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CREDIT OPINION

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Update

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Federal Home Loan Bank of New York

Update to credit analysis

Summary

The <u>Federal Home Loan Bank of New York</u>'s (FHLBank New York) Aaa long-term and Prime-1 short-term deposit ratings are in-line with the deposit ratings of the other ten regional FHLBanks. These ratings reflect the combination of FHLBank New York's aa3 Baseline Credit Assessment (BCA) and our assumption of a very high likelihood of support from the <u>US</u> <u>Government</u> (Aaa stable) due to the FHLBank System's special role as a provider of liquidity to the US banking system. The rating outlook is stable.

FHLBank New York's aa3 BCA is based on the strength of its advance business, minimal exposure to private-label MBS, superior risk management and the consistency of its financial performance. FHLBank New York has a very strong advance business, with about \$92 billion outstanding as of 30 September 2022, equal to 71% of its total assets, a higher proportion of the total balance sheet than for any other FHLBank. Through the first three quarters of 2022, the bank's advance balances grew about 28%, a reflection of wholesale funding needs at depositories to support loan growth and manage deposit volatility.

Exhibit 1

Rating Scorecard - Key Financial Ratios



All ratios as of 30 September 2022, the most recent date of comprehensive peer data. Source: Moody's Investors Service

Credit strengths

- » Excellent credit quality of FHLBank New York's advance portfolio, investment portfolio and mortgage portfolio minimizes asset risk
- » Although narrowly focused, the FHLBanks, including New York, are central liquidity providers to US banks, underscoring their systemic importance

Credit challenges

- » Substantial single borrower concentrations, with the five largest accounting for two-thirds of total advances at September 2022
- » Reliant on confidence-sensitive market funding, but market access is strong because of consolidated issuance and FHLB status as a government-sponsored enterprise (GSE)

Outlook

The stable rating outlook reflects our stable outlook on the ratings for the US government. Any rating actions on the US Government would likely result in all individual FHLBanks' long-term deposit ratings, and the FHLBank System's Aaa long-term bond rating, moving in lock step with any US sovereign rating action. FHLBank New York, and the ten other regional FHLBanks, have joint and several liability for the FHLBank System's consolidated bonds and consolidated discount notes.

Factors that could lead to an upgrade

At Aaa, an upgrade of FHLBank New York's long-term deposit rating is not possible. FHLBank New York's BCA is one notch higher than those of its peers, making upward movement in its BCA unlikely.

Factors that could lead to a downgrade

Any negative rating action on the US Government would likely result in all individual FHLBanks' long-term deposit ratings moving in lock step with any US sovereign rating action.

Factors that could lead to a downgrade of FHLBank New York's BCA of aa3 include elevated loss expectations on its investment portfolio, a quarterly net loss, significant asset-liability mismatches or enduring weakness in its advance business. In addition, an expansion of its risk profile, for example due to a change in the FHLBanks' government mandate or self-initiated, could result in a lower standalone BCA. A BCA one notch lower would match the BCAs of its peers and would be unlikely to result in a lower long-term deposit rating.

This publication does not announce a credit rating action. For any credit ratings referenced in this publication, please see the issuer/deal page on https://ratings.moodys.com for the most updated credit rating action information and rating history.

Key Indicators

Exhibit 2

Federal Home Loan Bank of New York (Consolidated Financials) [1]

	09-22 ²	12-21 ²	12-20 ²	12-19 ²	12-18 ²	CAGR/Avg. ³
Total Assets (USD Billion)	130.1	105.4	137.0	162.1	144.4	(2.7)4
Net Income / Tangible Assets (%)	0.3	0.3	0.3	0.3	0.4	0.3 ⁵
Liquid Assets (GSE) / Short Term Debt (%)	34.2	35.0	27.8	31.0	15.8	28.8 ⁵
Tangible Common Equity / (Total Assets - Derivatives) (%)	5.6	6.1	5.3	4.7	5.4	5.4 ⁵
Mortgage Loans / Total Assets (%)	1.6	2.2	2.1	2.0	2.0	2.0 ⁵

[1] All figures and ratios are adjusted using Moody's standard adjustments. [2] Basel I; US GAAP. [3] May include rounding differences because of the scale of reported amounts. [4] Compound annual growth rate (%) based on the periods for the latest accounting regime. [5] Simple average of periods for the latest accounting regime. *Sources: Moody's Investors Service and company filings*

Profile

The FHLBanks are federally-chartered GSEs that were organized under the Federal Home Loan Bank Act of 1932. The FHLBanks together with the Office of Finance comprise the FHLBank System. Each of the FHLBanks and the Office of Finance operate under the supervisory and regulatory framework of the Federal Housing Finance Agency (FHFA). Each FHLBank operates as a separate entity with its own management, employees, and board of directors.

The FHLBanks' primary business is lending to member institutions, primarily banks, savings institutions, credit unions and insurance companies, in the form of advances, which are generally short-term and over-collateralized, minimizing the credit risk on these loans. In addition, the FHLBanks benefit from their statutory lien priority with respect to pledged member assets. The FHLBanks also purchase mortgage loans, principally 15-30 year conventional and government-guaranteed or insured fixed-rate loans. The FHLBanks also invest in securities, principally US government securities, GSE obligations and MBS, subject to an investment limit of three times regulatory capital without approval by the FHFA. Some FHLBanks offer correspondent services to their member institutions, including wire transfer, security safekeeping, and settlement services.

As of 30 September 2022, FHLBank New York reported total assets of \$130.1 billion.

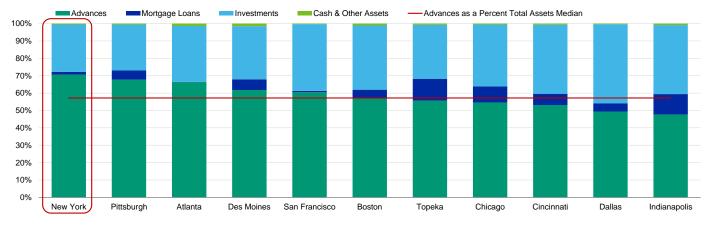
Detailed credit considerations

Asset quality and credit risk management

Excluding a tiny non-agency MBS portfolio (0.4% of total assets), we believe FHLBank New York's asset quality is exceptional. In particular, advances, which routinely represent around 70% or more of its total balance sheet, are an over-collateralized asset that has never resulted in a loss. This, as well as our view of FHLBank New York's superior risk management over the long-term, is reflected in the assigned aa1 score for Asset Risk in our scorecard, shown at the back of this report.

As depicted in the table below, FHLBank New York's balance sheet composition is narrowly focused and more concentrated in advances, its core product, than its peers (green portion of each bar). Beyond its advance portfolio, investments, which are primarily high quality US government and agency guaranteed securities, comprise most of the balance. As noted, non-agency MBS holdings are de-minimus. In addition, FHLBank New York has limited direct mortgage holdings, representing less than 2% of total assets as of 30 September 2022.

Exhibit 3



FHLBank New York's asset mix compared to those of the other FHLBanks FHLBank New York has a stronger advance business than its peers

As of 30 September 2022

Source: Company Filings and Moody's Investors Service

A contributing factor to the consistency of FHLBank New York's advance business is that insurance companies account for a large portion of its outstanding advances. Indeed, half of FHLBank New York's top ten advance borrowers are insurance companies, which cushions the blow from declining demand for advances from depositories when the latter are flush with deposit balances as they were during the height of the pandemic. At 30 September 2022, insurance company advances were 40% of total advances, down just slightly from 41% at year-end 2021.

Because insurance companies are regulated differently than banks, FHLBank New York's claims on collateral in the event of an insurance company failure may be less predictable than the well-worn bank failure process. As a result, FHLBank New York takes additional precautions in the underwriting and credit monitoring process, including frequent borrower credit analysis and collateral loan reviews, taking physical possession of all pledged eligible collateral or requiring it to be deposited with a third party custodian or control agent, as well as other steps to minimize the possibility of any credit losses.

FHLBank New York's single borrower concentrations are more significant than they are at many of its peers, which is a long-term earnings risk. Its top five advance borrowers, Citibank, MetLife, New York Community Bank, Equitable Financial Life and TIAA represented 67% of total advances as of 30 September 2022. However, in terms of member numbers, the vast majority of FHLBank New York's 300+ members are relatively small institutions.

Interest rate risk management

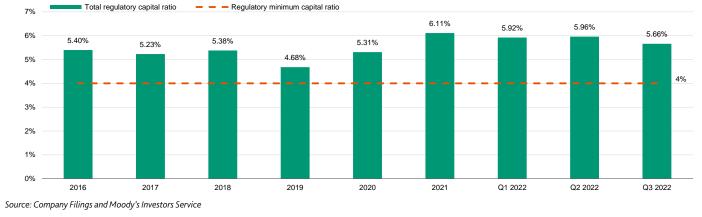
FHLBank New York manages its interest rate risk exposures through the use of debt with similar duration to its assets, as well as with derivatives. As noted, its primary asset is advances, which are offered in a variety of types, including fixed rate, variable rate, callable by the member, as well as putable advances. With a putable advance, the FHLBank purchases a put option from members, which allows the FHLBank to terminate the fixed rate advance on specified dates and offer, subject to certain conditions, replacement funding at prevailing market rates. Prepayment fees, a common feature of advances, help compensate the bank for the funding put in place at inception when advances are paid off ahead of schedule.

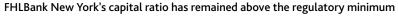
Capital adequacy

FHLBank New York is required by legislation to maintain minimum regulatory capital of 4% of its total assets. As of 30 September 2022, its regulatory capital ratio was roughly 5.7%, compared to about 6.1% at year-end 2021. The aa1 assigned score for Capital in our scorecard incorporates our estimate of FHLBank New York's TCE ratio on a risk-weighted basis, which is very strong.

To become a member of an FHLBank, financial institutions must purchase stock in the bank. All shares have a statutory par value of \$100. When a member needs to access advances, it must not only pledge high-quality collateral, but also purchase additional activity-based stock in proportion to their borrowings. As a result, during times of high advance activity, the dollar amount of capital automatically increases.

Exhibit 4





Profitability

FHLBank New York's modest but consistent profitability, as measured by return on average assets (ROAA), reflects the primarily low risk profile of its balance sheet. For the first nine months of 2022, FHLBank New York's reported ROAA was 0.3%, slightly above the level of profitability in 2021. FHLBanks' profitability measures are generally weaker, but less volatile, than those of rated US commercial banks. In 2022, most rated US banks have generated an ROAA of 1.0% or greater. The baa1 assigned score for Profitability in our scorecard reflects FHLBank New York's profitability consistency.

Liquidity and Funding

The FHLBanks' GSE status provides them with consistent and stable debt market access, which is reflected in the baa1 assigned score for Funding Structure in our scorecard. As of 30 September 2022, FHLBank New York carried liquid assets as a percentage of short term debt of about 34%, similar to the level of liquidity it held pre-pandemic.

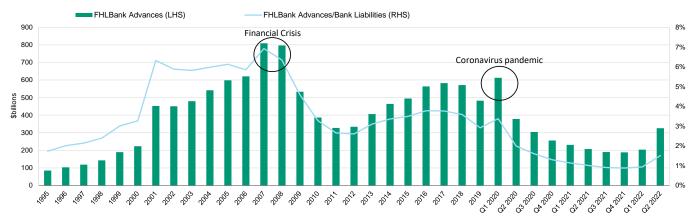
Liquidity will continue to benefit from FHFA guidance that took full effect on 31 December 2019. Before then, liquid asset holdings as a percentage of short-term debt was lower.

Under the current guidance, the FHFA established requirements for the FHLBanks' base case liquidity and implemented new funding gap metrics for three-month and one-year maturity horizons. In addition, the guidance addressed liquidity stress testing and contingency funding plans. We expect that FHLBank New York will remain in compliance with all its liquidity requirements.

Special role as a provider of liquidity to US financial institutions

As GSEs, the FHLBanks' ability to access funding throughout the cycle underpins their importance to the financial system. This is particularly true during times of extreme market disruption when they become a primary source of contingent liquidity for their members. As shown below, at the height of the global financial crisis, advances to members climbed a few hundred billion dollars for the system as a whole before receding as the financial markets and overall economy recovered. Although 2020 began with a spike in liquidity demands due to the pandemic, bank liquidity needs quickly receded, also shown in the exhibit, influenced by significant fiscal and monetary stimulus. In 2022, FHLBank advances have picked up again as banks sought alternative funding given declines in their deposit balances.

Exhibit 5



FHLB Advances have proven to be a stable source of funding, especially during times of crisis Systemwide advances 1995 - Q2 2022

Source: FDIC and Moody's Investors Service

GSE reform

In the fall of 2022, the FHLBank System's regulator, the Federal Housing Finance Agency (FHFA), began a comprehensive review of the System that could result in changes to its mission, organizational structure, membership criteria and/or other areas. The review will continue into 2023 and any recommendations or changes that result may not be known for several months.

Although the FHFA's review is broad and it remains unclear what will be proposed, for creditors, expansion of FHLBank membership will be a particular area of interest. In a scenario where firms with large non-depository and non-insurance operations, such as non-bank mortgage companies, are given access to FHLBank advances, that could increase the FHLBanks' asset risk. Other areas of the review center on the banks' mission, organization, efficiency, role in promoting a resilient housing market, ability and effectiveness in addressing the needs of rural and vulnerable communities, and the FHLBanks' products, services and collateral requirements.

ESG considerations

Federal Home Loan Bank of New York's ESG Credit Impact Score is Neutral-to-Low CIS-2

Exhibit 6 ESG Credit Impact Score



Source: Moody's Investors Service

FHLBank New York's ESG Credit Impact Score is neutral-to-low (**CIS-2**), reflecting the limited credit impact of environmental and social factors on the rating to date. The bank faces neutral-to-low governance risks.

Exhibit 7 ESG Issuer Profile Scores

ENVIRONMENTAL	SOCIAL	GOVERNANCE
E-2	S-2	G-2
Neutral-to-Low	Neutral-to-Low	Neutral-to-Low

Source: Moody's Investors Service

Environmental

FHLBank New York faces low environmental risks. Its loan portfolio consists of wholesale advances to banks, insurance companies and credit unions. Although most of its bank customers face moderate carbon transition risks through their own loan portfolios, and many of its insurance companies face moderate physical climate risks through their client exposures, FHLBank New York is only indirectly exposed to these risks and its advance portfolio is diversified.

Social

FHLBank New York faces low social risks. Its clients are member institutions, such as banks, insurance companies and credit unions, and minimal interaction with retail clients mitigates the risks related to customer relations and demographic and societal trends. While FHLBank New York also faces high cyber risk similar to its banking peers, it faces lower risks of customer relations fallout than a typical bank because of its institutional client base.

Governance

FHLBank New York faces low governance risks. The bank has never reported credit losses on advances, its primary product, highlighting its strong financial strategy and risk management. The bank's strategy and asset composition are based on its Congressional mission and reinforced by its regulators. Like its FHLBank peers, FHLBank New York is a separately chartered cooperative owned by its respective members, with its own board of directors, management and employees. The bank's mandate, regulatory oversight and policies limit the ability of board members to act against the interest of bondholders, which mitigates the potential conflict of interest resulting from board members being executives of its borrowers.

ESG Issuer Profile Scores and Credit Impact Scores for the rated entity/transaction are available on Moodys.com. In order to view the latest scores, please click <u>here</u> to go to the landing page for the entity/transaction on MDC and view the ESG Scores section.

Methodology and scorecard

Our BCA Scorecard is designed to capture, express and explain in summary form our Rating Committee's judgment. When read in conjunction with our research, a fulsome presentation of our judgment is expressed. As a result, the output of our BCA Scorecard may materially differ from that suggested by raw data alone (though it has been calibrated to avoid the frequent need for strong divergence). The BCA Scorecard output and the individual scores are discussed in rating committees and may be adjusted up or down to reflect conditions specific to each rated entity. We also assess the level of support and, consequently, the ratings uplift from the US Government (Aaa stable) using our <u>Government-Related Issuers methodology</u>.

Exhibit 8

Federal Home Loan Bank of New York

Macro Factors						
Weighted Macro Profile Very Strong -	100%					
Factor	Historic Ratio	Initial Score	Expected Trend	Assigned Score	Key driver #1	Key driver #2
Solvency						
Asset Risk						
Problem Loans / Gross Loans	0.0%	aa1	\leftrightarrow	aa1	Long-run loss performance	
Capital						
Tangible Common Equity / Risk Weighted Assets (Basel I)				aa1	Risk-weighted capitalisation	
Profitability						
Net Income / Tangible Assets	0.3%	ba2	\leftrightarrow	baa1	Earnings quality	
Combined Solvency Score				aa2		
Liquidity						
Funding Structure						
Market Funds / Tangible Banking	93.4%	caa3	\leftrightarrow	baa1	Market funding quality	
Assets						
Liquid Resources						
Liquid Banking Assets / Tangible	20.4%	baa1	\leftrightarrow	baa2	Expected trend	
Banking Assets						
Combined Liquidity Score		b1		baa1		
Financial Profile				a1		
Qualitative Adjustments				Adjustment		
Business Diversification				0		
Opacity and Complexity				0		
Corporate Behavior				0		
Total Qualitative Adjustments	0					
Sovereign or Affiliate constraint		Aaa				
BCA Scorecard-indicated Outcome				aa3 - a2		
- Range						
Assigned BCA				aa3		
Affiliate Support notching				-		
Adjusted BCA [1] Where dashes are shown for a particula				aa3		

[1] Where dashes are shown for a particular factor (or sub-factor), the score is based on non-public information.

Source: Moody's Investors Service

Ratings

Exhibit 9	
Category	Moody's Rating
FEDERAL HOME LOAN BANK OF NEW YORK	
Outlook	Stable
Bank Deposits	Aaa/P-1
PARENT: FEDERAL HOME LOAN BANKS	
Outlook	Stable
Senior Unsecured	Aaa
ST Issuer Rating	P-1
Source: Moody's Investors Service	

Source: Moody's Investors Service

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