

# ***The Municipal Bank***

Regulatory Compliance,  
Capitalization, Liquidity, and Risk

Report by  
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PROJECT**

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## **Overview**

Cities in U.S. states that confer strong home rule authority on local governments have the legal option of exploring the establishment of municipally owned public banks to support investments in affordable housing, infrastructure, and community-centered economic development. This paper discusses some of the technical, regulatory, and risk management issues that need to be addressed in order to create robust and resilient publicly owned municipal banks.

Establishing public banks that function as public depository entities is a complex process that requires compliance with various federal banking regulations, laws regarding capitalization, loan exposure limits, portfolio composition, funding, and risk management, as well as fulfillment of state regulations pertaining to the collateralization of public deposits. In addition, there are legitimate concerns that a public bank would create complex and difficult to assess risks for local governments, raising the specter that localities could suddenly find themselves liable for large-scale financial losses if the bank were to experience severe funding strains or, in the worst-case scenario, become insolvent. For an overview of how public banks can be constituted to ensure legal and financial indemnity for the founding municipality, please see the document “Municipal Banking: An Overview” available at [rooseveltinstitute.org](http://rooseveltinstitute.org).

The paper at hand primarily addresses issues pertaining to capitalization, funding, lending, liquidity, and risk. The paper is structured as follows: The first section addresses capitalization and ownership, and mechanisms for incorporation that will ensure that the Bank, once constituted, continues to fulfill its founding policy mandate and social objectives. Issues pertaining to compliance with FDIC capital requirements are discussed. This is followed by a discussion of factors that must be addressed in order for a Municipal Bank to serve as the City’s primary depository bank. The final sections discuss options for funding the Banks ongoing lending and investment operations, ensuring liquidity, and means for providing robust financial safeguards for the City.



# *Capitalization*

As discussed in the document “Municipal Banking: An Overview,” there are compelling reasons to approach establishing a Municipal Bank in stages, given the complexity of the regulatory and compliance measures involved. Municipal Finance Corporations can be set up and begin to undertake certain lending and investment functions, including the establishment of secondary markets for the loans the Bank will originate (see below) prior to the establishment of a full-fledged depository institution. Once the depository entity is established, the Municipal Financial Corporation would become designated as a Bank Holding Company that will own the Municipal Bank, and as such will be subject to the capital requirements set out in Basel III and recently adopted by the FDIC. This section discusses initial capitalization of the bank, and how the bank will meet FDIC requirements pertaining to capitalization ratios.

## **Public ownership component**

A critical issue is how the founding municipality will raise funds for the initial capitalization of the Bank. Two strategies can be used to fund the initial capitalization. The first is a nonrecurrent line-item budgetary appropriation from the General Fund to a capitalization fund. Second, for municipalities and counties that have accumulated significant cash reserves — also referred to as investment reserves, cash reserves, surpluses, and so forth — funding can be procured through a time-limited dedication of annual interest earnings from the investment pool to the capitalization fund. Both general fund monies and interest from the investment pool can be paid in over a two- to three-year period. These allocations are time-limited and represent no ongoing encumbrance on General Fund monies, only the initial appropriation. Subsequent appropriations are fully discretionary. Because the bank is constituted as a legally independent entity, these funding mechanisms do not create any compulsory financial or legal obligation for the city, and ensure the continuation of full legal and fiscal indemnity of the founding municipality.

All stock issued by the Municipal Bank will be in the form of common shares, and hence will qualify as Tier I capital as set out in recent capital requirements established by the FDIC.<sup>1</sup> Holders of common shares will exercise voting rights on a “one share, one vote” basis. Owners of common stock will be entitled to dividends distributed in amounts equivalent to the share of total stock owned. Investors will understand, however, that the overarching purpose of the corporation is not the enrichment of private shareholders. Rather, fulfilling certain social and economic policy objectives will take priority over maximizing shareholder returns. The primary aim will be capitalizing profits to increase the Bank’s own capital reserves, both to provide sufficient buffers against stresses induced by financial crises or prolonged regional economic downturns, and to serve as resources that can be leveraged to support for new lending and investments.

## **Insuring the Bank continues to fulfill its founding purposes**

To ensure the Bank continues to fulfill its founding objectives, strong social and economic policy directives, together with objective performance benchmarks, need to be “hardwired” into the Bank’s founding documents. The most rigorous means to accomplish this is inclusion of explicit lending criteria and performance requirements in a public ballot referendum or initiative. (See “Municipal Banking: An Overview.”) While the Bank can be established through a City Council or Board of Supervisors ordinance that would modify the City or County charter, a voter-approved ballot measure is the strongest means to construct and protect the basic policy and

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<sup>1</sup> Other options exist for how the capital and ownership rights of the Bank can be structured. It is possible, for instance, to create different classes of stock, some of which entail voting rights, and some of which are accorded dividends but do not confer rights to vote in Board elections. The issue, in each case, is creating an ownership structure and control provisions that will insulate the Bank from attempts to deploy its resources for purposes that deviate from its founding mandates and policy objectives.



operational mandates that will guide the ongoing activities of the Bank. Ballot measures can set out explicit and legally binding criteria pertaining to lending and underwriting policies. Ballot language can also specify certain categories of loans as priority investments, and set out performance benchmarks. For instance, property-related loans may be limited to projects that require 50 percent or more units to be affordable to households earning below 100 percent of Area Median Income, or that small business loans will be geared toward minority- and women-owned businesses in low-income neighborhoods.

Additional safeguards can be created through various provisions pertaining to voting rights set out in the Bank's founding Articles of Incorporation. This is particularly advantageous in states that have regulatory code provisions allowing state-chartered depository institutions to be incorporated as Public or Legal Benefit Corporations.

For example, in California a public bank can be set up as a Legal Benefit Corporation pursuant to Section 14600-14604 of the California Corporation Code. Any corporation so designated must demonstrate its commitment and capacity to meet social, economic, and environmental policy objectives. In addition, a Legal Benefit corporation must fulfill certain reporting requirements to demonstrate ongoing commitment to the realization of such objectives. California state code further requires that any change to the Articles of Incorporation, including efforts to rescind the Legal Benefit designation, must be approved by at least two-thirds of all shareholders of the Legal Benefit Corporation, irrespective of the class of stock owned. Municipalities and counties can include additional provisions in the Articles to provide further immunization against any attempt to water down, or rescind outright, the Legal Benefit designation. For instance, the founding Articles can require a nine-tenths majority to change the legal form of incorporation away from a Legal Benefit corporation, matched by a provision to ensure that the founding municipality holds sufficient stock to wield effective veto power. This will guarantee that the Bank operates in accordance with the social and economic policy objectives that motivated its formation, and will ensure that the City is the sole authority able to alter the terms of incorporation or to initiate voluntary liquidation.

## **Determination of initial capitalization levels**

Required levels of initial capitalization are determined by the need to cover start-up costs and operating losses during the first several years of operation. In general, asset-to-capital ratios must be sufficient to provide capital cushions should the Bank's creditors demand repayment of liabilities issued by the Bank at the time of maturation, and to absorb losses on loans and investments. In addition, capital levels will at all times exceed the levels required by the FDIC subsequent to its adoption, with certain modification, of Basel III recommendations regarding capital requirements. Tier 1 stock (common stock and retained profits) will be held primarily in government securities of three- to six-month duration to insure liquidity, provide a buffer against unanticipated losses, and limit exposure to changes in capital valuations due to a rise in the interest rates. (See discussion of interest rate risk, Type 1 below.)

## **Compliance with regulatory capital requirements**

As discussed in the document "The Municipal Bank: An Overview," it is possible to implement a multi-stage process through which municipalities can move towards the formation of a full-fledged depository institution. The first stage would entail the formation of a nondepository Municipal Financial Corporation (MFC). The second stage involves the incorporation and capitalization of a limited, special-purpose depository entity that will provide cash management and clearing services, and will originate loans to support the MFC's lending and investment priorities. (Note: this limited depository entity can be established concurrently with the formation of the MFC, but additional regulatory provisions must be satisfied that may delay the time to actual implementation). The third stage will involve the expansion of the Bank to a full-fledged public depository, subsequent to satisfaction of all federal and state regulatory requirements for such an entity.



The Municipal Financial Corporation, if set up prior to the creation (or acquisition) of a depository entity, is exempt from FDIC regulatory capital requirements. Capital reserves are therefore discretionary, as long as the Corporation does not also own a depository entity.

There are compelling reasons, however, to establish a capital structure broadly in accordance with FDIC regulatory capital requirements prior to establishing the depository institution. If, as is likely, the Municipal Financial Corporation and Municipal Bank have the same Board of Directors, the entity set up to execute the ownership rights and powers of the City will be defined as a Bank Holding Company per 12 USC 1841 and under the relevant state legal codes. Both federal and state regulators adopt an integrated (consolidated) approach to assessing the adequacy of risk-based regulatory capital in relation to Bank Holding Companies' aggregated asset and liability structure. As a Bank Holding Company, the Corporation will be subject to the regulations regarding risk-based capital set out in 12 CFR Part 225 (inclusive), and rules adopted by the FDIC. (See Federal Register, Vol 78, No. 175, 9/10/2013.) Hence, when the City moves to set up (or acquire) a depository institution subsequent to the formation and incorporation of the MFC, the FDIC and Federal Reserve will set risk-based capital requirements based on the financial structure of the consolidated balance sheet of all subsidiary entities. It is therefore advisable to have already established capitalization at levels that will fully satisfy, and even exceed, all FDIC and state requirements pertaining to required capital reserves of commercial banks.

It is critical the MFC/Bank have sufficient capital reserves to sustain its ongoing operation as a fully independent, self-sustaining entity. Application of risk-averse principles of financial management necessitates capital reserves at levels sufficient to absorb operating losses and write-downs that will enable the MFC/Bank to remain fully solvent under highly adverse market conditions. Adequate capital buffers are critical to safeguard the City's long-term financial interest, and the ability of the MFC/Bank to withstand periods of extended stress in the event of a systemic financial crisis.

## **FDIC regulatory capital requirements**

Tier 1 capital is fully paid-in stock issued that is subordinate to all other claims in the event of insolvency or liquidation. This stock is nonredeemable (permanent), and is the core capital cushion that serves to absorb operating losses and write-downs of nonperforming loans.

Tier 2 capital instruments are fully paid-in shares that have a minimum maturity of five years. Owners are eligible to receive dividends at the discretion of management of the MFC/Municipal Bank. Tier 2 capital is superordinate to Tier 1 and subordinate to general creditors (holders of bank liabilities) and depositors.

Capital standards recently adopted by the FDIC and Federal Reserve define institutions as "well capitalized" if the ratio of risk-weighted Tier 1 capital to assets is 8 percent or greater ( $>8\%$ ); and for common equity Tier 1 capital, greater than 6.5 percent. A bank or Bank Holding Company whose consolidated risk-based capital-to-asset ratio is between 6 and 8 percent is defined as "adequately capitalized."

*The FDIC risk-weight ratios assigned to various asset exposures are as follows:*

U.S. Treasury notes and bonds: 0%  
Municipal bonds (general): 20%  
Municipal bonds (revenue): 50%  
Small business loans: 100%  
Mortgage loans: 100%  
Property-related loans (non-HVCRE): 100%  
High volatility commercial real estate exposure: 150%



## ***Establishing the Bank as the City's Primary Depository Institution***

Depository and cash-management operations will include accepting deposits; conducting payments and settlements on deposit accounts using the Federal Reserve payment and settlement system (ACH) and through Real Time Gross Settlements; overnight placement of surpluses through the interbank market; investment of temporary surpluses in money market instruments; and conducting repo-type operations with the City Treasurer's office as required to provide liquidity to depositors' accounts. (See Additional Liquidity Safeguards under section V below.)

States typically have strict stipulations regarding the collateralization of public deposits by depository banks. To receive public monies, the accepting depository institution must secure these deposits through the set-aside of high-quality securities — typically the IOUs of the U.S. federal government — at a level that generally ranges between 102 percent and 110 percent of the total amount on deposit. Many states also allow deposits to be fully collateralized through letters of credit of the Federal Home Loan Bank (FHLB). This is the preferred option for a publicly owned Municipal Bank, as it will allow the Bank to accept public deposits without having to invest and hold the full amount of these funds plus some risk premium in low-yield three-month U.S. Treasuries.

To qualify for a letter of credit, the Municipal Bank will need to apply for, and receive, FDIC depository insurance. To receive FDIC insurance, the Bank will solicit the FHLB for a Memorandum of Understanding (MOU) that is evidence of FHLB willingness to provide a letter of credit upon the Bank being deemed eligible for FDIC insurance. In addition, the Municipal Bank will need to own at least one mortgage with a maturity of greater than five years. There is a nominal payment required to become a member of the FHLB system.

Letters of credit must be secured through designated collateral. Assets that are deemed eligible by the FHLB include U.S. Treasury notes, the securities of housing agencies (Fannie Mae and Freddie Mac), AAA mortgage revenue bonds, mortgage-backed securities, commercial mortgage-backed securities, and housing and revenue bonds. Based on this author's conversations with the Managing Director of the FHLB of San Francisco, it appears there is some discretion as to the types of loans and investments that can be pledged as collateral, and we are confident that AA+ rated bonds held by the bank will fully satisfy regulatory requirements pertaining to collateral.

The total amount of credit that could be obtained through a FHLB letter of credit for a de novo bank is generally limited to 15 percent of the bank's total assets. If the Bank's portfolio were on the order of \$900 million (outstanding loans and investments — see below), this would allow for collateralization of up to \$135 million in City deposits. In addition to the limit of FHLB letters of credit to no more than 15 percent of the bank's total assets, many states have explicit requirements that the total amount of local agency deposits that may be placed within any single depository agent may not exceed 100 percent of the depository agent's total shareholder equity. The amount of the City's direct deposits into the Municipal Bank will therefore be subject to such statutory limits. Compliance with these requirements must be determined on a state-by-state basis.

### **Creating a stable deposit base**

Banking involves risk. During periods of extreme financial stress and crisis, smaller-scale banks can become subject to deposit runoff. This is particularly the case for deposits that do not have FDIC insurance or exceed its maximum deposit limits. It is critical to ensure that the Bank has a secure and liquid funding base, given the





potential for deposit runoff and volatility in the context of a major systemic crisis. Similar concerns pertain in the event of a protracted regional downturn that could result in credit downgrades and increased levels of loan default, as this would erode earnings and induce an increase the Bank's own funding costs.

Certain features of the proposed operational model will ensure some degree of deposit stability. First of all, those portions of public deposits linked to core General Fund activity — tax and revenue collection as well as conduct of the municipality's ongoing daily, weekly, and monthly financial operations — while subject to extreme day-to-day variability, tend to oscillate over time around a fairly stable level, typically at between 5 and 10 percent of the total General Fund segment of the annual fiscal expenditure. Such stability reflects the recurrent nature of the City's base revenue and expenditure streams. Hence, to the degree the Bank is funded through core operating deposits, it is reasonable to presume that these portions of the deposit base will not be subject to sudden and extended runoff. The primary issue in this case is managing short-term volatility, that can be quite pronounced. This issue is addressed at length in sections that follow.

Second, additional liquidity safeguards can be created by attracting institutional deposits from entities that do not have complex or "exposed" liability structures subject to short-term stress in the case of a financial crisis. Examples are nonprofit organizations that are supported through government grants and contracts, and whose liabilities consist almost entirely of ongoing program and operational expenses.

Third, the Bank can offer FDIC-insured deposits to local residents. Over time, this can be expanded to the Bank providing a broad complement of retail services — overdraft accounts, credit cards, and loan underwriting for small business and households. However, given the desire to partner with credit unions and community banks whose business practices and principles align with those of the Bank, care must be taken to insure that entry into retail deposit markets does not raise concerns amongst local credit unions and community banks that the Bank could pose an existential threat to their businesses.

Some general principles can be established to mitigate such concerns. As a general rule, the Bank will seek to expand its impact at the retail level through partnership relations with local credit unions and Community Development Financial Institutions (CDFIs). Options include participation loans and loan buy-downs.<sup>2</sup> To maximize the impacts of these local initiatives, the Municipal Bank can set up a local lender consortium composed of local and regional lenders. Some portion of FDIC-insured deposits held by the Municipal Bank could be dedicated to support loans originated by consortium participants. Portions of the reserves acquired by the Bank via deposit inflows would be credited to accounts held at the Bank by members of the consortium network. These credits can be used to finance the Bank's participation share of loans and investments originated by consortium participants. In return for providing low-cost supplemental credit, the Bank will acquire exclusive recourse rights to loans financed through these funding conduits. In addition, participants will be required to provide quarterly financial reports to ensure compliance with policy goals, maintenance of sufficient risk controls, and adequate borrower assessment.

The Bank can provide interbank payment and settlements to participants in the local consortium network. Members with temporary reserve surpluses vis-à-vis the universe of agents that are not consortium participants — for current purposes, the "rest of the world" — can deposit these surpluses into the Bank at some negotiated rate of interest. The Bank will in turn use these reserves to extend short-term loans to other consortium participants. To insure solvency, network members that run sustained negative deposit balances at the Municipal Bank will be required to transfer liquid assets once some maximum term is reached.

These arrangements will deepen the financial infrastructure of the bank. The ability to undertake limited interbank settlement and clearing functions, to act as a source of liquidity, and to recapture financial resources currently absorbed within global financial circuits will lay the basis for future expansion and growth of these

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<sup>2</sup> See the document "Municipal Banking: An Overview," available at [www.rooseveltinstitute.org](http://www.rooseveltinstitute.org)



regional — and ultimately national — funding networks and conduits. In cities and regions that have a large fiscal base, this will allow municipal banks to significantly impact the trajectory of local and regional development and to serve as a major source of finance for major capital projects.

The more immediate, but far from insignificant, impact will be to allow the Bank to recapture financial surpluses ordinarily invested short-term on the money markets, and direct these funds back into local and regional investment. Network participants benefit by acquiring an additional source of low-cost short-term funds, and short-term liquidity support.

## ***Funding the Corporation***

A major source of funding for ongoing lending operations will be the issue of various liabilities — primarily medium-term notes — sold to the City Treasurer, who will acquire these IOUs using surpluses held in the municipality's investment pool. Depending of the city and state, this pool may be referred to as the investment reserve, the cash surplus, the cash balance fund, and so forth. The amount of funds held in these pools is often quite substantial.

<b>Cash and Cash Equivalents (Investments) under Management in City Investment Pools</b>							
<u>San Francisco</u>	<u>Oakland</u>	<u>Portland</u>	<u>Seattle</u>	<u>Chicago</u>	<u>Minneapolis</u>	<u>Philadelphia</u>	<u>New York</u>
\$6.98 (bil)	\$406 (mil)	\$141 (mil)	\$1.62 (bil)	\$7.25 (bil)	\$776 (mil)	\$7.12 (bil)	\$4-10 (bil)
All data from 2014 Comprehensive Annual Financial Reports, with the exception of San Francisco, ending balance, 6/30/2015, City Treasurer website; New York data based on range reported by City Controller in quarterly reports.							

The Bank will fund a significant share of its lending operations through the issue of medium-term notes (debt securities of one- to five-year duration) purchased through reallocation of a portion of funds currently held in the Treasurer's Pool.<sup>3</sup> In addition, the Bank will take deposits and may sell CDs and medium-term notes to entities other than the founding municipality. The Bank may also receive funds from the Treasurer's Pool through bankers' acceptances.

States generally authorize localities to invest in U.S. Treasury notes, the liabilities of housing agencies, and the FHLB. Most states also allow surpluses to be invested in the liabilities issued by private entities, provided they meet certain rating standards assigned by a nationally recognized CRA. Allowable investments typically include commercial paper issued by large corporations, CDs of depository institutions, medium-term notes, and banker acceptances. Most states impose upper limits on the amount of funds that can be invested in assets other than those of the federal government, and may limit the exposure of local governments to banks by limiting the total amount of CDs that can be purchased from any single bank to some portion of the issuing bank's total capital.<sup>4</sup>

To ensure financial stability, the City Treasurer can enter into a Memorandum of Understanding with the Bank that commits the Treasurer to roll over medium-term notes at the prevailing market rate on similar instruments at maturity. As part of this agreement, the Treasurer will require that the Bank demonstrate full compliance with all lending protocols set by the City regarding the quality of collateral backing loans, and that the Bank be in full

<sup>3</sup> In most municipalities, these funds are primarily invested in the notes and securities of the U.S. government and in housing agency debt.

<sup>4</sup> Research conducted by this author on California, New York, and Washington State has generally confirmed that these restrictions are not binding or prohibitive of the local Treasury serving as a major source of funding. In California, for instance, the Government Code, Sections 53601(a)-(p) and Section 53638 stipulate very explicit limits on the types of assets in which surpluses held in the Treasurer's Pool may be invested. Because state law allows local governments to set more stringent limits, San Francisco currently has caps on the total share of the Treasurer's Pool that can be placed into CDs or medium-term notes that are lower than amounts allowed by Sections 53601(a)-(p). (See also 52638 of the California Government Code, which sets limits on the amount that may be invested in the CDs of any single depository bank.) Based on data provided by the Treasurer on total funds in the investment pool as of October 10, 2013, under existing state law the maximum allowable allocation of funds for the purchase of medium-term notes is \$1.7 billion. Under the more limiting terms of the San Francisco Investment Policy, the maximum allocation into medium-term notes would be \$569 million (due to the 10% limit on exposure to any single issuer).



compliance with all required capital ratios. This MOU is rescindable in the event that the Treasurer is compelled to liquidate sufficient portions of the Investment Pool to meet an unforeseen payment contingency.

To provide insurance in the event the Treasurer requires cash redemption of medium-term notes or CDs at maturity, the Bank will hold the equivalent of its total equity in the form of short-term government securities. Under the vast majority of scenarios, the agreement with the Treasurer's office to roll over medium-term notes at the prevailing market interest rate on debts of similar risk and duration will avert sudden withdrawals that could impair the Bank's own liquidity. Additional measures that will be undertaken to mitigate risk, ensure liquidity, and provide the Treasurer's office with a contingent emergency set of "exit" strategies in the event of unforeseen financial catastrophe, are discussed in further detail in the section on risk mitigation. (See section VI below on risk management strategy).

## **Non-city funding sources**

Public pension funds, union pensions, social equity investors, and progressive foundations constitute other possible sources of capitalization and financing. It may be desirable to limit the total exposure to "outside" entities, or to enter into MOUs with institutional parties that use the Bank a depository agent to ensure the Fund does not suffer an unanticipated level of deposit withdrawal, or encounter difficulty refinancing its notes at maturity.<sup>5</sup>

## ***Loans and Investments***

The Bank will make loans and investments in priority areas such as affordable housing and infrastructure, and, through partnerships with local credit unions, will originate loans to local businesses and households.

*Major lending categories include:*

- (a) Bond investments of long-term duration (15+ years) in housing and infrastructure. Priority will be given to direct funding of larger-scale housing developments that have an affordability component of 35 percent or greater; and infrastructure development that reduces CO<sub>2</sub> emissions and/or supports job creation and economic development in low-income neighborhoods. (See the next section, Financing Capital Projects, for further discussion of this point.)
- (b) Loans to finance the acquisition of existing rental housing. Priority will be given to rental housing that provides stable long-term tenancy to low- to medium-income residents. Funding will be made available to nonprofit organizations that will buy and manage these properties, subject to covenants that stipulate long-term affordability requirements. In addition, housing acquisition loans will prioritize alternative forms of ownership agreements, such as housing co-ops and land trusts, and will use partnership arrangements with local credit unions (see point C, below) to provide subsidized mortgages to support ownership opportunities for low-income households.
- (c) Participation loans made in partnership with credit unions and Community Development Financial Institutions (CDFIs). Loan participation will be structured such that the Bank purchases yield-bearing notes issued by the credit union or CDFI. Proceeds raised from the sale of these notes will be used to finance portions of loans issued by partner lending institutions that meet the Bank's social and economic policy objectives. Priority will be given to small, community-serving businesses that may not always meet standardized loan

<sup>5</sup> This would occur, for instance, if creditors should demand cash redemption due to credit demand for liquidity; or if holders of notes and other debt obligations of the Corporation and Bank decide to shift their own asset structures either to seek lower-risk, low-yield investments, or to invest in higher-risk, higher-yield securities. In any of these scenarios, the Fund's subsidiaries could experience financing difficulties, hence measures must be in place to avert such scenarios.



scoring standards yet are low-risk borrowers, and alternative business models such as worker-owned and -managed co-ops.

Partner institutions will be responsible for the actual issue and oversight of loans. The Bank will not directly evaluate or grant approval of loans, collect payments, or monitor ongoing borrower compliance. To insure protection of the City's financial interest, the Bank will conduct quarterly reviews of loan portfolios funded through such partnerships, and annual reviews of the financial ratio and capitalization levels of its lending partners to control for risk exposure.

- (d) Funding of General Obligation Bonds to recapture funds presently being paid to the City's "external" creditors and to recycle this tax revenue into local investments. Payments of principal will be put into a revolving fund available for reinvestment in projects that meet stated priority policy goals and objectives.

## **Financing capital projects**

Given the public purpose mandate of the proposed institution, long-term advantages can be gained from constituting the Bank in a manner that will allow it to provide short-term credit for large-scale capital infrastructure projects and housing investments, and take over underwriting of municipal bond obligations currently contracted out to Wall Street. The Bank could be a source of short-term credit used to finance capital expenditures related to large-scale public works and capital improvement projects. The Bank would restructure this debt into series bonds and sell these securities, through its own distribution network, to pension funds, philanthropic foundations, and socially responsible investment funds. This will return the initial funds to the Bank, which can redeploy them to support additional loans and investments.

Provision of short-term investment finance will require the Bank to maintain a sufficient stock of liquid assets to cover payment and settlement obligations created by the expenditures of local and regional public enterprise departments. Additional liquidity support can be provided through repurchase agreements with the City Treasurer/Comptroller as outlined in more detail below. Moreover, and critically, in order to serve as a principal underwriter of long-term municipal debt, the Bank will need to cultivate an extensive network of buyers.<sup>6</sup> This market-making function is central to the services currently provided by private investment banks that structure and underwrite municipal debt. Formation of a sufficiently deep, diversified, and broadly mission-aligned pool of buyers — pension funds, philanthropic foundations, and socially responsible investment funds — will allow the Municipal Bank to provide flexible up-front finance, and to then structure and market bonds to maintain the liquidity of its own balance sheet. As outlined in "Municipal Banking: An Overview," the Bank may also elect to hold the shorter-term series in its own portfolio.

In effect, the City, through its placement of deposits into the Bank, and the Treasurer, via purchase of the Bank's short- to medium-term notes and security lending and repurchase agreements, will lend on a short-term basis to local public entities through the intermediary of the Municipal Bank. As with the use of commercial paper as a source of short-term finance, the borrowing entity will issue long-term securities, with the proceeds of these sales used to pay back the short-term investment credits, thus returning funds to the Bank. In the process, the Bank will take over underwriting functions currently contracted through Wall Street. Payments of interest, fees and commissions will be returned to the Municipal Bank, and thereby made available to finance additional loans and investments.

## **State concentration limits**

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<sup>6</sup> The structure of these secondary networks is similar in form to the relationships outlined in the discussion of financing affordable housing in the document "Municipal Banking: An Overview," available at [www.rooseveltinstitute.org](http://www.rooseveltinstitute.org)



States impose various statutory requirements on banks that serve as depository agents for local governments. For instance, in California, Section 53638 of the Government Code limits the total amount of public deposits that can be placed in any single depository agent to the total Tier 1 capital of the bank that receives and manages these deposits on the government's behalf. In addition, states have regulatory codes that limit the amount of the investment pool that can be used to purchase Certificates of Deposit (CDs) issued by a single borrower (bank) to an amount not exceeding the capital stock of the issuing bank.

These limits are not additive. Hence, assuming the Municipal Bank has \$100 million in Tier 1 common stock, the Treasurer's Pool could hold a maximum of \$100 million in active deposits and an additional \$100 million in CDs issued by the Municipal Bank.

## Federal lending limits

Federal regulatory code imposes loan concentration limits on banks that receive FDIC insurance. (See 12 USC 84; and FDIC Laws, Regulations, and Related Acts, 8000, Section 32.3.) The total amount of loans provided to any single borrower is limited to 15 percent of capital (Tier 1 and Tier 2 as stipulated under the new regulatory capital requirements) and retained surplus. An additional 10 percent can be lent, provided assets in which the bank has a valid security interest collateralize this amount at 100 percent.

*The following are loans deemed to be exempt from this lending limit.*

- (a) Loans secured by U.S. obligations
- (b) Loans to or guaranteed by a U.S. federal agency
- (c) Loans to or guaranteed by general obligations of a state or political subdivision. This would include loans to local governments, municipalities, public enterprise agencies, and all local general obligation and revenue bonds.

Lending limits would not become prohibitive as pertains to participation loans and other smaller-scale loans the Bank would independently originate, nor would limits be triggered by loans to public sector entities.

Limits could potentially become restrictive in the case of financing of large-scale property acquisitions — for instance, loans to acquire properties for placement into a land trust or co-op-type arrangement. These limits could be mitigated if acquisition loans are made to a city-established Housing Acquisition Fund (HAF) that would issue debt and pass the funds through to the trust or nonprofit that is the actual acquiring and owning entity. Because the HAF is a subunit of city government, funding provided by the Municipal Finance Corporation or Municipal Bank to the HAF would fall under the category of loans to subdivisions of the state, which are exempt from the concentration limits set out in 12 USC 84.

## Mock-up balance sheet

Below is a simplified mock-up balance sheet for a hypothetical Municipal Bank.

### Municipal Bank Holding Company, aggregated balance sheet

Assets	Liabilities
\$150m (3-month Treasuries)	\$150m (city and other equity)
\$950m (loans and investments)	\$150m (city deposits, average daily balances)
	\$100m (other deposits, average balances)
	\$150m (CDs)
	\$550m (medium-term notes)



Assuming a 3.5 percent weighted average return on loans and investments, and an average 2 percent funding cost, the gross return would amount to \$16.5 million. After deducting \$4.5 million in staffing and operational costs, net profit is \$12 million. Given a target of 5 percent annual rate of growth of total equity, \$7.5 million is retained as capitalized profits, leaving \$4.5 million available for distribution to Class B investors. (I here assume that Class A shares totaling \$75 million are fully owned by the City.) This yields a return on Class B equity of 6 percent.

Profits will be capitalized, or will be invested in municipal bond funds that will provide a source of earnings used to provide interest rate subsidies on loans to borrowers, and for projects that advance the Bank's founding policy objectives while meeting underwriting criteria.

## **Market-making functions**

As discussed in the section on the Housing Acquisition Fund (see "Municipal Banking: An Overview" at [www.rooseveltinstitute.org](http://www.rooseveltinstitute.org)), the ability to achieve a significant impact in preserving long-term affordable housing is predicated upon the ability to sell loans made for acquisition and new construction to long-term investors in order to raise cash to fund additional lending for acquisition of property-related assets.

Access to existing securitization conduits maintained by Fannie Mae (FNMA) and the FHLB will be limited or, for some loan types, nonexistent due to proposed debt service coverage ratios (DSCRs) and loan-to-value (LTV) ratios which may exceed the limits currently allowed by these programs. For example, the primary conduit through which the FNMA currently purchases and securitized commercial multi-family mortgage loans is the Delegated Underwriting and Servicing (DUS) program. To be eligible for DUS securitization, a 30-year multi-unit mortgage loan originated by the MFC or Municipal Bank would need to have a DSCR equal to or greater than 1.25, and a maximum LTV ratio of 80 percent.

These two criteria would disqualify the vast majority of loans discussed in more detail below. The DSCR for most of the loans being contemplated would range from 1.10 to 1.15, and LTV ratio would range from 85 to 95 percent. It is possible that these loans could be brought into conformity with FNMA eligibility criteria by refinancing the loan after sufficient principal reduction has occurred, and if interest rates at the time of refinancing allow overall reduction in the cost of debt servicing. In addition, the borrower would have to determine that the advantages of the lower interest payments outweigh the extension of the total period of the loan. The FNMA DUS Multi-Family program will therefore need to be complemented by additional strategies to increase the ability to sell assets to raise cash for financing additional loans and property-related advances. (See FNMA Selling Guide, section B2, eligibility requirements; in particular, see B4-2, p 649.)

A core component of this model is the creation and maintenance of a set of secondary markets to provide a liquid market for the loans and bonds financed by the Municipal Bank. (See "Municipal Banking: An Overview.") The Bank will accordingly cultivate and maintain a pool of buyers consisting of pension funds, socially responsible investment funds, and foundations that will allocate small portions of total funds under management toward the purchase of both 30-year amortizing multi-family mortgages and serial issues of fixed- and variable-rate bond debt.

Securitization of loans has the advantage of significantly increasing cumulative lending capacity by converting assets into a revolving loan fund that can underpin a significantly higher level of total origination. Buyers of these loans (pension funds and socially responsible investment funds) purchase them based on a desire to support the goals and objectives of the Bank, and a willingness to accept moderate returns on high quality, low-risk assets that will comprise a very small portion of these funds' overall asset allocation. In addition to increasing lending capacity, maintaining a network of secondary buyers provides additional security to holders of the Bank's own liabilities, as it enhances overall liquidity. Pension funds, socially responsible investment funds, and foundation endowments that purchase assets from the Bank do so based upon a desire to support the Bank's social and



economic policy objectives. Moreover, these purchases need not compromise these funds' own fiduciary responsibilities, due to the small portion of total funds committed to these secondary purchase programs.

## *Liquidity*

Basel III has outlined several liquidity measures that are recommended to ensure that depository institutions have sufficient liquidity safeguards in place to redeem maturing liabilities, and sufficient cash or near-cash on hand to cover any rapid runoff of deposits in the context of highly adverse market conditions similar to those following the Lehman collapse in September 2008.<sup>7</sup>

The Liquidity Coverage Ratio (LCR) is defined as the ratio of the stock of “high quality liquid assets” to an estimate devised by the Bank for International Settlements (BIS) of the “total net cash outflow” that would occur in a 30-day period characterized by acute funding stress. The term “high quality liquid assets” refers in most cases to the IOUs of sovereign governments. Total net cash outflow is calculated as the difference between outflows and inflows assuming a 30-day period of extreme market stress estimated according to weights set forth by the BIS. Net outflows are then adjusted downward by 75 percent from estimated levels. The Basel III document recommends this ratio be set at one or greater than one.

Cursory inspection of the proposed funding structure of the Municipal Bank indicates that the Bank's portfolio would meet and exceed such a ratio. Basel III assumes 0.95 net retention of deposits, and 0.75 net retention of “unsecured funding with operational relationships.” This is equivalent to assuming a 5 percent runoff in deposits and a 25 percent runoff in all other short-term funds procured on the interbank whole capital markets, through repo-type arrangements and by the issue of short-term money market debt. Assuming \$250 million in deposits, the (unadjusted) expected net outflow on the Bank's deposit liabilities is –\$12.5 million under the BIS assumptions. If we were to include in the estimation the full amount of the Bank's \$700 million in liabilities held in the form of CDs and medium-term notes, and assuming that medium-term notes have a total average weighted maturity of two years, the maximum amount that comes due and is subject to demands for cash redemption in a given month is approximately \$29 million. It is therefore impossible for the Bank to not meet BIS liquidity recommendations, given the \$150 million stock of “high quality liquid assets” held in the form of government securities, as there is no scenario under the BIS weighting formula in which the LCR – the ratio of high quality liquid assets to net 30-day outflow – would fall below one. (Note that inclusion of medium-term notes and CDs exceeds the liabilities included in the BIS estimation, as these are both liabilities of longer-term duration than the liabilities included in the denominator of the BIS equation.)

The Net Stable Funding Ratio (NSFR) is calculated as the ratio of liabilities with maturities of greater than one year (including deposits) plus equity, divided by a weighted estimate of the liquidation value of assets held in the bank's portfolio with maturities greater than one year. Basel III recommends this ratio be maintained at greater than one.

The objective of the BIS is ostensibly to ensure that banks do not become overly reliant on issue of short-term non-deposit liabilities to fund longer-term investments in potentially illiquid assets. The deleterious results were seen in the 2008–2009 crisis, as banks and other financial entities were forced to try to liquidate long-term, often highly complex and opaque securities for which no “price discovery” mechanism was present, in order to raise cash to redeem IOUs that could no longer be rolled over on the interbank and short-term money markets.

In general, the financial structures shown in the mock-up balance sheet would satisfy the recommended NSFR set out in Basel III. In the hypothetical portfolio structure, liabilities with maturities of greater than one year consist

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<sup>7</sup> There are grounds for criticism of the Basel III recommendations, as full adoption is likely to reinforce existing tendencies toward loan securitization and limits on long-term bank advances. For a “heterodox” critique of Basel III recommendations: Vallageas, Bernard. 2013. “Basel III and the strengthening of capital requirement: the obstinacy in mistake or why ‘it’ will happen again.” In *Monetary Economies of Production: Banking and Financial Circuits and the Role of the State*, edited by Louis-Philippe Rochon and Mario Seccareccia. Northampton, MA: Edward Elgar.

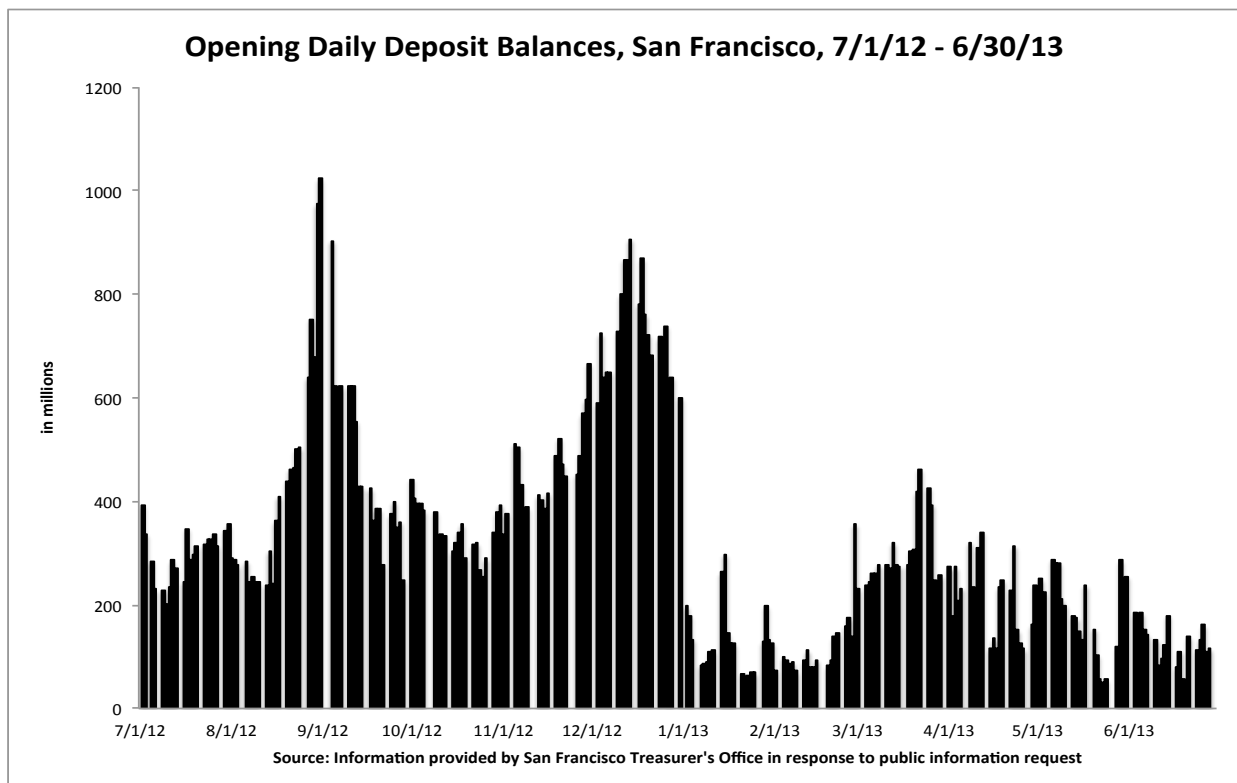
of \$550 million in medium-term notes, \$250 in deposits, and \$150 million in equity, each of which is weighted as equal to 1.0 by BIS methodology. Total loans and investments are \$950 million. Given the weighting methodologies used by Basel III, many of these investments — for instance, bond series issued by local governments — would be weighted at less than 1.0. This will result in a NSFR greater than one, which exceeds the recommend ratio.

## Additional liquidity safeguards

Beyond compliance with recommended liquidity ratios, the Bank will enter into a set of agreements with the Treasurer's Office to provide additional liquidity support in the event of high volumes of deposit withdrawal over a short period. Liquidity provisions specified here, if properly managed, need not impose any significant risk on the Treasurer's Pool, yet will insure the ability of the Municipal Bank to cover its interbank settlement obligations in the event of short-term run down of daily deposit balances during the course of the normal conduct of business.

## Background to discussion of liquidity and liability management

Over the course of the business day, any depository institution is engaged in executing payment orders on behalf of customers (depositors or recipients of bank loans that are credited with deposits). When a customer (the City in this case) issues a payment order, the bank debits the depositor's account and enters a direct and offsetting credit to the account of the payment recipient, if the recipient holds an accounting at the same bank as the payment recipient. If, however, the payee holds an account at a different bank, then the transactions between the City and the payment receipt are recorded as a set of transactions between their respective banks. This leads to the creation of an interbank debt — the City's banking agent becomes indebted to the bank of the payment receipt. Funds deducted from the City's account are replaced by a liability owing to another bank.





To settle these interbank debts, banks with net deficits must either (a) borrow reserves through the issue of various IOUs on the interbank market (the most common being repo agreements and overnight borrowings on the federal fund market); or (b) through delivery of the IOUs of the U.S. government. The latter option is today the most common means of conducting interbank settlements on an ongoing (“real time”) basis.

To manage its deposit liabilities, the Municipal Bank will hold a high ratio of stocks of U.S. government and agency securities relative to total deposits. Nevertheless, in the event of a major drawdown of deposits, the Bank could find itself forced to transfer quantities of U.S. T-bills that would reduce deposit coverage ratios below minimum target levels. In general, the nature and timing of inflows and outflows that normally occur on bank deposits makes this level of extreme drain unlikely. Nevertheless, liquidity safeguards can be established to ensure that the Municipal Bank can meet its payment obligations under even the most extreme scenarios without being forced to rely on short-term funding through liabilities issued on the wholesale capital markets. I here outline two scenarios to illustrate how the Treasurer’s Office can be a vital source of short-term liquidity without impairing the liquidity of the Municipal Investment Pool. (All numbers are based on the mock-up balance sheet above.)

To situate the discussion, assume there is a short-term runoff of deposits amounting to \$170 million. To settle interbank obligations, the Bank would transfer government securities of an equal amount. Security holdings are reduced to zero, and the bank finds itself with a negative net settlement position of –\$20 million.

There are two general options through which the Treasurer’s Office, as the fiduciary agent in charge of the municipal investment pool, can provide short-term liquidity enhancement to the Bank.

**Option 1:** The Treasurer’s Office sells U.S. agency debt from the Investment Pool and transfers the proceeds to the Municipal Bank. The effect is to create a reverse transfer of reserves in favor of the Bank, which finds itself in a position of net surplus vis-à-vis other banks. This surplus will be settled through transfer of U.S. Treasury bills to the Bank, restoring the Bank’s own required minimum deposit coverage ratios. The debt to the Treasurer’s Pool is subsequently unwound through inflows back into the General Fund account and nongovernmental accounts at the Municipal Bank — i.e., inflows are used to acquire USTR notes that are transferred back to the Treasurer’s Pool.

**Option 2:** In states that explicitly authorize local Treasurers to engage in securities lending agreements, the Treasurer can lend government securities to the Municipal Bank on a short-term basis. To be an eligible counterparty to these agreements, the Bank will be required to post collateral by transferring to the Treasurer’s office a security interest on assets held in the Bank’s investment portfolio. The Bank can then hypothecate these securities by conducting short-term repo operations to raise cash. These transactions will be unwound as inflows replenish deposits, creating offsetting claims on other banks, which, in accordance with prevailing practices, will be settled through transfer of U.S. Treasury notes back to the Municipal Bank.<sup>8</sup>

## Role of FHLB

A core component of the proposed model involves the establishment of a relationship with the Federal Home Loan Bank to provide letters of credit and liquidity support through collateralized advances.

### *Letters of credit*

Many states allow FHLB letters of credit to serve as collateral for local agency deposits. Letters of credit may also be used to provide security for medium-term notes. This will, ceteris paribus, lower borrowing costs, enhancing the ability of the Bank to access the money and capital markets to finance additional loans and investments.

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<sup>8</sup> This liquidity management strategy involves a change in the structure and composition of the asset side of the Municipal Bank’s portfolio — but does not create public deposit obligations that would require the Bank to post additional collateral to secure these deposits.

Letters of credit issued by the FHLB must be collateralized by quality assets, including municipal bonds and a variety of property-backed assets, several of which the Bank will issue on a regular basis.

#### *FHLB advances*

The FHLB provides loans to banks secured by acceptable collateral. Acceptable collateral relevant to the Municipal Bank includes multi-family commercial property bonds and self-amortizing mortgages, serial bonds, and other real estate-related collateral in which the FHLB can “perfect” its security interest by taking delivery of the collateral and/or acquiring full rights in the event of default. The average loan secured by these forms of collateral ranges between 65 and 80 percent of notional principal. Credit limits for de novo institutions typically are on the order of 15 percent of total assets. For established institutions, the FHLB limits the range to between 20 and 60 percent. Advances allow members of the FHLB system to borrow against qualifying property-related assets to raise cash for purposes of liability management and to provide up-front financing for new loans and investments.

The Municipal Bank, as a depository institution that makes property-related loans and investments, does not require designation as a CDFI to become a member of the FHLB system. Once the Bank is established, this will release the Bank from the net asset/total asset ratio imposed on CDFIs, with leverage ratios thereafter determined per the guidelines established by the FDIC.

## ***Risk Management***

Committing public money to purchase the Bank’s liabilities exposes the municipality’s investment pool to risks associated with shifting funds out of liquid federal government securities into less liquid, more high-risk medium-term notes, bankers’ acceptances, and certificates of deposit. Risk mitigation strategies need to be established to ensure that the proposed funding arrangements do not in any way compromise the Treasurer’s fiduciary responsibilities.

*For purposes of the present discussion, risk can be differentiated into credit risk, concentration risk, liquidity risk, and interest rate risk.*

- Credit risk refers to risk of counterparty default on loans the Bank originates, leading to an overall deterioration in asset quality that, in the extreme, could raise the threat of insolvency.
- Concentration risk refers to risks associated with a high level of loans and investments concentrated in a single geographical region.
- Liquidity risk refers to risk of sustained net outflows that could impair the ability of the Bank to satisfy large-scale depositors’ demands for cash, as well as redemption of CDs and notes that have reached maturity.
- Rollover risk (which can be seen as a subcomponent of liquidity risk) is the risk that the Bank cannot refinance its liabilities at maturity. This type of risk is particularly acute if the Corporation holds relatively illiquid long-term loans and investments with limited secondary markets.
- Interest rate risk here refers to the effects of changes in various interest rates on the mark-to-market valuation of longer-term portfolio assets, as well as changes in financing costs that can erode profits and the Bank’s net worth due to maturity mismatch.

*Specifically, we can divide interest rate risk into two categories:*



- Interest rate risk Type 1, the risk associated with changes in the mark-to-market or resale value of a security should interest rates rise prior to maturity. This type of risk is less relevant if the Bank holds loans to maturity, but can be significant if accounting rules require loans to be valued on a mark-to-market basis, or if assets need to be sold on secondary markets due to an unanticipated financial contingency.
- Interest rate risk Type 2, the risk to the Bank due to maturity transformation — borrowing short-term to finance longer-term loans and investments — if the costs of refinancing exceed yields on long-term fixed-rate loans and investments.

The Bank's lending policies and liability management practices must thus be sufficiently robust to safeguard the City's equity investment, and to ensure mitigation of exposures incurred by the Treasurer's Office through purchase of medium-term notes.

*Credit risk will be managed through the following complement of strategies:*

- (a) Maintenance of capital ratios equal to or greater than the ratios qualifying as "well capitalized" by the FDIC to ensure the Bank has the capacity to absorb losses.
- (b) Regular outside monitoring and review of the Bank's lending practices and underwriting criteria to ensure that loans are functioning to fulfill the Bank's social and economic policy objectives, and that the loans do not pose undue threats to capital reserves and long-term solvency. In addition, it is recommended the Bank establish "trigger thresholds" that impose temporary moratoriums on any further increase in exposure to a particular sector or asset class once the annual increase in origination tied to this sector begins to approach 20 percent. During the moratorium, the Bank will assess recent loan performance, overall regional economic conditions, the continued vitality of borrowers in terms of cash flow, and trends in sales; or for property-related investments, will assess vacancy rates and trends in building rents.
- (c) The Bank will require, as a condition of issuing loans, the right to inspect the books and accounts of loan recipients to insure economic viability and continued viability of borrowers. These inspections are not punitive, nor will they result in borrowers have to pay higher rates, but will be used in the event that trigger thresholds are approached, to enhance monitoring of the overall level and changing profile of credit risk facing the Bank.

Interest rate risk will be managed by the following strategies:

- (a) Securitization and sale of long-term loans to ensure greater adjustment of earning to changes in funding costs. Note, however, that this does not ensure against potential losses or problems that can arise in relation to interest rate risk, Type 1. Nor does it provide any insurance in the event of sudden and unanticipated closure of the securitization conduits due to lack of buyers for Bank loan products.
- (b) Use of variable-rate bonds for loans held in the Bank's own portfolio. This will require borrowers to enter into offsetting swap agreements with the FHLB to offset their own interest rate risk by converting variable-rate into fixed-rate debt. (See discussion of creating secondary markets in "The Municipal Bank: An Overview," and above.)
- (c) To manage interest rate risk Type 2, the Bank may enter into swap agreements with the FHLB to transform variable funding costs on CDs and medium-term notes into fixed-rate ones. Under the terms of such an agreement, the Bank can issue variable-rate debt that is sold to the City Treasurer or other investors (pension funds, socially responsible investment funds, and foundations, for instance), and then swap this variable rate for fixed rate through paying a fixed rate to, and receiving a variable rate from, the FHLB. Similarly, the weighted average rates paid fixed-rate CDs and medium-term notes will change over time as maturing liabilities are refunded at prevailing market rates. This aggregated "synthetic" variable rate can be swapped through a similar agreement with the FHLB in order to stabilize the Bank's short- to medium-term funding costs, with the Bank paying a fixed rate and receiving a floating rate payment from the FHLB



set at some markup over LIBOR or the Federal Funds Rate. This effectively locks in a short-term fixed rate on the costs of wholesale finance, while investors will receive the constantly readjusted current market rate on the newly issued or refinanced liabilities of the Bank.

(For further discussion of the use of swap agreements with the FHLB, see the section A note on variable-rate debt obligations, below.)

## **Managing liquidity risk**

To provide a liquidity backstop the Bank will become a member of the FHLB system and will use collateralized advances to raise cash in the event of a short-term runoff of deposits and to meet demands for redemption of maturing CDs and medium-term notes. In addition, during periods of extreme duress in the banking and credit markets, the Bank will have full recourse to the short-term refunding facilities operated by the Federal Reserve Bank.

In addition to the aforementioned strategies to limit and manage risk, the Treasurer's Pool can be further protected by affording the Treasurer preferred — superordinate — status on Bank capital in the event the Bank incurs major losses and is forced into FDIC receivership.

## **Geographical concentration risk**

Beyond the range of risks typically associated with financial institutions, there are risks specific to the proposed portfolio structure that derive from its concentrated exposure to local and regional economic conditions. This exposure is inherent in the nature of the proposed institution. However, regional exposure does not, in itself, lead to an excessive concentration of risk if prudent lending and monitoring standards are in place, as indicated above. Moreover, there are counterbalancing factors that suggest that the design of the Bank can actual reduce overall risk relative to the level of risk that can become concentrated within the major global banking institutions.

First, and most obviously, many financial institutions that made the majority of their loans and investments to local households and business survived the 2008–2009 crisis without needing extensive federal assistance. This was particularly the case with credit unions, many of which maintained robust financial positions despite the national and global downturn.

Second, and related, banks that failed, or were teetering on the brink of collapse, during the 2008–2009 financial crisis were not experiencing difficulties tied to the geographical concentration of risk. Rather, the immediate cause of the financial crisis was the breakdown of underwriting criteria and the financial engineering that had allowed the wizards of Wall Street to assess, price, and redistribute risk at will. Banks that maintained globally distributed operations developed generally higher levels of exposure to rapid deterioration in overall market conditions. Scale and diversification is no guarantee against major losses; this is particularly the case given the highly complex and layered exposures that can evolve through the use of modern credit derivatives.

Third, institutions that have extensive commitments to funding local development have certain characteristics that mitigate tendencies to assume excessive (and often opaque) risk:

- Greater capacity to assess the viability of loan applications and investments due to extensive knowledge of local economic conditions, local market sectors, and borrower characteristics
- Less incentive to make risky, low-quality loans due to enduring commitments to the financial well-being of borrowers and reputational costs of perceived malfeasance



- Reduced level of internal complexity, resulting in greater transparency and more effective internal protocols to maintain stringent underwriting standards
- A greater capacity to control for speculative excesses due to weakening of underwriting standards during periods of economic booms and rising prices of property assets
- Long-term commitment to supporting local development that creates interest in the financial health and solvency of borrowers, matched with a commitment to make loans based on assessments of long-term impacts and social criteria that can mitigate the noxious consequences of a financial system based on efforts to maximize profits.

To ensure the integrity of internal loan review, it is recommended that the Bank contract for regular outside auditing and review of credit and underwriting standards to ensure ongoing compliance with all lending and underwriting protocols. Further, for property-related loans, it is recommended that borrowers have the ability to service all anticipated debt at threshold vacancy levels of 10 percent over a three-year period. Together with protocols that trigger automatic independent review of loan origination standards when per annum growth exceeds 20 percent in notional value (recommended), this will protect public sector funding commitments, and will ensure solvency during periods of protracted stress.

### **A note on variable-rate debt obligations**

For property-related loans the Bank will retain in its own portfolio, an adjustable rate will apply. This rate will be set by calculating the average weighted cost of funds on municipal bonds that meet the required credit standards at the time of issue, and then adjusting upwards by 25 basis points (proposed) to account for project specific risk. Lending at variable rate is necessary in order to hedge against increases in the Bank's own funding costs — holding long-term loans at fixed rate creates risks due to maturity mismatch in the event that interest rates rise, increasing the rolling over and refinance of maturing debt.

Borrowing at variable rate creates risks for borrowers, who could find themselves faced with debt-servicing costs increasing at rates that exceed the corresponding rise in the cash flows being generated from the underlying property assets.

There are two possible mechanisms to offset this form of risk. The first involves the investment of the sinking fund in shorter-term assets to more closely match changes in the rates earned on sinking fund investments to changes in current market rates. The disadvantage of this strategy is that it will reduce overall earnings, due to the shortening of the average weighted maturity on sinking fund investments.

The second strategy is for borrowers to enter into interest swap agreements that transform variable-rate obligations into fixed interest rates. Alternatively, the Bank could finance the long-term debt at fixed rates, and then swap the fixed ones for floating rates. The use of swap agreements to manage interest-rate exposure creates problems of counterparty risk. Swap agreements can also carry both up-front and often hidden costs, and have been used by major financial institutions as a mechanism to extract excessive fees and penalties in the event that terms on swap contracts need to be reset, or in the event of “premature” cancellation of a contract.

The FHLB offers an alternative to private market underwriting conduits to hedge interest-rate risk. The basic structure of a swap arrangement is that the loan recipient borrows at a floating rate from the Municipal Finance Corporation set by imposing an additional markup (measured in basis points) on some floating reference market rate such as LIBOR or the Federal Funds Rate. To swap this floating rate into a fixed rate, the borrower would pay a fixed rate to the FHLB and receive a floating rate. The total funding cost is the fixed rate paid to the FHLB plus the



difference between the floating rate paid on the bond held by the Bank and the floating rate received from the FHLB.

Analogous processes would be used by the Bank to swap fixed rates for floating rates to offset the risk of a future rise in rollover and debt-refinancing costs. In this case, the Bank finances the property acquisition at a fixed rate through funds that are procured through the issue of medium-term notes of significantly shorter maturities, or that may be issued at some indexed variable rate. To protect against higher future funding costs, the Bank would pay a fixed rate to the FHLB and receive an indexed floating rate.

In either case, the ability of the Bank to finance and hold bonds to maturity will depend upon the availability of the appropriate swap instruments from the FHLB that will ensure that Housing Acquisition Fund participants can service all payment obligations through property rents, earnings on sinking fund investments, and municipal subsidy payments.

### **Basis risk**

Basis risk refers to the risk that yields from assets and obligations for liabilities may not move in tandem, if indexed to different market benchmarks. Even if the sinking fund yields move in line with current market rates, basis risk exists if the fund is invested in assets other than the benchmark to which the borrower's debt is indexed (here assumed to be the municipal bond rate of issues of Aa or higher plus 25–50 basis points), as the relative changes in rates may not correspond, and can even move in different directions.

To mitigate this form of risk, the Bank can index both variable-rate assets and liabilities to the same market rate — for instance, the average rate on municipal debt published by the Federal Reserve Bank. This will ensure the earnings and obligations of the Bank, borrowers, and earnings on sinking fund investments all move in the same direction, effectively eliminating basis risk.