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FS SERIES #1: ENABLING SUB-SOVEREIGN BOND ISSUANCES PRIMER

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FS SERIES #1: ENABLING SUB-SOVEREIGN BOND ISSUANCES

PRIMER

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The author's views expressed in this publication do not necessarily reflect the views of the United States Agency for International Development or the United States Government.

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INTRODUCTION

The United States Agency for International Development (USAID) Bureau for Economic Growth Agriculture and Trade (EGAT) created the Financial Sector Knowledge Sharing Project (FS Share) to collaborate with USAID missions to develop effective and efficient financial sector programs that increase access to financial services and develop well-functioning markets worldwide. USAID awarded Chemonics International Inc. the FS Share delivery order under the Financial Sector Blanket Purchase Agreement. FS Share has a three-year period of performance, July 2008 through July 2011.

Through the FS Share Task Order, USAID EGAT and Chemonics proactively collaborate with missions to identify financial sector priorities and develop strategies and programs for growing the financial sector. FS Share identifies financial sector best practices and aggregates those best practices through model scopes of work, primers, diagnostic tools, best practice case analyses, and other tools. These technical deliverables are disseminated to USAID missions to integrate into financial sector programming. On a case-by-case basis, FS Share can assist with implementation and connect mission staff to external resources on best practices. In response to mission demand, FS Share delivers presentations and other knowledge-sharing endeavors.

OBJECTIVE OF THIS FS SERIES

The objective of Enabling Sub-sovereign Bond Issuances is to provide U.S. government (USG) program designers with a basis of technical understanding of sub-national finance as a sustainable approach to supporting local government infrastructure development and improved service delivery. This primer emphasizes municipal bonds specifically as an ideal sub-sovereign financing instrument. As such, the primer includes models to consider, lessons learned, and tools to evaluate potential interventions in sub-national finance. The primer was prepared by Caroline Averch and J. Mauricio Gutierrez of Chemonics International Inc. with support from USAID EGAT and The U.S. Treasury International Affairs Office of Technical Assistance. **This is the primer.**

FS SHARE RAPID RESPONSE HOTLINE

For assistance identifying resources and addressing questions about designing sub-sovereign financing programming, contact FS Share Project Manager Roberto Toso at 202-955-7488 or rtoso@chemonics.com or Melissa Scudo at 202-775-6976 or mscudo@chemonics.com

To access the FS Share task order and EGAT assistance on any mission financial sector program, scope of work, or procurement questions, contact:

FS Share COTR: William Baldrige	wbaldridge@usaid.gov	(202) 712-1288
FS Share Activity Manager: Mark Karns	mkarns@usaid.gov	(202) 712-5516
FS Share Activity Manager: Chris Barltrop	cbarltrop@usaid.gov	(202) 712-5413
Supervisory Team Leader: Jeff Levine	jlevine@usaid.gov	(202) 712-0128
EGAT/EG Office Director: Mary Ott	mott@usaid.gov	(202) 712-5092
Contracting Officer: Ken Stein	kstein@usaid.gov	(202) 712-1041

SECTION I. EXECUTIVE SUMMARY

One of the most sustainable methods for local governments to finance infrastructure is tapping local capital markets and garnering medium-term to long-term private sector investment through municipal bonds. Well-structured sub-sovereign bond issuances are often substantially larger, have longer maturities, require less collateral, and are more affordable than traditional bank loans. Longer tenures and lower interest rates result in lower debt service payments as well as improved matching of funding maturity to the life of the infrastructure projects. Despite typically higher transaction costs than bank lending, bonds are a highly attractive and cost-effective mechanism for local governments. This primer provides a summary of sub-sovereign bonds as an important instrument to consider when exploring models of sustainable long-term financing for local governments. It provides an overview of how municipal bonds work and presents key regulatory preconditions and prerequisite market conditions required for viable sub-sovereign bond offerings. It offers insight into five case examples to help inform program designers and implementers and assist in applying lessons learned worldwide. The cases include:

- *The Tamil Nadu Water and Sanitation Pooled Fund transaction.* This case illustrates the pioneering efforts of the state and its urban development fund to provide several urban local bodies (ULBs) access to the domestic capital market. The ULBs could not have issued bonds. By pooling their financing requirements they accessed the bond market to finance their water infrastructure projects. The transaction diversified their credit risk and achieved the necessary economies of scale. In broader context, it demonstrates the crucial role that a financial intermediary can play in bringing together local governments and capital market actors to facilitate market access.
- *The City of Johannesburg's first general obligation bonds.* This effort inaugurated the municipal bond market in South Africa. The transactions created a new asset class and a benchmark for long-term municipal debt, as well as new local credit enhancement mechanisms for potential replication in other cities. The successful experience established the foundation for subsequent new and creative offerings.
- *The water utility of the municipality of Bogor in Indonesia.* Bogor structured a complex corporate bond issue to introduce alternative financing sources for water projects. After nearly one year of intensive preparatory work, the transaction did not materialize. However, the experience provided valuable lessons for future efforts.
- *The Tlalnepantla de Baz bond.* This was the first municipal bond offering in Mexico to finance infrastructure investments by using the project's own revenues instead of relying on federal transfers as a guarantee. The success of this transaction, as well as the development of the Mexican sub-sovereign bond market, was possible in part due to the consolidation of the pension fund system and the introduction of an effective regulatory framework.
- *The Amazon North highway concession in Peru.* This case illustrates how a public-private partnership (PPP) can be a powerful tool to help local governments develop infrastructure projects by transferring the responsibility for the financing, construction, and long-term operation and maintenance to the private sector.

SECTION II. PRIMER

Demand for infrastructure and other services in developing countries is significant and growing, but investments have not kept up with needs. Decentralization assigns new prominence and responsibility to local governments to deliver critical public services such as water, sewerage treatment, solid waste disposal, transportation, education, and health care. Local governments often must fulfill this responsibility in evolving regulatory environments, with limited financial management capacity and shallow capital markets.

One of the most sustainable methods for local governments to finance infrastructure is tapping local capital markets to catalyze medium-term to long-term private sector investment through sub-sovereign bonds. USAID missions implementing or designing programs to support the municipal sector can achieve impact and increase the efficiency and sustainability of public service delivery by supporting the exploration of municipal bonds, and investing in initiatives to develop the bond market.

This primer aims to provide a summary of sub-sovereign bonds as important instruments to consider when exploring models of sustainable financing for local governments. The primer provides an overview of bonds and how they work, and discusses the importance, advantages, and disadvantages of sub-sovereign finance. It presents key regulatory preconditions and prerequisite market conditions required for viable sub-sovereign bond issuances. Additionally, it describes key actors from the public and private sector involved in sub-sovereign finance and their various roles in supporting sub-sovereign bond issues. The primer also discusses the role of the USG in expanding sub-sovereign finance in developing countries and describes tools available to USG program designers considering interventions in this area.

To enhance the primer's practicality, Section B offers five case examples of different models of successful and unsuccessful sub-sovereign bond activities. These cases are intended to assist program designers and implementers in analyzing factors in the enabling environment, market conditions, approaches and structures used, and the results and sustainability of specific sub-sovereign finance interventions. USG officers can evaluate the potential replicability of these models within their country contexts.

Section C describes a number of tools and resources available to USG program designers to assist in evaluating potential interventions.

A. IMPORTANCE AND ROLE OF SUB-SOVEREIGN FINANCE

For the purposes of this primer, sub-sovereign finance is defined as the use of debt instruments such as bonds by local governments (commonly known as municipal bonds), or local government owned utilities and enterprises, to attract private sector investment. Sub-sovereign refers to any entity below the national government or sovereign level.

In many developing countries, the emergence of private institutional investors — including pension funds, insurance companies, and mutual funds — is increasing demand for safe long-term investment opportunities. Concurrently, local governments are seeking longer-term

financing for capital-intensive infrastructure projects.¹ Linking local governments to potential investors through sustainable financing structures contributes to essential infrastructure and improved service delivery, as well as development of more robust and diversified capital markets.

Issuing a bond requires that a local government subscribe to a standard level of information transparency and forward planning, and that it increase its financial management capacity to manage the inflows of the bond proceeds and the bond's repayment. This contributes to more responsive governance, given that enhancing accountability for service provision encourages citizens to be involved in sound pricing policies.² Sub-sovereign finance reinforces decentralization efforts by permitting local governments to leverage transfers from the national government, tax revenues, and user fees to attract private capital, allowing governments to expand the scope and scale of infrastructure to benefit citizens.

In addition, sub-sovereign finance attracts utility management and construction expertise, which may be more efficiently provided by the private sector through public-private partnerships (see subsection A2 on page 7) than directly by local governments. Sub-sovereign bonds also deepen capital markets by providing investors with a market demonstration effect that local governments and their projects can be good credit risks. These bonds also provide good long-term investment opportunities for those with longer-term funds, such as pension funds and life insurance companies.

A1. The Basics

A1A. BONDS

A bond is a type of medium-term to long-term debt instrument that is issued as a fixed income security rather than a bank-based term loan. Traditionally, local governments have financed infrastructure and made other investments using two broad types of bonds.

- General obligation bonds are repaid from any revenues, including tax revenues, generated by the sub-sovereign government. These are also known as “full faith and credit” bonds. General obligation bonds are often used for public safety, public education, and general health and welfare expenditures, which typically do not generate revenue.³
- Revenue bonds are repaid from the revenues, such as fees or tolls, that are generated specifically by the projects built with the proceeds of the bonds issued. Revenue bonds are most often used for public utilities such as water and sewerage, electricity generation and distribution, roads, and other infrastructure projects that generate user fees. Like loans, bonds have a fixed payment term (maturity) and periodic installments, and an interest rate that is referred to as a coupon rate. Sometimes bonds include a one-time final payment at maturity

¹ PADCO/AECOM, Making Cities Work Assessment and Implementation Toolkit, April 27, 2006.

² Ngobeni, Jason. Using the capital markets to fund infrastructure on a sustainable basis in developing economies, with a specific reference to South Africa. *Villes en développement*. No. 69, September 2005.

³ Petersen, John. Basic Issues Involving Local Government Financing of Infrastructure. Presentation from Intensive Municipal Finance Training, USAID, October 2006.

called a bullet. Bullet bonds require rigorous financial planning by the sub-sovereign government to ensure that they can be repaid at maturity.⁴

A1B. BONDS VERSUS BANK FINANCING

In certain markets (such as those where decentralization has recently occurred, the capital markets have insufficient depth, or legal and regulatory issues prevent sub-sovereign bond issues), local governments may meet their capital needs through their capacity to assume and repay commercial debt, such as bank loans. By successfully repaying bank loans, local governments can establish a positive credit history — an important first step toward sub-sovereign bond issues. This experience should inform interventions to support bond market development. Some of the key attributes, advantages, and disadvantages of bonds versus bank loans are presented below.

Size. Bond issues are often substantially larger than typical bank loans. The pool of investors (including institutional investors such as pension funds and insurance companies, as well as individual retail investors) for a bond is significantly broader than a single bank, which might not be willing or able to assume the risk of a single large credit.

Maturity. Bonds typically have longer maturities than bank loans, allowing repayments to be spread out into more manageable installments over a longer period of time. For infrastructure projects, longer maturities help facilitate financial structures that apply infrastructure user fees to bond repayment.⁵ Longer maturities are also attractive to institutional investors, as bonds provide a longer investment horizon and better match to their long-term liabilities. However, in some developing countries with a shallow capital market or without a strong secondary market, investors may be hesitant, given that they will be required to hold the bonds until maturity.

Interest cost. For sub-sovereign governments, bonds can be more affordable than bank loans. Interest rates on sub-sovereign bonds depend on a number of factors not directly related to prevailing commercial lending rates. These include the creditworthiness of the issuer, the prevailing interest rate of the lowest-risk bond of the same maturity (typically national treasury debt), and the effectiveness of marketing the bond issue to underwriters and investors.⁶ Credit enhancements, discussed in subsection A2 on page 7, can increase the credit rating of a bond, thereby reducing interest costs.

Transaction costs. All bond issues require up-front costs to structure and market the instrument, with some additional costs for first-time bond issuers. Particularly for first time issues, the bond issuance cost in the near term may be comparable to bank financing for the sub-sovereign borrower. However, these costs are incurred to develop a more sustainable and affordable financing model in the longer term. Among these costs are legal due diligence and disclosure costs, credit rating costs, advisory and underwriting fees, and trustee fees. These can be paid for by the bond proceeds. The initial transaction cost is also more easily amortized over larger bond issues.

⁴ Ngobeni, Jason. Asking the right questions: Johannesburg completes a groundbreaking municipal bond issue. Gridlines, Public-Private Infrastructure Advisory Facility Note No. 33. May 2008.

⁵ Ibid.

⁶ Ibid.

Economies of scale through larger or pooled issues (see “pooled finance” subsection below) typically result in reduced costs for bond issuers. Pooled issues will vary depending on the level of market development. In many countries, a USAID-supported bond issue is often one of the first instruments of its type and is intended to create a market demonstration effect. These first issues require a significant investment of money and time, highlighting the critical role that USAID can play in advancing these tools and markets to involve the private sector in infrastructure development.

Collateral requirements. Investors in general obligation bonds rely on a municipality’s ability and willingness to repay debt more than on any specific type of collateral. In the case of revenue bonds, the repayment stream corresponds to the revenues generated by the projects that the bonds are financing. Ultimately, bonds are cash flow financing instruments not supported by easily seized assets, so collateral requirements are often less than for bank loans. Both types of financing usually require some type of escrow account to collect funds in advance of the repayment installment.

Method of sale. Sub-sovereign bonds can be listed as a competitive public offering on a security exchange or through a private placement of bonds directly with investors. While a competitive offering is typically the end goal in terms of transformational development impact, private placements provide a way to introduce the instrument to the market and test the environment. Private placements can help a market build gradually, through successful borrowing track records for municipal bonds and other new kinds of securities. Private placements, rather than listing on a security exchange, can reduce underwriting costs and information disclosure costs. However, direct placement is likely to be less transparent, and might diminish the ability of investors to trade the bonds on a secondary market.⁷

Inter-generational equity. Sub-sovereign finance models using revenue bonds are structured to enable repayments through user fees and with maturities linked to the life of the underlying project, allowing the repayment of costs from capital intensive projects to be made by project-generated revenue. In this way, a large debt burden is not transferred to the next generation of citizens.

A2. Sub-sovereign Finance Models

Single bond issue. The most straightforward model for sub-sovereign finance is a single local government, typically of a larger municipality, that structures, markets, and issues a bond that is either listed on the exchange or placed privately with institutional investors.

Pooled finance. Pooled finance aggregates smaller municipalities to pool risk, creates economies of scale, and reduces costs for the bond issuers. A special purpose entity, usually called a bond bank, is created to issue a bond to investors. The bond’s proceeds are distributed by a trustee to a number of municipal borrowers that use the funds for various projects, pledging a project revenue stream to repay the trustee. The trustee passes the repayments to the debt instrument issuer, which in turn pays the investors. Pooled finance is an effective way to support sub-sovereign bond issues for smaller municipalities with smaller projects structured similarly — for

⁷ Leighland, James. Accelerating Municipal Bond Market Development in Emerging Economies: An Assessment of Strategies and Progress. Research Triangle Institute, Center for International Development. 1997.

instance, when all are sewerage projects. Pooled finance is less of a repayment risk to investors than a single sub-sovereign bond, given that the risk is spread among all the borrowers in the pool.⁸

Generally, pooled financing structures are the result of public policy decisions made by higher levels of government on how to more effectively and efficiently finance infrastructure. Accordingly, pooled finance structures sometimes feature explicit credit enhancements, such as commitments to redirect state-provided funds from local governments to investors through revenue intercepts. These enhancements can co-exist with standard risk reduction measures, such as debt service reserves and requirements that help ensure timely payment of debt.

The Philippines Water Revolving Fund (PWRF)

The basic structure of the PWRF is akin to state revolving funds in the United States and pooled financing facilities established successfully in India. The PWRF has these basic features:

- A loan fund consisting of 50 percent contribution from private financing institutions (PFIs) and 50 percent from a donor loan (JBIC).
- A sovereign guarantee for the JBIC loan, provided by the Government of the Philippines (GOP).
- Local Government Unit Guarantee Corporation (LGUGC) guarantee, co-guaranteed by USAID-Development Credit Authority (DCA), provided to PFI loans. LGUGC guarantees up to 85 percent of the loan and the USAID-DCA provides LGUGC a co-guarantee up to 50 percent of the loan.

Source: PWRF presentation. IPWA Financial Tools Taskforce Meeting, October 7, 2008.

Revolving funds. Revolving funds are a variation of pooled finance whereby a long-term financial intermediary is created with seed capital (usually a combination of donor loan and grant funding, and private sector loans) that it will contribute to pooled finance transactions. (See text box, above right.) The revolving fund entity then on-lends to a number of local government borrowers to finance their infrastructure projects. As debt obligations are repaid, the funds then become available to other borrowers on a revolving basis. Some of the advantages of revolving funds are that co-mingling donor grant and debt funding with funds from private investors can reduce the overall interest rate to the sub-sovereign borrower; reduce the proportion of total project development cost covered by investors; and provide additional layers of credit enhancements.

Revolving funds are an effective approach for donors to avoid distorting domestic capital markets. Rather than financing individual municipal projects, donors can provide concessionary loans to help establish revolving funds that will attract private investors from the capital markets.⁹

Municipal development funds. Although private credit markets are beginning to appear in developing countries, many local governments still rely on semi-public lenders, such as municipal development funds (MDFs). The credit functions of MDFs are channeling outside resources and financial intermediation, disbursing loans to local governments, and collecting repayments. The experience of the more than 50 MDFs and their equivalents operating in developing and transitional countries is extremely diverse. (See text box on page 9.) However, all MDFs are oriented toward providing municipal credit enhancements to stimulate local

⁸ Billand, Charles. *Municipal Finance: Increasing Local Government Resources to Fund Multi-Sectoral Facilities*. The Communities Group International, 2005., page 9.

⁹ *Ibid.*, page 10.

development, initiating their activities with grants provided by central governments and international agencies. The greatest advantage of MDFs as credit providers lies in their wholesale approach to funding a variety of small urban infrastructure projects in many local governments.¹⁰

Public-private partnerships. Public-private partnership (PPP) is a catchall term to describe a range of possible relationships between “public and private entities in the context of infrastructure and other services.” PPPs can be a powerful mechanism to attract long-term private sector investment as well as technical and managerial expertise. PPPs should be

structured to allocate risks to the partners best able to manage those risks, and minimize costs while enhancing performance. PPPs have been used as a means to complete activities in sectors including water and sanitation, refuse disposal, roads, and power generation and distribution.¹¹ PPPs may require bonds to finance the project. Through various contract types such as lease or management contracts, concessions, and build-operate-transfer arrangements, local governments can encourage private sector financing of public infrastructure whereby they maintain ownership of the project’s assets without issuing a sub-sovereign bond. An example of this model from Peru is found in subsection B5, page 29.

A3. Credit Enhancements

Potential investors in sub-sovereign bonds are interested in minimizing their risk and ensuring a return on their investment through bond repayments. Credit enhancements are a type of risk mitigation tool used by sub-sovereign bond issuers to improve the credit rating of their offering and thereby lower their interest costs. Enhancements provide comfort to investors by providing layers of protection against non-payment by the borrower. Donors and international financial institutions (IFIs) use credit enhancements to help attract private capital to sub-sovereign bond issues and to create a market demonstration effect. These instruments allow them to leverage financial resources rather than lending or granting funds directly, thereby expanding the impact of their support.

The process for issuing a sub-sovereign bond will include the preparation of an economic and financial viability analysis, a credit rating, legal agreements, and a bond prospectus to inform investors of the risks they undertake by purchasing bonds.¹² Based on the results of the credit rating, sub-sovereign bond issues often require enhancements to provide security in addition to forecasted project revenues¹³ to attract potential investors at affordable interest rates.

Colombian and Czech MDFS

In Colombia, the well-known *Financiera de Desarrollo Territorial* (FINDETER) functions as a second-tier institution that refinances up to 85 percent of commercial bank loans for municipal projects. The positive track record of municipal loans refinanced by FINDETER persuaded commercial banks to lend directly to municipalities, reduce interest rates, and extend the lending terms for infrastructure investments.

In the Czech Republic, the Municipal Fund for Infrastructure Finance (MUFIS) provides commercial banks with long-term funds at market rates to undertake municipal lending. The exemplary repayment record of the municipal sector (no non-performing loans) has allowed a progressive shift from short-term to long-term borrowing.

¹⁰ ARD, Inc. *Municipal Finance: A Guide for USAID Staff and Partners*, April 2007, page 18.

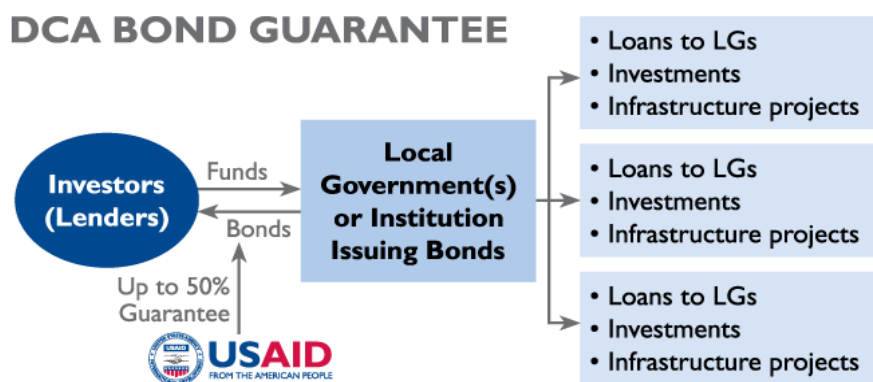
¹¹ *Public-Private Partnership Handbook*. Asian Development Bank, September 2008, page 1.

¹² Billand, Charles. *Municipal Finance: Increasing Local Government Resources to Fund Multi-Sectoral Facilities*. The Communities Group International, 2005.

¹³ Leighland, James. *Accelerating Municipal Bond Market Development in Emerging Economies: An Assessment of Strategies and Progress*. Research Triangle Institute, Center for International Development. 1997.

In developing markets, revenue intercept provisions have been especially important to promote credit market access. An intercept is usually established through an irrevocable trust that receives intergovernmental cash transfers (e.g. a share of national tax revenues that are distributed to the state or municipal government) and makes debt service payments to bond holders before any of the tax participation transfers flow to the municipal government. The trust can be either a municipality’s payment mechanism for isolating revenues and service debt, or a vehicle to actually issue the bonds and make the debt service payments using tax participation transfers. In either case, the intercept diverts revenues to bondholders and meets the obligations of the local government. More importantly, it can raise the credit of the sub-sovereign bond above the rating of the municipal government. Through the intercept, payments continue uninterrupted and investor risk is reduced.¹⁴

USAID’s Development Credit Authority (DCA) bond guarantees are a type of credit enhancement used to support sub-sovereign bond transactions. DCA bond guarantees are backed by the full faith and credit of the U.S. Treasury, and provide a partial credit guarantee to bond holders covering up to 50 percent of the face value of the bonds in case payments are not made. (See graphic at right.)



USAID’s DCA partial credit guarantees have been used in innovative ways to support the development of sub-sovereign finance in countries including India, South Africa, Ukraine, Bosnia and Herzegovina, Bulgaria, the Philippines, and Albania, contributing to essential water/sanitation and other essential infrastructure. One of the most successful examples of a DCA guarantee used to enhance sub-sovereign bonds in India is presented below in subsection B1, page 15. In countries where decentralization has just occurred, and the market is not ready for bonds, sub-sovereign finance has been supported through DCA loan portfolio guarantees to stimulate bank financing to municipalities as a first step. In addition to USAID’s DCA, many other multilateral and bilateral donors and international financial institutions (IFIs) offer credit enhancements and other risk mitigation instruments that contribute to the successful structuring of sub-sovereign bond transactions. More information is presented in subsection A5a, page 12.

**Potential
U.S. government Support**

In cases where sub-sovereign borrowing is restricted but not prohibited, there may be opportunities for USAID to support regulatory reforms to allow increased fiscally prudent sub-sovereign financing by the private sector.

A4. Enabling Environment for Sub-sovereign Finance

The United States is widely considered the most advanced sub-sovereign bond market in the world, and these financing

¹⁴ Municipal Finance: A Guide for USAID Staff and Partners. April 2007, page 17.

structures have been a key factor driving the growth of infrastructure and efficient service delivery at the sub-sovereign level. The U.S. municipal bond market is often used as a model for market development by policy makers in emerging economies, with many using the features in the U.S. market as a guide for market characteristics necessary to attract sub-sovereign bond issuers as well as investors to the marketplace.¹⁵ Each developing country has its own context and collection of challenges in creating an enabling environment and conducive market conditions for sub-sovereign finance. However, there are some building blocks that must be in place to develop sub-sovereign bond markets.

4A4. LEGAL AND REGULATORY PRECONDITIONS AND CONSIDERATIONS

The most important precondition for sub-sovereign finance is that local governments must be legally authorized to borrow and pledge collateral, even if on a restricted basis. Many developing countries may restrict local governments in terms of how much they can borrow, for what purpose, and from what sources (i.e. a state development bank). Specifically, municipalities must have the legal authority to enter into loan and bond agreements and to pledge assets, including tax and fee revenues, land,¹⁶ and facilities. Borrowing limits must be sufficient to meet the current and projected financing needs of local governments while preventing fiscal mismanagement and/or over-indebtedness.¹⁷

A viable municipal finance system must have an impartial judiciary that enforces contractual obligations of parties.¹⁸ In order to increase investor confidence, countries considering sub-sovereign finance must have established enforceable creditor rights and contract laws in case of non-payment or performance failure. Additionally, it is beneficial to have a framework for using intercepts of funds transfers from the central government to the sub-sovereign government,¹⁹ as appropriate in the country context. There must be an adequate municipal bankruptcy law and a basic regulatory regime for utilities and public-private partnerships. Legal recognition of the types of transactions and financing structures may be created to enable sub-sovereign bond transactions. On the supply side, pension funds and other potential institutional investors must not be unreasonably restricted in their ability to select investments.

In many developing countries with limited regulatory capacity, sub-sovereign finance can still occur on an ad-hoc basis. For instance, the Dominican Republic was able to complete several infrastructure PPPs in the late 1990s, despite not having a legal framework in place for concession. The government defined the legal rights and obligations of public and private parties in the contractual documents for the transaction.

Potential U.S. government Support
U.S. government development programs can contribute to improving the market conditions for sub-sovereign finance by interventions, including:
<ul style="list-style-type: none">• Strengthening the capacity of the local credit ratings market.• Providing credit enhancements.• Providing seed capital to establish a pooling fund to help smaller municipalities access credit.

¹⁵ Leighland, James. Accelerating Municipal Bond Market Development in Emerging Economies: An Assessment of Strategies and Progress. RTI, Center for International Development, 1997.

¹⁶ Billand, Charles. Municipal Finance: Increasing Local Government Resources to Fund Multi-Sectoral Facilities. TCGI, 2005, page 13.

¹⁷ PADCO/AECOM. Making Cities Work Assessment and Implementation Toolkit. April 27, 2006.

¹⁸ Johnson, Brad. Legal Framework Analysis for Municipal Financing. Presentation from Making Cities Work: Intensive Training in Municipal Finance. October 2006.

¹⁹ EGAT Financial Sector Strategy Program Development Tool. Municipal Finance Program, USAID, February 2005..

A4B. MARKET CONDITIONS

Establishing a sub-sovereign bond market is complex and can be expensive. A local government must be large enough on its own or pooled with others to create economies of scale in order to borrow on a financially viable basis.²⁰ Sub-sovereign finance requires a supply of investable term funds from intermediaries to direct long-term capital toward municipal bonds. Countries with high savings rates and moderately developed financial markets are good prospects for sub-sovereign bond market development, if sub-sovereign governments can structure marketable bonds.²¹

Investors must have a benchmark yield curve of central government treasury and/or corporate debt against which they can price long-term municipal bonds. For sub-sovereign revenue bonds, investors require information to confirm the ability and willingness of bond issuers to repay the debt with future project revenues. This requires widely accepted and practiced standards for transparent and objective disclosure, auditing, accounting, and financial reporting in order to boost investor confidence.

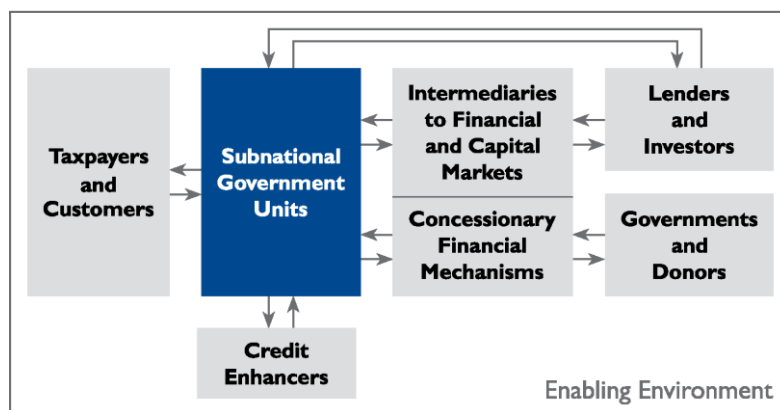
Other market factors conducive to sub-sovereign financing at both the primary and secondary levels include tax laws and transaction fees that provide incentive for trading, trading systems that enable communication between buyers and sellers, and timely payments and settlements of trades.²²

Adjustments in tax treatment of interest income can also assist in attracting municipal bond investors. The market for sub-sovereign financing is also strengthened by the availability of support services for municipal project development, financial structuring, and packaging.

A5. Elements and Actors in a Sub-sovereign Finance System

An integrated sub-sovereign finance system (see graphic at right²³) requires the capacity, capital, and expertise of both public and private sector actors. While each country's model may not include all the actors, some subset of these parties is required to perform the various functions needed for sub-sovereign bond transactions and sub-sovereign bond market development.

ELEMENTS OF A SUB-SOVEREIGN FINANCE SYSTEM



²⁰ EGAT Financial Sector Strategy Program Development Tool. Municipal Finance Program, USAID, February 2005..

²¹ Petersen, John. Financial Markets and Intermediation in Developing Countries. Presentation from Making Cities Work: Intensive Training in Municipal Finance, October 2006.

²² Leighland, James. Accelerating Municipal Bond Market Development in Emerging Economies: An Assessment of Strategies and Progress. RTI, Center for International Development, 2007.

²³ Petersen, John. Basic Issues Involving Local Government Financing of Infrastructure. Presentation from Making Cities Work: Intensive Training in Municipal Finance, USAID, October 2006.

A5A. PUBLIC SECTOR ACTORS

Local governments. Local governments (or local government owned utilities or enterprises) are the most critical public sector actors in sub-sovereign finance as bond issuers. They are responsible for delivering the infrastructure and services paid by bond proceeds to their citizens and executing robust financial management to enable repayment of the bond. Local governments are often responsible for the direct management of utilities and collection of user fees, or in the case of PPPs, local governments are responsible for structuring a legal form such as a concession for the private sector to build and/or operate infrastructure.

National government. National governments define the legal and regulatory framework in which local governments and the private sector operate, and are the overarching authority affecting municipalities' ability to borrow. National treasury debt sets the benchmark yield for sub-sovereign bond issues, and intercepts of national government transfers to sub-sovereign entities are one of the most effective credit enhancements to improve a sub-sovereign bond issue's credit rating. National government is also sometimes involved in municipal infrastructure and service delivery through government-owned enterprises responsible for providing utility services.²⁴ Public financial institutions such as national development banks, and semi-public lenders like municipal development funds, are also involved in sub-sovereign financing and bond market development.

Donors and International Financial Institutions (IFIs). Multilateral and bilateral donors and IFIs such as the World Bank, Inter-American Development Bank (IADB), or International Finance Corporation (IFC) offer both technical assistance and financial products to support sub-sovereign finance transactions and bond market development. Risk mitigation instruments offered by these institutions include political risk insurance, commercial risk insurance, and credit enhancements. (See box at right.) In many pioneering transactions, multiple donors and/or IFIs may play a role in mitigating risk for investors. These include IFC; Multilateral Investment Guarantee Agency (MIGA); regional development banks such as IADB, European Bank for Reconstruction and Development (EBRD), African Development Bank (AfDB), and Asian Development Bank (ADB); and other regional entities such as the European Investment Bank, Andean Development Corporation, and Inter-Arab Investment Guarantee Corporation.²⁵

City of Johannesburg

In 2004, the IFC provided a partial credit guarantee to a bond issue of R1 billion (approximately \$153 million) by the City of Johannesburg. The IFC guarantee, in combination with another credit enhancement from the Development Bank of Southern Africa (DBSA), contributed to improving the credit rating.

A5B. PRIVATE SECTOR ACTORS

Investors. Target investors for sub-sovereign bonds are typically institutional investors interested in low-risk, longer-term, fixed-income securities. These investors include insurance companies, pension funds, and mutual or other types of investment funds.

²⁴ Leighland. "...sometimes created to pursue social or political purposes and used to keep deficit-ridden operations off the government budget..."

²⁵Habeck, Odo and Tomoko Matsukawa. Review of Risk Mitigation Instruments for Infrastructure Financing and Recent Trends and Developments. Trends and Policy Options, No. 4. Public-Private Infrastructure Advisory Facility. The World Bank. A comprehensive list comparing terms of each risk mitigation tool by donor/IFI is found in Appendix B: Profiles of Multilateral and Bilateral Risk Mitigation Instruments.

Credit ratings institutions. Ratings agencies are independent third parties that provide professional assistance to investors to evaluate the often complex information available about prospective investments. Many developing countries have local credit rating agencies, some of which may include local affiliates of U.S.-based rating companies (i.e. Fitch, Moody's, and Standard & Poor's). But local agencies often lack experience rating sub-sovereign government securities. Depending on the country context, questions may arise regarding the objectivity and independence of credit ratings agencies affiliated with the national government.

Financial intermediaries and auxiliary organizations. Financial intermediaries that support sub-sovereign finance transactions include underwriters, trustees of special purpose entities, bond insurers, and private third-party guarantors. Securities exchanges, central depository and registry companies, and custodian banks serve critical functions and financial advisors, and law firms provide services necessary to facilitating sub-sovereign bond issues.

Other private sector actors. International and local construction firms, utility operators, and service companies that focus on collecting user fees are some of the other private sector actors involved in the design, development, construction, and operation of sub-sovereign infrastructure. In a PPP model, private firm concessionaires are responsible for project financing through bonds or other debt instruments, rather than directly through sub-sovereign bonds.

A6. The USG's Role in Supporting Sub-sovereign Finance

USAID's programs in economic growth, democracy and governance, and urban/environment seek to adapt and transfer applicable successful models to assist developing countries in creating appropriate sub-sovereign finance structures to garner private sector investment. USAID has supported sub-sovereign finance initiatives through democracy and governance programs to foster fiscal decentralization in countries including Ukraine and Paraguay and through economic growth programs to increase the effective functioning of the capital markets in countries including India and Bulgaria. Under USAID's Making Cities Work strategy,²⁶ the Urban Programs office has supported municipal finance support through a number of implementation tools. These include the Sustainable Urban Management II IQC, its "Intensive Municipal Finance" training course, and engagement with the private sector through multiple Global Development Alliance (GDA) partnerships and Development Credit Authority (DCA) partial credit guarantees to facilitate sub-sovereign finance.

A wide range of technical assistance interventions can contribute to the development of sustainable sub-sovereign finance that cut across programs in different technical areas. Potential interventions include:

- Improving the legal framework for fiscal decentralization and to facilitate sub-sovereign borrowing.
- Strengthening local government financial management capacity.
- Enhancing the ability of local governments or their private sector partners to mobilize revenues through tariffs and user charges.

²⁶ <http://www.makingcitieswork.org/about>

- Facilitating initial sub-sovereign bond issues to create a market demonstration, which may include assisting local governments in obtaining a credit rating and/or developing local institutions to provide sound credit ratings.
- Structuring a credit enhancement utilizing an instrument such as a USAID DCA bond guarantee.

B. CASE STUDIES OF SUB-SOVEREIGN FINANCE MODELS

B1. Case 1: Pooled Bond Issue by Tamil Nadu, India

B1A. BACKGROUND AND ENVIRONMENT

A series of changes introduced to the constitution of India in 1992²⁷ gave local governments increased authority and responsibility for the provision of social, economic, and urban infrastructure services (public health, education, housing, water and sanitation, urban development, etc.). State governments were left to provide increased transfer of resources and functions to urban local bodies (ULBs).²⁸ In response to this challenge, the government of the state of Tamil Nadu founded the Tamil Nadu Urban Development Fund (TNUDF) in 1996. The fund was created with the participation of Indian financial institutions and the World Bank and with technical assistance from USAID.

TNUDF was the first municipal development fund in the country. It was established as a trust under Indian law, and has become a leader in supporting municipal financing by introducing creative funding instruments appropriate for the emerging Indian capital market. A private asset management company, Tamil Nadu Urban Infrastructure Financial Services Ltd. (TNUFSL),²⁹ manages the financial operations of the trust. Through TNUFSL, TNUDF has been able to attract domestic private financing for urban projects covering water supply and sanitation, roads, bridges, electricity, and others.

In 2002, TNUDF successfully completed the Water and Sanitation Pooled Fund (WSPF), the first pooled financing arrangement in India. The transaction helped finance water infrastructure projects and benefited the country in several other ways. Its structure was tailored to the financing needs of several smaller- and medium-size urban local bodies, it provided credit enhancements to lengthen the municipal bonds' maturity, it significantly improved bond pricing, and it laid the foundation for development of the municipal bond market in India.

B1B. OBJECTIVE OF TRANSACTION

The main objective of WSPF was to provide 13 small and medium size ULBs in the state of Tamil Nadu access to the domestic capital market in order to finance their water and sanitation infrastructure projects. The goal was to diversify their credit risks and achieve the necessary economies of scale for a mix of financially strong and weak municipalities that could not have individually accessed the municipal bond market. By pooling the funding requirements, the normally high transaction costs of a bond issuance and accessing the market were spread among

²⁷ The 74th Constitutional Amendment Act (also known as the Decentralization Act).

²⁸ Krishnan, L. Tamil Nadu Urban Development Fund: Public-Private Partnership in an Infrastructure Finance Intermediary. Financing Cities, 2007.

²⁹ The TNUFSL is 51 percent owned by private investors (including ICICI Bank, the largest private shareholder and manager of TNUFSL) and 49 percent by the state government.

all borrowers. More importantly, the WSPF transaction was also intended to help develop the municipal capital market by introducing an attractive long-term debt instrument, with longer maturities than were characteristic at the time. Until this transaction, the maximum tenor for municipal bonds in India had been seven years, as they were perceived as too risky. The lack of appetite for longer maturities had become a major impediment to the expansion of the municipal bond market in the country.³⁰

B1C. PRECONDITIONS AND PREREQUISITES

The creation of the Tamil Nadu Urban Development Fund was one of the key elements for the success of the WSPF transaction and other municipal financing schemes in the state. With the establishment of the TNUDF, the government of Tamil Nadu effectively insulated the process of mobilizing private financing for ULB infrastructure against the state's political pressures and bureaucracy.³¹ The success of the WSPF transaction is also owed to the relatively stable legal and regulatory framework in India and the transparency of financial accounting and reporting on the part of the local bodies — all influenced by long-term and intensive USAID technical assistance.³² The improved transparency in ULB budgets promoted effective interaction with the financial capital markets and facilitated the structuring of long-term financing.

B1D. MODEL AND FINANCIAL STRUCTURE

The Water and Sanitation Pooled Fund was organized by TNDUF as a debt fund. The proceeds from bonds issued by the TNUDF were deposited in the fund, and subsequently lent back to the 13 participating ULBs as sub-loans to finance their water infrastructure projects. (See Figure 3 on page 17.) Debt is repaid by the individual projects' cash flows and from the municipalities' general revenues.³³

The financial structure included several credit enhancement features designed to increase investor confidence and overcome their lack of interest in long-term debt. The first was an escrow account funded by the participating ULBs, with an amount equivalent to one year of their respective debt service obligations due to TNUDF. These funds are held in highly liquid, secure, short-term investments in the name of the ULB and are available to cover any shortfalls in debt payments.

The second was a debt service reserve fund (DSRF) established and funded by the state government with an amount equivalent to 1.6 times the annual principal and interest payment due to bondholders. Like the ULBs escrow account, the debt service reserve is maintained in the form of short-term, low risk deposits in the name of the fund. The final credit enhancement was a partial credit guarantee (PCG) in local currency for 50 percent of the principal and interest outstanding, provided by USAID's Development Credit Authority. The PCG is triggered if/when the DSRF is exhausted and has not been replenished by the state government within a period of 90 days. (See graphic on page 17.)

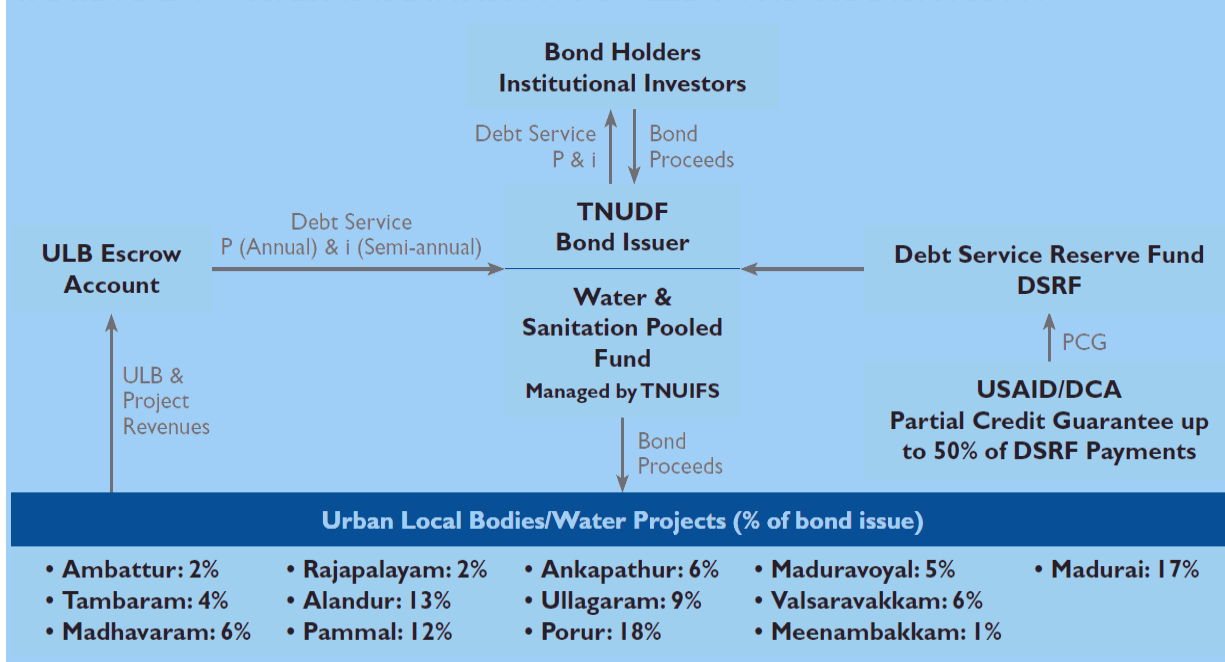
³⁰ Review of Risk Mitigation Instruments for Infrastructure Financing and Recent Trends and Developments, Public-Private Infrastructure Advisory Facility, 2007.

³¹ Krishnan, L. Tamil Nadu Urban Development Fund: Public-Private Partnership in an Infrastructure Finance Intermediary. Financing Cities, 2007.

³² USAID provides technical assistance through the Financial Institution Reform and Expansion (FIRE) project.

³³ Peterson, George. Innovations and Solutions for Financing Water and Sanitation Background Paper. The Urban Institute, 2003.

TAMIL NADU WATER & SANITATION POOLED FUND TRANSACTION



B1E. RESULTS

WSPF issued its first bond in November 2000. It was a five-year unsecured bond issue for \$21.3 million, and carried an effective interest rate of 11.85 percent a year. A month later, in December 2002, the WSPF issued its second bond and the first long-term infrastructure bond in India. The enhanced \$6.4 million pooled debt bond secured an AA (local) rating by Fitch Ratings. It was privately placed at a competitive effective interest rate of 9.2 percent a year (compared to 11.85 percent of the first issue), resulting in substantial savings compared to the ULB's individual borrowing rates of approximately 12 percent per year. In addition, the unprecedented 15-year maturity of the bond lowered the debt service payments and improved the matching of funding maturity to the life of the water infrastructure projects.

More significant, the longer tenors and structure of these bonds also triggered an active secondary bond market, enhancing the liquidity of these instruments, and helping to develop and invigorate the primary municipal bond market.³⁴ The success of the offering also confirmed the demand for long-term municipal debt instruments on a pooled basis.

In a broader context, this transaction demonstrated the crucial role that a public-private financing intermediary such as TNUDF can play in bringing together local governments, rating agencies, advisors, investment banks, and investors to facilitate access to the domestic capital market. The WSPF/TNUDF transaction demonstrated that funding the development of local infrastructure in poor municipalities can be met by market-based financing mechanisms, and that it can be

³⁴ Venkatachalam, Pritha. Innovative Approaches to Municipal Infrastructure Financing. London School of Economics and Political Science Working Paper Series, 2005.

replicated in the urban and semi-urban areas of other developing countries needing investment in social and economic infrastructure.³⁵

B1F. SUSTAINABILITY AND REPLICABILITY

The WSPF transaction established new precedents and was designed specifically to serve as a model for future municipal financings. In fact, based on the success of the Tamil Nadu WSPF, the Government of Karnataka requested USAID assistance to replicate the pooled finance framework in order to finance the implementation of its water supply and sanitation program. In 2005, the Government of Karnataka created a special purpose entity, the Karnataka Water and Sanitation Pooled Fund Trust (KWSPF), on behalf of eight ULBs in Bangalore. The form of a trust facilitated access to capital markets by local governments. Subsequently, KWSPF issued 15-year, 5.9 percent coupon, Rs.1000 million, secured, redeemable, tax-free municipal bonds. The issue also included a USAID DCA partial credit guarantee for up to 50 percent of the principal.

Since being replicated broadly in India, the basic institutional design of TNDUF is being proposed by donor organizations for replication in other developing countries.³⁶ For a large number of local governments in the developing world, their size and financial strength makes an individual bond offering unviable economically. The pooled fund transaction developed in Tamil Nadu provides a viable model for combining resources and generating the economies of scale to launch a joint issue that smaller entities should explore.

B2. Case 2: Johannesburg's Pioneering Municipal Bond Issue

B2A. BACKGROUND AND ENVIRONMENT

Under apartheid, municipal governments in South Africa borrowed extensively from the private sector using bonds and loans, both for short-term financing as well as for capital investment needs. This was possible thanks to the existence of a relatively active municipal bond market, albeit not very liquid, that was created in part by a “prescribed investment regime” where financial institutions were required to invest a percentage of their portfolios in government debt, including municipal bonds. Municipal securities were attractive investments, as they carried an implicit guarantee from the government, paid a modest interest rate premium, and were considered basically risk free. In 1994, following democratic elections, South Africa ended apartheid rule. The new government ended the prescribed investment regime, choosing not to guarantee funding for municipal capital investments and to expand municipal governments to include formerly black townships. The government also required municipalities to provide basic infrastructure services to the majority-disadvantaged population.

The inherited backlogs in infrastructure, increase in population served, and associated demand for infrastructure put significant pressure on municipalities to ensure the adequate provision of basic services and caused deterioration of their creditworthiness and borrowing capacity. Between 1994 and 2000, the City of Johannesburg (COJ), like many other municipal governments, went through a period of severe financial distress. During this period, the municipal bond market basically disappeared, and the main sources of credit became the

³⁵ Krishnan, L. Tamil Nadu Urban Development Fund: Public-Private Partnership in an Infrastructure Finance Intermediary. Financing Cities, 2007.

³⁶ Ibid.

Development Bank of Southern Africa (DBSA), the Infrastructure Finance Corporation (INCA) of South Africa, and a few commercial banks. The City of Johannesburg's huge post-apartheid capital investment needs produced an almost threefold increase in its capital budget.³⁷ As a result, the city became heavily indebted to DBSA, INCA, and other financial intermediaries.

B2B. OBJECTIVE OF THE TRANSACTION

In 2004, the COJ issued a six-year bullet bond (a non-amortizing, interest-only bond) without any credit enhancement for South African Rand (ZAR) 1,000 million (approximately USD \$153 million). Later the same year, it issued a 12-year bond, also for 1,000 million ZAR, with a partial credit guarantee (PCG) covering 40 percent of the principal from the DBSA and the International Finance Corporation. The objectives of this municipal bond transaction were mainly to:

- Finance capital expenditures for water, urban streets, and electricity distribution projects.
- Refinance outstanding high-cost loans and produce cost savings by lowering the overall interest rate of the city's debt obligations.
- Extend the maturity on the city's debt to lower debt service payments and improve the matching of funding maturity to asset life.
- Tap into the institutional investors market to diversify sources of funding.
- Liberate the city's assets pledged as collateral for earlier loans.

In addition, the transaction was intended to help develop the South African municipal bond market by introducing new types of assets and enhancement instruments that could be replicated in other cities.

B2C. PRECONDITIONS AND PREREQUISITES

Recognizing the need for municipal infrastructure investment and the importance of leveraging private sector capital to finance the country's infrastructure backlog, the city government developed a sound policy framework³⁸ for municipal borrowing. The policy identified municipal bond issues as a necessary component to finance infrastructure development, and enabled the COJ to issue its first infrastructure bond. Some of the key policy provisions for municipal borrowing included no government guarantees, no tax advantages in holding municipal debt, and prevention of municipalities borrowing from overseas.

In addition, the COJ went through a methodical analysis to decide whether a municipal bond issue was possible. Among the analyzed topics were:

- Whether or not the city could issue an infrastructure bond, given its current levels of debt
- Whether a bond issue or regular bank loan was best to finance the city's infrastructure needs
- What the type and purpose of the bond should be.

³⁷ Capital investment budget increased from 125 million in 1994 to \$350 million in 2004.

³⁸ The Municipal Structures Act of 1998 and the Municipal Systems Act of 2000 regulated municipal finance and remained in force until the overarching Municipal Finance Management Act of 2003, designed ensure sound and sustainable financial management of local governments, became law.

- Whether the market had an appetite for that type of instrument
- The city's own credit quality

As a result of the analysis, the COJ concluded that although it would face serious challenges, a bond issue was possible. However, to achieve longer maturities and to reduce the financial costs to the city, it also concluded that a credit enhancement would be needed, particularly given that the city had a moderate credit rating (A- local) and that it still had qualified audit reports on its financial statements. Subsequently, the city conducted a rigorous and systematic transaction design and implementation process (see box at right) that resulted in a successful issue by a first-time issuer.

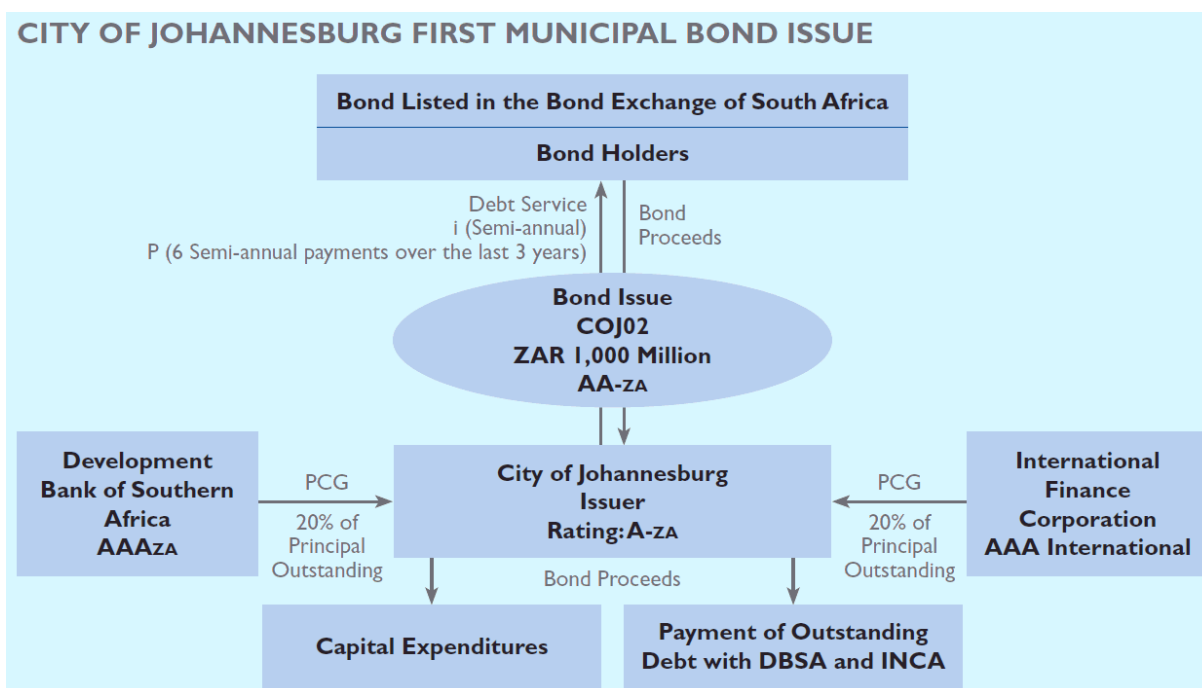
Johannesburg Municipal Bond Process	
2001: Idea first considered	Concluded that the city was not yet ready
2003: Idea revisited	<ul style="list-style-type: none"> • Feasibility study & analysis of existing debt profile • Visit to Mexican municipal issuers • Appointment of bond advisor and lead arrangers • Road shows <ul style="list-style-type: none"> — International: To find an international guarantor — Local: To introduce “the credit” to the investors
2004: Full speed ahead	<ul style="list-style-type: none"> • Local road shows to sell the offering • Rating agencies • Legal work regarding guarantees, etc. • Book building
<i>Source: City of Johannesburg (www.joburg.org.za)</i>	

B2D. MODEL AND FINANCIAL STRUCTURE

The City of Johannesburg's first municipal bond was issued in two tranches. The first tranche (COJ01) was issued in April of 2004 for ZAR 1 billion (approximately USD \$153 million). It was structured as a bullet bond and had a six-year maturity, reflecting the city's A- credit rating and the fact that the obligations of the issuer in respect to the bond were not guaranteed. These were general obligation bonds that pay interest at a nominal rate of 11.95 percent a year, payable semi-annually. When issued, they were oversubscribed 1.5 times, resulting in a final spread of 230 basis points above the benchmark for risk-free government securities.

The second tranche (COJ02) was issued in June 2004, also for ZAR 1 billion. This was the first structured municipal bond in South Africa. Its 12-year maturity (2016) was the longest for a municipal bond ever issued in the country. The bond was possible because of a partial credit guarantee provided by IFC (AAA international, through its municipal fund) and DBSA (AAA local). The PCG guarantees the city's bond obligations for payment of the principal and interest up to an aggregate maximum of 40 percent of the principal amount. It is shared equally, but not on a joint basis, between the IFC and the DBSA (each guarantor is liable for up to 50 percent of the total guaranteed amount — *pari passu* — without recourse to the other party). The PCG also raised the bond's credit rating three notches above the City's stand-alone credit rating of A- to AA- (local) by Fitch Ratings.

The COJ02 bonds bear a nominal interest at 11.90 percent a year, payable semi-annually, and their principal is amortized over the last three years of the life of the bond on six equal semi-annual installments. At the time of issue, the bonds were oversubscribed 2.3 times, resulting in a final spread of 164 basis points above the risk-free benchmark. The reduction in the spread (71 basis points less than the non-guaranteed six-year bond) demonstrates strong investor demand despite the longer maturity. The bonds were listed and traded on the Bond Exchange of South Africa (BESA).



B2E. RESULTS

The City of Johannesburg’s first general obligation bonds were successfully issued in 2004 to finance capital investments and to refinance almost all of its outstanding debt. The bond included a PCG that resulted in an enhanced credit rating and, therefore, significant cost savings for the city by lowering the overall interest rate. It also resulted in lower debt service payments by extending the maturity of the debt from six to 12 years. The issues were significantly oversubscribed, demonstrating strong demand and a robust endorsement of both the issuer and the enhanced bond structure.

B2F. SUSTAINABILITY AND REPLICABILITY

The COJ’s bond issue inaugurated the municipal bond market in South Africa. It created a new asset class; a benchmark for long-term municipal debt; and new credit enhancement mechanisms, provided by a local financial institution, for potential replication in other South African cities. The successful experience with the first bonds established the foundation for subsequent new and innovative issues.

In April 2005, the COJ issued its first bond under a Domestic Medium Term Note program for ZAR700 million. This new offering did not include a credit enhancement and it was the first in a series of issues intended to raise ZAR 6 billion from capital markets through 2010. Showing again a significant level of investor demand, the issue was oversubscribed 3.8 times and resulted in a final spread of 164 basis points above the risk-free benchmark. The city’s credit rating has since increased to AA- local, and recently it issued its first retail bonds (Jozibonds) with two-year, three-year, and five-year maturities.

B3. Case 3: Alternative Financing for Water Utilities — Lessons from a Failed Bond Issue in Indonesia

B3A. BACKGROUND AND ENVIRONMENT

Public investment in the water sector has been virtually absent in Indonesia. Achieving Indonesia's Millennium Development Goal, to halve the proportion of people without sustainable access to safe drinking water and basic sanitation by 2015, would require a tenfold annual increase in investments in the sector from the current levels of approximately USD \$50 million to \$450 million. Through its Environmental Services Program (ESP),³⁹ USAID explored a number of alternative financing strategies to encourage new investment in water and sanitation infrastructure. The strategies included the possibility of supporting district water utilities (or PDAMs in Indonesian) to access the capital market to help bridge the financing gap.

Ultimately, ESP concluded that the most promising approach in the immediate term was the issuance of corporate bonds by PDAMs in the domestic capital market, and establishing a complementary new nationwide pool financing facility to be denominated the Indonesia Water Fund (IWF). Unlike the management of other municipal infrastructure services, district water utilities in Indonesia operate as separate legal entities, and their municipal governments are generally reluctant to borrow on their behalf. A straight corporate issue by a PDAM would demonstrate the viability of accessing the capital markets to meet the huge infrastructure financing needs of the sector.

To structure a corporate bond issue to finance a water treatment facility, ESP selected and worked intensively with PDAM Bogor,⁴⁰ a strong regional water utility that supplies drinking water to the municipality of Bogor (Kabupaten Bogor). Complementing this initiative, the creation of the IWF would also allow several water service providers access to long-term financing at attractive terms. The IWF would secure credit enhancements and mobilize a revolving loan fund to consolidate loans into a size more readily marketable and adaptable to the credit and capital markets.⁴¹ Because of the proposed credit enhancement and pool financing characteristics of the IWF, it was envisioned as a critical tool to allow a larger number of regions to obtain long-term funding for their projects.

Despite ESP's significant efforts to facilitate corporate bond issues for highly bankable projects and the establishment of the IWF, these did not materialize. The experience, however, provides some valuable lessons for future efforts.

B3B. OBJECTIVE OF TRANSACTION

By helping establish the IWF and facilitating the issuance of a corporate bond, ESP expected to introduce a new financing mechanism and alternative funding sources to Indonesian water utilities. Furthermore, the successful outcome of the first PDAM bond issue was viewed by the Ministry of Finance (MOF) as a precursor toward resolving the problem of long-term financing

³⁹ The Environmental Services Program (ESP) works with central and regional governments, private sector, NGOs, and other stakeholders to expand access to clean water and sanitation services in seven High Priority Integrated Provinces in Indonesia.

⁴⁰ PDAM Bogor is a regional company wholly owned by the Bogor municipality with all or part of its capital in the form of municipal assets given to the PDAM as capital. PDAM Bogor is a separate legal entity and does not have any obligation to report to the Municipality on the usage of PDAM's capital. The PDAM's assets are not deemed as municipal assets.

⁴¹ Alternative Financing for Water Utilities in Indonesia: A Review of Lessons and Challenges, Environmental Services Program, USAID, August 2008.

for the more robust PDAMs.⁴² ESP worked with PDAM Bogor to structure the corporate bond issue intended to finance the water treatment facility.

B3C. PRECONDITIONS AND PREREQUISITES

ESP conducted broader analyses of the most viable long-term financing methods and concluded that, in general, the legal and regulatory elements for PDAMS to issue straight corporate bonds were in place and did not require any regulatory modifications. On the other hand, pooled financing schemes such as the IWF and/or revolving funds would require the changing of tax regulations.

B3D. MODEL AND FINANCIAL STRUCTURE

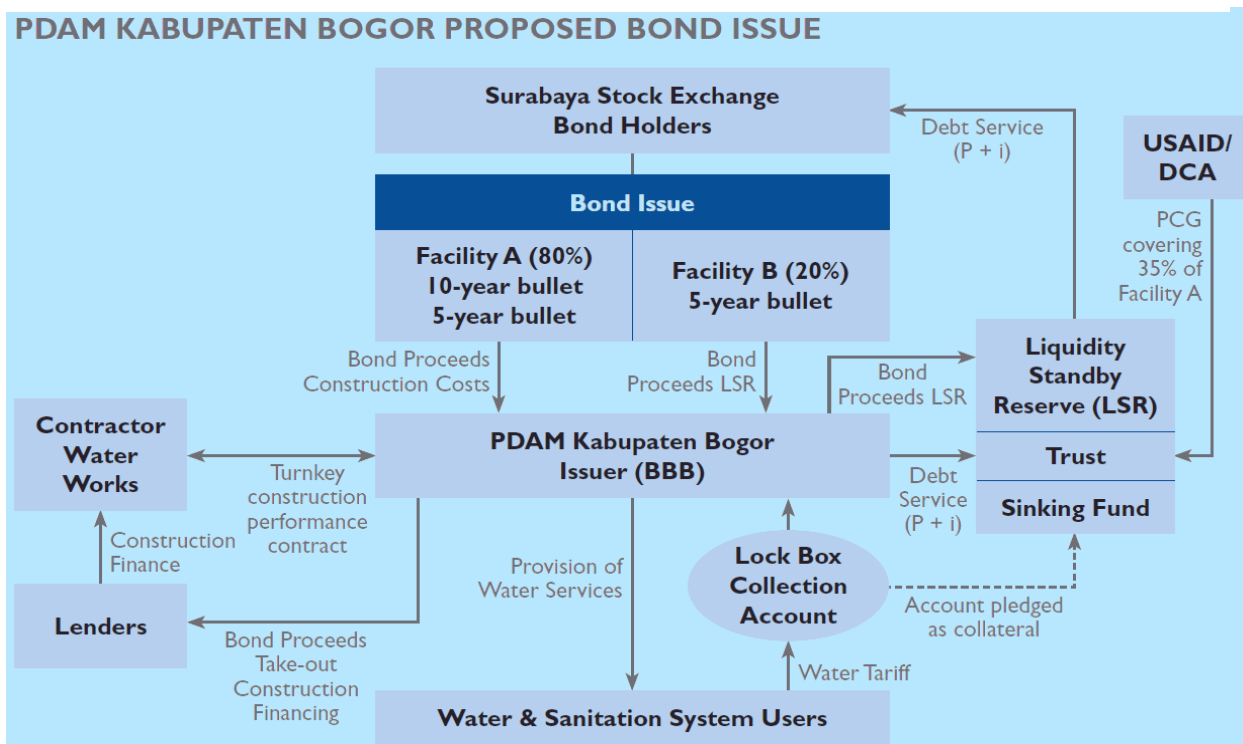
The transaction was designed as a partially securitized, domestically mobilized corporate bond. The proceeds of the bond would finance the construction of two water treatment plants in East and Central Bogor, with combined capacity of 300 liters per second; and the expansion of the water distribution network to include 9,000 new connections. PDAM Bogor expected to implement the capital investment program as a turnkey, fixed-price contract. The intention was to have the winning contractor finance the initial investments, with taking out construction financing through the bond offering at the end of the 30-month construction period. The proposed bond consisted of two facilities:

- Facility A, for 80 percent of the total offering (approximately Rp 140,854.2 million); enhanced with a DCA partial credit guarantee for up to 35 percent of its principal; and divided in two tranches with different maturities: a 10-year bullet (covering engineering and construction costs) and a five-year bullet (covering finance-related costs).
- Facility B, a five-year bullet for 20 percent of the offering covering a liquidity standby reserve and without any credit enhancements.

The interest rate for Facility A and B was to be set based on prevailing market rates at the time of disbursement. In addition to the DCA guarantee, the bond security package included:

- A liquidity standby reserve to be established by withholding 20 percent of the total bond offering. The reserve would ensure full debt service payment whenever the PDAM did not make the payment on time.
- A sinking fund to ensure the payment of the principal on the maturity date of the bonds. The PDAM would periodically pay into the sinking fund under a predetermined schedule.
- A lock box arrangement for a master collection account for the monthly payments of PDAM's customers. This account would be in the name of PDAM but pledged to the trustee as collateral to secure the bonds.

⁴² Kabupaten Bogor. Financial Feasibility Bond Offering. Environmental Services Program, USAID, February 2006.



B3E. RESULTS AND LESSONS LEARNED

After approximately one year of intensive preparatory work, the bond transaction did not materialize. The main reasons cited include a general aversion to risk and lack of leadership and buy-in at several levels of PDAM’s management. Although the PDAM’s president at the time was the champion of both the project and the use of a corporate bond to finance it, apparently the utility’s supervisory board and mid-level management never fully supported the idea. As a result, the departure of the president at the end of his term effectively marked the end of the deal. The PDAM ultimately decided against the use of debt financing in favor of more gradual expansion using internal cash flow.⁴³ Despite the failure of this groundbreaking transaction, there are important lessons and insights.

- Financially healthier PDAMs need access to financial resources priced at market rates that match the timing of their capital investment requirements. This equals a corresponding need to develop awareness among the PDAMs on the availability of such alternative sources of funding.
- Obtaining a credit rating should be the initial step before considering a bond issue. The PDAM Bogor did not consult rating agencies until after an initial feasibility study was completed. The rating process slowed down discussions with potential financing partners. Obtaining a credit rating early on helps gauge how potential investors would view the investment, and can serve as a marketing tool to build momentum. The utility eventually

⁴³ Alternative Financing for Water Utilities in Indonesia: A Review of Lessons and Challenges. Environmental Services Program, USAID, August 2008.

received a BBB (local) rating by PEFINDO, a local rating agency.

- Mitigating construction financing risk is one of the most challenging issues for any infrastructure project. The proposed approach to mitigate the risk by arranging a turn-key contract (where the contractor is required to arrange its own financing during construction) is difficult to implement. Such a contract may only be possible with a credible guarantee that the funds will be available to repay the contractor once construction is completed. This was probably one of the main weaknesses of the proposed structure.
- Given PDAM Bogor's BBB rating, a stand-alone corporate bond would most likely require a credit enhancement, such as a partial credit guarantee, to increase the rating of the bond issue to a level acceptable to the Indonesian capital market. In the absence of a guarantee, it was unlikely that the issuance would attract sufficient market interest to raise the funds needed.
- The importance of building consensus and stakeholder support cannot be underestimated. Stakeholders such as the utility's supervisory board that can influence decision-making should have been made active participants at an early stage. In this case, resistance from the board slowed progress throughout the process.
- PDAMs are separate legal entities and operate independently but are still affiliated to the municipal government, and this introduces a level of social and political risk that investors look upon unfavorably. Water tariffs, one of the most fundamental determinants of the PDAM's financial strength, are set by the municipality, and tariff adjustment can be manipulated for political purposes.

B3G. SUSTAINABILITY AND REPLICABILITY

Despite the failure of the corporate bond issuance, alternative financing solutions for water service providers are critically needed in Indonesia. Over the long term, as the municipal bond market develops and matures in the country, financial intermediaries ("bond banks" or revolving funds) may emerge and bring down the cost of capital through economies of scale and credit enhancements.⁴⁴ A combination of grant financing and market capital may be necessary to meet the financing needs of the water sector.

In this context, the MOF, with USAID assistance, recently developed ministerial regulations on municipal bonds and their accompanying Standard Operating Procedures (SOPs). The SOPs provide guidance on the regulation on municipal bonds, as well as step-by-step instructions to municipalities considering a bond issue. With the regulations and SOPs in place, sub-national governments are empowered for the first time to issue sub-sovereign bonds to help meet the rapidly increasing needs of their communities.

⁴⁴ Alternative Financing for Water Utilities in Indonesia: A Review of Lessons and Challenges. Environmental Services Program, USAID, August 2008.

B4. Case 4: Mexico — The Tlalnepantla Municipal Water Bond Offering

B4A. BACKGROUND AND ENVIRONMENT

Institutional and regulatory changes introduced in Mexico in the late 1990s created a favorable environment for the rapid development and expansion of the domestic municipal securities market. After the City of Aguascalientes issued the first municipal bond in December 2001, the municipal bond market boomed, with more than 10 new issues in the following two years.⁴⁵

The structure of all these new debt issues was relatively similar — all were backed by federal tax participations through a master trust mechanism (*fideicomiso*) established by the Mexican government.⁴⁶ The master trust constituted a reliable instrument to ensure that investors in the securities market received their payments on time and according to the stipulated schedule. More importantly, it also allowed ratings agencies to assign the structured issues higher ratings than their municipal issuers. Although these bonds were clearly a powerful financing tool, they were expensive, and because of their complexity, they had significantly higher transaction costs for municipalities. The high costs of bond issuance encouraged municipalities to look for alternative structures to fund their growing capital investment needs.

In June 2003, the city of Tlalnepantla de Baz, a municipality of 800,000 people on the outskirts of Mexico City, departed from this traditional approach and successfully issued a long-term bond to fund its water and sanitation investment program, using the municipal water company's own revenues to service the debt.

B4B. OBJECTIVE OF TRANSACTION

With this transaction the Municipality of Tlalnepantla de Baz and its Municipal Water Company (OPDM in Spanish) wanted to broaden its funding options by accessing the Mexican capital market, extend the maturity of the debt to better match the long-term nature of the capital investment program, and reduce its borrowing costs. Moreover, the municipality specifically intended to design a financing structure that was attractive to long-term institutional investors and more importantly, not dependent on federal tax participation or federal transfers.⁴⁷ The proceeds of the bond were to be used to build the first wastewater treatment and recycling plant in metropolitan Mexico City. The plant would recycle untreated residential and industrial wastewater for industrial reuse.

B4C. PRECONDITIONS AND PREREQUISITES

Since the 2000 introduction of the sub-national securitization market, several preconditions have been key to its development: the consolidation and growth of the pension fund system, with the subsequent development of a strong base of local institutional investors; and the introduction of effective regulatory, tax, and legal changes within the Mexican government.⁴⁸ In April 2000, with the enactment of a new law, states and municipalities were given more financial autonomy and authority to issue debt. Furthermore, the federal government eliminated any implicit or

⁴⁵ In December 2001, Mx \$306 million of sub-national debt was placed, with the pioneers in this market being Morelos state and the municipality of Aguascalientes. The following year, five newcomers were in the market: the municipalities of San Pedro Garza, Monterrey, Zapopan, Guadalajara, and Estado de Mexico (Edomex). Between them, they placed Mx \$2.61 billion in eight issues. In 2003, the figure tripled, reaching a total of Mx \$8.1 billion, or 9.7 percent of all medium and long-term issues.

⁴⁶ "S&P Mexico's Sub-national Securitization Market Entering Second Stage of Development." November 2004.

⁴⁷ International Finance Corporation, press release 2003.

⁴⁸ "S&P Mexico's Sub-national Securitization Market Entering Second Stage of Development." November 2004.

explicit credit guarantees. The end of this “mandate” between the sub-national entity and the Ministry of Economy and Public Credit forced sub-national entities to have their own creditworthiness assessed.⁴⁹

On the other hand, the development of the pension fund system was significant in that it broadened the financing alternatives for sub-national issuers such as the Municipality of Tlalnepantla de Baz, which began using new financing instruments like the securitization of local assets in local currencies. Furthermore, the use of innovative financing tools, combined with a positive and more stable economic outlook, resulted in lower interest rates, thus allowing many issuers to find appropriate and cost-effective financing.

B4D. MODEL AND FINANCIAL STRUCTURE

The financial structure adopted in Tlalnepantla de Baz uses the municipal water company’s own revenues to service the debt, along with a combination of structure and credit enhancement to achieve the credit quality required to access domestic capital market at competitive rates. A private trust issued the unsecured revenue bonds for Mx \$95 million (approximately \$9.1 million). The bonds were backed by both the Municipality of Tlalnepantla de Baz and OPDM. From that point forward, the trust lent the proceeds of the bond to the municipality and the water utility for the construction of the wastewater treatment plant.

To secure the loan, the municipality pledged property tax revenues in favor of the trust and OPDM pledged revenues from water tariff collections. The 10-year bonds mature in 2013 and pay interest semi-annually at a fixed rate of UDIS⁵⁰ plus 5.5 percent. The principal is repaid in equal semi-annual payments starting in Year 1. The debt service payments are supported by a letter of credit in Mexican Pesos issued by Dexia Credit Local⁵¹ for 90 percent of the principal and interest outstanding, and up to \$8.2 million equivalent. In turn, Dexia is supported by a partial credit guarantee in local currency from the International Finance Corporation’s Municipal Fund, covering approximately 37 percent of Dexia’s exposure under the letter of credit. The PCG could be used to pay bondholders in the event of insufficient funds in the trust.

B4E. RESULTS

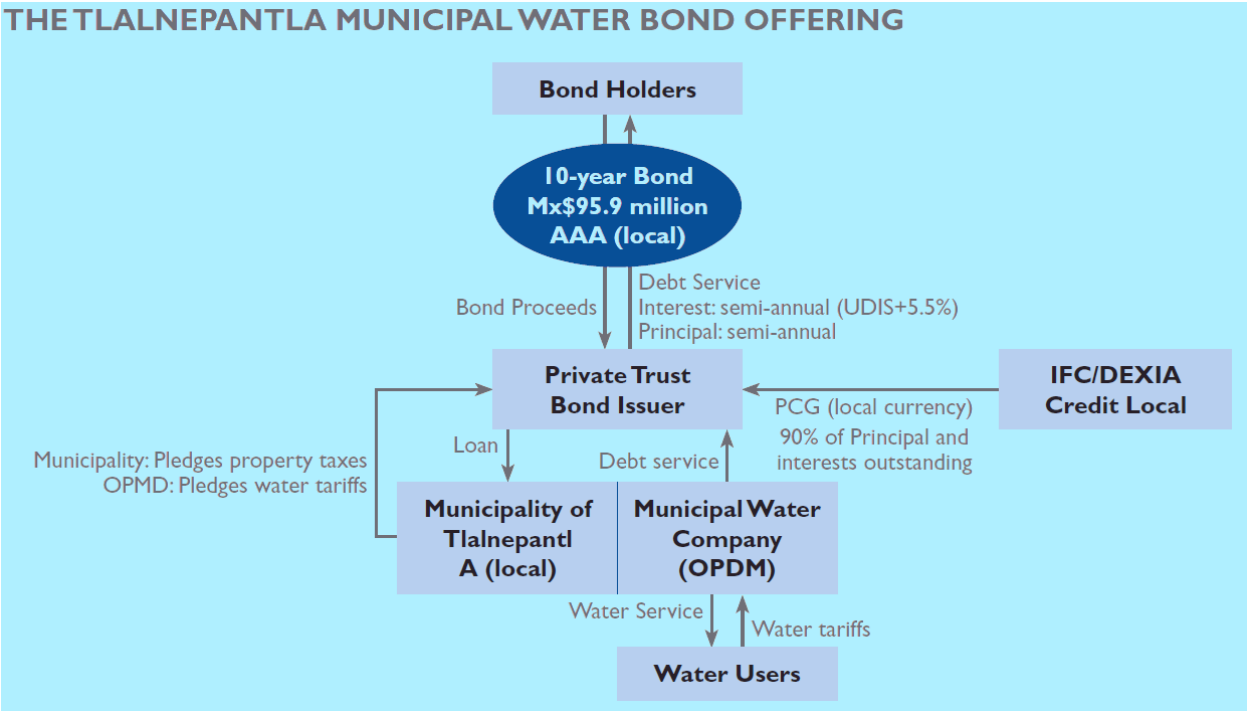
In June 2003, the transaction successfully reached financial closure. The Tlalnepantla de Baz bond was the first municipal bond offering in Mexico to finance infrastructure investments relying on the strength of the project’s own revenues and not directly using federal transfers. With the partial credit guarantee, both Standard and Poor’s and Moody’s rated the bonds AAA (local) — two notches higher than the municipality’s rating. By mitigating the credit risk, the PCG was used to attract local currency financing that would not have been available without the guarantee.

Furthermore, this structure created a natural protection against devaluation risk by matching local currency revenues with local currency debt (instead of hard currency debt). The municipal

⁴⁹ Financing of Mexican States, Municipalities, and Agencies: Alternatives and Strategies. FITCH Ratings, 2002.

⁵⁰ In 1995, Mexico introduced a price-level-adjusting unit of account called the unidad de inversion (UDI). Loans denominated in UDIs maintain their purchasing power and provide a real rate of return in pesos.

⁵¹ Dexia Credit Local Agency New York is a subsidiary of Dexia Credit Local, a French private financial institution.



water project was less exposed to currency risk and was able to attract financing more easily. The issue in the end was fully subscribed by eight domestic financial institutional investors. Finally, the Tlalnepantla de Baz bond contributed to further develop the domestic capital markets in Mexico by diversifying the longer-term investment opportunities for local institutional investors.

B4F. SUSTAINABILITY AND REPLICABILITY

The financial structure introduced in the Tlalnepantla de Baz bond is clearly a successful and replicable municipal finance model for Mexico and elsewhere. The market has responded positively to the Tlalnepantla transaction. Banks have been willing to provide funding for longer maturities to better match the long-lived nature of infrastructure investments that municipalities make. Other similar municipal issues based on local taxes and levies are under active consideration. There has also been interest in the form of non-bank financial intermediaries to finance municipalities.⁵²

However, it may only be applicable to larger and financially robust municipal governments. For a large number of entities, it is still not economically viable to implement a bond offering individually. Smaller entities should explore the option of combining resources to launch a joint issue through structures that have proven successful in other countries (e.g. through a municipal bond bank, or a debt or revolving fund).

⁵² The Tlalnepantla Municipal Water Conservation Project (www.ifc.org).

B5. Case 5: Increasing the Supply of Key Transport Infrastructure through Public-Private Partnerships in Peru

B5A. BACKGROUND AND ENVIRONMENT

Between 2003 and 2007, USAID provided technical assistance to Peru's Agency for the Promotion of Private Investment (PROINVERSION) through the Poverty Reduction and Alleviation Program (PRA). PRA was responsible for implementing the country's concessions in infrastructure program, which conducted several concession-type PPP transactions in order to finance, build, rehabilitate, operate, and maintain major road and port infrastructure projects.

PRA's groundbreaking work resulted in more than \$584 million in firm private capital investment commitments to build and rehabilitate road and port infrastructure; and in excess of \$850 million committed to operate and maintain these road and port projects over the next 30 years. More importantly, it helped the Government of Peru (GOP) increase the supply and quality of transportation infrastructure critical to facilitate enterprise development, improve productivity and competitiveness, and spur economic growth in key regions of the country. One of these transactions, the Amazon North Highway (ANH) concession, serves as a case study how the innovative use of long-term concession agreements can facilitate the financing of major public infrastructure projects. It also illustrates the key role that USAID technical assistance can play in leveraging private investment capital and in bringing transformational development impact.

B5B. OBJECTIVE OF TRANSACTION

The ANH, Peru's first transport PPP, is a 25-year concession to finance, construct, rehabilitate, operate and maintain 964 kilometers of national highway between Paita, in the department of Piura on the Pacific coast; and the river port of Yurimaguas, a municipality servicing Iquitos in eastern Peru and Brazilian ports of call along the Amazon River to the Atlantic. When completed in 2010, the ANH will anchor the first all-weather road and river transport network across South America. The highway will greatly facilitate two-way commerce between Peru and Brazil and fully integrate Peru's developed coastal regions with its less developed, mountainous Andean region and the extensive tropical region extending deep into the Amazon basin.

The ANH's technical, legal, and financial structuring and credit enhancement mechanisms facilitated the issuance of a \$213 million infrastructure bond by concessionaire IIRSA Norte in August 2006. The highly complex transaction received *Project Finance* magazine's 2006 Latin America Bond of the Year award.

B5C. PRECONDITIONS AND PREREQUISITES

The groundwork for successful infrastructure public-private partnerships was laid by more than a decade of stable and increasingly transparent government policy. The 1996 Law to Promote Private Investment in Public Infrastructure Works and Services provided the institutional and regulatory parameters for infrastructure concessions in Peru. Furthermore, Peru has a sound legal environment where the government has a track record of keeping its legal commitments. Peru's experience since the 1990s with the early infrastructure concessions demonstrated this commitment, making investors today willing to make long-term investments in well-structured public-private partnerships.

B5D. MODEL AND FINANCIAL STRUCTURE

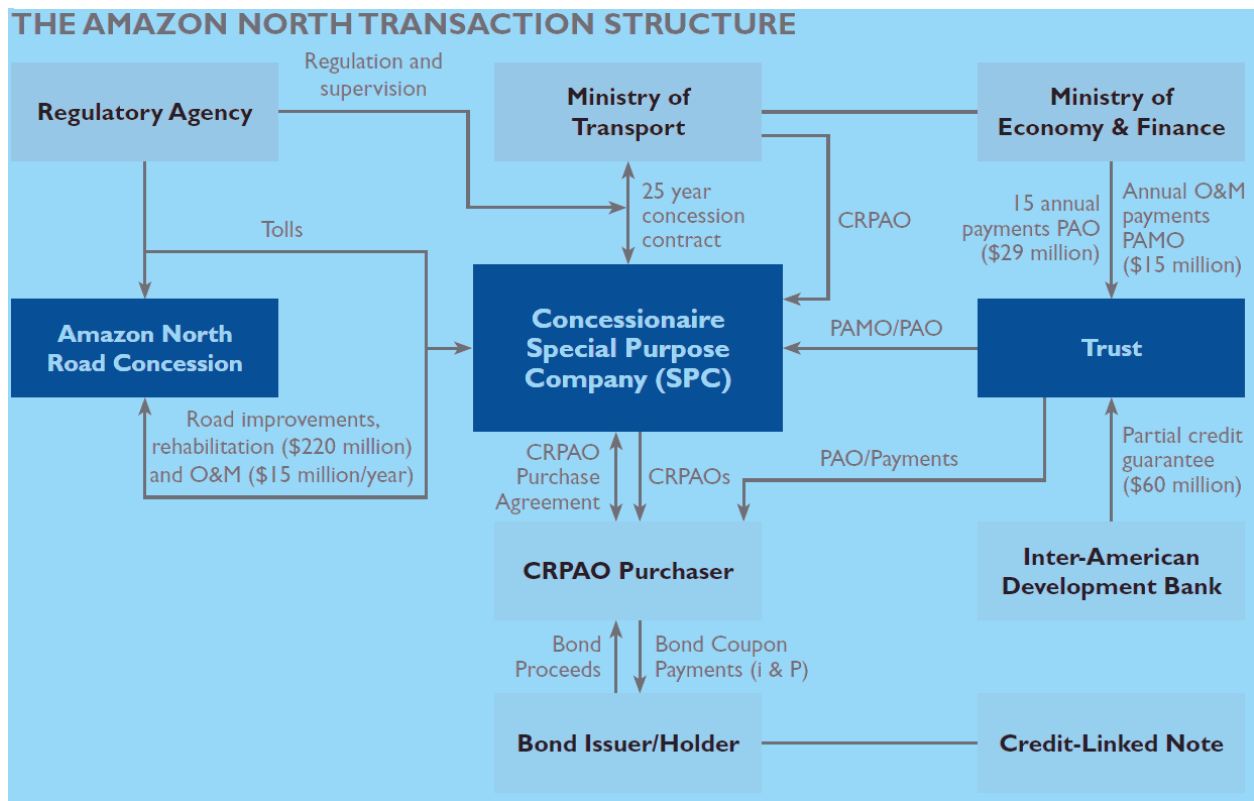
Awarded by PROINVERSION in April 2005, the Amazon North Highway concession contract was signed in June 2005 by the Ministry of Transport (MTC) and Concessionaire IIRSA Norte, a consortium of Brazilian and Peruvian investors and construction firms led by the Brazilian Oderbrecht, S.A. Concessionaire IIRSA Norte was required to raise financing to cover the initial capital investment costs.

The completed road is not expected to generate sufficient toll revenues to cover its construction costs. In lieu of such revenues, the government will compensate the concessionaire with annual payments for construction (PAO in Spanish) and will issue Certificados de Reconocimiento de Pago Annual de Obras (CRPAOs) prorated to the advance of works. CRPAOs are certificates that the government of Peru issues to the concessionaire upon achieving a construction milestone. Each certificate is evidence of the GOP's unconditional and irrevocable obligation to make a fixed payment in U.S. dollars. The annual PAO payments, or aggregate CRPAOs, are approximately \$30 million. The PAO was the basis for the competitive bidding process for the concession, and will pay semiannually for a period of 15 years (see Figure 7 on page 31).

The concession agreement provides that CRPAOs are freely transferable and that, once generated, they are not subject to any condition or performance obligation related to the concession agreement. This feature of the concession contract was critical to the design of the transaction, as the bond issue was structured as a securitization of the CRPAOs, or the sale of the rights of the concessionaire to future government payments for construction and rehabilitation. All eligible CRPAOs issued by the federal government to the concessionaire as the construction progresses are sold to the issuer under the CRPAO purchase agreement, until 100 percent of financing is backed by CRPAOs.

The transaction also benefited from a partial credit guarantee provided by the Inter-American Development Bank (AAA international). The guarantee covers the federal government's payment obligations under the PAO/CRPAOs for an amount up to \$60 million.⁵³ In general, the guarantee is a straightforward first-loss, rolling, and reinstatable guarantee designed to act as a liquidity facility. If the federal government defaults on a CRPAO payment, IDB will disburse on a draw within 10 business days after a relatively simple administrative process. If a draw on the IDB facility is repaid by the government within 30 days, the facility will be replenished to the pre-drawn amount.

⁵³ The PRG amount was determined through a financial analysis by the local affiliate of Fitch Ratings through a "shadow rating" methodology. The results indicated that a USD \$60 million guarantee would raise the debt rating of the project by two notches (and as a result, possibly achieve an international rating higher than the sovereign), thus allowing access by the concessionaire to the local and foreign capital markets.



B5E. RESULTS

The \$213 million infrastructure bond transaction closed in August 2006 and was fully subscribed. The deal will capitalize interest payments for the first two years and the principal balance is expected to be approximately \$260 million when the bond begins paying interest in late 2008. The notes are due in 2024, have a coupon rate of 8.75 percent, and were rated BBB- by Fitch Ratings and Ba3 by Moody’s. In Fitch’s view, the BBB- rating “reflects the strength of the underlying CRPAO payments and the enhanced recovery in the event of default derived from the PCG provided by the IDB.”

The rehabilitation and construction of the highway began in April 2006 and will be completed in two two-year phases. As of October 2008, the concessionaire has received CRPAOs for 97.5 percent of Phase I and 12.31 percent of Phase II, and received its first semiannual PAO payment. This was one of the longest maturity project financings in Peru, and one of the few PPP deals in Latin America to close successfully in the international capital markets.

B5F. SUSTAINABILITY AND REPLICABILITY

The overall PRA/PPP initiative gave new impetus to Peru’s concessions in infrastructure program. It introduced a rigorous and methodical transaction design process that resulted in well-structured, bankable PPP transactions as well as transparent and robust competitive bidding processes. The PRA helped build significant institutional capacity in its host government counterparts. The support received from USAID allowed PROINVERSION to successfully close

two major concession transactions; to lay the technical, financial, and legal groundwork for two more transactions; and most importantly, to develop a PPP infrastructure finance model appropriate for broader application in Peru and elsewhere.

C. CONCLUDING REMARKS

Bonds are one of the most sustainable and cost-effective methods for local governments to garner medium-term to long-term private sector investment in financing infrastructure projects and other general obligations. Well-structured municipal bond offerings are often substantially larger, have longer maturities, require less collateral, and are more affordable than traditional bank loans. Longer tenors and lower interest rates result in lower debt service payments as well as improved matching of funding maturity to the life of the infrastructure projects. However, viable municipal bond issues require a series of regulatory preconditions and prerequisite market conditions. These include:

- An effective legal and regulatory framework that allows local governments to enter into loan and bond agreements and pledge collateral, even if on a restricted basis.
- A safe, efficient financial infrastructure for issuing, trading, and settling sub-sovereign securities transactions.
- A domestic capital market with demand for long-term investment opportunities and a strong base of local institutional investors, typically consisting of pension funds, insurance companies, and investment funds with sufficient liquidity.
- Active participation by and basic regulatory regimes for credit ratings institutions, specialized financial intermediaries, underwriters, trust funds, and bond insurers that support sub-sovereign finance transactions.
- Legal recognition of the types of transactions and financing structures that may be created to enable sub-sovereign bonds.

To boost investor confidence, local governments must demonstrate their ability and willingness to repay the debt by adopting transparent and objective disclosure, auditing, accounting, and financial reporting standards. Credit ratings play a key role in helping facilitate access to the market, as they provide an independent opinion on the creditworthiness of the issuer and the probability of default of the bond, as well as help gauge how potential investors would view the investment. Based on the results of the credit rating, sub-sovereign bond issues often require enhancements such as partial credit guarantees to provide additional security to attract potential investors at affordable interest rates. In some cases, a higher rating may mean the difference between having access to the market and no financing at all.

For larger local governments with significant financing needs, issuing sub-sovereign bonds directly can be a viable option. Pooled finance is an effective model to generate the economies of scale and risk diversification to borrow on a financially viable and cost-effective basis, if local governments are not large enough or creditworthy enough to borrow on their own. PPPs, although not strictly a form of sub-national finance, are another effective model for local

governments to access private sector investment and expertise to develop municipal infrastructure projects.

USAID missions implementing or designing programs to support the municipal sector and strengthen capital markets can achieve impact and increase the efficiency and sustainability of public service delivery by supporting the exploration of municipal bonds and investing in initiatives to develop the bond market. There are a number of resources and tools to assist USAID and other USG officers in evaluating potential interventions in this area, including a diagnostic checklist developed as a companion piece to this primer. For additional literature, information resources, and tools, please see Annex B.

ANNEX B. GLOSSARY

Amortization. The retirement of the principal amount of a debt obligation through periodic payments. This usually means payments of both interest and principal (debt service).

Asset class. Categorization of assets such as cash equivalents, stock, and fixed-income investments, including subcategories of corporate, government, and municipal bonds.

Basis point. One-one hundredth of one percent. If the interest rate on a loan or bond increases from 8.00 percent to 8.25 percent, the difference is referred to as a 25 basis-point increase.

Benchmark yield curve. A yield curve shows the term structure of interest rates for all bonds of the same quality with maturities ranging from the shortest to the longest available. If short-term rates are lower than long-term rates it is a positive yield curve, which indicates that investors willing to tie up their money for a longer period of time are compensated for the extra risk they are taking by receiving a higher return on their investment. National government treasury securities are analyzed to provide a benchmark of what the yield curve will be when considering sub-sovereign bonds.

Bond. An interest-bearing promise to pay a specified sum of money — the principal amount — due on a specific date to the holder or owner. The terms “bond” and “note” are often used interchangeably.

Bond bank. An intermediating special purpose financial entity that bundles smaller underlying loans from multiple local governments, issues bonds and borrows from the capital markets directly. The bond bank uses the proceeds of the bond issue to lend to the individual local governments.

Bond prospectus. A formal written offer to sell bonds containing facts about the issuer and the projects to help investors make informed decisions.

Bullet bond. Bonds or loans with no amortization; all principal is paid on the maturity date.

Build-operate-transfer (BOT). A specialized concession in which a private firm or consortium finances and develops a new infrastructure project or major component according to performance standards set by the government. In a BOT contract, the private partner provides the capital required to build the new facility, and owns and operates the assets for a period set by the contract that is sufficient to allow the developer to recover investment costs through user charges.

Capital markets. Markets in which capital funds are traded. Includes organized markets and exchanges, as well as private placement sources of debt and equity.

Cash flow financing. Providing credit based on the expected revenue stream of an underlying project, enterprise, or activity.

Collateral. Security or a guarantee (usually an asset) pledged for the repayment of a loan or bond in the case the borrower or issuer is not able to repay.

Corporate bond. A debt instrument issued by a private corporation, as distinct from a government or sub-sovereign bond.

Concession. The right provided by a government entity to use property (usually public infrastructure) for a specific purpose such as a service station on a highway, or the highway

itself. A concession makes the private sector operator (concessionaire) responsible for the full delivery of services in a specified area, including construction, operation, collection, management, maintenance, and rehabilitation of the system. In a concession arrangement the concessionaire is responsible for all capital investment, while the assets remain publicly owned.

Coupon. (1) A detachable part of a bond that evidences interest due. The coupon specifies the date, place, and dollar amount of interest payable, among other matters. Coupons may be either redeemed by detaching them from bonds and presenting them to the issuer's paying agent for payment or by automatic transfer or bank check if the bonds are registered. (2) Used colloquially to refer to a bond's stated interest rate.

Credit enhancement. Actions or agreements that improve creditworthiness. These may be internal (pledging more or better revenues or assets) or external (third party agreements to assist or guarantee debt service payments or otherwise improve a debt's creditworthiness).

Credit rating. Evaluations of the credit quality of notes and bonds, usually by independent credit rating agencies. Generally based on information concerning the issuer's demographics, debt burden, economic base, finances, and management structure, ratings are intended to measure the probability of the timely repayment of principal and interest on municipal securities.

Creditor rights. Legal protection of parties extending credit such as bondholders or bank lenders.

DCA bond guarantee. USAID Development Credit Authority guarantee offering up to 50 percent guarantee to bond holders of principal repayments. A bond guarantee ensures investors in corporate and/or sub-sovereign bonds of both recovery and repayment. A DCA bond guarantee often enables the issuer to obtain a higher credit rating than it would have without the guarantee, allowing the issuer to obtain less expensive and longer term financing.

DCA loan portfolio guarantee (LPG). A loan portfolio guarantee provides up to 50 percent coverage on net principal losses by a private sector lender to borrower group specified by USAID. The purpose of a loan portfolio guarantee is to encourage a lender to extend credit to borrowers, such as local governments, which are underserved by the financial sector.

Debt instrument. A written promise or contract to repay debt which can take the form of a bond, note, bill, commercial paper, certificate of deposit, or banker's acceptance.

Debt service - The amount of interest and principal that is due in a fiscal period.

Debt service reserve fund (DSRF). A fund established to pay debt service if other revenues are insufficient to satisfy the debt service requirements. This can be funded entirely from bond proceeds or it may be only partially funded at issuance and be allowed to reach its fully funded level over time with pledged revenues. If the fund is used in part or whole, the issuer is obligated to replenish the fund from revenues or first available funds. Often, the amount of the fund is equal to one year's debt service requirement (see "sinking fund").

Devaluation risk. The risk that a country's currency will be reduced in value relative to gold and/or the currency of other nations.

Disclosure. Release of all information, positive or negative, that might bear on an investment decision as required by a country's security exchange and/or regulatory bodies.

Effective rate. The yield on a debt instrument as calculated from the purchase price. The effective rate on a bond is determined by the price, the coupon rate, the time between interest payments, and the time until maturity.

Escrow account. As it relates to municipal bonds, an account into which funds are placed and held to cover shortfalls or missed payments to enhance the comfort level of the bondholders.

Financial intermediary. A commercial bank, savings and loan, mutual savings bank, credit union or other "middleman" institution that contributes to directing the flow of capital from savings into productive uses.

General obligation bonds. A bond that is secured by the full faith and credit of an issuer with taxing power. General obligation bonds issued by local units of government are typically secured by a pledge of the issuer's *ad valorem* taxing power; general obligation bonds issued by states are generally based upon appropriations made by the state legislature for the purposes specified.

Irrevocable trust. A trust which, once formed, cannot be changed or terminated by the party creating it without the agreement of the beneficiary.

Liquid. Cash or an asset that can be easily converted into cash.

Lock box. Bank service that entails holding a customer's securities and, as agent, receiving and depositing income such as interest on bonds.

Maturity. The date when the principal of a municipal security becomes due and payable to the security holder.

Nominal rate. Rate of interest on bonds unadjusted for inflation and not inclusive of fees and other charges.

Pari passu . Latin meaning "equally and without preference." In a situation where bond issuers are unable to service debt, bondholders are paid pro rata in accordance with the amount of their claim.

Partial credit guarantee. A guarantor such as a donor or international financial institution that shares the risk of debt service default with investors on a predetermined basis to mitigate investor risk. Partial guarantees can be structured in a variety of ways, depending on the type of borrower (or bond issuer), debt instrument, and repayment sources. USAID's DCA guarantees are partial credit guarantees.

Private placement. Sale of bonds or other investments directly to an institutional investor, such as an insurance company. Typically, a private placement does not have to be registered with the securities exchanges if it is purchased for investment rather than resale.

Public offering. Presentation to the investment public of new bonds on a securities exchange after completing all registration requirements.

Public-private partnership (PPP). A particular form of private sector participation in the financing and provision of municipal services and infrastructure. A PPP is characterized by private-sector management of the project company but a public entity or municipality

retaining a significant stake and sometimes the majority of the share capital of the project company.

Retail bonds. Bonds targeting individual retail investors who will buy bonds on their own behalf, not for an organization. Retail investors typically buy bonds in much smaller quantities than institutional investors and are therefore often charged commissions slightly higher than institutional investors.

Revenue bonds. A bond on the debt service that is payable solely from the revenue generated from the operation of the facilities being financed or from other non-tax sources.

Revenue intercepts. An arrangement for filling financial gaps in payments through an agreement that any defaults would be made up by taking those amounts from cash transfers to the borrower or bond issuer.**Securities.** General term for all stocks, bonds, and shares of all types.

Security exchange. Organized national exchanges where securities, options, and futures contracts are traded by members for their own accounts and for the accounts of customers.

Secondary market. Exchanges in which securities are bought and sold after the initial (or primary) offering. Proceeds of secondary bond market sales accrue to the selling dealers and investors, not to the original bond issuers.

Sinking fund. Money accumulated on a regular basis in a separate custodial account that is used to redeem debt securities. A bond indenture may specify that payments must be made to a sinking fund to assure investors of debt service capacity.

Special purpose entity. A vehicle such as a trust established specifically to support a bond transaction or transactions.

Spread. For fixed income securities, the spread is a) the difference between yields (rates) on bonds of the same quality but different maturities; or b) the difference between yields on securities of the same maturity but different quality.

Subscribed. A subscription is an agreement of intent to buy newly issued securities. If a sub-sovereign bond is fully subscribed, then the bond issue has been taken up in full. If a bond is oversubscribed, this demonstrates that there is still unmet investor demand for this type of instrument.

Sub-sovereign. Government entities subordinate to the central government, e.g., state, province, region, municipality, state, or municipally owned utility company.

Tenor. The maturity of a debt instrument.

Trust. An organization, usually combined with a commercial bank, engaged as a fiduciary agent for the administration of bond related services.

Underwriter. A dealer such as an investment bank that purchases a new issue of bonds for resale. The underwriter makes a profit on the difference between the price paid to the bond issuer and the public offering price, often referred to as the underwriting spread.

Unsecured. Debt obligation not backed by the pledge of specific collateral.

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