



Berkadia Commercial Mortgage LLC

Commercial Mortgage Servicer / North America

October 2019

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Servicer Summary

BERKADIA®

Berkadia Commercial Mortgage LLC (Berkadia, or the company), a joint venture between Berkshire Hathaway and Jefferies Financial Group Inc. (Jefferies, formerly Leucadia National Corporation), is a commercial real estate (CRE) lender, broker, servicer and third-party outsource provider of CRE servicing functions. The company maintains three business lines: commercial mortgage banking, investment sales and commercial mortgage servicing. Berkadia originates commercial mortgage loans for government-sponsored entities (GSEs), third parties (such as life companies, private investors and institutional banks) and CMBS transactions, as well as for its own portfolio.

The servicing portfolio has grown by balance through increased originations as well as subservicing for third-party clients. Since year-end 2016, Berkadia's overall servicing portfolio has declined 8% by loan count as of June 30, 2019; however, Berkadia's total servicing portfolio is up 20% by balance for the same timeframe, reflecting a continued trend in larger balance loans as legacy CMBS loans mature. As of June 30, 2019, 55% (by loan count) of Berkadia's total portfolio was subserviced for third parties that include commercial banks, insurance companies, investment banks, private equity firms, as well as other servicers. The company also retains primary servicing for approximately 90% of internally originated loans. During 2018, Berkadia originated \$26.1 billion in commercial mortgages and \$12.8 billion through June 30, 2019.

Servicer Ratings

- Fitch rates primary and master servicers, which protect the interests of the certificateholders 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 real estate-owned 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 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 (-) as well as the flat rating.

Ratings

Commercial Primary Servicer	CPS1
Commercial Master Servicer	CMS2

Related Research

- [Fitch Affirms Berkadia's Commercial Servicer Ratings \(September 2019\)](#)

Related Criteria

- [Criteria for Rating Loan Servicers \(February 2017\)](#)
- [Criteria for Rating North American Commercial Mortgage Servicers \(February 2017\)](#)

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Key Rating Drivers

Company/Management: Berkadia benefits from strong sponsorship support contributing to a stable and growing servicing platform. Berkshire Hathaway and Jefferies each own 50% of the company which has been servicing commercial mortgages since 1994. Berkadia entered the single-family rental market (SFR) in 2018 and added seven Freddie Mac SFR transactions collateralized by 5,675 homes with an outstanding balance of \$643 million. Berkadia also became both a Freddie Mac and Fannie Mae approved small balance lender in 2019.

Staffing and Training: Berkadia employs 68% of its servicing staff through Berkadia Services India Private Limited (Berkadia India), the company's captive offshore operation, the largest percentage among servicers rated by Fitch Ratings. Berkadia extensively trains offshore employees and frequently makes training visits to India and trains key Indian personnel in the U.S. Berkadia's employee base has continued to decrease as ongoing technology investments create efficiencies limiting the need to replace staffing departures.

The company maintains a strong management group, which has stabilized following two consecutive years of elevated management turnover. Berkadia maintains a deep management bench with 33 senior and middle managers who collectively average 24 years of experience and 17 years of company tenure. Additionally, Berkadia continues to focus on employee retention through robust training programs and an evolving employee development program.

Technology: Berkadia uses McCracken Strategy release 17.6 as its primary servicing application, which is integrated with a suite of ancillary applications. Fitch notes as a strength Berkadia's commitment to investing significant resources in technology development. Berkadia maintains 40 development teams of six to seven employees each and has taken additional office space in India and in its headquarters to accommodate growth in the IT group. Berkadia continues to focus on building a single cloud-based database across the company to improve processing times and create a single repository for data. The database forms the foundation for other applications like the proprietary interactive market analysis application, the new workflow tool called Mega Workflow, and the redesigned IRIS application which consolidated data from various systems and allowed Berkadia to sunset a legacy reporting application. Additionally, the company's proprietary borrower website continues to be redesigned for better user experience and increased access to loan data.

Procedures and Controls: Berkadia maintains a comprehensive reporting process to manage output from its servicing operations, using data validation reports, exception reporting and dashboards. Additionally, the company's risk, control and compliance department samples servicing functions for compliance with internal policies, regulations, and pooling and servicing agreements. Berkadia performs annual risk assessments across the company to develop audit plans, and internal audits are performed on a 24-month rotation.

Loan Administration: Berkadia maintains a quality control-focused platform for primary servicing, predominantly utilizing operational staff in India, while maintaining subject-matter expertise in the U.S. The use of its India operations provides the company with significant scale that can facilitate planned future growth while minimizing added costs to the platform.

Financial Condition: While Fitch determined the company's short-term financial viability adequate to support the servicing platform and its liquidity sufficient to meet advancing obligations, the lack of an investment-grade rating limits the master servicer rating.

Company Experience Since

CRE Servicing	1994
CMBS Servicing	1994
Overseeing Primary Servicers	1994

Operational Trends

Business Plan	Stable business plan with steady flow of new business offsetting portfolio declines	■
Servicing Portfolio	Year-over-year loan count change of approximately 10%	■
Financial Condition	Outlook/Trend	■
Staffing	Staffing changed less than 12% +/-	■
Technology	Best in class to improving technology, well managed upgrades	▲
Internal Controls	Strong/Consistent internal control resources; fully articulated three lines of defense; no material audit findings.	▲
Servicing Operations	Stable operations, no material changes year-over-year	■

Note:

Approximately one-half of the servicing portfolio is subserviced on behalf of third-parties (55% by loan count), of which Berkadia performs full subservicing for 65% (by loan count) and noncashing subservicing for 35%. Noncashing subservicing refers to a select number of servicing functions performed by Berkadia, which may not include cash management.

Company Overview

Berkadia is a limited liability company and through a series of holding companies is ultimately a joint venture between Jefferies and Berkshire Hathaway Inc. In December 2009, the company began operations as Berkadia by acquiring the commercial mortgage origination and servicing business of Capmark Financial Group Inc. through Capmark's bankruptcy. The platform has been operating since 1994, previously as GMAC Commercial Mortgage.

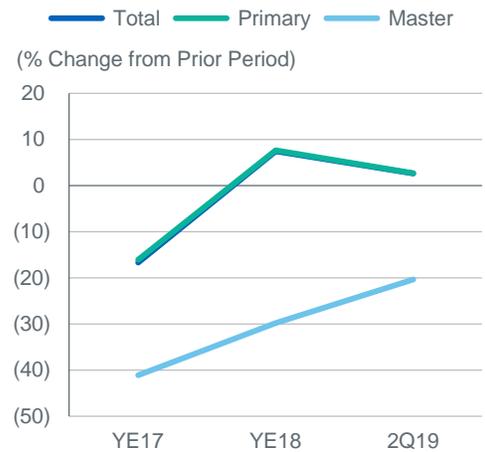
The company services over 18,400 CRE loans totaling approximately \$268.4 billion across its client base, which includes GSEs, insurance companies, conduits, banks, third parties and its own proprietary portfolio. Berkadia's largest servicing clients include the U.S. Department of Housing and Urban Development (HUD), Freddie Mac and Fannie Mae. At June 30, 2019, 17% (by loan count) of the total servicing portfolio was in CMBS transactions, while the remainder was weighted toward the company's subservicing for its third-party clients (??%), GSEs (19%) and life companies (8%).

Berkadia's subservicing portfolio consists of 10,088 loans totaling \$159.8 billion, which has grown as the company continues to add new clients and expand relationships with existing clients. The subservicing relationship with KeyBank began in 2012 and as of June 30, 2019 represented 1,221 loans totaling \$20 billion. The KeyBank portfolio represents 12% (by loan count) of the subservicing portfolio for third-parties and 7% of Berkadia's total servicing portfolio, down from 18% and 9% at the last review, respectively. Fitch expects the KeyBank portfolio to continue to decline as runoff exceeds additional assignments.

During 2018, Berkadia originated \$26.1 billion in commercial mortgages and \$12.8 billion through June 30, 2019, continuing the overall upward trend from \$25 billion originated in 2017, \$20.2 billion in 2016, and \$22 billion in 2015. During 2018, the company was the number two HUD lender, second largest Fannie Mae lender, and third largest Freddie Mac lender. Berkadia contributed over \$10.1 billion to Freddie Mac K-series transactions during the 12 months ending June 30, 2019, up from \$6.9 billion at the previous review. The company also contributed approximately \$2 billion to CMBS conduit transactions, slightly above the prior year. Berkadia also maintains annual origination volumes of approximately \$3 billion for life companies, as well as approximately \$200 million in annual production for its proprietary balance sheet loan program, which focuses on bridge loans for stabilized properties seeking permanent GSE financing.

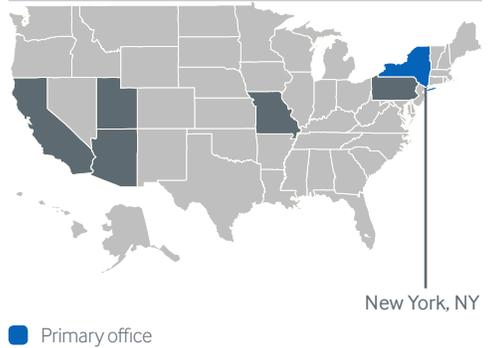
Berkadia is headquartered in New York and maintains its U.S. servicing operations in Ambler, PA, and its offshore operations in Hyderabad, India. The company has servicing staff located in New York, Irvine, CA, St. Louis, MO, Midvale, UT, and Scottsdale, AZ. Berkadia continues to place investment sales and mortgage banking personnel together to help improve customer service and expand business lines.

Servicing Portfolio Growth



Source: Berkadia Commercial Mortgage LLC.

Office Locations



Company Overview *(Cont'd)*

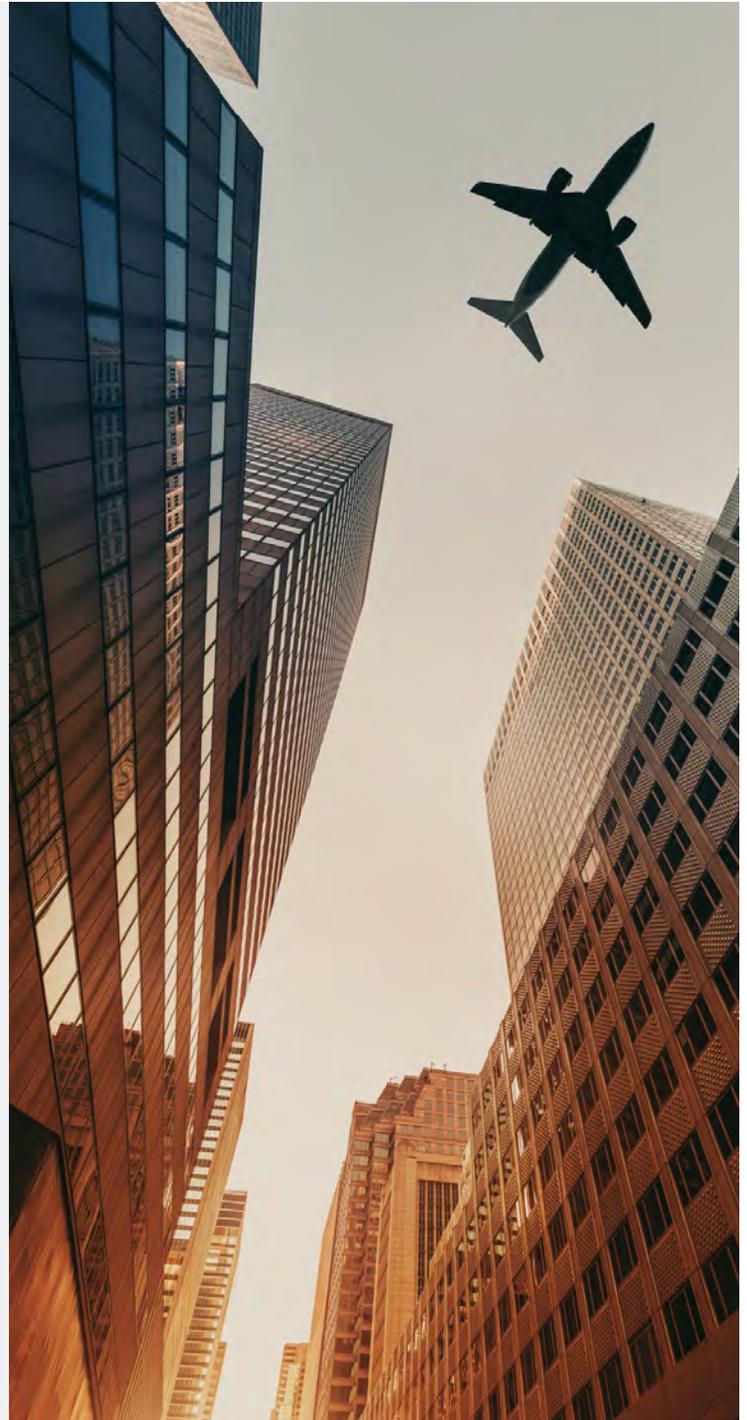
All Servicing Types

	6/30/19	% Change	2018	% Change	2017
Total Servicing					
UPB (\$ Mil.)	268,382.3	14	235,880.1	15	205,911.9
No. of Loans	18,491	3	18,019	7	16,769
Primary Servicing					
UPB (\$ Mil.)	267,800.2	14	235,247.1	15	205,186.5
No. of Loans	18,434	3	17,950	8	16,677
Master Servicing					
UPB (\$ Mil.)	6,170.4	(14)	7,149.9	(39)	11,795.8
No. of Loans	881	(20)	1,106	(30)	1,576

Note: Primary servicing numbers include 3,547 loans that are limited subservicing.
Source: Berkadia Commercial Mortgage LLC.



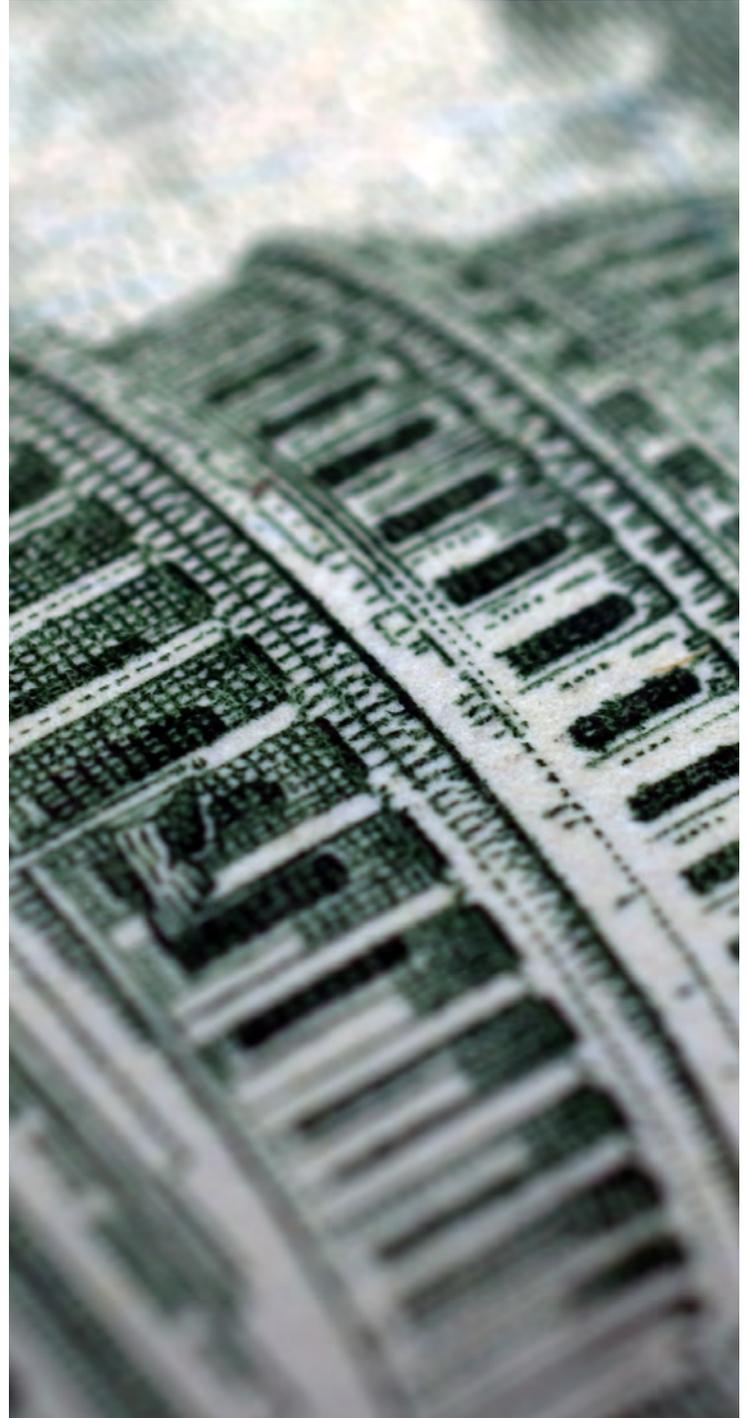
“Berkadia maintains a significant investment in its offshore servicing platform. The Hyderabad, India operations center provides Berkadia flexibility and scalability relative to its servicing volume. The company’s India operations have been a captive offshore platform for 16 years and employ 68% of its servicing staff, the largest percentage among Fitch-rated servicers.”



Financial

Fitch does not maintain a credit rating for Berkadia; however, Fitch performed a financial assessment of the company and determined its short-term financial viability adequate to support the servicing platform. Financial condition carries greater weight in master servicer ratings given a master servicer's need to advance payments for securitized loans. In contrast to its master servicing peers, typically divisions of investment-grade banks or insurance companies, Berkadia is not publicly rated and maintains a smaller balance sheet.

Fitch's assessment of Berkadia noted continued profitability, larger scale relative to its peers, decreasing leverage and significant management experience. Fitch also noted Berkadia's reliance on short-term secured funding and historically high dividend payout rates of over 100%. A stress analysis of Berkadia's master servicing portfolio was performed to assess advancing and indicated third-party credit facilities, cash and liquid investments on the company's balance sheet, as well as the financial benefits of its parent's investment in the platform, provide liquidity to support advancing obligations in a market downturn.



Employees

As of June 30, 2019, Berkadia maintained a master and primary servicing staff of 519 employees, down from 549 in 2018. Berkadia had 351 employees in the Hyderabad office and 168 in the U.S., compared with 382 in Hyderabad and 167 in the U.S., respectively, in 2018. In the past 12 months, Berkadia's master and primary servicing platform experienced 18% overall turnover, consistent with 21% and 19% at Fitch's prior two reviews. Berkadia had 98 departures during Fitch's most recent review (74 in India and 24 in the U.S.), down from 122 departures (91 in India and 31 in the U.S.) at Fitch's last review.

In the U.S., overall turnover was 14%, down from 18% at Fitch's previous review. The India servicing operations experienced 20% overall turnover, mainly at the staff level, in line with 22% overall turnover at Fitch's last review and comparable to market turnover. In India, the primary drivers of turnover remain a combination of departures for other job opportunities, family reasons and educational aspirations.

Berkadia maintains an experienced and tenured domestic and offshore management team. In the U.S., six senior managers average 28 years of industry experience and 17 years with the company, while four senior managers in India average 17 years of experience and 14 years with Berkadia. Supporting senior management are 22 middle managers in the U.S. who average 24 years of experience and 18 years of company tenure, and one middle manager in India with 14 years of experience and 13 years with the company.

In the past 12 months management turnover fell to 4% from two consecutive years of 29% management turnover across senior and middle managers in the U.S. and India. There were two voluntary senior manager departures in India and one middle manager departure in the U.S. The two senior manager departures in India result in 44% senior manager turnover, which is high due to the small size of the group.

In India, Berkadia employs a senior management council to lead the offshore platform. The council comprises a new site director who has 28 years of experience, coming from one of the leading U.S. investment banks, as well as the SVP of servicing operations, who has 21 years of experience and 11 years of company tenure and two other senior managers from outside servicing.

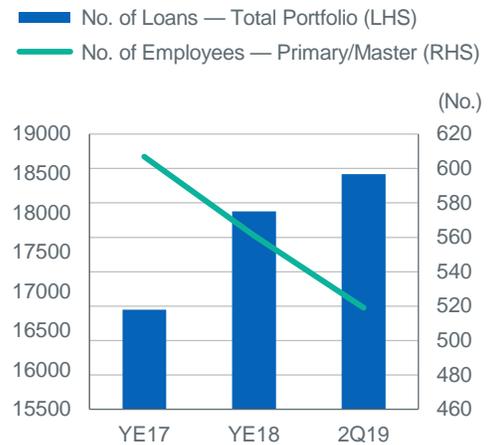
Berkadia maintains a highly experienced U.S. servicing staff that averages 18 years of experience and 12 years of tenure, and is structured on a functional basis for specific tasks, which include asset management, taxes and insurance, and investor reporting. Client services serves as the main point of contact for servicing clients. There is also a separate life company servicing group. The India servicing staff averages six years of experience and five years of tenure and supports all aspects of servicing, including investor reporting, bank reconciliations, cash managed loans, reserves, new loan boarding, Uniform Commercial Code (UCC) processing, taxes and insurance, escrow analysis and financial statement analysis.

Berkadia maintains a small balance servicing platform in Hyderabad staffed by five employees who handle approximately 250 loans. Berkadia does contact borrowers from India and Fitch was not able to assess the quality of these calls relative to other offshore operations; however, historically, borrower contact from India is limited (less than 5% of all calls to borrowers).

Note:

Berkadia's employee base has continued to decrease as ongoing technology investments create efficiencies limiting the need to replace staffing departures. The company maintains a strong management group which has stabilized following two consecutive years of high management turnover. Berkadia maintains a deep management bench with 33 senior and middle managers collectively averaging 24 years of experience and 17 years of company tenure. Additionally, Berkadia continues to focus on investing in employee retention through robust training programs and an evolving employee development program.

Loan and Employee Counts



Source: Berkadia Commercial Mortgage LLC.

Note:

Berkadia's primary servicing platform relies on operational staff in India, while maintaining subject-matter expertise and flexibility Berkadia gained over 16 years of CRE operations in India (among the most mature off-shore operations of Fitch-rated servicers). Berkadia extensively trains its employees and monitors the operations of its captive offshore subsidiary and frequently makes training visits to India and trains key Indian personnel in the U.S.

Employees (Cont'd)

Employee Statistics									
	6/30/18				6/30/18				
	No. of Employees	Avg. Years Industry Experience	Avg. Years Tenure	% Turnover	No. of Employees	Avg. Years Industry Experience	Avg. Years Tenure	% Turnover	
Domestic Primary/Master Servicing									
Senior Management	6	28	17	—	6	29	19	36	
Middle Management	22	24	18	5	19	26	17	23	
Servicing Staff	140	18	12	16	142	20	12	16	
Domestic Total	168	—	—	14	167	—	—	18	
Offshore Primary/Master Servicing									
Senior Management	4	17	14	44	5	16	12	36	
Middle Management	1	14	13	—	2	13	12	50	
Servicing Staff	346	6	5	20	375	6	5	22	
Offshore Total	351	—	—	20	382	—	—	22	
Total Primary/Master Servicing	519	—	—	18	549	—	—	21	

Source: Berkadia Commercial Mortgage LLC.

Training

Berkadia continues to implement its employee development program that seeks to provide an organizational foundation that supports learning and higher performance. As part of this program, Berkadia created four modules focusing on constructive feedback for employees, coaching, aligning expectations and developing employee capabilities. The company maintains Berkadia University, which provides on-the-job training as well as formalized classes. Berkadia also partners with a business school to provide leadership training for current and future leaders of the company.

Fitch found Berkadia's training program comprehensive and that it allows for employee development in the U.S. as well as in India. Training courses offered in the past year include communication styles and customer focused training. The company encourages employees to enroll in the Mortgage Bankers Association's commercial mortgage servicer programs. Approximately 40% of Berkadia's servicing employees were enrolled in these programs.

In 2018, Berkadia employees made 141 training-related trips between the U.S. and India, and 69 during first quarter 2019, including quarterly functional training in India conducted by U.S.-based personnel and audio and video conference training. Berkadia has a corporate trainer responsible for both the U.S. and India. All servicing employees are required to complete training hours commensurate with their years of industry experience. The maximum required training hours are 50. In 2018, the platform averaged 58 hours of training per employee, slightly down from the 67 hours averaged the prior year. The average for U.S.-based employees was 49 hours and 63 hours for Hyderabad-based employees.

Note:

Turnover in Berkadia's Hyderabad office is below historical averages observed by other servicers with employees in India and the market average of approximately 25% for the financial services industry. Berkadia invests significant resources in training and developing employees in India, promoting employee retention and helping address turnover.

Note:

Berkadia maintains a robust training program led by a corporate trainer. The company makes available a diverse program of training courses for its employees both in the U.S. and India. The company mandates that each servicing employee complete training hours commensurate with their industry experience. In 2018, they averaged 67 hours each, well above the average of Fitch-rated servicers.

Operational Infrastructure

Offshore Operations

Fitch periodically reviews commercial mortgage servicers' offshore captive affiliates or outsource firms that perform various servicing functions or portions of servicing functions to assess the effectiveness of processes and controls. As Berkadia's business model relies heavily on its captive, offshore resources, Fitch performed an onsite review of the company's commercial loan servicing operations in Hyderabad in March 2019.

Fitch met with Berkadia's U.S. senior managers and members of the India leadership team responsible for commercial loan servicing to understand: the infrastructure and role of the India operations within the broader company; employee training, education, experience and turnover; the company's disaster recovery and technology infrastructure; and the implementation and oversight of Berkadia policies and procedures for commercial loan servicing. In addition, senior Fitch analysts toured the facilities in Hyderabad and spent time with front-line employees as they performed servicing functions.

Berkadia has more than 20 years of offshoring experience through its captive affiliate, Berkadia Services India, and its prior platform located in Ireland. The company's 743 offshore employees are grouped among day (57%), evening (25%), sunrise (4%), split (8%) and rotational (6%) shifts, maintaining continuous operations in a 70,000-square foot, dedicated office space with an additional 15,000 square feet coming online in late September.

Nearly all servicing functions can be performed in the Hyderabad office, and employees there service loans using a server farm in Ambler, providing greater security and efficiency from a centralized platform. Servicing functions performed offshore include loan boarding, loan administration, escrow account administration, payoff quotes, bank reconciliations, payment processing, and financial statement and rent-roll analysis. While these servicing functions are predominately performed offshore, Berkadia maintains subject matter experts in the U.S. responsible for oversight and quality control, using a mix of technology and ongoing training. In addition to performing servicing functions, the Hyderabad staff supports back-office corporate functions such as IT development and support, finance and accounts payable, contact management and proprietary lending.

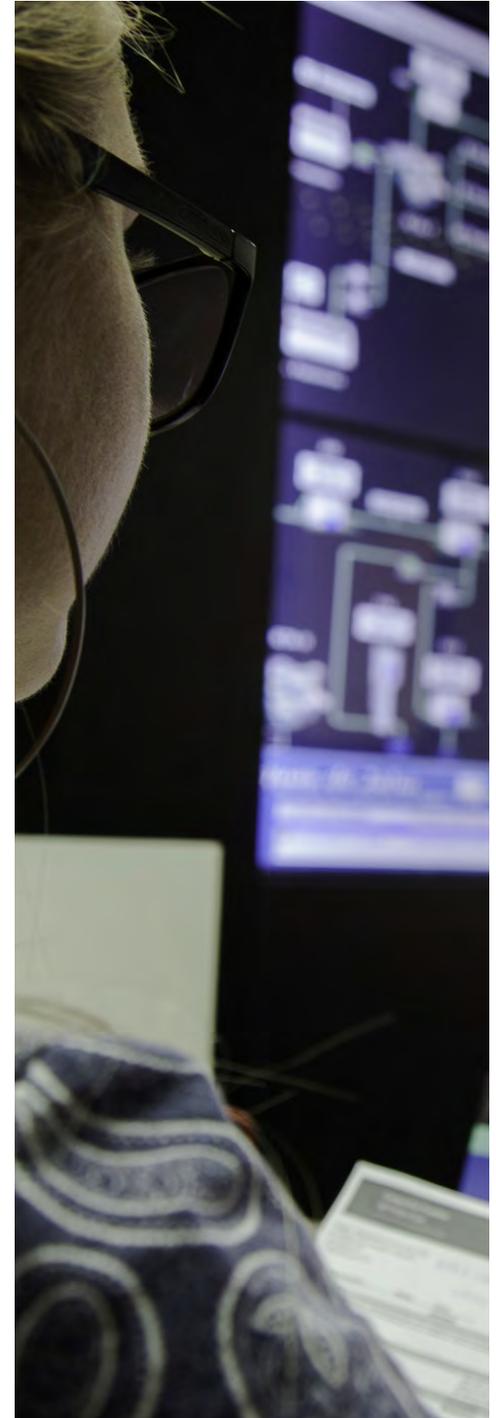
Fitch observed first-hand servicing functions performed by offshore staff and found no discernable differences between domestic and offshore functions, which Fitch attributes to extensive employee training and domestic and offshore management teams that are highly engaged with staff. Fitch also observed the significant role technology plays in supporting offshore operations such as Berkadia's proprietary SMARTTrack application and real-time dashboard trending that measures and tracks touch times specific to each servicing function.

Outsourcing

Berkadia does not outsource core servicing functions; however, it does engage third-party vendors to provide tax processing, track UCC filings and perform property inspections.

Vendor Management

Berkadia has contracts with its vendors, primarily for tax processing, UCC filings and property inspections. Berkadia's risk control and compliance group is responsible for vendor management. The company categorizes and reviews its vendors annually and has established a formal process to review the vendors engaged by the company. The company's vendor oversight includes reviewing the financial, operational and compliance environments to ensure that vendors meet and can continue to meet the terms of their contractual arrangements. As part of this oversight, the company collects third-party audit reports (SOC reports). Work is monitored through service-level agreements and vendor report cards, which are created on a quarterly basis. Vendors are tested as part of Berkadia's SOC1 and SOC2 audits. Monthly calls are also held with the company's vendors to address any issues that arise.



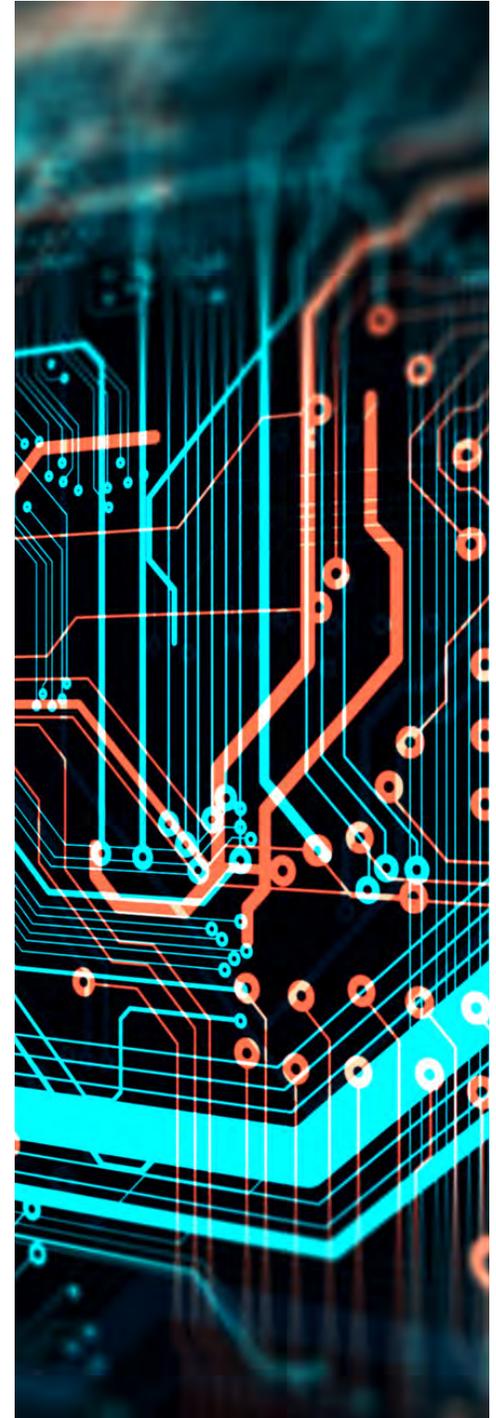
Information Technology

Berkadia currently utilizes McCracken's Strategy V17.6 as its core servicing application. While on an application service provider (ASP) contract with McCracken, Berkadia maintains its servicing data on its own servers, allowing what the company believes to be faster processing speeds. Incorporated into and integrated with Berkadia's systems are workflow technologies through its Enterprise Productivity Management (EPM) suite, a proprietary document-imaging system.

Additional ancillary applications used by Berkadia include:

- SmartView, a combination of the servicing data warehouse and IBM Cognos Business Intelligence tools, aggregates and extracts data used for operational and management reporting, as well as customized reporting.
- SMARTTrack, built off the Salesforce platform, creates workflows and tracks tasks, processes requests and refers inquiries to specific teams. It is used to manage incoming borrower inquiries/requests, and allows for quick access to loan data and documents.
- Mega Workflow, a new proprietary application built in 2018 and designed for automating workflows, managing work requests, tracking turnaround times, and providing real time status updates on outstanding requests to borrowers and investors.
- EPM, the suite of applications that facilitate document and business process management and workflows. EPM hosts several workflows that allow for review and approvals of payment processing transactions, escrow disbursements, and the preparation of payoff quotes.
- Electronic Data Management (EDM), an internally developed corporate document management and workflow system that hosts several workflows that allow for review and approvals of payment processing transactions, escrow disbursements and the preparation of payoff quotes.
- Asset Surveillance 2.0, Berkadia's system for analyzing financial statements, tracking property inspection results, and recording rent roll data.
- Investor Reporting Information System (IRIS), a redesigned CMBS deal-level database and advance tracking application that stores deal information, indicators, and parameters for the investor reporting and surveillance groups. The advance module stores advance parameters, tracks loan-level advances (such as principal and interest and escrows) and calculates advance interest where applicable. The redesigned application consolidated data from various systems and allowed Berkadia to sunset a legacy reporting application.
- Reporting Utility Deal Interface (RUDI), an investor reporting tool that allows for loan-level reporting by combining data from Berkadia's core servicing system with those from its data warehouse.
- Investor Query, a website that provides investors, rating agencies and other interested parties with reports, documents, data and general information pertaining to Berkadia's CMBS transactions.
- LoanView, a mobile-friendly borrower website that provides access to loan-level information, related documents and electronic billing.
- CertnView, a commercial insurance risk mitigation application that monitors investor requirements, exposures and compliance at the transaction, property and policy levels.

Berkadia's servicing systems are integrated via a nightly process that disseminates data from McCracken Strategy into SQL Server databases. These databases support CREFC investor reporting, SmartView, LoanView and InvestorQuery. Berkadia's reporting platform is automated through IRIS and Strategy. Static daily and monthly reports are run automatically on a scheduled basis. Custom queries are created and run through the SmartView system that track and monitor servicing information on an as-needed basis.



Information Technology (Cont'd)

Strategy is internally supported by Berkadia's IT servicing support resources and the ASP, McCracken. Berkadia's servicing support department handles security access requests (user administration) and other application support. McCracken provides application management support as needed.

Berkadia's IT staff consists of 335 employees. The Hyderabad staff is an extension of the U.S. IT work force, with responsibilities across all IT areas, including infrastructure, system development and support, customer support, program management and IT management.

Disaster Recovery/Business Continuity Plan

Berkadia maintains disaster recovery and business continuity plans that are managed in-house, with all critical functions and applications tested annually. The company maintains its primary data center at a tier 3 datacenter in Valley Forge, PA. Berkadia has a server cage within the facility managed by Berkadia personnel. Berkadia maintains a hot site at SunGard in Philadelphia, approximately 18 miles from the operations center in Ambler, where critical servers are backed up and replicated in real time. Real-time replication of critical data should lead to less than 15 minutes of lost data in case of a disaster.

Berkadia conducts an annual business impact analysis in which core systems and processes are identified. Systems identified as critical have redundant backup capability and are able to be recovered within 24 hours, the same time frame for processes deemed critical to be operational. These departments are assigned seats at co-location facilities and are tested at the facility annually to ensure that all primary and secondary work can be performed at SunGard. Processes not considered critical are prioritized according to work significance. In addition, all employees can work remotely as needed via a VPN connection, which is tested during semiannual business continuity tests.

The operation center in Hyderabad is equipped with a diesel-powered backup generator as is its hot site in Pune, India, approximately 325 miles from the operations center. The Pune site maintains dedicated equipment and 105 dedicated seats for each shift (day, night and split shift), as well as 26 laptop stations. The hot site provides for a backup data circuit and fully equipped business continuity seats that include telephone, PC, fax and copying capabilities. Berkadia also has first access to an apartment complex onsite to house its employees in case of a disaster.

Disaster recovery is tested annually, most recently in October 2018 for both U.S. and Hyderabad operations, and was considered successful.

Note:

Fitch views favorably business continuity plans that are not solely reliant on VPN access.



“Fitch notes as a strength Berkadia’s commitment to investing significant resources in technology development. Berkadia maintains 40 development teams of six to seven employees each and has taken additional office space in India and in its headquarters to accommodate growth in the IT group. Berkadia continues to focus on building a single cloud-based database across the company to improve processing times and create a single repository for data. The database forms the foundation for other applications like the proprietary interactive market analysis application and the new workflow tool called Mega Workflow. Additionally, the company’s proprietary borrower website continues to be redesigned for better user experience and increased access to loan and portfolio data.”



Internal Control Environment

Berkadia has a strong, comprehensive control environment that incorporates its technology platform and multiple layers of secondary reviews and quality checks, including sampling work performed for accuracy, internal audits and external audits performed by the GSEs, life companies, banks and master servicers. The control environment includes dashboard and workflow technology to track employee output and quality; managerial supervision and work review; monthly and quarterly quality control sampling by the risk, control and compliance group; an annual risk assessment created in conjunction with the annual audit plan; and training aimed at reducing operational breakdowns. Additionally, the company is subject to third-party external audits, including Reg AB, USAP, SOC 1 and SOC 2 audits.

Policies and Procedures

Berkadia's risk, control and compliance group, which reports to the CFO and also contains a separate internal audit group, monitors and reviews servicing policies and procedures as necessary. The group is formally reviewed by management annually. There were minor changes to policies and procedures since Fitch's last review. When a policy/procedure is updated, the respective manager/supervisor sends the updated document to the risk, control and compliance group. The policies, procedures and related forms and templates are centralized on the company's intranet, allowing accessibility to all employees.

Fitch reviewed several of Berkadia's policies and procedures and found them to be detailed, providing step-by-step instructions on how to perform specific servicing functions and associated tasks. The manual compares favorably with those of other highly rated servicers and is updated on an as-needed basis, with no major changes over the last 12 months.

Compliance and Controls

Berkadia's day-to-day controls are incorporated into its policies and procedures manual and involve process-driven reviews facilitated through its technology platform, tickler systems, exception reporting, workflow processes and dashboard management. Servicing managers run reports against SmartView to identify process exceptions. Some of the reports run daily include delinquency, maturity, suspense, outstanding financial statements and escrow shortage exception reports. Berkadia also runs data validation reports from SmartView to ensure servicing data is properly captured.

The company also performs quality control checks through random sampling to determine if processes and procedures are performed as expected. Subject matter experts (experienced employees who are not managers) sample generally 5%–8% of the work volume processed in a given month. Results are used by managers as part of the employee performance development process. The risk, control and compliance group also performs monthly cash control testing of cash disbursements. The risk, control and compliance group has seven members, four of whom are stationed at the Hyderabad office.

Berkadia's transformation group functions as a secondary level of review, aggregating data from SmartView to measure productivity, quality control, and process deviations or outliers on a monthly basis. The transformation group uses a metrics reporting process, which uses manually created dashboards to highlight productivity, accuracy and spare capacity among employees. These dashboards are generated from data captured in SMARTTrack, Berkadia's workflow and task tracking system. Dashboards are reviewed monthly with the operational managers, as well as the servicing senior managers.

Note:

In 2019, Berkadia created a servicing compliance group which reviews various parts of the servicing platform on a rotating basis. The group is leveraged to develop senior staff into middle managers. One middle manager with 27 years of experience leads the group and has two direct reports with the intention to rotate more staff into these roles.

Note:

Berkadia maintains a comprehensive reporting process to manage output from its servicing operations, using data validation reports, exception reporting and dashboards.

Internal Control Environment *(Cont'd)*

Internal Audits

Berkadia has a dedicated internal audit team composed of two staff who report to the CFO and the company's audit committee. The internal audit group performs operational audits on an annual rotation based on an annual risk assessment. Each functional area is risk-rated based on qualitative and quantitative factors.

Each year, different servicing functions are selected for audits, with some getting repeat audits depending on the degree of risk. The annual audit plan is submitted to and approved by the company's audit committee, which is composed of executive management. While internal audits are performed on a 24-month rotation, high-risk areas are subject to more frequent audits.

Fitch reviewed a copy of the 2019 risk assessment, which covered the methodology and risk assessments for technology, corporate, mortgage banking, servicing, and investment sales. The servicing risk assessment covered servicing cash management and monthly wire and cash movement reviews.

The internal audit group performed an audit on servicing insurance and reserves during 2018. The insurance audit covered insurance policy, insurance expiration date tracking, force-placed insurance procedures/correspondence, and the loss claims process. The reserves audit covered reserve on-boarding as well as the monitoring of reserves and reserve disbursements. Both the insurance and reserves audits resulted in satisfactory outcomes with minimal findings. The few findings either had correction actions already implemented or a management response and plan in place, and internal audit retested and confirmed all findings were remediated.

External Audits

Berkadia is subject to annual Reg AB and USAP audits on its portfolio as primary and master servicer. Fitch reviewed the annual Reg AB and USAP reports issued on Feb. 15, 2019 without any findings. The USAP and Reg AB testing is global and incorporates both the U.S. and India platforms.

Berkadia also stated that it is subject to numerous reviews and audits throughout the year by its clients, including the GSEs, life companies and banks. Additionally, master servicers send auditors to perform subservicer audits. Public accountants perform the annual SOC 1 and SOC 2 audits. The SOC 1 report is an audit of the entire servicing platform relevant to internal controls over financial reporting and the related technology. The SOC 2 report details the control environment with respect to the company's internal controls as they relate to security, availability, processing integrity, confidentiality and privacy.

Note:

Fitch notes Berkadia's robust annual risk assessment on all business segments to prioritize and develop the audit plan as a strength.

Primary Servicing

As of June 30, 2019, Berkadia's primary servicing portfolio consisted of 18,434 loans totaling \$267.8 billion, including 3,050 CMBS loans totaling \$41.6 billion. While the overall CMBS component, representing 17% of the overall portfolio by loan count, has continued to run off, Berkadia continues to grow its CMBS primary servicing portfolio (with an external master) driven by Freddie Mac K-series deals. The company also continues to diversify its business lines and servicing clients to help mitigate runoff.

Berkadia entered the SFR in 2018 and added seven Freddie Mac SFR transactions collateralized by 5,675 homes with an outstanding balance of \$643 million. Full servicing for SFR loans includes taxes, HOA fees, insurances, escrows, reporting, financial statement analytics, watch list management inspections, billing and payment processing, customer service and asset management. The same technology for primary servicing assignments is utilized for SFR while Freddie Mac's document management system and property reporting systems are used for reporting requirements.

Primary Servicing Portfolio Overview

	6/30/19	% Change	2018	% Change	2017
CMBS					
No. of Transactions — Primary Servicer	457	5	436	19	365
UPB — Primary Servicing (\$ Mil.)	41,658.2	(3)	42,846.2	6	40,345.8
No. of Loans — Primary Servicing	3,050	(6)	3,250	(3)	3,362
Non-CMBS					
UPB (\$ Mil.)	226,142.0	18	192,400.9	17	164,840.8
No. of Loans	15,384	5	14,700	10	13,315

Note: Primary servicing numbers include 3,547 loans that are limited subservicing.

Source: Berkadia Commercial Mortgage LLC.

New Loan Setup

For loans originated by Berkadia, a report is generated identifying loans that have closed and loan packages are reviewed upon receipt. Prior to boarding a loan, missing documents are tracked in the new loan boarding database and outstanding documents are tracked via a tickler.

For externally originated loans, the new loan boarding team is notified regarding upcoming transfers or acquisitions, and prior servicer data files are forwarded to new loan boarding for scrubbing, formatting and electronic boarding. Loan document packages are forwarded directly to the workflow management team for imaging. Loan boarding will upload all loans to a test environment to ensure data validity. After passing an edit check in a test environment, loans are loaded to the production environment. Missing information is requested from the originating/transferring party. Exception reports are generated from SmartView to track missing documents.

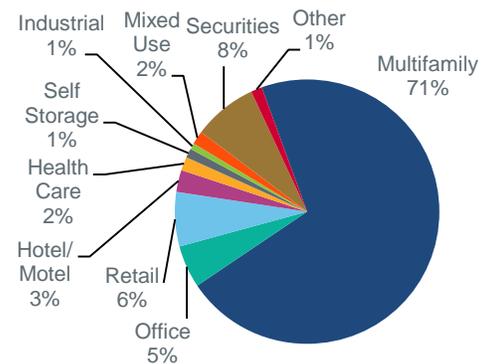
Loans originated by Berkadia are generally boarded within 10 days of receipt of the complete loan package or, in the case of transferred loans, within five days of closing the transaction. Monthly reports are prepared to measure the time taken to obtain loan packages after closing and the time taken to board loans once packages are received. All loans boarded on the servicing system are subject to edit checks and a quality control sampling.

Note:

Berkadia's risk, control and compliance department performs monthly new loan setup testing.

CMBS Primary and Master Servicing Property Type

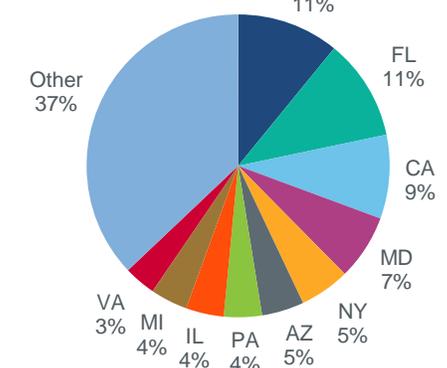
(As of June 30, 2019)



Source: Berkadia Commercial Mortgage LLC.

CMBS Primary and Master Servicing Geographic Distribution

(As of June 30, 2019)



Source: Berkadia Commercial Mortgage LLC.

Primary Servicing (Cont'd)

Accounting and Cash Management

Loan payments are expected to be posted within 24 hours of receipt by the payment processing team. Payments posted are batched in Strategy and reconciled by a bank reconciliations team to the data transmissions received from the banks on a daily basis. Reconciliations of the accepted and rejected payments are completed daily to ensure rejected items were managed appropriately and funds applied properly. Payment clearing, disbursement clearing and selected critical accounts are reconciled on a daily basis. All other reconciliations are completed within 30 days of statement cutoff.

Reconciliations are assigned and completed through workflow in the EDM system. Reconciliations are reviewed and approved with a signature time and date stamp into the workflow by an approver separate from the preparer. All critical reconciliations and a 10% sample of the remaining population move into a second approval queue for review and approval by a manager separate from the preparer and first approver.

Berkadia currently services 424 active cash managed loans. Cash management and loan agreements are reviewed by a manager or senior analyst in the dedicated cash managed loans group. Each cash managed loan is assigned to an analyst and placed on their calendar by distribution date, with ticklers established for each upcoming distribution date. Berkadia uses electronic waterfall templates, which are approved prior to the disbursement of funds. All fund disbursements require dual signatures.

Lockbox accounts are opened pursuant to the cash management agreement or the cash management section of the loan agreement as hard or soft lockbox accounts. For springing lockboxes, trigger events are communicated to the cash managed loans group and loan documents are reviewed for trigger events and the appropriate cash management procedures. In the event a lock box is triggered, the client relations manager notifies the borrower of the trigger event and the new procedures for payment.

Investor Reporting

The investor reporting group generates CREFC IRPs via IRIS which aggregates loan data from Strategy and SmartView. IRIS also allows analysts to upload data from special servicers and subservicers. RUDI performs automatic data checks, including reconciling between the calculated scheduled ending balance and the balance maintained in Strategy. An investor reporting analyst reviews and researches any differences or exceptions noted by the system, and makes adjustments as needed.

In addition to the data checks performed by IRIS, Berkadia has a dedicated group within investor reporting that reviews each transaction's CREFC IRP either on or prior to the reporting date. After the reporting date but before the distribution date, the research team within the investor reporting group will review the transaction reports for discrepancies before posting the IRP to the investor query website.

Investors can view the most current loan and property details on Berkadia's Internet portal, Investor Query. The site includes all CREFC reports and allows the user to view operating statement analysis reports, net operating income worksheets, borrower financial statements and rent rolls.

Escrow Administration

Berkadia performs escrow analyses annually for escrowed loans, typically when the annual taxes have been paid. An escrow analysis report is prepared monthly to determine the workload for that month, with the final analysis run at the end of the month. Taxes for non-escrowed loans are tracked by a third-party vendor that provides reports that are uploaded to Strategy and verified for accuracy.

For insurance, payments are verified on non-escrowed loans upon analysis of the annual renewal. A paid receipt confirmation is requested from the agent on an annual basis. In addition, Berkadia verifies that the lender is named as mortgagee/loss payee/additional insured so that if a notice of cancellation for nonpayment is issued, the company receives a copy and the notice can be addressed accordingly. Berkadia monitors due dates for both escrow and non-escrow insurance coverage with reports generated from Strategy. To track insurance, Berkadia uses CertInView, its proprietary insurance monitoring tool that tracks insurance at the portfolio, loan, property and policy levels.

Percent Payment Collections Via: (%)

ACH	59
Wire	22
Lockbox	19

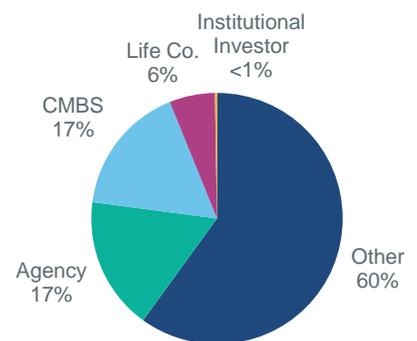
Source: Berkadia.

Note:

Berkadia's risk, control and compliance department performs monthly cash control testing.

Primary Servicing Product Type

(As of June 30, 2019)



Source: Berkadia Commercial Mortgage LLC.

Note:

Berkadia incurred 10 tax penalties with a total fee of \$37,502 in 2018, representing a small fraction of the total tax payments processed. The company did not have any lapsed UCCs in the past 36 months.

Percent Portfolio Escrowed for: (%)

Taxes	51
Insurance	42

Source: Berkadia.

Primary Servicing *(Cont'd)*

Reserve requests are imaged in EDM and uploaded onto a SharePoint site. The requests are assigned to a processor responsible for reviewing and processing the request. Once the review is completed, the analyst will submit for management approval.

UCC filings are loaded to Strategy for tracking purposes. In conjunction with its vendor, the UCC groups in Ambler and Hyderabad continue, terminate, amend or assign the appropriate filings. Berkadia prepares continuations within six months of the expiration. Reports are used to monitor UCC due dates as well as for compliance and are managed through monthly dashboards. In addition, quality control testing is performed on the work to assure accuracy and performance is measured through dashboards.

Asset Administration

The client relations group is responsible for monitoring delinquent payments through daily reports generated from SmartView. At the end of the grace period, the client relations manager makes at least three attempts within 30 days to contact the borrower. All attempts are noted in Strategy. Delinquency letters are then generated, and when the loan is two payments delinquent, or in accordance with the loan documents, a default letter is generated and sent to the borrower. The loan is then coded as a default in Strategy.

The loan administration group is responsible for the collection, analysis and reporting of operating statements and rent rolls. The client relations group is leveraged for contacting borrowers who have not submitted financial statements. Berkadia typically takes 30 days to spread financial statements from the date of collection. Servicing agreements and PSA requirements are tracked in asset surveillance, and performance is monitored through weekly exception reporting. For rent rolls, Berkadia's dedicated rent roll team uploads rent rolls to store electronically and performs a full rollover analysis annually.

Berkadia's surveillance department utilizes the CREFC guidelines for watchlist reporting. Internal guidelines focus greater attention on loans with debt service coverage ratios below 1.0x, upcoming maturities, borrower-expressed hardship, and other significant or large loans in the pool. The surveillance group utilizes RUDI for watchlist reporting. A surveillance analyst reviews watchlist loans every month.

Property inspections are performed in accordance with servicing agreements stored in Investor Matrix. Approximately 97% of site inspections are outsourced. The company's property inspections department reviews all of them for quality and completeness. Berkadia issues follow-up letters for deferred maintenance items, which are tracked until cleared in the asset surveillance module in Strategy. Unresolved deferred maintenance items are reported to investors.

Berkadia contacts borrowers at 12 months and again at six months prior to maturity in an attempt to understand their intention and whether they plan to refinance.

Customer Service

Client relations managers are the main points of contact for all primary and master/primary borrower inquiries, which can be made by telephone, e-mail, as well as online chat at Berkadia's customer website, LoanView. The site provides 24-hour online access to loan-level information, transaction histories, borrower notices, monthly billing statements and related documents so that borrowers can make payments, study balances, review reports and export the information to Excel. Over 85% of Berkadia's borrowers use LoanView.

Borrower and payoff requests are received by a client relations manager who reviews the loan documents as well as the PSA to determine permissibility. The required documentation is then processed by the appropriate business unit. The client relations manager will continue to monitor the progress via SmartView/SMARTTrack and correspond with borrowers, as appropriate.

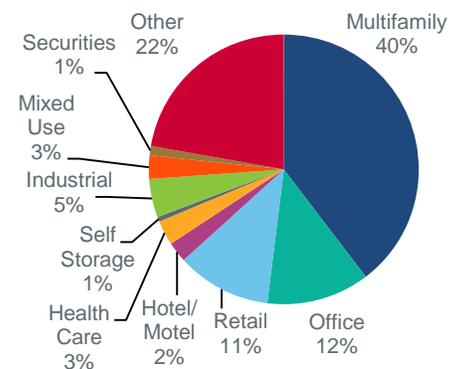
The payoff processing unit calculates the payoff amount, which is verified and approved by two approvers within the payoff group. Upon final approval, the client relations manager is notified via e-mail that the quote is available within the imaging system for distribution to the borrower. Requests for payoffs are turned around within 48 hours.

Note:

100% of property inspections, which are generally performed by a third-party contractor, undergo a quality control review by the company's property inspections department.

Non-CMBS Primary and Master Servicing Property Type

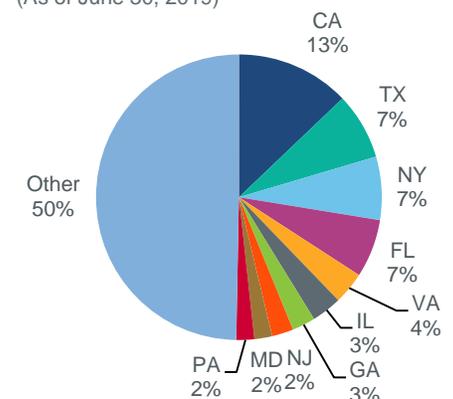
(As of June 30, 2019)



Source: Berkadia Commercial Mortgage LLC.

Non-CMBS Primary and Master Servicing Geographic Distribution

(As of June 30, 2019)



Source: Berkadia Commercial Mortgage LLC.

Master Servicing

As of June 30, 2019, Berkadia was named master servicer on 75 CMBS transactions encompassing 881 loans totaling \$6.2 billion, down 67% (by loan count) from year-end 2016. While the company continues to experience runoff in its master servicing portfolio, Berkadia selectively bids on new transactions, including single-borrower and large loan floaters, with the primary motivation of increasing escrows balances, which are more profitable as interest rates increase. Fitch notes that the CMBS master servicing market is highly competitive and concentrated among four active master servicers.

Master Servicing Portfolio Overview

	6/30/19	% Change	2018	% Change	2017
No. of Transactions — Master Servicer	75	(15)	88	(19)	109
UPB — Master Servicing (\$ Mil.)	6,170.4	(14)	7,149.9	(39)	11,795.8
No. of Loans — Master Servicing	881	(20)	1,106	(30)	1,576
No. of Primary Servicers Overseen	11	—	11	(42)	19

Source: Berkadia Commercial Mortgage LLC.

Primary Servicer Oversight

A client relations manager is assigned as the primary contact for subservicers and is responsible for monitoring subservicer financial statement collection and analysis, investor reporting remittance timeliness and accuracy, and compliance with USAP and Reg AB reporting requirements. The client relations manager performs monthly reporting on the subservicer portfolio and shares that with the risk, control and compliance group.

Financial reporting from subservicers is entered into Strategy and analyzed automatically. Remitting and reporting practices of each subservicer are monitored and reviewed on a monthly basis. Receipt of funds and reports are matched against an electronic calendar to monitor compliance. All remittances, reporting and bank reconciliations are reviewed based on the individual contract requirements. On a quarterly basis, financial statement collections and analysis are monitored to ensure compliance with all PSAs, and property inspection data are reviewed. In addition, each subserviced loan is fully loaded onto Strategy and updated monthly to ensure the servicing record is up-to-date and intact.

Berkadia's internal audit group performs onsite audits and desktop audits of subservicers. Of Berkadia's 10 subservicers, only one received an onsite audit in 2018, while another four were subject to desktop audits in 2016 which were completed in 2017; there were no audits of subservicers performed in 2017, a concern noted by Fitch. The company performed one onsite review in the fourth quarter of 2018 which accounted for 64% of subserviced volume by balance. In the past 24 months, there were six subservicers that neither a desktop nor onsite audit was performed; Berkadia stated that reviews were not done as there were few loans being subserviced and some of the loans were defeased.

Note:

Berkadia's master servicing portfolio is heavily concentrated in legacy CMBS deals that account for 86% of the portfolio by deal count, representing significant upcoming maturities. Berkadia is master servicer for four Freddie Mac K-series transactions.

Note:

Berkadia performed one onsite audit of a subservicer in 2018 which accounted for 64% of all subserviced balances. No subservicer audits were performed in 2017. In 2016, Berkadia performed one onsite audit and one desktop audit, and Berkadia initiated three desktop audits in late 2016 which were completed in 2017. Berkadia performs less onsite primary servicer audits than other highly rated master servicers. Fitch believes annual primary servicer reviews, inclusive of regular onsite audits, are a best practice of highly rated servicers.

Master Servicing *(Cont'd)*

Advancing

Servicing advances are tracked in Strategy as well as in a dedicated database, which tracks the advances at a loan level. Principal and interest advances are also tracked in a separate database by the investor reporting group. These systems are compared monthly to ensure information is current and accurate.

As master servicer, Berkadia's recoverability decisions consider the special servicer's business plan and resolution strategy. Local market conditions such as occupancy, rental rates, inventory, competition and general economic conditions in the area are also considered. The most recent appraisal is reviewed for reasonableness and possibly a broker's opinion of value. All of this information is summarized in an advancing memo, which is prepared and updated monthly for each loan with an outstanding advance. Discussions are conducted with the special servicer to monitor the disposition process and expenses incurred to date. Potential future property protection expenditures are considered in the determination of the overall advance exposure amount and the total advances outstanding for the transaction.

The CMBS portfolio manager organizes a monthly advance meeting for loans with the greatest exposures. All loans with advances are presented to the advance committee at a minimum every 90 days, and volatile loans are discussed monthly. A determination on whether to continue advancing, stop future advancing or stop future advancing and recover a portion or all the current advances from the trust cash flow is made. When a determination is made to cease advancing on a loan, it is then classified as nonrecoverable.

Note:

Berkadia's advance committee is composed of the executive vice president of Berkadia, senior vice president of asset management, vice presidents of investor reporting and financial analysis, and analysts from the risk, financial analysis, and CMBS asset management teams.

Note:

From a peak balance of approximately \$480 million in outstanding master servicer advances (insert as of date), Berkadia's exposure to outstanding advances has declined to approximately \$94 million.

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