

2003 CMBS Loan Loss Study

Analysts

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■ Summary

During calendar-year 2002, 228 defaulted commercial mortgage-backed securities (CMBS) loans in conduit transactions rated by Fitch Ratings were resolved by special servicers. Of those 228 loans, 95 became current and 28 paid off in full; 41 loans were resolved through servicer negotiated discounted payoffs (DPOs); 47 real estate owned (REO) properties were liquidated; 14 loans were resolved by selling the mortgage note; and three were resolved when properties were sold at a foreclosure proceeding. The trust experienced losses in 45% of the loans resolved in 2002. A summary of 2002 resolutions, as well as the results of resolutions effected prior to 2002, appears in Appendix A on page 6.

These 228 resolved loans had original balances at issuance of almost \$1.15 billion. Realized losses in 2002 resolutions were approximately \$241.5 million, or 21% of the original balances. By comparison, the average loss severity in the previous Fitch study, which includes all resolutions through year-end 2001, was only 7%. In that study, the percentage of resolved loans experiencing losses was 22%.

Of the loans resolved in 2002 that had been REO before disposition, 46 of 47 experienced losses, with an average loss of 64.3%, the highest severity of all resolution categories. In cases where the note was sold, 13 of 14 loans had losses averaging 39%. Three loans resolved through sale at foreclosure experienced an average loss of 41.2%, while losses on the 41 loans resolved by DPOs averaged a much lower loss rate of 28.9%.

The strong relationship between the time it takes to resolve a defaulted loan and the severity of the eventual loss, evidenced in last year's study, continues this year. For loans in special servicing for more than 24 months, the loss severity in 2002 resolved loans averaged 62%, up from 42.4% in the previous Fitch study.

Of the 228 defaulted loans resolved in 2002, 55% were resolved without losses. In Fitch's previous loan loss study, 78% of the defaulted loans were resolved without losses.

To date, overall losses amount to 0.17% of all CMBS transactions included in this study. Based on the amount of unresolved defaulted loans in special servicing at year-end 2002 (*see Appendix B, page 7*), along with current default rates and the volume of transactions securitized in 2003, Fitch anticipates that the cumulative losses experienced by CMBS investments will remain well under 1%.

Resolutions by Loan Count

(As of Dec. 31, 2002)

	Resolutions Concluded in 2002		Cumulative Resolutions through Year-End 2001		Cumulative Resolutions through Year-End 2002	
	No. of Loans	% of Total	No. of Loans	% of Total	No. of Loans	% of Total
Loans with Losses						
Discounted Payoff	41	17.98	16	8.51	57	13.70
Liquidated	47	20.61	30	15.96	77	18.51
Note Sale	14	6.14	0	0.00	14	3.37
Sold at Foreclosure	<u>3</u>	<u>1.32</u>	<u>0</u>	<u>0.00</u>	<u>3</u>	<u>0.72</u>
Total	103	45.18	41	21.81	144	34.62
Loans without Losses						
Issuer Buyback	0	0.00	3	1.60	3	0.72
Came Current	95	41.67	112	59.57	207	49.76
Paid in Full	<u>28</u>	<u>12.28</u>	<u>27</u>	<u>14.36</u>	<u>55</u>	<u>13.22</u>
Total	125	54.82	147	78.19	272	65.38
Total Resolutions	228		188		416	

■ Study Methodology

In this study, Fitch assumed the loss amount for the individual loans to be the actual realized loss taken by the bondholders, using the original loan balance at securitization as the basis for calculating losses. In most cases, the realized loss includes amounts for servicer advances and expenses.

This study expands upon the “2003 CMBS Conduit Loan Default Study,” dated May 27, 2003 (*available on Fitch’s web site at www.fitchratings.com*). The study looked at 29,542 loans in conduit, large loan, and fusion CMBS transactions rated by Fitch as of year-end 2002 but excluded single borrower transactions. The loan population had an outstanding balance at issuance of \$177.2 billion. Of that total, 815 loans, or \$4.7 billion by original loan balance, had defaulted as of year-end 2002. There are eight loans included in this study that were not separately identified in the default study. In the default study, crossed loans are counted as one loan. In the resolution of defaults on certain crossed loans, servicers or bankruptcy judges uncrossed the loans, leaving the default attributed to only the loan that actually defaulted. In the eight cases where that happened, the other nondelinquent crossed loans were then considered as separate loans and removed from the list of defaulted loans.

■ Annual and Cumulative Losses

Appendix A on page 6 presents the loss results by dollar balance for loans resolved in 2002 and, for comparison purposes, the results of the 2002 loss

study, which presented loss statistics through year-end 2001. The table also presents a cumulative summary of realized losses through year-end 2002. The table above presents summary statistics based on the number of resolved defaulted loans.

There was a significant rise in the percentage of defaulted loans experiencing losses during the course of 2002. At year-end 2001, only 41 of the 188 defaults resolved had realized losses (22%) compared with 45% of the 228 resolved loans at year-end 2002.

Cumulatively, 416 CMBS conduit loans were resolved as of year-end 2002, 65% of which experienced no losses. Of the 35% that did, 49% of those were resolved by REO liquidation and 40% by DPOs. In 14 cases, the servicer sold the note, taking losses on 13 loans, while in six cases, the loans were either sold at the foreclosure sale (three loans) or bought back by the issuer (three loans). The three loans bought back by issuers did not incur losses, and a total of six REO properties incurred no losses upon sale.

This Fitch study focuses on the 144 loan resolutions that resulted in realized losses to the trust. The realized losses for the 144 loans total \$306 million, or 0.17% of the \$177.2 billion total of CMBS conduit large loan and fusion transactions.

■ Loss Severity and Delayed Resolutions

Loss severity is the realized loss as a percentage of the balance of the loan at issuance. Subject to the

procedures outlined in the pooling and servicing agreement, it generally is calculated as the balance at issuance minus net liquidation proceeds after repaying all outstanding servicing advances and appraisal subordinate entitlement reduction interest.

The time from default to resolution in months compared to the loss severity for the 144 loans is shown in Appendix A on page 6. The numbers clearly demonstrate that the longer it takes to resolve and dispose of a defaulted loan, the higher the realized losses.

Loss severity greatly increases after 24 months in special servicing, to an average of 62.2%. By comparison, the loss severity of loans resolved in less than 12 months averages 30.5%.

Loan resolutions are taking longer. At year-end 2002, the average time between a loan becoming an REO property through its final resolution was 12.8 months, up from 11.7 months as of year-end 2001. The average time from default to resolution has increased from 8.7 months as of year-end 2001 to 10.4 months at year-end 2002.

■ Judicial vs. Power of Sale Foreclosure Laws

As the period from default to resolution can be useful in estimating loss severity, it seemed reasonable to expect that state foreclosure laws that require court intervention would add to the time necessary for special servicers to resolve defaulted loans and, therefore, negatively affect losses.

However, to date, that assumption has not proven correct. An analysis of loan resolutions by the type of foreclosure laws in place indicates very little difference in either the average time from default to resolution or in the average loss realized by the loan (*see table below*). The average loss severity experienced by loans resolved in judicial states was 39.9%, while the average loss experienced in power-of-sale states was 37.5%. The average time between the two also varies only slightly from 17.0–17.7 months.

Loss Severity by State Foreclosure Laws

(As of Dec. 31, 2002)

State Foreclosure Laws	No. of Disposed Loans	Average Loss as % of Original Balance	Average Time from Default to Disposition (Months)
Power of Sale	92	37.53	17.7
Judicial	61	39.85	17.0

Nevertheless, Fitch believes it is too early to cast off the original assumption as untenable. To date, data gathered do not allow a determination of whether or not REO loans have actually gone through the full foreclosure process or were perhaps settled by a deed-in-lieu or what impact, if any, state redemption period requirements may have in influencing the outcome of dispositions. Redemption periods, which exist in some states, prevent the sale of a foreclosed upon asset for a certain period of months to provide the borrower with the opportunity to redeem the property for the amount owed (*see Appendix A, page 6*).

■ REO vs. DPO

Two of the most striking findings in the study of loan losses are the loss severity differences between properties that are resolved in a DPO settlement versus REO liquidations and the wide differences between the two disposition methods in the time it takes to reach a resolution (*see Appendix A, page 6*).

In 2002, 41 loans were resolved by DPOs, incurring an average loss of 28.9%. Another 47 loans, resolved by REO dispositions, incurred average losses of 64.3%. On average, the DPO loans were resolved in 11.9 months. The REO loans averaged 23.4 months.

DPO resolutions represented 40% of the resolutions incurring losses in both this and the previous loss studies. While undoubtedly a preferred method of cutting one's losses, DPO solutions appear most viable when the asset involved is in good condition, well located, and/or showing a potential for upside growth. However, this method of resolution is less likely to be available for older or obsolete properties or those in declining markets.

While diligent special servicers will make efforts to minimize trust losses by opting for DPO solutions, Fitch believes the opportunities for DPO resolutions are driven primarily by the individual idiosyncrasies of the real estate assets and the markets they are in, not necessarily by a service's failure to act quickly or appropriately.

■ Property Type vs. Losses

As was the case in the analysis of defaults in the Fitch conduit default study, hotel, retail, and multifamily loans dominate the cumulative total of loans with realized losses. Together, the three property types make up 83% of all loans that experienced losses.

Loans with Losses by Property Types

(As of Dec. 31, 2002)

Property Type	No. of Loans	Original Balance (\$)	Total Losses (\$)	Average Loss (%)	Average Time from Default Disposition (Mos.)
Multifamily	29	98,335,363	30,098,641	30.61	19.09
Retail	42	317,614,979	148,011,132	46.60	15.74
Hotel	49	194,760,201	89,544,796	45.98	16.66
Industrial	7	23,840,431	8,626,080	36.18	17.86
Health Care	7	46,123,400	18,826,671	40.82	33.59
Office	6	32,421,440	7,124,932	21.98	15.04
Other	3	33,891,241	3,530,980	10.42	16.67
Self Storage	1	996,899	220,229	22.09	18.12
Total/Average	144	747,983,953	305,983,461	40.91	17.70

Note: Numbers may not add due to rounding.

Cumulatively, loss severity is highest among retail loans. Of 44 resolved retail loans, 42 experienced losses averaging 46.6%. Within the hotel sector, 49 of 52 loans had losses averaging 46%. Multifamily loans, notably on the rise in both the default study and this study, have a slightly lower percentage of loans with losses, 29 of 33 loans, and a lower loss severity of 30.6% (*see table above*).

Given the makeup of the unresolved defaulted loan pool at year-end 2002 (*see Appendix B, page 7*), along with the challenging real estate fundamentals in many markets, Fitch expects retail, multifamily, and hotel loans to continue dominating any analysis of losses, both in frequency and severity. However, Fitch anticipates a noticeable rise in both office and industrial loan losses over the next two years. While these sectors account for only 13 of the 144 loans with losses, all experienced losses at resolution (*for a summary of all resolutions by property type, see Appendix C, page 8*).

■ Loan Size and Loss Severity

Almost 70% of the liquidated loans (107 loans out of 154) were loans under \$5 million. The losses on those loans made up 38% of total realized losses. Loans under

\$5 million and loans between \$15 million–\$25 million had similar severity rates, ranging from 44%–47%. Loans between \$5 million–\$15 million and greater than \$25 million had losses of approximately 33%.

Slightly less than 3% of the loans with losses were loans whose principal balance at origination was greater than \$25 million, and slightly more than 9% were between \$10 million–\$25 million. On average, those large loans above \$25 million (four loans) defaulted three years after securitization and took two years to resolve. In the 107 smaller loans with losses, those under \$5 million, defaults occurred, on average, in their third year of securitization. Those loans took approximately 18 months to resolve (*see table below*).

■ Original DSCR and LTV vs. Loss Severity

Within the five principal property types, the original weighted average debt service coverage ratios (DSCR) for resolved loans ranged from a low of 1.17x for retail loans to 1.48x for hotel loans. At 64%, retail loans in this study had the lowest weighted average loan-to-value ratio (LTV), while at approximately 73% office,

Losses by Loan Size

(As of Dec. 31, 2002)

Loan Size	No. of Loans	Original Balance (\$)	Total Realized Loss Amount (\$)	Average Loss as % of Original Balance (\$)	Average Default to Disposition (Months)	Average Securitization to Disposition (Months)
> \$25 Million	4	137,771,193	45,117,558	32.75	24.01	62.52
\$15 Million–\$25 Million	5	98,728,048	46,129,205	46.72	16.81	47.22
\$10 Million–\$15 Million	9	108,909,087	35,108,103	32.24	10.17	49.84
\$5 Million–\$10 Million	29	191,418,785	62,503,215	32.65	16.95	54.28
\$2 Million–\$5 Million	66	206,218,992	91,174,926	44.21	17.79	47.95
< \$2 Million	<u>41</u>	<u>56,895,390</u>	<u>25,950,454</u>	<u>45.61</u>	<u>17.77</u>	<u>48.54</u>
Total/Average	154	799,941,495	305,983,461	38.25	17.25	51.73

multifamily and industrial loans had the highest.

To date, there has been no discernable link between either measure of value at origination and the size of losses experienced, a finding in both the previous study and this one. Nonetheless, Fitch will continue to track the information in the hope of uncovering some loss-predictive pattern in the future. As yet, with only 144 resolved loans with losses, out of a total universe of 29,542, it may take several more years of data gathering before more useful information is available.

■ Forecast

With the prolonged deterioration of fundamentals in many real estate markets, Fitch expects that losses, along with delinquency rates, will continue to rise during 2003. As of year-end 2002, 400 defaulted loans were pending resolution; 261 were delinquent more than 60 days, 42 were in the midst of the foreclosure process, and 97 were REO. In total, those loans had an original principal balance of more than \$2.7 billion. In addition, Fitch anticipates that an additional \$2.87 billion in loans will default during 2003.

Fitch expects that the number of loans with losses that are resolved in 2003 will exceed the 103 resolved in 2002 and that weak market conditions may cause an increase in the number of months needed to resolve and dispose of defaulted loans.

At year-end 2002, 52 of the 400 unresolved loans, with an aggregate original balance of \$375.8 million, had been in special servicing longer than 24 months.

Of those loans, 32 were REO at the time. Assuming that the pattern of greatest loss severity (60% or higher) occurs in loans held longer than two years, that subset of loans alone, presuming all are resolved by year-end 2003, is likely to contribute \$225 million in losses in 2003. Applying the average loss severity to the remainder of the balances of delinquent, REO, and loans in foreclosure and estimating a small percentage of loans that will default and be resolved in calendar year 2003, Fitch anticipates additional CMBS loan losses in 2003 of approximately \$400 million.

Due to the significant volume of conduit transactions that have come to the market in 2003, Fitch is not anticipating a substantial increase in the percentage of CMBS loans that will realize losses and expects losses to remain under 0.20% of the total collateral evaluated in the loss study, an amount insufficient to impact investment-grade classes in CMBS transactions.

Fitch's long-term goal is to create CMBS bond ratings with default and loss characteristics that parallel corporate bond rating performance. By incorporating results of these default and loss studies, Fitch is able to calibrate credit enhancement levels on CMBS new issue bonds that help achieve this goal.

Currently, Fitch uses base loss severities between 30%–53% for each loan included in CMBS transactions. Adjustments to loss severities may be made over time, using the results of loss studies and Fitch's continuous surveillance of Fitch-rated transactions throughout varied real estate cycles.

■ Appendix A

Annual and Cumulative Resolutions

(As of Dec. 31, 2002)

	No. of Loans	No. of Loans with Losses	Balance at Issuance (\$)	Realized Losses (\$)	Average Loss Severity (%)	Months from Default to Resolution
2002 Resolutions						
Became Current	95	0	421,197,336	0	0.00	6.0
Paid in Full	28	0	171,544,030	0	0.00	11.5
Discounted Payoff	41	41	271,774,311	78,535,101	28.90	11.9
Liquidated – REO	47	46	214,131,373	137,618,549	64.27	23.4
Note Sale	14	13	52,939,541	20,670,000	39.04	13.0
Sold at Foreclosure	3	3	11,306,362	4,656,833	41.19	25.3
Total	228	103	1,142,892,953	241,480,482	—	11.9
Average Loss Severity					21.13	
Pre-2002 Resolutions						
Became Current	112	0	559,568,253	0	0.00	4.9
Paid in Full	27	0	96,517,559	0	0.00	8.5
Discounted Payoff	16	16	86,856,722	18,632,185	21.45	9.9
Liquidated – REO	30	25	141,666,186	45,870,793	32.38	22.5
Note Sale	0	0	0	0	0.00	0.0
Sold at Foreclosure	0	0	0	0	0.00	0.0
Issuer Buyback	3	0	21,267,000	0	0.00	5.6
Total	188	41	905,875,720	64,502,979	—	8.7
Average Loss Severity					7.12	
Cumulative Resolutions						
Became Current	207	0	980,765,589	0	0.00	5.4
Paid in Full	55	0	268,061,589	0	0.00	10.0
Discounted Payoff	57	57	358,631,033	97,167,286	27.09	10.8
Liquidated – REO	77	71	355,797,560	183,489,342	51.57	23.0
Note Sale	14	13	52,939,541	20,670,000	39.04	13.0
Sold at Foreclosure	3	3	11,306,362	4,656,833	41.19	25.3
Issuer Buyback	3	0	21,267,000	0	0.00	5.6
Total	416	144	2,048,768,673	305,983,461	—	10.4
Average Loss Severity					14.93	

*Loss severity by resolution type on a dollar amount basis. REO – Real estate owned. Note: Numbers may not add due to rounding.

■ Appendix B

Unresolved Defaults

(As of Dec. 31, 2002)

	No. of Loans	Original Principal Balance (\$)	% of No. Loans	% of Total Original Principal Balance
Delinquent				
Multifamily	47	142,358,197	18.01	8.22
Retail	63	381,251,314	24.14	22.02
Office	25	160,528,450	9.58	9.27
Industrial	19	79,995,402	7.28	4.62
Hotel	72	738,050,197	27.59	42.63
Health Care	26	187,485,724	9.96	10.83
Self Storage	2	4,343,459	0.77	0.25
Manufactured Housing Community	5	14,827,799	1.92	0.86
Other	<u>2</u>	<u>22,577,569</u>	<u>0.77</u>	<u>1.30</u>
Total	261	1,731,418,111	100.00	100.00
Foreclosure Pending				
Multifamily	13	65,718,777	30.95	24.88
Retail	8	63,438,461	19.05	24.02
Office	1	2,197,045	2.38	0.83
Industrial	4	15,280,289	9.52	5.78
Hotel	9	51,807,160	21.43	19.61
Health Care	4	60,785,760	9.52	23.01
Self Storage	0	—	—	—
Manufactured Housing Community	2	4,428,512	4.76	1.68
Other	<u>1</u>	<u>499,668</u>	<u>2.38</u>	<u>0.19</u>
Total	42	264,155,673	100.00	100.00
REO				
Multifamily	11	71,532,845	11.34	10.07
Retail	30	237,889,274	30.93	33.48
Office	10	71,868,742	10.31	10.11
Industrial	2	4,833,072	2.06	0.68
Hotel	28	160,787,377	28.87	22.63
Health Care	12	113,815,549	12.37	16.02
Self Storage	0	—	—	—
Manufactured Housing Community	1	2,000,000	1.03	0.28
Other	<u>3</u>	<u>47,816,221</u>	<u>3.09</u>	<u>6.73</u>
Total	97	710,543,079	100.00	100.00

REO – Real estate owned. Note: Numbers may not add due to rounding.

■ Appendix C

Cumulative Resolutions by Property Type

(As of Dec. 31, 2002)

	No. of Loans	Original Principal Balance (\$)	% of No. Loans	% of Total Original Principal Balance
Came Current				
Multifamily	59	202,334,924	28.50	20.63
Retail	56	199,354,257	27.05	20.33
Office	16	47,164,193	7.73	4.81
Industrial	16	63,590,645	7.73	6.48
Hotel	33	182,730,012	15.94	18.63
Health Care	11	227,328,689	5.31	23.18
Self Storage	1	1,550,000	0.48	0.16
Manufactured Housing Community	2	14,935,254	0.97	1.52
Other	<u>13</u>	<u>41,777,615</u>	<u>6.28</u>	<u>4.26</u>
Total	207	980,765,589	100.00	100.00
Paid In Full				
Multifamily	18	40,881,748	32.73	15.25
Retail	19	162,139,991	34.55	60.49
Office	0	—	—	—
Industrial	5	22,414,845	9.09	8.36
Hotel	12	41,866,851	21.82	15.62
Health Care	0	—	—	—
Self Storage	1	758,154	1.82	0.28
Manufactured Housing Community	0	—	—	—
Other	<u>0</u>	<u>—</u>	<u>—</u>	<u>—</u>
Total	55	268,061,589	100.00	100.00
Disposition				
Multifamily	33	122,987,967	21.43	15.37
Retail	44	321,526,125	28.57	40.19
Office	6	32,421,440	3.90	4.05
Industrial	7	23,840,431	4.55	2.98
Hotel	52	206,153,993	33.77	25.77
Health Care	8	58,123,400	5.19	7.27
Self Storage	1	996,899	0.65	0.12
Manufactured Housing Community	0	—	—	—
Other	<u>3</u>	<u>33,891,241</u>	<u>1.95</u>	<u>4.24</u>
Total	154	799,941,495	100.00	100.00

Note: Numbers may not add due to rounding.

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