

National Cooperative Bank, N.A.

Servicer Report

Ratings

Commercial Primary Servicer	CPS1-
Commercial Master Servicer	CMS2-
Commercial Special Servicer	CSS2-

Servicer Summary

National Cooperative Bank, N.A. (NCB, the bank or the company) is a subsidiary of National Consumer Cooperative Bank (NCCB), chartered in 1978 to provide financial products and services primarily to eligible cooperative enterprises. NCB acts as a one-stop shop for cooperative lending and loan servicing, serving mostly the Northeast Corridor.

As of June 30, 2017, the company's servicing portfolio totaled \$5.3 billion, down approximately 8% by loan count from year-end 2015, reflecting a high number of payoffs during 2016. By loan count, 92% of the portfolio was housing cooperatives and 8% was commercial real estate (CRE); cooperative housing loans have made up an increasing percentage of the servicing book as the bank reduces its exposure to CRE loans. NCB's largest servicing clients by loan count are Fannie Mae (64%) and portfolio loans (21%).

Key Rating Drivers

Company, Management: NCB continues to lead the industry in cooperative servicing. Due to its focus on cooperative loans in the Northeast Corridor, NCB's experience servicing a larger set of property types in diverse locations is more limited when compared with larger CRE servicers. The company has been primary servicing CMBS loans for more than 20 years, master servicing for more than 17 years and specially servicing for more than 13 years.

Staffing and Training: NCB maintains a very stable and experienced staff with CRE backgrounds as well as specialized knowledge of cooperative loans. While primary and master servicing management turnover was high at 23% in the past 12 months, NCB continues to maintain a deep bench of senior and middle managers averaging 27 and 24 years of experience, respectively. There was no turnover among special servicing staff during Fitch Ratings' most recent review; overall turnover in special servicing was high at 31% previously.

Procedures and Controls: NCB's internal control environment is formed by detailed policies and procedures and the use of technology for controls around data integrity and benchmarking of servicing functions as well as monitoring compliance with internal procedures. NCB maintains a regulatory compliance department focused at the corporate level; the bank addresses compliance with internal policies and external parties through a layered enterprise risk management committee model.

Technology: NCB uses Strategy 17.6 as its servicing system of record. NCB has also built a substantial number of internal systems that interface with Strategy and NCB's new enterprise data warehouse, automating many processes and providing effective and consistent servicing processes. The bank is planning on upgrading to Strategy 19 in 2018 and will retire a number of ancillary systems. NCB also uses the Backshop application for origination and use in primary and special servicing.

Loan Administration: Fitch believes investor reporting to be a particular strength of NCB. The bank has fully automated the Commercial Real Estate Finance Council's (CREFC) investor reporting package (IRP) and reports for Fannie Mae on its systems. Investors have access to these reports through NCB's investor website. The bank maintains good controls around investor reporting through automated reporting, timeline tracking and dual reviews.

Related Research

Fitch Affirms NCB's Commercial Servicer Ratings (October 2017)

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Company Experience Since:

CRE Servicing	1991
CMBS Servicing	1997
CMBS Master Servicing	2000
CRE Loan Workout	1997
CMBS Workout	1997

NCB's servicing clients are broken down into (by loan count):

- 64% — Fannie Mae loans.
- 21% — NCB portfolio loans.
- 15% — CMBS loans where the company serves as master servicer.
- 1% — private/bank loans.
- 1% — interim loans and pre-securitization warehouse loans.

Total originations have been relatively flat during the first six months of 2017 compared to the same period in 2016. NCB's total servicing portfolio is down approximately 8% by loan count from year-end 2015, reflecting a high number of payoffs during 2016.

Related Criteria

[Criteria for Rating Loan Servicers \(February 2017\)](#)

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

Additional Rating Drivers

Defaulted/Nonperforming Loan

Management: NCB's special servicer rating reflects the company's experienced asset managers, particular expertise in working out cooperative loans and experience working out loans secured by more traditional CRE properties. NCB uses Backshop for asset management functions such as financial statement spreading and generating asset status reports (ASRs). The rating also reflects potential capacity concerns given the limited staff size. However, Fitch believes NCB maintains appropriate staffing levels for its current portfolio and the limited number of defaults among cooperative housing loans.

Financial Condition: Advancing capacity is a concern for non-investment-grade rated master servicers. However, Fitch performed a financial review of NCB, noting an improved funding profile, strong regulatory capital ratios and improving asset quality. Fitch also found existing capital levels and liquidity to be sufficient to meet the bank's expected and potential advancing obligations under stressed scenarios.

Company Overview

Chartered by Congress in 1978, NCCB, the parent company of NCB, began lending operations in 1980. The bank was chartered to provide financial products and services to eligible cooperative enterprises.

In 2001, the real estate division, which includes master and primary servicing, was reorganized under NCCB's wholly owned subsidiary, NCB. The special servicing resources were transferred from NCCB to NCB in 2010. On Dec. 31, 2014, NCB changed from a thrift charter to a commercial banking charter falling under the supervision of the Office of the Comptroller of the Currency (OCC) and allowing the growth of commercial loans beyond the 20% thrift limitation.

The bank's lending platform mainly focuses on three markets: cooperative housing, homeowner associations, and more traditionally defined CRE that is generally sponsored by nonhousing cooperatives. In 2017, NCB began a small balance cooperative housing loan program with a target loan balance of \$5 million or less. With the long-term duration of fixed-rate loans on cooperative housing properties, NCB typically sells to Fannie Mae or securitizes these loans in CMBS transactions to keep the loans off the balance sheet. NCB mainly contributes loans to Wells Fargo multi-borrower transactions which comprise approximately 55% of CMBS deals in which the bank services individual loans.

Servicer Ratings

Fitch rates primary and master servicers, which protect the interests of the certificateholders in the trust, by servicing and administering the mortgage loans. The primary servicer is responsible for day-to-day servicing functions, while the master servicer is responsible for monitoring the activities of the primary servicers, investor reporting, and timely remittance of funds to trustees.

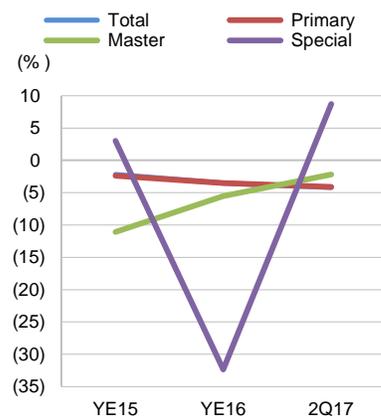
Fitch also rates special servicers, which are key to maintaining the credit quality of a pool containing nonperforming commercial mortgages and real estate-owned assets. The special servicer is responsible for working out loans, foreclosing, and liquidating assets.

In assessing and analyzing the capabilities of primary, master, and special servicers, Fitch reviews several key factors, including the management team, organizational structure and operating history, financial condition, information systems, and, with respect to the special servicer, workout and asset disposition experience and strategies.

Fitch rates commercial mortgage primary, master, and special servicers on a scale of 1 to 5, with 1 being the highest rating. Within each of these rating levels, Fitch further differentiates ratings by plus (+) and minus (-) as well as the flat rating.

Servicing Portfolio

(Change from Prior Period by Loan Count)



Note: Special is defined as active special servicing (including REO).

Source: National Cooperative Bank N.A.

Servicing Portfolio Overview

(\$ Mil.)	6/30/17	% Change	12/31/16	% Change	12/31/15
Total Servicing					
UPB	5,261.3	(4)	5,480.4	(5)	5,750.9
No. of Loans	3,565	(4)	3,722	(4)	3,858
Primary Servicing					
UPB	5,226.0	(4)	5,436.2	(5)	5,703.7
No. of Loans	3,552	(4)	3,704	(4)	3,839
Master Servicing					
UPB	1,636.0	0	1,631.7	6	1,532.2
No. of Loans	533	(2)	545	(6)	577
Special Servicing — Named					
UPB	5,127.7	(3)	5,289.0	(3)	5,453.6
No. of Loans	3,514	(3)	3,639	(3)	3,739
Special Servicing — Active^a					
UPB	83.4	4	80.4	(12)	90.9
No. of Loans	25	9	23	(34)	35

^aIncluding REO. UPB – Unpaid Principal Balance.

Source: National Cooperative Bank, N.A.

During 2016, NCB originated 385 loans totaling \$697 million, of which 306 were cooperative housing loans totaling \$567.5 million. During the first six months of 2017, NCB originated 230 loans totaling \$318.7 million, of which 178 were cooperative housing loans totaling \$259.4 million. The majority of cooperative loan originations were for small balance loans, which accounted for 446 loans totaling \$497.7 million during 2016 and the first half of 2017 collectively. Originations for CRE loans have declined reflecting a focus on cooperative housing loans and regulatory scrutiny from the OCC. While the total servicing portfolio has experienced runoff since 2015, the CMBS book is up 7% by balance since 2015 as the CMBS market continues to be a strategic focus of the bank. During 2016 and the first six months of 2017, 130 cooperative housing loans totaling \$503.9 million were securitized; no CRE loans were securitized.

More traditional CRE loans are securitized or retained in the bank's portfolio; the greatest concentration of CRE loans has been on retail properties such as grocery and hardware stores. NCB's CRE lending is focused on niche markets that the bank has served for over 20 years, such as cooperative wholesalers and independent grocers, Alaska native corporations, and tribal entities in the lower 48 states, providing franchisees with both conventional and small business administration loans. In addition, since late 2008, the bank has been involved in solar financing. NCB also lends to other cooperatives, such as purchasing cooperatives, consumer cooperatives, and worker cooperatives.

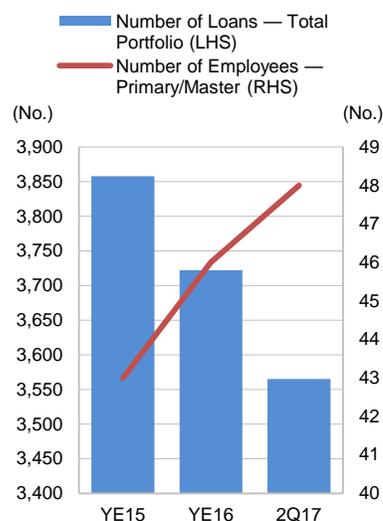
NCB is a federally chartered national bank with retail branches in southwestern Ohio and offices in New York, Alaska, and Arlington, VA that provide mortgage banking services, deposit products, and cash management to NCB's national customer base. NCB's servicing operations are mainly located in Arlington; NCB continues to expand the use of its Hillsboro, OH location for servicing functions including financial analysis, insurance analysis, investor reporting, and investor remitting.

Financial

Fitch does not publicly rate NCB. However, Fitch's Financial Institutions group performed a financial review of the company and determined the company's short-term financial viability adequate to support the servicing platform. Unlike most Fitch-rated master servicers, NCB does not maintain investment-grade credit ratings, an important consideration relative to advancing obligations for CMBS transactions. In its review, Fitch noted an improved funding

The percentage of primary and master servicing staff in the NCB's Hillsboro location has continued to grow as the company seeks to reduce costs. As of June 30, 2017, 38% of staff is in Hillsboro, up from 26% at Fitch's last review and 18% in 2013. Of the six staff-level new hires since Fitch's last review, all positions were filled in Ohio and NCB recently moved a CRE account manager position to Hillsboro. All special servicing staff remains located in NCB's Arlington headquarters.

Loan and Employee Counts



Source: National Cooperative Bank N.A.

NCB continues to maintain an experienced and deep management team for the primary and master servicing groups, consistent with other highly rated servicers. Collectively managers average 25 years of experience and 15 years with the bank.

profile, adequate regulatory capital ratios and improving asset quality, and found existing capital levels and liquidity to be sufficient to meet the bank's expected and potential advancing obligations under stressed scenarios. Similar to other CMBS transactions, the trustee backstops the master servicer advancing obligations. Fitch also noted the potential for volatility in profitability given NCB's reliance on cooperative loan originations and sales, the rising interest rate environment, net interest margin compression given the competitive nature of NCB's business as well as the concentrated loan portfolio in New York cooperatives.

Employees

NCB employs a total full-time servicing staff of 54, up slightly from 52 the prior year, with 48 devoted to primary and master servicing and six dedicated to special servicing. While primary and master servicing management turnover in the last 12 months was elevated, NCB has historically experienced very low turnover among management and staff compared with other Fitch-rated servicers, providing the company with significant tenured experience at all staff levels.

Employee Statistics

	6/30/17				6/30/16			
	No. of Employees	Average Industry Experience	Average Years Tenure	% Turnover	No. of Employees	Average Industry Experience	Average Years Tenure	% Turnover
Primary/Master Servicing								
Senior Management	7	27	18	29	7	27	18	0
Middle Management	9	24	12	20	11	26	12	0
Servicing Staff	32	15	9	7	28	17	10	14
Total	48	—	—	13	46	—	—	9
Special Servicing								
Senior Management	2	35	22	—	2	34	21	40 ^a
Middle Management	1	30	5	—	1	29	4	0
Servicing Staff	3	16	7	—	3	15	7	33 ^a
Total	6	—	—	—	6	—	—	31^a

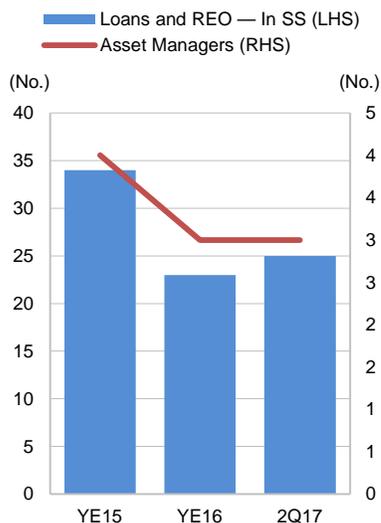
^aTurnover ratios appear high due to the small nature of the special servicing group.
Source: National Cooperative Bank, N.A.

Primary/Master Servicing

Senior managers average 27 years of industry experience and on average have been with the company for approximately 18 years while middle managers average 24 years of industry experience and 12 years of tenure, providing NCB with a knowledgeable management layer. In the past 12 months, primary and master servicing management turnover was 23% due to two senior manager departures and two middle manager departures. One senior manager voluntarily departed the bank and another senior manager retired; both were replaced internally. Middle management departures were for similar reasons as one middle manager voluntary departed the company and another retired. Historically, the primary and master servicing management group at NCB has had a trend of stable leadership with minimal turnover and collectively managers average 25 years of experience and 15 years with the bank.

Loan servicing staff average 15 years of industry experience, one of the highest averages among Fitch-rated primary and master servicers. Primary and master servicing continues to remain stable, as the group had 7% turnover at the staff level, down from 14% at Fitch's prior review and consistent with NCB's historically low turnover ratios. Since Fitch's last review, NCB added six staff to the primary and master servicing group, split between five new hires and one internal transfer from of the single family side of the bank.

SS Loan and Employee Counts



SS – Special Servicing, REO – Real estate owned.
Source: National Cooperative Bank N.A.

The average number of training hours for the past year per employee was approximately 50, consistent with Fitch’s last review.

All employees (including special servicing) undergo an annual performance review, which reviews the year’s goals as well as the employee’s developmental progress. Managers and employees discuss personal goals for the upcoming year in conjunction with organizational and department goals.

Special Servicing

The special servicing group has six dedicated employees, with two senior managers averaging 35 years of industry experience and 22 years with NCB, providing a highly experienced and tenured management team. The middle manager in special servicing has over 30 years of CRE and CMBS experience and takes an active role in overseeing NCB’s CMBS specially serviced loans. The special servicing group did not experience any turnover in the past 12 months; previously, the special servicing group experienced 29% management turnover and 31% overall turnover of one senior manager and one staff-level employee. Historically, NCB has had minimal turnover among the special servicing group, consistent with the primary and master servicing operations.

NCB’s small but experienced group of three asset managers averages 27 years of real estate and workout experience in a wide variety of geographic markets and with all traditional property types. NCB asset managers also have CMBS-specific and cooperative housing-specific industry experience.

Training

NCB’s employee training and development program blends internal and external training related to servicing issues, personal skill development, and mandatory annual regulatory compliance training. Employees also attend industry conferences. However, conference participation is not counted toward training hours. NCB tracks training via a web-based system that produces management reports regarding completed training hours. Recent training courses at NCB focused on loan characteristics, financial statement analysis, loan restructurings, cooperatives and internal systems, and NCB also implemented a new manager training program to aid in developing management bench strength.

Operational Infrastructure

Outsourcing

Similar to other Fitch-rated servicers, NCB outsources property inspections, appraisals, environmental assessments, legal counsel and property management agents. NCB does not outsource any core primary, master or special servicing functions, retaining the requisite servicing capabilities in-house.

Vendor Management

NCB has two dedicated staff members who are solely responsible for vendor management. All third-party vendors are pre-approved by NCB in compliance with the bank’s vendor management policy. NCB evaluates vendors based on business knowledge, working relationships with NCB, industry track record, and proximity to NCB’s properties. NCB’s approved vendor list is accessible by all NCB personnel. All vendor contracts slated for renewal are reviewed monthly by the operations risk management committee.

Information Technology

NCB uses McCracken Financial Strategy 17.6. Historically relying on an older version of Strategy, the company built a substantial number of internal ancillary systems that interface with Strategy and NCB's data warehouse which are refreshed nightly. NCB expects to upgrade to Strategy 19 by the end of the second quarter 2018; in conjunction with the upgrade, NCB will continue to retire ancillary systems with four planned to be discontinued after the newest version of Strategy is installed.

NCB's ancillary systems are continually updated and extensive, ranging from internal control functions to robust reporting capabilities. NCB has an application that provides a snapshot of data in the servicing system, covenant tracking system and data warehouse, centralizing all information in one system. NCB also has a program that integrates pool information from the data warehouse, centralizing all data relevant to investors and other loan securitization participants, which allows the user to view a transaction at the loan and property level. The company also maintains a system that aggregates data to help define and track risk across the loan portfolio and calculates the bank's loan loss provisions.

The bank maintains other ancillary systems such as a loan-approval database and a database that houses and tracks all subordinate debt requests approved across the entire servicing portfolio. NCB also has a web-based system that interacts with outside counsel to track and monitor loan closings. NCB maintains an interactive borrower website that provides loan information such as loan balance, account history, billing statements, and covenant compliance.

Backshop contains pooling and servicing agreement (PSA) abstracts and management reports can be generated from the system to identify loans that do not meet PSA requirements. The master servicing group leverages Backshop for CREFC IRP watchlist reporting as well as spreading financial statements. The special servicing group uses Backshop for assistance in generating ASR write-ups. Backshop contains an asset management segment, in which watchlist comments are entered and feed the monthly trustee reporting.

During 2017, NCB implemented a new enterprise data warehouse and plans to retire its legacy corporate data warehouse by the fourth quarter 2018. Data from Strategy and other ancillary applications flows into the new data warehouse; the company is still in the process of developing reports for the reporting tool overlay and may hire a full time business analyst to focus on reporting initiatives. NCB maintains a data governance team of three who report to the bank's controller and who are responsible for ensuring the accuracy of data in NCB's systems reviewing any data exceptions and data load errors. Additionally, the servicing group performs daily reviews of source system data changes.

IT support is provided by the bank's IT department, which is organized in functional teams for network operations support and service desk, database administration, application development, and project management and analysis. IT has an ongoing system capacity monitoring program and NCB has introduced virtual servers to increase capacity and performance.

Disaster Recovery/Business Continuity

The bank maintains a formal disaster recovery plan which was recently changed to rely solely on virtual private network (VPN) connection into the bank's systems and drives; previously, NCB maintained alternate work locations. NCB maintains a data center in Ohio to which critical data are replicated daily. Servicing data contained in Strategy is hosted by McCracken Financial and is replicated on a real-time basis, therefore limiting the maximum potential loss of

NCB recently built an enterprise data warehouse which captures all servicing data and is building out reports in a new report writing tool demonstrating the bank's continued commitment to servicing technology.

Backshop is used for both CMBS and non-CMBS loans (cooperative and CRE loans) to perform financial statement analyses and help generate ASR write-ups.

While Fitch views the availability of hot-sites for employees to report to favorably, connections, NCB's Hillsboro office is capable of processing cash and performing investor reporting.

servicing data in case of a system disruption to zero. Furthermore, data hosted by NCB are backed up on a daily basis and stored at an offsite storage facility, and all systems are backed up on a nightly basis, providing NCB with a maximum possible data loss of 24 hours for all other data. Short-term backup power is available and systems are migrated to the Ohio location if longer term power issues exist. Disaster recovery and business continuity plans are tested on a quarterly basis and enterprise-wide tests are conducted annually.

The most recent disaster recovery test was conducted in December 2016 and was concluded with no issues. The most recent disaster recovery test for McCracken Financial Solutions was completed in November 2016 with no issues.

Internal Control Environment

NCB's internal control environment is formed by detailed policies and procedures and the use of technology for controls around data integrity and benchmarking of servicing functions as well as monitoring compliance with internal procedures and servicing agreements. NCB's operational risk management committee, comprising the chief operating officer and heads of various servicing functions, also forms a key part of the control environment, providing monthly oversight of servicing operations.

NCB maintains a regulatory compliance department focused at the corporate level; the bank addresses compliance with internal policies and external parties through a layered enterprise risk management committee model. NCB's internal audits are focused on loan credit quality and documentation and are not operational in nature. While NCB lacks an internal, independent control function over servicing operations, the bank is subject to annual external audits from Fannie Mae and Grant Thornton LLP for Reg AB and USAP.

Policies and Procedures

NCB maintains policies that are reviewed and approved by the board of directors annually in addition to servicing guidelines that are reviewed on an annual basis and updated as industry requirements evolve. The servicing policies and procedures are detailed, well documented and available on NCB's internal network drive, and password protected. Employees are also given a hard copy of the manual. Final changes to servicing P&Ps must be approved by senior management prior to distribution to personnel. While there were no major changes to policies and procedures in the last 12 months, NCB began mapping certain high-risk processes within the servicing department starting with insurance processing as a result of a bank-wide enterprise risk assessment being performed by an external consultant.

Compliance and Controls

Senior management uses an extensive reporting process to track servicing compliance. The operational risk management committee views a monthly report, of which Fitch was provided a copy. The report details key operational benchmarking figures such as financial statement collections, loans with outstanding documents, loan covenant default summaries and loan setup performance. The report also lists current servicing portfolio numbers, upcoming maturities and delinquencies, as well as current process improvement summaries.

Internally developed systems form the core of NCB's compliance and quality control efforts, as the company employs technology to monitor loan covenants, insurance and site inspections as well as perform benchmarking on servicing functions and exception reporting for compliance with servicing agreements. A key piece of the internal control environment is a proprietary database that automates and tracks all research and corrections made to any information within the systems or to the systems in general. NCB also uses an internally developed risk

Fitch believes the use of technology in internal controls is a strength of NCB.

management system to define and monitor risk across its loan portfolio. The system interfaces with the bank's data warehouse and can also calculate loan loss provisions.

Servicing departments are held to benchmarks surrounding key servicing functions that are maintained in the company's database, from which management reports can be generated to assess and improve problem areas, trends, and customer satisfaction. Management reports track data points such as accuracy and timing of new loan setup, summarize upcoming tax and insurance due dates and potential escrow shortages and track collection benchmarks. An operational risk management committee meets monthly and reviews these reports as well as cash management reports monitoring for fraud and outstanding advances.

NCB maintains two web-based systems to track covenants at the loan and transaction level, providing controls around document management as well as loan and investor compliance. One system tracks all loan covenants, cash management features, collections and site inspections, and has the ability to generate reports to determine the percentage of outstanding covenants and timelines. Within Backshop, NCB performs investor covenant compliance tracking and has the ability to abstract PSA information such as transaction and loan-level terms, conditions, and covenants.

Various subcommittees such as credit risk management, asset and liability management, operational risk management, and legal and compliance risk management are composed of senior managers from the respective departments and meet monthly to review performance or issues in each area. Findings from these committees funnel into a monthly enterprise risk management committee, which is composed of senior bank executives and reports quarterly to the bank's board of directors. The enterprise risk management committee reviews service-level agreements and performance metrics and major operational risks facing the bank as well as significant operational loss events and their root causes and corrective actions.

Internal Audit

NCB has an internal audit department with three employees that reports directly to an audit committee of the board of directors. The audit group is assisted by an external firm, Crowe Horwath, in annual audits of accounting procedures to assess financial controls and compliance with policies, procedures and other regulations. Crowe Horwath provides internal audit services to NCCB as well. Additionally, NCB continues to perform quarterly audits on the real estate portfolio to assess credit quality; as NCB is under the supervision of the OCC, internal audits cover various underwriting factors such as loan structure, collateral, loan controls to monitor performance over the life of the loan (for example, loan covenant testing and financial statement submission requirements), and risk assessment. The internal audits also continue to test for borrower compliance with ongoing covenants such as timely submission of annual financial statements and insurance.

Fitch reviewed a copy of an audit dated June 2017 that contained several medium findings relating to the underwriting scope driven by the OCC. Findings centered on credit administration and documenting borrower information such as maintenance charges, budgets, and financial information. NCB senior management stated that corrective actions have taken place.

External Audits

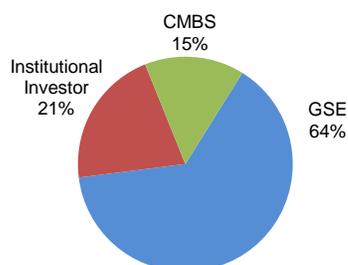
Grant Thornton LLP completed a USAP and Reg AB audit, both dated Feb. 1, 2017, and found NCB to be in compliance with the minimum servicing standards. Additionally, NCB is subject to an annual operational audit by Fannie Mae and the OCC performs an annual safety and soundness examination of NCB to ensure that the company is in compliance with all regulatory guidelines set forth for a federally chartered national bank.

Fitch considers the monthly operational risk management committee report to be an effective tool in monitoring servicing operations.

Internal audits are primarily focused on loan credit quality and documentation, and are not operational in nature; however, the audit scope does cover loan risk rankings. NCB is subject to an annual operational audit from Fannie Mae, as well as Reg AB and USAP audits from Grant Thornton and an audit by the OCC.

Primary Servicing Product Type

(As of June 30, 2017)

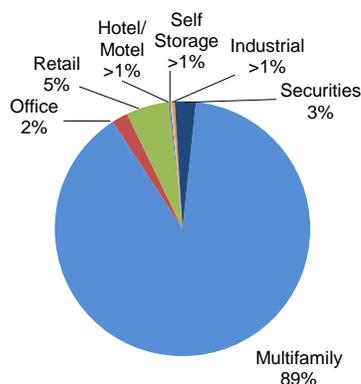


Note: Percentages based on number of loans.
Source: National Cooperative Bank N.A.

NCB has not participated in any bulk transfers to date, as the majority of loans serviced were originated internally.

CMBS Primary and Full Master Stratifications Property Type

(As of June 30, 2017)



Note: Fitch considers Freddie Mac K-series transactions as CMBS.
Source: National Cooperative Bank, N.A.

Primary Servicing

As of June 30, 2017, NCB's total servicing portfolio consisted of 3,565 loans totaling \$5.3 billion which continues to runoff. The company acted as primary servicer reporting to a third-party master servicer on one CMBS transaction servicing one CMBS loan totaling \$3.4 million which also continues to runoff. NCB acted as full master and primary servicer on 520 CMBS loans totaling \$1.6 billion, down from 558 CMBS loans totaling \$1.5 billion as of year-end 2015.

Primary Servicing Portfolio Overview

(\$ Mil.)	6/30/17	% Change	12/31/16	% Change	12/31/15
CMBS					
No. of Transactions — Primary Servicer	42	5	40	14	35
UPB — Primary Servicing	1,604.2	1	1,591.1	7	1,489.0
No. of Loans — Primary Servicing	521	(1)	528	(6)	559
Non-CMBS					
UPB (\$ Mil.)	3,621.8	(6)	3,845.1	(9)	4,214.6
No. of Loans	3,031	(5)	3,176	(3)	3,280

Source: National Cooperative Bank, N.A.

New Loan Setup

Asset managers in the loan administration team are responsible for new loan setup and generate templates used to streamline data input. Loan files are dually reviewed by the loan closer and asset manager, and disbursement amounts and interest rates are checked against the loan closing systems. Asset managers generate exception reports from Strategy for any discrepancies against the setup forms, and new loan setup information is then reviewed and approved. A post-closing asset manager oversees the post-closing process across all asset types. NCB has manual and system checks for new loan boarding such as dual reviews of loan documents, tiered reviews of loan setup information and management reports used to track accuracy and timing, with missed benchmarks reported during the monthly operational risk management committee.

After a loan is set up, approved and released on Strategy, it is integrated into a proprietary loan covenant tracking system to track and monitor ongoing covenants. Management has the ability to generate reports that determine the percentage of outstanding covenants assigned to each asset manager.

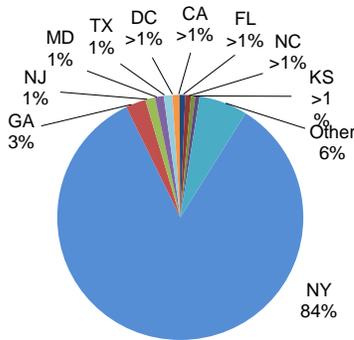
Accounting and Cash Management

NCB has two staff members dedicated to performing manual payment postings and loan accounting personnel are used to review automated postings. The bank implemented a system that automates payment processing with a workflow routing procedure that processes the wire request from initiator to approver. Loans with cash management features are assigned an asset manager who reviews the loan documents and identifies the specific cash management requirements as well as trigger events. Cash management requirements are set up on the internal covenant compliance tracking system and a tickler is set up in Strategy with the associated trigger events. The investor reporting group is responsible for reviewing all financial statements and rent rolls and flags and communicates any trigger events.

When a new transaction is set up, the PSA is reviewed to ensure that the setup is in compliance with reporting and remitting requirements. All bank requirements and reconciliation procedures are housed in the Backshop system. Annually, investor compliance prepares and issues an annual statement of compliance for each transaction to the appropriate parties in the transaction. The statement certifies that all accounts are held in eligible institutions and are in good standing.

Top Ten CMBS Primary and Full Master Stratifications States

(As of June 30, 2017)



Note: Fitch considers Freddie Mac K-series transactions as CMBS.
Source: National Cooperative Bank, N.A.

The bank maintains good controls around investor reporting through automated reporting, timeline tracking and dual reviews. NCB has not had any restatements, errors or instances of late reporting in the past 24 months.

% Portfolio Escrowed for:

Taxes	38
Insurance	7

As of June 30, 2017, NCB reported no tax penalties in 2017. At Fitch's last review, NCB reported minimal tax penalties relative to the company's servicing portfolio; penalties for two loans were due to incorrect tax parcels received at closing.

NCB reconciles bank accounts on a monthly basis through a reconciliation template. While the reconciliation process is not fully automated, the bank maintains controls around reconciliations by having a member of the investor reporting team review a reconciliation for which they did not report or remit on. In addition, all completed reconciliations are reviewed and signed off on by a loan accounting manager, and a senior vice president of loan accounting reviews a sample of the reconciliations quarterly and reviews all custodial reconciliations at year end.

Investor Reporting

Loan accounting personnel are responsible for reconciling reports and remittances and preparing them in the CMBS-required file format for distribution to the trustee. NCB has fully automated the CREFC IRP and reports for Fannie Mae on its systems. Data are automatically exported from the data warehouse when a user selects the report type. Investors have access to these reports through NCB's investor website.

Management reports are generated from Strategy to identify any exceptions or discrepancies in data exported from the internal data warehouse. All reports and remittances are reviewed and signed off by a manager. The investor reporting team maintains a monthly reporting schedule and has three dedicated employees to monitor reporting deadlines and requirements.

Escrow Administration

NCB uses a vendor to monitor and distribute tax payments for both escrow and non-escrowed loans. A dedicated tax analyst works with the vendor to ensure timely payment of all taxes due. Annual audits for delinquent tax payments are conducted by the vendor for non-escrowed loans that are sent to NCB. Management reports are generated from Strategy that summarize upcoming tax and insurance due dates and potential escrow shortages.

Insurance administration is not outsourced; instead, it is monitored across the entire servicing portfolio. NCB has the ability to maintain and update all insurance records in its proprietary loan covenant tracking system. NCB performs an annual escrow analysis for both taxes and insurance through the loan covenant system.

The bank houses UCC tracking data in Strategy for compliance monitoring for UCC filings and continuations. NCB performs an annual scrub of all UCC data in their entirety to ensure consistent and accurate naming of all UCC filings. NCB has not had any lapsed UCCs in the past 24 months.

Asset Administration

NCB uses the covenant tracking system to generate reports to monitor the timing of all collections, site inspections performed, and financial analysis. Collection benchmarks are tracked in quarterly productivity reports.

Senior managers in the loan administration group receive preliminary delinquency reports throughout the month to monitor delinquent loans under a 30-day threshold. A month-end delinquency report is generated for review by management and communication with the risk management group and special servicing is initiated when delinquent loans pass a 45-day trigger. Delinquent loans of 60 days or greater are transferred to special servicing to continue collection efforts.

One team member is dedicated to reviewing, analyzing, and distributing site inspections that are performed by an outside vendor. The vendor uses templates as required within the related transaction document. The follow-up of outstanding deferred maintenance issues has been centralized with the hiring of a post-closing account manager who coordinates with the

inspection analyst to respond to questions from asset managers. NCB performs an annual audit of outsourced inspections to review the quality of the property inspections.

NCB's investor compliance team prepares the monthly watchlist report, which is automatically generated for internal and external purposes and whose criteria are based on CREFC IRP guidelines. The watchlist report is reviewed monthly by risk management and members of the special servicing team. NCB continues to maintain and enhance an automated early warning report that uses the CREFC watchlist triggers as a platform and expands on them. For example, loans maturing within 180 days or less will appear on the early warning report, compared with 90 days on the traditional CREFC watchlist report. The early warning report includes additional data points such as occupancy levels, most recent site inspection results, and escrow and payment information.

Within investor compliance, a dedicated team reviews, analyzes, and reports on borrower financial and property operating results. The analysis is performed in Backshop, which captures all the IRP templates by property type. The database is used to analyze operating statements received on monthly, quarterly, and annual bases. NCB has the ability to populate the net operating income adjustment worksheet and the operating statement analysis report formats.

NCB maintains a proactive approach for maturing loans. Borrower notification letters are generated monthly to isolate upcoming maturities meeting the criteria of 18 months, 12 months, and six months prior to maturity. Additionally, the investor compliance group reports monthly on the status of all maturities within a three-month window to ensure timely resolution prior to the final maturity date. Borrower follow-up is conducted as necessary to ensure timely payoff and/or refinancing.

Customer Service

NCB's treasury department is responsible for updates of all rates within Strategy. Loan-level interest rate changes for sold loans are verified by the investor compliance team and portfolio loan rate changes are monitored by the loan administration department. Both teams are able to generate reports to verify changes. ARM adjustments are verified by running management reports against Strategy. Management reports are generated monthly by both managers of loan accounting and investor compliance to ensure that all rate changes have been made correctly and timely.

NCB maintains a borrower website called NCB Members Only. This website is available to all NCB borrowers through the NCB website. By using their approved customer login, each NCB borrower can sign into the site and access the following data: loan balance, account history, billing statements, covenant compliance, contact information, patronage, and stock information. NCB has dedicated asset managers who serve as the main contact for each borrower. While NCB has a formal customer satisfaction survey, the last survey was performed in 2015. Customer satisfaction is also monitored through borrower relationships and communication.

Master Servicing

Generally, NCB maintains master servicing rights for all loans it contributes to a transaction and therefore is named master servicer for a portion of each CMBS transaction. As of June 30, 2017, NCB was named master servicer for its loans in 41 securitized transactions consisting of 533 loans totaling \$1.6 billion; while the number of transactions in which NCB contributes loans has continued to increase, the number of loans have decreased following the trend in CMBS of fewer loans with higher balances. To date, NCB has been named master servicer over all loans originated by NCB or NCCB. NCB is also primary servicer on the majority of its loans.

Given the low volume of CMBS loans serviced by external primary servicers, NCB has historically performed onsite reviews for each primary servicer; however, NCB performed desktop audits for three of the four external primary servicers and one on-site audit in 2016. NCB expects to perform onsite audits in for two of the larger servicers during 2017 and desktop audits for the remaining two primary servicers.

The company performs oversight of four primary servicers which service 30 CMBS loans totaling \$98.4 million, an increase from 19 loans totaling \$46.9 million at Fitch's last review. NCB brokers out a small number of CRE loans which are contributed to CMBS transactions and retains master servicing responsibilities.

Master Servicing Portfolio Overview

(\$ Mil.)	6/30/17	% Change	12/31/16	% Change	12/31/15
CMBS					
No. of Transactions — Master Servicer	41	3	40	18	34
UPB — Master Servicing	1,636.0	0	1,631.7	6	1,532.2
No. of Loans — Master Servicing	533	(2)	545	(6)	577
No. of Primary Servicers Overseen	4	0	4	0	4

Source: National Cooperative Bank, N.A.

Primary Servicer Oversight

NCB maintains an audit program for reviewing the performance of subservicers. While NCB has not been named master servicer for entire transactions with other primary servicers, the policies and procedures in place would be used. Currently, NCB retains oversight of external primary servicers through shadow servicing in addition to performing annual desktop and/or onsite audits of subservicers. All subserviced loans are boarded on the NCB servicing system and internal applications to monitor all loan payments, transactions, and covenant compliance.

At least annually, NCB's investor compliance department performs either an onsite or desktop servicer review of each subservicer. The subservicers are measured based on the documentation and responses provided across several areas, including organization and staffing, training, policies and procedures, PSA compliance, watchlist and delinquency prevention, escrow analysis, trigger event monitoring, assumptions, and modifications.

At the end of the review, NCB issues a summary of findings. Any deficiencies require the respective subservicer to respond with a remediation plan. At the time of the review, the general subservicing contract is reviewed to ensure the contract includes industry requirements.

Asset Administration

The current assignment of servicing contracts is divided by product type. NCB has both CREFC and Fannie Mae account managers. Since NCB refinances the majority of its own loans, new loans typically stay with the asset manager. Both teams are cross-trained on Fannie Mae and CMBS requirements.

As a master servicer, NCB shadow services all aspects of loan administration for subserviced loans. All subserviced loans are boarded on the NCB servicing system and internal applications that monitor all loan payments, transactions, covenant compliance, taxes, insurance, and other pertinent administrative items. NCB processes consents directly in connection with all subserviced loans. Quarterly, subservicers provide NCB with certifications of compliance with requirements for taxes, insurance, UCCs, and reserve administration.

The investor compliance department maintains a fully automated system for approving subordinate debt post-closing. The department evaluates the terms and conditions under the respective PSA and loan document to determine the amount permitted. The team also evaluates the status of insurance, taxes, deferred maintenance, and potential watchlist items prior to approving any request.

Investor Reporting

The investor compliance department is responsible for maintaining contact with the respective participants for all securitized transactions and providing notifications required under the terms of the respective PSAs.

The investor compliance team performs surveillance and watchlist preparation across primary and master servicing. All watchlist comments are reviewed and edited by one of three investor compliance employees prior to distribution. NCB uses investor reporting systems to monitor trustee reporting timelines and has a fully automated CREFC IRP module.

Advancing

With NCB serving as master servicer and special servicer on the majority of loans (91%) within its master servicing portfolio, the frequency of communication between the two groups allows for efficiencies given access to the same systems and physical location.

NCB's loan accounting group uses Strategy to track and monitor all advances at the loan level, identifying any shortages through the system. The group is responsible for advancing amounts deemed recoverable from corporate funds, with oversight and approval from the master servicing department. Monthly, NCB's corporate and loan accounting departments and the special servicing and master servicing groups review potential advancing obligations, outstanding advances and appraisals for all specially serviced loans as well as projected deal runoff to determine recoverability. Monthly, Strategy is used to reconcile scheduled principal and interest due against custodial accounts, and quarterly, the accounting department, loan accounting group, and master servicing group reconcile and sign off on all advances and repayments.

NCB performs a monthly review of appraisal reductions and refers all loans with reductions to special servicing. The master servicing team and assigned special servicing loan officer provide oversight by reviewing and verifying all monthly appraisal subordination entitlement reduction calculations.

Special Servicing

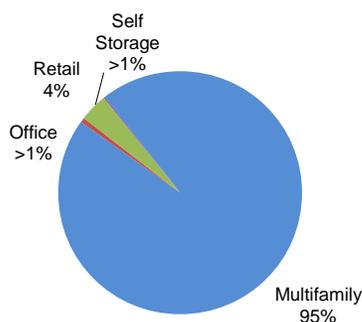
Special Servicing Portfolio

As of June 30, 2017, NCB was named special servicer for 484 CMBS loans totaling \$1.5 billion and 3,030 non-CMBS loans totaling \$3.6 billion. As of the same date, two CMBS loans totaling \$28.8 million and 23 non-CMBS loans totaling \$54.5 million were actively specially serviced, down 37% (by balance) and 31%, respectively, from 2015. All of the CMBS loans in special servicing and 16 of the 23 non-CMBS loans were cooperative housing loans. The remaining non-CMBS loans in special servicing were: four homeowner's association loans and one office, retail, and lodging loan.

While traditionally a one-stop lender and servicer for cooperative housing loans, NCB continues to have active special servicing exposure to CRE loans (defined as other than cooperatives), increasing NCB's experience with various property types and markets. NCB has worked out CRE loans secured by affordable housing, multifamily, retail, and office properties. Of the CRE loans in its named special servicing portfolio (CMBS and non-CMBS), 9% are sponsored by nonhousing cooperatives.

NCB's total advancing exposure has decreased to \$2 million at June 30, 2017 from \$5.7 million as of June 20, 2016. While NCB's capacity to advance was found to be a concern given the lack of investment-grade credit ratings, Fitch performed an advancing stress test and found existing capital levels and liquidity to be sufficient to meet the bank's expected and potential advancing obligations under stressed scenarios.

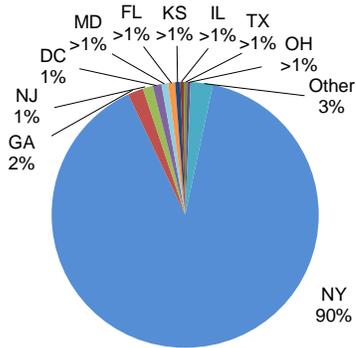
CMBS Special Servicing Stratifications Property Type
(As of June 30, 2017)



Note: Fitch considers Freddie Mac K-series transactions as CMBS.
Source: National cooperative Bank N.A.

Top Ten CMBS Special Servicing States

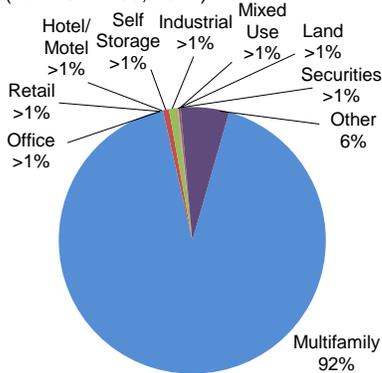
(As of June 30, 2017)



Note: Fitch considers Freddie Mac K-series transactions as CMBS.
Source: National cooperative Bank N.A.

Non-CMBS Special Servicing Property Type

(As of June 30, 2017)

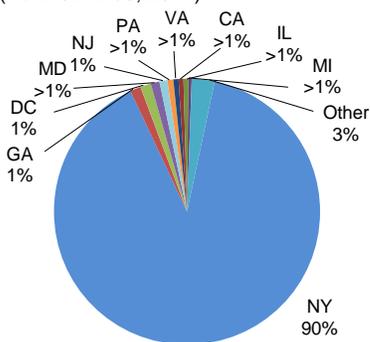


Note: Fitch considers Freddie Mac K-series transactions as CMBS.
Source: National cooperative Bank N.A.

NCB's special servicing business plans are saved and stored in the Backshop application.

Top Ten Non-CMBS Special Servicing States

(As of June 30, 2017)



Note: Fitch considers Freddie Mac K-series transactions as CMBS.
Source: National cooperative Bank N.A.

Special Servicing Portfolio Overview

(\$ Mil.)	6/30/17	% Change	12/31/16	% Change	12/31/15
CMBS					
No. of Transactions — Special Servicer	40.0	14	35	3	34
UPB — Named Special Servicer	1,508.1	4	1,444.0	17	1,238.9
No. of Loans — Named Special Servicer	481	3	465	1	459
UPB — Actively Special Servicer (Non-REO)	28.9	11	25.9	(43)	45.8
No. of Loans — Actively Special Servicer (Non-REO)	2	100	1	(83)	6
UPB — REO Assets	0	0	0	(100)	3.5
No. of REO Assets	0	0	0	(100)	1
Non-CMBS					
UPB — Named Special Servicer	3,619.6	(6)	3,845.1	(9)	4,214.6
No. of Loans — Named Special Servicer	3,030	(5)	3,174	(3)	3,280
UPB — Actively Special Servicing (Non-REO)	54.5	0	54.4	31	41.5
No. of Loans — Actively Special Servicing (Non-REO)	23	5	22	(21)	28
UPB — REO Assets	0	0	0	0	0.0
No. of REO Assets	0	0	0	0	0

Source: National Cooperative Bank, N.A.

Loan Administration

Across primary, master, and special servicing, surveillance is performed by the investor compliance group, which spreads financials in the Backshop and prepares a monthly watchlist report. The watchlist report is reviewed monthly by risk management and members of the special servicing team. All investor reporting on specially serviced assets is also handled by the investor compliance group through the automated IRP reporting module in the loan covenant system.

Defaulted/Nonperforming Loan Management

Given the practical limitations of typical enforcement actions specific to cooperatives, greater reliance is placed on maintaining borrower relationships during the workout process than for traditional CRE. The typical workout strategy consists of realigning borrower operations in an attempt to boost cash flow or restructure the loan to meet cash flow needs, requiring communication, and cooperation with borrowers and their managing agents.

NCB prepares business plans that are updated at least quarterly and as the workout phase develops. For all specially serviced assets, business plans and resolution recommendations are reviewed and approved by the head of special servicing; given the volume and size of loans in special servicing, NCB does not maintain a formal credit committee.

NCB conducts market research through a combination of market research firms such as Reis as well as local brokerages and appraisers. NCB also mines its servicing portfolio for information on comparable properties in the market. For special servicing, NCB performs site inspections in-house, which assists in determining the property's position in the market and the reasons for the underperformance. Borrower research is accomplished through underwriting sponsors (and when appropriate, guarantors) at the time of origination and updated financial information is reviewed.

Asset managers are evaluated against team and bankwide benchmarks for items such as delinquency, net loss, workout strategies, workout timelines, and recovery.

REO Management

NCB has foreclosed on cooperative housing properties in a limited fashion, restricting the need for dedicated REO resources. NCB performs REO management in the loan workout group and hires third parties to manage REO properties while asset managers provide oversight and monitoring. Further oversight is provided by monthly management committees where all loans in special servicing are reviewed, including budgets and sales prices of REO properties.

The REO asset managers are measured by effectiveness with respect to asset disposition time, minimization of loss, and acceptable expense/time management performance.

For REO properties, the resolution strategy typically has been to sell the real estate via auctions. NCB had one recent REO property go to auction, as NCB believed that holding REO for long periods would have resulted in high losses to the trust due to increased carrying costs and the slow rate of recovery of value.

Governance and Conflict of Interest

Managing Conflicts of Interest

Fitch reviewed six business plans and found them to have basic detail. However, the plans were not as robust compared with those of highly rated special servicers. Alternative resolution methods were discussed with limited detail around alternative NPV analyses performed.

Conflicts of interest in CMBS special servicing can arise when servicer actions or a particular workout strategy financially benefits the special servicer or the controlling class relative to alternative actions.

NCB maintains a multi-review process comprising senior management to review and approve all special servicing resolutions. Senior managers responsible for approving workouts do not have direct reporting lines tied to loan originations and are not active in the day-to-day originations process. However, because NCB is an active originator, it is likely to provide refinancing, creating a potential for loans to be paid off. Additionally, while NCB contributes loans to transactions and retains the servicing rights, the bank does not invest in controlling class positions and is subject to the same controlling classholder termination rights as other CMBS special servicers.

Fitch reviewed a sample of six business plans and found them to have basic detail and a net present value analysis rationalizing the workout method. However, Fitch found the plans to be not as robust compared with those of other highly rated special servicers.

NCB has a formal code of business conduct and ethics, a copy of which was provided to Fitch for review. The purpose of the code is to reinforce and enhance the company's commitment to an ethical way of doing business. Fitch found the code specifically addressed potential conflicts of interest that may arise through various means in detail, as well as entertainment, gifts and gratuities. Employees are required to review and acknowledge their understanding of the code.

Affiliated Companies

NCB does not engage any affiliated companies.

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