

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

Monitor Fourth Quarter 2023



GILIBERTO-LEVY
COMMERCIAL REAL ESTATE DEBT INDEXES

Giliberto-Levy Commercial Mortgage Performance Index

Fourth Quarter 2023 Summary

Total Return: (in %)

Office	3.77
Multi-family	4.86
Retail	4.21
Industrial	4.68
Total (all sectors)	4.59

Spreads: (as of 12/31/2023)

Office	239
Multi-family	202
Retail	222
Industrial	198

Index Statistics: (as of 12/31/2023)

Principal (\$ billion)	302.34
Capitalization (\$ billion)	275.96
Duration (years)	4.45
Coupon (%)	4.10
Maturity (years)	6.13
Book LTV (%)	53.11

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 4.59% total return, its strongest quarterly result since 2Q 2010.¹ Declines in U.S. Treasury yields powered a 3.42% pop in capital value. Income return was 1.17%. Calendar-year 2023 G-L 1 total return was 5.62%, up significantly from 2022's -8.98%.

U.S. Treasury yields fell 70 to 80 basis points (bp) at maturities greater than one year (see Charts 1 and 2). The benchmark ten-year yield went from 4.59% on September 29, 2023 to 3.88% on December 29, 2023, for example. On January 3, 2023, its yield was 3.79%, and the peak was 4.98% on October 19. These swings made for volatile investment results in fixed-income markets.

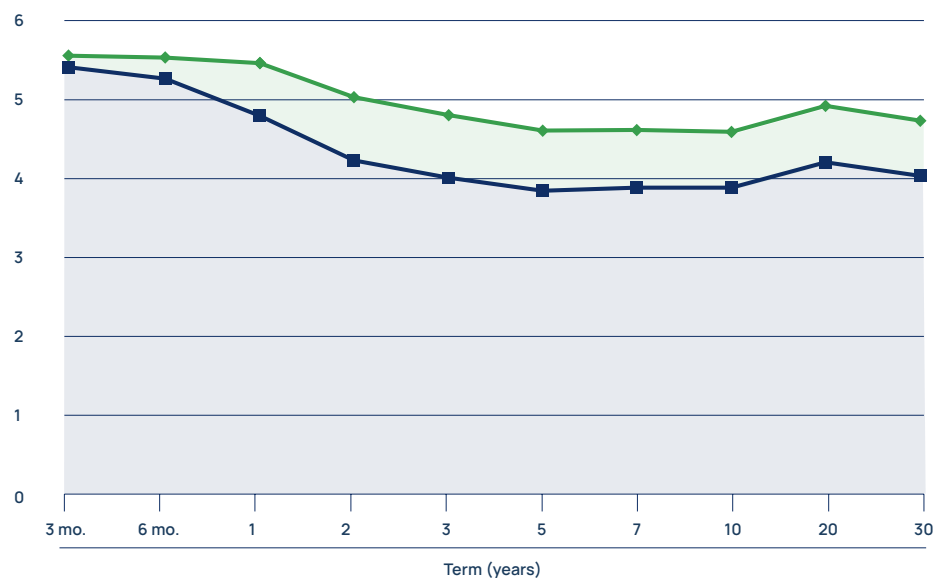
Chart 1

US Treasury Yields

In %

Source: U.S. Treasury; Giliberto-Levy

◆ Sep 30, 2023
■ Dec 31, 2023



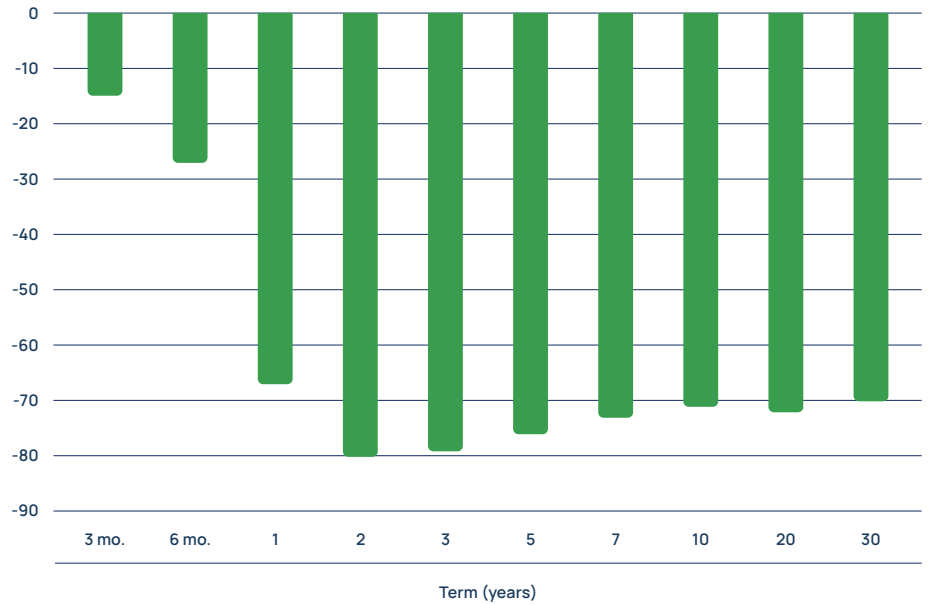
¹ The Index's components are fixed-rate commercial mortgage loans held on balance sheets of institutions such as life insurance companies and pension funds. Index returns are a market-value-weighted blend of office, apartment, retail, industrial, lodging, mixed-use and other miscellaneous property types.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

Chart 2

Changes in US Treasury Yields September 29, 2023 to December 29, 2023

In basis points

Source: U.S. Treasury; Giliberto-Levy



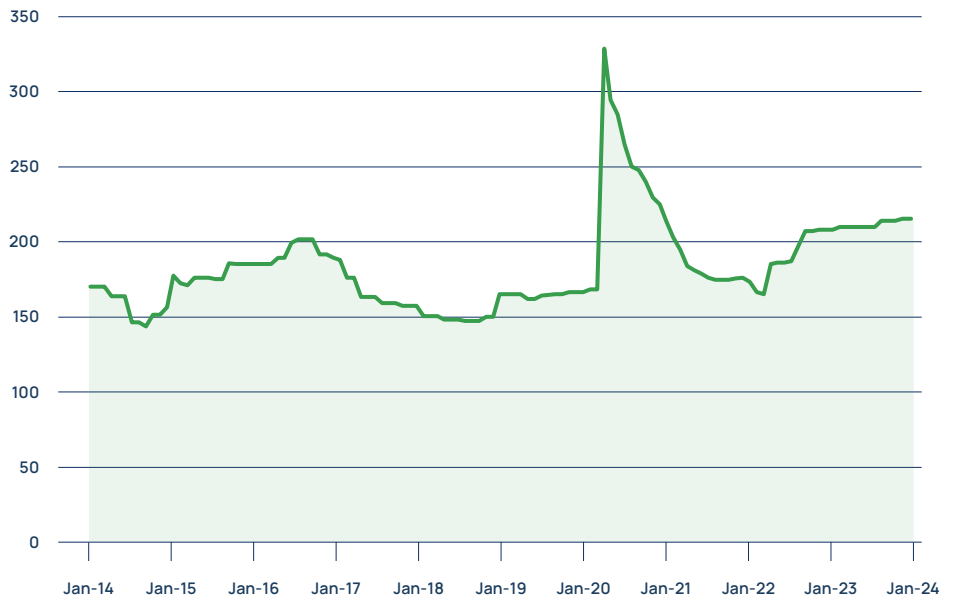
Credit spreads moved little on average (see Chart 3). We continued to see upward movement for the few office deals that got done in 4Q 2023. The other major sectors barely budged.

Chart 3

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.



Market Trends: 4Q 2023

Table 1

Key Rates (in %)

	9/30/2023	12/31/2023	change
10-year Treasury Yield	4.59	3.88	-0.71
10-year Mortgage Spread	2.14	2.15	0.01
10-year Mortgage Yield	6.73	6.03	-0.70
7-year Treasury Yield	4.61	3.88	-0.73
7-year Mortgage Spread	2.14	2.15	0.01
7-year Mortgage Yield	6.75	6.03	-0.72
5-year Treasury Yield	4.60	3.84	-0.76
5-year Mortgage Spread	2.14	2.14	0.00
5-year Mortgage Yield	6.74	5.98	-0.76

Sources: U.S. Treasury; Giliberto-Levy

- Table 1 shows the effects of Treasury yield and spread changes on commercial mortgage yields. G-L spreads were calculated from loan transactions during the quarter. Quarter-end coupon rates showed decreases driven almost entirely by lower Treasury yields. The coupon-rate curve continued to be nearly flat at around 6%, down from almost 7% at the end of 3Q. Reminder: rates are for 60% to 65% LTV loans; loans with LTVs in the 50% to 60% range were 10 to 15 bp lower.
- Small-loan size premiums continued to prevail. Basically, loans under \$10 million had, on average, a 15-bp higher rate, all else equal. One exception: apartment loans below \$10 million often ran 25 to 30 bp above coupon rates on loans above that amount. Not all small loans had premiums, but average premiums reported were statistically significant.
- We updated cumulative property value reductions since prices peaked in 2022. For this calculation we used a subset of the NCREIF Property Index (NPI): assets that are held in open-end funds that make up the ODCE Fund Index, which is also published by NCREIF. Assets in these funds are marked to market quarterly, which is not the case for all assets in the broader NPI.
 - Industrial has been written down 10%.
 - Apartments are down about 16%.
 - Office has registered a 29% reduction. This decline in appraised values is consistent with those posted in the 1990s downturn and as a consequence of the GFC.
 - Retail is off almost 20%. However, retail prices peaked in 4Q 2018, while the other major sectors' peaks were in 2022. Since March 2022, retail is down 12%.

Credit Tracker

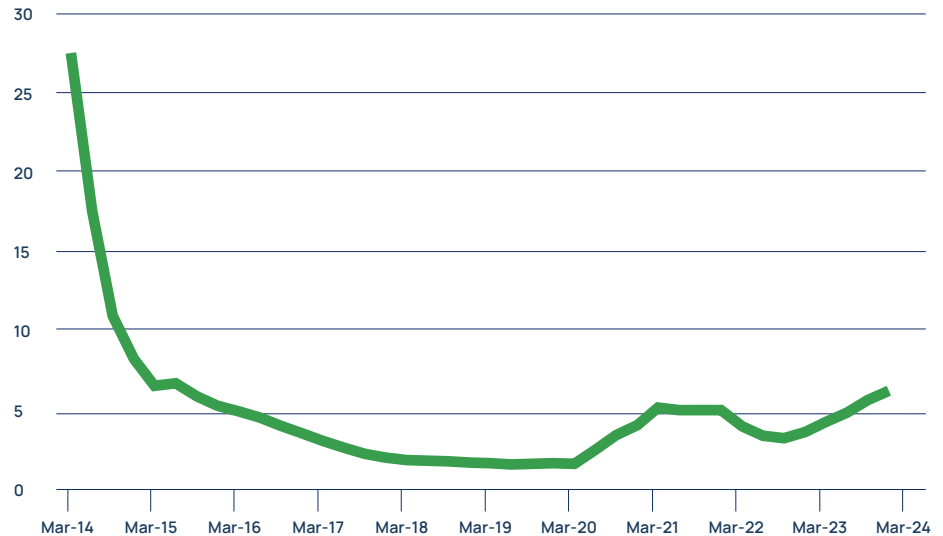
Trailing four-quarter credit effects remained at about 6 bp (see Chart 4). However, 4Q 2023's annualized credit effect was close to 8 bp, up from 6 bp. We continue to anticipate **higher credit effects in 2024 and, quite possibly, 2025.**

Chart 4

Commercial Mortgage Credit Effects

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

Source: Giliberto-Levy



Office and retail continued to show the poorest results over the trailing four-quarter period at 12 bp and 11 bp, respectively. In contrast, apartments (5 bp) and industrial (2 bp) were unchanged. (Sector credit effects are published every quarter in G-L 1 Monitor Exhibits.)

It's worth pointing out that office and retail combined are less than 30% of G-L 1. This low allocation explains why the rise in the overall credit effect has not been as severe as one might have expected. For comparison, office and retail were 60% of the index as of year-end 2008 when the GFC was raging.

Pressure for higher credit effects will come from an increasing percentage of loans with elevated risk (see Table 2 and Chart 5). (The "elevated risk" percentage is the share of loans that are in the amber and red risk zones in Table 2, which is our credit tracker heat map.) Higher marked-to-market LTVs – arising from the cumulative value declines noted above – have been the main driver.

Table 2

Credit Quality Distribution: All G-L I Loans

As a percentage of December 31, 2023 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	0.14%	0.38%	0.23%	0.19%	0.15%	0.25%	1.33%
1.01 to 1.15	0.28%	0.57%	0.14%	0.34%	0.37%	0.21%	1.91%
1.15 to 1.5	1.13%	2.44%	2.09%	2.04%	1.68%	1.19%	10.56%
1.5 to 1.75	2.29%	4.55%	3.41%	2.41%	1.45%	1.27%	15.39%
above 1.75	31.26%	18.95%	7.97%	6.06%	3.11%	2.40%	69.74%
Unknown	0.08%	0.67%	0.14%	0.02%	0.08%	0.08%	1.07%
Total	35.17%	27.56%	13.99%	11.07%	6.83%	5.39%	100.00%

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

Source: Giliberto-Levy

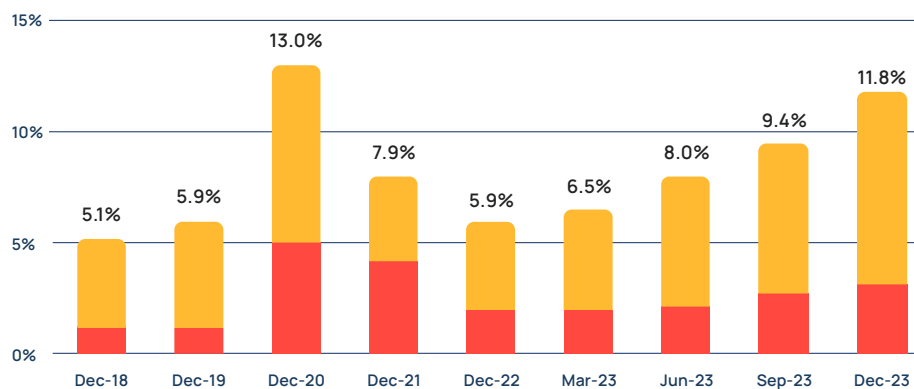
Zone	Red	Amber	Green	Unknown
Total	3.1%	8.7%	87.1%	1.1%

Chart 5

Potential At-Risk Loans

As a percentage of loan balances at month end

Source: Giliberto-Levy



Relative Performance

Quarterly G-L 1 performance came in below CMBS and investment-grade corporate bonds (see Table 3).

Securitized commercial mortgages returned 5.24%, according to the Bloomberg Index Services investment-grade CMBS index. Baa-rated corporate bond results adjusted to match G-L 1's duration came in at 6.50%. It appears that declines in credit spreads, especially for corporate bonds, caused the performance gap. That gap also appears for calendar-year 2023 for intermediate-term investment-grade bonds, but G-L 1 came out ahead of CMBS. This largely stems from G-L 1's longer duration, which produced higher price gains as yields declined.

Table 3

Total Return as of December 31, 2023

Index	Total Return (%)			Duration as of 12/31/2023
	4Q23	YTD	Last 4 Q	
Commercial Mortgages*	4.59	5.62	5.62	4.46
Duration-adjusted Baa Bond	6.50	7.95	7.95	4.46
CMBS: Investment Grade	5.24	5.29	5.29	4.38
CMBS 2.0	4.92	5.16	5.16	3.90
TSY Int. Term	3.99	4.28	4.28	3.72
TSY 5-7 yr. Term	5.44	4.53	4.53	5.44
Credit Int. Term	5.60	6.94	6.94	3.94
A Int. Term	5.64	6.78	6.78	3.99
Baa Int. Term	6.19	7.87	7.87	4.11
High-yield Int. Term	7.04	13.39	13.39	3.01
Ba Int. Term	7.17	11.44	11.44	3.22

* GL-1 Total Index, includes office, retail, apartment, industrial and other

Sources: Bloomberg Index Services; Giliberto-Levy

Lower durations for office and retail, which meant those sectors' benefits from declining yields were dampened, was the primary source of underperformance relative to the index (see Chart 6)

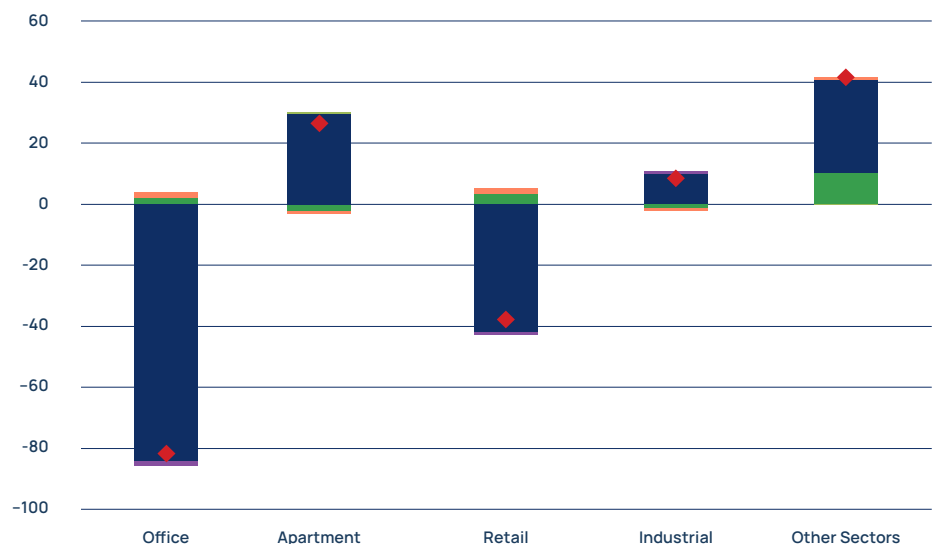
Chart 6

Sector Performance Attribution 4Q 2023

Sector performance minus Total index performance, in basis points

Source: Giliberto-Levy

- Price Change
- Credit Effects
- Total Excess Return
- Income
- Residual and Other



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 published G-L 1 returns.*

Table 4

G-L 1 Lending Activity Summary

	Most Recent Period 4Q 2023 P	Prior Period 3Q 2023	Year Ago Comp. Period 4Q 2022
Loan Volume (\$ billions)	5.7	8.5	3.7
Weighted Average:			
LTV	58.4%	58.6%	57.8%
DSCR	1.43	1.51	1.51
Coupon Rate	6.50%	6.17%	5.98%
Spread (basis points)	177	184	202
Term to Maturity (years)	6.6	6.6	8.6
Loan Size (\$ millions)	28.5	38.3	36.0

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

Source: Giliberto-Levy

> Lending volume slid in 4Q (see Chart 7), similar to what happened in 2022.

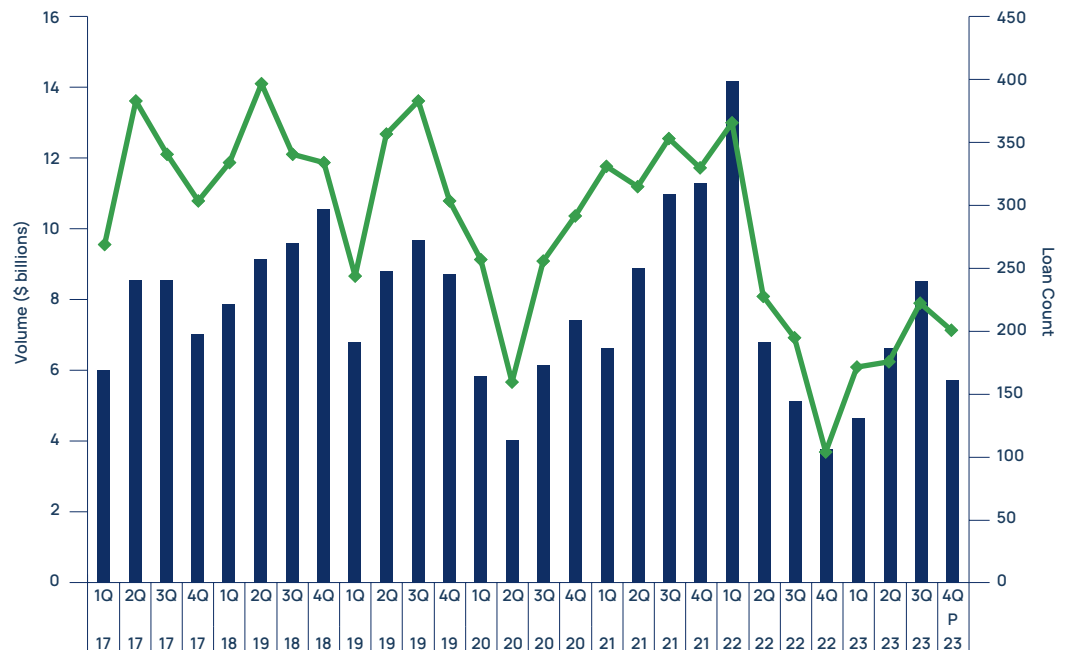
Chart 7

Index-eligible Loan Production

P Preliminary and subject to revision

Source: Giliberto-Levy

◆ # of Loans
— Volume

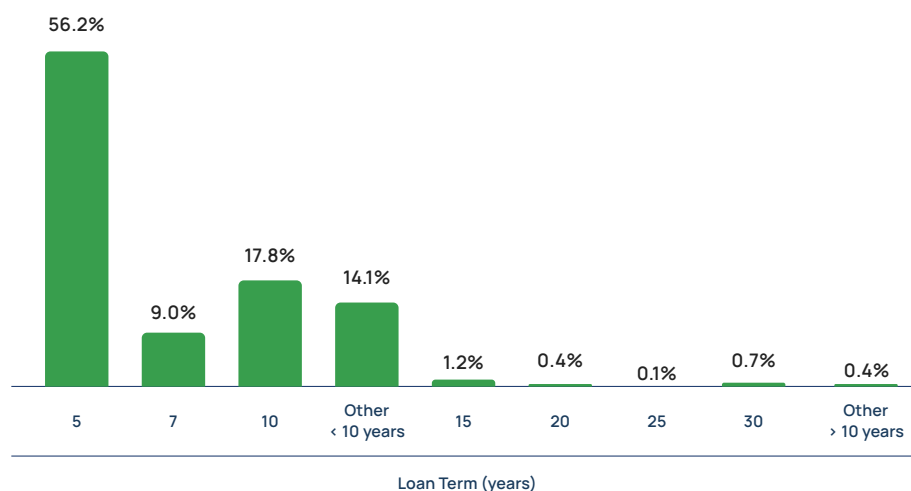


- **Five-year loans continued to dominate activity** (see Chart 8). This has been consistent for several quarters. Additionally, loans with terms greater than ten years have become “rare birds”.

Chart 8

Distribution of Lending Activity by Term to Maturity, 4Q 2023

Source: Giliberto-Levy



- **Full-term interest-only loans were 52% of total volume, down from 65% shares** in the last couple quarters. The shrinkage reflected a decline in average loan size for interest-only deals from more than \$60 million in 3Q to about \$37 million in 4Q. Fully amortizing loans were less than one percent of production. Loans with interest-only payments initially and amortization thereafter made up the remainder.
- **Loan sizes ranged from under \$2 million to just over \$200 million.** Loans below \$10 million made up less than five percent of dollar volume, although they made up 23% of the deal count.

We added close to \$6 billion of new loans to G-L 1 (see Table 5 for details).

These were loans from September, October and November 2023. December 2023 loans, which are included in the production number cited above and depicted in Chart 7, will be added to the Index in 1Q 2024, along with loans made in 2023 that were not reported in time to be included in the quarters in which they were originated.

Table 5

Additions to G-L 1 Index

	Amount (\$)	Number of Loans	Weighted-Average				
			Coupon	Spread (bp)	DSCR	LTV (%)	Term Years
Office	219,650,000	8	6.99%	218	2.01	50.5	5.4
Apartment	2,305,496,000	81	6.33%	163	1.41	58.4	6.5
Retail	565,683,820	33	6.66%	199	1.55	61.8	7.0
Industrial	2,205,744,628	69	6.57%	179	1.45	56.9	6.4
Other	405,149,000	9	6.58%	197	0.94	66.7	8.3
Total	5,701,723,448	200	6.50%	177	1.43	58.4	6.6

Spread reported above is the G-L calculated spread over the comparable maturity TSY

Source: Giliberto-Levy

Please note that spreads reported in Table 5 are weighted (by loan amount) averages of loans made during periods prior to December 2023. Averages shown are not quarter-end pricing parameters. Pricing spreads as reported in the summary table at the top of this report are for standardized ten-year loans at 60% to 65% LTVs. The average standardized spread also appears in Table 1. Standardized spreads are generated from new loan originations and form the baseline for marking to market all loans in the Index. ("Standardization" adjusts for spread variability due to factors such as differing amortization patterns, LTVs, DSCRs, prepayment penalties, loan sizes and so forth. Spreads in Table 5 are differences between coupon rates and Treasury yields without any consideration of these factors.)

Commercial Mortgage Perspective: Loans Maturing in 2024

In this issue, we focus on loans scheduled to mature in 2024, with an emphasis on credit quality as indicated by (updated) LTV and DSC ratios.

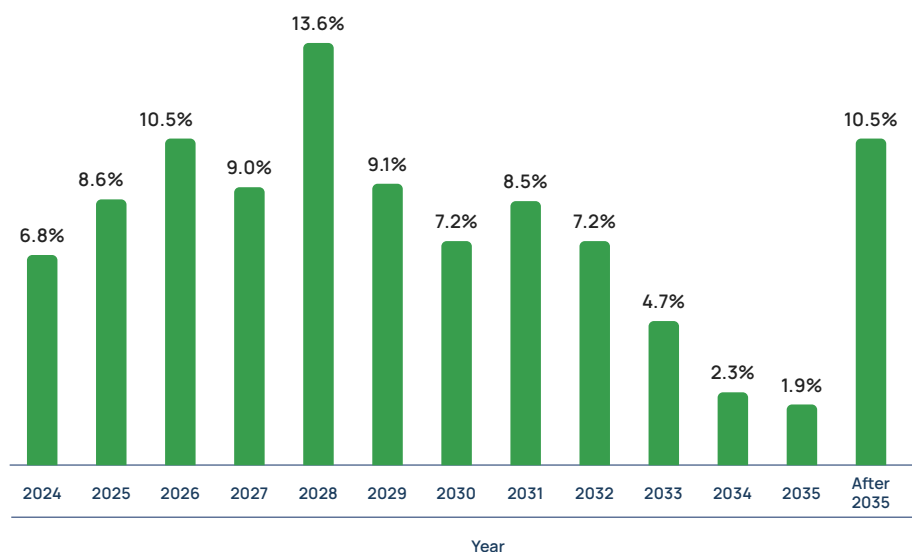
First, G-L 1 seems less susceptible to the “wall of maturities” doom story that was popularized in 2023. (We remember a similar narrative as the GFC unfolded.) Less than half of G-L 1’s unpaid loan balance (UPB) as of December 31, 2023 has scheduled maturity dates before 2029 (see Chart 9). About 15% is due in total in 2024 and 2025, the years we expect to be the most stressful on lenders’ portfolios.

Chart 9

G-L 1 Loan Maturities by Year

As percentages of loan balances on
December 31, 2023

Source: Giliberto-Levy



We applied the heat map analysis used in Table 2, which includes loans at all maturities, to the subset of loans that mature in 2024 (see Table 6).

Table 6

Credit Quality Distribution: G-L 1 Loans With 2024 Maturity Dates

As percentages of December 31, 2023 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	0.22%	0.07%	0.05%	0.48%	0.00%	0.20%	1.02%
1.01 to 1.15	0.05%	0.32%	0.20%	0.08%	0.16%	0.00%	0.79%
1.15 to 1.5	0.55%	1.46%	0.74%	1.50%	0.04%	0.69%	4.97%
1.5 to 1.75	1.95%	5.05%	2.85%	1.01%	0.29%	0.18%	11.32%
above 1.75	50.73%	23.62%	3.67%	1.35%	1.38%	0.76%	81.51%
Unknown	0.36%	0.00%	0.00%	0.02%	0.00%	0.00%	0.39%
Total	53.85%	30.52%	7.50%	4.44%	1.86%	1.82%	100.00%

Source: Giliberto-Levy

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

Zone	Red	Amber	Green	Unknown
Total	1.9%	3.1%	94.6%	0.4%

More than 80% of loans have LTV at or below 60% and DSC above 1.75 times. Consequently, the elevated-risk metric – the red and amber zones – from Table 6 totals 5%, well below the 11.8% reported (in Chart 5) for the entire G-L 1.

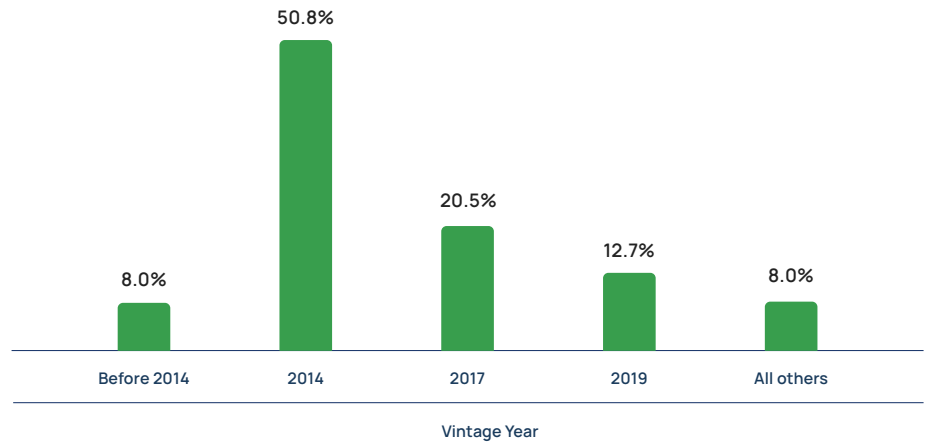
Why are there fewer “broken toys” among 2024 maturities than in the overall G-L 1? It’s largely a vintage-year story. About 85% of scheduled maturities come from three vintage years (2014, 2017 and 2019) that correspond to original loan terms of ten, seven and five years, respectively (see Chart 10).

Chart 10

G-L 1 Loans Maturing in 2024 By Vintage Year

*As percentages of December 31, 2023
balances of these loans*

Source: Giliberto-Levy



Over time, amortization reduces the amount of principal owed for loans that are not full-term interest-only. Property income and value changes also play out, sometimes boosting and sometimes reducing depending on vintage year, leading to differences in current LTV and DSC ratios (see Table 7).

Table 7

G-L 1 Loans Maturing in 2024 By Vintage Year

Average original and current credit ratios

Vintage Year	Original LTV	Current LTV	Original DSC	Current DSC
Before 2014	68.4%	6.9%	1.71	3.00
2014	61.7%	38.4%	2.04	3.13
2017	64.3%	50.9%	2.07	2.51
2019	61.6%	53.6%	2.06	2.43
All Others	61.3%	54.8%	2.20	2.60
All	64.3%	30.9%	1.94	2.93

Source: Giliberto-Levy

"Original LTV and "Original DSC" are as of the original underwriting. "Current LTV" is December 31, 2023 UPB divided by the estimated value of the collateral on that date. "Current DSC" is updated net operating income (NOI) divided by current annual debt service.

Loans from vintages before 2014 are well seasoned, and many of those still outstanding at year-end 2023 had repaid considerable amounts of principal through amortization. For vintages after 2013, DSC has improved due, at least until recently, to rising property income.

LTV ratio changes reflect (1) paydown of principal via amortization, which reduces the numerator, and (2) changes in collateral value. The latter factor's importance is apparent in Table 8, which displays the contribution of each factor to LTV changes for the four major sectors.

Table 8

G-L I Loans With 2024 Maturity Dates: Components of LTV Shifts

*Average underwritten LTV and estimated
(as of December 31, 2023) LTV*

2014 Vintage Year	Office	Multifamily	Retail	Industrial
Original LTV	60.5%	64.2%	58.1%	59.8%
Paydown Effect	-13.2%	-10.8%	-12.6%	-15.9%
Collateral Effect	-0.9%	-13.4%	-0.8%	-27.4%
Current LTV	46.4%	40.0%	44.7%	16.5%

2017 Vintage Year	Office	Multifamily	Retail	Industrial
Original LTV	61.6%	66.6%	61.6%	60.2%
Paydown Effect	-5.5%	-4.8%	-6.6%	-5.4%
Collateral Effect	10.5%	-7.8%	11.1%	-27.9%
Current LTV	66.5%	54.0%	66.1%	26.9%

2019 Vintage Year	Office	Multifamily	Retail	Industrial
Original LTV	61.2%	63.0%	60.7%	59.3%
Paydown Effect	-2.6%	-1.5%	-4.4%	-3.0%
Collateral Effect	17.2%	-5.4%	11.1%	-22.7%
Current LTV	75.9%	56.1%	67.4%	33.7%

Source: Giliberto-Levy

As you would expect, paydown effects are larger for older vintages. The effect's size is broadly comparable across sectors within a vintage year, though.

Collateral value changes differ widely across sectors. Again, one would expect this, but Table 8 quantifies the effect.

For example, office assets have experienced the largest valuation decreases to date. The decline has been deep enough that even vintage year 2014 office loans have received essentially zero benefit from asset appreciation over time. For more recent vintage years, office value mark downs have been large enough to produce *increased* LTVs, swamping LTV reductions from paydown.

In contrast, until recently, industrial asset values had been going up dramatically. Cumulative increases produced substantial reductions in current LTVs, even for more recent vintage years.

Although the percentage of elevated-risk loans appears low, coupon reset is an overarching issue. Most loans that seek to refinance in full will face a meaningful gap between the coupon rate on the old loan and the rate on the refinance.

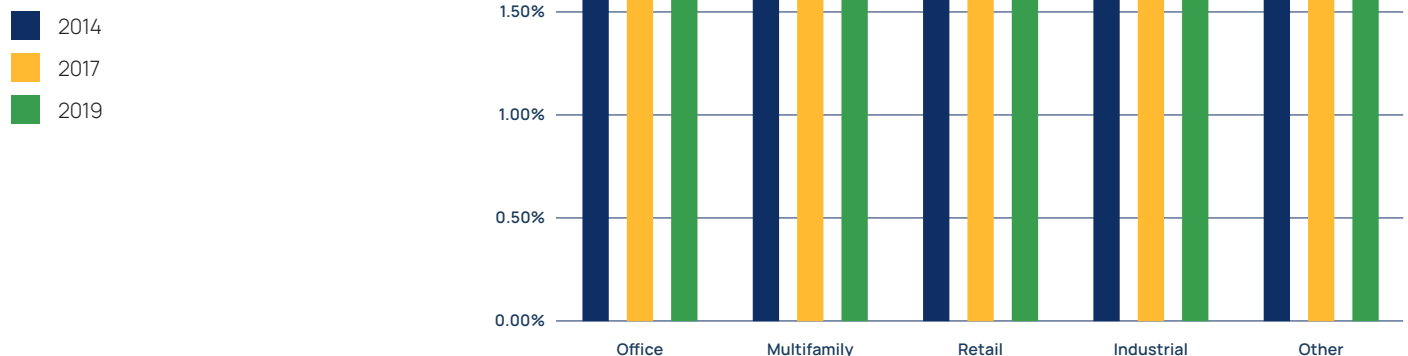
We estimated gaps for every loan maturing in 2024 as follows. We assumed a 4% Treasury yield as a base *plus* each loan's credit spread as of year-end 2023 *minus* its in-place coupon rate. (Year-end credit spread reflects updated LTV and DSC.) For example, a loan with an existing 4.25% coupon and a 175-bp credit spread would refinance at 5.75% (4% Treasury plus 1.75% credit spread), creating a gap of 1.50% (5.75% minus 4.25%). Chart 11 shows average gap by property sector for the three vintage years (2014, 2017 and 2019) that include more than 80% of scheduled maturities.

Chart 11

G-L I Loans With 2024 Maturity Dates: Coupon Rate Gaps

Average difference between in-place coupon rates and estimated refinance rates

Source: Giliberto-Levy



The smallest gap (1.60%) is for 2014 vintage industrial loans. On average, those loans carry a 4.24% coupon rate. Considerable reductions in Treasury yields and / or a lot of spread narrowing would have to occur for these loans to achieve a significant decrease in the gap upon a full refinance. Prospects for other vintage years and sectors are correspondingly dimmer.

Importantly, we did not adjust credit spreads for the effect higher coupon rates will have on a loan's DSC. In most cases, DSC will go down, which could cause the credit spread to increase. That presents a further hurdle for a year that seems poised to be the most challenging for lenders since the GFC.

As a result, we expect 2024 will be a year of "quiet losses" for balance-sheet lenders. These will come about through selective refinancings on (relatively) favorable terms and restructurings, such as blend and extend, that effectively imply lower values for loans but avoid recording significant impairments on the books.

As always, we welcome your comments and questions.

February 2024

Chart 12

Commercial Mortgage Performance

Rolling four-quarter total return for Total Index

Source: Giliberto-Levy

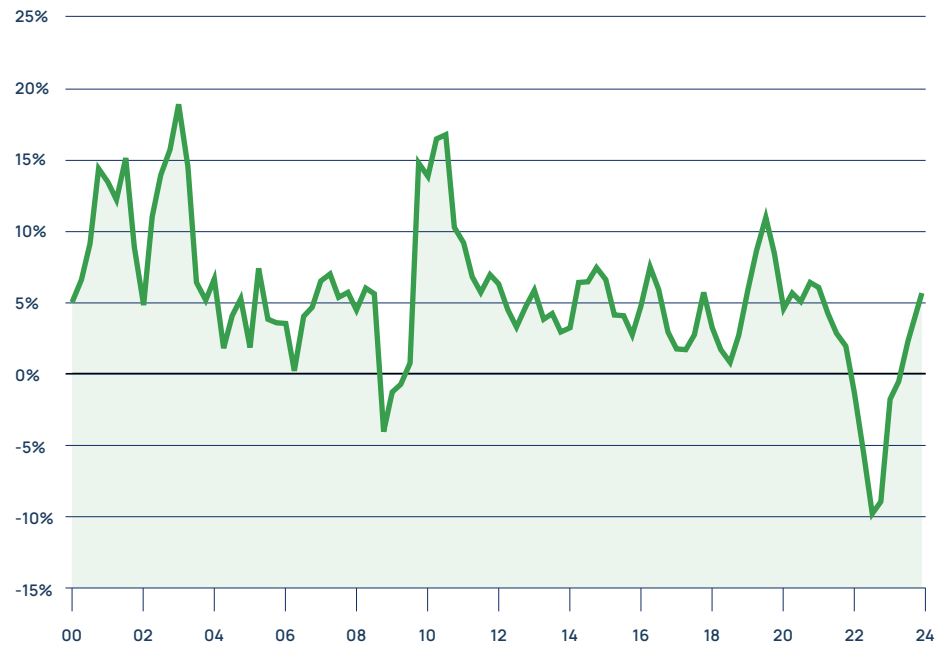


Chart 13

Commercial Mortgage Credit Effects

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

Source: Giliberto-Levy

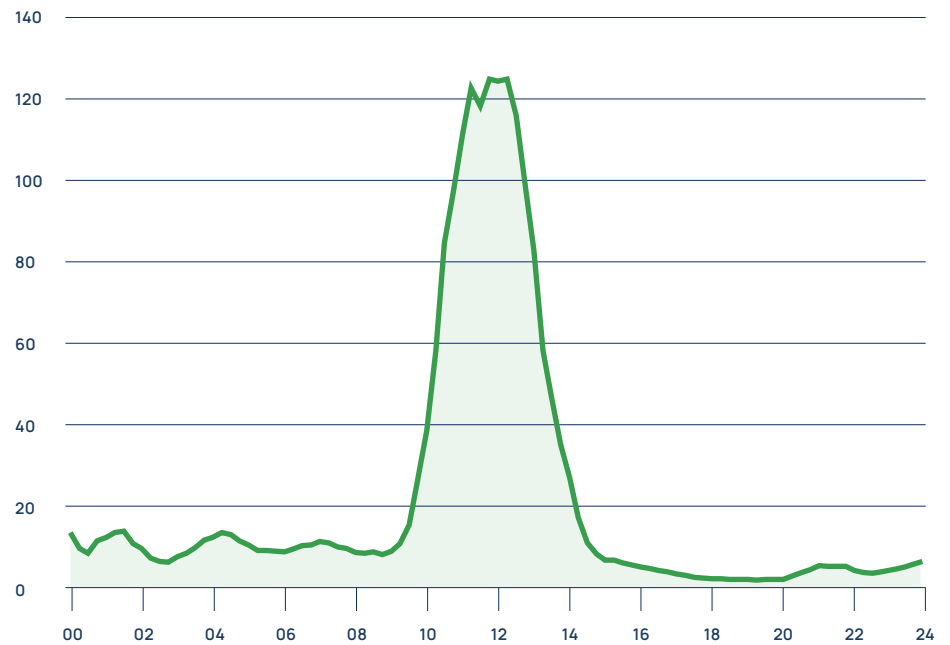


Table A

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

For the quarter ended December 31, 2023

Sector	Returns (%)						Credit Effects (book value; bp)			
	Last 3 months				YTD Total	Last 12 Months	Index Level	Last 3 Months	YTD	Last 12 Months
	Income	Price	Other	Total						
Office	1.19	2.54	0.04	3.77	4.53	4.53	2359.04	4	12	12
Apartment	1.15	3.70	0.01	4.86	5.63	5.63	3041.04	1	5	5
Retail	1.20	2.97	0.04	4.21	6.22	6.22	2853.24	3	11	11
Industrial	1.16	3.51	0.01	4.68	5.82	5.82	2745.24	1	2	2
Others	1.27	3.70	0.03	5.00	6.18	6.18	N/A	2	7	7
Total	1.17	3.40	0.02	4.59	5.62	5.62	2574.04	2	6	6
Aggregate	1.16	3.37	0.02	4.56	5.58	5.58	4160.77	2	6	6

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

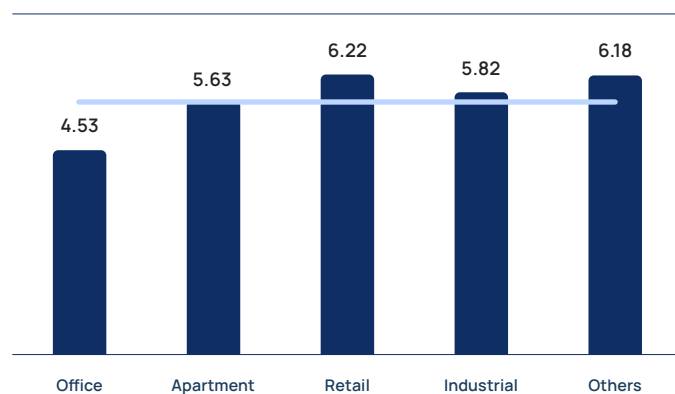
Other Return is paydown return and compounding

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

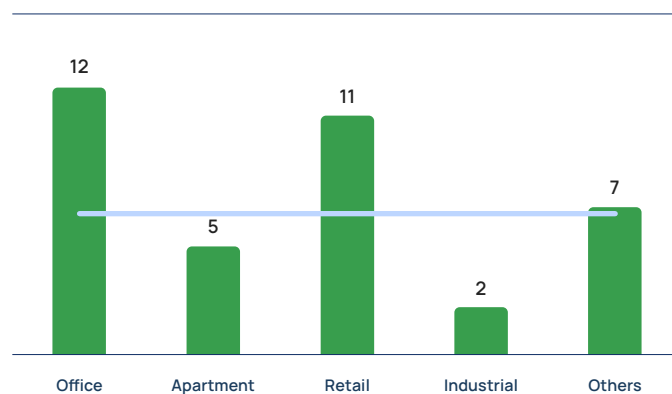


Table B

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

Performance by Property Sector

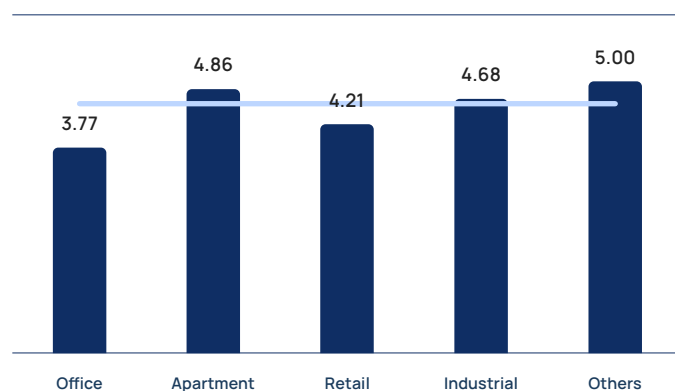
For the quarter ended December 31, 2023

Sector	Returns (%)				Statistics						
	Income	Price	Other	Total	Mod. Duration	Coupon	Maturity	Price	Yield	Pct. of Portfolio	Num. of Cohorts
Office	1.19	2.54	0.04	3.77	3.88	4.20	5.55	90.7	6.66	14.1%	1881
Apartment	1.15	3.70	0.01	4.86	4.72	3.96	6.39	90.6	6.02	45.8%	6231
Retail	1.20	2.97	0.04	4.21	3.99	4.29	5.66	92.3	6.33	13.2%	3167
Industrial	1.16	3.51	0.01	4.68	4.43	4.13	5.89	92.7	5.85	20.1%	2941
Others	1.27	3.70	0.03	5.00	4.75	4.42	7.21	90.9	6.42	6.9%	1077
Total	1.17	3.40	0.02	4.59	4.45	4.10	6.13	91.3	6.15	100.0%	15297
Aggregate	1.16	3.37	0.02	4.56	4.43	4.08	6.05	91.3	6.13	93.1%	14220

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

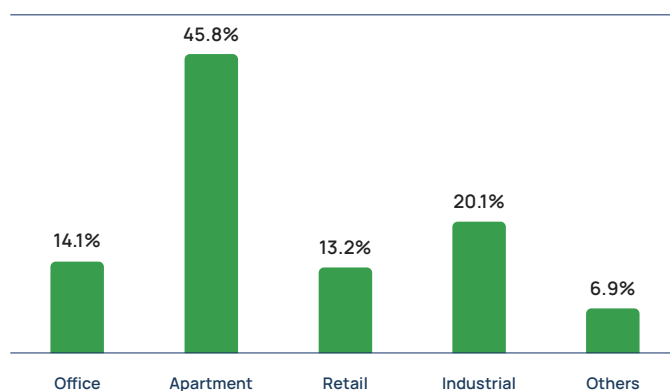


Table C

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

Performance by Book LTV Classification

For the quarter ended December 31, 2023

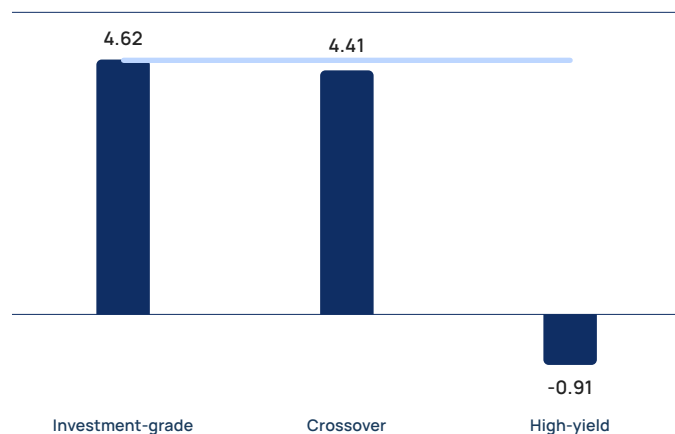
Credit quality using book value	Returns (%)				Statistics						
	Income	Price	Other	Total	Mod. Duration	Coupon	Maturity	Price	Yield	Pct. of Portfolio	Num. of Cohorts
Investment-grade	1.16	3.44	0.02	4.62	4.39	4.07	6.06	91.6	6.08	89.5%	14167
Crossover	1.27	3.13	0.02	4.41	4.99	4.40	6.69	89.4	6.53	10.0%	1068
High-yield	1.38	-2.39	0.10	-0.91	4.77	3.99	8.08	73.4	9.61	0.6%	62
Total	1.17	3.40	0.02	4.59	4.45	4.10	6.13	91.3	6.15	100.0%	15297

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

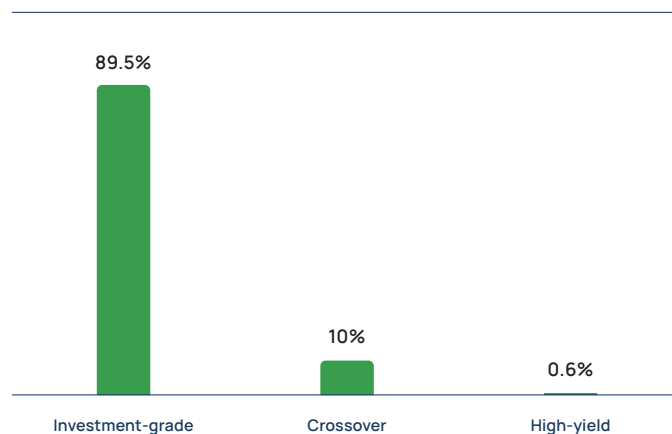


Table D

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

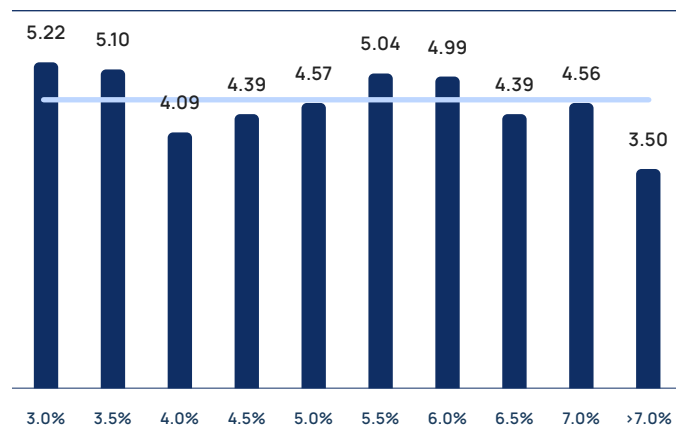
Performance by Coupon Rate

For the quarter ended December 31, 2023

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%	0.87	4.33	0.02	5.22	5.17	2.74	6.48	84.8	5.90	10.3%	1103
3.0% to 3.5%	1.01	4.06	0.02	5.10	5.21	3.28	6.92	86.2	6.07	17.5%	2134
3.5% to 4.0%	1.08	2.98	0.03	4.09	3.68	3.78	4.96	91.7	6.23	24.5%	3467
4.0% to 4.5%	1.20	3.15	0.03	4.39	4.13	4.25	6.06	92.6	6.21	23.3%	3367
4.5% to 5.0%	1.33	3.21	0.03	4.57	4.57	4.73	6.70	93.4	6.25	9.7%	1602
5.0% to 5.5%	1.46	3.58	0.00	5.04	5.24	5.26	7.60	95.8	6.10	4.1%	737
5.5% to 6.0%	1.55	3.47	-0.02	4.99	5.00	5.75	7.11	98.6	6.09	4.5%	947
6.0% to 6.5%	1.63	2.79	-0.02	4.39	4.20	6.27	5.63	101.1	6.06	3.4%	788
6.5% to 7.0%	1.72	2.87	-0.03	4.56	4.58	6.73	6.06	103.2	6.08	1.7%	356
7.0% & above	1.87	1.68	-0.05	3.50	3.08	7.52	4.52	103.6	6.47	0.8%	796
Total	1.17	3.40	0.02	4.59	4.45	4.10	6.13	91.3	6.15	100.0%	15297

Total Return by Coupon Rate

For the quarter; in percent



Portfolio Composition by Coupon Rate

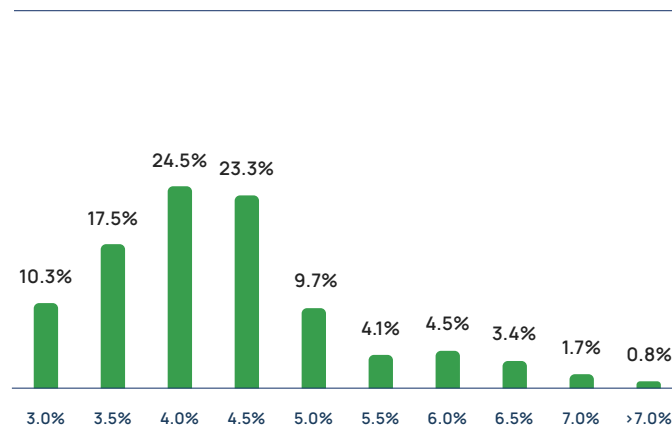


Table E

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

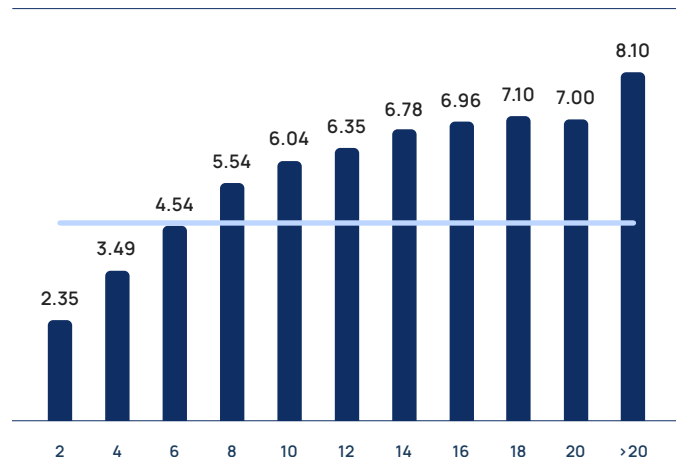
Performance by Remaining Term to Maturity

For the quarter ended December 31, 2023

Maturity Cell	Returns (%)				Statistics						
	Income	Price	Other	Total	Mod. Duration	Coupon	Maturity	Price	Yield	Pct. of Portfolio	Num. of Cohorts
0 to 2 years	1.06	1.26	0.03	2.35	1.05	4.06	1.11	97.3	6.79	16.4%	3072
2 to 4 years	1.09	2.39	0.01	3.49	2.72	4.03	3.01	94.4	6.14	20.1%	2887
4 to 6 years	1.21	3.33	0.00	4.54	4.25	4.34	4.96	93.0	5.96	23.1%	2765
6 to 8 years	1.11	4.42	0.01	5.54	5.74	3.66	7.09	87.1	5.95	15.0%	2212
8 to 10 years	1.30	4.74	0.00	6.04	6.69	4.45	8.87	89.7	6.00	11.7%	1561
10 to 12 years	1.25	5.03	0.06	6.35	7.12	4.03	10.99	86.5	5.95	4.1%	847
12 to 14 years	1.27	5.44	0.07	6.78	7.80	3.98	12.95	84.3	6.02	3.5%	668
14 to 16 years	1.36	5.52	0.08	6.96	7.98	4.33	14.99	86.7	6.03	1.8%	419
16 to 18 years	1.23	5.72	0.15	7.10	8.22	3.61	17.11	80.0	6.12	1.5%	348
18 to 20 years	1.40	5.51	0.10	7.00	8.35	4.48	18.92	86.2	6.14	0.6%	177
20 years & more	1.45	6.58	0.07	8.10	10.05	4.16	25.07	78.8	6.23	2.2%	341
Total	1.17	3.40	0.02	4.59	4.45	4.10	6.13	91.3	6.15	100.0%	15297

Total Return by Maturity Cell

For the quarter; in percent



Portfolio Composition by Maturity Cell

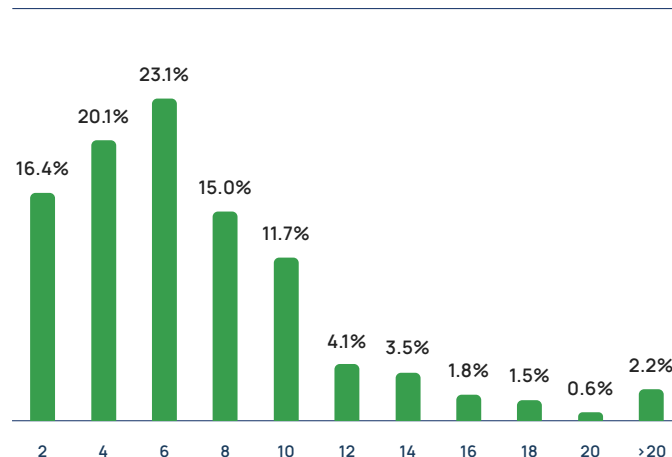


Table F

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

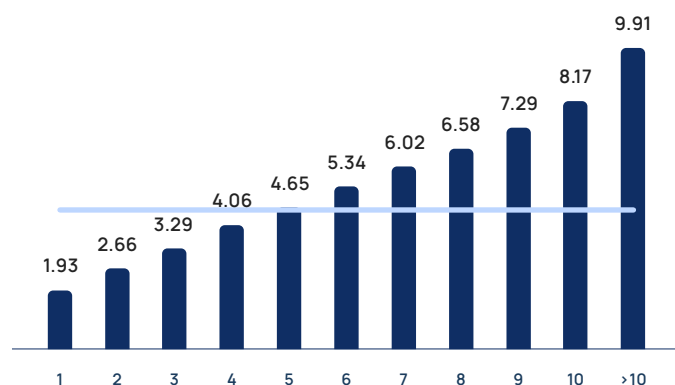
Performance by Duration

For the quarter ended December 31, 2023

Duration Cell	Returns (%)				Statistics						
	Income	Price	Other	Total	Mod. Duration	Coupon	Maturity	Price	Yield	Pct. of Portfolio	Num. of Cohorts
0 to 1 year	1.07	0.80	0.07	1.93	0.51	4.15	0.53	98.4	7.27	6.6%	1682
1 to 2 years	1.07	1.58	0.01	2.66	1.44	4.07	1.57	96.7	6.45	10.3%	2082
2 to 3 years	1.07	2.21	0.02	3.29	2.44	3.95	2.78	94.7	6.16	12.8%	1859
3 to 4 years	1.19	2.85	0.02	4.06	3.49	4.36	4.16	94.2	6.04	14.2%	2080
4 to 5 years	1.21	3.43	0.01	4.65	4.41	4.33	5.38	92.8	5.95	15.8%	1978
5 to 6 years	1.16	4.15	0.03	5.34	5.46	3.91	7.35	89.1	5.96	11.8%	1810
6 to 7 years	1.21	4.80	0.01	6.02	6.55	3.99	8.89	87.4	6.00	14.6%	1838
7 to 8 years	1.27	5.28	0.02	6.58	7.44	4.12	11.37	86.5	5.98	7.2%	968
8 to 9 years	1.29	5.94	0.05	7.29	8.53	3.93	15.46	82.8	6.05	3.6%	585
9 to 10 years	1.32	6.84	0.01	8.17	9.57	3.79	17.77	78.6	6.08	1.9%	284
10 years & more	1.47	8.49	-0.05	9.91	11.91	3.97	22.88	76.6	6.03	1.1%	131
Total	1.17	3.40	0.02	4.59	4.45	4.10	6.13	91.3	6.15	100.0%	15297

Total Return by Duration Cell

For the quarter; in percent



Portfolio Composition by Duration Cell

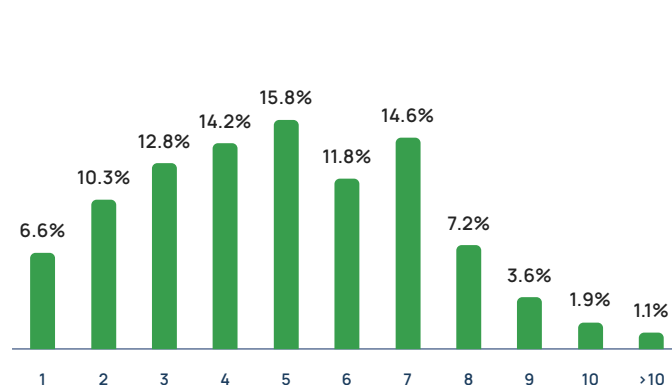


Table G

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

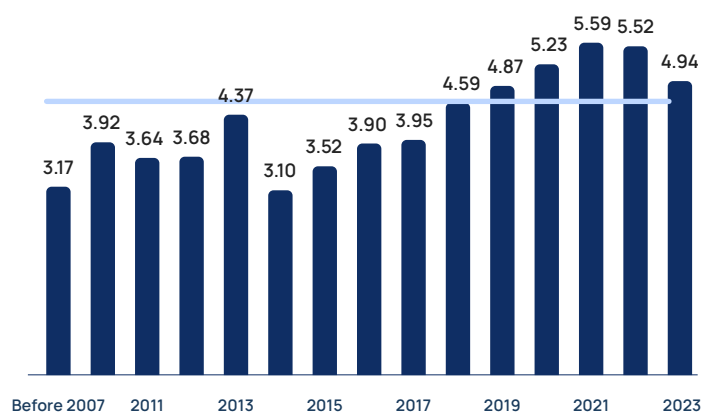
Performance by Vintage Year

For the quarter ended December 31, 2023

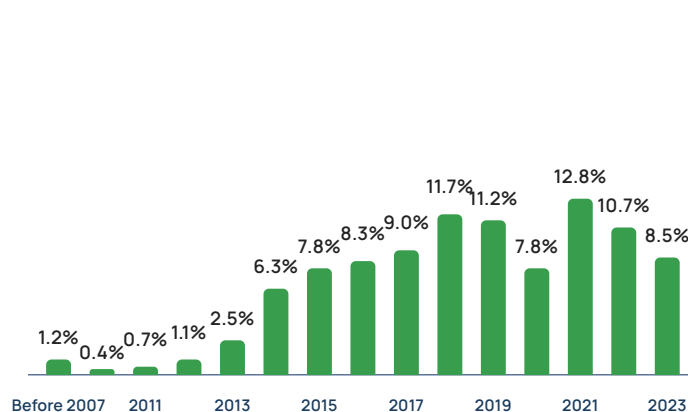
Vintage Year	Returns				Statistics						
	Income	Price	Other	Total	Mod. Duration	Coupon	Maturity	Price	Yield	Pct. of Portfolio	Num. of Cohorts
Before 2007	1.59	1.58	0.00	3.17	2.30	6.29	4.28	100.8	6.18	1.2%	1945
2007 to 2010	1.59	2.33	0.00	3.92	3.37	6.23	6.55	100.8	6.06	0.4%	286
2011	1.36	2.20	0.08	3.64	3.22	5.29	5.28	97.9	6.01	0.7%	237
2012	1.22	2.38	0.07	3.68	2.95	4.55	4.91	95.9	6.27	1.1%	323
2013	1.24	3.03	0.11	4.37	4.03	4.52	6.48	94.6	6.02	2.5%	536
2014	1.12	1.95	0.03	3.10	2.15	4.22	3.30	96.2	6.66	6.3%	1001
2015	1.09	2.39	0.04	3.52	2.80	3.96	4.08	94.2	6.31	7.8%	1344
2016	1.07	2.77	0.06	3.90	3.46	3.81	4.97	92.3	6.20	8.3%	1204
2017	1.12	2.80	0.03	3.95	3.46	3.97	4.72	93.0	6.26	9.0%	1322
2018	1.24	3.33	0.02	4.59	4.45	4.36	6.27	92.9	6.06	11.7%	1399
2019	1.12	3.73	0.01	4.87	4.84	3.78	6.71	89.5	6.10	11.2%	1414
2020	0.97	4.22	0.03	5.23	5.39	3.10	7.33	85.1	5.98	7.8%	1100
2021	0.97	4.61	0.01	5.59	5.83	3.02	7.59	84.0	5.98	12.8%	1507
2022	1.33	4.21	-0.02	5.52	5.95	4.48	7.99	89.7	6.17	10.7%	981
2023	1.60	3.38	-0.03	4.94	5.06	6.03	6.52	99.8	6.03	8.5%	698
Total	1.17	3.40	0.02	4.59	4.45	4.10	6.13	91.3	6.15	100.0%	15297

Total Return by Vintage Cohort

For the quarter; in percent



Portfolio Composition by Vintage Cohort





GILIBERTO-LEVY
COMMERCIAL REAL ESTATE DEBT INDEXES

In 3Q 2023, our G-L 2 index showed a marked worsening in performance of high-yield debt. Total return slumped to 0.92% compared with 1.99% in 2Q. Credit event incidence increased from 3.4% to 4.4%.

Non-performing loans were marked at about 50 cents on the dollar. We anticipate that 4Q 2023 G-L 2, to be released in March 2024, will show further deterioration.

For more information on the G-L 2 Index, please contact us at: jgrant@jblevyco.com

The Gilberto-Levy Indexes

The G-L Commercial Mortgage Performance Index or G-L 1 tracks investment results for fixed-rate senior mortgages made by lenders such as life insurance companies, GSEs, pension funds and investment managers and held on their balance sheets. G-L 1 has been produced continuously since 1993, with a return inception date of January 1, 1972.

The G-L High-yield Real Estate Debt Index or G-L 2 measures performance for a variety of investments, such as mezzanine loans, leveraged whole loan and B-notes. G-L 2 production started in 2018. The return inception date is January 1, 2010.

To receive more information about the indexes, please contact Julia Grant (jgrant@jblevyco.com).

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The Gilberto-Levy Index pulls specific data from several sources to assure the accuracy of its measurement. Information on mortgage rates comes from the John B. Levy & Company and S. Michael Gilberto & Company National Mortgage Survey. Data on interest rates come from market sources