Local governments and local public service enterprises (such as water and sewer utilities, solid waste management companies, public transport authorities, airports, hospitals, etc.) build and operate infrastructure in order to provide essential services to their communities. Local infrastructure projects typically involve a large investment of funds over several years while the project is built, but the infrastructure asset created by the project is designed to provide services for a much longer period of time, often 20 or 30 years or more.

The characteristics of infrastructure projects and the revenues they produce shape the kind of financing they need. Because local infrastructure can be expected to provide services for a long time, financing for building that infrastructure should also be long term. Ideally, the term of the financing should approximate the expected useful life of the infrastructure asset so that the cost of building the infrastructure can be spread among all the people who benefit from it over its useful life.

Some kinds of infrastructure generate revenue directly from user charges: toll roads, water distribution networks, and metro-rail systems, for example. Other kinds of infrastructure may not generate revenue directly, but improve the value of nearby properties: paved streets and freeways, sewer and drainage networks, and public school buildings. Improved property values can result in an indirect gain for local governments through increased property tax revenues.

In almost all cases, revenue derived from local infrastructure assets (directly or indirectly) comes in the form of local currency. Because local infrastructure generates only local currency revenues, the financing also needs to be done only in local currency. (See SNTA Brief No.2: http://www.ppiaf.org/sites/ppiaf.org/files/publication/SNTA-brief-2-importance-of-avoiding-foreign-exchange-risk.pdf) Local governments and their public service enterprises are not in a position to manage foreign exchange risk in the long term. Over a period of 20 or 30 years, there is a real risk that devaluation of the local currency in international markets will increase the local cost of foreign currency debt service payments uncontrollably. So, only local currency debt financing is appropriate for local infrastructure that does not generate hard currency revenues.

**SOURCING LONG-TERM FINANCING IN LOCAL CURRENCY**

In many countries, national government institutions, such as specialized national development banks, are the primary, if not exclusive, providers of long term lending for local infrastructure. Most specialized development banks depend on subsidized capital from national governments or international donor organizations. However, rapid economic growth in emerging market countries depends on ever greater investment in infrastructure; at a pace and volume that requires additional sources of long-term debt capital. With many national governments and donor organizations facing fiscal constraints, more and more countries are turning to private sector debt financing to...
bond issuers are not actually municipalities. In countries with more sub-sovereign authorities, such as local governments and local public service enterprises to finance local infrastructure (sub-sovereign bonds; also called municipal bonds). Sub-sovereign bond markets are typically referred to as “municipal bond markets” even though many sub-sovereign bond issuers are not actually municipalities. In countries with more diversified financial systems, domestic long-term debt financing can sometimes also be arranged outside of the bond market in the form of syndicated bank loans that offer terms similar to bonds.

**BOND MARKETS AND INVESTORS**

Domestic bond markets are those that deal in bonds or similar securities that are denominated in the local currency of a country. This distinguishes them from international bond markets where bonds are denominated in “hard” currencies, such as the US dollar, the UK pound, the euro, and the Japanese yen. Domestic bond markets operate from the securities exchanges (or stock markets) of a country and follow the rules and regulations of the exchange, as well as those of the capital markets regulatory authority of the country. However, if a country is part of a currency union (such as the CFA-zone in francophone West Africa), then the domestic bond market takes on a regional character and the principal securities exchange may be located in any of the currency union member countries. (The domestic bond market of countries that have adopted the US dollar as their local currency includes by definition the US bond market.)

In most countries, domestic bond markets connect sovereign, sub-sovereign and corporate bond issuers with institutional investors who buy, hold, and trade the bonds. (Wealthy individual investors are more often found in international markets than in developing domestic bond markets.) For municipal bonds, the institutional investors found in developing country markets typically include pension funds, life insurance companies, and mutual funds. Banks may buy bonds to meet regulatory reserve requirements, but they usually buy sovereign bonds almost exclusively for this purpose.

Institutional investors in a domestic bond market are interested in long term bonds as assets because their liabilities are created by pension contributions, life insurance premiums, or client funds that must be safely invested to grow for many years until they are needed to pay pensions and death benefits or repay clients’ investments. In this case, the need for asset–liability term matching encourages institutional investors to seek high quality investments that provide a return over 10, 15, 20 or even 30 years. Municipal bonds for infrastructure projects often require funding that would exceed the amount that a commercial bank can lend to a single customer under banking regulations. Commercial banks also typically lack the capacity to assess repayment risks (ability and willingness to repay) over a long time horizon and therefore avoid offering long-term credit. Since they take mostly short-term deposits (their liabilities) from the public, they have to make mostly short-term loans (their assets) to maintain liquidity (their ability raise cash to cover withdrawals). In these circumstances, the need for “term matching” keeps most commercial banks from offering loans of over one year (or in rare cases up to three years). They are not well positioned to finance infrastructure that is intended to generate revenues over 20 to 30 years. Commercial banks are better suited to financing short-term private business transactions, such as the purchase of goods that will be sold quickly to repay the debt, or short-term loans to local governments (to be repaid within the fiscal year) to maintain liquidity when the uneven timing of revenue collections does not coincide with the steady pace of expenditures.

Domestic debt markets, on the other hand, are a relatively new but growing part of the capital markets in emerging market countries. Usually, the largest and oldest part of a domestic debt market is the market for bonds issued by the national government (sovereign bonds). A more recent development in some countries is the emergence of a corporate bond market where local companies raise medium and long-term debt capital as an alternative to seeking equity capital in the domestic stock market. Corporate bond markets and syndicated loans are filling a gap in corporate finance by offering longer term financing than available from commercial banks while preserving business owners’ equity share from dilution.

The most recent segment of domestic debt markets to get started in some emerging market countries is the market for bonds issued by sub-national authorities, such as local governments and local public service enterprises to finance local infrastructure (sub-sovereign bonds; also called municipal bonds). Sub-sovereign bond markets are typically referred to as “municipal bond markets” even though many sub-sovereign bond issuers are not actually municipalities. In countries with more...
MUNICIPAL BOND MARKETS AND INFRASTRUCTURE FINANCING

Viewed from the perspective of a sub-national authority that needs long-term financing for infrastructure, the ability to access a domestic municipal bond market opens a new source of local currency capital. Most importantly, that capital is available on terms that coincide with the useful life of local infrastructure. Capital from a domestic municipal bond market can start as a supplement to funding from government development banks, but as the market develops, there is potential to scale up the level of investment much more rapidly than can be achieved by fiscally constrained government development banks alone.

Over time, government development banks may want to focus their limited resources on providing partial risk guarantees to municipal bonds or creating “pooled financing vehicles” for smaller sub-national authorities. Pooled financing combines the small financing requirements of a group of borrowers into a single bond issue of sufficient size to attract institutional investors. This enables smaller sub-national authorities to access the debt market for long term financing of modest sized infrastructure projects.

By reducing the dependence of sub-national authorities on increasingly scarce government loans and short-term bank loans, a domestic municipal bond market (as part of a broader and deeper domestic debt market) contributes to making infrastructure development more affordable. For example, suppose that a local government can only afford to spend LC 15 million per year to finance an infrastructure project investment of LC 100 million:

- A three year (level payment) bank loan at 10% interest requires debt service of LC 38.7 million per year for three years and is therefore unaffordable; but
- A fifteen year bond (fully amortizing using a ‘level debt service’ structure) at 10% interest requires debt service of LC 12.9 million per year for 15 years, which is affordable to the local government; and
- Even if the interest rate on a fifteen year bond were 12.75%, the annual debt service would still be affordable at LC 14.98 million.

Enabling sub-national authorities to access long-term financing from a domestic municipal bond market is a major step toward closing the financing gap for local infrastructure.

MUNICIPAL BOND MARKET DEVELOPMENT

An important first step for any country toward developing a municipal bond market is to understand the current state of the domestic debt market and the potential for introducing municipal bonds so that the starting points for further development can be identified. A rapid review of the domestic debt market should examine:

1) The overall size of the debt market compared to the national GDP and the size of the banking sector
2) The size of the sovereign, corporate, and (if any) sub-sovereign bond markets
3) The key characteristics (term, interest rate, structural features, and rating) of sovereign and corporate bonds, including whether benchmark interest rates have been established for bonds between 10 and 30 years
4) The identification of institutional investors, their volume of annual investment activity, their portfolio restrictions, investment policies and inclination to invest in municipal bonds
5) The identification of potential issuers of municipal bonds and (if available) their credit ratings on the country’s national scale; and
6) The availability and capacity of essential service providers such as credit rating agencies, independent public finance advisors, bond counsel lawyers, investment banks, trust companies, and others

In addition to reviewing the state of the debt market, other aspects of the enabling environment for a municipal bond market also need to be explored. This includes questions such as:

- Are economic conditions (such as inflation and domestic savings) conducive to issuing long-term municipal bonds?
- How will the legal and regulatory frameworks governing sub-national authorities and the capital market affect municipal bonds?
- Do sub-national authorities, capital market institutions and service providers have the necessary capacities to support a municipal bond market?

The answers to these questions, the information from the debt market review and the findings from workshops that engage institutional investors and key government officials will suggest the issues that will need to be addressed to create the enabling environment for a municipal bond market.
The lessons learned from China, India, Mexico, Peru, Poland, Serbia, and elsewhere about developing a municipal bond market suggest that proceeding with one or more pilot bond issues is an effective way to initiate the market. The effort of implementing a real municipal bond issue causes government and private sector participants to concentrate on finding pragmatic solutions to problems as they emerge during the process of preparing and issuing the bonds. With an actual transaction on the table, barriers are less theoretical and breakthroughs are timelier.

Even if the enabling environment is not entirely perfect at the outset, a pilot bond issue may be able to initiate a municipal bond market in less than two years. Once the market has been initiated, there is greater incentive for government policy makers, local government leaders, and institutional investors to establish the laws, regulations, institutions and capacities required to scale up a market that helps to fill the local infrastructure financing gap.

**ADDITIONAL RESOURCES**


**THE SUB-NATIONAL TECHNICAL ASSISTANCE (SNTA) PROGRAM**

As more and more countries decentralize, the provision of infrastructure is increasingly becoming the responsibility of sub-national authorities (local governments and public utilities). These authorities are finding it necessary to seek long-term private financing for their infrastructure projects. Using annual budget allocations to build infrastructure is difficult to manage because the funds required vary greatly from year to year. Long term debt financing allows sub-national authorities to smooth out the annual funding requirement by borrowing a large amount of capital at one time and then repaying the debt in predictable annual increments small enough to make the project affordable to the people served. The Public Private Infrastructure Advisory Facility (PPIAF) works with sub-national authorities to enable access to private financing on the best possible terms, and shares the lessons learned from its global experience.