

# Credit Analysis

# Moody's Global Banking

February 2009

## Federal Home Loan Banks

Reston, Virginia, United States

### Summary Rating Rationale

The Aaa rating of the Federal Home Loan Bank System (FHLBanks or System) reflects its consistent risk-adjusted earnings, superior asset quality, unique position as a key funding source to its member institutions, as well as the substantial support of the U.S. Government. The ratings of the FHLBanks reflect the combination of the following elements: 1) a baseline credit assessment (BCA) of 2 (on a scale of 1 to 21, where 1 represents lowest credit risk), 2) Aaa local currency deposit ceiling of the U.S. Government, 3) high dependence between the FHLBanks and the U.S. Government, and 4) high support between the two.

The FHLBank System's baseline credit assessment reflects its excellent asset quality, consistent risk-adjusted profitability, as well as the benefits associated with the joint and several liability for the FHLBanks' debt. Asset quality remains a core strength of the FHLBank System, having never incurred a loss on an advance, which represents over 70.8% of total assets at September 30, 2008. The FHLBank System's profitability reflects the lower risk profile of the System. The System's ROAA has been very stable - standard deviation of .084% from YE04 through 9 months ended September 2008, a very low amount. The FHLBanks' standard deviation of ROAA compares with a .88% standard deviation of ROAA for all Aa-rated banks. Though, the FHLBank System's ROAA of .23% for the same period is much lower than the 1.07% ROAA of Aa and above -rated banks.

The FHLBanks maintain a combined \$75.7 billion private-label RMBS portfolio. Moody's believes the expected loss on this portfolio is low, approximately \$1 billion, and manageable when compared with its \$57.1 billion capital base. However, the FHLBanks are exposed to other-than-temporary impairments (OTTI). Substantial OTTI could reduce capital levels below regulatory requirements. Moody's primary concern regarding this portfolio is the potential for OTTI. Although Moody's considers the likely ultimate loss on this portfolio to be lower than that signified by its current market value, even small credit losses could result in significant accounting impairment. Declines in capital as a result of OTTI may put negative pressure on the FHLBanks' Baseline Credit Assessment (BCA).

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This Credit Analysis provides an in-depth discussion of credit rating(s) for Federal Home Loan Banks and should be read in conjunction with Moody's most recent Credit Opinion and rating information available on Moody's website. [Click here to link.](#)



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In relation to the FHLBanks' BCA, Moody's will assess: (1) the magnitude of potential OTTI charges and their effect on regulatory capital, (2) the likely regulatory response to OTTI charges which reduce capital below regulatory minimums, (3) the effects on the FHLBanks' franchise and business position, including their ability to continue to obtain stable, cost-effective funding, and (4) the effect of Moody's recently increased projected cumulative losses on Alt-A residential mortgage backed securities issued in 2006 and 2007. This will increase Moody's expected economic losses on the FHLBanks' Alt-A portfolios, which, in turn, will affect Moody's views on the potential for significant OTTI charges.

Moody's does not expect the Aaa and Prime-1 debt and deposit ratings to be affected even if its assessment of the FHLBanks' BCA falls.

## Business Overview

The Federal Home Loan Banks are the largest GSE in the U.S. with total assets of just over \$1.4 trillion as of September 30, 2008. The System, comprised of 12 regional FHLBanks, was created by the U.S. Congress in 1932 to provide member institutions with a stable source of funding to support the domestic residential housing market. Each FHLBank has its own employees, management and board of directors. The funding of each FHLBank is sourced almost entirely from consolidated debt securities that are issued through the FHLBank System's Office of Finance. The U.S. Government does not guarantee any of the FHLBanks' debt securities. The FHLBank System is regulated by the Federal Housing Finance Agency (FHFA).

The FHLBanks' primary business is extending advances (i.e., loans) to members. Members generally use these funds to support mortgages held in their portfolio. The vast majority of advances are collateralized with single-family mortgages, and members must post collateral to borrow from their FHLBank. The members can also borrow to fund low-income housing, which assists them in achieving certain Community Reinvestment Act (CRA) requirements.

In addition to making advances, the FHLBanks also purchase loans through either the Mortgage Partnership Finance® (MPF®) Program or the Mortgage Purchase Program (MPP). Though its size has been in decline in recent years, MPF® and MPP programs grew significantly representing about 12.9% of FHLBank System assets as of June 30, 2004. FHLBanks also provide other credit products, such as interest rate swaps and letters of credit, as well as safekeeping and settlement services to member and nonmember borrowers, which include some state and city housing finance agencies. They also invest in securities, principally MBS, subject to an investment limit of three times<sup>1</sup> regulatory capital.

The 12 regional FHLBanks are each cooperatively owned by their respective members or former members in certain cases. Membership in the system is voluntary and consists of commercial banks, thrifts, insurance companies and credit unions. A member's designated home office determines which regional FHLBank it will join. As a result, holding companies with multiple financial institution charters, each with different designated home offices, may have membership in more than one FHLBank. Members receive dividends on their shares from the profits of their respective FHLBank.

## Key Issue

### Magnitude of other-than-temporary impairments to private label securities portfolio

The FHLBanks maintain a combined \$75.7 billion private-label RMBS portfolio. Moody's believes the expected loss on this portfolio is low, approximately \$1 billion, and manageable when compared with its \$57.1 billion capital base. However, the FHLBanks are exposed to other-than-temporary impairments (OTTI). Substantial OTTI could reduce capital levels below regulatory requirements. Moody's primary concern regarding this portfolio is the potential for OTTI. Although Moody's considers the likely ultimate loss on this portfolio to be lower than that signified by its current market value, even small credit losses could result in

<sup>1</sup> In March 2008, the Federal Housing Finance Board, the prior regulator of the FHLBanks, temporarily increased this limit to six times regulatory capital for certain types of MBS.

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significant accounting impairment. Declines in capital as a result of OTTI may put negative pressure on the FHLBanks' Baseline Credit Assessment (BCA).

All FHLBanks, as well as the FHLBank System have a BCA of 2 (on a scale of 1 to 21, where 1 represents lowest credit risk). A BCA of 2 is the equivalent default risk probability of a Aa1. The FHLBanks' BCA incorporates the joint and several liability of all FHLBank consolidated obligations. BCAs are intended to express an opinion about the institutions intrinsic or stand-alone financial strength and specifically exclude an assessment of the probability of extraordinary support.

In relation to the FHLBanks' BCA, Moody's will assess: (1) the magnitude of potential OTTI charges and their effect on regulatory capital, (2) the likely regulatory response to OTTI charges, which reduce capital below regulatory minimums, (3) the effects on the FHLBanks' franchise and business position, including their ability to continue to obtain stable, cost-effective funding, and (4) the effect of Moody's recently increased projected cumulative losses on Alt-A residential mortgage backed securities issued in 2006 and 2007. This will increase Moody's expected economic losses on the FHLBanks' Alt-A portfolios, which, in turn, will affect Moody's views on the potential for significant OTTI charges.

Moody's does not expect the Aaa and Prime-1 debt and deposit ratings to be affected even if its assessment of the FHLBanks' BCA falls.

## Analysis of Rating Considerations

Ratings of the FHLBank System reflect the stand-alone credit risk profile of the FHLBanks, as well as the likelihood that the System's combined debt obligations would have the benefit of the support by the U.S. Government. Specifically, the FHLBank System's ratings reflect the combination of the following elements: 1) a baseline credit assessment of 2 (on a scale of 1 to 21, where 1 represents lowest credit risk), 2) Aaa local currency deposit ceiling of the U.S. Government, 3) high dependence between the FHLBanks and the U.S. Government, and 4) high support between the two.

## Baseline Credit Assessment

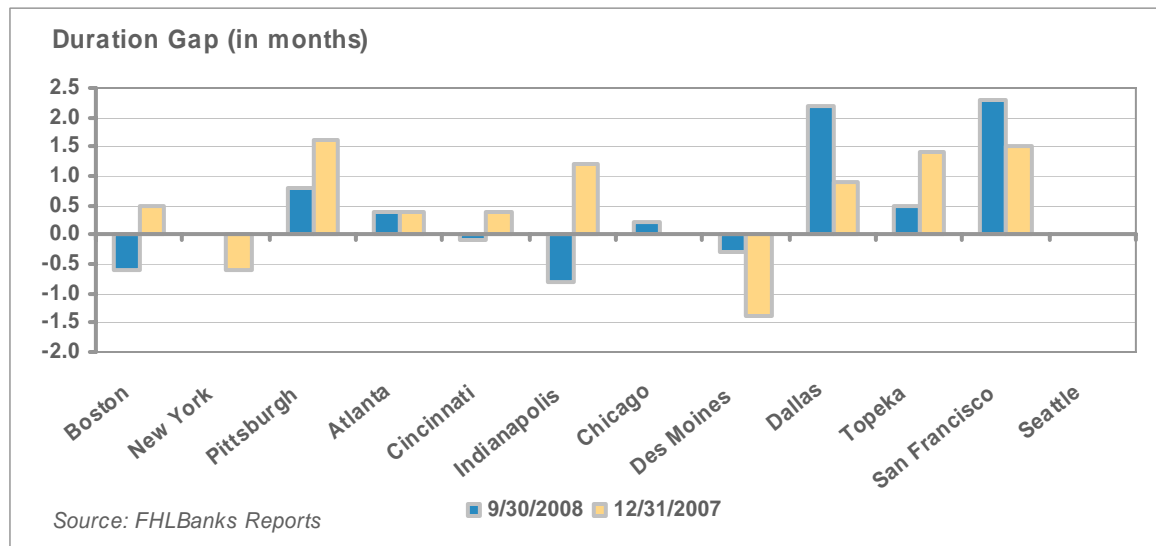
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The baseline credit assessment of 2 for the FHLBank System reflects the joint and several liability for the debt among the 12 FHLBanks, as well as the System's strong asset quality and consistent earnings generation. Moody's BCAs are Moody's opinions of stand-alone financial strength of a government-related issuer (the probability that the institution will require extraordinary support from an external party).

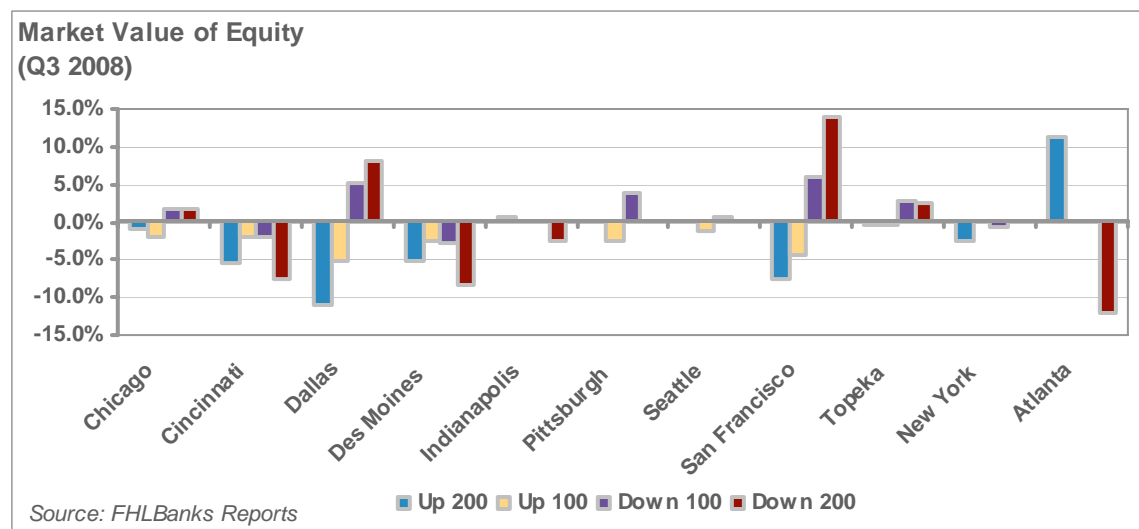
## Interest Rate Risk

Each FHLBank conservatively manage their interest rate risk exposures through the use of debt with similar characteristics as the FHLBanks' assets, as well as through the use of derivative contracts. One of the measures the FHLBanks use to gauge their interest rate risk is the change in the duration gap between the durations of assets and liabilities, which has ranged between a positive 2.3 months and a negative 0.8 months as of September 30, 2008. As the chart below shows, interest-rate risk exposures are moderate and are not uniform among the FHLBanks, reflecting different exposure, risk management strategies and asset mix.

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In addition to managing and gauging their risk exposures to duration gap, many of the FHLBanks utilize market value of equity and value-at-risk measurements as part of their interest and market risk management.



Growth in the FHLBanks' MPP and MPF mortgage programs in the first half of this decade elevated interest rate risks to those FHLBanks particularly active in this line of business. However, as FHLBanks, with the exception of the FHLBanks of Indianapolis and Cincinnati, decrease their MPP and MPF activities interest rate risk should subside. While we believe that these risks are well managed on the whole, it varies from FHLBank to FHLBank; the challenge of interest rate risk management should add to the FHLBanks' risk profile.

## Asset Quality

### *Asset Quality Remains Strong, Key System Strength but Risks Exist With Private Label Securities Portfolio*

The quality of the FHLBanks' assets continues to be strong and is a key credit strength. The FHLBanks' assets are comprised primarily of advances (i.e., secured loans to members) and to a lesser extent of mortgages acquired through the FHLBanks' MPP and MPF programs, as well as investment securities, primarily agency and highly-rated private label MBS.

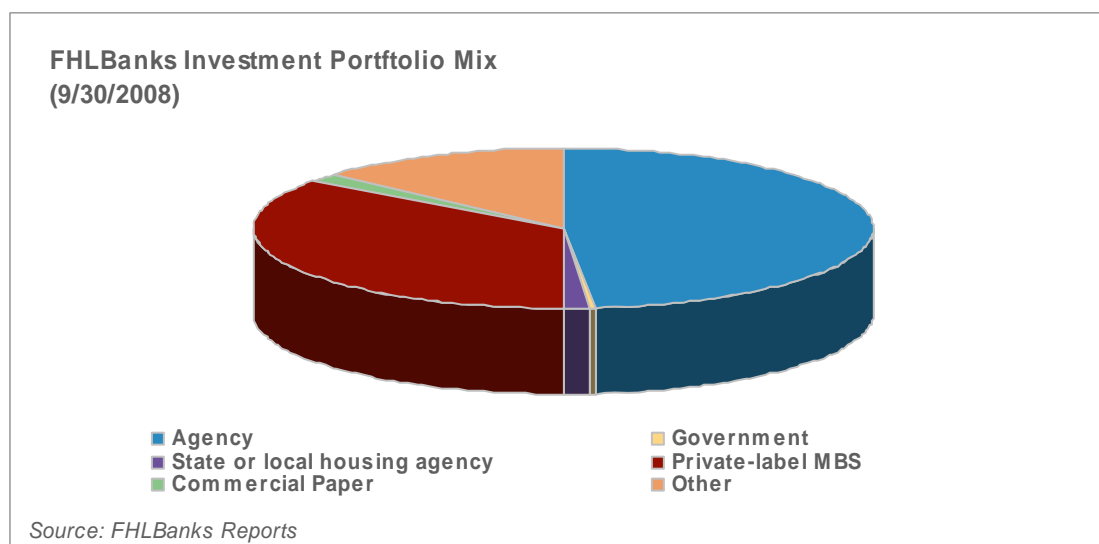
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The FHLBanks' asset quality of advances has been consistently outstanding, and we expect this to continue. To date, no credit loss has ever been incurred on advances. The FHLBanks' assets consist primarily of advances, investments and mortgage loans purchased from members. Advances represented 70.8% of assets at September 30, 2008, compared to 68.8% and 63.0% at December 31, 2007 and 2006, respectively. Moody's expects advances to increase in the overall asset mix going forward due to FHLBanks' renewed focus on this business as mortgage purchase activities associated the MPF and MPP programs decline. Moody's expects advance growth to moderate and possibly decline in 2009 as member banks utilize alternative liquidity from U.S. government programs.

The FHLBanks' collateral requirements on advances and their preferred creditor status, supports 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 FHFA 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. Expanded collateral rules also allow for small business loans, agriculture loans or securities representing a whole interest in such loans as collateral. Members/borrowers are also subject to monthly monitoring, and the FHLBanks can request additional collateral.

The FHLBanks' investment portfolios consist primarily of MBS securities, chiefly highly-rated private label securities or agency MBS. The FHLBanks' private-label RMBS portfolio was 58.15% prime, 41.80% Alt-A and 0.05% sub-prime as of September 30, 2008. Based on UPB, 95.4% of the private-label RMBS securities and 53.1% of the home equity securities were rated Aaa as of September 30, 2008. As discussed in the Capital Adequacy section below, Moody's believes the loss content of the private-label securities is low. However, the FHLBanks are exposed to substantial asset write-downs due to OTTI.

Holdings of non-MBS instruments consist of high-quality liquid investments such as commercial paper, federal funds, resale agreements and U.S. Treasury securities. Agency and government debt purchased in the investment portfolios of all FHLBanks require the highest rating, Aaa, reflecting the System's conservative credit standards. As of September 30, 2008, most (85.8%) of the investments in the FHLBanks' portfolios carried ratings of Aaa/P-1 with the remainder composed of mostly Aa rated securities. Furthermore, the FHLBanks must comply with the guidelines set by the FHFA's Risk Management Policies and their respective capital plans.



Moody's anticipates that the investment portfolios of the FHLBanks will increase in size as the FHLBanks' activities shift away from MPF and MPP programs.

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### ..... Mortgage Programs Carry Higher Credit Risk, But Have Performed Well

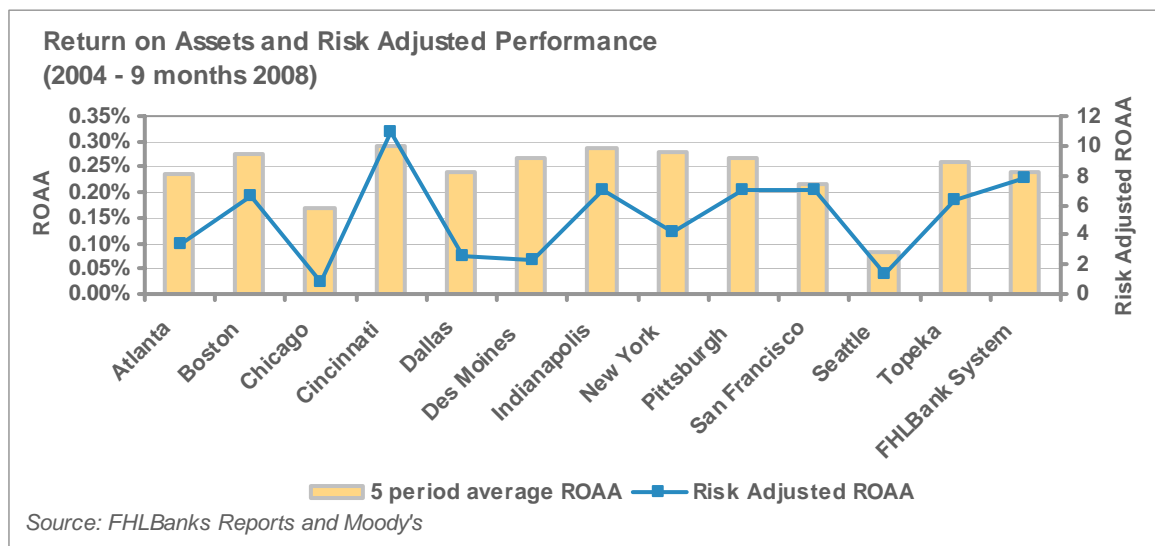
The FHLBanks' conforming mortgage loan programs, Mortgage Partnership Finance (MPF) and Mortgage Purchase Program (MPP) provide members with an alternative to Fannie Mae and Freddie Mac execution. MPF and MPP programs grew rapidly since their inception in 1999 through 2004. At September 30, 2008, mortgage assets comprised \$87.9 billion or 6.2% of System assets, versus 12.3% as of year end 2004.

The FHLBanks mortgage assets are more susceptible to credit loss and in particular, carry heightened operational complexity relative to the FHLBanks' core lending business. However, credit risks are being managed well. The credit risk performance of MPF and MPP programs has been very good to date exceeding that of Fannie Mae and Freddie Mac. This excellent track record reflects the high quality of mortgage assets purchased into FHLBanks' MPF and MPP programs. At September 30, 2008, average FICO scores for new originations for the MPF and MPP programs were 739 and 749, respectively. The MPF and MPP programs had average LTV ratios of 67% and 69%, respectively and have the benefit of mortgage insurance for loans with LTVs greater than 80%. In addition, risk-based capital must be held against the member assets or pools of assets where the implied credit rating is lower than Aa. As of September 30, 2008, the delinquency rate (i.e., nonperforming loans plus loans delinquent 90 days or more plus loans in foreclosure plus real estate owned as a percentage of mortgage loans held for portfolio) was 82 basis points, well below industry averages. In addition, net charge-offs totaled \$1 million year-to-date in 2008.

## Profitability

### .... Consistent Though Modest Profit Generation

The FHLBanks generate consistent albeit modest returns given the stability and low risk profile of their core low-margin advance businesses. The chart below shows the FHLBanks' risk-adjusted return (i.e., ROAA as a percentage of the standard deviation of ROAA over the past five periods). Individual bank's profitability is a function of business mix and competitive pressures, as well as competency in risk mitigation. Variability in returns on assets is moderate due to consistency in business mix, strong interest rate and credit risk management at most FHLBanks.



### .... However Member Concentration Increases Business Risk

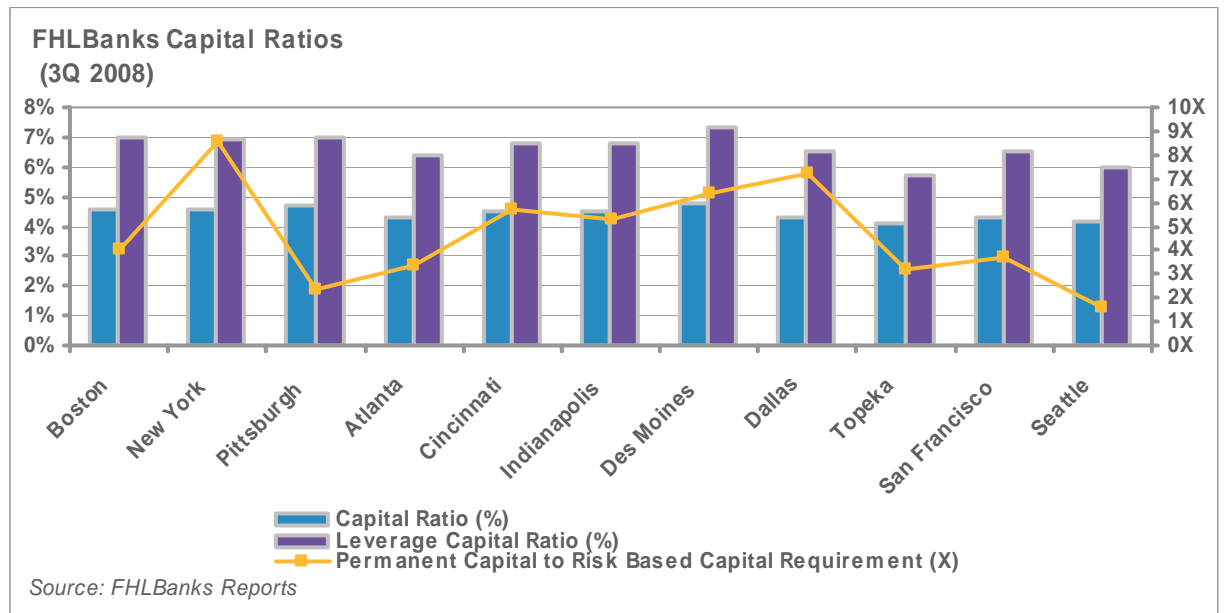
Consolidation in the banking sector has materially affected the overall System-wide member concentration materially during 2008. Three of the FHLBanks largest members (Countrywide Bank, Wachovia Mortgage, FSB, and Wachovia Bank, FSB) were acquired by other FHLBank members during 2008. As a result, the top four stockholders represent 26.6% of the System's capital stock as of September 30, 2008 compared with 21.3% as of year-end 2007. While collateral, the FHLBanks' preferred creditor status and conservative risk management policies mitigate credit risk that stems from these concentrations, the business risks from such concentrations that are more difficult to avoid and fix. The loss of a large member due to consolidation or

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other reasons could result in a significant loss of revenue for a FHLBank. FHLBanks manage risks associated with member concentrations through contingency planning which center on downsizing their operations, as well as efforts to increase membership participation levels among growing small banks and other eligible financial institutions. Moody's believes, however, that the FHLBanks' contingency plans centered on shrinking fixed costs cannot fully address risks associated with exposure to member concentration given significant overhead costs related to investments made by FHLBanks in recent years to build up their regulatory compliance and risk management infrastructure.

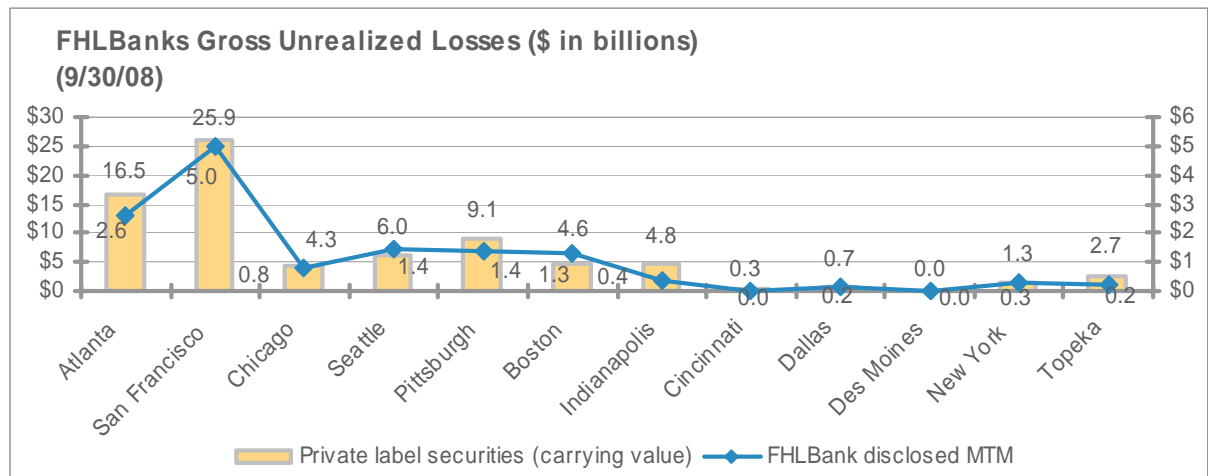
### Capital Adequacy

As shown in the chart below, capital levels vary among the FHLBanks, and, in Moody's view, capital ratios should not be viewed in isolation from the risk profiles of individual FHLBanks. Differentiation in capital levels is directly tied to the business risks faced by each FHLBank. This is underscored by the ability of the FHFA to require that individual FHLBanks maintain capital levels above the minimum regulatory thresholds. For example, due to deficiencies in their risk management practices and controls, the FHLBank of Chicago is required by the FHFA to maintain a minimum regulatory capital level of no less than 4.5%, compared to 4.0% requirement for the rest of the FHLBanks. Moody's believes that risk profiles and associated financial strengths of individual FHLBanks are not uniform.



Permanent capital is defined as Class B stock plus retained earnings, while total capital includes Class A stock, permanent capital and applicable loss allowances. The FHLBanks must maintain total capital levels equal to 4% of total assets. However, only permanent capital satisfies the risk-based capital requirement. Risk-based capital is defined as the sum of credit risk, market risk, and operational risk capital requirements. The FHLBanks are also subject to a 5% minimum leverage capital to total assets ratio. Leverage capital equals 150% of permanent capital plus the sum of all the other components of capital. As of September 30, 2008, each FHLBank's capital to asset ratio was at least 4.10% (minimum regulatory capital ratio requirement is 4.0%) and its leverage ratio was at least 6.0% (minimum leverage ratio requirement is 5.0%).

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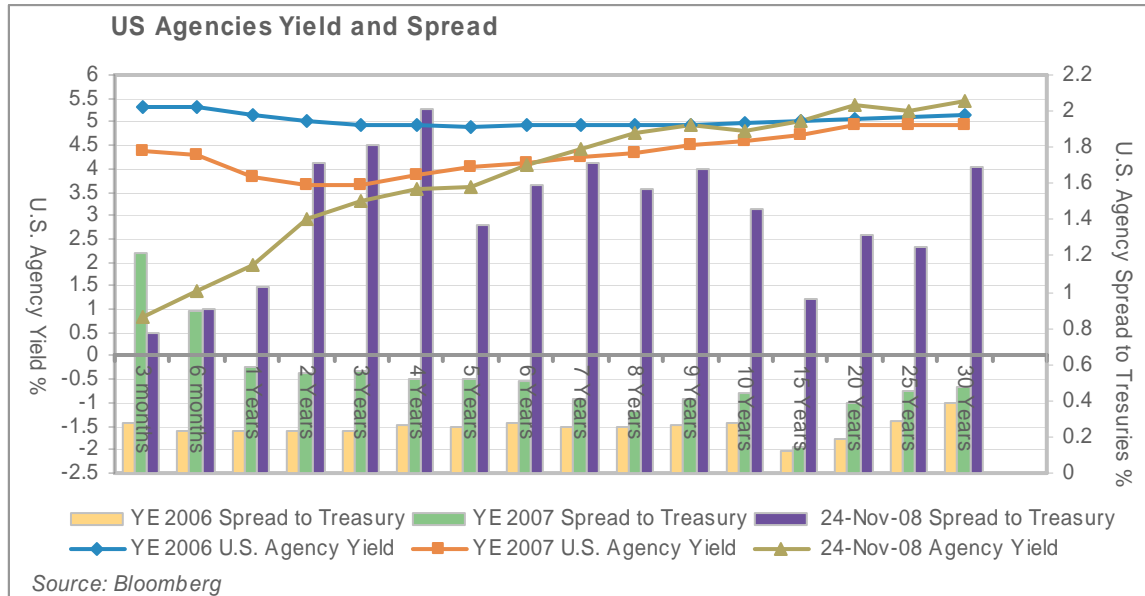
As noted in the Key Issue section, the FHLBanks have a substantial exposure to private-label RMBS securities. These securities are typically classified as held-to-maturity and reported at book value for accounting purposes. The fair value of these securities was substantially below book value as of September 30, 2008. Moody's believes the economic loss related to these securities is low. However, certain FHLBanks are exposed to potential OTTI charges, which could reduce capital levels below regulatory requirements. To date, only the FHLBank of Chicago, Atlanta and Seattle have reported OTTI of \$72 million, \$87 million and \$50 million, respectively.

Material OTTI charges would cause negative pressure on the BCA of a FHLBank. Furthermore, the BCA of the FHLBank System could be lowered if regulatory capital levels were breached at several FHLBanks resulting in a lower BCA for those entities.

### Liquidity and Funding

Historically, the FHLBank System's GSE status enabled it to fund its obligations at very tight margins to U.S. Treasury securities. More recently, investor concerns regarding the U.S. housing and mortgage markets have affected the FHLBanks' debt pricing and funding. In addition, U.S. government actions in support of banks by guaranteeing their debt issuance has negatively impacted the FHLBanks' debt spreads. During 2008, demand for term agency debt weakened considerably. The decline in demand for debt issuances with maturities between one-year and 30-years resulted in a dramatic widening of the spread between the FHLBanks' debt and U.S. Treasury debt. Moreover, increased demand for short-term agency debt (i.e., debt with maturities of less than one year) resulted in lower yields on the FHLBanks' discount notes. As a result, the FHLBanks' funding needs were being met primarily through the issuance of discount notes, floating-rate notes, short-term callable bonds and short-term bullet bonds during the third quarter of 2008.

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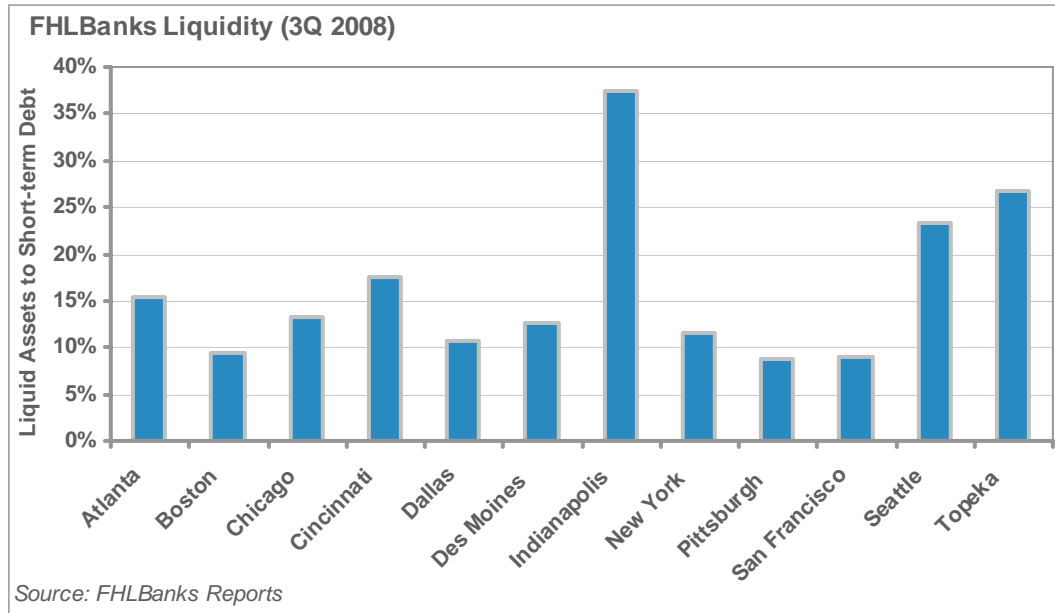


In September 2008, the FHLBanks entered into a lending agreement with the U.S. Treasury, which established the GSECF, a secured lending facility, to serve as a liquidity backstop. The GSECF expires on December 31, 2009 but will remain in effect as to any loans outstanding on that date. Any funding to FHLBanks under the GSECF will be provided by the U.S. Treasury in exchange for eligible collateral consisting of advances issued by FHLBanks and MBS issued by Fannie Mae and Freddie Mac. Collateral haircuts will be determined by the U.S. Treasury. Loans under the GSECF are intended to be for short durations between one week and one month. Interest on borrowings will be set by the U.S. Secretary of the Treasury.

In November 2008, the Federal Reserve announced a plan to purchase up to \$100 billion of direct debt obligations of Freddie Mac, Fannie Mae and the FHLBanks, as well as \$500 billion of MBS guaranteed by Freddie Mac, Fannie Mae and Ginnie Mae. The Federal Reserve announced this action in order to reduce the cost and increase the availability of residential mortgage credit. Moody's believes these actions reduce the FHLBanks' funding risk.

The FHLBanks' internal sources of liquidity are modest. The FHLBanks are mandated by regulation to maintain a minimum of five days of liquidity without access to the capital markets (a tiny amount), though individual FHLBanks have the discretion to maintain longer periods of liquidity without access to the capital markets and generally do so. For example, several FHLBanks, such as Boston, San Francisco, Atlanta and Des Moines, maintain policies to voluntarily maintain liquidity in excess of 90 days. Moody's believes FHLBanks are maintaining additional liquidity due to the disruptions in the credit markets. As shown in the chart below, FHLBanks generally maintain levels of liquidity (as measured by the percentage of liquid assets to short-term debt) at or above the median level for Aaa/Aa rated banks, which is at 23.4%.

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As of September 30, 2008, the FHLBanks had approximately \$876.6 billion in short-term debt which includes deposits, repurchase liabilities, discount notes and bonds maturing within a one year period. In total, short-term debt comprised about 65% of total debt - a very high figure. This amount increased over the past year due to the limitations with long-term funding in the agency market. Liquid assets include cash, cash equivalents, interest-bearing deposits, federal funds, repurchase agreements, as well as a portfolio of trading and available-for-sale investment securities. These assets are of high quality, with the investment securities portfolio comprised of U.S. Treasury and agency securities, state and local housing agency obligations and MBS. Liquid assets were approximately 14.0% of short-term debt as of September 30, 2008. In addition, the FHLBanks' \$4 billion line of credit with the U.S. Treasury provides modest liquidity support and is indicative of symbolic support from the U.S. Government.

### Other Considerations

#### *....Structural Support Mechanisms Underpin FHLBanks' Financial Strength*

The joint and several liability of the individual FHLBanks for the consolidated debt securities (rated Aaa) issued in the name of the System is a major structural support of the FHLBank System. The FHLBanks' debt securities, which include consolidated bonds and consolidated discount notes, are neither obligations of, nor guaranteed by, the U.S. Government. Rather, consolidated obligations are the general unsecured joint and several obligations of the twelve FHLBanks. The financial strength of the FHLBank System is sound, and the joint and several liability contributes to the overall strength of the FHLBank System by narrowing any ratings differences among the FHLBanks that would 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. The joint and several liability has never been tested in this cooperative system. In addition, the FHFA has the authority to force FHLBank consolidation from the current level of twelve FHLBanks though the statute requires the FHFA to establish at least eight districts and to charter a FHLBank for each district. The consolidation of a FHLBank is an additional level of support for the System that, in Moody's opinion, would likely occur prior to enforcement of the joint and several liability provisions or assistance from the U.S. Government.

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Obligations such as subordinated debt, derivatives, letters of credit and deposits issued by each FHLBank are the obligation of that FHLBank alone and do not benefit from the joint and several guarantee, and therefore are de facto subordinate to the FHLBank System's Consolidated Obligations (COs). Each FHLBank is rated independently (all 12 FHLBanks are rated Aaa for their bank deposit ratings).

### .....*FHLBank of Chicago*

The FHLBank of Chicago is operating under a cease and desist order (C&D) from the Federal Housing Finance Agency (FHFA). Under the terms of the C&D, all stock redemptions and dividend declarations must be approved by the Director of Supervision of the FHFA. The FHLBank of Chicago has been under a regulatory agreement with the FHFA (formally, the Federal Housing Finance Board) since June 2004. The C&D has the effect of solidifying the FHLBank's capital base as it works through the issues identified in its regulatory agreement. Under its current capital plan, the FHLBank of Chicago is required to redeem member capital within six months subject to the satisfaction of the requirements under the C&D. The FHLBank of Chicago is the only FHLBank that has not converted to its new capital plan as required under the Federal Home Loan Bank Modernization Act. The new capital plans under the Act extend the time a FHLBank is obligated to redeem member stock to five years. In addition to the regulatory actions, the FHLBank of Chicago is undergoing a changing business mix, reducing its MPF exposure and increasing its advance business. The changes to the FHLBank of Chicago's business mix have negatively affected profitability.

In January 2009, Moody's placed the Aa2 rated subordinated debt on review for possible downgrade. The subordinated debt has features which could lead to the suspension of coupon payments should it not meet regulatory capital requirements. Moody's believes the likelihood of deferral of subordinated debt interest payments remains low as there are several factors that mitigate the risk of deferral; 1) The FHLBank of Chicago has financial flexibility to manage its balance sheet by using proceeds from maturing investment securities to reduce short-term debt and lower its minimum required regulatory capital; 2) The FHLBank of Chicago's statutory minimum capital requirement could be lowered by as much as 50 basis points to 4.0% by its regulatory the Federal Housing Finance Agency (FHFA). The FHLBank of Chicago is operating under a cease and desist order with from FHFA, which requires it to maintain a minimum capital ratio of 4.5%, 50 basis points higher than the other system banks; 3) Finally, Fannie Mae and Freddie Mac, which are also regulated by FHFA, have subordinated debt with similar interest deferral features to that of the FHLBank of Chicago. Fannie Mae and Freddie Mac are not in compliance with their regulatory capital requirements but have been instructed by FHFA to continue making interest payments on their subordinated debt.

## Dependence & Support

Moody's considers the FHLBanks to be a Government-related Issuer (GRI). GRIs are companies owned fully or partly by the government or with a special mandate or charter from the government. The Joint-Default Analysis (JDA) methodology for GRIs systematically incorporates into the rating the firm's standalone credit risk profile as well as the likelihood that a government would provide support to that firm's debt obligations.

The JDA rating model requires four parameters to derive the final rating. The starting point of the methodology is an assessment of the Government-related Issuer's intrinsic — or standalone — financial strength, referred to as a baseline credit assessment (BCA). The BCA explicitly excludes the likelihood of extraordinary government support in the event a bailout is required. The key considerations regarding the FHLBanks' BCA are discussed above in the Analysis of Key Rating Considerations. The model's other inputs include the rating of the U.S. government, the probability of government support, and the degree of default dependence.

Moody's makes an assessment of the likelihood that the government would step in and bail out a GRI if it were to experience a catastrophic loss. An explicit guarantee would be an example of full support (S=100%). In this case, the default risk faced by a GRI's bondholders is simply the joint default risk of the GRI and the supporting government — in turn, a function of their respective baseline ratings and the dependence factor. At the other extreme, where support is non-existent, the default risk faced by an investor is simply the baseline default risk of the GRI. In most cases, however, support for a GRI can not be characterized as a guarantee, in which case judgment is required to place support along a continuum. We rarely assume that government support for a GRI is non-existent (S=0%) but is instead a positive value that is itself a function of several factors. Among these are the percentage of state ownership, national importance of the GRI, privatization status and political tolerance towards government intervention.

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Default dependence is defined as the chance that the economic conditions that might precipitate a government default will force the issuer to default at the same time. The maximum possible dependence holds if, given a default by the supporting government, the GRI will default with certainty. In other words, the baseline credit profiles of the government and the GRI are inextricably linked. In such a situation, the joint-default risk will equal to the sovereign's default risk. Any ratings on such fully supported obligations would therefore be capped at the sovereign's rating. Minimum possible dependence holds if, given a default by the supporting government, the GRI's default risk (absent extraordinary support) remains consistent with its baseline default risk assessment. In other words, their default risks are independent of one another and the joint-default risk is therefore equal to the product of their respective default probabilities.

High dependence and support levels for the FHLBank System reflects the importance of the System to its member institutions and their ability to support housing finance and community development. The FHLBanks are an important and relatively inexpensive source of credit to its member institutions. Housing remains a key political issue in the United States, and the FHLBanks' successful role in facilitating housing finance is therefore an important rating factor.

## Federal Home Loan Banks

## Company Annual Statistics

## Federal Home Loan Banks

Company Profile	2008(1)	2007	2006	2005	2004
<b>Period-end Balances</b>					
(\$ in billions)					
Total Cash & Investments	323	297	271	267	225
Total Advances	1,012	875	641	620	581
Total Assets	1,429	1,272	1,016	997	925
Total Deposits	27	21	19	19	18
Total Consolidated Obligations	1,323	1,179	934	916	846
Total Stockholders Equity	57	54	45	44	42
<b>Capital Adequacy</b>					
Equity / Assets (%)	4.0	4.2	4.4	4.5	4.5
Average Equity / Average Assets (%)	4.3	4.2	4.4	4.5	4.6
Total Liabilities / Equity (X)	24.0	22.7	21.6	21.4	21.1
Total Deposits / Total Liabilities (%)	2.0	1.7	2.0	2.0	2.1
Consol. Obligations / Total Liab. (%)	96.4	96.8	96.2	96.1	95.8
Consol. Obligations / Equity (X)	23.2	22.0	20.8	20.6	20.2
Consol. Obligations + Deposits / Equity (X)	23.7	22.4	21.2	21.0	20.6
Equity / Total Advances (%)	5.6	6.1	7.0	7.2	7.2
Average Equity / Average Advances (%)	5.6	7.6	7.1	7.2	7.4
Cash Dividends / Net Income (%)	52.5	51.8	43.0	26.8	20.0
<b>Profitability</b>					
Return on Period-end Assets (%)	0.2	0.2	0.3	0.3	0.2
Return on Average Assets (%)	0.2	0.2	0.3	0.3	0.2
Return on Period-end Equity (%)	4.6	5.3	5.8	5.7	4.8
Return on Average Equity (%)	4.6	5.3	5.8	5.8	4.9
Interest Expense / Interest Revenue (%)	92.1	92.1	91.5	88.1	81.7
Net Interest Income / Net Income (%)	206.1	127.9	131.7	133.5	159.5
Net Interest Income / Operating Exp. (%)	364.1	406.8	413.6	416.0	476.3
Net Interest Margin (%)	0.4	0.4	0.4	0.4	0.5
Net Income / Net Revenues (%)	60.5	60.9	75.9	76.0	76.2
Net Revenues / Average Equity (%)	7.6	8.7	9.6	9.6	8.1
Operating Expenses / Net Revenues (%)	30.8	23.9	24.2	24.4	25.5
Operating Expenses / Average Assets (%)	0.1	0.1	0.1	0.1	0.1

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Company Profile	2008(1)	2007	2006	2005	2004
<b>Liquidity</b>					
Liquid Assets / Total Assets (%)	8.6	11.6	26.7	26.7	24.4
Liquid Assets / Total Liabilities (%)	8.9	12.1	27.9	28.0	25.5
Total Advances / Total Assets (%)	70.8	68.7	63.0	62.1	62.9
<b>Balance Sheet Composition (% Assets):</b>					
<b>Assets :</b>					
<b>Cash &amp; Investments:</b>					
Cash and due from banks	0.0	0.0	0.0	0.0	0.0
Total Investments	22.2	23.4	26.6	26.7	24.3
Total Cash & Investments	22.6	23.4	26.7	26.7	24.4
Advances to Members	70.8	68.8	63.0	62.1	62.9
<b>Liabilities &amp; Stockholders Equity</b>					
Total Deposits	1.9	1.6	1.9	1.9	2.0
<b>Consolidated Obligations:</b>					
Discount Notes	31.3	29.6	15.5	18.0	18.2
Bonds	61.3	63.1	76.4	73.8	73.3
Total Consolidated Obligations	92.6	92.7	91.9	91.8	91.5
Total Liabilities	96.0	95.8	95.6	95.5	95.5
<b>Stockholders Equity:</b>					
Capital Stock	3.8	4.0	4.1	4.2	4.3
Total Retained Earnings	0.3	0.3	0.3	0.3	0.2
Total Stockholders Equity	4.0	4.2	4.4	4.5	4.5

[1] For the first 9 months ended September 20, 2008.

## Federal Home Loan Banks

## Moody's Related Research

## Credit Opinion:

- Federal Home Loan Banks, November 2008

## Special Comments:

- Rating Implications on the Federal Home Loan Banks from Other-than-Temporary Impairments, January 2009 (113952)
- Moody's Q&A on the FHLBanks' Advance Program, September 2007 (104797)

*To access any of these reports, click on the entry above. Note that these references are current as of the date of publication of this report and that more recent reports may be available. All research may not be available to all clients.*

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