FitchRatings

Structured Finance
Commercial Mortgage Servicer
North America

Freddie Mac, Multifamily Division

Ratings

Commercial Master Servicer	CMS1–
Commercial Special Servicer	CSS2+

Outlooks

Commercial Master Servicer	Stable
Commercial Special Servicer	Stable

Applicable Criteria

Criteria for Rating Loan Servicers (December 2022)

Criteria for Rating North American Commercial Mortgage Servicers (December 2022)

Related Research

Fitch Affirms and Assigns Positive Rating Outlooks to Freddie Mac's Commercial Servicer Ratings (August 2023)

Fitch Maintains Rating Watch Negative on Fannie Mae's and Freddie Mac's 'AAA' Ratings (July 2023)

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Freddie Mac's (the company, or the firm) mission is to provide liquidity, stability and affordability to the U.S. housing market, including multifamily housing. The company has been active in the multifamily housing sector since the 1980s through its Multifamily Division. Of the Multifamily Division's 980 employees, approximately 200 are responsible for master and special servicing functions within the multifamily asset management and operations group (MAMOG). Following an internal reorganization in January 2023, MAMOG now resides within the Office of the Chief Operating Officer department within the Multifamily Division.

During 2022, Freddie Mac purchased approximately 4,400 loans totaling $73 billion (down from 4,900 loans totaling $70 billion the prior year) from Seller/Servicers. Freddie Mac's securitization volume totaled approximately $65 billion in 2022, comprising $46 billion in K-series transactions, $5 billion in small balance transactions and $14 billion in other securitization transactions, down from $80 billion in 2021. FHFA set a multifamily lending cap for Freddie Mac of $75 billion for 2023.

The company retains master servicing responsibility for certain K-series single-borrower, supplemental, third-party-originated, tax-exempt, single asset/sponsor and portfolio loans, as well as all small balance loan transactions. Whereas Freddie Mac currently performs limited master servicing assignments for traditional K-series transactions, the company's master servicing portfolio is driven largely by small balance and supplemental loan transactions and various one-off assignments.

As of March 2023, Freddie Mac was named master servicer for 180 securitized transactions comprising more than 11,500 loans totaling $44.1 billion. By transaction count, small balance transactions represent 58% of the master servicing portfolio followed by multiborrower transactions secured by supplemental/junior participation, third-party or tax-exempt loans (41%), and single-asset single-borrower (SASB) transactions (less than 2%). As of the same date, the company was named special servicer for 487 securitized loans totaling $5.1 billion and services a portfolio of more than 4,000 nonsecuritized loans totaling $72.4 billion.

Servicer Ratings

- Fitch rates primary and master servicers, which protect the interests of certificate holders in the trust by servicing and administering the mortgage loans.
- The primary servicer is responsible for day-to-day servicing functions, while the master servicer is responsible for monitoring the activities of the primary servicers, investor reporting and timely remittance of funds to trustees.
- Fitch also rates special servicers, which are key to maintaining the credit quality of a pool containing nonperforming commercial mortgages and REO assets. The special servicer is responsible for working out loans, foreclosing and liquidating assets.
- In assessing and analyzing the capabilities of primary, master and special servicers, Fitch Ratings reviews several key factors, including the management team, organizational structure and operating history, financial condition, information systems and, with respect to the special servicer, workout and asset disposition experience and strategies.
- Fitch rates commercial mortgage primary, master and special servicers on a scale of 1 to 5, with 1 being the highest rating. Within each of these rating levels, Fitch further differentiates ratings by plus (+) and minus (–) along with the flat rating.

Key Rating Drivers

Company/Management: Given its government-sponsored enterprise (GSE) status, Freddie Mac plays a significant role in the secondary mortgage market by purchasing and servicing multifamily mortgage-backed debt in the U.S. Freddie Mac's leadership team includes highly experienced managers with significant CRE servicing and securitization experience supporting the company's capital markets transactions. Master and special servicing are integral to Freddie Mac's overall mission to provide liquidity, stability and affordability to the U.S. housing market.

Financial Condition: Fitch maintains a Long-Term Issuer Default Rating (IDR) for Freddie Mac of 'AA+'/ Stable. Freddie Mac's ratings are directly linked to the U.S. sovereign rating, based on Fitch's view of the U.S. government's direct financial support.

Procedures and Controls: Freddie Mac maintains thorough and detailed policies and procedures, as well as several levels of internal controls administered both at the corporate level and within the Multifamily Division to monitor compliance. The company's multifaceted control environment, consisting of controls within MAMOG and at the enterprise level, is among the most robust of Fitch-rated servicers. The governance and business services (GBS) group, which performs operational oversight of servicing was realigned in 2022 from MAMOG to the multifamily operational risk and technology group, adding additional independence.

Staffing and Training: The former Multifamily Division chief financial officer was appointed the senior vice-president and chief operating officer of Multifamily in 2023. The new MAMOG leader has more than 15 years of multifamily industry experience and has been with Freddie Mac more than 20 years. As of March 2023, MAMOG consisted of 241 employees, with 175 dedicated to master servicing functions and assigned to special servicing and asset management. Aggregate turnover among master servicing employees increased to 32% as of the same date, up from 13% the prior year. Turnover was elevated due to the internal transfer of 37 members of the GBS group which, if excluded, results in 13% adjusted aggregate turnover, consistent with historical levels. Turnover among special servicing employees declined to 12% as of March 2023 from 21% the prior year. Notwithstanding employee separations, the number of special servicing employees increased by six to 37.

Fitch identified three special servicing employees actively working out defaulted loans as asset managers who average 24 years of industry experience and five years with Freddie Mac. There was no turnover among special servicing asset managers since Fitch's last review. Master servicing employees completed 42 hours of training per employee on average for the 12-month period ended in March 2023, while special servicing employees, inclusive of surveillance, completed an average of 36 hours for the same period. Both groups increased training hours materially from the prior year and are consistent with other highly rated servicers.

Technology: Freddie Mac utilizes the Enterprise! Loan Servicing application as its system of record to support its role as master servicer for securitized transactions. Special servicing asset management and surveillance technology is provided through a variety of proprietary applications. The servicing groups have begun a multi-year technology initiative to examine and reimagine its servicing processes for loans, bonds and master servicing. The initiative, which is a collaboration between the servicing and technology product teams, is reviewing technology and servicing processes with the goal of integrating functions within the new Integrated Loan Servicing platform and other applications.

Loan Administration: Freddie Mac has extensive experience performing primary servicer oversight, advancing and investor reporting, as well as master servicing functions across a variety of securitization programs. The company maintains a robust and highly integrated technology platform that supports servicing functions and allows for the efficient processing of information for loan accounting, surveillance and investor reporting. The company makes limited use of outsourcing to support servicing functions.

Defaulted, Nonperforming Loan Management: MAMOG has a long history of multifamily workout experience supported by detailed policies and procedures, internal controls, asset management technology and delegations of authority in place of a formal credit committee. The company has

Company Experience Since:

CRE Servicing	1994
CMBS Servicing	2014
Overseeing Primary Servicers	1994
CRE Loan Workout	1994
CMBS Workout	2015

Source: Freddie Mac, Multifamily Division

Operational Trends

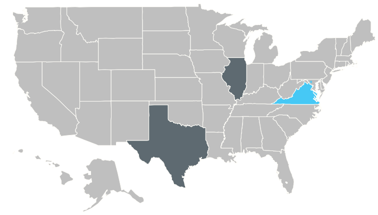
Business Plan	▲	Growth in portfolio with demonstrated sponsor support investing in servicing infrastructure
Servicing Portfolio	■	Year-over-year loan count change of approximately 10% or less.
Financial Condition	■	Stable
Staffing	▼	Staffing changed greater than 12%
Technology	■	Stable technology platform
Internal Controls	▲	Strong/Consistent internal control resources; fully articulated three lines of defense; no material audit findings.
Servicing Operations	■	Stable operations; no material change year-over-year

Source: Fitch Ratings

FHFA set a multifamily lending cap for Freddie Mac of $75 billion for 2023, of which one-half must be mission-driven, focused on certain affordable and underserved market segments.

experienced additional loan resolutions within the past two years, which while limited to traditional core multifamily properties, continues to demonstrate growing proficiency in non-REO resolutions. The special servicing group also maintains a high degree of oversight of performing loans and addresses performance declines prior to default.

Multifamily Office Locations



Primary Office: McLean, VA

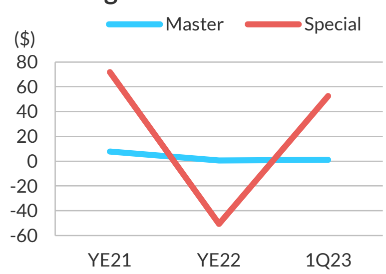
Company Overview

Servicing Portfolio Overview

	3/31/23	% Change	12/31/22	% Change	12/31/21
Total Servicing					
UPB ($ Mil.)	116,500.0	0	116,247.0	16	100,181.0
No. of Loans	15,859	0	15,916	0	15,843
Master Servicing					
UPB ($ Mil.)	44,072.0	1	43,608	1	43,391.0
No. of Loans	11,793	0	11,849	-3	12,230
Special Servicing — Named					
UPB ($ Mil.)	77,551.7	0	77,784.4	28	60,844.0
No. of Loans	4,553	0	4,554	24	3,685
Special Servicing — Active[a]					
UPB ($ Mil.)	242.5	53	158.6	-51	323.0
No. of Loans	11	57	7	-73	26

[a]Including REO. UPB – Unpaid principal balance.
Source: Freddie Mac, Multifamily Division

Servicing Portfolio Growth



Note: Special servicing includes loans actively in special servicing (including REO).
Source: Freddie Mac, Multifamily Division

Freddie Mac was chartered by Congress in 1970 with a public mission to stabilize the country's residential mortgage markets and expand opportunities for homeownership and affordable rental housing. Freddie Mac's statutory mission is to provide liquidity, stability and affordability to the U.S. housing market. To fulfill its mission, Freddie Mac purchases loans in the secondary mortgage market through a national network of approved mortgage lenders. The GSE organized itself in 2021 into two business lines: Single-Family for single-family loans and Multifamily for rental housing; the prior structure included a separate Investments & Capital Markets vertical to manage an investment portfolio.

The goal of the Multifamily Division is to promote an ample supply of affordable rental housing by purchasing mortgages secured by properties with five or more residential units. Mortgages are purchased from an approved Seller/Servicer network of 28 lenders, as of March 2023, based on Freddie Mac-established guidelines. Beginning in 2009, the Multifamily Division began securitizing mortgages and selling related bonds and servicing in the secondary market. The majority of Freddie Mac loan purchases are targeted for securitization in K-series, small balance loan, or Multi PCs transactions that totaled approximately $620.6 billion in cumulative securitization balance at issuance as of March 2023. Freddie Mac generally does not retain a controlling interest for the transactions itself but typically provides credit guarantees for senior bond classes.

Fitch previously limited the master servicer rating of the company at the '2' rating category given the concentration in multifamily servicing; however, the agency notes that the master servicing portfolio includes a broader mix of property types, demonstrating performance beyond traditional multifamily assets. The special servicer rating will continue to be limited to the '2' rating category given a lack of noncore multifamily defaults.

In addition to its purchase of core multifamily mortgages, Freddie Mac has implemented several new programs in recent years, further broadening its portfolio. Most recently, the company added the WI (When-Issued) K-Deal securitization program in 2021, which is collateralized by cash collateral and later by newly issued A-2 and/or A-M certificates purchased from the referenced K-Deal. Additional programs include a green advantage program to support assets pursuing environmental improvements, as well as loans supporting multifamily assets with lease-up, value-add or rehabilitation business strategies.

In addition to providing guarantees on outstanding K-series bonds and small balance loan transactions, which represented the Multifamily Division's largest product types as of March 2023, MAMOG also services:

- A $5.3 billion portfolio of tax-exempt multifamily bonds (TEBS), through which a sponsor transfers privately placed tax-exempt multifamily revenue bonds and related taxable bonds or mortgages to Freddie Mac in exchange for Freddie Mac senior class A certificates.
- $72.4 billion in non-securitized loans held by Freddie Mac for investment, including balance sheet assets, loans held for sale, subordinate supplemental loans or other loans that fall outside the current parameters of the K-series securitization model.

Servicing employees of the Multifamily Division are based out of the company's McLean, VA headquarters and its Chicago and Dallas offices, with the majority of master and special servicing employees located in McLean.

Financial Condition

Fitch Ratings has downgraded Freddie Mac's Long-Term Issuer Default Ratings (IDR) and senior unsecured debt ratings to 'AA+' from 'AAA' and downgraded the respective Government Support Ratings (GSR) to 'aa+' from 'aaa'. The Rating Watch Negative (RWN) has been removed, and the Rating Outlook on the Long-Term IDRs is Stable. These actions follow Fitch's downgrade of the Long-Term Foreign and Local Currency IDRs of the U.S. to 'AA+' from 'AAA' on Aug. 2, 2023.

As a government-sponsored enterprises (GSE), Freddie Mac benefits from implicit government support. The enterprises' respective Long-Term IDRs and GSRs are directly linked to the U.S. sovereign's Long-Term IDRs based on Fitch's view of the U.S. government's direct financial support. Freddie Mac's respective 'F1+' Short-Term IDRs map to each's Long-Term IDR based on the Ratings Correspondence Table in Fitch's "Non-Bank Financial Institutions Rating Criteria."

The downgrade of Freddie Mac's Long-Term IDRs and GSRs is consistent with the recent action taken on the U.S. and is not being driven by fundamental credit, capital or liquidity deterioration at the firm. The rating linkages are further articulated in Fitch's report "GSE Rating Linkage to the U.S. Sovereign," dated Nov. 12, 2021.

The firm continues to benefit from meaningful financial support from the U.S. government. Key rating drivers for aligning Freddie Mac's ratings to the U.S. rating include its mission critical function to the U.S. housing finance system and the U.S. Treasury's Senior Preferred Stock Purchase Agreements (SPSPAs). Fitch believes Freddie Mac continues to execute on its mission to provide liquidity, stability and affordability to the housing finance industry, supporting rating equalization with the sovereign.

Freddie Mac Securitization Programs

K-5	5-Year Fixed Rate
K-7	7-Year Fixed Rate
K-0	10-Year Fixed Rate
K-15	10 Year+
K-F	Floating Rate
K-ABC	Single Sponsor
SB	Small Balance
K-S	Senior Housing
K-J	Supplemental/Second Mortgage
K-W	Workforce Housing
K-G	Green Advantage®
K-P	Retained Portfolio
K-L	Large Loan
K-LU	Lease-Up
K-X	Seasoned Loans
K-I	Value-Add/Transition
ML	Tax-Exempt
Q	Third-Party Collateral
WI-K	When-Issued K-Deal

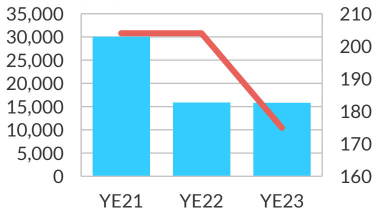
Source: Freddie Mac

Employees

As of March 31, 2023, MAMOG consisted of 241 employees, with 175 responsible for master servicing functions and 36 assigned to special servicing and asset management. In August 2022, the company realigned the GBS group of 37 employees from MAMOG to the operational risk and technology group. While the realignment increases the independence of certain compliance functions, which Fitch views positively, it has resulted in elevated turnover among master servicing employees at all levels. Excluding transfers associated with this realignment, aggregate master servicing turnover would be 13%, consistent with historical levels. MAMOG is the second largest group within the Multifamily Division, which has a total employee count of 980, following the technology and operational risk (258) group and preceding the underwriting and credit group (235) and the production and sales group (137).

Servicing managers monitor staffing levels regularly using operational metrics relative to current and projected changes in the portfolio as well as vendor support to manage temporary increase in work volume. Changes are made as necessary and through a formal budgeting process annually.

Loan and Employee Counts



Source: Freddie Mac, Multifamily Division

Employee Statistics

	2023				2022			
	No. of Employees	Average Years Industry Experience	Average Years Tenure	% Turnover	No. of Employees	Average Years Industry Experience	Average Years Tenure	% Turnover
Master Servicing								
Senior Management	6	24	22	53	9	17	18	0
Middle Management	44	16	11	28	56	14	9	6
Servicing Staff	125	8	5	33	139	7	4	17
Total	**175**	**—**	**—**	**32**	**204**	**—**	**—**	**13**
Special Servicing								
Senior Management	3	32	17	0	2	32	14	0
Middle Management	9	25	9	0	7	27	10	35
Servicing Staff	24	14	8	18	21	13	7	18
Total	**36**	**—**	**—**	**12**	**30**	**—**	**—**	**21**

Source: Freddie Mac, Multifamily Division

Master Servicing

Master servicing employees are organized functionally and divided among loan servicing, loan administration, counterparty risk and compliance (CRC) and surveillance teams. These teams are responsible for all core servicing functions for Freddie Mac's multifamily commercial mortgage products, including: TEBS; 45-day, 55-day and 75-day (swap) participation certificates; bond credit enhancements; Freddie Mac K-series transactions; small balance transactions; and the company's retained portfolio.

Aggregate turnover among master servicing employees increased to 32% as of the 12-months ended March 2023 from 13% the prior year and 17% and 18% in 2021 and 2020, respectively. Of the 61 employee separations 61% were associated with the GBS realignment and all but four were located in McLean. Excluding 45 internal transfers, including 37 from the GBS team, total turnover is 8%. During the same period, MAMOG added 26 employees who average three years of industry experience. All recent staff additions have been at the staff level, including two internal transfers into MAMOG. As of March 2023, the master servicing group had one outstanding vacancy at the middle management level.

The majority of master servicing employees are based out of the company's McLean headquarters, while six employees are located in Chicago, two are in Dallas and one is in Atlanta. Collectively, they are responsible for loan servicing and loan administration functions, giving MAMOG the limited ability to perform master servicing functions outside of its headquarters.

Turnover among master servicing employees was elevated in 2023 due to an operational realignment of resources in which the 37 members of the GBS team transferred from MAMOG to the Multifamily Operational Risk & Technology group. Excluding GBS internal transfers, overall turnover is 13%, consistent with the prior year.

Master servicing functions are led by six senior managers who average 24 years of industry experience and 22 years of tenure. Elevated turnover among senior managers reflects three GBS senior manager transfers and the transfer of the former senior vice-president of MAMOG. The former Multifamily chief financial officer was appointed the senior vice-president and chief operating officer of Multifamily in January 2023. The new MAMOG leader has more than 15 years of multifamily industry experience and has been with Freddie Mac more than 20 years. Historically senior management turnover has been low.

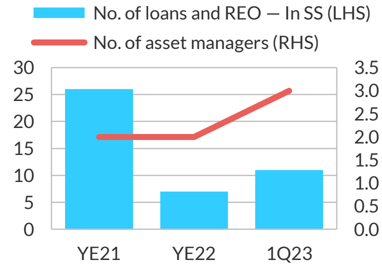
Freddie Mac maintains a highly experienced special servicing team, many of whom have prior workout experience should default volume increase.

Additional management oversight is provided by 44 middle managers, who average 16 years of industry experience and 11 years with the company, consistent with the prior year. Of the 14 middle manager separations since Fitch's last review, 11 were members of the GBS team, two were internal transfers and one was voluntary. Collectively, there remains approximately one middle manager for every three staff level employees providing significant management depth and support. Staff-level employees average eight years of industry experience and five years with the company, an improvement from the prior year, irrespective of 33% turnover.

Special Servicing

The special servicing group, centralized in McLean, with the exception of one remote manager in Irvine, CA, comprises 36 dedicated employees, up from 30 the prior year but consistent with 2021 levels. The group is divided among four teams that are responsible for the following: asset resolution and REO, structured transactions, securitized transactions and insurance compliance. The majority of employees work on borrower consent matters for nondefaulted loans and work proactively with borrowers to resolve potential defaults, particularly for loans with higher risk ratings. All employees are fully dedicated.

SS Loan and Employee Counts



SS – Special Servicing. REO – Real estate owned.
Source: Freddie Mac, Multifamily Division

Fitch identified three special servicing employees actively working out defaulted loans as asset managers who average 24 years of industry experience and five years with Freddie Mac. There was no turnover among special servicing asset managers since Fitch's last review. The ratio of specially serviced assets (none of which are REO or securitized) to asset managers is 4:1, down from 9:1 the prior year primarily driven by a lower amount of actively special serviced loans, given the servicer's 27 loan resolutions during the 12 months ended March 2023. Freddie Mac's general practice is to liquidate REO assets within 12 months; this results in shorter REO disposition times compared to Fitch-rated special servicers and historically fewer REO assets.

Special servicing is led by three senior managers averaging 32 years of industry experience and 17 years of tenure. The number of senior managers increased in 2023 due to the promotion of a former middle manager who has over 30 years of industry experience. Nine middle managers, who provide sufficient management depth, average 25 years of industry experience and nine years of tenure, while staff employees average 14 and eight years of industry experience and tenure, respectively. The group added six staff-level employees who average 15 years of industry experience since Fitch's last review.

Aggregate turnover among special servicing employees was 12% for the 12-months ended March 2023, a decline from 21% the prior year and more in line with historical averages of 17% and 9% during 2020 and 2019, respectively. Recent turnover reflects four staff-level separations including one internal transfer. Separations were back filled and the group added an additional six employees since Fitch's last review. As of March 2023, the group also had three open asset management positions at various levels of experience.

Training

Employee training is administered through Freddie Mac University (FMYou), which offers a variety of courses that include several focused on industry topics. The program includes over 400 web-based and 150 instructor-led training opportunities. Included within the training program available to employees are over 100 MBA courses, TedTalks and numerous Udemy and LinkedIn Learning courses. Multifamily specific training programs include participation in the MBA Multifamily School of Mortgage banking programs for approximately 40 employees annually as well as the MBA Future Leaders program. MAMOG maintains its own dedicated training SharePoint site to consolidate training and educational event information for servicing employees.

MAMOG has established a business line-specific task force training team comprised of representatives from all groups to identify multifamily-specific training opportunities at both the individual and team levels. To accomplish this, the training task force implemented multifamily-specific training opportunities such as signature multifamily programs and courses, administrative professional development, multiple leadership training programs and outside educational seminars. Additionally, MAMOG has two dedicated staff members responsible for supporting multifamily training and one division-level staff member.

The FMYou talent development team consults with divisional partners to assess division-specific training needs and brings in relevant training as appropriate. Furthermore, the team evaluates training needs identified in other forums, such as through employee annual engagement surveys, the leadership talent review process and employee network groups.

In addition to formal FMYou training opportunities, MAMOG employees receive training for system enhancements and specific servicing functions and have educational briefings with industry-leading speakers. New training initiatives subsequent to last review include credit policy & risk distribution, fair lending and fair housing, conflicts of interest, documentation and legal process, ground leases, and property inspection red flags and best practices among others. Fitch noted Freddie Mac consistently updates professional and compliance related courses more frequently than most highly rated servicers. The continuous update of mandatory compliance offerings and various required regulatory trainings demonstrates the importance placed by the company on employee training. In addition, and outside of Fitch's criteria for training, Freddie Mac employees attended multiple industry conferences as well the company's three-day Optigo conference for the firms network of approved lenders.

Employee training is formally tracked within FMYou and reviewed by managers quarterly. MAMOG employees are required to complete a minimum number of training hours based on their industry experience annually. Employees with less than five years or less of experience are required to complete 40 hours, those with five to 10 years have a 30-hour requirement, and employees with 11 or more years must complete 20 hours. New employees are required to complete 48 hours of training within their first year, including information risk management, preventing workplace harassment, and work life at Freddie Mac among others. Mandatory compliance training includes code of conduct, information security awareness and insider trading prevention. Employees are also assigned mandatory corporate refresher courses every one year to three years.

The Multifamily Division includes a dedicated DEI Division Officer who works with enterprise counterparts to facilitate DEI goals and objectives within Multifamily. The Multifamily Division has a 14-member inclusion and diversity champions group to drive DEI initiatives. The company continues to mandate DEI focused training and expects to introduce a new mandatory course in 2023.

Freddie Mac maintains a highly diverse workforce, following multiple DEI initiatives. Greater than 50% of current multifamily employees represent diverse ethnic backgrounds, a trend that is also present in new hires during the 12 months ended March 2023. By gender, 63% of multifamily employees are male and 37% are female.

Master servicing employees completed 42 hours of training per employee on average for the 12-month period ended in March 2023, while special servicing employees, inclusive of surveillance, completed an average of 36 hours for the same period. Both groups increased training hours materially from the prior year and are consistent with other highly rated servicers.

Operational Infrastructure

Outsourcing

Freddie Mac does not outsource or offshore any key master or special servicing functions. The company may at times engage third-party vendors to prepare asset management consent requests depending on volume. Freddie Mac currently maintains four approved vendors for asset management support and reviews and approves all borrower consent cases prepared by vendors. The company's individual Seller/Servicers are responsible for day-to-day primary loan servicing functions with oversight from Freddie Mac, which retains approval authority. Freddie Mac does not provide third-party servicing.

The special servicing group engages third parties for property inspections; appraisals; brokerage services; property management; and architectural, environmental and legal services associated with special servicing assignments for balance sheet loans and securitized transactions.

Freddie Mac maintains the expertise to perform most outsourced functions and vendors are engaged primarily to provide additional capacity during high-volume periods. Additionally, there are alternative vendors in the market and Freddie Mac's use of multiple vendors mitigates any concentration concerns.

Freddie Mac maintains dedicated technology development resources and is responsible for making incremental enhancements across proprietary applications. Long-term technology initiatives continue to focus on improving the collection and management of data from Seller/Servicers.

Vendor Management

Vendor performance is evaluated by the GBS team within the Multifamily Technology and Operations group. The GBS team is responsible for providing senior management a monthly summary of vendor performance and costs. Vendor performance is reviewed during quarterly Risk and Controls Self-Assessment attestation meetings.

The GBS team tracks all contracts, supports requests for new vendors through a competitive bidding process, contracts staff engagements and identifies, assesses and manages operational risk. In addition, the GBS team maintains inherent risk assessments for vendors to identify and risk rate operational risks associated with each vendor engagement. Day-to-day vendor performance and compliance with service-level agreements is monitored by relationship managers within the respective individual business areas.

Information Technology

MAMOG's master servicing system of record for transactions in which Freddie Mac retains commercial master servicing responsibility, including small balance loan and certain K-series securitizations is the Enterprise! Loan Servicing application (version 2021.2.69). The application, which is provided and hosted by a vendor, provides functionality for MAMOG to accept loan servicing files from small balance Seller/Servicers, perform quality control reviews of data and report data using CRE Finance Council (CREFC) Investor Reporting Package (IRP) reports.

The loan servicing group recently began using the loan payoff module of Enterprise! to improve efficiency.

MAMOG also relies on a suite of internally developed proprietary applications, as well as databases called Multifamily Processing System (MPS) and MultiSuite, to support core servicing functions aside from securitized master servicing functions. MPS contains separate applications to support loan accounting, purchase tracking, cash management functions and a multifamily asset management operating system. MultiSuite also comprises separate but integrated applications for bonds, TEBS loan accounting, bond wire requests and a low-income housing tax credit (LIHTC) management portal. The company also uses an Insurance Compliance Tool (ICT) to track collateral-level insurance compliance.

Core Systems

Software	Version
CRT	4.3.1
PRS	13.0
SMART	1.8.1
ICT	1.1.6.2
MSIA	2.0.1
MultiSuite	N.A.
Multifamily Processing System	N.A.
Enterprise!	2021.2.69

N.A. – Not applicable
Source: Freddie Mac

Special servicing asset management and surveillance technology is provided through a variety of applications to support core business processes, with the Streamlined Management Analytical and Reporting Tool (SMART) being the primary application. SMART contains the company's asset resolution loss model and business plan tools to analyze loan modifications, note sales, foreclosures actions and REO asset management. Asset management reporting is available using a large number of reports within the core applications and through ad hoc queries in the SMART application. All reports can be exported to Excel as needed. The systems, which are developed and maintained by Freddie Mac and third-party vendors, are integrated, with nightly data updates from a centralized database. Examples of core applications used by the special servicing asset management and operations group are:

- Property Reporting System (PRS) — facilitates the workflow process of collecting and validating loan data received from Seller/Servicers.
- Consent Request Tracker (CRT) — tracks and monitors servicer performance on borrower consent requests for securitized K-series and retained portfolio loans.
- SMART — a core analytical application for property analysis, loan risk-rating, asset management, property valuation and business plan development for special servicing and loss-mitigation monitoring.
- Multifamily Securities Investor Access (MSIA) — a Web-based interface that allows investors access to CREFC data elements and transaction documents for Freddie Mac K-series securitized transactions.

The multifamily technology group works on various technology enhancements throughout the year encompassing multiple product lines from underwriting and loan purchase to servicing, as well as exchanging data with borrowers, investors and Seller/Servicers. The multifamily group will begin a multi-year technology initiative in 2022 to examine and reimagine its servicing processes for loans, bonds and master servicing. The initiative, which is a collaboration between the servicing and technology product teams, is reviewing technology and servicing processes with the goal of integrating functions within the new Integrated Loan Servicing platform and other applications. The company is currently testing the first project to modernize cash processing activity and reconciliations with the introduction of a new myOptigo® Servicer Remittances Application which replace the current Cash Remittance System. MAMOG is also testing a new automated servicing process for month reporting and reconciliations, which will replace e-mails from primary servicers with a new application to upload standardized reporting templates.

Future technology initiatives include incremental enhancements to CRT, PRS, and SMART to improve the user experience, ICT enhancements for API connectivity, as well as enhancements to the Integrated Loan Servicing application for optimization, curtailments and historical loan views.

Applications used by Freddie Mac are continually monitored by Freddie Mac's centralized Enterprise Operations + Technology Division to ensure sufficient capacity. The Division also has a helpdesk that provides application and employee support.

Cybersecurity

Freddie Mac maintains a dedicated information security function led by a senior vice-president and chief information security officer. The company maintains multiple tools to monitor and maintain a secure technology network, including regular vulnerability assessments and penetration tests. Employees are required to complete annual information risk training, which includes an assessment at the end of the training for which a passing score is required.

Fitch reviewed information provided by Freddie Mac on its policies and procedures for monitoring its network, data maintenance & security, employee access, and hardware disposal which were thorough and comprehensive. The company also maintains cyber liability insurance. Freddie Mac has not experienced a significant cybersecurity event since Fitch's last review.

Disaster Recovery/Business Continuity Plan

Freddie Mac maintains an enterprise-wide crisis management program to address technology, information security, safety and security, weather, facilities and pandemic-related incidents. The firm's Enterprise Operations + Technology Division has an Operational Resilience team that works with each division on operational resilience and to protect Freddie Mac assets. Each division is responsible for testing individual business continuity plans and recovery strategies, depending on the type of incident, no less than annually. The crisis management program includes a crisis management team with various levels of managers who are responsible for facilitating recovery plans and communication. Included within the crisis management plan is an out-of-region disaster recovery data center administered by the IT group.

Freddie Mac employees began returning to the office in 2022 under a hybrid working model providing a continuous test for certain aspects of business resiliency.

The GBS team, within the Multifamily technology and operational risk group, is responsible for disaster recovery and business continuity plans. In 1Q23, the Multifamily technology and operational risk group performed updated business resiliency tests for seven mission-critical processes, including manual work arounds for key cash functions and six MAMOG processes. Fitch reviewed the 2023 summary report of the exercise and test results. All test scenarios were successfully completed. Additionally, the company will perform a fully out of region fall over test in 2Q23, which is done annually.

The multifamily business continuity plan focuses on recovery procedures, staffing and technology, dependencies and external and third-party relationships for all key functions based on mission critical, foundational, business critical and support functions. Freddie Mac maintains backup facilities for the Multifamily Division in Reston, VA, approximately 15 miles from the company's primary servicing location. The Reston facilities are supported by backup generators that are tested weekly. While Freddie Mac maintains both a regional backup facility and resources in Chicago, its first business continuity solution is for employees to work from home. The MAMOG group currently operates on a hybrid office schedule providing continual testing as employee work remotely on a regular frequency.

Freddie Mac maintains both a formal business continuity plan and out-of-region business continuity plan for the Multifamily Division. Both plans are extremely comprehensive and supported by quarterly testing of mission critical functions. Freddie Mac's quarterly tests of critical functions is more frequent than other Fitch-rated servicers who typically perform annual tests. Additionally, critical master servicing processes maintain a recovery time of four hours or less.

Additionally, an out-of-region data center in Ohio is maintained, to which production data are replicated on a continual basis from the primary data center in Virginia. Additional data protection are tested regularly using tabletop exercises and test scripts to confirm data are replicated in a timely manner.

The recovery time for servicing applications also varies by function, as functions are classified as mission critical, business critical or supporting. Applications that support master servicing functions, such as advancing, cash processing and investor reporting, have a recovery time of four hours or less. Special servicing asset management systems that support borrower transactions, REO and data management have a recovery time of 72 hours or less; although this is an improvement from prior recovery times of up to a week, it is still one of the longer recovery times among Fitch-rated special servicers.

The multifamily group performs formal business continuity testing quarterly of key servicing functions with varying testing scope each quarter. Fitch reviewed the 2023 Business Resiliency Testing Plan for mission critical functions, which clearly delineates multiple testing methods for key functions scheduled through the year. Freddie Mac's quarterly testing of business continuity is the highest testing frequency of Fitch rated servicers.

The maximum possible data loss for MAMOG varies by application. Applications associated with cash processing and investor reporting utilize real-time data replication, resulting in minimal data loss in the event of a power failure. However, special servicing asset management data is backed up daily, resulting in a potential 24 hours of data loss.

Corporate Governance

MAMOG maintains an effective and multifaceted internal control environment, as the company operates a three-lines-of-defense risk management framework to clarify internal roles and controls. The first line is formed by MAMOG's policies and procedures as well as the management team responsible for ongoing oversight of assigned processes, risks and controls. Enterprise Risk Management (ERM) and the compliance team are responsible for developing risk frameworks the business uses and monitoring the first line. Lastly, Internal Audit is the final line, responsible for assessing the effectiveness of and providing assurance on first line controls.

Multifamily compliance is comprised of the GBS group responsible for testing and monitoring key performance metrics, the ERM Division responsible for SOX control testing and quarterly reviews of seasoned loans and an enterprise compliance group that focuses on regulatory compliance.

Policies and Procedures

Freddie Mac maintains thorough and complete policies and procedures, available online to all employees through a SharePoint site. Policies and procedures are clear and concise, providing detailed instructions with illustrations. Policies and procedures are assigned to senior group members for review and revision annually and approved by the senior management of asset management and operations. Prior to publication, each procedure is also reviewed by the GBS team for consistency with Freddie Mac's established credit policy. The team maintains ongoing responsibility for monitoring and testing compliance, with established policies and procedures, timely updates and reviews and internal and external auditors.

The multifamily credit policy team has responsibility for maintaining, updating and publishing the policies used by MAMOG. During the 12-months ended March 2023, there were no material changes to master or special servicing policies and procedures. Training for new or updated policies and procedures is handled by the credit policy team on an ongoing basis. Additionally, the ERM Division facilitates training on corporate policies and standards for all employees.

Fitch reviewed the 1Q23 Multifamily Operational Risk Committee report, which serves as the basis for quarterly compliance and risk reviews of the organization and meeting minutes. The report identifies operational risks across multifamily, summarizes and rates key risk indicators, tracks outstanding compliance issues and provides a heat map detailing individual compliance performance and trends for key controls.

Fitch found the report to be an extremely effective tool to monitor compliance and one of the most comprehensive and detailed of Fitch-rated servicers. Fitch also notes that quarterly compliance meetings include senior business line representatives and staff, internal audit and compliance.

Compliance and Controls

Within the GBS team, four employees are dedicated to MAMOG and an additional 34 employees within the multifamily GBS provide further support to MAMOG as needed. The team is responsible for internal oversight of MAMOG, including quarterly self-assessment and testing of key financial controls performed by management, independent control testing, procedure management, vendor management and business continuity planning. In 2022, the GBS team was realigned from the MAMOG group to within the Multifamily technology & operational risk group, which Fitch noted created greater independence from the servicing operations it was responsible for reviewing.

The GBS team is responsible for compiling a quarterly risk committee report, a monthly oversight report, a monthly summary of business results and key indicator performance metrics. The quarterly operational risk committee report includes testing of various key controls around data and reporting functions. The quarterly operational test results are reviewed and reported through the company's corporate governance, risk and compliance tool (BWise) and reviewed informally by the multifamily operational risk committee each quarter.

Fitch reviewed the 4Q22 quarterly risk committee report, which monitors remediation efforts of significant issues, external risk factors, business resiliency and third-party risk management. The report, which includes heat maps of key performance and risk metrics and outstanding issues, is an effective management tool. Fitch also reviewed the February 2023 MAMOG asset management and operations management report, which provides an extensive overview of multifamily operations, key departmental milestones, staffing metrics, technology vulnerability tracking, potential risks and accomplishments for each group. The report includes detailed loan level information and key control metrics as well as departmental summaries across all MAMOG demonstrating a high level of management oversight over operations.

Separately, the ERM Division, which reports to the chief risk officer and the board of directors' risk committee, establishes the risk and control framework for the Multifamily Division, allowing for risk acceptance in certain low-risk situations. Additionally, the Sarbanes-Oxley Act (SOX) controls testing team within the finance corporate controller group facilitates independent financial SOX control testing annually. In addition to its continuous monitoring of business risks, the ERM Division also performs quarterly reviews of seasoned loans to provide oversight of policies and procedures compliance. The reviews conducted by ERM, which include sample testing of loans, provide a secondary level of review behind the GBS group.

Freddie Mac maintains a corporate compliance department comprising approximately 65 staff members who report to the chief compliance officer and the board's audit committee and administratively to the chief executive officer. The company hired a new chief compliance officer in September 2022.

The compliance department is made up of five subgroups that provide oversight of: financial crimes & sanctions; capital markets; ethics and employment; compliance testing; and operations & consumer protection. Additionally, two compliance staff members oversee operational risks, providing support for business administration and project management, analysis of compliance risk data and reporting and regulatory change management. The compliance group supports MAMOG's implementation and oversight of the risk management framework of internal controls with the goal of maintaining compliance with legal and regulatory matters, along with corporate policies and procedures.

Overall performance of MAMOG and the multifamily division are formally reviewed with the CEO and the president of Freddie Mac through quarterly division performance review meetings. The meetings include a formal presentation addressing multifamily business results, operational performance metrics, significant issues, expenses, human capital, and DEI reporting. During the meetings business highlights, key challenges, and risk and opportunities across the multifamily division are addressed with senior management.

Internal Audit

Freddie Mac maintains a corporate Internal Audit division that is responsible for auditing all business functions on a risk-adjusted basis. Internal Audit is staffed by 127 professionals as of March 2023. The majority of Internal Audit staff members are certified professionals and report to the audit committee of Freddie Mac's board of directors through the general auditor and administratively to the chief executive officer. The Internal Audit division reports to Freddie Mac's board quarterly and the audit committee of the board for aging of open findings, remediation status and validation activities.

The Internal Audit division, based on an annual comprehensive risk assessment of each department, process and product within Freddie Mac, identifies inherent risks and assigns a risk score based on credit, market, operational and strategic, reputational, regulatory and legal risks. Internal Audit also determines the frequency of audits (from one year to four years).

Business units self-assess their risks and controls quarterly to supplement internal audits. Additionally, the corporate compliance, internal controls and Internal Audit organizations of Freddie Mac perform annual internal reviews of the Multifamily Division. Ongoing compliance monitoring is performed by ERM, which reviews and approves certain credit decisions of the asset management and operations group.

Freddie Mac maintains a robust internal audit function with a demonstrated history of performing annual risk assessments to identify and respond to internal and external operational risks. Two internal audits were completed since Fitch's last review, none of which contained material findings or significant control deficiencies.

The Multifamily Division's audit universe is defined as 14 areas: asset management surveillance and special servicing; underwriting; loan purchase operations; servicing; loan sourcing and pricing; data integrity and rules management; operational risk governance; cash desk operations; accounting and reporting; market risk management and spread volatility impact; modeling; securitization; Seller/Servicer compliance management; valuation. Of the 14 auditable areas, eight are classified as medium risk and reviewed once every three years, two are classified as high risk and reviewed once every two years, and four are classified as low risk. The Multifamily Division does not have any very high risk-rated entities and the internal audit function has a demonstrated history performing annual risk assessments to identify and address operational risks. There have been no changes to the risk assessment of any multifamily entities since Fitch's last review.

There were two internal audits completed since last review, only one of which involved the servicing group. Fitch reviewed the results of the Multifamily Cash Desk Operations audit that examined compliance with corporate procedures, counter-party wire setups and incoming and outgoing wire payments. The audit concluded in May 2022 with a satisfactory opinion (highest possible rating) with one non-operational minor finding pertaining to application of approvals. The finding has subsequently been addressed by management and closed.

Fitch previously reviewed the results of the Asset Management and Surveillance audit completed in May 2021 and resulted in a satisfactory opinion with no findings. The Multifamily Accounting, Valuation and Reporting audit was issued in June 2021 with a satisfactory opinion and no findings. The Multifamily Operational Risk Governance Audit, which was completed in March 2022, resulted in a needs strengthening opinion with one minor finding pertaining to how internal controls are mapped to enterprise standards. Management provided a response to the finding with a corrective action that is in the process of being implemented.

Multifamily data integrity and rules management and modeling entities are expected to be reviewed by internal audit in 2023. The servicing and asset management surveillance and special servicing entities are scheduled to be audited in 2024.

External Audit

PricewaterhouseCoopers LLP (PwC) completed a Uniform Single Attestation Program (USAP) audit in 2022 for Freddie Mac's master and special servicing portfolios. The report, which was issued on March 28, 2023, contained no findings.

Additionally, PwC performs an annual audit of Freddie Mac, as does the FHFA, which is Freddie Mac's conservator and regulator. PwC is responsible for reviewing Freddie Mac's quarterly and annual financials to ensure the financial statements are free of material misstatements. As part of its review, PwC tests the key financial controls of the Multifamily Division throughout the year to confirm their successful execution.

FHFA performs multiple reviews of Freddie Mac's business lines as its regulator, some of which include MAMOG servicing functions. Since Fitch's last review, FHFA performed two targeted examinations focusing on the Multifamily Loan Acquisition Process and Multifamily Underwriting Standards. Neither examination identified any safety and soundness concerns, although the examination of underwriting standards included a recommendation to improve underwriting guidance for specialty product credit exceptions.

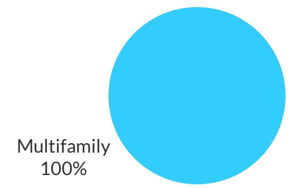
Master Servicing

Freddie Mac retains master servicing responsibility for certain K-series single-borrower transactions, supplemental/junior participation loans, small balance loans, tax-exempt loans and third-party securitizations for which Freddie Mac provides a guaranty.

Freddie Mac acts as master servicer for 180 securitized transactions as of March 2023. By transaction count, small balance transactions represent 58% of the master servicing portfolio followed by multi-borrower transactions secured by supplemental/junior participation, third-party or tax-exempt loans (41%), and single asset single-borrower (SASB) transactions (less than 2%). Freddie Mac's master servicing portfolio is special serviced by 12 third-party special servicers.

Securitized Master Servicing by Property Type

As of March 31, 2023



Source: Freddie Mac

Master Servicing Portfolio Overview

	3/31/23	% Change	12/31/22	% Change	12/31/21
No. of Transactions — Master Servicer	180	0	180	9	165
UPB — Master Servicing ($ Mil.)	44,072	1	43,608	0	43,391
No. of Loans — Master Servicing	11,793	0	11,849	-3	12,230
No. of Primary Servicers Overseen	34	0	33	0	33

UPB – Unpaid principal balance.
Source: Freddie Mac, Multifamily Division

During the 12 months ended March 2023, Freddie Mac was named master servicer on 22 securitization transactions, including eight small balance transactions, which are issued regularly, six supplemental loan transactions, two tax-exempt transactions, five third-party collateral, and one value add/transitional loan transaction.

Subsequent to Fitch's data collection, Freddie Mac named itself master and special servicer for FREMF 2023-K156 and FREMF 2023-K158 transactions which had traditionally gone to unaffiliated servicers.

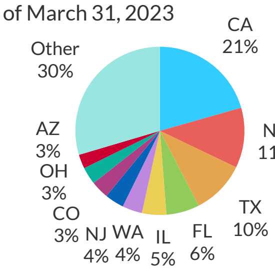
Whereas Freddie Mac generally does not act as master servicer for traditional K-series transactions, its servicing portfolio will largely be driven largely by small balance and supplemental loan transactions and various one-off assignments. In addition to securitized master servicing, Freddie Mac continues to perform master servicing functions such as primary (Seller/Servicer) oversight, advancing and investor reporting, for 4,066 nonsecuritized loans totaling $72.4 billion as of March 2023.

Primary Servicer Oversight

The CRC group within MAMOG performs primary servicer oversight for 28 conventional, targeted affordable housing, small balance and/or single-family rental Seller/Servicers and 11 servicers of loans purchased under prior programs or negotiated transactions (referred to as legacy loans), which collectively serviced in excess of 14,700 loans totaling about $110.5 billion as of March 2023. Freddie Mac converted JP Morgan Chase Bank, N.A. from a Seller/Servicer under prior programs to a conventional Seller/Servicer since Fitch's last review. During 2022, Freddie Mac performed 10 full scope audits through teleconferences and 23 limited scope audits. The company will resume on-site for certain full scope reviews of Seller/Servicers in 2023 during which it expects to complete nine-full scope and 22 limited scope review. Fitch views regular onsite audits of primary servicers as best practice of highly rated master servicers and noted that other highly rated master servicers have returned to more frequent onsite audits at a regular frequency.

Securitized Master Servicing by State

As of March 31, 2023



Source: Freddie Mac

Seller/Servicers are evaluated annually to determine the scope of audit based on their last audit, audit findings, portfolio size, organizational changes, loan performance and business-area feedback. Freddie Mac's review of Seller/Servicers includes loans securitized in its K-series transactions and small balance transactions for which Freddie Mac is the named master servicer, as well as loans held for investment or pending securitization. The company shares a summary of its Seller/Servicer reviews with master servicers for K-series transactions either for reference or to supplement their own oversight efforts.

Seller/Servicers are also required to submit annual certifications of compliance and obtain Freddie Mac's approval for any organizational changes. Eleven servicers of legacy loans are also monitored by CRC (*as mentioned above*) and audited, albeit less frequently, based on a risk rating assessment and the sizes of their portfolios, which vary from $1.0 billion (96 loans) to $5.4 million (one loan) by balance.

Oversight of Freddie Mac's Seller/Servicers consists of either full- or limited-scope annual audits of each Seller/servicer's internal controls, loan underwriting and setup, servicing and accounting functions, investor reporting and overall compliance with Freddie Mac's servicing guidelines. Seller/Servicer oversight is extensive and includes input from various groups within Freddie Mac, including loan administration and servicing, which provides feedback based on direct experience. In addition, warehouse line compliance and reconciliation, disaster recovery/business continuity plans, anti-fraud programs, data integrity, third-party evaluations and corporate eligibility requirements are reviewed. Since Fitch's last review, CRC has expanded the scope of seller/servicer oversight to include increased focus on information security, tracking of cybersecurity incidents and the use of material vendors.

Beyond formal audits of Seller/Servicers, Freddie Mac holds an operational performance review meeting with Seller/Servicers to discuss their performance. The performance review meeting is coordinated by the Multifamily Production Operations team and attended by senior managers of Freddie Mac and serves as a compliance and working relationship review through which the company provides feedback on the Seller/Servicer's performance and solicits feedback on Freddie Mac's servicing guidelines.

Unlike traditional master servicers, Freddie Mac does not perform primary servicing functions for multifamily mortgage loans purchased from its Seller/Servicers, and the assumption of those duties is outside the company's current scope of business and capacity. In the event Freddie Mac determines a Seller/Servicer cannot continue servicing loans, the company maintains portfolio seizure protocols and has agreements with its Seller/Servicers to immediately transfer the loans. Robust monthly reporting from Seller/Servicers and ongoing surveillance by MAMOG greatly minimizes the risk of a loss of loan data in the event the servicing for a loan portfolio needs to be transferred.

Advancing

Freddie Mac has varying degrees of advancing obligations for its four key multifamily product types, including advancing principal and interest payments and/or property-protection payments. Advancing determinations and distributions are a collaborative effort between groups within MAMOG based on product type but are generally led by the special servicing group.

As of March 2023, Freddie Mac had outstanding advances of approximately $32.1 million on behalf of its $44.1 billion master servicing portfolio, down materially from $100.4 million as of March 2022. The majority of advances represent principal and interest advances for delinquent loans. The company utilizes Enterprise! to track advances and recovery for its master servicing portfolio and an internal proprietary application to track advances in its K-series guaranty portfolio. Also as of March 2023, Freddie Mac had approximately $31.6 million in outstanding advances for its' $313.9 billion K-series bond guarantee portfolio for which the company guarantees the timely payment of interest and ultimate principal to holders of Freddie Mac securities. Advances for the bond guarantee portfolio are also down from $71.0 million in March 2022.

The Multifamily division has a crossdisciplinary advancing credit committee consisting of individuals from the executive management team, including the surveillance, operations and special servicing groups, as well as the legal department to review outstanding advances and make nonrecoverability determinations. Consistent with other master servicers, the committee meets monthly and reviews updated loan business plans and asset valuations to support advancing decisions, which are formally recorded in meeting minutes. Freddie Mac does not have any formal programmatic advancing limitations.

Investor Reporting

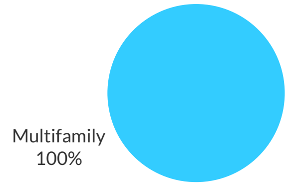
Investor reporting varies by product type and is primarily the responsibility of the loan accounting group. A manager within this group is required to review monthly reporting packages for completeness and accuracy prior to submission. For the TEBS portfolio, the loan accounting group reviews and reconciles bond payments and reporting, as well as information from Seller/Servicers

Fitch believes Freddie Mac's Seller/Servicer oversight program is the best in class of Fitch-rated master servicers. The program consists of annual risk-based reviews to determine the scope of audit; a formal audit review inclusive of sample testing; detailed tracking of findings and remediation; and a conclusive, detailed audit report and conference call. Oversight of Seller/Servicers was expanded in 2022 to include increased focus on information security, tracking of cybersecurity incidents and the use of material vendors.

The CRC group performed 10 full-scope audits and 23 limited scope/desktop audits of Seller/Servicers in 2022. While Freddie Mac continues to perform oversight of its Seller/Servicers, the company has been slow to resume in-person audits with Seller/Servicers. Fitch views regular on-site reviews as a best practice of highly rated servicers.

Freddie Mac has not noted any material negative findings during its annual Seller/Servicer reviews in 2022. All but one review resulted in a 'satisfactory' rating.

Non-Securitized Master Servicing by Property Type
As of March 31, 2023



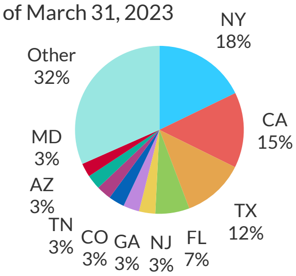
Source: Freddie Mac

regarding payments to bond trustees. Loan accounting also forwards collateral-level activity to the trustee each month and allocates funds to the appropriate collateral.

The group reviews and reconciles collateral-level reporting and remittance data from Seller/Servicers for the bond credit enhancement portfolio, including monthly payment advances and recoveries. In addition, loan accounting reconciles monthly principal and interest for retained portfolio loans. At payoff, the group ensures balance and prepayment fees are calculated, reported and remitted correctly by its Seller/Servicers. The group performs the same functions for Freddie Mac's named master servicing portfolio.

While Freddie Mac's role as master servicer consists largely of small balance, junior participation, one-off single-borrower, tax-exempt and third-party loan transactions sponsored by Freddie Mac, it actively monitors and supports its entire K-series guaranteed bond portfolio, which totaled $313.9 billion as of March 2023. The loan accounting group aggregates and compares bond-level transaction files and delinquency data for all K-series transactions and discloses results monthly, both internally and externally, to investors through a free website (MSIA) that includes all CREFC IRP information. This website also allows restricted access to borrower statements, inspections and rent rolls for loans where Freddie Mac is the named master servicer.

Non-Securitized Master Servicing by State
As of March 31, 2023



Source: Freddie Mac

Special Servicing

Special Servicing Portfolio

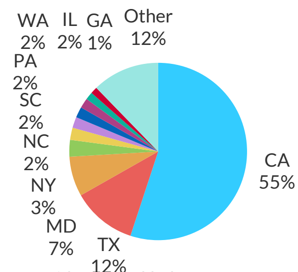
As of March 31, 2023, MAMOG had overseen and performed asset management functions for its portfolio of 4,066 nonsecuritized loans with a balance of $72.4 billion (up from $56.8 billion as of YE21), which represents the majority of special servicing assignments. The number and balance of nonsecuritized special servicing fluctuates as the company's held for sale/warehouse portfolio changes with securitization volume. As of the same date, the company was the named special servicer for nine securitized transactions consisting of 487 loans, none of which is being actively specially serviced. During 2022, Freddie Mac appointed itself as special servicer for three small balance loan securitizations materially increasing the number of loans in the securitized portfolio. MAMOG's active special servicing portfolio consists of 11 non-securitized loans totaling $242.5 million and no REO assets as of March 31, 2023.

Freddie Mac's core special servicing philosophy for nonsecuritized loans is to resolve loans in its best interest economically, operationally and from a reputational perspective, with the ultimate workout strategy resulting in the highest NPV to Freddie Mac.

Special Servicing Portfolio Overview

	3/31/23	% Change	12/31/22	% Change	12/31/21
Securitized					
No. of Transactions — Special Servicer	9	0	9	29	7
UPB — Special Servicer ($ Mil.)	5,123.7	0	5,145.4	27	4,054.1
No. of Loans — Named Special Servicer	487	0	487	576	72
UPB — Actively Special Servicing (Non-REO) ($ Mil.)	0	—	0	—	0
No. of Loans — Actively Special Servicing (Non-REO)	0	—	0	—	0
UPB — REO Assets ($ Mil.)	0	—	0	—	0
No. of REO Assets	0	—	0	—	0
Nonsecuritized					
UPB — Named Special Servicer ($ Mil.)	72,428.0	0	72,639.0	28	56,789.9
No. of Loans — Named Special Servicer	4,066	0	4,067	13	3,613
UPB — Actively Special Servicing (Non-REO) ($ Mil.)	242.5	53	158.6	-51	323.0
No. of Loans — Actively Special Servicing (Non-REO)	11	57	7	-73	26
UPB — REO Assets ($ Mil.)	0	—	0	—	0
No. of REO Assets	0	—	0	—	0

Named Securitized Special Servicing States by UPB
As of March 31, 2023



UPB – Unpaid principal balance
Source: Freddie Mac

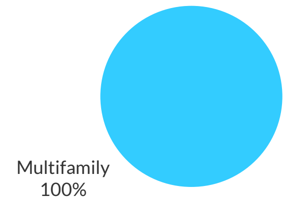
Special Servicing Portfolio Overview

	3/31/23	% Change	12/31/22	% Change	12/31/21

UPB – Unpaid principal balance
Source: Freddie Mac, Multifamily Division

Named Securitized Special Servicing by Property Type

As of March 31, 2023



Source: Freddie Mac

The special servicing group resolved 27 loans for the 12-month period ended in March 2023 totaling $471.9 million. Loan resolutions included 19 issuer repurchases, seven loans paid in full, and one loan returned to performing status. No loans, all of which were secured by traditional multifamily properties, resolved during the period resulted in a loss. Consistent with its resolution practices, Freddie Mac has historically disposed of REO assets faster than most Fitch-rated special servicers.

Loan Administration

Portfolio surveillance is conducted by four surveillance teams totaling 43 staff members who are organized based on functional responsibility and product type. The teams consist of guarantor risk and external relations; portfolio surveillance (investment and held-for-sale loans, targeted affordable loans and structured products); rehabilitation/preservation, valuation and physical risk; and master servicer and reporting. Twenty-three dedicated analysts are each responsible for about 1,700 loans, including approximately 175 high-risk or watchlist loans on the portfolio team for Freddie Mac's master servicing and balance sheet portfolios. Five additional staff are dedicated to monitoring K-series and small balance loan guarantor portfolio with approximately 4,900 loans per analyst for which Freddie Mac is not the special servicer.

Freddie Mac's surveillance process begins with the collection of detailed loan and property information from its Seller/Servicer network. Freddie Mac receives quarterly financial, annual inspection and qualitative management information for all loans in its portfolio. The information received is consolidated within the SMART system used to risk rate loans quarterly.

Fitch found Freddie Mac's surveillance and risk-rating process to be a proactive monitoring tool and considers the company's early intervention with borrowers to be effective in mitigating losses and shortening workout negotiations.

While the company does not have significant exposure to imminent loan maturities, it has increased it's surveillance of loans pending maturity.

Freddie Mac's risk-rating process is its primary tool to screen and identify potential problem loans within its portfolio, as well as the foundation for the company's requirement to establish reserves for potential loan losses. The risk rating is based on an econometric model that produces a loan score reflecting the expected lifetime loss of a given loan. The loan-score criteria factor includes approximately 15 performance aspects of the loan and property, as well as Freddie Mac's views on multifamily markets, future interest rates and cap rates.

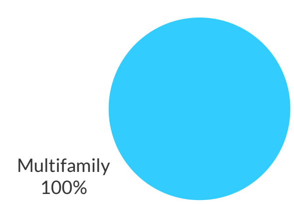
The risk rating is defined on a scale of one to 10, with one being the least risky and 10 the most risky. Loans with high-risk ratings are assigned to surveillance analysts who are responsible for developing business plans and ongoing monitoring of the loan. The surveillance group risk rates all loans held within Freddie Mac's retained portfolio, as well as loans originated for securitization, both during the warehousing period and post-securitization.

Defaulted/Nonperforming Loan Management

Freddie Mac's goal is to resolve nonsecuritized loans based on its own best economic interests as a lender with consideration of reputational risk. While this is similar to the securitized servicing standard in terms of obtaining the best resolution based on a net present value (NPV) analysis, Freddie Mac has yet to perform any workouts for securitized loans in which it considers the economic interest of investors. The asset resolution team is responsible for working out loan defaults and is supported by Freddie Mac's internal legal counsel, as well as local counsel when deemed appropriate.

Named Non-Securitized Special Servicing by Property Type

As of March 31, 2023



Source: Freddie Mac

Once a default occurs or a borrower requests debt relief, Freddie Mac's workout strategy is to maximize recovery on an NPV basis. Possible workout scenarios include loan extension or forbearance, note sale, modification or foreclosure. While working out a loan, Freddie Mac considers the cooperation of the borrower and his or her willingness to demonstrate a financial commitment commensurate with any debt relief. Freddie Mac considers the need for an updated title policy and/or updated third-party reports (appraisal, engineering or environmental) depending on the status of the loan and the potential workout.

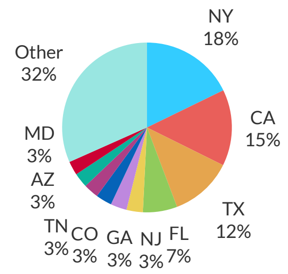
Freddie Mac has a multifamily chief appraiser who is responsible for ordering and reviewing appraisals requested by the special servicing group. Draft appraisals are reviewed and discussed with asset managers; however, the chief appraiser retains responsibility for accepting final values and is independent of MAMOG.

Unlike many Fitch-rated special servicers, Freddie Mac does not have a formal credit committee responsible for review and approval of loan workouts. Individuals within Freddie Mac are responsible for workout decisions based on the company's approval-delegation authority matrix determined by its board of directors and risk management group. Delegations of authority are reviewed quarterly.

REO Management

Due to the limited number of REO assets, Freddie Mac does not maintain a dedicated REO management and disposition team. When an asset is foreclosed upon, responsibility for managing and stabilizing the property remains with the asset manager through disposition. However, MAMOG employs a detailed REO management process designed to stabilize, position and dispose of the REO property for the highest possible price.

Named Non-Securitized Special Servicing by State
As of March 31, 2023



Source: Freddie Mac

Freddie Mac's philosophy is to hold REO assets for less than a year, although Fitch observed that exceptions occur when properties are not stabilized. Once taking title to an asset, Freddie Mac develops a 90-day takeover plan that includes an assessment of the asset, including potential capital expenses necessary to stabilize or add value to the property. Freddie Mac makes capital expenditures to stabilize assets as necessary and has no restrictions on access to capital. Upon taking title to a property, Freddie Mac engages a third-party property manager to resolve all immediate life safety issues, secure the premises and address operational deficiencies. While a property is held by Freddie Mac, an annual operating budget is prepared by the asset manager in conjunction with the property manager. The budget is then reviewed and approved by Freddie Mac.

Prior to marketing a property for sale, Freddie Mac's policy is to engage two to three brokers to develop opinions of value. Freddie Mac evaluates the brokers' experience, previous success with Freddie Mac, geographical focus, strategy, pricing/incentives and marketing materials prior to selecting a broker to list the asset for sale. While Freddie Mac's goal is to sell assets at the highest possible price, it is sensitive to selling assets to qualified buyers and avoiding and/or mitigating potential headline risk.

Governance and Conflicts of Interest

Managing Potential Conflicts

Potential conflicts of interest in special servicing arise through various forms, particularly as investors retaining controlling positions in securitizations or specific loans have influence on workout strategies and the ability to select the special servicer.

In its review of Freddie Mac, Fitch notes the organization's high degree of internal controls and compliance functions, including the approval of valuations by separate departments. These controls, in addition to the company's well-substantiated business plans, mitigate potential conflicts of interest within its current portfolio.

In many instances, Freddie Mac acts as master or special servicer for transactions in which it is also the guarantor. In the ordinary course of its K-series and small balance securitizations, Freddie Mac does not purchase B pieces, although it may do so in specialized transactions. Freddie Mac does not have specific policies for securitized transactions where potential conflicts of interest exist, although Fitch notes the separation of special servicing and asset management functions from investments is significant and a mitigating factor.

Freddie Mac's employees are subject to its code of conduct, which contains specific policies that address conflicts of interest and business ethics relating to the company's business lines. Furthermore, employees are required to attend annual compliance training and certify their understanding of and compliance with the employee code of conduct. Fitch found the code of conduct for employees to be complete, addressing the disclosure of material, nonpublic information, data firewalls, business relationships, information disclosure with vendors, confidentiality and fair-dealing practices.

Fitch reviewed seven business plans for defaulted loans to assess timeliness, completeness and consistency with Freddie Mac's stated policies and procedures. Fitch found the plans to be thorough and complete, containing an analysis of the loan, property, borrower, market and circumstances surrounding the default. The plans presented a clear rationale for proposed resolution and, where applicable, an NPV analysis of alternative resolutions. Asset managers and senior managers were well versed in the status of workouts, markets and resolution prospects.

Affiliate Companies

Freddie Mac does not have any affiliated companies that provide real estate management or broker services. Freddie Mac also does not provide debt refinancing directly to borrowers, but non-affiliated Freddie Mac Seller/Servicers may provide CRE financing options to maturing securitized loans.

SOLICITATION & PARTICIPATION STATUS

For information on the solicitation status of the ratings included within this report, please refer to the solicitation status shown in the relevant entity's summary page of the Fitch Ratings website.

For information on the participation status in the rating process of an issuer listed in this report, please refer to the most recent rating action commentary for the relevant issuer, available on the Fitch Ratings website.

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