

Single-Borrower CMBS Default and Loss Study: Weathering the Storm

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The single-borrower (SB) CMBS sector has existed for over three decades and has historically experienced very few defaults and minimal losses over that period. However, the perfect storm was brewing as the convergence of pandemic-driven deterioration in commercial real estate (CRE) fundamentals and the rapid, unprecedented rise in interest rates during 2022-23 left its mark on the sector's credit performance.

This series of events disrupted cash flows, values, and refinancing prospects, initially for lodging and retail, and then more severely for office properties, where the structural shift towards remote and hybrid work models triggered weakened demand for office space.

As a result, there has been an increasing number of loan defaults and losses, particularly in the office sector. KBRA conducted a study that explored SB CMBS defaults and losses consisting of loans securitized from August 1993 to September 2024 that had at least one year of seasoning, with performance tracked through September 2025.

Key Takeaways

- There were 111 defaults during the study period, resulting in a 12.9% cumulative default rate, by count.
- All but eight of these occurred after the onset of the pandemic in 2020 with 19.8% (22 loans) defaulting in 2020 during the height of the pandemic, and more than two-thirds (71.2%, 79) defaulting in 2022 or later.
- Office, which is nearly one-quarter of the study population, has the highest cumulative default rate at 19.7%, along with the greatest number of defaulted loans. It also had four of the six highest loss severities.
- Of the 29 resolutions, 21 were resolved with no losses or losses of less than 1%, while the other eight had losses of 3.9% on one loan, 20-50% on four loans and greater than 50% on three loans. The average loss severity of all resolved loans was 11.2%, and the average time from default date to resolution was 24.0 months.

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SB Recent History and Study Pool

SB issuance volume climbed to \$80.3 billion in 2021, almost doubling the 2019 record of \$43.7 billion (see Figure 1). However, there was a meaningful decline in issuance between 2022 and 2023, given the rising interest rate environment and high inflationary period. Issuance then rebounded in 2024 to \$68 billion and surpassed 2021 levels in 2025 to its highest annual level of \$91.1 billion.

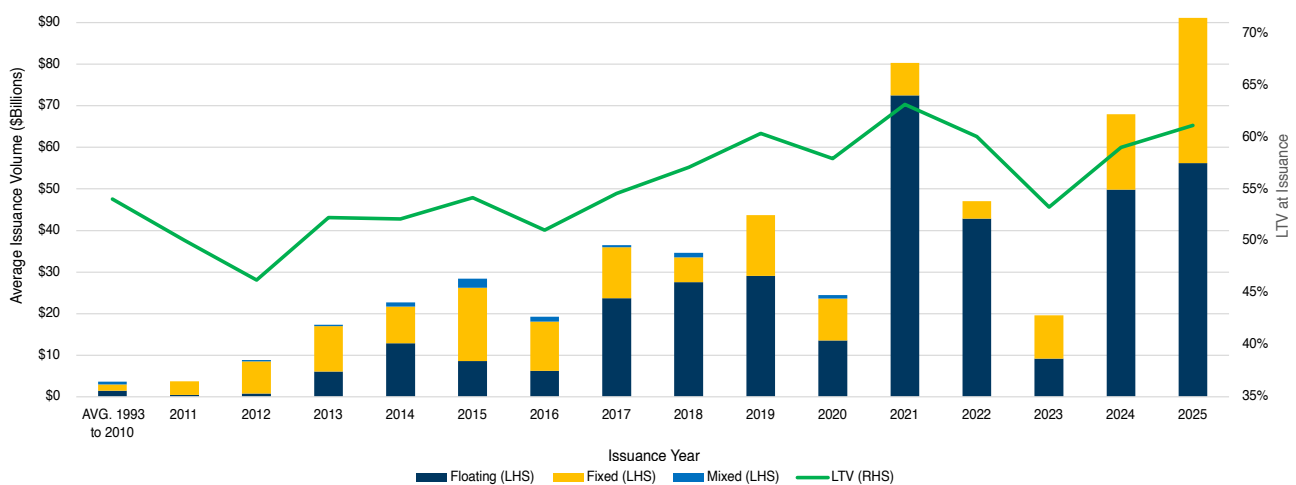
The loans had an average securitization balance of \$573.6 million (ranging from \$50 million to \$7.4 billion) and, by rate type, included floating rate loans (497 loans, 57.7%), fixed rate loans (344, 40.0%), and loans in SB deals structured with a combination of fixed and floating rates (20, 2.3%)¹.

The average in-trust loan-to-value (LTV) across the population was 56.7%, based on data available in 830 of the 861 loans. LTVs have been rising steadily to 61.1% for the 2025 vintage from a low of 46.2% for the 2012 vintage. The 2021 vintage has the highest average LTV of 63.1%.

LTVs generally reflect the number reported by the issuer at issuance and are typically based on in-trust amounts together with *pari passu* debt, as well as appraisal values available at the time of securitization.

The study population’s top three property types by balance include lodging (244, 28.4%), office (203, 23.6%), and retail (145, 16.8%). However, the composition of issuance has fluctuated greatly with market conditions. For example, while lodging averaged 26.5% of annual issuance dollar volume since 2010, its annual share has ranged from 8.9% to 45.5%. Similarly, office which averaged 17.8% of annual issuance since 2010—had limited issuance in 2023 and 2024 (1.6% and 4.5%, respectively) as office demand weakened and valuations declined. Retail also experienced major declines in its share of issuance as regional mall securitizations, which dominated post-global financial crisis (GFC) issuance, have faded except for the highest-quality malls. More recently, other property types such as data centers and self-storage have represented a larger share of issuance.

FIGURE 1
Annual SB Issuance



Sources: KBRA, Trepp, Green Street

¹ For this study, loan-level data was generally sourced from Trepp, LLC, which was supplemented with information from offering documents, if available; data in our proprietary databases for KBRA-rated transactions; and data from KCP, a division of KBRA Analytics.

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Determining Defaults

There were 111 defaults in the study population, resulting in a cumulative default rate of 12.9% by loan count. Below is a summary of the general criteria KBRA used to determine defaults for the purposes of this study (the “default criteria”):

- Loans reported 60+ days delinquent for at least one remittance period, or those reported with foreclosure (FCL) or real estate owned (REO) status.
- Matured performing or nonperforming loans, unless they were never reported delinquent and paid off within six months of the maturity date with no loss.
- Loans that received debt relief through a modification that directly and meaningfully altered expected payment streams to investors, even if they were never reported delinquent. This includes reductions in the current payable interest rate and extensions beyond any fully extended or original final maturity date.
- Borrower bankruptcy.

In determining whether a loan defaulted, we generally reviewed loans that were transferred to the special servicer. In the study population, a total of 146 loans (17%) were transferred to the special servicer; however, a loan was generally not considered a defaulted loan unless it met the default criteria.

In addition to special servicing transferred loans, the study population included another 42 loans that received modifications but were not considered a default. As with specially serviced loans, if a loan was reported as modified by the servicer but did not meet the default criteria, it was not considered a defaulted loan.

Default Timing

We determined, as shown in Figure 2, that almost all the defaults occurred from 2020 onward (103 of the 111). The wave of defaults began with the economic impact of pandemic-related lockdowns and travel restrictions on the CRE sector in 2020. Notably, more than one-half of the lodging defaults (16 of the 31) occurred in 2020. However, the larger driver of defaults has been the period that followed, marked by the record rise in interest rates from 2022-23 and their sustained elevated levels, combined with the high inflationary pressures on CRE operating expenses. These conditions made refinancing significantly more costly and created uncertainty around stabilized cash flows and valuations. In addition, there was a meaningful reduction in office demand due to the increased adoption of remote work. In fact, office has the highest number of defaults and all but one occurred after 2021.

FIGURE 2
Year of Default by Property Type

Property Type	<= 2019	2020	2021	2022	2023	2024	YTD 9/25	Total
Office	--	--	1	6	22	9	2	40
Lodging	5	16	--	2	2	2	4	31
Retail	3	5	1	4	1	1	3	18
Mixed-Use	--	1	--	--	5	5	1	12
Multifamily	--	--	--	2	1	3	1	7
Other*	--	--	--	1	--	1	1	3
Total	8	22	2	15	31	21	12	111

*Other includes loans secured by production studios space, leased-fee property, and furniture showroom/warehouse space.
Sources: KBRA, Trepp, issuance documents, and trustee and servicer remittance reports

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Default Rates by Property and Loan Characteristics

Property Type and Single vs. Multi-Property Loans

Office, which is nearly one-quarter of the study population, has the highest cumulative default rate at 19.7%, along with the greatest number of defaulted loans (see Figure 3). Mixed-use (8% of the study population), which includes loans secured by single mixed-use properties (often with an office component) and multi-property portfolios of mixed types, had the second-highest default rate at 16.7%. Lodging had the third-highest default rate at 12.7% and represented the largest portion of the study population (28.3%). Retail, which largely consists of regional malls, had the fourth-highest default rate at 12.4%, followed by multifamily at 11.3%, with both falling below the population’s overall default rate of 12.9%. There have been zero industrial defaults to date.

The population is evenly distributed between loans secured by single properties (434, 50.4%) and those secured by multiple properties (427, 49.6%). While the overall default rate for single-property loans (14.3%) was slightly higher than for multi-property loans (11.5%), property-type seems to be the bigger determinant of default. For example, in lodging, single-property loans defaulted far less than multi-property loans (7.8% vs. 16.3%, respectively), a pattern that also holds true in office and multifamily. Since Industrial and All Other property types account for a large portion of the multi-property population (135 loans with three defaults), these can be considered a skew and thus removed; as a result, the multi-property default rate increases to 15.8% (303 loans with 48 defaults). This implies that property type may have a greater influence on loan performance than portfolio diversification.

FIGURE 3
Defaults by Single-Property vs. Multi-Property

Property Type	Single Property			Multi-Property			Totals		
	Loans	Defaults	Default Rate	Loans	Defaults	Default Rate	Loans	Defaults	Default Rate
Lodging	103	8	7.8%	141	23	16.3%	244	31	12.7%
Office	161	29	18.0%	42	11	26.2%	203	40	19.7%
Retail	95	13	13.7%	50	5	10.0%	145	18	12.4%
Industrial	2	--	--	73	--	--	75	--	--
Mixed-Use	43	8	18.6%	29	4	13.8%	72	12	16.7%
Multifamily	21	2	9.5%	41	5	12.2%	62	7	11.3%
All Other*	9	2	22.2%	51	1	2.0%	60	3	5.0%
Total	434	62	14.3%	427	49	11.5%	861	111	12.9%

*All Other includes self-storage, health care, data centers, manufactured housing, and properties characterized as “other” by Trepp.

Sources: KBRA, Trepp, issuance documents, and trustee and servicer remittance reports

Single-Borrower CMBS Default and Loss Study: Weathering the Storm (cont.)

FIGURE 3
Defaults by Single-Property vs. Multi-Property

Amortization Type	Fixed			Floating			Mixed			Total		
	Loans	Defaults	Rate	Loans	Defaults	Rate	Loans	Defaults	Rate	Loans	Defaults	Rate
Full-Term IO	256	32	12.5%	471	65	13.8%	15	4	26.7%	742	101	13.6%
Amortizing Balloon	65	2	3.1%	25	4	16.0%	4	--	--	94	6	6.4%
Partial-Term IO	23	4	17.4%	1	--	--	1	--	--	25	4	16.0%
Total	344	38	11.0%	497	69	13.9%	20	4	20.0%	861	111	12.9%

Sources: KBRA, Trepp, issuance documents, and trustee and servicer remittance reports

Loan Characteristics

Partial-term interest-only (IO) loans exhibited the highest default rate, followed by full-term IO loans, with amortizing balloon loans unsurprisingly experiencing the lowest default rate. Both the partial-term and full-term IO default rates are more than double the amortizing default rate (see Figure 4). Floating rate loans, which generally can be influenced more by interest rate movement than fixed rate loans, had a higher default rate.

There were also a small number of loans with both floating and fixed rate components (mixed rate loans, 2.3% of total loans).

Loan-to-Value

Loans with higher in-trust LTVs generally had a greater likelihood of default (see Figure 5). For example, the default rate increased from 6.5% for loans with LTV ≤40% to 9.9% for loans between 40% and 50% LTV, and up to 26.3% for loans with LTVs >70%. The LTVs generally reflect the issuance appraisal value of the properties.

FIGURE 5
Defaults by LTV

LTV (%)	Total		
	Loans	Defaults	Default Rate
≤40	46	3	6.5%
40-50	172	17	9.9%
50-60	272	32	11.8%
60-70	260	38	14.6%
>70	80	21	26.3%
NAV	31	--	--
Total	861	111	12.9%

Sources: KBRA, Trepp, issuance documents, and trustee and servicer remittance reports

Single-Borrower CMBS Default and Loss Study: Weathering the Storm (cont.)

Debt Service Coverage

KBRA examined issuer-reported net cash flow (NCF) debt service coverage (DSC) and found that higher DSCs generally resulted in lower default rates. (see Figure 6). The majority of the loans in this category are from the newest vintages, with 70.3% (29 of 41) having less than two years of seasoning, including 26 floating rate loans that were still in their initial term as of the study cutoff date.

FIGURE 6
Defaults by NCF DSC

DSC	Total		
	Loans	Defaults	Default Rate
<=1.2x	41	2	4.9%
1.2x-2.0x	185	38	20.5%
2.0x-3.0x	276	50	18.1%
3.0x-4.0x	134	11	8.2%
>4.0x	95	4	4.2%
NAV	130	6	4.6%
Total	861	111	12.9%

Sources: KBRA, Trepp, issuance documents, and trustee and servicer remittance reports

Market Tier

KBRA stratified the population by market distribution into primary, secondary, and tertiary market categories. KBRA defines primary markets as the 17 largest metropolitan statistical areas (MSA), with secondary markets consisting of the 18th to 100th largest MSAs, and all other MSAs categorized as tertiary. The primary markets will generally have the deepest and most diverse economies while tertiary markets tend to be less diverse and more vulnerable to volatility during economic disruptions.

Generally, loans collateralized by properties in primary markets had a slightly lower default rate (16.6%) than those in secondary markets (17.2%) (see Figure 7). However, loans collateralized by properties in multiple market tiers (the "Various" category) had the lowest default rate (11.8%), excluding tertiary markets (10%), which only had a small sample population. The stronger performance of this category may be influenced by the economic diversification inherent in cross-market portfolios.

FIGURE 7
Defaults by KBRA Market Tier

Market Tier	Total Loans	% of Total	Defaults	Default Rate
Primary	307	35.7%	51	16.6%
Secondary	87	10.1%	15	17.2%
Tertiary	20	2.3%	2	10.0%
Various	365	42.4%	43	11.8%
NAV	82	9.5%	--	--
Total	861	100.0%	111	12.9%

Sources: KBRA, Trepp, issuance documents, and trustee and servicer remittance reports

Despite the slightly better performance in primary markets compared to secondary markets, the four markets with the highest number of defaults are New York (23 defaults), Los Angeles (seven), San Francisco (six), and Chicago (five), with cumulative default rates for these markets at 15.3%, 25%, 33.3%, and 29.4%, respectively. These outcomes were driven largely by the decline in office, which accounted for 56.1% of the defaults in these markets, with lodging a distant second at 14.6%.

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Loan Balance

KBRA analyzed loan balances including *pari passu* debt held outside the SB transactions. In determining the entire *pari passu* loan balances, KBRA utilized the reported LTVs and appraisal values at securitization, as the actual *pari passu* loan balance is not easily and consistently available. If the LTV and appraisal value was not available, we defaulted to the reported loan balance in the securitization. Generally, a higher loan balance correlated with a lower default rate (see Figure 8).

FIGURE 8
Defaults by Loan Balance

Balance (MM)	Count	Total	
		Defaults	Rate
<= \$250	168	26	15.5%
\$250-\$500	337	46	13.6%
\$500-\$1000	234	28	12.0%
>\$1000	122	11	9.0%
Pop. Total	861	111	12.9%

Sources: KBRA, Trepp, Issuance documents Trustee and Servicer Remittance Reports

Resolutions and Losses

Figure 9 shows the current status of the 111 defaulted loans. Approximately one-half (53) remained with the special servicer and were still being worked out as of end of Q3 2025. The remaining loans were either reperforming (29)—generally loans brought current and/or modified and returned to the master servicer—or resolved (29), which includes all defaulted loans no longer outstanding with or without loss. Almost 80% of the reperforming loans (23 of 29) had their final maturity dates extended and are current on payments. The remaining six reperforming loans were modified and brought current, although two involved reduced interest payable, resulting in some certificateholders not receiving full interest accruals. In total, resolved loans account for over one-quarter (29 of 111) of the defaults.

FIGURE 9
Current Status of Defaulted Loans

Current Status	Count
Active Workout Ongoing	53
Reperforming	29
Final Maturity Extension	23
Other Modification	6
Resolved*	29
No Loss	21
With Loss	8

*Resolved loans with losses of less than 1% of original principal balance are categorized as No Loss.

Sources: KBRA, Trepp, Issuance documents Trustee and Servicer Remittance Reports

Among the resolved loans, KBRA determined that 21 had either no loss or a *de minimis* (<1%) loss to certificateholders, while the remaining eight loans incurred meaningful principal losses. However, in both categories, there may have been losses on subordinate debt held outside the transaction, and such information is generally not available. Of the eight loans with losses of ≥1%, one-half were collateralized by office (four), followed by lodging (two), multifamily (one), and retail (one).

Overall, the average loss severity of all resolved loans was 11.2%, while the loss severity of the eight loans with losses exceeding 1% was 40.3%. Among these eight, one loan incurred a loss of 3.9%, four had loss severities between 20% and 50%, and three had losses of greater than 50%.

The average time from default date to resolution was 24.0 months. Loans resolved with no or *de minimis* losses generally took longer (24.9 months) than those with losses above 1% (21.7 months). The longer time frame reflects a higher incidence of maturity extensions that delayed final payoff, even though the borrowers ultimately repaid those loans in full.