FitchRatings

PGIM Real Estate Loan Services, Inc.

PGIM Real Estate Loan Services, Inc. (PGIM Loan Services, or the company, is the CRE loan servicer for PGIM Real Estate (PGIM RE) and is a subsidiary of PGIM Real Estate Finance, LLC (PGIM REF), a wholly owned subsidiary of Prudential Financial, Inc. (PFI). PGIM Loan Services performs loan servicing primarily for loans originated by PGIM RE that are held in the company's general account, securitized in CRE transactions or originated for government-sponsored entities (GSE) or other institutional investors.

The company provides critical loan servicing functions in support of the global CRE investment portfolios of PGIM RE and PGIM REF, as well as a growing portfolio of third-party clients. PGIM Loan Services affiliates originated approximately $13.8 billion of CRE loans in 2023, reflecting core ($8.0 billion), GSE ($2.8 billion), agriculture ($1.1 billion), core+/value add ($1.8 billion). Servicing for non-affiliate third-party clients, including GSEs, represented approximately 61% of the servicing portfolio by loan count. As of September 2023, the company had serviced more than 4,700 loans totaling $129.7 billion, including 215 international loans representing eight currencies.

PGIM Loan Services has been servicing CRE loans for more than 100 years and is among the oldest and most experienced of Fitch-rated servicers, with a demonstrated history of maintaining the highest standards of primary servicing through well-planned and well-executed portfolio growth through multiple economic cycles. The company now provides special servicing support primarily for more than 2,800 affiliate balance sheet loans totaling $81.9 billion, including highly structured large balance loans. PGIM Loan Services has prior experience in special servicing securitized loans across all property types.

The active special servicing portfolio had grown to comprise 88 loans as of September 2023 from four loans in September 2022, given PGIM Loan Services' conservative approach to transferring loans amid the decline in domestic CRE conditions and the impact of increasing interest rates on maturing loans. Given the referenced environment and the potential for issues, not all of the 88 loans in special servicing are being actively worked out, although many are being more closely monitored. Commensurate with the increase in actively specially serviced volume, the company has significantly expanded the number of staff allocated to special servicing, allowing it to maintain its high servicing standards and somewhat mitigating the increased transfer and oversight activity. Commensurate with its long history of servicing CRE loans, the company also has demonstrated expertise in resolving defaulted loans across all asset types, including highly structured loan participations through multiple real estate cycles.

Servicer Ratings

- Fitch rates primary and master servicers, which protect the interests of 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 primary servicers, investor reporting and timely remittance of funds to trustees.
- Fitch also rates special servicers, which are key to maintaining the credit quality of a pool containing nonperforming commercial mortgages and REO assets. The special servicer is responsible for working out loans, foreclosing and liquidating assets.
- In assessing and analyzing the capabilities of primary, master and special servicers, Fitch reviews several key factors, including the management team, organizational structure

Structured Finance
Commercial Mortgage Servicer
North America

Ratings[a]

Commercial Master Servicer	CMS2+
Commercial Primary Servicer	CPS1
Commercial Loan-Level Special Servicer	CLLSS2+

[a] Last Rating Action: April 30, 2024

Rating Outlook

Stable

Applicable Criteria

Criteria for Rating Loan Servicers (December 2022)

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

Related Research

Fitch Upgrades PGIM Loan Services Commercial Special Servicer Rating (April 2024)

Fitch Affirms Prudential Financial's Ratings; Outlook Stable (November 2023)

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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 1-to-5 scale, with '1' being the highest rating. Within each of these rating levels, Fitch further differentiates ratings by plus (+) and minus (–) along with the flat rating.

Key Rating Drivers

Company/Management: PGIM Loan Services has been servicing CRE loans since 1898 and remains active in the servicing and origination of CRE loans, particularly for the general account, affiliate investment funds and GSEs. The servicing functions performed by the company are key to supporting the CRE originations of PGIM RE, providing a steady flow of new business. The company also continues to invest in technology to drive process efficiency and improve the borrower experience.

PGIM Loan Services the majority of CRE investments for PFI and performs servicing for affiliate CRE investment funds that includes high-yield and core-plus loans on behalf of the CRE investment funds. PGIM Loan Services also services more than $8.1 billion of loans in eight currencies and 15 countries, making it one of the most diverse international portfolios of Fitch-rated servicers in North America.

Staffing and Training: PGIM Loan Services maintained a master and primary servicing staff of 155 employees as of September 2023, up slightly from 153 as of Fitch's prior review. Thirty-three servicing employees are located in Letterkenny as part of PGIM Ireland Limited and report directly to managers in Dallas. The special servicing team is comprised of five dedicated staff as well as six shared staff from primary servicing (up from one and four the prior year, respectively).

Turnover among domestic master and primary servicing employees has decreased to 14% from 17% the prior year. Notwithstanding turnover, employee experience and tenure remain higher than at other Fitch-rated servicers. Nine senior managers average 29 years of industry experience and 19 years of tenure, while 31 middle managers average 22 and 15 years of industry experience and tenure, respectively. The number of offshore employees had fallen to 36 as of September 2023 from 40 as of Fitch's prior review. There has been no turnover among special servicing employees, five of whom are fully dedicated to special servicing, with the remainder being shared resources. Servicing employees completed 44 hours of training through December 2023, consistent with the prior years and appropriate given overall tenure and experience.

Technology: PGIM Loan Services maintains a highly integrated technology infrastructure for commercial loan servicing anchored by McCracken's Strategy (version 19D) and supplemented by a proprietary application (LoanConnect), supporting the company's loan originations, asset management and workflow processes. The company also maintains robust borrower and investor portals and a data warehouse. PGIM is in the process of a multiyear digital transformation to update its internal proprietary origination and asset management system from LoanConnect to Omnia. The Omnia platform will be the proprietary end-to-end system that will power PGIM's global credit business. Recent technology enhancements include the buildout of new loan origination, property rent roll and operating statement analysis modules, automated rent roll data abstraction utilizing a vendor OCR tool and automation of the state tax apportionment process. Future technology enhancements include the implementation of a new third-party treasury system to support cash processing, an upgrade of Strategy to version 20A, continued buildout of the company's data lake and supporting PowerBI tools and continued modernization of LoanConnect for transition to a cloud-hosted environment.

Procedures and Controls: PGIM Loan Services has a dedicated business strategy and support (BSS) group that is responsible for measuring performance, compliance and accuracy through a comprehensive process that includes monitoring over 250 metrics. The company is also subject to an internal audit review by the parent of PGIM RE, PGIM, Inc., a subsidiary of PFI, as well as external Regulation AB (RegAB) and various third-party client audits.

Financial Condition: Fitch affirmed PFI's Long-Term IDR of 'A'/Stable in November 2023. The ratings on PFI reflect Fitch's review of the company's current operating results, including

Company Experience Since:

CRE servicing	1898
CMBS primary servicing	1999
CMBS master servicing	2001
CRE loan workout	1898
CMBS workout	2003

Source: PGIM Real Estate Loan Services, Inc.

Operational Trends

Business plan	■	Stable portfolio with demonstrated sponsor support investing in servicing infrastructure
Servicing portfolio	■	Year-over-year loan count change of approximately 10%
Financial condition	■	Stable outlook
Staffing	■	Staffing changed less than 12% +/–
Technology	▲	Improving technology platform
Internal controls	■	Stable control environment; no material audit findings
Servicing operations	■	Stable operations; no material changes year-over-year

Source: Fitch Ratings

previously announced reinsurance transactions. They also reflect PFI's leading market position in core markets, very strong earnings, exposure to Japanese markets and strong capital levels.

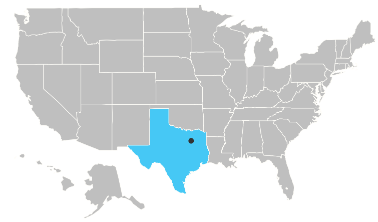
Loan Administration: PGIM Loan Services' core servicing system and proprietary ancillary systems are fully integrated into a robust technology platform that performs all servicing functions and provides for key metrics to support compliance. While the company leverages both an offshore affiliate and an outsourcing vendor to perform certain servicing functions, it retains all approval authority and has the ability to perform and monitor the functions domestically. PGIM Loan Services has not had any instances of missed tax payments or reporting restatements during the past four years. The company maintains one of the fastest financial statement analysis processing times (within two to three days) among Fitch-rated primary servicers.

Defaulted/Nonperforming Loan Management: PGIM Loan Services maintains well-documented procedures for resolving defaulted loans. The asset management staff comprises dedicated and shared resources that are adjusted based on the volume of loan defaults. Senior management maintains an active oversight role throughout the workout process, with approvals based on delegation of authority reflecting the concentration of non-securitized loans. The company resolved 11 non-securitized loans totaling $403.2 million during the 12-month period ended September 2023, with eight loans paid in full and three loans returned to performing status. Six of the loans were secured by office properties, three were secured by retail properties and two were secured by multifamily properties. While PGIM Loan Services has had limited REO assets for several years, the company has experience in foreclosing and selling CRE assets nationwide and generally sells assets through receivership.

Most Recent Management Meeting:

December 14, 2023 Dallas, TX

Office Locations



Primary Office: Dallas

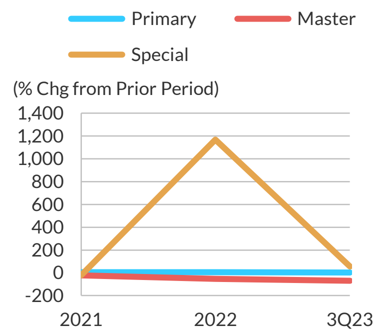
Company Overview

Servicing Portfolio Overview

	9/30/23	% Change	12/31/22	% Change	12/31/21
Total servicing					
UPB ($ Mil.)	129,744	2	126,945	4	121,659
No. of loans	4,786	0	4,777	-1	4,813
Primary servicing					
UPB ($ Mil.)	129,737	2	126,923	4	121,611.6
No. of loans	4,781	0	4,769	-1	4,800
Master servicing					
UPB ($ Mil.)	7	-68	22	-53	47.3
No. of loans	5	-38	8	-38	13
Special servicing — named					
UPB ($ Mil.)	81,848.5	2	80,164.1	-7	85,853.2
No. of loans	2,855	1	2,820	-5	2,974
Special servicing — active[a]					
UPB ($ Mil.)	6,436.1	55	4,146.9	1,169	326.7
No. of loans	88	35	65	829	7

[a] Includes REO assets. UPB – Unpaid principal balance.
Source: PGIM Real Estate Loan Services, Inc.

Servicing Portfolio



Note: Special servicing includes loans actively in special servicing (including REO). Total excludes special servicing.
Source: Fitch Ratings, PGIM Real Estate Loan Services, Inc.

PGIM Loan Services is the commercial mortgage servicing entity of PGIM, Inc., a wholly owned subsidiary of PFI. PFI is one of the world's largest financial services organizations, with operations in the U.S., Asia, Europe and Latin America and over $1.34 trillion in total assets under management (AUM) as of March 2024. PGIM comprises seven business lines covering real estate debt and equity, public fixed income, public equity and private fixed income and equity investments.

As of September 2023, PGIM Loan Services' total servicing portfolio consisted of 4,786 loans totaling $129.7 billion. PGIM Loan Services retains all primary servicing responsibility for loans originated by PGIM RE, as well as special servicing for non-securitized loans. The company also retains servicing responsibility for loans originated by PGIM RE for international clients seeking debt-financing products outside of the U.S.

PGIM Loan Services' commercial servicing operations continue to focus on loans originated by PGIM RE for the general account, GSEs (e.g. the Federal Housing Administration [FHA], Fannie Mae and Freddie Mac) and other third-party investors. PGIM RE originated approximately 367 CRE loans totaling $13.8 billion in 2023, down from 510 loans totaling $18.0 billion the prior year. Although originations were down in 2023, portfolio runoff has slowed, allowing for a modest increase in PGIM RE's portfolio. While the number of loans serviced has increased by 1% since 2019, the average balance of loans serviced has increased by 17% over the same period, reflecting larger loans offsetting maturities. In addition to CRE servicing, PGIM Loan Services performs general ledger accounting, transfers, debt valuations and total return reporting for insurance company loans, new loan forecasts, loan quality ratings and loan fee accounting for PGIM RE.

PGIM Real Estate Loan Services provides servicing for approximately $8.1 billion of loans in eight currencies and 15 countries, representing one of the largest and most diverse international portfolios of Fitch-rated servicers in North America.

The majority of the company's servicing portfolio for affiliates consists of core, core+ and high-yield strategies. The affiliate core/core+/value-add portfolio represents approximately $50.2 billion and the agricultural portfolio includes $6.9 billion affiliate servicing and $1.5 billion for third-party clients.

Recent originations focused on fixed-rated debt for industrial and multifamily assets, as well as agricultural assets. The third-party core/core+ portfolio, which the company services on behalf of more than 20 third-party clients, including 13 investment management clients and four debt funds, totaled $22.2 billion as of September 2023. Affiliate servicing includes the PGIM RE U.S. debt fund, which totaled $5.1 billion (59 loans), non-investment management clients including two PGIM RE capital funds (VI and VII), and PGIM RE's bridge financing program.

Principal servicing operations and the majority of the servicing staff are located in Dallas, with offshore servicing staff located in Letterkenny, Ireland, through an affiliate company, PGIM Ireland Limited (PFI's offshore captive platform).

Financial Condition

Fitch affirmed PFI's Long-Term IDR at 'A'/Stable on Nov. 17, 2023.

KEY RATING DRIVERS

Very Strong Company Profile: PFI is one of the world's largest insurance organizations, with market-leading positions in several major life insurance segments in the U.S. and Japan, providing the company with significant operating scale and major competitive advantages. PFI also benefits from strong asset origination capabilities, diversified product and distribution channels and a strong brand name.

Very Strong Earnings Profile: PFI's robust earnings profile reflects the company's strong diversification, driven by its U.S. and international life insurance businesses. Following the company's recent transactions, Fitch expects that earnings from the asset management segment will continue to make up a larger share of the total. Earnings in 2022 and the first half of 2023 remained very strong, with Fitch calculating the company's operating based ROE at 10% and 12% respectively. Going forward, Fitch expects that earnings will remain consistent with 'aa' guidelines and will benefit from a stabilizing higher interest rate environment.

Strong Statutory Capitalization: Fitch views PFI's statutory capitalization as strong and broadly supportive of its rating. PFI's regulatory capital ratios are well in excess of regulatory minimums in both the U.S. and Japan. Its U.S. insurance subsidiaries reported an RBC ratio of 383% as of YE22, and Fitch expects PFI's Japanese insurance subsidiaries to maintain solvency margins above 800%.

PFI's capital strength as measured by Fitch's Prism capital model had declined at YE22 due to several non-economic factors including the statutory accounting treatment of negative IMR balances and the impact of asymmetrical statutory accounting for its hedging program. Fitch expects the 2023 Prism model score to return to the 'Strong' category based on a review of YTD surplus growth and PFI's recently announced reinsurance transactions. Additionally, the company maintains significant liquid assets at the holding company that are not modeled in

Prism, but which are available to support capital needs at PFI's U.S. and Japanese subsidiaries. As such, Fitch continues to view capital levels as supportive of the rating.

Japanese Exposure: PFI's international insurance businesses, which predominantly consist of the company's Japanese operations, account for approximately 47% of consolidated company earnings, providing strong earnings and diversification for the combined organization. PFI's Japanese businesses expose the company to a meaningful investment concentration in Japan government bonds, which are vulnerable to changes in the Japan sovereign rating. Fitch last affirmed Japan's sovereign rating at 'A' with a Stable Outlook on Oct. 31, 2023.

Strong Liquidity and Financial Flexibility: PFI maintains a strong liquidity profile at both the holding company and operating company. Holding company liquidity benefits from an increasingly diversified stream of cash flows sourced from domestic and international insurance operations, as well as asset management subsidiaries.

Recent Transactions: PFI continued to execute on its strategy to reduce exposure to market-sensitive liabilities through three transactions during 2023, including reinsuring $10 billion of Prudential Defined Income variable annuities in May, $12.5 billion of guaranteed universal life products in July and the September launch of Prismic Life Reinsurance (Prismic) with Warburg Pincus, which included reinsuring $10 billion of structured settlement annuity contracts. These transactions followed several material transactions in 2022, while also reflecting broader market trends. The cumulative actions taken by Prudential may modestly reduce earnings diversification in the short term, but Fitch believes they will have a favorable impact on PFI's business risk profile over the longer term.

Employees

As of September 2023, PGIM Loan Services maintained a master and primary servicing staff of 155 employees, up slightly from 153 as of Fitch's prior review. Thirty-three servicing employees are located in Letterkenny as part of PGIM Ireland Limited and report directly to managers in Dallas. The special servicing team is comprised of five dedicated staff as well as seven shared staff from primary servicing (up from one and four the prior year, respectively).

The primary and master servicing group did not experience any turnover at the senior management level during the 12 months ended September 2023, down significantly from 18% as of Fitch's prior review.

Senior management monitors staffing levels on a monthly basis and proactively manages recruitment relative to turnover to ensure staffing levels remain adequate to meet servicing obligations. Employee performance is monitored via midyear and annual performance appraisals, 360-degree peer feedback, mentoring programs, customer survey feedback and ongoing staffing discussions.

Employee Statistics

	2023				2022			
	No. of employees	Average years industry experience	Average years tenure	% turnover	No. of employees	Average years industry experience	Average years tenure	% turnover
Domestic primary/master servicing								
Senior management	9	29	19	0	7	28	17	18
Middle management	24	23	16	7	29	22	14	14
Servicing staff	86	17	8	17	81	16	8	20
Total	**119**	—	—	**14**	**117**	—	—	**17**
Offshore primary/ Master servicing								
Senior management	0	—	—	—	0	—	—	—
Middle management	7	17	13	0	6	17	13	0
Servicing staff	29	7	5	17	30	8	4	11
Total	**36**	—	—	**14**	**36**	—	—	**9**
Cumulative total	**155**	—	—	**14**	**153**	—	—	**17**
Special servicing								
Senior management	2	22	5	0	0	—	—	100
Middle management	7	18	11	0	3	29	12	0
Servicing staff	3	3	3	0	2	**23**	**4**	0
Total	**12**	—	—	**0**	**5**	—	—	**25**

Source: Fitch Ratings, PGIM Real Estate Loan Services, Inc.

Primary/Master Servicing

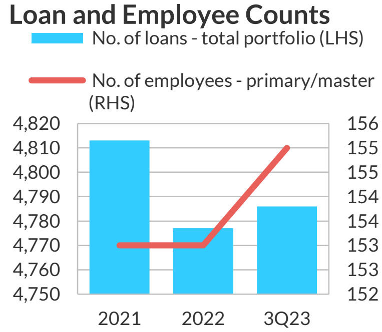
The primary and master servicing team is organized functionally across servicing, asset management, investment operations and the business strategy and support group. Employees are cross-trained across functions such as loan setup, payoffs and customer service to provide additional capacity during times of peak volume. Given the limited number of master servicing duties as a result of continued loan maturities, there is no dedicated master servicing staff, with master servicing duties instead integrated across the functional teams. Servicing teams are generally staffed at the associate, analyst and senior levels to provide advancement opportunities and cross-team support.

The primary and master servicing group did not experience any turnover at the senior management level during the 12 months ending September 2023, down from 18% as of the last review and flat from 2021. Turnover among domestic middle managers also decreased during the period, to 7% from 14%, with two middle managers departing the function, one being an internal transfer. Turnover among servicing staff also declined during the 12 months ended September 2023, to 17% from 20% in the prior period, reflecting aggressive hiring among commercial servicers in the Dallas market, which Fitch notes is consistent with previous reviews. Aggregate turnover among offshore employees remained stable at 7%, relatively flat from the prior review's 9% and 2021's lack of departures, reflecting a stable offshore platform. Average employee industry experience and tenure have not been materially impacted by turnover over the past few years.

The senior management team is led by nine managers, up from seven the prior year, who average 29 years of industry experience and 19 years of tenure. There are also 24 domestic middle managers who average 23 years of industry experience and 16 years of tenure, as well as six offshore managers who average 18 years and 14 years, respectively. PGIM Loan Services maintains a combined experienced and tenured domestic management team of 33, providing sufficient depth and support to the group's 86 domestic staff-level employees, while there is also one offshore middle manager for every five offshore staff employees.

Since Fitch's prior review, the company has strengthened their senior management team with the promotion of two middle managers who average 29 years of experience and 21 years with the company.

Loan and Employee Counts



Source: Fitch Ratings, PGIM Real Estate Loan Services, Inc..

Domestic staff-level employees average 17 years of industry experience and eight years of tenure, which compares favorably to staffing levels at other highly rated Fitch servicers. Offshore staff-level employees average seven years of experience and five years with the company and are solely dedicated to servicing.

Special Servicing

The special servicing group consists of two senior managers, seven middle managers and three staff-level employees, reflecting an expansion of seven additional staff yoy. The senior manager of the group, who has 23 years of CRE experience and 10 years of tenure with PGIM, is fully dedicated to the function. Of the seven middle managers, two are fully dedicated, while five share obligations with the credit and origination functions within the greater PGIM structure. Fitch noted that PGIM Loan Services has a deep bench of staff with solid workout experience to draw upon should the volume of defaults increase. While the special servicing team has historically been small and has had key-person risk, the company recently expanded special servicing resources through a realignment of the group, with the addition of seven additional employees addressing prior concerns. These risks are also mitigated by the depth of experience and tenure within the broader PGIM enterprise and the recent increase in headcount, as well as by the resources available within master/primary servicing and PGIM RE.

The special servicing group has not experienced any turnover during the past 12 months, down from the 25% function-level turnover noted during the last review. The special servicing team has historically seen limited turnover among management employees, and Fitch noted that while the special servicing group is small and draws on support from master/primary servicing employees, middle and asset managers have remained largely consistent for several years.

The group's seven middle managers average 18 years of industry experience and 11 years of tenure, while three staff-level employees average three and three years, respectively. There has been no turnover among middle or staff-level employees since Fitch's last review. Fitch calculated an assets to asset manager ratio of 4:1 for the group's dedicated asset manager, which is low compared to other Fitch-rated special servicers.

PGIM Loan Services does not maintain a separate REO group due to its limited number of REO assets. However, the asset management team is responsible for foreclosure and REO management functions. As is common among non-third-party special servicers with low loan defaults, the special servicing team includes both employees dedicated to special servicing and employees who perform other asset management functions for PGIM Loan Services and PGIM RE.

Training

PGIM Loan Services maintains a tiered training requirement structure. Employees with less than three years of tenure are required to complete 40 hours of training annually, while employees with more than three years of tenure must complete 30 hours annually.

Employee training and development is facilitated through the myLearning platform, which is managed by the BSS group. The departmental training curriculum is directed by a training committee comprising the departmental representative and the BSS group vice president, who serves as committee chair. All training for servicing employees is delivered and tracked by the company's myLearning application, which PGIM Loan Services adopted in 2020. The myLearning application monitors all training, including soft skills, servicing-specific topics, business processes, employee electives and external learning opportunities. Training is provided through a variety of methods, including Web-based training, vendor-sponsored webinars and outside instructor-led training. Training curriculums focus on improving individual skillsets, developing leadership competencies and departmental cross-training opportunities.

Compliance training is administered through the Axonify platform under the direction of the compliance group. Axonify is a third-party platform that applies a game-based approach to training, with employees accumulating points by completing various forms of training and ongoing assessments. Under this unique approach, employees are required to maintain a set number of reward points over a 30-day period, which is accomplished through micro training sessions and assessments. PGIM's approach to compliance training is unique among Fitch-rated servicers, as it focuses on continuous learning engagements rather than annual courses.

PGIM Loan Services utilizes myLearning to facilitate traditional employee training and development as well as Axonify for compliance related training. Axonify is a games-based approach to compliance training whereby employees earn points by completing courses and asssessments every 30-days.

PGIM Loan Services has demonstrated proficiency in adjusting its staffing needs relative to market conditions. During times of increased defaults, the company has increased the size of the special servicing team by drawing experienced real estate professionals from other areas within PGIM RE, such as originations. In addition, as PGIM RE has expanded geographically, PGIM Loan Services has placed asset managers in PGIM RE offices within highly distressed regions.

Axonify contains most compliance and required PGIM training courses, such as conflicts of interest and anti-harassment, among others.

Annually required training courses/topics for PGIM Loan Services employees include a corporate policy refresher, ethics training, anti-bribery/anti-corruption and privacy and information security awareness. Managers are provided monthly reports of completed training hours for direct reports and are annually provided suggested curriculums to help promote professional development.

PGIM Loan Services expanded training opportunities for employees through the Mortgage Bankers Association in 2022 with the addition of 40 self-paced CRE specific training courses and access to additional instructor-led training opportunities. Recent training topics included DEI basics, ESG overview, A/B-sizing training and overview, loan documentation and closing, overview of Freddie Mac loan fee accounting, transition risk in CRE, and property inspection and environmental concerns. In addition to formal training opportunities, the company offers financial support to employees for undergraduate and postgraduate studies and professional certifications. Employees are also encouraged to earn Level 1 and/or Level 2 certifications from the Mortgage Bankers Association.

PGIM Loan Services employees responsible for both primary and special servicing functions averaged 25 hours of training for the 12 months ended September 2023 and 44 hours of training as of December 2023, consistent with the prior year.

The commercial loan servicing team includes 36 offshore employees who report to managers in Dallas and are fully integrated with the servicing group.

Operational Infrastructure

Offshore Operations

PGIM Ireland Limited is a captive offshore affiliate located in Letterkenny, Ireland that supports various Prudential-affiliated companies. PGIM Loan Services retains PGIM Ireland Limited employees dedicated to supporting the commercial servicing platform, allowing PGIM Loan Services to extend its workday by five hours.

Offshore employees perform and/or participate in performing loan surveillance, investor reporting, accounting, lease consent review, repair monitoring, reserve disbursements, and international treasury and servicing functions. Organizationally, offshore employees report directly to managers in Dallas who utilize key performance indicator reports to monitor multiple performance metrics around servicing functions and track volume, productivity and quality. In addition to day-to-day interfaces, PGIM Loan Services regularly holds knowledge exchanges between Dallas and Letterkenny, through video conferences.

PGIM opened an office in Ireland in 2023, which houses 150 people and has the capacity to grow this number to 250.

Outsourcing

PGIM Loan Services outsources limited servicing functions to a third-party vendor in Gurgaon, India and a second vendor in Chennai, India. The Gurgaon vendor performs data entry for rent rolls and financial statement data entry spreading within PGIM Loan Services' LoanConnect application, along with bank reconciliations, loan quality ratings and various other data entry tasks. The vendor in Chennai inputs insurance policy data within LoanConnect. The work product of both vendors is reviewed by PGIM Loan Services, which also maintains the ability to perform both functions internally if needed. Additionally, there are multiple alternative vendors available in the market, mitigating reliance on a single vendor.

The executive director of the BSS group oversees third-party vendors with the goal of continuous process improvement to further leverage offshoring opportunities with the intention of maximizing the efficiency of the overall platform. Fitch noted that PGIM Loan Services' internal key metric report contains multiple measures of work performed by vendors.

Similar to other CRE servicers, PGIM Loan Services also engages third parties for tax payment and reporting, UCC filings and property inspections. The company separately engages vendors to support special servicing duties such as law firms, brokers, property managers and environmental impact assessors. Fitch does not view the current level of outsourcing as material given its limited scope and the use of a diverse mix of vendors, while the company retains the expertise to perform such functions in-house.

Vendor Management

Vendor management is the responsibility of Prudential's enterprise vendor governance office (EVGO), which comprises employees from legal, compliance, audit, risk management and the individual business lines. EVGO maintains processes for selecting and engaging vendors; analyzes the financial condition, capabilities and controls around outsourced functions; and performs a risk rating analysis of each vendor based on 16 risk areas. PGIM Loan Services' BSS team is responsible for working with the EVGO and the PGIM RE risk management groups on behalf of PGIM Loan Services to ensure vendors are monitored and assessed for the appropriate risk level.

Prior to engaging a vendor, a performance monitoring plan is developed; it includes monthly, quarterly and annual reporting. Additionally, the BSS team actively solicits feedback from PGIM Loan Services line managers to confirm ongoing monitoring and identify any changes that may materially impact a vendor's risk assessment. Managers are responsible for monitoring and validating the work of their teams, including quality control (QC) testing. The executive director of the BSS group is responsible for monitoring the performance of offshore vendors. Vendor performance is also tracked according to the servicing functions listed in PGIM Loan Services' Key Indictor Report, which includes multiple metrics for monitoring each servicing function.

Information Technology

PGIM Loan Services uses McCracken's Strategy, version 19D, as its primary system for all loans, including loans for non-U.S. collateral. In addition, the following secondary systems and applications are integrated with Strategy:

- LoanConnect, the proprietary asset management and workflow application which will evolve to Omnia.
- Omnia, a cloud-native, proprietary pipeline and asset management system.
- BorrowerConnect, a proprietary borrower website.
- DataConnect, a consolidated data warehouse.
- InvestorView, a proprietary investor website.
- PruXchange, a website for document exchange.
- PGIM Real Estate Talent Management System (PTM), a proprietary system used for performance reviews and feedback.
- IBM FileNet, a third-party document imaging and content management system.
- Argus (version 14.1), a third-party property valuation system.
- The MIAC (Mortgage Industry Advisory Corporation) system, which is used for third-party servicing portfolio valuation.
- PRIDE/AMLS, a third-party check production and Office of Foreign Assets Control (OFAC) verification application.
- Oracle, a third-party general ledger.

Special servicing asset management functions are performed within the asset management module of LoanConnect and further supplemented by the application's workflow tools. Given the limited number of specially serviced loans and the high degree of customization within LoanConnect, Fitch believes PGIM Loan Services asset management technology is appropriate.

Nightly data feeds from Strategy are used to populate DataConnect for reporting purposes and LoanConnect as well as regular scheduled updates throughout the day of key data elements. Microsoft Power BI is the primary report writer for DataConnect and LoanConnect. Additional reporting is available through preprogrammed reports in Strategy, along with ad hoc reporting through Crystal Reports and the AS400 query tool. Robot Reports is used to schedule, distribute and store all key reports.

PGIM is in the process of a multi-year digital transformation to upgrade its internal proprietary origination and asset management system from LoanConnect to Omnia. The Omnia platform will be a proprietary end-to-end system that will power PGIM's global credit business. The project is cloud-native and will ultizlize third-pary tools and solutions.

The company's BorrowerConnect portal includes robust functionality, including access to detailed loan information; tracking of outstanding obligations; the ability to upload required documentation, access loan documents and billing statements and download tax and bank statements; paperless billing; credit action requests; and contact with asset managers. The portal has in excess of 5,800 users representing approximately 4,700 loans.

Approximately 70% of loans serviced by PGIM Loan Services have an active user of the company's borrower portal. Additionally 37% of borrowers have transitioned to paperless billings.

Recent technology enhancements include the LoanConnect to Omnia upgrade and buildout of the commercial loan origination platform, property rent roll and financial statement analysis modules, automated data abstraction of rent rolls utilizing a third-party vendor OCR tool and automation of the state tax apportionment process. Future technology enhancements include the implementation of third-party treasury application, upgrade of Strategy to version 20A, continued buildout of PGIM RE data lake and Microsoft PowerBI reporting tools, and continued modernization of LoanConnect to support migration to a cloud based environment. PGIM Loan Services remains one of few Fitch rated servicers utilizing OCR technology to collect and process data from insurance ACORD 25 forms. When first introduced, the tool reduced processing and review time by more than 75% and increased data accuracy.

Application and technology support is provided by a team of 24 IT professionals located in Dallas, Atlanta and Newark, NJ. Additionally, the company is able to utilize third-party consultant IT resources in Letterkenny, Ireland to support development and data analysis needs. Network and desktop support services are provided by the Prudential Global Technology support group.

Cybersecurity

Cybersecurity administration of PGIM Loan Services falls under the Chief Information Security Officer (CISO) of Prudential and individual information security officers within each business line. The CISO leads Prudential's Information Security Office which works with the global technology group to maintain a secure technology environment.

PGIM maintains a robust technology support infrastructure with multiple teams dedicated to cybersecurity. The company reported no significant cybersecurity incidents during the 24-months ended September 2023.

Prudential utilizes industry standard services for daily vulnerability and penetration testing. Servers and database management systems are reviewed weekly to ensure compliance with security measures and vulnerability scans. Prudential has a central team that business information security officers who leverage for testing of all externally facing, as well as high rated internal, web-based applications.

Prudential's technology environment is continuously monitored by its operations control center and cybersecurity operations center, which leverage ongoing monitoring tools to detect, compartmentalize and eradicate signature and anomaly-based malware indicators at both the network and host levels. Additionally, Prudential maintains a documented vulnerability/patch management process that includes, but is not limited to, vendor services and industry feeds to identify threats in order to assess whether they pose vulnerabilities to the company's environment. Prudential's patch management process includes deployment based upon triage, risk assessment and testing.

The company reported no significant cybersecurity incidents during the 24 months ended September 2023. PGIM Loan Services' technology environment is monitored continuously by a network operations control center and a cyber security operations center using a variety of tools supplemented by annual penetration testing.

Disaster Recovery/Business Continuity Plan

PGIM Loan Services maintains a business continuity plan that is distributed to senior management and disaster recovery teams annually. The business continuity plan relies on a work-from-home strategy and support from PGIM Ireland Limited servicing employees. Business continuity strategies that rely on remote working can be impacted by regional power or internet connectivity outages, which is partially mitigated by the availability of offshore servicing employees.

Loan servicing employees returned to the office in September 2022 and as of January 2024 were under a hybrid work schedule whereby they are in the office three days and remote two days, a common schedule among Fitch-rated servicers.

Business-critical associates are equipped with laptops, allowing remote access to all critical Prudential systems. In addition to the formal business continuity plan for U.S. operations, PGIM Loan Services is able to leverage PGIM Ireland Limited to perform critical servicing functions such as cash processing and reporting if necessary.

The Strategy loan servicing system is hosted by McCracken in its Billerica, MA data center. The data center has a redundant power supply along with a disaster recovery contract with TierPoint for 24-hour recovery and has direct access lines to Prudential's primary and secondary data centers. McCracken's most recent disaster recovery test occurred in December 2023, with no material deficiencies noted. The next test is scheduled for December 2024. The vendor, in consultation with PGIM Loan Services performs annual MIMIX failover testing. McCracken is responsible for data backups which occur both nightly and monthly with PGIM Loan Services receiving a copy of monthly downloads which are retained for seven years. The maximum recovery time of all systems, including LoanConnect which is classified as a mission-critical application, is four hours or less.

All other PGIM Loan Services applications are hosted by Prudential's primary data center in Pennsylvania, which also has a redundant power supply. In addition, Prudential maintains a secondary geographically separate production data center that can become the primary production site within four hours of a failure at the primary data center. The most recent PGIM disaster recovery/data center failover test occurred in March 2023 with successful results. The company expects minimal data loss in the event of a power loss due to ongoing data replication between its data centers.

PGIM Loan Services has not conducted a business continuity test since 2020 having adopted a hybrid working model which continuously tests remote connectively and system access.

Corporate Governance

PGIM Loan Services maintains a very strong, multifaceted internal control environment. Controls are established through formal policies and procedures, and compliance is actively monitored by dedicated QC resources, largely through comprehensive metrics for accuracy and timeliness. The company is also subject to annual internal audit reviews by PGIM, a subsidiary of PFI whose coverage includes PGIM RE and PGIM Loan Services, as well as external audits in the form of RegAB and other third-party client audits.

Policies and Procedures

PGIM Loan Services' policies and procedures are available to all employees electronically through the company's internally developed LoanConnect application. Unless business needs require a change, policies and procedures are formally reviewed once every two years by the respective department director, the BSS executive director and the responsible team director. The policies and procedures reflect the original implementation date and the date of the most recent revision. There were no material updates to policies and procedures during the 24-month period ended in September 2023, reflecting PGIM Loan Services' mature servicing platform.

Policy and procedure training occurs during new employee orientation and for all employees throughout the year as needed. The BSS group coordinates training for material policy or procedure changes.

In addition to policies and procedures, LoanConnect contains pooling and servicing agreements (PSAs) and PSA abstracts for all transactions where PGIM Loan Services is the named master servicer. Fitch reviewed a sample of Prudential's policies and procedures and found them to be complete, with step-by-step instructions and illustrations for servicing tasks. The policies and procedures sampled by Fitch had variable last review dates; however, most had been reviewed within 24 months, pursuant to the company's policy.

Compliance and Controls

The BSS team is responsible for measuring performance, compliance and accuracy through a comprehensive metric process which includes monthly and quarterly testing. This process includes key performance metrics to track accuracy and timeliness on a monthly basis focused on quality control across servicing functions. The BSS group also regularly performs independent testing of various processes, including new loan setup, adjustable-rate loans and payoffs. Exception reports are automated in LoanConnect or DataConnect and monitored by the BSS team. The team comprises 12 members, including the BSS executive director, who reports directly to the president of PGIM Loan Services.

The company's monthly Key Indicator Report, which is used to monitor operational compliance across servicing functions, is a highly effective monitoring tool with well defined metrics and risk tolerances for each function.

Examples of internal controls monitored by the BSS team and reported monthly include investor report timeliness as specified in the servicing agreement, financial statement collections, outstanding property inspections, UCC lapses and LOC lapses, among others. Fitch reviewed the August 2023 Key Indicator Report used to monitor performance in areas such as advancing, bank account reconciliation, monthly cash activity, investor reporting, collateral monitoring, insurance, asset management and surveillance functions, among others. Fitch found the report, which included prior-month results and prior YE averages, to be a highly effective tool to monitor compliance and servicing performance. The report, which Fitch views as best in class among highly rated servicers, did not contain any material negative findings or trends that were not sufficiently addressed.

In addition, the BSS team prepares quarterly QC reports for FHA-insured and Ginnie Mae loans, which are provided to and countersigned by senior management. Fitch also reviewed a QC report for FHA loans as of 2Q23, which sampled ten loans for compliance with servicing terms. The report contained no material findings.

A dedicated compliance team with PGIM oversees the compliance activities of PGIM Loan Services with support from the BSS group who monitor business continuity, vendor compliance, and regulatory requirements. The compliance team is part of the broader Prudential Financial compliance organization that reports to the chief compliance officer of PFI. Compliance examinations occur annually across the enterprise given PGIM's designation as a registered investment advisor. Across PGIM and its affiliates there are over 200 domestic employees dedicated to compliance functions.

Additionally, PGIM Real Estate maintains a risk team, comprised of ten employees, responsible for performing periodic risk and control self-assessments of PGIM Loan Services.

Internal Audit

Prudential Financial Inc. (PFI) maintains a global audit team of approximately 175 employees, of which approximately 25 auditors are allocated to PGIM Asset Management, which includes the real estate business, where the loan servicing function resides. Resourcing is supplemented by a co-sourcing arrangement for flexibility in staffing, location and language skills, as well as subject matter expertise. The internal audit group reports to the audit committee of the board of directors and administratively to the vice-chairman of the company.

PGIM Loan Services is subject to multiple internal and external audits annually. Incremental enterprise wide audits touched some servicing functions in 2023 with no material negative findings. PGIM Loan Services expects to be subject to three internal audits in 2024.

The internal audit team performs annual audits of PGIM Real Estate with varying scope based on risk assessments of each function, along with other audits across PGIM. PGIM Loan Services continues to be assessed as having medium risk, with related audit activity driven primarily by changes in systems, products and regulations. The results of risk assessment and audits are centrally tracked within the Open Pages GRC system. Internal audit also considers annual Sarbanes-Oxley testing performed by the Financial Accounting Controls Team (FACT) and the SSAE 16, performed by PWC when assessing loan servicing.

Internal audits conducted over loan servicing, as well as horizontal reviews across real estate and related PGIM functions for the period 2021-2023, did not result in the identification of any high-risk issues.

External Audit

PGIM Loan Services is also subject to annual RegAB audits for its servicing portfolio. Fitch reviewed PricewaterhouseCoopers LLP's (PwC) 2022 RegAB audit of PGIM Loan Services, issued on February 24, 2023. The audit confirmed PGIM Loan Services' compliance with servicing criteria and contained no negative findings.

The company does not undergo a Uniform Single Attestation Program (USAP) audit; instead, a RegAB audit is conducted for its entire portfolio.

In addition to the RegAB audit, PGIM Loan Services was subject to either desktop or full reviews by one CMBS master servicer and operational reviews by Freddie Mac and Fannie Mae. None of these external reviews or audits resulted in unsatisfactory ratings or material findings. A Ginnie Mae audit was not performed in 2023. Additionally, at the time of Fitch's visit, two targeted audits by PwC for specific products or processes in 2023 were currently in progress.

Primary Servicing

As of September 2023, PGIM Loan Services was the named servicer for 4,786 loans secured by CRE assets totaling $129.7 billion. The majority of the servicing portfolio comprises balance sheet loans serviced on behalf of insurance company affiliates (44%), GSEs (41%) and third-party institutional investors (15%). The remaining 623 loans were originated by PGIM affiliates and contributed to legacy multiborrower and recent Freddie Mac multiborrower securitizations. The company discontinued originating loans for CMBS transactions in 2016; however, it continues to be actively engaged in securitized transactions as an issuer of Freddie Mac loans, for which it retains servicing and that are contributed to multiborrower CME transactions.

Primary Servicing Portfolio Overview

	9/30/23	% Change	12/31/22	% Change	12/31/21
Securitized					
No. of transactions — primary servicer	232	3	226	2	221
UPB — primary servicing ($ Mil.)	13,194	3	12,822	9	11,710.8
No. of loans — primary servicing	623	-2	636	-2	647
Non-securitized					
UPB ($ Mil.)	116,543	2	114,101	4	109,900.9
No. of loans	4,158	1	4,133	0	4,153

UPB – Unpaid principal balance.
Source: Fitch Ratings, PGIM Real Estate Loan Services, Inc.

PGIM Loan Services servicing portfolio includes 215 loans totaling $8.1 billion secured by assets outside of the United States, among the largest international portfolios of Fitch rated servicers. The portfolio includes 57 loans denominated in British Pounds, 54 in Euros, 77 in Japanese Yen, 19 in Australian dollars, three in Canadian dollars, and two loans in Denmark Krone and three in Swedish Krona. By balance, international loans represent core (87%), value-add (12%), and core stretch (0.3%) lending strategies.

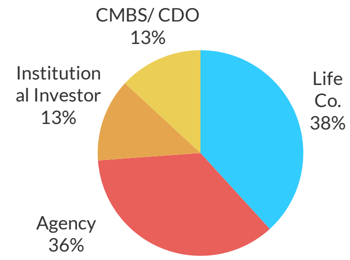
New Loan Setup

PGIM Loan Services works closely with PGIM RE's regional offices to set up newly originated loans. Loan closers in regional offices enter required data elements into LoanConnect, which are then transferred to Strategy via an automatic feed once the loan has closed. While PGIM Loan Services maintains the ability to set up loans in bulk, it does this infrequently as most new loan servicing assignments are sourced exclusively from regional offices.

Following the receipt of executed loan documents from loan closers, PGIM Loan Services performs a QC review on all data points prior to releasing the loan into production. New loan boarding takes approximately 30-60 minutes as a result of data feeds from LoanConnect, and the company's goal is to set up all new loans within two days of closing. Post loan boarding, a second member of the servicing team performs a formal QC review of each loan and completes a QC checklist. Additionally, the BSS team monitors loan boarding timelines through exception reports and crosschecks 20% of new loans against the original loan documents providing an additional control layer.

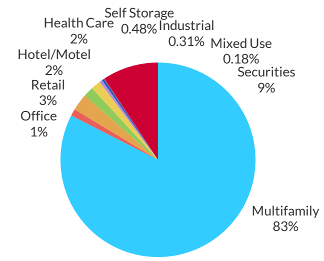
Primary Servicing Product Type

(As of Sept. 30, 2023)



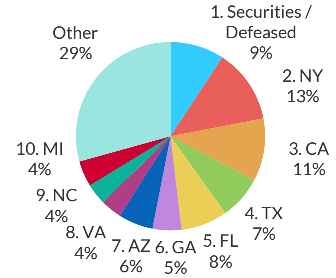
Source: Fitch Ratings, PGIM Real Estate Loan Services, Inc.Note: Percentages based on

Primary Servicing Securitized by Property Type



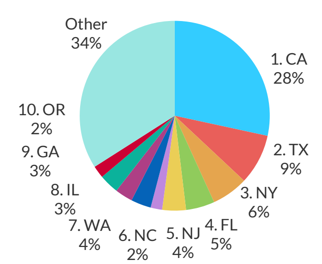
Source: PGIM Real Estate Loan Services, Inc.

Primary Servicing Securitized by Province



Source: PGIM Real Estate Loan Services, Inc.

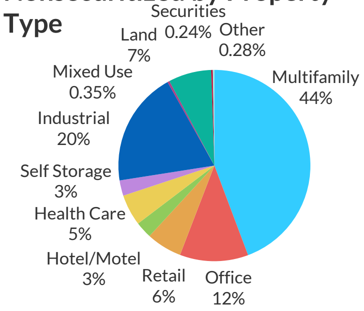
Primary Servicing Nonsecuritized by Province



Source: PGIM Real Estate Loan Services, Inc.

Throughout the loan origination process, loan covenants are captured by several groups across PGIM REF and PGIM Loan Services. The underwriter, closer or investment analyst are responsible for the initial input of loan covenants into LoanConnect. A QC review is performed both at the regional office where the loan was originated and by PGIM Loan Services, as it is responsible for monitoring and managing all post-closing covenant actions and boarding the loans into Strategy, which is accomplished primarily through a nightly data feed. A final review of loan covenants is performed by PGIM Loan Services within 20 business days to confirm all triggers are captured and property recorded. Internal performance metrics monitor the timely review loan covenant setup. Monthly reports and e-mail reminders are sent to responsible parties within PGIM Loan Services once loan covenants are tripped. An asset manager reviews the loan documents for lockbox covenant requirements and captures the data in LoanConnect for tracking and compliance administration.

Primary Servicing Nonsecuritized by Property Type



Source: PGIM Real Estate Loan Services, Inc.

Accounting and Cash Management

The majority of payments are received via ACH into collection accounts and wires. Payment data is reconciled using the company's Automated Payment Processing System (APPS) system within LoanConnect. APPS receives bank files daily through an API and compares incoming payments to expected receivables from Strategy. The majority of payments are posted automatically with any exceptions researched and reconciled within APPS. Receipt accounts are reconciled daily outside of APPS and Strategy as an additional control.

% Payment Collections Via:

ACH	47
Checks	9
Wire	42
Other	2

Source: PGIM Real Estate Loan Services, Inc.

The cash management team is responsible for monitoring bank accounts, posting transactions and verifying account reconciliations daily, while the servicing team is responsible for resolving unidentified payments and suspense reconciliations. The treasury team oversees money movements, check and wire disbursements and overall checks and balances. Finally, the accounting team independently verifies all receipt account activity daily to ensure aged or unidentified receipts are resolved. PGIM Loan Services reviews all receipt and disbursement accounts daily, while all bank accounts are formally reconciled every 30 days. Reconciliations are recorded in a bank reconciliation database, and compliance is monitored monthly.

The cash management team is responsible for work with banks, borrowers and internal and external counsel to ensure cash management is timely and accurate. The team's core responsibilities include covenant monitoring, document negotiation, waterfall management and review of budgets on a loan-by-loan basis, as well as overall management and administration of the cash management process. The group also verifies bank account ratings quarterly to confirm compliance with servicing agreements. PGIM Loan Services maintains funds on behalf of securitized transactions on deposit with US Bank National Association (Fitch Rated A+/F1+).

As of September, 2023, PGIM Loan Services had serviced 206 loans with cash management agreements, of which 22 loans were being actively managed by the cash management team. For the 12 months ended in September 2023, the cash management team activated eight loans with springing lockboxes.

LOCs, which may be posted as additional loan collateral, are recorded and monitored in LoanConnect. Renewal notices are sent 90, 60 and 30 days prior to LOC expiration. In the event a LOC is not renewed; the loan servicing team will make several attempts to contact the borrower before drawing on the LOC before expiration. Additionally, the compliance group monitors bank ratings for issuance of LOCs to confirm rating requirements quarterly. As of September, 2023, PGIM Loan Services was responsible for monitoring 26 LOCs.

Escrow Administration

Tax and insurance escrow accounts are reviewed annually to confirm sufficient funding for the year. Reviews occur after the last tax or insurance payments are due and utilizes monthly reports from the servicing system to identify loans due for updated escrow analysis. A monthly exception report identifies any lapse in a loan's annual escrow review. Tax payments for non-escrowed loans are monitored and tracked similarly to escrowed loans to ensure taxes are paid in a timely fashion, with the assistance of the company's tax vendor. Weekly tax monitoring reports are generated from the servicing system to identify all loans with either delinquent taxes or taxes due within 30 days.

PGIM Loan Services has not had any instances of mssed tax payments or reporting restatements during the last four years.

PGIM Loan Services did not incur any tax penalties during the 48-month period ended in September 2023 and has historically had very few instances of late payments.

Property insurance monitoring begins at loan setup, when insurance reviews are performed and requirements are documented in LoanConnect. Newly originated loans are reviewed by third-party consultants to confirm requirements and create loan specific check lists to monitor compliance through the life of the loan. Borrowers are contacted prior to insurance expirations to remind them of the pending expirations and which coverage levels are required per the loan documents. Insurance renewals are reviewed and updated in the insurance module within LoanConnect and compared to loan document/checklist requirements. Any deficiencies are communicated directly to the borrower and, if not corrected in a timely manner, could result in forced placement insurance by PGIM Loan Services. During the 12-months ending September 2023, PGIM Loan Services placed 22 loans under its lender forced placed insurance policy to address lapses in coverage, an increase from 17 loans the prior year due reflecting rising commercial property insurance premiums and limited numbers of insurers in some markets.

PGIM Loan Services has been using an OCR tool to review and extract data from the ACORD 25 form for approximately four years. The tool has improved accuracy and lowered the time necessary to review insurance compliance.

The loan servicing team is also responsible for UCC administration. UCC continuations are automatically generated by the servicing system six months prior to expiration and sent to a vendor for renewal. Exception reports are run weekly to identify any missing or expired UCC dates. Additionally, the BSS team runs queries to identify delinquent taxes or insurance, as well as lapsed or missing UCCs, as part of the team's monthly QC oversight. PGIM Loan Services had four lapses during the 12-months ending September 2023, having had one lapse during the previous year as well. The lapses have been corrected and the UCC was refiled without any loss of lien position.

% Portfolio Escrowed for:

Taxes	35
Insurance	28

Source: Fitch Ratings, PGIM Real Estate Loan Services, Inc.

Investor Reporting

The investor reporting group, a subset of the loan accounting group, is responsible for monthly reporting and remittance distributions. Investor reporting analysts maintain reporting calendars for all assigned portfolios and are responsible for entering and reviewing data in LoanConnect prior to the reporting date. Analysts validate the reports, and validations receive a secondary review from an investor reporting manager prior to distribution. The majority of investor reports are generated from the loan system, with any manual inputs or adjustments verified against source documents. Investor reporting managers create a monthly compliance and reporting calendar to monitor and confirm reporting and remittance deadlines. In addition to investor reporting managers, the BSS team also tracks investor reporting metrics monthly to identify potential issues.

The company has a formal process to review trustee reports once published to confirm balances, delinquencies, advances, and shortfalls. The process ensures accuracy and allows the company to monitor the impact of cumulative interest shortfalls in transactions with multiple master servicers.

PGIM Loan Services reported no instances of reporting restatements, errors or late submissions during the 48-month period ended in September 2023.

Asset Administration

The servicing team monitors loan payment due dates using exception reports from Strategy. The borrower is contacted two days after the grace period, and a delinquency letter is sent when loans are 10 days past the grace period. If a payment is not received within 30 days, collection efforts are transferred to the asset management team and the loan may be transferred to special servicing. All efforts to contact the borrower are recorded in LoanConnect.

The surveillance team is responsible for collecting and analyzing borrower financial statements and rent rolls quarterly with assistance from the company's offshore vendor. Borrowers are sent e-mail reminders quarterly of financial statement and rent roll submission requirements, with additional follow-up reminders as necessary. Financial statement analysis is typically completed within two to three business days from the date all documentation is received, imaged and indexed.

At three days, PGIM Loan Services maintains one of the fastest financial statement analysis processing times among Fitch-rated primary servicers.

Tenant and financial statement data are entered into LoanConnect, which can be used to generate ad hoc queries and performance reports detailing tenant rollover and exposure. Detailed rent roll data for all tenants is updated quarterly for commercial properties, while summary information is recorded for multifamily properties. The surveillance team monitors the financial statement and rent roll data entry process in the workflow system and reviews the data based on an internal matrix. In addition, the system provides various checks and balances as the information is entered. Monthly management and metrics reports ensure all required information is received and available.

Either quarterly or upon receipt of new collateral performance information from the borrower, the surveillance group performs a compliance test as part of its property financial review and analysis process. If lockbox covenants are tripped, the surveillance group immediately notifies the cash management group. The cash management group then works through a checklist of events to ensure proper parties are notified and proper documents are executed.

PGIM Loan Services utilizes the CRE Finance Council (CREFC) watchlist criteria, which are automated within LoanConnect. The surveillance team formally reviews all watchlist loans monthly and updates commentary as appropriate. The surveillance team also reviews all flagged loans for possible escalation to special servicing.

Third-party vendors perform property site inspections for all loans serviced pursuant to loan servicing agreement requirements. PGIM Loan Services utilizes industry-standard inspection forms, which are reviewed within 30 days of receipt by the company's third-party vendor and the surveillance team. Any deferred maintenance findings are recorded in LoanConnect and elevated by an asset manager who monitors any major repair items.

The servicing team is responsible for reviewing tenant improvement and leasing escrow draw requests and distributions. Following receipt of a borrower's draw request, with proper documentation, the request is reviewed, independently approved and disbursed in accordance with the loan documents. All escrow due dates and any compliance items are tracked in LoanConnect.

Pending loan maturities are also monitored in LoanConnect by the servicing group. Borrowers are provided notice of loan maturity up to 12 months in advance, and loans are added to the watchlist six months to 12 months in advance of maturity depending on loan type. PGIM Loan Services has 85 loans, totaling $536.7 million, scheduled to mature through September 2024, the majority of which are general account loans.

Customer Service

Borrower inquiries received by mail, a customer service line and BorrowerConnect are routed to servicing and asset management staff for resolution. Staff respond to most borrower inquiries immediately and provide payoff quotes within 72 hours. PGIM Loan Services maintains a relationship management team for large borrower relationships in an effort to improve customer service.

PGIM Loan Services is one of the few Fitch-rated servicers that performs an annual borrower satisfaction survey, for which it consistently scores highly.

The company performs a formal borrower satisfaction survey for the entire portfolio annually and a survey following any credit actions, such as assumptions and lease approvals. Additionally, senior management tracks feedback against benchmarked goals and follows up on low survey scores.

Master Servicing

As of September, 2023, PGIM Loan Services was named co-master servicer for two legacy securitized transactions consisting of five loans totaling $6.5 million, down from $23.2 million yoy. PGIM Loan Services acts as co-master servicer for legacy securitized CMBS transactions up through the 2007 vintage. The company's master servicing portfolio is expected to continue to runoff, as the company does not currently retain master servicing for loans contributed to new issue CMBS or agency CME transactions.

Master Servicing Portfolio Overview

	9/30/23	% Change	12/31/22	% Change	12/31/21
No. of transactions — master servicer	2	-60	5	-44	9
UPB — master servicing ($ mil.)	7	-68	22	-53	47.3
No. of loans — master servicing	5	-38	8	-38	13
No. of primary servicers overseen	0	—	0	—	0

UPB – Unpaid principal balance.
Source: PGIM Real Estate Loan Services, Inc.

PGIM Loan Services continues to advance payment for delinquent loans as a master servicer. As of September 2023, the company had a de minimus amount of outstanding advances for one loan, down from $185,000 in outstanding advances for nine loans as of the previous review and reflective of the declining master servicing portfolio.

Primary Servicer Oversight

Although PGIM Loan Services primary services all loans in its master servicing portfolio, the company maintains policies and procedures for primary servicer oversight. Subservicers would be required to submit quarterly reports and annual USAP/RegAB attestations, as well as tax and insurance certifications. PGIM Loan Services would also conduct either a desktop or onsite audit of subservicers who service 20 or more loans. The purpose of the review is to confirm compliance with loan documents and servicing agreements. Subservicers who service fewer than 20 loans would be required to submit quarterly reports and provide annual USAP/RegAB attestations and tax and insurance certifications.

PGIM Loan Services policy as master servicer would be to shadow services all primary serviced loans by setting them up on its servicing system and recording all monthly payments, as well as tax and insurance payment status on a quarterly basis. The PGIM Loan Services investor reporting group reviews reporting and remittances on a monthly basis. Any property inspections performed by subservicers would be tracked and managed in LoanConnect, as are all deferred maintenance issues.

Similar to other Fitch-rated servicers, PGIM Loan Servicers outsources annual property inspections, with less than 1% of inspections performed in-house. The servicer primarily utilizes two third-party contractors for its site visits, consistent with previous years.

Advancing

All principal and interest advance requests are initiated by the investor reporting group, which is responsible for the remittance of funds, subsequent tracking of interest on advances and the repayment of advances. The investor reporting group works with PGIM Loan Services' accounting group to ensure advances are repaid in a timely manner. Advance recoverability determinations are made jointly by the vice presidents of servicing, asset management and accounting based on the total amount outstanding relative to the most recent valuation of the asset, collateral type and composition of the securitization for which the advance was made.

Outstanding advances are tracked in LoanConnect and reviewed monthly to protect PGIM Loan Services and the individual securitizations from over-advancing. Due to PGIM Loan Services' declining master servicing portfolio and its role as co-master servicer, its advancing threshold is generally lower than those of other master servicers, particularly for highly concentrated transactions in which it is the master servicer. However, loans are evaluated individually, with consideration given to the size of the entire CMBS transaction.

The special servicing group provides asset resolution support exclusively for all affiliate capital business lines secured by CRE assets and is expected to continue to add named special servicing assignments. The company currently does not pursue third-party special servicing.

Investor Reporting

PGIM Loan Services adheres to the CREFC watchlist criteria with an automated process that the surveillance team manages within LoanConnect. Once the team has input the watchlist criteria, the system runs a nightly check of all loans and identifies those that have tripped the criteria. This information is reviewed by the surveillance group on a monthly basis and reported as part of the CREFC investor reporting package. PGIM Loan Services reviews and refreshes watchlist comments on a monthly basis, which Fitch views as a best practice for highly rated servicers.

Special Servicing

Special Servicing Portfolio

As of September, 2023, PGIM Loan Services was designated special servicer for 2,855 non-securitized commercial mortgage loans totaling $81.8 billion. Non-securitized special servicing and asset management duties are exclusively for PGIM RE-originated and retained CRE loans either on balance sheet or held by affiliate investment funds. The company has recently reorganized its special servicing team to address the rising level of economic distress and increased defaults and has enhanced its ongoing surveillance by adding management depth and staff. As of the same date, PGIM Loan Services was actively monitoring 88 loans totaling $6.4 billion, none of which were REO assets.

Additionally, the company resolved 11 non-securitized loans totaling $403.2 million during the 12-month period ended September 2023, with eight loans paid in full and three loans returned to performing status. Six of the loans were secured by office properties, three by retail properties and two by multifamily properties. While PGIM Loan Services has had limited REO assets for several years, the company has experience in foreclosing and selling CRE assets nationwide and generally sells assets through receivership.

PGIM Loan Services resolved 11 CRE loans totaling $403.2 million during the 12-month period ended September 2023, with eight loans paid in full and three loans returned to performing status. Of the 11, six were backed by office properties, three by retail properties and two by multifamily properties.

Special Servicing Portfolio Overview

	9/30/23	% Change	12/31/22	% Change	12/31/21
Securitized					
No. of transactions — special servicer	0	—	0	—	0
Upb — special servicer ($ mil.)	0	—	0	—	0
No. of loans — named special servicer	0	—	0	—	0
Upb — actively special servicing (non-REO) ($ mil.)	0	—	0	—	0
No. of loans — actively special servicing (non-REO)	0	—	0	—	0
UPB — ¾ REO assets ($ mil.)	0	—	0	—	0
No. of REO assets	0	—	0	—	0
Non- securitized					
UPB — named special servicer ($ mil.)	81,848.5	2	80,164.1	-7	85,853.2
No. of loans — named special servicer	2,855	1	2,820	-5	2,974
Upb — actively special servicing (non-REO) ($ mil.)	6,436.1	55	4,146.9	1,169	326.7
No. of loans — actively special servicing (non-REO)	88	35	65	829	7
Upb — REO assets ($ mil.)	0	—	0	—	0
No. of REO assets	0	—	0	—	0

UPB – Unpaid principal balance.
Source: Fitch Ratings, PGIM Real Estate Loan Services, Inc.

Loan Administration

PGIM Loan Services has a shared surveillance team under the asset management group monitoring all assets serviced by the company. The portfolio surveillance team is responsible for credit monitoring the general account, Fannie Mae and interim portfolios and any securitized assets for which the company is the named special servicer. The special servicing team also has regular communication with the master servicing team regarding potential defaults.

With respect to non-securitized loans, the special servicing team participates in monthly and quarterly watchlist reviews with various capital sources within Prudential, and asset managers prepare a closely monitored list quarterly that serves as a watchlist of potential loan defaults across the portfolio.

Defaulted/Nonperforming Loan Management

Following the transfer of a loan to special servicing, a special servicing code is placed on the loan to notify the master servicing group of the new status. The special servicing group provides written direction to the master servicer on the application of any funds received while the loan is in special servicing.

The assigned asset manager is responsible for conducting a full loan file review, including trust documentation, to identify potential breaches of the loan sellers' representations and warranties. In addition, the asset manager performs a physical inspection of the collateral and obtains current rental, sales and comparable information from a variety of third-party research providers, along with current borrower and guarantor financial statements. In accordance with the timeframe provided in the PSA or other documents, the asset manager is also responsible for drafting an asset status report upon a servicing transfer event, typically within 60 days of the transfer.

Asset status reports are approved based on established delegations of authority and contain a full collateral description that includes: improvements; a narrative discussion of the loan and circumstances surrounding the default; the anticipated foreclosure date (if applicable); appraised value and associated valuation methodology; and possible and recommended resolution strategies. Any changes to the resolution strategy or material deviations in resolution times or budgets must be reviewed and approved according to the company's delegations of authority.

The special servicing group conducts a quarterly review of all specially serviced assets, including CMBS and non-CMBS, using detailed asset summaries that include a review of property and market performance, as well as resolution strategy status and prognosis.

Fitch reviewed a sample of five business plans provided by PGIM Loan Services for non-securitized loans, including active and resolved loans. Fitch found the asset strategy reports to be well documented and thorough as necessary for the action contemplated. The reports documented clear descriptions of events surrounding the default, property conditions, financial data for the borrower and property and the consideration of alternate resolution strategies, with a proposed strategy based on a net present value analysis where appropriate.

REO Management

PGIM Loan Services follows a dual-track methodology, similar to most special servicers, under which foreclosure proceedings occur simultaneously with workout discussions to protect the interest of the trust.

When a workout with the borrower is not feasible, the asset manager is responsible for performing a pre-foreclosure inspection and appraisal update, obtaining an environmental site assessment, performing a delinquent tax search and working with legal counsel to determine all liens on the property and which, if any, are senior to the subject lien. The asset manager generally solicits multiple bids from prospective property managers to ensure the proper scope of services and pricing is obtained. Property managers are required to complete annual operating budgets and provide detailed monthly operating reports to the asset manager and to PFI for independent review. Loans in the foreclosure process are subject to enhanced monitoring not only by PGIM Loan Services special servicing but also from the broader PGIM RE organization, inclusive of senior management, finance and legal.

The asset manager prepares a property strategic plan (PSP) within 60 days of title transfer to PGIM Loan Services. The PSP includes operational, capital expenditure and disposition plans for the asset and is approved by the special servicing credit committee. While assets may require lease-up or capital improvements before being marketed, asset managers generally attempt to liquidate REO assets as quickly as possible, with each asset analyzed and managed to achieve the highest possible recovery. In developing a liquidation strategy, asset managers contact multiple brokers to obtain opinions of value, additional market color and prospective marketing plans. Listing brokers are selected based on market and asset experience, as well as fees.

Governance and Conflicts of Interest

Managing Potential Conflicts

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

PGIM Loan Services acts as special servicer only for loans originated by PGIM RE and currently does not pursue third-party special servicing appointments. Additionally, neither PGIM Loan Services nor any other affiliate PFI companies currently invest in control position of securitized transactions or subordinate loans for which PGIM Loan Services might be appointed special servicer.

PGIM Loan Services has an information barrier policy that separates physical and electronic data from business units, including PGIM RE's investment division and certain other U.S.-based business and corporate departments. The policy includes compliance monitoring and employee training and acknowledgment of the policy. In the event that PGIM Loan Services was working out a loan where a PFI-related entity held an investment, the policy would be applied to mitigate potential conflicts and separate the decision-making process.

Prudential has additional company policies to address conflicts of interest and mitigate risk. Fitch reviewed the company's policies relating to personal conflicts of interest, protection and use of material nonpublic information and vendor agreements and compliance. The policies were well documented, in Fitch's view, and demonstrate how Prudential organizationally takes conflicts of interest seriously.

Affiliate Companies

Neither PGIM Loan Services nor PGIM RE or PFI have affiliate companies that provide real estate management or brokerage services. Affiliate Prudential companies may provide CRE financing or equity investments for sponsors of securitized and non-securitized loans.

SOLICITATION & PARTICIPATION STATUS

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

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