

# Operational Risk Assessments

## Berkadia Commercial Mortgage, LLC

### DBRS Morningstar

October 2020

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<b>Operational Classifications:</b>	Commercial Mortgage Primary, Master, and Special Servicer
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<b>Rankings:</b>	Primary Servicer: MOR CS1 (Affirmed)
	Master Servicer: MOR CS2 (Affirmed)
	Special Servicer: MOR CS3 (Affirmed)

<b>Forecast:</b>	Stable - All Rankings
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### Rationale

Morningstar Credit Ratings, LLC (DBRS Morningstar) affirmed its MOR CS1 commercial mortgage primary-servicer ranking, its MOR CS2 commercial mortgage master-servicer ranking, and its MOR CS3 commercial mortgage special-servicer ranking for Berkadia Commercial Mortgage, LLC. DBRS Morningstar’s rankings were based on the following factors:

#### Primary and Master Servicing

- **Technology Platform:** During 2020, Berkadia continued to focus on an aggressive and broad-reaching technology initiative to boost operating efficiency and response levels. In addition, its annual Service Organization Control 2 Type II audit verifies consistent adherence to prescribed information-technology controls.
- **Offshore Facility:** India-based Berkadia Services India Pvt. Ltd. (BSIPL), which has been in operation for 18 years, is the longest-serving directly owned facility in India among commercial mortgage servicers and is capable of handling complex servicing functions.
- **Workload Capacity:** Berkadia effectively monitors BSIPL staffing to offset any operational issues related to attrition. DBRS Morningstar continues to monitor Berkadia’s workload ratios and attrition rates as the company leverages BSIPL staff for servicing tasks.
- **Professional Depth and Staff Experience:** Berkadia generally experiences relatively moderate employee turnover rates and exhibits high levels of industry experience among its senior management and professional staff. Senior managers average 27 years of industry experience and roughly 16 years’ tenure with the company.
- **Investor-Reporting Expertise:** Berkadia demonstrates proficiency with information requests and investor-reporting expertise for a range of clients. BSIPL employees also perform quality checks on investor-reporting functions to ensure accuracy.
- **Audit Program:** Berkadia’s independent internal-audit function includes ongoing examinations of loan administration and portfolio management processes, supplemented with performance monitoring activities embedded in the company’s daily workflow practices. The latest audit results were satisfactory.

- **Insurance Administration and Monitoring Collateral Performance:** Berkadia uses CertInView, its comprehensive insurance tracking tool to monitor insurance coverage and administer insurance compliance. Berkadia's portfolio management, surveillance, and special requests teams demonstrate best practices by monitoring the watchlist for asset level collateral performance, loan covenant compliance, and borrower requests. The special requests team also re-underwrites certain complex requests.

#### **Master Servicing**

- **Portfolio Volume:** The master servicer ranking, while considering Berkadia's investor-reporting expertise and demonstrated capabilities meeting complex requirements of commercial mortgage-backed securities (CMBS) transactions, reflects the company's reduced master servicing portfolio involving loans with subservicers, a core aspect of our master-servicer assessment. Its subservicer auditing procedures reflect an easing level of required oversight commensurate with the size of the subserviced portfolio. However, Berkadia has added master servicing assignments for life companies that allows it to further utilize its master servicing platform.

#### **Special Servicing**

- **Operational Scale and Infrastructure:** The ranking primarily reflects Berkadia's modest operational scale combined with its reduced volume of active and resolved assets during the past few years. Notwithstanding, Berkadia has an experienced senior level asset manager and other available personnel, along with solid control practices, technology, and reporting capabilities. The senior vice president of special servicing also leads the portfolio surveillance group, which monitors potential asset-performance issues across the entire platform. Additionally, the special servicing group is responsible for all default management activities associated with Berkadia's agency portfolio.
- **Resolution Results:** Berkadia demonstrates generally favorable asset-resolution results, albeit for a modest level of activity. Berkadia's operating position is commensurate with its lower workflow (and exposure as a special servicer); however, it does limit our ability to assess asset-recovery performance in absolute terms and on a comparative basis with other, higher-volume special servicers.

As of June 30, 2020, Berkadia's total primary-servicing and master-servicing portfolio consisted of 19,746 loans with an aggregate UPB of \$291.53 billion. Berkadia was the primary servicer or primary/master servicer for 3,122 CMBS loans (including 2,261 loans contained in Freddie Mac sponsored securitizations) as well as the master servicer only for another 43 CMBS loans.

As of June 30, 2020, Berkadia was the named special servicer on five securitizations consisting of 28 loans with an unpaid principal balance (UPB) of \$794.3 million. The active special-servicing portfolio contained 62 loans (approximately half were classified as nonperforming) with a total UPB of \$705.1 million, primarily GSE healthcare and multifamily loans and a few non-real estate-secured assets. The CMBS component of the active portfolio contained four loans with a total UPB of \$326.3 million.

#### **Forecast**

The forecast for all three rankings remains Stable.

**Total Primary-Servicing and Master-Servicing Portfolio by Investor/Assignment Type**

	June 30, 2020		December 31, 2019		December 31, 2018	
	UPB (\$Mil)	Loans	UPB (\$Mil)	Loans	UPB (\$Mil)	Loans
CMBS Primary Only	6,391.7	451	19,329.9	1,130	5,022.2	373
CMBS Primary/Master Combined	2,417.6	410	2,879.0	502	4,979.6	956
CMBS Master Only	393.9	43	514.3	25	633.0	69
Freddie Mac CME/K Deals	39,720.2	2,261	29,469.8	1,842	32,808.3	1,839
<b>Total CMBS Primary and Master</b>	<b>48,923.5</b>	<b>3,165</b>	<b>52,193.0</b>	<b>3,499</b>	<b>43,443.1</b>	<b>3,237</b>
Fannie Mae	32,615.4	1,906	27,891.2	1,588	26,945.9	1,617
FHA/Ginnie Mae	10,179.4	1,360	10,567.4	1,414	10,274.2	1,467
Freddie Mac (nonsecuritized)	6,744.3	409	3,131.4	238	5,889.2	295
<b>Total Agency</b>	<b>49,539.1</b>	<b>3,675</b>	<b>41,590.0</b>	<b>3,240</b>	<b>43,109.3</b>	<b>3,379</b>
Fee for Service	171,496.7	11,153	164,589.8	10,044	131,940.2	9,784
Correspondent Life Companies	18,966.2	1,558	18,213.7	1,573	14,355.7	1,466
Warehoused	2,279.9	167	2,737.1	177	2,144.1	121
Banks/Financial Institutions	319.8	28	402.4	23	851.7	30
CRE CDO	0.0	0	7.3	2	36.2	2
<b>Subtotal</b>	<b>193,062.6</b>	<b>12,906</b>	<b>185,950.3</b>	<b>11,819</b>	<b>149,327.9</b>	<b>11,403</b>
<b>Total Primary Volume</b>	<b>291,131.3</b>	<b>19,703</b>	<b>279,219.0</b>	<b>18,533</b>	<b>235,247.3</b>	<b>17,950</b>
<b>Total Primary and Master Volume</b>	<b>291,525.2</b>	<b>19,746</b>	<b>279,733.4</b>	<b>18,558</b>	<b>235,880.3</b>	<b>18,019</b>

**Company Profile and Business Overview**

Berkadia, a commercial real estate finance company formed in August 2009, is a joint venture between Berkshire Hathaway Inc. and Jefferies Financial Group, formerly known as Leucadia National Corp. Its business lines include mortgage banking, investment sales, and loan servicing. The company serves as a master, primary, and/or special servicer for commercial mortgage loans originated internally and through certain third-party production sources and is the largest nonbank commercial mortgage servicer. Berkadia originates loans for Freddie Mac, Fannie Mae, the U.S. Department of Housing and Urban Development, insurance companies, financial institutions, conduits, its proprietary lending program, and other correspondents at its 50-plus production and investment sales offices in the United States.

Berkadia's core primary and master-servicing focus is on third-party fee for service assignments including CMBS transactions. Other clients include government-sponsored agencies (Fannie Mae, Freddie Mac, and the Federal Housing Administration/Ginnie Mae), HUD, financial institutions, life insurance companies, and other third-party investors. It also services commercial mortgage loans held on its balance sheet and commercial mortgage loan portfolios for other balance sheet lenders. The business model focuses on providing customized and flexible servicing solutions through its "Servicer's Servicer Model" as well as general primary and master servicing. Its fee for service loan portfolio represented approximately 59% of its total servicing by UPB as of June 30, 2020.

Berkadia has seven servicing locations: Ambler, Pennsylvania; New York City; Midvale, Utah; Tempe, Arizona; St. Louis; Irvine, California; and Hyderabad, India. Its special-servicing operations are in Ambler and Irvine. A substantial segment of servicing employees and back-office operations are in Hyderabad, India. BSIPL, a wholly owned subsidiary of Berkadia, manages business at this location.

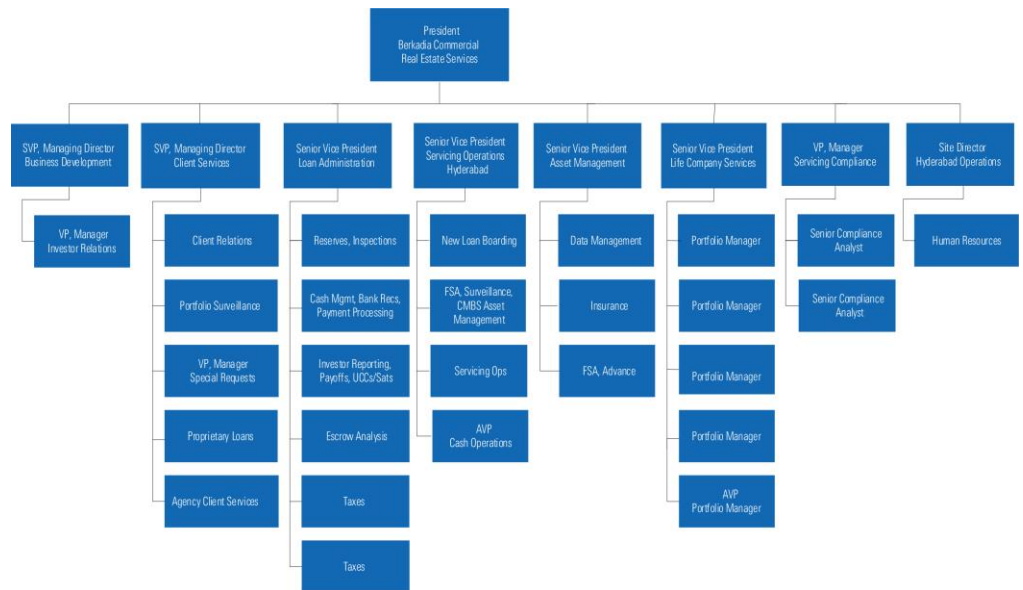
## Operational Infrastructure

### Organizational Structure

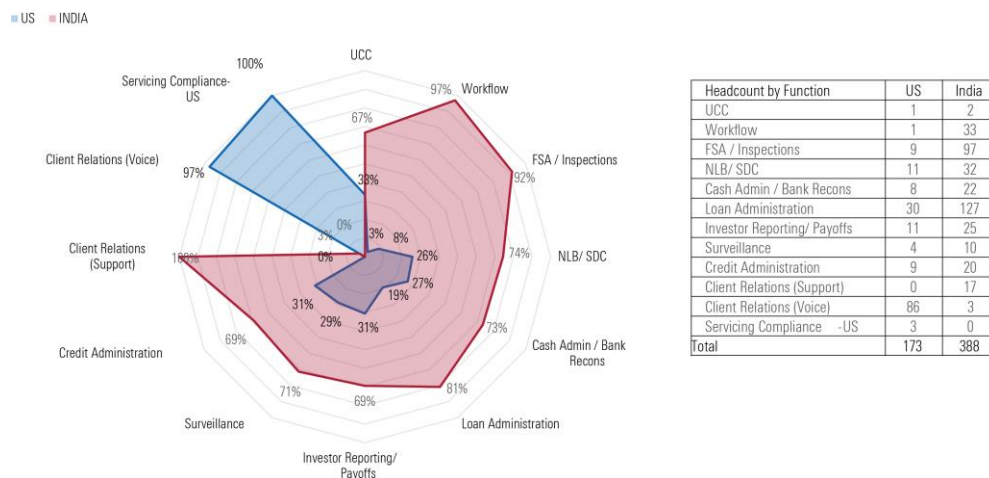
While Berkadia is a commercial real estate services company with multiple lines of business that essentially operates as one integrated environment, the focus of this report is its loan servicing. The servicing organizational structure combines product specific client relations managers, who are responsible for borrower and investor contact, with subject-matter experts. The company further aligns specific tasks by product type where appropriate.

For 18 years, the company has maintained the India-based BSIPL, which focuses on core servicing functions and provides support for borrower consents and other requests as volumes dictate. Berkadia uses vendors in the U.S. to assist with Uniform Commercial Code renewals, property inspections, and tax services. Each servicing business line group is led by a senior vice president reporting to the executive vice president who also serves as the president of Berkadia Commercial Real Estate Services.

### Organizational Structure



### Staffing Allocation by Functional Areas - U.S. and Offshore



Source: Berkadia

### Management and Staff Experience

Experience levels among professional staff, portfolio-management staff, and middle and senior management remain high.

#### Average Years of Experience (U.S. Operation)

	June 30, 2020		December 31, 2019		December 31, 2018	
	Industry	Tenure at Company	Industry	Tenure at Company	Industry	Tenure at Company
<b>Primary/Master Servicing</b>						
Senior Management	27	16	28	18	30	20
Middle Management	24	15	23	16	22	17
Staff	23	10	24	12	18	13
Portfolio-Management Staff Only	21	12	19	13	16	12
<b>Special Servicing</b>						
Senior Management	N/A	N/A	N/A	N/A	N/A	N/A
Middle Management	31	23	30	22	29	21
Professional Staff	25	20	25	20	24	19
Asset Managers*	23	17	23	16	22	15

\*Two allocated positions as of June 30, 2020.

### Staffing and Workload Ratios

The India-based personnel represent employees who work solely for Berkadia through its subsidiary BSIPL. As of June 30, 2020, Berkadia did not use any vendor-provided personnel to supplement its staffing.

#### Primary/Master Servicing

DBRS Morningstar calculated that Berkadia had a roughly 113:1 ratio of loans per U.S. employee for its primary/master-servicing portfolio as of June 30, 2020, representing an increase from the 105:1 ratio at

year-end 2018. When including its India-based staff, the ratio dropped to roughly 34:1 as of June 30 2020, also up slightly from the 31:1 as of December 31, 2018. In Morningstar's view, the U.S.-based staffing ratio is higher compared with that of some other servicers because of the India operation. However, the overall ratio may be below the industry average.

### *Special Servicing*

DBRS Morningstar calculated that Berkadia's assets-to-asset manager ratio (based on two asset managers and one administrator in Irvine) was 20:1 as of June 30, 2020, up sharply from 5:1 as of December 31, 2018, reflecting additional activity resulting from the onset of the coronavirus pandemic. Two additional employees in the special-requests group focus primarily on assumptions and borrower-initiated requests. The special servicing group also manages nonperforming loans held on Berkadia's balance sheet. Overall, Berkadia has had modest special-servicing activity since it transferred its legacy CMBS portfolio to KeyBank in July 2013. DBRS Berkadia also has other asset-management staff who could move into special servicing roles.

### **Management and Staff Turnover**

For the six-month period ended June 30, 2020, the primary/master servicing turnover rate among U.S. employees was 4.2% and 5.6% for the offshore operation. On an annualized basis, both rates were trending lower than full-year results for 2019. Special servicing recorded no turnover in 2019 through the first half of 2020.

### **Primary and Master Servicing - Employee Turnover Rates**

	<b>June 30, 2020</b>				<b>Full-Year 2019</b>				<b>Full-Year 2018</b>			
	U.S.		Offshore		U.S.		Offshore		U.S.		Offshore	
	Personnel (#)	Rate (%)	Personnel (#)	Rate (%)	Personnel (#)	Rate (%)	Personnel (#)	Rate (%)	Personnel (#)	Rate (%)	Personnel (#)	Rate (%)
Employees - Beginning of Period	165		359		163		347		172		438	
Voluntary Management Departures	0	0.0	0	0.0	1	0.6	1	0.3	4	2.3	1	
Involuntary Management Departures	0	0.0	0	0.0	1	0.6	0	0.0	1	0.6	0	
<b>Total Management Departures</b>	<b>0</b>	<b>0.0</b>	<b>0</b>	<b>0.0</b>	<b>2</b>	<b>1.2</b>	<b>1</b>	<b>0.3</b>	<b>5</b>	<b>2.9</b>	<b>1</b>	
Voluntary Staff Departures	6	3.6	19	5.3	17	10.4	54	15.6	19	11.0	48	
Involuntary Staff Departures	1	0.6	1	0.3	3	1.8	5	1.4	0	0.0	17	
<b>Total Staff Departures</b>	<b>7</b>	<b>4.2</b>	<b>20</b>	<b>5.6</b>	<b>20</b>	<b>12.3</b>	<b>59</b>	<b>17.0</b>	<b>19</b>	<b>11.0</b>	<b>65</b>	
<b>Total Turnover</b>	<b>7</b>	<b>4.2</b>	<b>20</b>	<b>5.6</b>	<b>22</b>	<b>13.5</b>	<b>60</b>	<b>17.3</b>	<b>24</b>	<b>14.0</b>	<b>66</b>	
Turnover Net of Intercompany Transfers	6	3.6	18	5.0	19	11.7	53	15.3	3	1.7	19	
New Management Hires	1		0		0		1		0		0	
New Staff Hires	16		65		24		71		23		34	
<b>Total New Hires</b>	<b>17</b>		<b>65</b>		<b>24</b>		<b>72</b>		<b>23</b>		<b>34</b>	
Other Adjustments	0		0		0		0		(8)		(59)	
Employees - End of Period	175		404		165		359		163		347	
<b>Total U.S. and Offshore Employees - End of Period</b>	<b>579</b>				<b>524</b>				<b>510</b>			

*Assessment:* Berkadia's organizational structure is unique compared with other servicers DBRS Morningstar reviews because it uses its offshore platform (69% of total servicing headcount) for its own business needs as well as for third parties. The company uses economies of scale to efficiently provide specialized servicing functions for other servicers and to address complex servicing portfolio

requirements. Berkadia's workload ratios for primary/master servicing appear reasonable and reflect the company's ability to leverage efficiencies through its BSIPL personnel. Despite the effects of the coronavirus pandemic, Berkadia had still reasonable asset manager workload levels for special servicing as of midyear.

### **Training**

Berkadia provides formalized training activities for its servicing personnel. A corporate trainer works in conjunction with human resources and business groups in the U.S. and India to develop formal training curriculums. The servicer collaborates with external vendors, including the Harvard Business School for Leadership as well as the Mortgage Bankers Association and CRE industry program providers. Personnel can register for classes and track completed training hours via the intranet-based Berkadia University. The company requires servicing employees to complete at least 45 hours of training per year. In 2019 employees in the U.S. and India averaged 50 hours of training. The company has a substantial number of employees enrolled in various levels of the Mortgage Bankers Association's Commercial Mortgage Servicer Certificate Program.

In addition to industry focused training, Berkadia supplies significant training resources for offshore personnel, covering its servicing process groups, and provides cross training across a range of functions. Moreover, U.S. based subject-matter experts, many of whom directly manage complex products and assets, provide live training with case studies and provide quality assurance and guidance to offshore staff for employee development and process improvement.

Berkadia continues to support its Relentless Employee Development program across the platform, which embodies the company's commitment to continual growth and development. The program fosters a learning culture that embraces development through feedback, coaching, and related skills. Training sessions and workshops help boost competence in these areas, with managers and work opportunities further supporting these initiatives.

The company subscribes to the comprehensive digital library and suite of resources available through LinkedIn Learning. All digital learning courses are available through either the LinkedIn Learning portal or MyRED, Berkadia's learning management system. MyRED provides individual transcripts, automated training reports, and a record for all training credits.

*Assessment:* Berkadia has an effective training function based on its dedicated personnel and other resources, well-developed curriculum, and high degree of employee participation. (Please refer to the appendix for our assessment of training within BSIPL.) The actual training hours that Berkadia employees complete are high compared with many other servicers.

### **Audit, Compliance, and Procedural Completeness**

An independent risk, compliance, and control unit manages the company's documented policies and procedures and coordinates all auditing activities within Berkadia. It submits an annual plan to the audit committee (which reports to the board of managers) for approval. The company tracks any material

control weaknesses or significant control deficiencies, and the progress of the corresponding remediation plans, and reports them to the audit committee.

Berkadia undergoes several operational audits each year. The servicer annually undergoes platform-wide Uniform Single Attestation Program and Regulation AB attestations, which have cited no exceptions. Berkadia's most recent SOC 1 audit, for the period from October 2018 through September 2019, cited no exceptions. During the same period, the company also underwent a SOC 2 audit, which covers security, confidentiality, processing integrity, and availability of technology, with no exceptions. The company's internal-audit unit conducts operational audits throughout the year.

Berkadia supplements audits with an automated daily dashboard and metrics reporting process to ensure that each group and individual analyst delivers timely and accurate work against established performance standards. Performance metrics note any exceptions related to problems with procedures or applications, which management monitors for prompt resolution. The company's transformation team functions as a secondary level of review aggregating data from Mega Work Flow to measure productivity, quality control, and process deviations or outliers on a monthly basis.

*Assessment:* Berkadia undergoes frequent, detailed audits by external parties and by an independent internal audit department that reports to an audit committee and ultimately to the board of managers. The servicer has significant dedicated resources and initiatives to reduce operational risks by improving processes, reducing errors, and testing security access protocols through its SOC 2 audit. Berkadia's internal-audit function is effective when considering its annual platform wide Regulation AB examination as well as its ongoing daily self-administered compliance and performance metrics tracking process.

### **Legal Liability and Corporate Insurance**

Berkadia noted that it or its affiliates are occasionally parties to lawsuits and other legal proceedings that, individually or in the aggregate, should not have a material adverse effect on its business or its ability to serve as a servicer. The servicer reported that it has directors and officers, errors and omissions, and mortgage impairment insurance coverage as well as a separate cybersecurity policy. As a servicer or special servicer, the company reported that it had not received notices of pooling and servicing agreement defaults.

*Assessment:* The coverage amounts of company's fidelity bond and errors and omissions policies meet the insurance minimum set forth by the Fannie Mae Delegated Underwriting and Servicing seller/servicer guidelines. Based on Berkadia's representations, DBRS Morningstar is not aware of any legal proceedings that would negatively affect the servicer's operations.

### **Technology, Disaster Recovery, and Cybersecurity**

Berkadia uses McCracken Financial Solutions' Strategy servicing system (version 17.6) via a remote-hosted application service provider. Strategy, widely used in the commercial mortgage servicing industry, provides loan level transaction processing and accounting for the serviced portfolio. Berkadia



connects the system to its general ledger and a data warehouse for specialized queries and reporting. In addition to Strategy, Berkadia operates with a variety of supplemental systems. These ancillary applications include but are not limited to:

- **Asset Information Management System (AIMS):** Berkadia's proprietary asset-management system, AIMS, supports Berkadia's special servicing platform. It utilizes an enhanced user interface, designed around user workflows, and includes a fully integrated business plan module to create and evaluate resolution alternatives and borrower proposals. Additionally, users can submit cases and business plans for approval through the system. AIMS features a pooling and servicing agreement (PSA)-driven compliance module featuring an expanded tickler system that includes specific actions and required notifications. Users are notified of pending items upon logging into the system. Management and compliance officers have access rights to view action items.
- **Asset Surveillance 2.0:** This proprietary system is used to track financial statement analysis, property inspections, and rent roll analysis. It also includes an Investor Matrix module that stores details from servicing agreements pertaining to the requirements for collecting, analyzing, and distributing operating statements and inspections. The system is integrated with Strategy, leveraging the application's controls to simplify the user experience and streamline system administration.
- **Investor Reporting Information System (IRIS):** Used to store CMBS investor information, IRIS is a deal-level database and advance tracking application. It stores deal information, indicators, and parameters that assist both the investor reporting and surveillance groups. Its advance module stores advance parameters, tracks loan level advances (principal and interest and escrows) and calculates advance interest where applicable.
- **CertInView:** Berkadia's proprietary insurance compliance monitoring tool, CertInView, allows insurance specialists to input and manage investor specific insurance requirements at the loan, property, and building levels and to perform detailed compliance reviews using those requirements. CertInView also automates the process of generating expiration and noncompliant letters, minimizing coverage lapses and deficiencies.
- **LoanView:** Berkadia's mobile-friendly borrower website provides access to loan level information, related documents, electronic billing, online bill pay, and alert functionality. LoanView also allows borrowers to upload financial statements and other documents.
- **InvestorView:** Berkadia's portal provides portfolio level dashboards as well as loan and property level views and reporting with customizable export capabilities for third party clients.
- **Mega Work Flow:** Berkadia's proprietary application designed for automating workflows, managing work requests, tracking turnaround times, and providing real time status updates on outstanding requests to borrowers and investors.

Berkadia's technical staff continues to pursue its broad-reaching and aggressive technology initiative, Polaris, to optimize operating efficiencies and create a single repository for data. The evolving automation enhancements, developed using the agile process, include advances in workflow management, portfolio surveillance, real estate market data capture and analysis, and borrower/client information exchange. The program leader is Berkadia's chief innovation officer. Ongoing technology efforts include website enhancements focusing on customer-requested functionality, customer integrated workflows, and additional market analysis tools.

Berkadia's maintains its primary data center at a tier 3 data center in Norristown, Pennsylvania, TierPoint, LLC. An additional tier 3 data center located in Philadelphia and operated by SunGard Availability Services provides a hot site. Although the centers are not on separate power grids and are less than 25 miles from Berkadia's Ambler headquarters, both are equipped with 2N power configurations and N+1 backup generators providing a significant level of reliability.

Business-recovery testing occurs every six months, and disaster-recovery testing takes place annually. The disaster-recovery test was successfully completed in February 2020. Berkadia replicates Strategy system data on a real-time mirrored basis to alternate servers at the company's backup and recovery sites, and disaster-recovery capabilities enable it to restore core servicing processes within 24 hours. An additional office in Bangalore, India, serves as BSIP's disaster-recovery site. The hot site has 94 dedicated seats including 8 laptop stations per shift, eliminating dependence on a third-party vendor. Berkadia also has first access to an apartment complex on-site to house its employees in the event of a disaster.

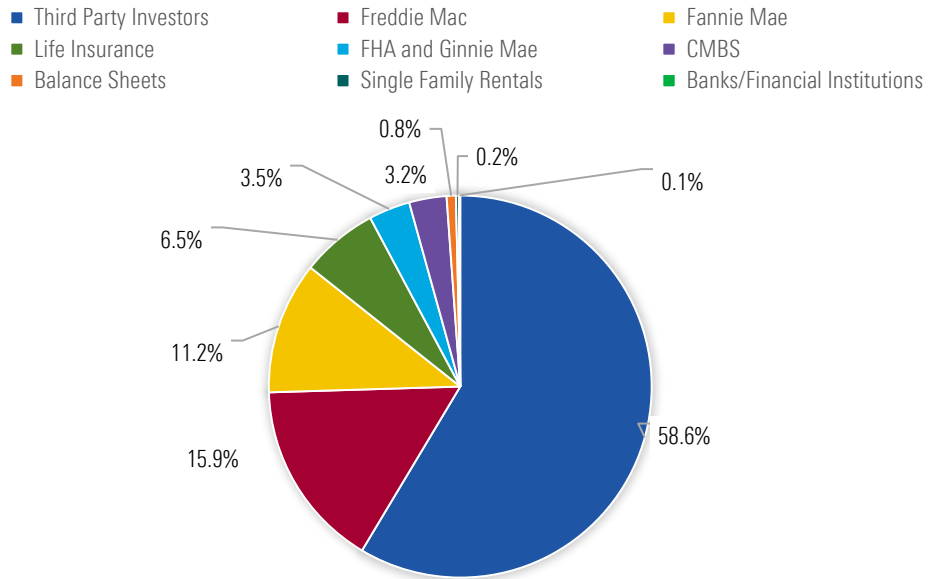
Berkadia successfully implemented its global business continuity plan worldwide in March 2020 as a result of the coronavirus pandemic. All domestic and offshore employees transitioned to remote working with no disruptions reflecting the company's detailed and tested plan. Also noteworthy is that the company boarded more than 1,800 loans between March 13 and June 30.

Infiltration detection mechanisms are arranged to continually scrutinize Berkadia's network, and a third-party vendor also performs annual penetration testing. Prevention against phishing attempts is a priority, and employee education programs are held to highlight security awareness. Separately, Berkadia's comprehensive information security program (CISP) committee meets regularly to review current industry information security policies, review trends, and make recommendations to the company's management committee concerning security policies that may require updates or modification. In addition, the CISP committee has implemented data loss prevention technology that identifies, captures, and reports inappropriate transmission of sensitive data.

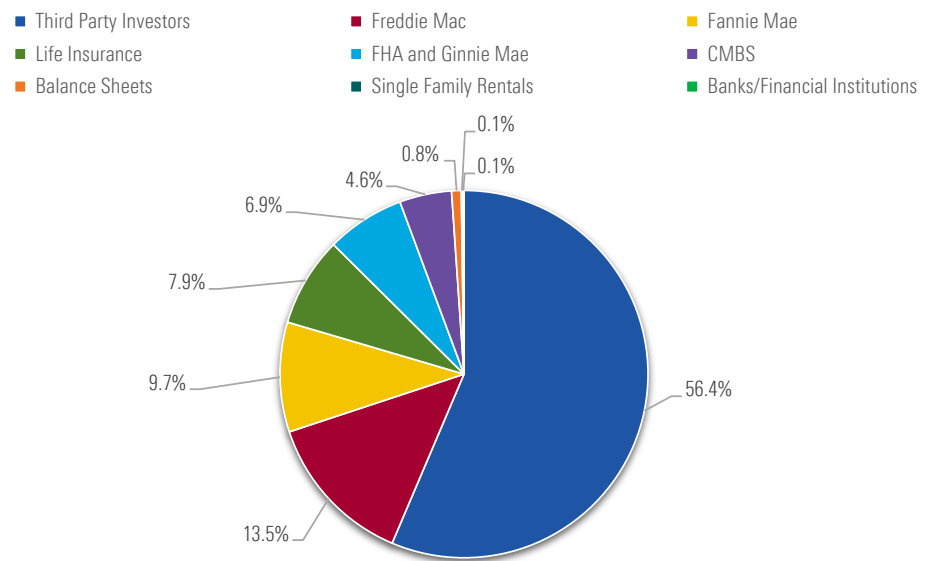
*Assessment:* Berkadia has dedicated significant resources for its technology platform. Its servicing system and various supplementary system components also benefit from ongoing development and maintenance efforts. Berkadia's IT platform provides for proactive loan and portfolio level management. In addition, AIMS effectively provides special-servicer asset tracking, analysis, and reporting to address CMBS and other investor requirements. Having backup power services for the data centers mitigates some of the proximity risk, although a greater distance would be preferable. Management sustains a strong focus on system stability and security, with annual SOC 2 audits, penetration tests, tier 3 data centers, and thorough disaster recovery and business continuity testing and confirmed via the company's successful migration to a remote environment in March.

### Primary- and Master-Servicing Portfolio Administration

**Total Servicing by Investor Type by UPB (June 30, 2020)**

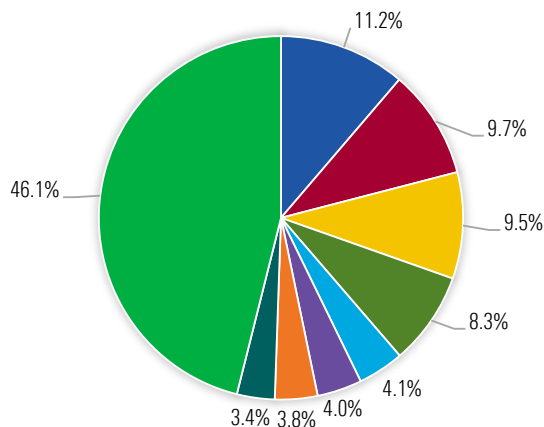


**Total Servicing by Investor Type by Number of Loans (June 30, 2020)**



### Total Servicing by State by Number of Properties (June 30, 2020)

■ California ■ Georgia ■ Texas ■ Florida ■ New York ■ Pennsylvania ■ Michigan ■ North Carolina ■ All Other



### Primary- and Master-Servicing Volume by Property Type (June 30, 2020)

Property Type	UPB (\$Mil)	% (UPB)	Loans	% Loans	Average Size (\$Mil)
Multifamily	145,635.7	50.0	9,688	49.1	15.0
Office	40,964.4	14.1	1,228	6.2	33.4
Retail	34,005.9	11.7	1,850	9.4	18.4
Defeased Loans	7,674.4	2.6	597	3.0	12.9
Industrial	14,795.3	5.1	814	4.1	18.2
Healthcare	7,436.8	2.6	524	2.7	14.2
Lodging	9,450.1	3.2	311	1.6	30.4
Mixed Use	9,195.7	3.2	305	1.5	30.1
Mobile Home Park	4,255.2	1.5	342	1.7	12.4
Self-Storage	2,614.2	0.9	262	1.3	10.0
Single-Family Rentals	725.5	0.2	18	0.1	40.3
Other	14,771.9	5.1	3,807	19.3	3.9
<b>Total</b>	<b>291,525.2</b>	<b>100.0</b>	<b>19,746</b>	<b>100.0</b>	<b>14.8</b>

### Loan Boarding, Hedge Agreements, Letters of Credit, and UCC

During the first six months of 2020, Berkadia boarded roughly \$30 billion of new loan balances, consisting of 2,294 primary (or primary/master combined) serviced loans. Approximately 28% of all new loans boarded during the first half of 2020 came from Berkadia's own loan-origination and production channels.

For this first half of 2020, Berkadia averaged eight days to board new loans with data necessary to conduct payment processing and investor reporting. During the boarding phase, the company creates and then centrally maintains summaries of deal-specific critical servicing and related PSA requirements. The company's loan origination application is not interfaced with its servicing system. Loan boarding procedures require staff to compare system inputs with source data and include a secondary level of

review. The servicing system provides exception reporting for timeliness and accuracy and issues borrower welcome letters with compliance requirements within two days of closing. It also tracks borrower compliance items, covenant triggers, and missing documents, although some supplemental applications also support these tasks. Berkadia reported that as of June 30, 2020, no new loans boarded during the year had incomplete or missing file documentation.

#### *Loan Modification Re-boarding Activity*

The servicer's practices address the re-boarding of loan modifications received from external special servicers. The servicer reported that, at an average of 21 days, modification boarding times increased over the first six months of 2020 from an average of 18 days during 2019.

Berkadia services loans with interest rate cap agreements as well. It also services loans with letters of credit (LOCs) as supporting collateral, which are stored on site in a fire-proof safe. It centrally tracks counterparty ratings and LOC expirations. It reported that all 91 LOCs expiring during the first six months of 2020 were successfully renewed. BSIP staff use the servicing system to track Uniform Commercial Code (UCC) filing expiration dates, and Berkadia uses a third-party vendor to file and track UCC continuation statements. Berkadia reported no lapsed UCCs occurred during the first half of 2020, and, as a master servicer, it monitors UCC filing compliance through quarterly reports that its sub-servicers submit.

*Assessment:* Berkadia's loan-boarding practices are efficient and controlled. The company's stated practice of boarding new loans within 10 days of closing and averaging eight days is consistent with industry best practices. However, the servicer's stated average time frames to set up loan modifications seem lengthy compared with some other servicers. Berkadia has sound practices for hedge agreements, LOCs, and UCC filings.

#### **Payment Processing**

Berkadia stated that, as of June 30, 2020, it received, deposited, and system posted electronically (via a lockbox, wire, or an automated clearing house) virtually 100% of loan payments, including subservicer remittances. Payments are first deposited to a central clearing account and then automatically swept to investor custodial accounts, unless flagged as a suspense item. The lockbox connects to the servicing system. Payment posting, depositing, and system balancing tasks are segregated among the staff. The servicing system reconciles payment receipts daily for management's review. Berkadia routinely validates rate indexes, and it maintains current balances and paid-to dates of subserviced loans on its servicing systems.

As of June 30, 2020, Berkadia reported no unreconciled items older than two days in its clearing account or any non-special servicing related suspense items older than 60 days. As of the same date, the servicer held 114 loan payments in suspense (roughly \$73.2 million) in connection with specially serviced loans pending directions or resolution from the corresponding external special servicers. This compares with 124 suspense items (approximately \$75.9 million) associated with specially serviced loans as of yearend

2019. We recognize that special-servicer-related suspense balances are not in the direct control of a primary servicer to resolve.

#### Primary-Servicing Floating-Rate and Cash-Managed Loans

	June 30, 2020		December 31, 2019		December 31, 2018	
	UPB (\$Mil)	Loans (#)	UPB (\$Mil)	Loans (#)	UPB (\$Mil)	Loans (#)
Floating-Rate Loans	34,297.3	2,021	32,481.7	2,039	33,421.9	2,233
Component of Primary Servicing (%)	12.3	10.8	11.6	11.0	14.2	12.4
Cash-Managed Loans*	12,528.7	397	11,429.0	384	12,791.3	429
Component of Primary Servicing (%)	4.5	2.1	4.1	2.1	5.4	2.4

\*Loans with hard lockbox or cash management agreements.

*Assessment:* Berkadia has strong controls over payment processing as demonstrated by its clear Regulation AB attestations and internal audits and the lack of any aged suspense items for non-special servicing-related matters. It has highly automated payment processing functions.

#### Real Estate Tax and Insurance Administration

As of June 30, 2020, approximately 41% of all primary serviced loans were escrowed for real estate taxes and, as of the same date, Berkadia had incurred roughly \$16,269 in non-reimbursable tax penalties involving three loans. Tax payments are generally remitted within early-pay discount periods. The servicing system tracks tax payment due dates and the payment status for all loans, whether escrowed or not. A tax service tracks and remits payments to tax authorities for escrowed loans and reports unpaid taxes on non-escrowed loans. For non-escrowed loans, Berkadia sends a delinquent tax notice to the borrower and tracks the delinquent tax until paid. The servicing system does not automatically generate tax notices. As a master servicer, Berkadia reviews tax payment exception reports from sub-servicers quarterly.

As of June 30, 2020, approximately 36% of all primary serviced loans were escrowed for insurance. Berkadia administers insurance in house and uses external insurance consultants to assist with policy reviews on the front end. Berkadia tracks insurance requirements at the loan, portfolio, property, building, and policy levels via CertInView. The tool tracks compliance on a requirement level, issues letters for expiration and noncompliance, and feeds the company's data warehouse, providing customized reporting. Berkadia stated that it automatically issues its first policy renewal reminder notice to borrowers at 60 days before expiration and again at 30 days before expiration. The company reviews insurance-carrier ratings before renewal for compliance, and it reported that as of June 30, 2020, 53 loans were on its forced-placed policy, which automatically provides for 120 days of retroactive coverage. Forced-placed coverage is through Great American Insurance Co., whose A.M. Best financial strength rating was A+ (as of most recent rating date of September 2019). Berkadia also reviews insurance exception reports from its sub-servicers annually.

*Assessment:* Berkadia's tax and insurance administration practices are highly controlled, as shown by its low incidence of tax penalties and the degree to which it facilitates the insurance renewal process as well as its extensive insurance coverage via CertInView. Its forced-placed policy's automatic retroactive

coverage provision is sound. As a master servicer, Berkadia follows standard industry practices by reviewing quarterly tax and annual insurance payment exception reports from its subservicers.

### **Capital-Expenditure Reserve Management**

Portfolio managers work with account managers to review expenditure requests and release funds escrowed in capital reserve accounts. The company uses the servicing system to manage workflows, track reserve funds, record disbursements, and reanalyze accounts. Before disbursement, management must approve all reserve account disbursement requests. Berkadia's reserve account management may also involve interest reserve analysis and funding on construction and/or tenant build-out projects. Larger capital improvement/tenant build-out projects may require lien waivers and periodic inspections to verify the progress or completion of the work.

*Assessment:* Berkadia has sound oversight controls for capital expenditure funding requests and reserve account management with experience involving a range of property types and complex loan structures.

### **Investor Reporting and Accounting**

Berkadia produces the most current version of the Commercial Real Estate Finance Council investor reporting package for all CMBS assets through its servicing system. The servicing system includes an investor reporting module linked to a proprietary application to generate the CMBS investor reporting package. Management must approve investor remittance and reporting tasks, and the company tracks custodial banks' credit ratings for servicing agreement compliance. The company segregates investor report preparation, investor remittance, and account reconciliation tasks. It also requires a secondary level of review and sign off for custodial account reconciliations. Employees have online access to custodial account activity, and investor reporting and custodial bank account reconciliation processes are largely automated. Berkadia reconciles bank account activity daily, with more formal reconciliations performed at the end of each month. As of June 30, 2020, the company reported no unidentified items in custodial accounts older than 60 days. As a master servicer, Berkadia reconciles subservicer remittances to trustee remittance reports monthly. Subservicers submit a monthly projected remittance report for Berkadia's review.

Berkadia monitors the accuracy and timeliness of investor reporting data through servicing system validations. The system also tracks PSA requirements. The investor reporting group validates realized loss and appraisal reduction calculations. As of June 30, 2020, Berkadia reported no occurrences involving CMBS remittance recalculations and subsequent restatements of reports to trustees during the year, nor did it report any late reporting occurrences across the whole portfolio during this period.

*Assessment:* Berkadia has proactive, well-controlled practices for investor accounting and reporting functions as demonstrated by its lack of reporting or remitting errors, its high degree of automation, and its segregation of duties. Berkadia has diligent practices for accurate and timely CMBS reporting.

### CMBS Advancing and Recoverability Analysis

As a master servicer, Berkadia provides advances on CMBS transactions. It centrally tracks each loan's cumulative advances versus its current value. The company stated that each loan advance is evaluated individually, taking into consideration variables including property type, local market conditions, and resolution strategy. As advances increase relative to value, decisions to discontinue advancing require management approval as delineated in the servicer's approval authorization matrix.

<b>Berkadia Advancing Activity</b>			
	<b>June 30, 2020</b>	<b>December 31, 2019</b>	<b>December 31, 2019</b>
Total Advances (P&I and PPA) Outstanding (\$ Volume) *	61,393,056	64,434,120	95,277,887
Total Advances (P&I and PPA) Outstanding (# Loans)	171	104	211
Average Advance Per Loan (\$)	359,024	619,559	451,554
Outstanding Advances - P&I Only (\$ Volume)	55,667,213	56,996,329	83,980,170
Outstanding Advances - P&I Only (# Loans)	135	53	109
Average Aging of First P&I Advance (Days)	200	530	502
Total O/S Advances to CMBS Servicing Volume (%) **	2.2	1.9	1.7
CMBS Volume (Primary/Master and Master Only)	2,811,560,890	3,393,289,898	5,612,525,593

\*P&I - Principal and interest. PPA - Property protection advances.

\*\*CMBS Servicing Volume - UPB of primary/master combined and master only.

*Assessment:* Berkadia maintains effective, controlled advancing and non-recoverability determination practices. Its stated advancing threshold is more conservative than that of other master servicers. Berkadia stated that, as a rule, it avoids reimbursement of advances in a manner that may cause cash flow shortfalls to investment-grade bondholders and that it has sometimes recovered advances in monthly increments to minimize losses to the trust. We support such practices as we believe that master servicers should determine how their methods of recapturing advances will affect the trust cash flows before submitting their reimbursement requests in their realized loss statements and that they should make every effort to spread the repayment of advances if such spreading can avoid or minimize cash flow shortfalls to the trust.

### Portfolio Surveillance

#### *Financial Statement Analysis and Inspections*

BSIPL largely performs the financial statement spreading and initial review function, and the company reported that experienced staff members make credit decisions based on financial-statement analysis. They communicate directly with borrowers to obtain clarifications on submitted data. Berkadia uses the servicing system for its financial statement analysis. The company, as a CMBS primary servicer, received and analyzed 97% of previous year-end annual financial statements by May 31, 2020. The company reported that, as a master servicer, it reanalyzes all financials submitted from all subservicers.

Within primary servicing, outside vendors perform most property inspections. As a practice, loan originators are not permitted to inspect properties securing loans that they originated. It inspects all loans greater than \$2 million annually, which we view as a customary practice. As of June 30, 2020, within primary and master servicing, the company reported 4,676 properties were due for inspection and 90.3% were received by or within 30 days of their due dates, with 92.6% of CMBS inspections received



by or within 30 days of their due dates. The servicing system tracks and maintains inspection reports. It also tracks deferred maintenance issues and their resolution status. As a master servicer, the company's policy is to review and validate 100% of inspections received from subservicers for completeness, and it stated that it will follow up with subservicers on inspection items.

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#### Full-Year Historical Financial Statement Collection Rates (%)

By May 31	2020	2019	2018	2017	2016
CMBS Primary Servicing					
Statements Received	97.0	97.0	99.0	98.2	97.2
Statements Spread and OSARs Reported*	100.0	99.8	98.0	91.6	99.6
CMBS Master Servicing					
Statements Received	97.0	97.1	98.0	91.6	93.7
OSARs Reported*	100.0	94.3	98.0	79.8	99.8

\*Based on total number of required statement submissions by May 31.

OSAR - Operating statement analysis report.

#### Watchlist, Trigger Events, and Early Stage Collections

The portfolio surveillance and reporting group handles watchlist management. Account managers also monitor loan performance and handle any related borrower discussions. Berkadia follows CREFC guidelines for watchlist triggers based on inspection data, financial statement spreads, and other information. The company maintains its own risk-rating system for balance sheet loans and GSE loans with loss sharing components as well as other watchlists for non-CMBS loans with criteria inclusive of any investor established requirements. A committee reviews the status of loans on the watchlist and any pending actions. Berkadia subjects all subserviced loans to its watchlist criteria. As of June 30, 2020, Berkadia, as a primary servicer or a primary/master combined servicer, reported 10.3% of all serviced loans on its CREFC watchlist, compared with 8.1% as of December 31, 2019. In addition to sending collections notices, Berkadia contacts borrowers directly based on daily delinquency reports. As a practice, it contacts borrowers one day after a missed due date and again after 10 days. The company maintains a centralized chronology of collection efforts and borrower comments on its servicing system. Client relationship managers must review their portfolios daily based on system reports.

*Assessment:* Berkadia has effective practices for financial-statement analysis, property inspections, trigger event, and watchlist management. Berkadia reviews subservicer financial statement analysis and loads operating statement analysis report information into Strategy. Output reports are produced detailing variations and triggers in compliance with CREFC reporting. The company's practice of routinely reviewing all inspections submitted from subservicers demonstrates proactive oversight. The company effectively communicates with borrowers through its borrower website and dedicated account managers. Berkadia's stated average time frame to implement springing lockboxes also indicates a proactive process.

**Primary-Servicing Portfolio Delinquency Percentages**

	June 30, 2020		December 31, 2019		December 31, 2018	
	UPB (\$ 000s)	Loans (%)	UPB (\$ 000s)	Loans (%)	UPB (\$ 000s)	Loans (%)
30 Days	0.80	0.84	0.24	0.30	0.16	0.19
60 Days	1.38	0.86	0.00	0.08	0.23	0.20
90+ Days and REO	1.22	1.40	2.90	14.12	1.02	0.92
<b>Total</b>	<b>3.40</b>	<b>3.10</b>	<b>3.14</b>	<b>14.49</b>	<b>1.41</b>	<b>1.31</b>

**Berkadia CMBS Portfolio Delinquencies\***

	June 30, 2020		December 31, 2019		December 31, 2018	
	UPB	Loans	UPB	Loans	UPB	Loans
Delinquency Volume (\$Mil/#)	525.6	53	332.6	47	476.6	70
Delinquency Volume (%)*	5.7	5.9	1.5	2.8	4.5	5.0

\*Based on total CMBS portfolio, including master-serviced-only loans. All loans delinquent 30 or more days.

**Master Servicing: Subservicer Auditing and Compliance**

Berkadia has two dedicated personnel for sub-servicer auditing and compliance oversight. As of June 30, 2020, it monitored seven subservicers, down from nine as of December 31, 2018. It tracks all subservicers for annual compliance, which includes collection and review of Regulation AB and USAP reports, collection of evidence of proper insurance, collection of financial statements, Sarbanes-Oxley certificates, and attestations required by transaction documents.

On a quarterly basis and per the transaction documents, Berkadia tracks loan boarding, CREFC reporting compliance, surveillance and portfolio monitoring, and approval validations for items such as payoffs and reserve disbursements. It also receives quarterly subservicer certifications for tax and insurance administration, reserve releases, UCC renewals, LOCs, analyzed financial statements, rent rolls, and inspections.

Desktop and on-site audits are performed. On-site visits are generally limited to large volume subservicers with cash processing capabilities. A scorecard is maintained for each subservicer and focuses on springing lockboxes, consent request tracking, and other trigger events. Each functional unit gathers information to assess subservicer performance. Because of its modest subservicer exposure (and the effects of the coronavirus pandemic) Berkadia completed two desktop audits during the first six months of 2020. No on-site audits were conducted during 2019. One on-site audit was conducted during 2018, in addition to four desktop audits.

*Assessment:* Berkadia has a solid track record of conducting an effective subservicer audit program and maintaining monthly monitoring of subservicers' reporting completeness, accuracy, and timeliness. However, relatively few of its subservicers have servicing volumes large enough to trigger on-site audits, and none of them perform cash processing responsibilities. Berkadia's overall subservicer auditing activities are consistent with the number of subservicers and the size of their portfolios.

### Borrower Consents and Requests

Berkadia has dedicated asset-management teams to underwrite and close borrower consent requests, including assumptions, leasing and subordination and non-disturbance agreement reviews, and partial property releases. It also relies on BSIPL to assist with borrower requests and has a special-request team within BSIPL that re-underwrites complex requests. U.S.-based account managers serve as initial points of contact. The servicer noted that it manages consent approvals through the servicing system in conjunction with a proprietary application. It also relies on a third-party application to manage and track borrower requests, which routes the inquiry to the appropriate department. A dashboard module within the application provides daily exception reports, which are used for quality controls and process-improvement initiatives.

#### Borrower Consent Average Processing Times (Days)

	June 30, 2020			2019			2018		
	Processed (#)	Internal Time	Total Time*	Processed (#)	Internal Time	Total Time*	Processed (#)	Internal Time	Total Time*
Assumptions	66	64	87	110	86	131	181	82	123
Leasing	113	20	33	265	25	40	307	31	41
Defeasance	89	14	14	89	21	24	75	16	18
Partial Releases	7	23	25	38	50	65	25	38	48
Property Manager Changes	89	21	43	156	49	76	25	38	48
<b>Total</b>	<b>364</b>			<b>658</b>			<b>613</b>		

\*The servicer's internal time plus third-party review time only for those transactions requiring external party consents.

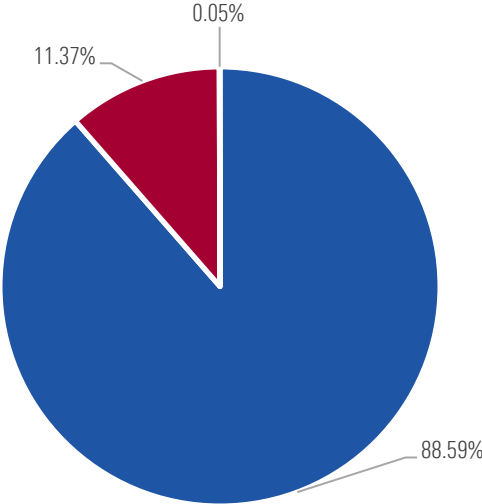
*Assessment:* Berkadia has a suitable workflow practices and staffing for analyzing and approving a high volume of borrower consents. Its controls for analyzing and approving borrower consents are sound. DBRS Morningstar recognizes that processing times can often be extended by delays in receiving necessary documentation.

### Special Servicing Administration

As of June 30, 2020, Berkadia's active special-servicing portfolio had a total UPB of approximately \$705.1 million representing 62 loans and no REO properties. The CMBS component of the active special-servicing portfolio had a total UPB of approximately \$0.3 million and contained four assets and no REO properties. The portfolio predominantly consisted of healthcare and multifamily properties.

**Active Special Servicing by Property Type (UPB)\***

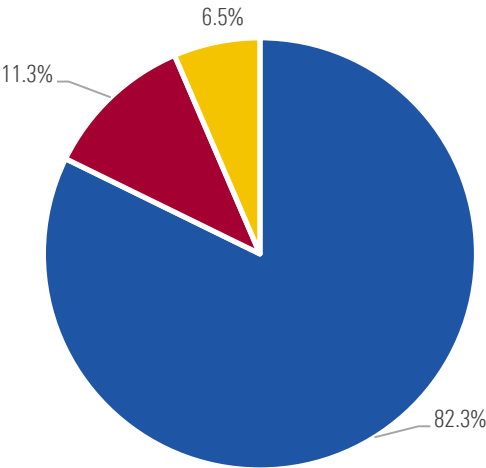
- Healthcare
- Multifamily
- Non-Real Estate/Unsecured



\*As of June 30, 2020.

**Active Special Servicing by Property Type (# of Loans)\***

- Healthcare
- Multifamily
- Non-Real Estate/Unsecured



\*As of June 30, 2020.

**Asset-Review Process**

Upon the transfer of a loan to special servicing, asset managers formally notify borrowers and require them to sign pre-negotiation letters before workout discussions. Asset managers prepare loan resolution plans generally within 90 days of a loan transfer, and the company stated that such plans, or detailed asset-status reports, are required for all loans and REO assets. Asset managers submit an updated ASR or Asset Status Report to match the ASR, which includes a net present value analysis of alternative resolution strategies, to obtain approval for specific terms of negotiated resolutions. The company's delegations of authority require a formal committee process for the approval of initial and updated business plans. Asset managers create and update asset plans directly through AIMS, the company's asset-management system. For CMBS assets, Berkadia formally monitors master servicers' outstanding advances against property values and expected recovery amounts. It also consults with master servicers on their advancing decisions. In the case of loan modifications, Berkadia stated that it can usually deliver the loan modification boarding package to master servicers within two days of closing. The company usually will not direct master servicers to place partial payments in suspense rather than having such payments applied to the loan. An asset manager may handle both loan and REO assets.

*Assessment:* Berkadia has sound and controlled asset-recovery practices based on its stated policies and procedures. Though its activity is modest compared with many other special servicers, we believe that Berkadia's centralized asset-management system serves as an effective tool to track asset-resolution activities, including CMBS-related requirements.

**REO Property Management**

As of June 30, 2020, Berkadia had no REO properties in its portfolio. Should it acquire any REO properties, Berkadia uses single trust accounts rather than separate rent collection and expense accounts for property cash management. It receives monthly operating statements from external property managers and stores that information on the asset-management system. The company's accounting department reconciles external property managers' REO bank accounts. Berkadia requires its own standardized engagement agreement for property managers, and it provides them with a set of reporting guidelines. Because of its minimal REO activity, and the latest REO asset also being land, Berkadia has not conducted any property manager audits in recent years.

*Assessment:* Berkadia has controlled REO property management oversight procedures. Having the accounting department independently perform REO bank account reconciliations is a best practice.

**Vendor Oversight**

Berkadia, which maintains a centralized list of approved firms for appraisals, environmental and engineering assessments, legal counsel, property managers, and brokers, has a formal vendor performance review process. It also conducts a request for proposal bidding process for all engagements and uses its own form agreements for vendor engagements. Asset managers select prospective brokers or property managers based on their expertise and cost. Berkadia's in-house legal department engages outside counsel, and it uses its own standard engagement letter. Asset managers review and approve legal invoices before payment for delinquent assets because the legal charges on those assets are billed

as property protection advances. For nondelinquent assets, the legal department approves legal invoices. Asset managers order and track appraisals and environmental reports through the asset-management system.

*Assessment:* Berkadia's process for engaging vendors is well controlled and highly centralized. We believe that Berkadia's centralized process for qualifying, engaging, and tracking vendor assignments for special servicing work, including the use of standardized forms for all vendors, adds efficiency and consistency, and is an industry best practice.

### Managing Conflicts of Interest

Berkadia, as a special servicer, is unaffiliated with controlling class holders or B-piece buyers in the CMBS transactions it may manage. Additionally, it does not use its affiliate as a broker on note sales or REO sales, or for property management. The company stated that while it has infrequently collected special servicing fees from the trust and from the borrower or other sources, it does not collect fees that exceed the trust contractual fee as outlined in the related PSA. Berkadia stated that it does not use affiliates for its resolution and liquidation strategies, including buying assets out of the pool by exercising fair market value purchase options.

*Assessment:* Berkadia has sound controls for managing conflicts of interest, protecting confidential information, and passing through fees to CMBS trusts.

### Asset Resolution and Recovery Performance

As indicated in the tables below, Berkadia's asset management and recovery activity has remained moderate, although loan-transfer inflow substantially increased in the first half of 2020. All asset activity involved loans as the company, as noted, had no REO properties in the portfolio.

#### Special-Servicing Loan Portfolio Activity (First-Half 2020)

	Total Vol (\$Mil)	Total Loans (#)	Total Properties (#)	CMBS Vol (\$Mil)	CMBS Loans (#)	CMBS Properties (#)
Loan Portfolio at Beginning of Period	17.4	12	6	0.4	6	0
Loans Transferred into Portfolio:						
Retransferred/Redefaulted Loans	0.0	0	0	0.0	0	0
New Nonmonetary/Imminent Default Transfers	693.4	58	68	0.0	0	0
New Monetary Default Transfers	0.9	1	1	0.0	0	0
Total Transfers into Special Servicing	694.3	59	69	0.0	0	0
Loans Fully Resolved:						
Modified or Corrected Loans	(6.1)	(9)	(9)	(<0.1)	(2)	0
Total Loan Resolutions	(6.1)	(9)	(9)	(<0.1)	(2)	0
Other Adjustments	(0.5)	0	0	(<0.1)	0	0
<b>Loan Portfolio at End of Period</b>	<b>705.1</b>	<b>62</b>	<b>66</b>	<b>0.3</b>	<b>4</b>	<b>0</b>
Average Loan Size at End of Period	11.4			0.1		

**Special-Servicing Loan Portfolio Activity (Full-Year 2019)**

	<b>Total Vol (\$Mil)</b>	<b>Total Loans (#)</b>	<b>Total Properties (#)</b>	<b>CMBS Vol (\$Mil)</b>	<b>CMBS Loans (#)</b>	<b>CMBS Properties (#)</b>
Loan Portfolio at Beginning of Period	120.9	26	19	1.8	9	2
Loans Transferred into Portfolio:						
Retransferred/Redefaulted Loans	0.0	0	0	0.0	0	0
New Nonmonetary/Imminent Default Transfers	29.5	4	4	0.0	0	0
New Monetary Default Transfers	4.7	3	3	0.0	0	0
Total Transfers into Special Servicing	34.2	7	7	0.0	0	0
Loans Fully Resolved:						
Modified or Corrected Loans	(134.4)	(21)	(20)	(1.3)	(3)	(2)
Total Loan Resolutions	(134.4)	(21)	(20)	(1.3)	(3)	(2)
Other Adjustments	(3.3)	0	0	(0.1)	0	0
<b>Loan Portfolio at End of Period</b>	<b>17.4</b>	<b>12</b>	<b>6</b>	<b>0.4</b>	<b>6</b>	<b>0</b>
Average Loan Size at End of Period	1.4			0.1		

*Assessment:* Based on our review of Berkadia's resolution results, the company demonstrates a successful performance record involving a portfolio of modest volume.

**Investor and Master Servicer Reporting**

Berkadia's procedures cover its requirements as a CMBS special servicer for reporting property protection advances and realized losses, pursuing updated appraisals, and communicating with other master servicers on asset-management decisions. Procedures also address its special servicer reporting responsibilities for GSE portfolios. The special servicing components of the monthly investor reporting package are produced and provided to master servicers in a similar manner as Berkadia's master servicing reports, with the servicing system used to identify any PSA specific requirements. Asset managers input fresh status comments at least monthly for IRP submissions. As a CMBS special servicer, Berkadia provides an initial asset status report to the trustee and states that it releases the final asset resolution plans containing the specific terms and details of a completed workout or liquidation.

*Assessment:* Berkadia is highly experienced with and has effective special servicer-related reporting capabilities to address CMBS and other investor type requirements.

**Ranking Scale**

The numerical scale of MOR CS1 to MOR CS4 is defined as follows:

1. Exceeds prudent loan servicing 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 servicer assigned a ranking of at least MOR CS3 is deemed to comply with what we view as the minimum prudent loan servicing standards and requirements for the servicer's operational category and role. DBRS Morningstar's operational risk assessments methodology and all published reports are available at [www.morningstarcreditratings.com](http://www.morningstarcreditratings.com).

### About DBRS Morningstar

DBRS Morningstar is a global credit ratings business with approximately 700 employees in eight offices globally.

On July 2, 2019, Morningstar, Inc. completed its acquisition of DBRS. Combining DBRS' strong market presence in Canada, the U.S., and Europe with Morningstar Credit Ratings' U.S. footprint has expanded global asset class coverage and provided investors with an enhanced platform featuring thought leadership, analysis, and research. DBRS and Morningstar Credit Ratings are committed to empowering investor success, serving the market through leading-edge technology and raising the bar for the industry.

Together as DBRS Morningstar, we are the world's fourth-largest credit ratings agency and a market leader in Canada, the U.S., and Europe in multiple asset classes. We rate more than 2,600 issuers and 54,000 securities worldwide and are driven to bring more clarity, diversity, and responsiveness to the ratings process. Our approach and size provide the agility to respond to customers' needs, while being large enough to provide the necessary expertise and resources.



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