Chapter 5

The Nature and Design of Debt

Types of debt are defined by the kind of security given by the borrower. Creditors want to know not only where the money is expected to come from but also what their remedies and security are in the event of default. Knowing the security on debt is important: uncertainty about remedy and security can create risks that build inefficiencies into the market. If the remedies and security are not deemed adequate, markets may set risk premiums so high that credit is unaffordable to many jurisdictions.

What remedies should be available to creditors by law? This question is critical. Any framework for subsovereign borrowing needs to spell out what powers a jurisdiction has to pledge assets and revenue streams and to exercise its powers to set taxes, tariffs, and other levies. It is also desirable to spell out how such security can be affected by default or other financial emergency.

General Obligations, Special Pledges, and Limited Obligations

In most emerging market economies general purpose subsovereign debt has had some form of sovereign government backing. In many cases the subsovereign governments were merely administrative units of the central government under a unitary government concept. In other cases the only long-term funds available were supplied by international lending entities that typically required a sovereign guarantee. However, this is changing. Devolution has meant that national governments are encouraging subnational governments to borrow on their own credit.

Precisely what constitutes the credit of a subnational government, without an explicit or implicit guarantee by the national government, is often

unclear. Expressions such as "general obligation" or "balance sheet" debt often mask an unresolved question of ultimate security: what remedies are available to an investor if a subnational government fails to pay on time and in full?

Aside from the subnational government's good faith and the prospect of national government assistance if things get difficult, subsovereign general obligations have often been backed by the ability of creditors to seize financial and physical assets. For a number of reasons, this physical collateral system is not a sound approach to securing credits. Subnational governments with physical assets that are unrelated to their municipal service responsibilities, such as a commercial enterprise, might be better off to divest themselves of the asset to avoid diverting scarce city management capacity to manage a potentially private activity.

In addition to the problems in enforcing a claim on pledged public property are problems with title—does the locality actually own the property? The legal nature of the public domain continues to be unclear in many emerging and transitioning countries. Municipal assets that are used directly or indirectly to provide vital services should not be (and more often are not permitted to be) risked as collateral. The pledging of physical collateral can divert the government's attention from making sure its general revenues are sound enough to support borrowing. Despite these drawbacks, there can be times and places where a subnational government owns non-vital property that is "alienable" and useful in bolstering its creditworthiness.

The meaning of the general obligation pledge is also subject to variation. The term *full faith and credit* originated in the United States and is generally understood to mean more than a general, unsecured promise.[1] Debt not backed by specific revenue flows should be backed by a pledge of all general revenues as a source of debt service payment. The subnational government could be specifically obligated to use any and all of its general resources, including an increase in taxes and fees, to meet debt service obligations. Stronger and more specific remedies for creditors are likely to improve investor confidence in subsovereign debt in emerging market economies.

Several kinds of limited security can be pledged to secure subsovereign debt:

- Physical or monetary assets.
- The right to operate a facility or provide a service.

- Selected revenues, such as those from tariffs, fares, or rentals; particular taxes or special levies; and grants or shared taxes (intergovernmental transfers).
- Power to set specific tax rates, utility tariffs, and other levies.
- Executive agreement to budget for and recommend payment of future debt service, without an explicit binding pledge that those appropriations will be made.[2]
- Assignment of the payment of future intergovernmental transfers.
- Pledge by a higher level government to exact certain penalties against defaulting lower level government borrowers.[3]

Pledging Assets, Operating Rights, and Revenue Streams

A common pledge backing debt in developed markets is one that is restricted to a particular revenue stream or enumerated subnational government assets or one giving the creditor the right to step in and perform the activity and receive the revenues in the event of default. However, carving out specific revenues and giving the creditors rights to assets and operational powers both raise a host of operational and policy issues.[4] Local officials may be hesitant to pledge assets because their loss in the event of a default would be dramatic. There may be assets or revenue streams that are so vital to maintaining basic governance that they should be protected from a debt service pledge. Examples include:

- Intergovernmental transfers or local dedicated taxes that are intended to provide services to selected segments of the population.
- Transfers or taxes that are earmarked for mandated purposes.
- Physical facilities deemed essential to the public health, safety, and welfare, such as water supply, fire equipment, and hospitals.

Subnational governments have a limited number of pledgeable assets, especially non-vital properties. To the extent that governments are forced to pledge these assets to support debt, their future ability to secure loans is diminished and their financial flexibility is reduced.

As a practical matter, private sector lenders are of two minds about asset pledges. Lenders are anxious to have as much collateral as possible to apply leverage to reluctant debtors. Lenders may be willing to take marketable assets, such as vacant land, office buildings, parking lots, or sports facilities, but they are not likely to foreclose on indispensable physical assets or on es-

sential service facilities, such as water or wastewater treatment plants, town halls, city streets, or fire stations. If the legal system provides adequate assurance, lenders are more likely to secure local debts by pledges of actual or potential revenue streams that are sufficient to cover the debt service.

Because of the practical and political problems of tying up essential facilities, a prohibition on pledging properties considered essential to public health and safety could be included in authorizing legislation with little impact on a market's development of other useful security devices. Minimum essential services can be defined by law, with the borrowers deciding what fits the definition. These might include services necessary for human health and safety, such as water, sewer, and refuse collection. Use of the assets relating to these services could be pledged, but the law should require minimum essential services to be continued at all times. These restrictions would not be barriers to borrowing, since lenders are not interested in repossessing pipes in the ground. They want revenue streams.

A pledge of revenues from public utilities is appropriate for financing related to the same utilities but not if the pledge is used to secure unrelated financing. Part of the concern is simple economics. When a jurisdiction subsidizes general expenditures at the expense of utility charges, resources are misallocated. The service that does the subsidizing tends to be under-allocated, and the service that gets the subsidies tends to be under-priced and thus over-allocated. Nevertheless, in cases where the demand for or the supply of the burdened service is relatively price inelastic, using revenues from that service is tempting since the costs of collection are low and the certainty of collections is high.[5]

Pledging to Set Tax Rates, Tariffs, and Other Levies

Where tariffs, rates, or charges can be increased or decreased at the discretion of the subnational authorities, a rate covenant to set and maintain the charges at adequate levels to meet operating costs and pay debt service is a useful financing tool. However, subnational governments in emerging and transitioning economies usually have quite limited revenue-raising powers, a legacy of unitary states with a center monopoly on decisions and revenue raising.[6]

Even subnational governments with considerable power to set rates and establish levies can experience ambiguity about their ability to pledge to set tariffs, tax rates, or other charges at a level sufficient to service a debt because of questions about whether such covenants unlawfully bind future

administrations (see box 5.1). Without such a forward-looking and binding contract ability, a pledge is probably worthless.

In many emerging market economies the primary cause of debt service default and payment arrears is failure to increase the rates and charges that were to be the source of revenues for debt payment. Subnational jurisdictions would benefit from clear legal authority to covenant future tariff or tax

Box 5.1. Importance of the Rate-Setting Pledge

South Africa offers an interesting example of the importance of the rate-setting pledge in a revenue bond and of the potential problems when its application is uncertain. Several South African cities are attempting to implement privatization plans that involve nonrecourse revenue bonds. Debt service payments on the bonds would rely exclusively on the water tariffs of the privately operated water treatment plants. The tariffs are likely to need to be increased over time to meet rising operating costs and offset unforeseen expenditures. However, national legislation gives a national minister the discretion to set water tariff rates, in effect overriding local control and contracts. Should that happen, the private concessionaires want the local communities to make up any shortfall in revenues by raising property taxes.

Having such a clause in the contract would improve the creditworthiness of the bonds, but it raises other problems. First, if water rates are not raised, then taxes must be, eroding the general tax base of the municipality. Second, the water ratepayers and the property taxpayers are not the same people. The great majority of water users own little if any taxable property, and they greatly outnumber the better-off property taxpayers. This opens up the potential that local elected officials might even welcome a reneging on water rate increases by national officials, since it would shift the burden of the debt to the wealthier—and less numerous—constituents that pay the property taxes.

Source: Petersen and Crihfield 2000.

increases to secure debt. Jurisdictions may choose whether to use this mechanism, but they should have the legal authority to make such a covenant.

Intergovernmental Revenue Intercepts

In many countries, subnational governments can assign to creditors their interest in specific revenue streams, such as shared taxes and grants, received from higher-level governments (box 5.2). Called *revenue intercepts*, these assignments are attractive to creditors because of the promise of predictable revenue streams for paying debt service. Intercepts can be designed to ensure that adequate funds are available to meet debt service payments before they come due (an ex ante intercept) or to be tapped only in the event of a default (an ex post intercept). Another variant is to have a bank "stand-by" credit facility to advance money should funds not be on hand to meet debt service payments, with that loan then repaid out of future intercept receipts.

Some have argued that the pre-assignment of revenues to pay debt service tempts subnational governments not to budget for or pay debt service and induces intercept-protected creditors not to adequately assess the underlying worth of the investment being financed or the subnational government's financial performance. If these problems are thought to be compelling, charging borrowers that routinely use the intercept to pay debt service bills a large penalty or an administrative fee would ensure that the subnational government is always better off collecting its own revenues and paying its own bills.

Enterprise or "Self-Supporting" Limited Obligation Financing

A common use for special pledges of revenues and assets is for a self-supporting enterprise that generates its own means of repayment, without relying on recourse to general revenues.[7]

This limited obligation involves the pledge only of revenues from a specified system or project for repayment. This implies the creation of a special fund to receive the revenues that will be expended to meet costs associated with the enterprise, including debt payment. This concept focuses credit concerns on the viability of a particular project or system, rather than on the viability of the subnational government. It legally isolates certain self-sustaining activities and projects from the general affairs and financial backing of the sponsoring government. Even poor or unsound general purpose jurisdictions can have viable enterprises.[8]

Box 5.2. Intergovernmental Transfer Payments as Collateral

In many emerging market economies subnational governments are highly dependent on transfers from the central government for a major portion of revenues. While these transfers can be volatile, transfer intercepts are attractive for covering debt service payments.

As a general rule, if intergovernmental payments are used for pledging, the historic or expected level of transfers should cover the debt service payments by a fraction greater than one. In the Philippines cities receive about half of all revenues and the provinces about three-quarters through intergovernmental transfers from the national government. The smaller and more rural the subnational government, the higher the proportion of transfers to total revenues. In the Philippines, government-owned banks (the de facto required depositories for subnational governments) have gotten deeds of assignment of transfer payments to cover bank loans. As aid is received, the banks have a right of offset against any loan amounts owed the banks prior to dispersal for other purposes.

Mexico recently enacted legislation that permits states and cities to sell debt secured by a master trust that holds federal tax participation payments. Payments are made to the trust, which in turn pays out principal and interest to bondholders. Aguascalientes was the first Mexican city to issue bonds under the trust in December 2001. The bonds were sold in the domestic peso market.

Intercepts can have a powerful impact on subnational borrowers, especially small and remote governments. The assignment to bondholders of state payments to local school districts (which typically make up over 50 percent of revenues for the districts) is common in the United States. It is the basis for the high credit ratings enjoyed by local school districts covered by such programs. As a result of this widespread appreciation of the impact of state assistance and other small-borrower preferences, local schools are among the lowest cost borrowers in the U.S. municipal bond market.

Source: Authors.

Enterprise financing has several advantages:

- It establishes a relationship between the cost and the price of services, promoting more efficient operations. The cost-price relationship need not be absolute and can be modified, but it has the advantage of making any subsidy transparent.
- If the utility has run a surplus to subsidize other governmental functions, then the added "tax" burden on utility users becomes evident.
- Replacing general revenues that have subsidized enterprise operations with dedicated revenue structures will free up general revenues for other purposes.[9]
- Management and operation of revenue-producing facilities tend to be more efficient and the facilities better maintained since they need to be in shape to produce revenues. This can be encouraged by contractual provisions protecting income and value, paired with creditors' active interest in assets and their operation.
- When there are legitimate reasons to use general revenues as well as specific revenues, it may be better to use general revenues to reduce the amount of debt incurred. For example, this can be done by making a municipal "equity" investment in the asset up front, and borrowing to build or acquire the rest of the asset, pledging only revenues produced by the asset, or even a part of the asset's operations, to meet debt service requirements. This practice is common for many municipal utility operations in Western Europe.

Limited obligation, self-supporting financing also has several disadvantages:

- The expressions *asset stripping* or *security dilution* convey the concern of existing creditors of subnational governments that have relied on a utility to generate subsidies for the general fund when those revenues are instead peeled off and pledged to a utility-specific purpose.[10] Where prior lenders have looked to the overall revenues as a source of repayments, a subsequent sequestering or stripping away of revenue streams weakens the credits and creditworthiness of the jurisdiction.
- Limited obligations may impede redistribution of infrastructure and services among population groups (for example, from better-off groups to poor ones) by keeping potentially redistributable revenues

for the benefit of an already privileged area. Preferential and redistributive policies typically require financing from general funds.

- Enterprise financing is a contract between the public sector acting on behalf of the enterprise and the investor, who typically requires restrictions that reduce the financing options of borrowers in the future.[11] For example, borrowers must meet certain conditions before issuing more debt secured on the enterprise earnings (additional bonds test), must conform to certain requirements about reserves and insurance, and must abide by a rate covenant.

To improve creditworthiness and expand revenue sources, some subnational governments have used utility surpluses to subsidize the general budget.[12] However, transparency implies that utility surpluses used for cross-subsidization should be identified in a specific tax or surcharge that reflects the added cost of cross-subsidies. Without this transparency, it is not possible to see whether the utility is operating at an economic optimum in getting the most delivered service per unit of input. Having reached that optimum, the redistribution becomes a clear added cost for some and a benefit for others.

In addition to the traditional "natural monopolies," such as public utilities provided by subnational governments, other candidates for complete or partial financing through revenue bonds are more commercially oriented revenue-producing activities, such as transportation terminals, public markets, farm processing plants, industrial estates, tourism facilities (including hotels), and toll roads and bridges. Critical to their suitability to revenue bond financing are the reliability and growth of revenues, the technology used, the facilities' adequacy, and construction costs and future operating costs. Determining risks in these technical and economic factors requires engineering studies and market demand studies to obtain objective estimates of the net revenues available to pay debt service (see the section on grant and loan integration in chapter 12). Especially for new, free-standing projects with no operations experience, failing to do engineering and feasibility studies or not having them performed objectively by skilled professionals can lead to severe problems for the sponsoring subnational government, especially if that government pledges its own credit as part of the security (box 5.3).

Special District Financing

Special district financing is a variant of enterprise financing. A special district is created to provide infrastructure and services to a subset of the pop-

Box 5.3. Importance of Feasibility Reports: The San Pedro Sula, Honduras, Sports Complex

Projects that are intended to be self-supporting should generate sufficient revenues to pay for their operation and to meet capital costs. In many cases projects are monopolies—because they are essential in a technical sense (water and electricity), exclusive in location (toll roads and bridges), or subject to a high degree of market control through government regulation (solid waste and parking facilities). Other projects, such as sport or cultural venues, are not essential, are subject to competition, and face greater market demand risks. In all cases facilities may be subject to construction and technological risk, such as cost overruns, startup delays, or failure to produce output of the expected amount or quality.

Assessing these factors and associated risks is the role of the engineering and marketing studies conducted to establish a project's feasibility. Emerging market economies often lack the technical skills needed for engineering and market demand studies and the independence needed for objective analysis.

The difficulties of separating project promotion from technical analysis—and the unfortunate consequences of not doing so—are reflected in the fate of the sports complex built in the municipality of San Pedro Sula, Honduras. Expected to largely pay for itself, the complex was built to host the Central American Games. To partially meet expected costs of $25 million, some $15 million in bonds were sold, which were expected to be offset by a variety of revenues. The project ended up costing $36 million, and net project revenues fell far below expectations. The city made a general obligation pledge in addition to the project revenues, and it is now in serious financial difficulty.

The issuance of the bonds was not the problem. It was the lack of analysis that permitted the city to take on large and unknown risks. Among other problems, the feasibility study failed to do the following:

- Analyze the market for "special-seat" sales, although these were expected to generate nearly 80 percent of the operating revenues.
- Identify the assumptions used in the construction estimates.
- Examine alternatives, such as upgrading an existing stadium.
- Consider using the private sector and more equity in the construction project.
- Identify the various risks or contingencies if the complex's revenues were not realized.

In short, there was never a credible assessment of the project's economic prospects nor of the impact on the guaranteeing municipality's finances.

Source: Kehew 2002.

ulation or geographic area that demands special types or levels of service.[13] Special districts have been used to provide urban services (such as water, sewer, and roads), to areas that are developing rapidly or that have special needs (such as downtown areas). They are common in Western Europe and the United States and are beginning to appear in developing countries. As noted in chapter 4, the proliferation of subnational governments makes the need for cooperative ventures in project financing especially important among small governments.

If there are special benefits that can be ascribed to a particular area, the special district provides a mechanism for recovering the costs associated with the benefits. Special districts can transcend political boundaries or unite jurisdictions into a single financing unit to provide a regional service. Some types of new developments such as public utilities and transportation, storm drainage, and parks increase the attractiveness of an area and enhance property values, as well as other indices of economic activity and worth. If the costs of the capital improvements are borne by the public sector, the public sector should have some way to capture its investment. A

special district can do that by adjusting its taxes or charges to pay for capital improvements that benefit specific properties.[14]

A successful special tax relies on good and timely measurement of values and an efficient collection system. In the United States, for example, some special taxing districts are administered by private for-profit organizations that undertake the calculations and do the tax billings as agents for the governments. The entire revenue-raising mechanism is meant to support obtaining credit and is specified in the loan or bond agreement. This improves the administration of taxes, and the integrity and efficiency of the system becomes, in effect, a matter of contract with bondholders. In Western Europe the special district or special authority covering all or parts of more than one political jurisdiction has facilitated the subsequent privatization of services, such as water utilities in France and the United Kingdom.

Notes

1. In the United States the term *full faith and power* means the application of the general taxing power to the repayment of the debt. That power in its traditional and strongest formulation has meant the imposing of taxes "unlimited as to rate or amount" sufficient to repay the debt. As a practical matter general obligation defaults are almost unheard of and are promptly cured by a mandamus from a court to levy taxes and the intervention of state governments to make sure that happens. States in the United States are usually very sensitive to the risk of getting a bad reputation because of the failure of a local government to pay its debts. Default by a general government means the loss of local governing powers, sometimes with the appointment of a control board or a receiver to take over operations until the debt is resolved.

2. This type of security is known in the United States as *appropriation* or *moral obligation debt*. It recognizes that the debt is not a full faith and credit binding obligation but rather is subject to the will of successive legislatures. Its origins are lease rental debt that holds that the obligation runs only from fiscal year to fiscal year and is subject to legislative reconsideration each year.

3. This is a seldom applied but potentially useful approach. The senior level does not commit to pay the creditor directly; rather, it agrees that it will withhold payments from the locality. It in effect avoids a contingent claim by the private party on the funds.

4. The Argentina case study, chapter 14, discusses two pledges that were used in tandem: intergovernmental transfers from a specific asset (hydrocarbon).

5. There are other cases to be made for taxing utility consumption. In many cases, the consumption can be used as a proxy for income. In others, the ability to piggyback on the billing process lowers collection costs. Last, the ability to shut off utility services provides a powerful means of enforcement. In many countries, however, shutting off utilities to non-payers is either illegal or extremely unpopular. This is particularly the case where utilities have been provided for free or heavily subsidized.

6. Problems of local revenue raising are particularly acute in transitioning economies. In the communist system taxes were buried within the state-owned corporate system and were frequently negotiated and changed by administrative fiat. Since the taxes were at the corporate level, citizens were unaware of the burden and have often resented the adoption of visible, explicit taxes (see Estirn 2002).

7. This is the traditional notion of the enterprise revenue bond. Many variations have been designed by states in the United States to circumvent restrictions on tax-supported debt. This approach encourages the allocation of the full costs of services to the beneficiaries, which is desirable economically because it leads to efficient allocation of scarce resources.

8. During the Great Depression of the 1930s in the United States, some states defaulted on their general obligation securities but continued to pay on revenue bonds supported by the motor fuel tax. People and businesses would forgo paying property taxes (on which states relied heavily) while continuing to use automobiles and purchase fuel. States subsequently shifted their tax systems to rely more on the sales tax.

9. In some places, such as in South Africa, the subsidy runs from the utility to the general fund, rather than the other way.

10. However, most economists would applaud this elimination of the cross-subsidy on efficiency grounds.

11. For example, there may be requirements that the borrower not pledge the same asset to another lender, except under stated conditions, that the revenues provide certain coverage of the debt service (rate covenant), and that revenues be retained for use on the facility and to benefit bondholders (closed loop). Negotiation of these restrictions and the associated tests is an integral part of the borrowing transaction.

12. Subsidies can be hard to detect. Where the utility is part of the government, the allocation of costs can be highly judgmental. A government

may allocate many of its administrative and other costs to the utility or it may receive utility services below cost or for free.

13. A district may be "dependent" and overseen by the governing body of the municipality or "independent" with an autonomous elected or appointed board. In many areas storeowners or homeowners form associations to manage the district and levy charges. The key is the ability to levy taxes and charges and to seize properties that do not pay.

14. In its most common form in the United States and a few places in Europe, the tax district uses property taxes (percentage of taxable property value) or assessments (fixed dollar levies). However, the district can use other bases to charge for the benefit or service, including square footage (or meters) or front footage (or meters), number of vehicular trips (for roads), impervious surface (for drainage), lumens of light (for lighting), residential bedrooms (for educational facilities), square footage of space (for parking), and so forth. The key is that there be a logical connection between the improvement and the form of charge that is used.