Operational Risk Assessments

Freddie Mac Multifamily Asset Management and Operations

December 2018

Operational Classifications:	Commercial Mortgage Special Servicer and Trust Advisor
Rankings:	Special Servicer: MOR CS2 (Affirmed) Trust Advisor: MOR TA3 (Affirmed)
Forecast:	Stable – Both Rankings
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Rationale

Morningstar Credit Ratings, LLC affirmed its MOR CS2 commercial mortgage special-servicer ranking and MOR TA3 commercial mortgage trust-advisor ranking for Freddie Mac Multifamily Asset Management and Operations. Freddie Mac is a government-sponsored enterprise operating under a conservatorship established on Sept. 6, 2008, with the Federal Housing Finance Agency as conservator. Morningstar affirmed the rankings based on the following factors:

Special Servicing

- Asset-Recovery Results With Multifamily Assets: Freddie Mac's asset-resolution results signify an expeditious process that continues to produce successful outcomes with the company obtaining full payoffs in most cases. Troubled loan activity remains negligible, which is likely due to reductions of its balance-sheet portfolio coupled with strict underwriting and strong credit performance.
- Compliance and Audit Function: Freddie Mac has diligent and soundly controlled asset management. The company's internal-audit department moved the multifamily asset-management division to a four-year audit cycle based on a low-risk classification; the most recent audit was conducted this year with satisfactory results. Despite the reduced frequency for internal audit, Freddie Mac's composite auditing activities remain solid. A division-level governance and business services department performs rigorous compliance reviews of the asset-management and operation unit's policies and procedures, including securitized transaction requirements. The company also has many compliance safeguards in its procedural routines.
- Asset-Resolution Practices and Conflicts-of-Interest Management: Freddie Mac has no discernible conflicts of interest because it has no affiliations with subordinate-class purchasers on its standard K-Deal securitizations and has no ownership interests in or affiliations with third-party vendors. Additionally, the company has strict procedures for selecting and approving third-party vendors with a well-delineated hierarchy of delegated authority for such decisions.
- Technology: The company has an overall effective and strengthened technology platform. It also has embarked on a longer-term "digital transformation" initiative to further streamline its array of applications and technology framework to improve the seller/servicer, investor, and borrower experience. Over the past two years, Freddie Mac has continued to improve upon its central

asset-management system for its multifamily business, the Streamlined Management Analytical and Reporting Tool, or SMART. The company also has a business-to-business portal to facilitate seller/servicers' data entry for managing borrower requests. Since 2017, it has implemented a uniform reporting format for property and inspection information and has made further improvements to seller/servicers' property reporting system. The company has improved its data-backup and its disaster-recovery protocols are sound. However, the company's stated allowable maximum timeframes to recover some noncash functions still exceed industry norms.

- Staffing Levels: The asset-management and operations unit has solidly addressed some senior manager turnover in the past year through promotions and it continues to demonstrate stability with a well-tenured leadership team. Freddie Mac has experienced asset managers and its organizational structure indicates enough staffing depth should special-servicing volume increase.
  Reporting: Freddie Mac has a demonstrated ability to provide accurate, timely, and quality reporting at the asset and portfolio level. The company effectively handles information exchanges with seller/servicers and other transaction participants.

Trust Advisor

- Track Record Overseeing Servicers and Special Servicers: Freddie Mac has a lengthy record of closely monitoring the work and recommendations of its seller/servicers for activities such as borrower consents, asset-status reporting, and adjudicating major credit decisions both for its balance-sheet loans and securitized transactions.
- Monitoring Special Servicers' and Seller/Servicers' Adherence to Freddie Mac Requirements: Freddie Mac employs an extensive performance review and audit program for its special servicers and seller/servicers to guard against errors or compliance deficiencies that could impair transaction performance or lead to investor losses. The company's oversight role and practices are generally equivalent to, or, in many respects greater than, those of operating advisors in conduit CMBS transactions.
- Familiarity With CREFC Investor-Reporting Standards: Freddie Mac's managers and professional staff possess expertise with securitization pooling and servicing agreements, the Commercial Real Estate Finance Council Investor Reporting Package content, and the decision-making considerations required of special servicers.

As of June 30, 2018, Freddie Mac was the named special servicer on 11 K-deal securitizations, which had 214 remaining loans with an aggregate $8.04 billion unpaid principal balance. Its active special-servicing volume (all balance-sheet portfolio) had a $633.8 million UPB and consisted of 24 performing loans on heightened surveillance. Between July 2017 and June 2018, the company liquidated one loan through a discounted payoff and sold three real estate owned properties. These four transactions collectively yielded net proceeds well above 100% of estimated collateral values. It also modified 13 loans and 20 balance-sheet loans, mostly involving maturities, paid off in full during this period.

Freddie Mac is the named as the operating trust advisor on the Impact Funding Affordable Multifamily Housing Mortgage Loan Trust 2015-2 (Q-002) and FREMF 2015-KPLB Mortgage Trust securitizations. It also serves informally as a trust advisor/servicing consultant on the Impact Funding Affordable Multifamily Housing Mortgage Loan Trust 2014-1 (Q-001) securitization. These transactions have performed well and not triggered any trust advisor activity.

Forecast

The forecast remains Stable for both rankings. Morningstar expects Freddie Mac to remain an effective multifamily special servicer for its balance-sheet loans and to conduct proactive surveillance on securitized transactions. The company's technology also continues to advance. The operation also remains soundly positioned to execute its duties as a trust advisor in securitized transactions.

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Company Profile and Business Overview

Congress chartered Freddie Mac in 1970 as a government-sponsored enterprise with a public mission to expand the availability of homeownership to a broader range of the population, as well as increase the supply of affordable multifamily housing stock. Its statutory charge is to provide liquidity, stability, and affordability to the U.S. housing market. Freddie Mac carries out this mission by purchasing mortgage loans originated by its network of seller/servicers and pooling and then securitizing them. Freddie Mac provides guarantees of certain payments to investors and is prohibited from directly originating loans.

Freddie Mac's multifamily division contributes to the company's mission by providing affordable rental housing through the purchase of mortgages backed by rental properties containing five or more units. It conducts those purchases through a nationwide network of approved seller/servicers for its conventional and Targeted Affordable Housing, or TAH, financing programs. Freddie Mac's multifamily products finance small-balance properties, manufactured housing, senior and assisted-living housing, and student housing. In 2016, it created its "green advantage" program to finance energy/resource efficiency-related capital improvements.

As of June 30, 2018, the multifamily division employed 744 people in four regional offices in New York City, Los Angeles, Chicago, and McLean, Virginia, where it also maintains its corporate headquarters. The division has nine field offices as well: Austin, Texas; Irvine, California; Atlanta; Seattle, Washington; Denver; Fort Lauderdale, Florida; Tampa, Florida; Dallas; and Houston.

On Sept. 6, 2008, Freddie Mac was placed under conservatorship, with the FHFA as conservator. Under the conservatorship, which has no termination date, the FHFA assumed all powers of the board, management, and shareholders, and it directly controls some of the company's business activities and strategies. FHFA has delegated certain authority to Freddie Mac's board of directors to oversee, and to Freddie Mac's management to conduct, ongoing business operations. On Sept. 7, 2008, the company, through the FHFA as conservator, entered into a purchase agreement with the U.S. Department of the Treasury. Under the terms of the agreement, Freddie Mac issued senior preferred stock and warrants to purchase shares of common stock as consideration for the Treasury to provide funding under certain terms and conditions.

As of Sept. 30, 2018, the company maintained a positive net worth of $5.6 billion, which has resulted in no additional funds being drawn on under the purchase agreement. Based on Freddie Mac's net worth and applicable $3.0 billion capital reserve, the dividend requirement to Treasury is $2.6 billion in December 2018. Since 2008, the company has paid aggregate dividends of $114.0 billion.

On May 13, 2014, the FHFA issued its first Strategic Plan and Conservatorship Scorecard. The Strategic Plan, which has undergone subsequent updates, delineates the agency's vision for the role of Freddie Mac and Fannie Mae, while the annual Conservatorship Scorecard puts forth metrics by which its success in implementing its vision can be measured. The Strategic Plan reformulates the agency's three basic goals for stewardship of both Freddie Mac and Fannie Mae:

- Continue, in a safe and sound manner, foreclosure-prevention and homeownership-retention efforts and maintain credit availability for new and refinanced mortgages to create a stable and sustainable national housing finance market.

- Reduce taxpayer risk by aiding the return of private capital to the national housing finance markets.

- Form a new uniform single-family securitization platform for both Freddie Mac and Fannie Mae that other participants could use in the secondary mortgage market.

The Conservatorship Scorecard requires Freddie Mac to maintain the dollar volume of new multifamily business for each enterprise at or below a specified cap (originally $31 billion), excluding certain affordable housing loans, loans for small multifamily properties, loans for manufactured housing rental communities, loans on seniors housing assisted-living properties, and loans to finance energy or water efficiency improvements. In November 2018, FHFA announced that the 2019 multifamily lending caps will be unchanged from 2018 at $35 billion each for Freddie Mac and Fannie Mae.

In keeping with its mission to support housing affordability, the agency launched a lending program for manufactured housing developments and one for small-balance loans in 2014. As of November 2018, it had approved 12 seller/servicers to originate and service for the small-balance program.

Since 2016, Freddie Mac has launched several other financing products. It expanded its multifamily investment fund to facilitate financing options for loans not meeting securitization parameters, established a workforce housing program offering preferred terms of senior and mezzanine debt, and fully funded a $1.3 billion single-family rental securitization pilot in 2018. The FHFA also is reviewing a planned construction-to-permanent loan program for Freddie Mac.

Through the first half of 2018, the company funded approximately $28.9 billion in new multifamily business volume, which provided financing for approximately 2,600 multifamily properties representing more than 342,000 apartment units. Approximately 61% of this funded dollar volume was excluded from FHFA's lending cap. It also securitized approximately $29.9 billion of multifamily loans into its K-Deals and SB-Deals (small-balance program).

As of June 30, 2018, Freddie Mac had a multifamily nonsecuritized loan portfolio of $31.9 billion, a multifamily investment securities portfolio of $7.2 billion, and a multifamily guarantee portfolio of $220.2 billion. The overall loan delinquency rate for the entire multifamily portfolio was approximately one basis point.

Table 1 – Freddie Mac Historical Special-Servicing Portfolio Volume*

	June 30, 2018		**Dec. 31, 2017**		**Dec. 31, 2016**	
	UPB ($ Mil)	Assets	UPB ($ Mil)	Assets	UPB ($ Mil)	Assets
Loan Portfolio	633.8	**24	307.6	18	174.0	20
REO Portfolio	0	0	16.0	2	0	0
Total Portfolio Volume	633.8	**24	323.6	20	174.0	20

*All held on balance sheet. **Heightened monitoring, but all performing as of that date.

Operational Infrastructure

Organizational Structure

Freddie Mac's multifamily division oversees all production, asset management, strategic planning, and risk management for the multifamily line of business. The division is further supported by the company's legal, finance, human resources, information technology, communications, enterprise risk-management, and internal audit departments. The following groups comprise the multifamily division:

- Asset Management and Operations
- Production and Sales
- Underwriting and Credit
- Affordable Sales and Investments
- Multifamily Capital Markets (Includes Investments and Advisory)

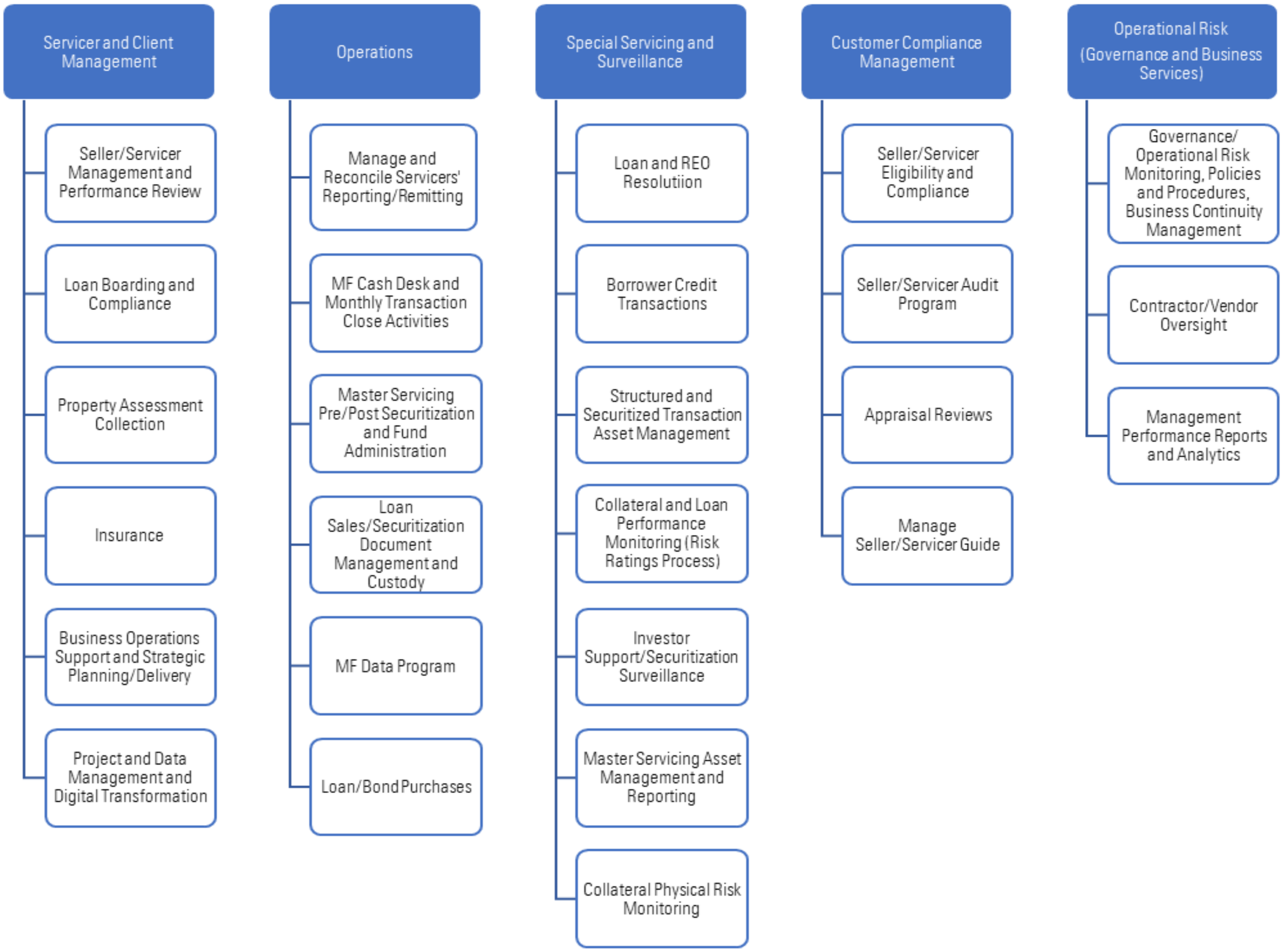
As of June 30, 2018, the asset management and operations group, which manages the seller/servicer relationships and monitors credit performance and loss-mitigation efforts for the multifamily portfolio, had 257 direct employees, including a three-person executive unit that oversees the following departments:

- <u>Operations (127 people)</u>: This department manages loan-closing documents, settlements, servicer remittances, cash processing, and accounting.
- <u>Servicer and Client Management (73 people)</u>: This group handles data collection, loan boarding, insurance-related matters, and seller/servicer client-relationship management. It also has a seller/servicer compliance management team.
- <u>Surveillance and Special Servicing</u>: Surveillance (27 people) monitors the credit quality, performance, and risk ratings of the entire multifamily loan portfolio and tracks Freddie Mac's guarantee risk on the bond and securitization programs. The special-servicing unit (27 people) monitors and manages credit-oriented transactional activity including borrower consents, nonperforming loan, and REO asset management through its three teams:

    - Structured Transactions, which oversees the TAH loans, revolving credit facilities, and tax-exempt and other bond transactions,
    - Securitized Transactions, which handles presecuritization and post-issuance loan issues, and;
    - The Borrower Transactions, Asset-Resolution, and REO team, which principally manages borrower consents and resolves nonperforming assets for the balance-sheet portfolio. This six-member team also oversees consents and monitors performance for the small-balance loan program in conjunction with any externally appointed special servicers. The team includes a recently added real estate analyst.

In addition, the 23-person governance and business services department has personnel for the multifamily line of business. This team monitors division-level operational risk and each department's compliance with internal policies and procedures. It also manages the business-continuity plan, oversees vendor contracting and reporting, and provides related reports and analytics for asset-management and operations.

Chart 1- Organizational Structure- Multifamily Asset Management and Operations



Management and Staff Experience

Earlier this year, Freddie Mac reclassified certain positions as staff and management for purposes of reporting average experience and tenure. As a result, this lowered the average experience relative to previously reported levels. However, as shown in Table 2, the average experience for management and asset managers is solid. The average experience of the three most senior special-servicing managers also exceeds 30 years.

Table 2 – Special Servicing/Surveillance Management and Staff: Average Years of Experience (June 30, 2018)

	Total Industry	Tenure at Freddie Mac
Senior Management	22.0	14.6
Middle Management/Professsional Staff	10.7	7.0
Associates, New College Hires, Administrative	2.2	1.8
Asset Managers	18.0	7.8

Management and Staff Turnover

In 2017, the turnover for the special-servicing and surveillance units was a moderate 12.2% consisting of one manager and five staff departures. However, net of intracompany transfers, the rate was a lower 8.2%. During the first half of 2018, Freddie Mac's employee-turnover rate in these two units was 9.4%, but 5.7% net of intracompany transfers, and consisted of two manager-level and three staff departures. The first-half 2018 turnover rate was elevated compared with the same period in 2017 and when annualized. With three manager-level and 13 staff hires, the total employees in these two units increased 10% between January 2017 and June 2018.

Table 3 – Management and Staff Turnover Rates*

	First-Half 2018	**Full-Year 2017**
	Special Servicing/Surveillance	Special Servicing/Surveillance
Total Staff - Beginning of Period (# of Positions)	53	49
Total Turnover (%)	9.4 (5 positions)	12.2 (6 positions)
Involuntary (%)	0	0
Voluntary (%)	9	12.2
Management Only (%)	3.8	2.0
Staff Only (%)	5.6	10.2
Turnover Net of Intracompany Transfers (%)	5.7 (3 positions)	8.2 (4 positions)
New Hires (# of Positions)	6	10
Total Staff - End of Period (# of Positions)	54	53

*Staff departures divided by number of staff at beginning of period.

Assessment: Freddie Mac has a comprehensive and suitably designed organizational structure for its multifamily surveillance, special-servicing, and trust-advisory work. Although the asset-management and operations unit had some management departures in 2018, including its 40-year industry veteran group head, it effectively addressed this turnover principally through internal promotions. The operation continues to demonstrate stability, solid depth across departments, and a well-tenured and experienced leadership team and professional staff. The company's structure, which expects to add additional positions in certain areas, indicates enough capacity and asset manager expertise should special-servicing volume increase.

Training

The eight-person talent-development team oversees Freddie Mac's training function. Senior management annually assesses employee needs to determine appropriate curriculum offerings that a course developer designs for implementation. Aside from team-based mentoring, Freddie Mac expects employees to complete at least 40 hours of formal training annually and reviews progress quarterly to ensure employees are meeting this target. Between July 2017 and June 2018, employees averaged 49 hours of Freddie Mac-sponsored training specific to multifamily asset management and operations. Hours at conferences can count toward the 40-hour goal.

A proprietary application called MyFMU tracks training events, scheduling, and individuals' completed sessions and hours. This application offers training and development courses in four distinct categories called knowledge centers: business expertise, managing people, personal effectiveness, and tools and technology. Each category offers a variety of web-based and instructor-led courses, resources, and recommended reading related to that topic. MYFMU offers more than 150 instructor-led and more than 400 web-based courses. A dedicated webpage for the asset-management and operations group communicates training objectives, curriculum planning, course offerings, and class materials.

Assessment: Freddie Mac has a well-designed and effective training regimen based on its curriculum, resources, and tracking technology to help staff hone job-related skills and stay abreast of industry information.

Technology, Disaster Recovery, and Cybersecurity

The 70+ person multifamily business technology officer, or BTO, team oversees user support, project development, and data security for all business lines. The asset-management and operations group relies primarily on a suite of legacy applications and databases called Multifamily Processing System and MultiSuite to support its core business processes and serve as a system of record for its loan portfolios. The company's proprietary SMART system serves as the principal analytics tool for surveillance and special servicing at the property, loan, and portfolio level for both retained and securitized assets. Within this application, asset managers can prepare and store resolution plans and request management approvals. SMART also houses loan risk-rating activity, maps risk ratings to established FHFA classifications, and integrates the company's net present value asset-recovery modeling tool. Freddie Mac uses a central data repository that receives feeds from SMART and other applications for various reporting and portfolio analysis. Freddie Mac's applications include:

- Property Reporting System, or PRS – enables seller/servicers and Freddie Mac to submit property operating data and inspections.
- Insurance Compliance Tool – provides a mechanism for submission of insurance coverage data and waivers, and contains review, approval, and tracking mechanisms.
- Multifamily Securities Investor Access – provides investors and asset managers with securities and underlying collateral data.
- Consent Request Tracker – enables monitoring of a servicer's and Freddie Mac's performance on borrower requests on portfolio, warehoused, and securitized pools.
- PCS Surveillance Workstation – the private client services workstation supports surveillance for K-Deal transactions.

- Document Management System, or DMS – a web-based application supported by IBM to enable electronic imaging of all loan documentation.
- Resource – an application that stores and provides access to appraisal data for validation purposes.
- Multifamily Eligibility System, or MES – stores seller/servicers' annual and other required business certifications plus their submitted organizational changes, custodial account information, and contact information.

In 2016 to reduce seller/servicers' duplicative data entry, the company rolled out a business-to-business portal, which provides seller/servicers with a single access point to exchange information and data between their systems and multiple Freddie Mac multifamily applications.

Freddie Mac has made other technology improvements in the past few years and has more in process. For example, it expanded the consent tracker application to include borrower experience reports, top five request types reports, and aging transfer reports. It enhanced the Multifamily Securities Investor Access to meet master-servicing obligations and support new transaction types. It had made several functionality upgrades to the property reporting system. The SMART system moved to an improved technology architecture for better scalability and leverages another application that integrates Google Maps functionality for all loans boarded within the past five years and offers a filtering data-query capability. The maps application is available on desktops, tablets, and smartphones and results can be downloaded to Excel.

As a longer-term plan, the company has embarked on a "digital transformation" initiative intended to further streamline the technology platform with more straight-through processing capabilities and other enhancements to simplify and improve the seller/servicer, investor, and borrower experience.

Within the multifamily division, each department has its own business-continuity plan containing information needed to recover its business during a disruption. These plans are updated at least annually or as needed and must comply with Freddie Mac's corporate policy. In addition, each department maintains a documented business-impact analysis assessing the potential financial, operational, and reputational impacts to the company's multifamily business resulting from any potential disruption. It must include a projection of recovery timeframes and resource allocation necessary to either mitigate risks or support recovery efforts during an event. These are also updated at least annually.

In recent years, Freddie Mac improved its disaster-recovery and business-resumption capabilities by establishing a secondary data center in Colorado through a technology services vendor. It also designated a hot site in Chicago to relocate key employees in the event of a disaster. Daily, the technology team backs up application and network data and transfer the data backups to a national vendor's storage facility. Freddie Mac noted that it also performs real time backups to its alternate servers. Additionally, the company has cross-trained some employees at its hot site location, who are not normally working within asset management and operations, to assume specific tasks if needed. In 2014, the company lowered its targeted recovery time for key functions, most notably processes involving cash processing and investor reporting, which requires a maximum four-hour restoration delay. However, for other asset-management and transactional functions, the maximum permitted recovery time is one week. Furthermore, for internal-facing functions involving the company's balance sheet portfolio, the permitted recovery time is longer. The company follows a quarterly testing cycle for business-continuity/disaster-recovery readiness and test results have been satisfactory.

Assessment: The company has an effective and strengthened technology platform based on its implementation of many application-specific and broader enhancements in the past few years to increase its data-management capabilities and operational efficiency. We will also monitor the company's progress with its longer-term "digital transformation" initiative. We also observe that the company has steadily improved its data backup routines and has established sound disaster-recovery/business-resumption protocols. However, the company's stated allowable maximum timeframes to recover some noncash functions still exceed industry norms. Freddie Mac acceptably addresses cybersecurity risk mitigation and awareness through increased employee-training exercises and system-penetration testing.

Audit, Compliance, and Procedural Completeness

An outside auditing firm examines Freddie Mac's financial condition as a public company. The FHFA also audits the company annually for soundness risk. In addition to these outside audits, the company maintains an internal-audit division with a direct reporting line to the audit committee of its board of directors and a dotted line to the company's CEO.

The company's multifamily business line continues to be assigned medium and low risk scores, which also factor the results of past audits. Based on this scoring matrix, the internal-audit division examines most multifamily departments every two to four years depending on the functional area.

At least annually, the internal-audit group, in conjunction with the governance and business services department, develops its scope and schedule for each division and functional area. Although the internal-audit schedule for asset management and operations is two years for cash-processing/accounting, three years for surveillance and data management, and four years for special servicing, the company follows the three lines of defense concept of risk management. The business line's own risk-management procedures serve as the first line of defense, the enterprise risk management's oversight duties serve as the second defense line, and the internal-audit division's examinations serve as the third level of defense.

The governance and business services department conducts quarterly reviews of all functions. The scope includes how each department handles operational, financial, and control risks related to changes in personnel, technology, processes, or outside events. This includes testing over internal controls for financial reporting. The governance and business services department also manages internal and external relationships with oversight, audit, and regulatory agencies. This team monitors compliance gaps between the activities of the multifamily division and enterprisewide requirements as well.

The internal-audit division conducted four audits in 2018 encompassing multifamily asset-management surveillance, special servicing, products, and accounting/reporting. The audits received satisfactory opinions with only one or two minor issues cited in each. In 2016, the department conducted an audit of the data integrity and rules management department, which was graded satisfactory. It also conducted audits that year involving loan servicing, cash desk/processing, and operational close. These audits had some material findings that have been largely corrected.

The governance and business services department coordinates and populates the multifamily division's policies and procedures on a shared drive. In addition, it provides security access to that drive based on defined user roles. Directors and above in the multifamily division ensure procedures related to processes they manage are reviewed and approved annually or changed as needed according to a delegated authority matrix. The multifamily credit policy department approves all divisional procedures to ensure alignment with credit policies.

Assessment: Freddie Mac's asset-management and operations department continues to have a thorough audit and compliance regimen. Although the internal audits for asset management and operations are less frequent than industry norms, the company's composite review and control practices are sound when factoring its governance and business services' activities and external firms examining Freddie Mac's operational and financial risks. In addition, Freddie Mac's extensive policies and procedures, combined with its compliance protocols embedded in its technology applications, further support the company's efforts to ensure controlled asset management.

Legal Liability and Corporate Insurance

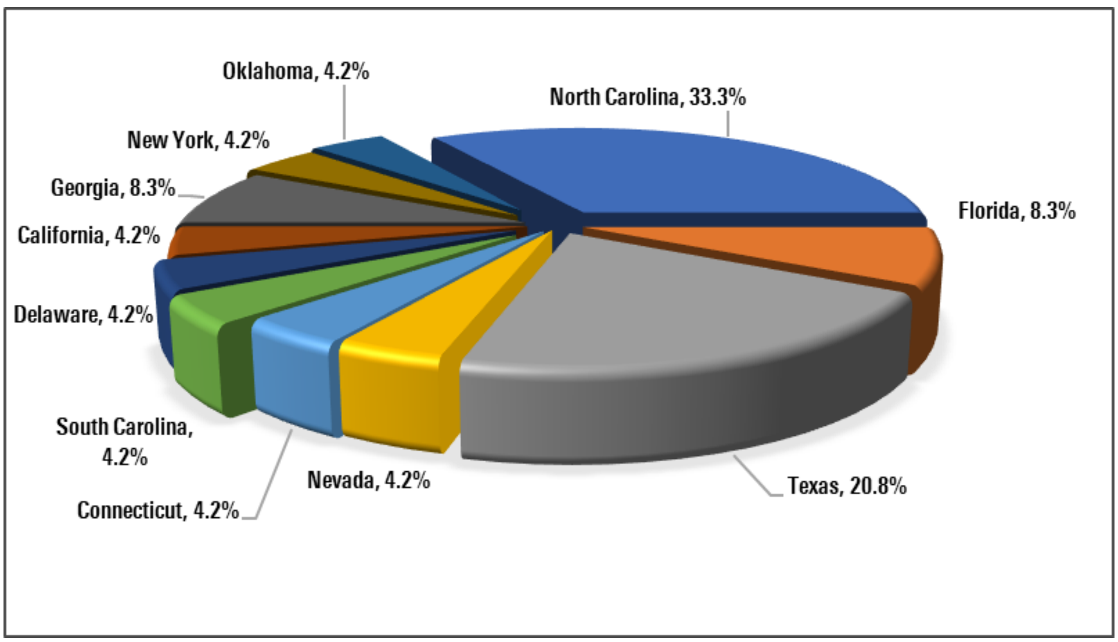
The company reported that it is not involved as a defendant in any material lawsuits involving its special-servicing general practices and operations. Furthermore, it reported that it has directors and officers, and general liability coverage for multifamily REO properties in amounts that appear more than adequate. Freddie Mac also has procured a separate policy for data protection coverage. The company stated it does not carry errors and omissions coverage because it does not provide professional advice or consultation in the course of its business.

Assessment: Freddie Mac, based on its representations, effectively addresses its corporate insurance needs and we are not aware of any outstanding material servicing lawsuits that could impair its operations.

Special-Servicing Administration

As of June 30, 2018, Freddie Mac's total active special-servicing portfolio contained 24 loans with a combined UPB of $633.8 million. It noted that 17 of these loans entered special servicing because of their imminent maturity. However, all loans were performing.

Chart 2 – Active Special-Servicing Asset Count by Geographic Concentration*



*As of June 30, 2018. Figures may not sum to 100% because of rounding.

Asset-Review Process

Upon the transfer of a loan to special servicing, asset managers contact the borrower and require the borrower to sign a prenegotiation letter before workout discussions. Asset managers prepare asset plans for all loans regardless of size. The asset business plans, which are performed on the SMART system, also incorporate NPV analyses, as applicable, which are calculated through Excel-based models. SMART also contains embedded guidelines with checklists to ensure that asset cases contain all necessary data and analysis.

Internal guidelines require loan asset managers to complete and submit initial business plans for approval within 90 days of transfer if the loan is in default and 120 days if it is not. REO asset managers must complete and submit initial business plans within 90 days of transfer or the loan becoming an REO. There is no committee approval process; instead, all business plans, and subsequent cases containing specific resolution parameters and terms not covered in the original plan, are approved through a delegated authority matrix. Freddie Mac reported that it generally takes one to three business days from closing to deliver fully executed loan modification documents to corresponding seller/servicers.

As a master servicer and guarantor for its portfolio-held loans and several of its securitized transactions, Freddie Mac has the authority to advance funds on delinquent loans. To deliberate, document, and control such decisions, a senior-management advancing committee monthly reviews loan risk profiles, advances to date, and recoverability relative to estimated collateral values.

> **Assessment:** Freddie Mac has proactive and controlled asset analysis and recovery practices based on its stated policies and procedures governing approvals, timeframes for completing resolution plans, and sample cases. The asset-management system serves as an effective tool to track asset-resolution activities. The company's stated average time to deliver transaction closing files to servicers is quite short. However, the expected timeframe for completing loan business plans is somewhat longer compared with other special servicers. Although Freddie Mac has acceptable controls through its authority delegations for deliberating and approving asset resolutions, a committee approval process is a generally accepted best practice in most cases.

REO Property Management

The company uses nationally qualified property-management companies, all of which are subject to annual review and recertification. Each property manager receives a standard engagement contract, which includes a policies and procedures manual. Freddie Mac has strict guidelines for qualifying property managers to its approved list. The prospective property manager must provide its geographic coverage, relevant experience, assets, properties or units under management, financial statements, policies and procedures, insurance, qualifications and certifications, and reference any past work with Freddie Mac. Special-servicing staff also meet with the principals and local managers of the company. In addition, Freddie Mac inspects the property-management company's assets under management as part of the review. Freddie Mac requires three approval levels before adding property-management companies to the approved vendor list.

In general, the company's property-management policies require a single trust account for receiving rental income and disbursing operating expenses for REO property management and accounting. The assigned REO asset manager reviews monthly operating-statement packages from property-management companies. The asset managers also are responsible for reconciling the bank accounts. Policies and procedures delineate the responsibilities of property-management companies and address property preservation projects, which may involve asset managers engaging and overseeing other third-party vendors. Freddie Mac also maintains its own property and liability coverage for REO assets. Having acquired only a few REO properties in recent years, Freddie Mac has not conducted any property-management company audits.

Freddie Mac has not held REO properties for long periods given that its policies dictate liquidation within nine to 12 months and capital investments made only to address life-safety issues or if the expenditure can be recouped within 90 days.

> **Assessment:** For its low volume of REO activity, Freddie Mac has acceptable property manager oversight controls and reporting practices. The regimen for vetting and approving new property management companies is thorough. Although Freddie Mac noted that its REO properties have generally not involved significant cash management, the company does not follow the customary industry practice of having accounting staff independently reconcile property operating bank accounts.

Vendor Oversight

The company maintains a centralized list of approved service providers for needs such as appraisals, engineering and environmental assessments, property management, brokerage, and legal. Typically, vendors are either drawn from the approved list or recommended by the asset manager for inclusion based on the vendor's submitted application. The team leader and head of special servicing approve recommendations for property-management companies based on their delegated authority. For appraisal firm engagements, the asset manager works in consultation with governance and business services' internal valuation unit. This team, consisting of MAI-certified appraisers, identifies the appropriate appraiser, manages the engagement agreement, tracks the pending job for completion, and reviews the report before delivery to asset management. Qualified brokers must submit marketing proposals to be considered for engagement. The surveillance unit manages the selection of environmental and engineering firms. The multifamily division's in-house legal staff controls the engagement process for retaining outside counsel and reviews legal invoices for payment in consultation with the asset manager.

> **Assessment:** Freddie Mac demonstrates sound controls for vendor engagements and oversight. The company's vendor performance tracking process through the asset-management system also strengthens this function.

Borrower Consent Requests

The Freddie Mac Servicing Standard

In 2014, the asset-management and operations group established a new standard, as set forth in its seller/servicer guide, to prioritize and improve the borrower experience in its securitized transactions. Freddie Mac designed the standard, which it incorporates into its PSA agreements to increase transparency and communication among all involved parties and, in turn, protect the Freddie Mac brand by strengthening the company's post-securitization oversight. The effort has focused especially on streamlining the consent approval process. It established new underwriting guidelines, required each seller/servicer to designate a chief servicing officer to certify consent submissions, and revised fee structures among transaction participants to provide added incentive for servicers to enhance their quality levels. Freddie Mac also created for itself the role of servicing consultant and added the concept to its PSAs aimed to increase transparency into its credit and servicing philosophy and methodology.

Consent-Request Management

To support the special-servicing team with underwriting borrower consent requests received through seller/servicers, the company uses two vendors although neither has credit-decision authority. As noted, Freddie Mac upgraded its consent request tracker application in 2016 with a business-to-business portal for seller/servicers' submissions. In the past few years, the company also has streamlined its procedures for property-management changes and granting extra time for borrowers to complete required property repairs.

Freddie Mac maintains a 15-day internal approval timeline for most consents and a 30-day timeline for complex cases. The company measures completion rates from the time the seller/servicer receives the complete borrower consent request package to its issuance of an approval letter to the borrower. This method helps Freddie Mac measure timeliness from the borrowers' perspective and assess servicers' performance meeting the timeline standard.

During the first six months of 2018, as a special servicer, Freddie Mac processed or provided oversight for 2,226 borrower consents, including 752 repair-escrow disbursements, 386 transfers of ownership or loan assumptions, and 321 property-management changes. The company processed 61% of repair-escrow consents, 55% of transfers of ownership/assumptions, and 48% of property-management change requests within required timeframes. By comparison, during the first six months of 2017, the company handled 2,185 borrower consents, including 831 repair-escrow requests, 420 transfers of ownership/assumptions, and 231 property-management changes.

Table 4 – Borrower-Consent Requests Processing Volume

	First-Half 2018	Full-Year 2017
Repair-Escrow Releases	752	1,610
Transfers/Assumptions	386	781
Property-Management Changes	321	548
Total	1,459	2,939

Assessment: The company has sound and proactive procedures, along with requisite staffing resources and tracking tools, to analyze and approve borrower-consent requests in a timely, yet thorough manner.

Managing Conflicts of Interest

Freddie Mac is not the named special servicer on its standard K or SB securitizations, nor does it retain any of the first loss or unguaranteed tranches in those transactions. Furthermore, it is not affiliated with property-management, brokerage, or appraisal firms. The company acts as a special servicer only for its owned book of business and for certain other securitizations or transactions principally involving single assets or sponsors, revolving trust and tax-exempt loans, and aggregated loans not yet eligible for K-Deal inclusion.

Assessment: Freddie Mac has no discernible conflicts of interests, such as those that may appear with other special servicers that may hold interests in lower-rated tranches of a security and/or use affiliates for property managers, brokers, or valuation providers.

Asset Resolution and Recovery Performance

Freddie Mac's asset-resolution activity has been light and all on the balance-sheet portfolio. Most special-servicing has constituted extra-intensive monitoring, combined with some degree of intervention in many cases, of higher-risk rated performing loans and especially those with upcoming maturities. In most loan liquidation cases, Freddie Mac has achieved full payoffs. However, the company has modified several loans and executed forbearances, including situations granting payment relief to hurricane-affected borrowers.

During 2017, 32 specially serviced loans paid off in full. Freddie Mac modified or otherwise corrected five other loans. Several of these resolutions involved loan maturity situations. It also completed three foreclosures and sold one of the resulting REO properties in 30 days at 112% of its estimated market value. Additionally, Freddie Mac charged off a small loan as debt forgiveness on a nonprofit cooperative property.

In the first half of 2018, Freddie Mac completed 10 full payoffs and modified/corrected 10 loans. Several of these resolutions also involved loan maturity situations. It also completed a discounted payoff with net proceeds equal to 111% of value. Additionally, it sold its two remaining REO properties at a combined 109% of estimated market value and within nine months of taking title.

Table 5 – Special-Servicing Loan Portfolio Activity (First-Half 2018)

	Total Vol ($ Mil)	Total Loans	Total Properties
Loan Portfolio at Beginning of Period	307.6	18	16
Total Transfers Into Special Servicing (Monetary Defaults)	584.3	27	27
Loans Fully Resolved:			
Modified or Corrected Loans	(126.9)	(10)	(8)
Discounted Payoffs	(3.4)	(1)	(1)
Full Payoffs	(125.7)	(10)	(10)
Total Loan Resolutions	(256.0)	(21)	(19)
Other Cash Recoveries Reducing Portfolio	(2.1)		
Loan Portfolio at End of Period	633.8	24	24
Average Loan Size at End of Period*	26.4		
Loans Classifed as Nonperforming (%)	0	0	

Table 6 – Special-Servicing Loan Portfolio Activity (Full-Year 2017)

	Total Vol ($ Mil)	Total Loans	Total Properties
Loan Portfolio at Beginning of Period	174.0	20	20
Total Transfers Into Special Servicing (Monetary Defaults)	667.0	39	37
Loans Fully Resolved:			
Modified or Corrected Loans	(35.2)	(5)	(5)
Full Payoffs	(469.5)	(32)	(32)
Total Loan Resolutions	(504.7)	(37)	(37)
Completed Foreclosures and Converted to REO	(26.9)	(3)	(3)
Net Adjustments and Charged-Off Loans	(1.8)	(1)	(1)
Loan Portfolio at End of Period	307.6	18	16
Average Loan Size at End of Period	17.1		
Loans Classified as Nonperforming (%)	7.8	11.1	

Table 7 – REO Portfolio Activity*

	First-Half 2018		2017		2016	
	UPB ($ Mil)	Properties	UPB ($ Mil)	Properties	UPB ($ Mil)	Properties
Portfolio Volume- Beginning of Period	16.1	2	0	0	0	0
Completed Foreclosures	0	0	26.9	3	11.3	1
Sold Properties	(7.0)	(2)	(10.8)	(1)	(3.6)	(1)
Other Adjustments	(9.1)	0	0	0	(7.7)	0
Portfolio Volume- End of Period	0	0	16.1	2	0	0
Sold REO- Net Proceeds/Value (%)		109.2		111.7		88.5**
Average Hold Time as REO (months)		8.7		1.0		11.5

*All on balance sheet. **A substantially impaired asset with the "as is" value based on the gross sale price.

Assessment: Freddie Mac achieved successful multifamily asset recovery results during 2017 and the first half of 2018. The high number of resolutions via full payoffs reflects Freddie Mac's policy of placing imminently maturing loans into special servicing several months ahead of their maturity dates. While it has managed only a few REO properties in recent years, average hold times have been relatively short and recovery proceeds have exceeded estimated collateral values in most cases.

Investor and Master-Servicer Reporting

As of June 30, 2018, Freddie Mac was a named special servicer on 11 K-Deal transactions. To date, there have been no loans in these transactions officially transferred into special servicing. Nevertheless, in large part because of the company's financial interest in these transactions by virtue of its guarantee portion, it does obtain the CREFC Investor Reporting Package from the transactions having external master servicers. The surveillance unit performs quarterly risk ratings on all loans as well. CREFC's IRPs are downloaded into the unit's external-facing multifamily securities investor access application. In addition, the surveillance team also reconciles monthly bond-level data for internal reporting and bond guarantee payments. The surveillance unit's breadth of duties is covered in more detail below in our assessment of Freddie Mac as a trust advisor.

Assessment: Freddie Mac demonstrates effective capabilities and is well-experienced with special servicer-related reporting for its securitized multifamily transactions.

Trust-Advisor Administration

Freddie Mac is formally named as the operating trust advisor on the Impact Funding Affordable Multifamily Housing Mortgage Loan Trust 2015-2 (Q-002) and FREMF 2015-KPLB Mortgage Trust securitizations. It also serves informally as a trust advisor/servicing consultant with similar duties on the Impact Funding Affordable Multifamily Housing Mortgage Loan Trust 2014-1 (Q-001) securitization. To date, these transactions have performed well and not triggered any trust advisor activity.

While not a named trust advisor in any other transactions, Freddie Mac performs functions that would be required of a CMBS named trust advisor on its own portfolio, and more informally on K-Deal transactions where it retains an economic interest by virtue of its guarantees. Because of such economic interest, the company, principally through its surveillance and compliance-management teams, tends to be proactive in its surveillance and servicer review protocols. While the company would not be able to possess a direct economic interest in a transaction for which it is the named trust advisor, its surveillance work, as a guarantor and brand manager, establishes the framework for it to serve as a trust advisor on a purely third-party basis.

The surveillance department has five units: portfolio surveillance; master servicing/reporting; guarantor risk and external relations; rehab/preservation, valuation, and physical risk; single-family rental; and LIHTC equity (low-income housing tax credit). Through these teams of asset managers and analysts, the department monitors balance-sheet and securitized-loan performance and manages related seller/servicer reporting and the risk-rating process.

As of June 2018, Freddie Mac monitored 223 K deals with a total UPB of $216.41 billion, up from 170 transactions representing $174.90 billion as of June 2017. It also monitored 51 SB deals with a total UPB of $13.58 billion, up from 33 transactions representing $7.50 billion from the year before. Including balance-sheet and other transaction types, Freddie Mac's surveillance universe contained more than 22,000 loans.

Freddie Mac risk rates all loans on a scale ranging from 1 to 10, with loans rated from 1 to 6 representing low risk, 7 classified as moderate risk, and 8 to 10 considered high-risk loans. Loans with a rating of 8 are evaluated quarterly for impairment and those with a rating of 9 are considered already impaired. Asset managers and analysts are assigned portfolios primarily by seller/servicer so that each monitors a mixture of high-risk, moderate-risk, and low-risk loans.

The surveillance department performs the following key functions:

- Monitors the credit quality and performance of the multifamily loan portfolio, guarantees, and the K-Deal securitization program, including property financial statement inspection reviews;
- Performs quarterly risk rating and classifications on all loans and guarantee obligations for internal, financial, and regulatory reporting;
- Informs the organization and key stakeholders of risks and issues in the portfolio and K-Deal/SB-Deal securitizations;
- Identifies market and segment trends and borrower activity to drive new and existing business strategies;
- Supports stakeholder relationship management and facilitates the information flow among all parties; and
- Manages the criteria and guidelines on physical risk, including environmental and engineering assessments and property inspections.

The company notes that because analysts perform the above-listed functions and the surveillance team for securitizations conducts a monthly review and prepares a compilation of trustee reports and seller/servicers' CREFC IRP submissions, they are familiar with the IRP content. Through the Multifamily Securities Investor Access application, securitization investors receive monthly deal performance results.

As part of this review, the team researches issues causing delinquent loans and monitors specially serviced loans. Surveillance analysts will personally conduct site inspections of properties collateralizing high-risk loans or in portfolios where the servicer elects not to conduct the inspections. In addition, the surveillance team reviews and reconciles language in the various PSA agreements to trustee and servicer actions and bond cash flows. Freddie Mac reported that it will remit payments to the trust if a servicer erroneously passes through an inadmissible or wrongly calculated fee, and then seek reimbursement from the servicer. Loans approaching maturity within six months are automatically transferred within Freddie Mac's system to special-servicing status for heightened management.

The servicer and client-management group assists the surveillance team to collect seller/servicers' quarterly and year-end operating statement analyses, loan management forms that analyze borrowers' compliance with the loan documents and highlight any potential problems, and annual inspection reports. Freddie Mac receives this information through its Property Reporting System on a predetermined schedule. The information is then downloaded to the SMART system for surveillance analysis. If errors are detected on the submitted information, the analysts notify the servicers and request corrected versions be resubmitted through PRS. Freddie Mac tracks servicer performance with assessment submissions and provides feedback to the servicer.

The customer compliance management unit performs regularly scheduled seller/servicer audits with frequency based on a documented methodology that considers previous audit results and the performance of each seller/servicer on the various assessment forms. In addition, each year Freddie Mac conducts a performance review of each conventional, TAH, and Small Balance Loans seller/servicer. The review encompasses feedback from the production, underwriting, and asset-management units, as well as audit findings. Freddie Mac maintains a regimen of weekly dashboard and system reports to display loan monitoring, insurance, and assessment collection activities. An Asset Management and Operations Advisory Council, which includes eight representative seller/servicers, meets quarterly to address Freddie Mac's seller/servicer guide requirements.

Assessment: Freddie Mac is a qualified trust advisor based on its rigorous oversight practices of its seller/servicers and special servicers and the fact that it soundly performs many of the functions required of named trust advisors in securitized transactions. The company has thorough protocols and the expertise to monitor servicer/special servicer performance both for its own book of business and for its securitized transactions. Its robust surveillance practices and strict seller/servicer reporting regimen combined with its personnel and technology resources further support Freddie Mac's ability to serve as an effective trust advisor on transactions where it is currently named and for future ones.

Ranking Definitions

The numerical scales of MOR CS1 to MOR CS4 for commercial mortgage special servicers and MOR TA1 to MOR TA4 for commercial mortgage trust advisors are defined, respectively, as follows:

1	Exceeds prudent standards in key areas of risk
2	Demonstrates proficiency in key areas of risk
3	Demonstrates compliance in key areas of risk
4	Demonstrates lack of compliance in one or more key areas of risk

A company assigned a ranking of at least MOR CS3/TA3 is deemed to comply with what we view as the minimum prudent standards and requirements for the company's operational category and role. Morningstar's operational risk assessments methodology and all published reports are available at www.morningstarcreditratings.com.

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