

CREDIT OPINION

10 May 2017

Update

Rate this Research >>

Contacts

Brian L. Harris 212-553-4705
*Senior Vice President/
 Manager*
 brian.harris@moodys.com

Jason Grohotolski 212-553-1067
VP-Sr Credit Officer
 jason.grohotolski@moodys.com

Federal Home Loan Banks

Semiannual Update

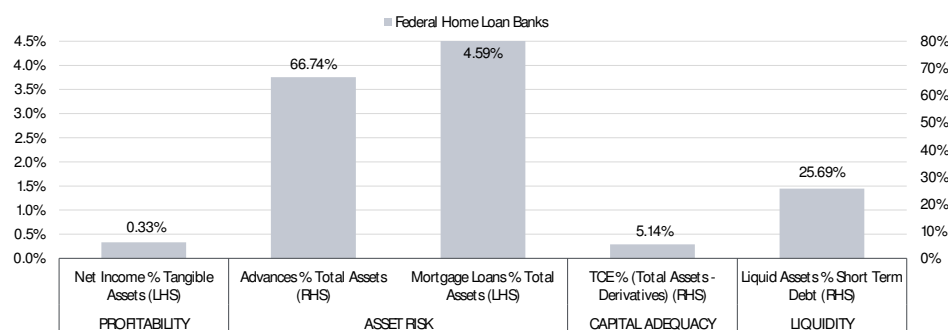
Summary Rating Rationale

The Federal Home Loan Bank System's (FHLBank System or FHLBank) Aaa long term rating and Prime-1 short-term deposit ratings reflect the combination of the following elements: 1) an a1 baseline credit assessment (BCA), 2) very high support from the Aaa with a stable outlook rated US Government, and 3) high dependence between the FHLBanks and the US Government.

The FHLBank System's a1 BCA reflects the FHLBank System's financial strength, earnings stability, excellent asset quality and special role as a provider of liquidity to US Financial Institutions. In arriving at the FHLBank System's BCA, Moody's considers the individual BCA of each of the FHLBanks as well as the profile of the FHLBank System as if it were one, combined entity. The FHLBank System's BCA incorporates the joint and several liability of all FHLBank consolidated obligations.

The outlook on the FHLBanks is stable reflecting the stable outlook on 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 long-term bond rating moving in lock step with any US sovereign rating action.

Exhibit 1
Rating Scorecard - Key Financial Ratios [1]



[1] As of 12/31/2016
 Source: Moody's Financial Metrics

Credit Strengths

- » Joint and several liability reduces default risk of the FHLBank System's consolidated obligations
- » Central liquidity provider to US Financial Institutions

- » Excellent asset quality of 1) the advance portfolio, 2) the investment portfolio excluding the private label RMBS portfolio, and 3) the mortgage loan portfolio

Credit Challenges

- » Narrow charter and bank consolidation constrain growth and profitability
- » Substantial single borrower concentrations at individual FHLBanks
- » Material but declining private-label securities portfolio

Rating Outlook

Moody's stable outlook for the FHLBank System's long-term bond rating reflects the stable outlook of the US government's Aaa debt rating.

Factors that Could Lead to an Upgrade

An upgrade of the FHLBank System's BCA is unlikely. However, an upgrade of the BCA could occur if the FHLBanks re-focused their businesses such that advances represent more than 70% of assets while maintaining i) strong profitability as reflected by an ROAA consistently in excess of .35%, ii) a stable member profile and iii) continued strong asset quality.

Factors that Could Lead to a Downgrade

Any rating actions on the US Government would likely result in all individual FHLBanks' long-term deposit ratings and the FHLBank System's long-term bond rating moving in lock step with any US sovereign rating action.

Barring a downgrade of the US sovereign rating or a material downgrade of the FHLBank System's BCA, Moody's does not expect changes to the FHLBank System's long- and short-term bond ratings. This is due to the fact that the ratings incorporate an expectation of a very high degree of US Government support.

Factors that could lead to a downgrade of the FHLBank System's BCA of a1 include materially higher loss expectations on the private-label RMBS portfolio, materially lower profitability (quarterly net losses over four quarters) or significant asset-liability mismatches.

This publication does not announce a credit rating action. For any credit ratings referenced in this publication, please see the ratings tab on the issuer/entity page on www.moody's.com for the most updated credit rating action information and rating history.

Key Indicators

Exhibit 2

Federal Home Loan Banks [1] [2]

	2016 [2]	2015 [2]	2014 [2]	2013 [2]
Total Assets (USD million)	1,056,712	969,239	913,343	834,178
Tangible common equity (USD million)	54,219	49,334	49,487	50,504
Total shareholders' equity (USD million)	54,163	48,787	49,634	50,046
Return on average assets (FHLB)	0.34%	0.31%	0.26%	0.32%
Return on average equity (FHLB)	6.90%	6.12%	4.93%	5.85%
Advances % Total assets	66.74%	65.4%	62.5%	59.8%
Mortgage Loans % Total assets	4.59%	4.60%	4.78%	5.34%
Retained earnings and related reserves % Total assets	1.55%	1.48%	1.45%	1.46%
Private Label MBS % Total Assets	1.06%	1.43%	2.01%	2.55%
YTD net interest margin (FHLB)	0.38%	0.39%	0.41%	0.44%
Total regulatory capital ratio	5.14%	5.10%	5.43%	6.06%
Liquid Assets (FHLB) % Short term debt	25.69%	26.13%	29.79%	30.23%

[1] All figures and ratios are adjusted using Moody's standard adjustments [2] US GAAP
 Source: Moody's Financial Metrics

Detailed Rating Considerations

The FHLBanks' primary business is lending to member institutions in the form of advances, which are generally short-term and over-collateralized, minimizing the credit risk on these loans. The FHLBanks also purchase mortgage loans through either the Mortgage Partnership Finance (MPF) Program or the Mortgage Purchase Program (MPP). The FHLBanks also invest in securities, principally MBS, subject to an investment limit of three times regulatory capital without approval by the Federal Housing Finance Agency. Below are the detailed rating factors that influence the System's ratings and outlook.

Profitability

FHLBank System's low but consistent profitability (as measured by ROAA) reflects the primarily low risk profile of its asset base. As of FY 2016, the FHLBank of System's ROAA was 0.34%, up from 0.31% as of FY 2015, compared to a median of 1.0% for A-rated US Banks as of FY 2016.

Capital Adequacy

Each FHLBank is required by legislation to maintain minimum regulatory capital of 4% of its total assets. As of FY 2016, the capital ratio of the FHLBank System was 5.14%, compared to 5.10% as of FY 2015. In Moody's view, capital levels reflect the low risk profile of the FHLBank System's asset base which is primarily comprised of advances to members.

Asset Quality and Credit Risk Management

Excluding the private label MBS portfolio, Moody's believes that the asset quality of the FHLBank System is exceptional. Advances, which represent about 66.7% of total assets, are over-collateralized and the FHLBanks have never incurred a loss on an advance in their history. The FHLBanks' collateral requirements on advances, and their priority lien status, support credit quality in the event a member defaults on its advances. Each FHLBank has sole credit approval power and establishes its own underwriting standards and eligible collateral within Federal Housing Finance Agency guidelines. Eligible collateral includes current first-lien residential mortgages (overwhelmingly single-family) or securities backed by such mortgages, Federal Agency securities, FHLBank deposits and other real estate-related assets approved by the relevant FHLBank's board of directors.

Holdings of non-MBS instruments consist of high-quality liquid investments such as federal funds, resale agreements, US Government guaranteed debt and US Treasury securities. Potential losses on each of the respective FHLBanks' private-label RMBS portfolio represent the most significant credit risk to the FHLBanks, in Moody's view.

The FHLBanks' conforming mortgage portfolio programs, MPF and MPP, provide members with an alternative to Fannie Mae and Freddie Mac execution. The FHLBank System's mortgage portfolio represented 4.59% of total assets as of FY 2016 versus 4.60% as of FY 2015. The FHLBanks' mortgage assets are more susceptible to credit loss, and in particular, carry heightened operational complexity relative to the FHLBanks' core lending business. Credit risk performance of MPF and MPP programs has been very good to date exceeding that of similar programs of Fannie Mae and Freddie Mac. This excellent track record reflects the high quality of mortgage assets purchased into the FHLBanks' MPF and MPP programs.

Liquidity and Funding

The FHLBanks' GSE status has provided it with consistent and stable access to the debt market. The FHLBanks internal sources of liquidity are modest.

The Federal Housing Finance Agency, the regulator of the FHLBanks, requires each FHLBank to maintain sufficient liquidity, through short-term investments, in an amount at least equal to an FHLBank's anticipated cash outflows under two different scenarios. One scenario assumes that an FHLBank cannot access the capital markets for a period of between ten to twenty days, with initial guidance set at fifteen days and during that time members do not renew any maturing, prepaid or called advances. The second scenario assumes that an FHLBank cannot access the capital markets for a period of between three to seven days, with initial guidance set at five days, and during that period an FHLBank will automatically renew maturing and called advances for all members except very large members who are well-rated. All FHLBanks met the liquidity requirements as of FY 2016.

Other

A significant underpinning of the BCA is the joint and several nature of the FHLBanks' consolidated obligations. The financial strength of individual FHLBanks is very sound, and the joint and several liability contributes to the overall strength of the FHLBank System by narrowing the ratings differences among the individual FHLBanks that could exist were ratings to exclude the joint and several feature. As a result, the ratings of the weakest FHLBanks are increased, and the ratings of the strongest are lowered.

This publication does not announce a credit rating action. For any credit ratings referenced in this publication, please see the ratings tab on the issuer/entity page on <http://www.moody.com> for the most updated credit rating action information and rating history.

Ratings

Exhibit 3

Category	Moody's Rating
FEDERAL HOME LOAN BANKS	
Outlook	Stable
Senior Unsecured	Aaa
ST Issuer Rating	P-1

Source: Moody's Investors Service

Recent Developments

GSE reform has not progressed very far. To date, the reform is primarily focused on the roles of Fannie Mae and Freddie Mac. However, the FHLBanks are likely to be included in the reform, though the impact remains uncertain. Moody's will monitor GSE reform as it progresses, as well as its impact on the FHLBanks.

© 2017 Moody's Corporation, Moody's Investors Service, Inc., Moody's Analytics, Inc. and/or their licensors and affiliates (collectively, "MOODY'S"). All rights reserved.

CREDIT RATINGS ISSUED BY MOODY'S INVESTORS SERVICE, INC. AND ITS RATINGS AFFILIATES ("MIS") ARE MOODY'S CURRENT OPINIONS OF THE RELATIVE FUTURE CREDIT RISK OF ENTITIES, CREDIT COMMITMENTS, OR DEBT OR DEBT-LIKE SECURITIES, AND MOODY'S PUBLICATIONS MAY INCLUDE MOODY'S CURRENT OPINIONS OF THE RELATIVE FUTURE CREDIT RISK OF ENTITIES, CREDIT COMMITMENTS, OR DEBT OR DEBT-LIKE SECURITIES. MOODY'S DEFINES CREDIT RISK AS THE RISK THAT AN ENTITY MAY NOT MEET ITS CONTRACTUAL, FINANCIAL OBLIGATIONS AS THEY COME DUE AND ANY ESTIMATED FINANCIAL LOSS IN THE EVENT OF DEFAULT. CREDIT RATINGS DO NOT ADDRESS ANY OTHER RISK, INCLUDING BUT NOT LIMITED TO: LIQUIDITY RISK, MARKET VALUE RISK, OR PRICE VOLATILITY. CREDIT RATINGS AND MOODY'S OPINIONS INCLUDED IN MOODY'S PUBLICATIONS ARE NOT STATEMENTS OF CURRENT OR HISTORICAL FACT. MOODY'S PUBLICATIONS MAY ALSO INCLUDE QUANTITATIVE MODEL-BASED ESTIMATES OF CREDIT RISK AND RELATED OPINIONS OR COMMENTARY PUBLISHED BY MOODY'S ANALYTICS, INC. CREDIT RATINGS AND MOODY'S PUBLICATIONS DO NOT CONSTITUTE OR PROVIDE INVESTMENT OR FINANCIAL ADVICE, AND CREDIT RATINGS AND MOODY'S PUBLICATIONS ARE NOT AND DO NOT PROVIDE RECOMMENDATIONS TO PURCHASE, SELL, OR HOLD PARTICULAR SECURITIES. NEITHER CREDIT RATINGS NOR MOODY'S PUBLICATIONS COMMENT ON THE SUITABILITY OF AN INVESTMENT FOR ANY PARTICULAR INVESTOR. MOODY'S ISSUES ITS CREDIT RATINGS AND PUBLISHES MOODY'S PUBLICATIONS WITH THE EXPECTATION AND UNDERSTANDING THAT EACH INVESTOR WILL, WITH DUE CARE, MAKE ITS OWN STUDY AND EVALUATION OF EACH SECURITY THAT IS UNDER CONSIDERATION FOR PURCHASE, HOLDING, OR SALE.

MOODY'S CREDIT RATINGS AND MOODY'S PUBLICATIONS ARE NOT INTENDED FOR USE BY RETAIL INVESTORS AND IT WOULD BE RECKLESS AND INAPPROPRIATE FOR RETAIL INVESTORS TO USE MOODY'S CREDIT RATINGS OR MOODY'S PUBLICATIONS WHEN MAKING AN INVESTMENT DECISION. IF IN DOUBT YOU SHOULD CONTACT YOUR FINANCIAL OR OTHER PROFESSIONAL ADVISER. ALL INFORMATION CONTAINED HEREIN IS PROTECTED BY LAW, INCLUDING BUT NOT LIMITED TO, COPYRIGHT LAW, AND NONE OF SUCH INFORMATION MAY BE COPIED OR OTHERWISE REPRODUCED, REPACKAGED, FURTHER TRANSMITTED, TRANSFERRED, DISSEMINATED, REDISTRIBUTED OR RESOLD, OR STORED FOR SUBSEQUENT USE FOR ANY SUCH PURPOSE, IN WHOLE OR IN PART, IN ANY FORM OR MANNER OR BY ANY MEANS WHATSOEVER, BY ANY PERSON WITHOUT MOODY'S PRIOR WRITTEN CONSENT.

All information contained herein is obtained by MOODY'S from sources believed by it to be accurate and reliable. Because of the possibility of human or mechanical error as well as other factors, however, all information contained herein is provided "AS IS" without warranty of any kind. MOODY'S adopts all necessary measures so that the information it uses in assigning a credit rating is of sufficient quality and from sources MOODY'S considers to be reliable including, when appropriate, independent third-party sources. However, MOODY'S is not an auditor and cannot in every instance independently verify or validate information received in the rating process or in preparing the Moody's publications.

To the extent permitted by law, MOODY'S and its directors, officers, employees, agents, representatives, licensors and suppliers disclaim liability to any person or entity for any indirect, special, consequential, or incidental losses or damages whatsoever arising from or in connection with the information contained herein or the use of or inability to use any such information, even if MOODY'S or any of its directors, officers, employees, agents, representatives, licensors or suppliers is advised in advance of the possibility of such losses or damages, including but not limited to: (a) any loss of present or prospective profits or (b) any loss or damage arising where the relevant financial instrument is not the subject of a particular credit rating assigned by MOODY'S.

To the extent permitted by law, MOODY'S and its directors, officers, employees, agents, representatives, licensors and suppliers disclaim liability for any direct or compensatory losses or damages caused to any person or entity, including but not limited to by any negligence (but excluding fraud, willful misconduct or any other type of liability that, for the avoidance of doubt, by law cannot be excluded) on the part of, or any contingency within or beyond the control of, MOODY'S or any of its directors, officers, employees, agents, representatives, licensors or suppliers, arising from or in connection with the information contained herein or the use of or inability to use any such information.

NO WARRANTY, EXPRESS OR IMPLIED, AS TO THE ACCURACY, TIMELINESS, COMPLETENESS, MERCHANTABILITY OR FITNESS FOR ANY PARTICULAR PURPOSE OF ANY SUCH RATING OR OTHER OPINION OR INFORMATION IS GIVEN OR MADE BY MOODY'S IN ANY FORM OR MANNER WHATSOEVER.

Moody's Investors Service, Inc., a wholly-owned credit rating agency subsidiary of Moody's Corporation ("MCO"), hereby discloses that most issuers of debt securities (including corporate and municipal bonds, debentures, notes and commercial paper) and preferred stock rated by Moody's Investors Service, Inc. have, prior to assignment of any rating, agreed to pay to Moody's Investors Service, Inc. for appraisal and rating services rendered by it fees ranging from \$1,500 to approximately \$2,500,000. MCO and MIS also maintain policies and procedures to address the independence of MIS's ratings and rating processes. Information regarding certain affiliations that may exist between directors of MCO and rated entities, and between entities who hold ratings from MIS and have also publicly reported to the SEC an ownership interest in MCO of more than 5%, is posted annually at www.moody.com under the heading "Investor Relations — Corporate Governance — Director and Shareholder Affiliation Policy."

Additional terms for Australia only: Any publication into Australia of this document is pursuant to the Australian Financial Services License of MOODY'S affiliate, Moody's Investors Service Pty Limited ABN 61 003 399 657AFSL 336969 and/or Moody's Analytics Australia Pty Ltd ABN 94 105 136 972 AFSL 383569 (as applicable). This document is intended to be provided only to "wholesale clients" within the meaning of section 761G of the Corporations Act 2001. By continuing to access this document from within Australia, you represent to MOODY'S that you are, or are accessing the document as a representative of, a "wholesale client" and that neither you nor the entity you represent will directly or indirectly disseminate this document or its contents to "retail clients" within the meaning of section 761G of the Corporations Act 2001. MOODY'S credit rating is an opinion as to the creditworthiness of a debt obligation of the issuer, not on the equity securities of the issuer or any form of security that is available to retail investors. It would be reckless and inappropriate for retail investors to use MOODY'S credit ratings or publications when making an investment decision. If in doubt you should contact your financial or other professional adviser.

Additional terms for Japan only: Moody's Japan K.K. ("MJJK") is a wholly-owned credit rating agency subsidiary of Moody's Group Japan G.K., which is wholly-owned by Moody's Overseas Holdings Inc., a wholly-owned subsidiary of MCO. Moody's SF Japan K.K. ("MSFJ") is a wholly-owned credit rating agency subsidiary of MJJK. MSFJ is not a Nationally Recognized Statistical Rating Organization ("NRSRO"). Therefore, credit ratings assigned by MSFJ are Non-NRSRO Credit Ratings. Non-NRSRO Credit Ratings are assigned by an entity that is not a NRSRO and, consequently, the rated obligation will not qualify for certain types of treatment under U.S. laws. MJJK and MSFJ are credit rating agencies registered with the Japan Financial Services Agency and their registration numbers are FSA Commissioner (Ratings) No. 2 and 3 respectively.

MJJK or MSFJ (as applicable) hereby disclose that most issuers of debt securities (including corporate and municipal bonds, debentures, notes and commercial paper) and preferred stock rated by MJJK or MSFJ (as applicable) have, prior to assignment of any rating, agreed to pay to MJJK or MSFJ (as applicable) for appraisal and rating services rendered by it fees ranging from JPY200,000 to approximately JPY350,000,000.

MJJK and MSFJ also maintain policies and procedures to address Japanese regulatory requirements.

REPORT NUMBER 1070446