total | 0.91 | -5.34 | 0.02 | -4.41 | 5.18 | 3.89 | 7.11 | 98.0 | 4.11 | 100.0% | 16182 |

Total Return by Duration Cell

For the quarter; in percent



Portfolio Composition by Duration Cell

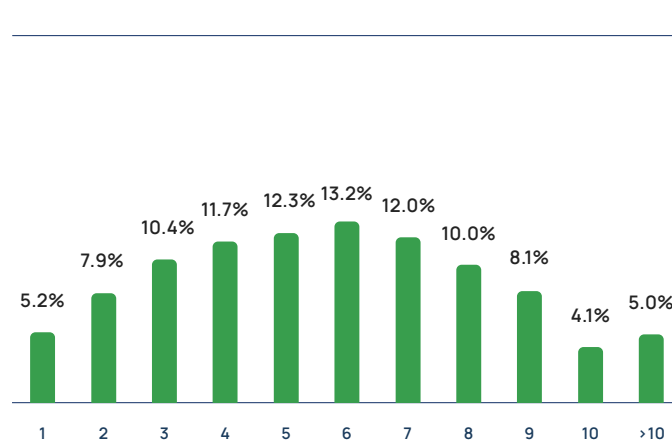


Table G

Giliberto-Levy Commercial Mortgage Index (G-L I)

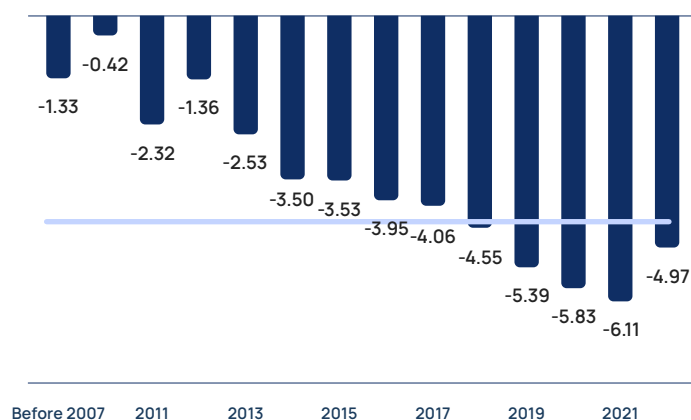
Performance by Vintage Year

For the quarter ended March 31, 2022

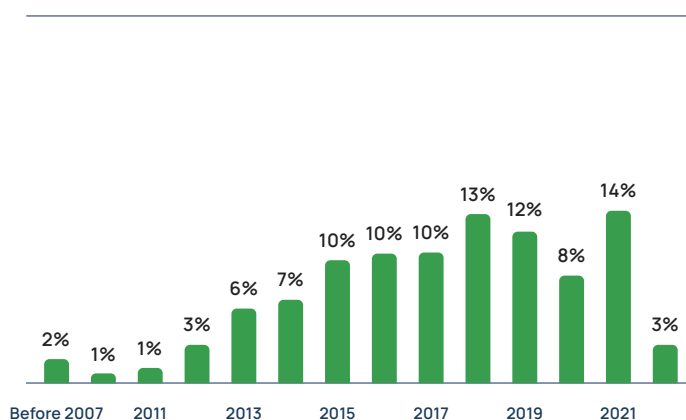
| Vintage Year | Returns | | | | Statistics | | | | | | |
|--------------|-------------|--------------|-------------|--------------|---------------|-------------|-------------|-------------|-------------|-------------------|-----------------|
| | Income | Price | Other | Total | Mod. Duration | Coupon | Maturity | Price | Yield | Pct. of Portfolio | Num. of Cohorts |
| Before 2007 | 1.44 | -2.59 | -0.18 | -1.33 | 2.75 | 6.30 | 4.99 | 105.4 | 4.00 | 1.9% | 2587 |
| 2007 to 2010 | 1.40 | -1.70 | -0.12 | -0.42 | 3.26 | 6.11 | 6.12 | 105.9 | 3.91 | 0.7% | 427 |
| 2011 | 1.17 | -3.45 | -0.03 | -2.32 | 3.30 | 5.11 | 5.13 | 103.5 | 4.09 | 1.2% | 267 |
| 2012 | 1.03 | -2.37 | -0.03 | -1.36 | 1.99 | 4.31 | 3.09 | 100.8 | 3.44 | 3.0% | 735 |
| 2013 | 1.02 | -3.55 | 0.00 | -2.53 | 3.10 | 4.35 | 4.60 | 101.2 | 3.97 | 5.9% | 1125 |
| 2014 | 0.98 | -4.50 | 0.01 | -3.50 | 3.66 | 4.22 | 5.24 | 101.2 | 4.27 | 6.6% | 1014 |
| 2015 | 0.93 | -4.48 | 0.02 | -3.53 | 3.69 | 3.94 | 5.18 | 99.1 | 4.12 | 9.7% | 1474 |
| 2016 | 0.90 | -4.87 | 0.02 | -3.95 | 4.36 | 3.80 | 6.12 | 98.3 | 4.19 | 10.2% | 1349 |
| 2017 | 0.92 | -5.01 | 0.02 | -4.06 | 4.55 | 3.95 | 6.14 | 99.1 | 4.13 | 10.4% | 1404 |
| 2018 | 0.99 | -5.56 | 0.03 | -4.55 | 5.58 | 4.36 | 7.75 | 101.3 | 4.15 | 13.3% | 1511 |
| 2019 | 0.88 | -6.31 | 0.04 | -5.39 | 6.30 | 3.79 | 8.63 | 97.6 | 4.17 | 12.0% | 1429 |
| 2020 | 0.75 | -6.63 | 0.04 | -5.83 | 6.77 | 3.12 | 9.12 | 93.4 | 4.11 | 8.5% | 1124 |
| 2021 | 0.74 | -6.89 | 0.04 | -6.11 | 7.31 | 3.04 | 9.49 | 92.5 | 4.11 | 13.6% | 1513 |
| 2022 | 0.55 | -5.54 | 0.02 | -4.97 | 7.86 | 3.47 | 10.20 | 94.7 | 4.15 | 3.0% | 223 |
| Total | 0.91 | -5.34 | 0.02 | -4.41 | 5.18 | 3.89 | 7.11 | 98.0 | 4.11 | 100.0% | 16182 |

Total Return by Vintage Cohort

For the quarter; in percent



Portfolio Composition by Vintage Cohort



About the Gilberto-Levy Index

Established in 1993, the Gilberto-Levy Index provides essential information and accurate research on emerging trends affecting commercial mortgage investments. Investment professionals, actuaries, consultants, plan sponsors, banks, life companies, regulators and rating agencies use the index as a reliable way to evaluate the performance of commercial mortgages on a total return, marked-to-market basis.

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