

Integrating Land Financing into Subnational Fiscal Management

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Abstract

Land assets have become an important source of financing capital investments by subnational governments in developing countries. Land assets, often with billions of dollars per transaction, rival and sometimes surpass subnational borrowing or fiscal transfers for capital spending. While reducing the uncertainty surrounding future debt repayment capacity, the use of land-based revenues for financing infrastructure can entail substantial fiscal risks. Land sales often involve less transparency than borrowing. Many sales are conducted off-budget, which makes it easier to divert proceeds into operating budgets.

Capital revenues from sales of land assets exert a much more volatile trend and could create an incentive to appropriate auction proceeds for financing the operating budget, particularly in times of budget shortfalls during economic downturns. Furthermore, land collateral and expected future land-value appreciation for bank loans can be linked with macroeconomic risks. It is critical to develop ex ante prudential rules comparable to those governing borrowing, to reduce fiscal risks and the contingent liabilities associated with the land-based revenues for financing infrastructure.

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I. INTRODUCTION: WHAT THIS PAPER IS ABOUT

This paper addresses the integration of land financing into the broader fiscal management framework for subnational governments. Land assets are an important ingredient of subnational government finance in most developing countries. Land frequently is the most valuable asset on the asset side of subnational balance sheets. Direct sales of land by subnational governments are the clearest example of “capital” land financing. In addition, there are other instruments for converting public land rights to cash or infrastructure. Land may be used as collateral for borrowing, a practice that has a long history of financing urban investment. Today, land often is the most important public contribution to public-private partnerships (PPP) that build metro (subway) lines, airports, or other large infrastructure projects. Beyond physical land, rights to more intensive land development—a higher Floor Space Index (FSI) or higher Floor Area Ratio (FAR)—may also be sold by public development agencies. These “excess density rights” in effect represent the publicly controlled share of privately owned land. The development rights have economic value that can be sold by public authorities, as has happened in Mumbai, Sao Paulo, and the United States.

Unlike subnational government debt—the most prominent item on the liability side of the balance sheet—subnational governments’ management of land assets has been largely unregulated by higher-level authorities. Until recently, subnational governments in various developing countries typically have been free to sell land that they own, contribute it to public-private partnerships or public enterprises, lease occupancy or development rights to private parties, and otherwise use or dispose of it at their discretion. Table 1 summarizes several recent public land transactions in several developing countries. To provide a sense of scale, the revenue generated by land sale is compared with urban capital spending or the size of governmental borrowing to finance capital investment. Many of the reported land sales took place in 2006-2007. In retrospect, this can be seen to have marked a high point in land prices. Urban land values subsequently declined in various developing countries, but have recovered to new highs in parts of the developing world, especially Asia and parts of Latin America. The magnitude of revenue generated by land financing points both to the financial importance of public land assets, and the risks likely to be associated with inefficient management or badly handled land transactions.

The desirability of integrating land financing into the subnational fiscal management framework can be seen from several perspectives. First, the sheer size of land asset transactions points to the importance of regulatory guidelines. Second, land is a financially risky asset. Urban land values are highly volatile. Publicly owned land is in limited or fixed supply; decisions about land disposition therefore are difficult, if not impossible, to undo, either for a specific land parcel or for public landholdings as a class. If land sales are relied on to finance a significant part of local budgets, this source of revenue can suddenly shrivel or disappear in the face of land market declines or exhaustion of public land supply. Commercial land development by public entities can be even more volatile. Third, subnational land assets presently occupy a regulatory gap in many existing intergovernmental fiscal frameworks. Intergovernmental rules govern most other sources of local revenue, establishing which taxes and user fees local governments can impose, and typically setting limits on tax rates. Since the late 1990s, regulatory frameworks for subnational government debt have been put in place in various developing countries. These limit the size of subnational government borrowing, and seek to reduce the risk exposure of local authorities in managing local debt. Subnational debt regulation has proved especially valuable in the present worldwide financial crisis. Subnational governments in various developing countries have behaved prudently in managing debt, due in large part to the intergovernmental framework rules that have been put in place.

Table 1: Magnitude of Land Financing: Selected Projects and Locations

Location and Activity	Land Financing Amount and Use of Proceeds	Comparative Magnitude of Land Finance
Cairo, Arab Rep. of Egypt: Auction of desert land at urban fringe for new towns (May 2007, 3100 hectares). Seller was national ministry.	US\$3.12 billion: To be used to reimburse costs of internal infrastructure, to build connecting highway to Cairo Ring Road, and for general central govt. budget	Proceeds from this one sale equaled 117 times total urban property tax collections in the country; equal to approximately 10 percent of total national government revenue.
Mumbai, India: Auction of land in the city's new financial center (January 2006, November 2007, total 13 hectares) by Mumbai Metropolitan Regional Development Authority (MMRDA).	US\$1.2 billion: To be used primarily to finance projects in metropolitan regional transportation plan. Together with revenue from other land sales, is planned to finance the first phase of Mumbai metro system and 23-km bridge across the Mumbai harbor to the mainland.	10 times MMRDA's total capital spending in fiscal 2005; 3.5 times total value of municipal bonds issued by all local urban bodies and local utilities in India in the past decade.
Hyderabad, India: Contribution to private consortium by Greater Hyderabad Municipal Corporation of land surrounding planned metro line and metro stations.	According to contract agreement, (July 2008) a private company was to build the entire metro system in return for the land and concession rights, without cost to government. Over the lifetime of operation the company would return an additional US\$270 million (present value) to government.	It appears (as of late 2009) that this arrangement has fallen through, victim of the decline in land values and reduced demand for land development. The private company has been unable to raise the equity and debt (total: US\$2.5 billion) necessary to build the metro. It missed payments on the construction bond.
Istanbul, Turkey: Sale of old municipal bus station and former government administrative building site (March-April, 2007).	US\$1.5 billion in auction proceeds, said by municipal and national governments to be dedicated to capital investment budget.	Total Istanbul municipal capital spending in fiscal 2005 was US\$994 million; municipal borrowing for infrastructure investment in 2005 was US\$97 million.
Cape Town, South Africa: sale of Victoria and Albert Waterfront property by Transnet, the parastatal transportation agency (November 2006).	US\$1.0 billion, to be used to recapitalize Transnet and support its investment in core transportation infrastructure. Part of proceeds used to finance pension obligations, which in turn strengthened balance sheet and allowed Transnet to borrow from market without government guarantee or subsidy.	Sale proceeds exceeded Transnet's total capital spending in fiscal 2006; equal to 17 percent of five-year capital investment plan prepared in 2006.
Warsaw, Poland Sale at auction of municipal land assets.	Proceeds: Actual 2007, 330 million zlotys (approx: US\$110 million). Budgeted 2009, 144 million zlotys. Budgeted as capital revenue within the capital budget.	Land sales in 2007 exceeded municipal borrowing by 20percent. Budgeted revenues from land sales in 2009 were 70percent of budgeted borrowing by city.
China subnational land leasing for financing large-scale urban infrastructure.	According to the China Index Academy, the following cities led the way in land-leasing contract revenues in 2009: Hangzhou (105.4 billion yuan), Shanghai (104.3 billion) and Beijing (92.8 billion).	In Beijing's case, land leasing contract value in 2009 was equal to 45percent of total fiscal revenue.

Sources: First five cases modified from Peterson (2009); information for Warsaw from Kaganova (2010) and Warsaw City (2010); information for China from Xinhua (2010).

Higher-level governments in developing countries are just beginning to recognize the financial risks inherent in subnational land asset management, and beginning to integrate land financing into broader subnational fiscal management frameworks that reduce these risks. The current state of play may be compared to the initial efforts to construct regulatory frameworks for subnational debt fifteen years ago, when different approaches were being explored and before agreement was reached on many of the essential elements that should go into subnational debt regulation.

Although land assets rival, and sometimes surpass, subnational borrowing in the amount of financing mobilized, the financial aspects of public land transactions typically lack coherent oversight in many developing countries. Land sales often involve less transparency than borrowing. Frequently, land sales are conducted off-budget, which would make it easier to use proceeds to finance operating expenses or for other non-investment purposes. Non-competitive transfers of land assets to private firms, public-private ventures, or other subnational institutions raise questions about how the assets should be valued, and the potential squandering of government's asset base. Bank loans for financing infrastructure often are backed, directly or indirectly, by land collateral, creating the potential for systemic risk linking subnational debt to land markets. All of these factors make it critical to identify *ex ante* prudential rules, similar to those governing borrowing, to reduce the risks involved in land transactions and increase fiscal transparency.

National governments have an interest in fiscally well-run subnational governments. They can provide prudential rules that both point the way to better fiscal management and screen out excessive risks. Poor fiscal management by subnational governments may create not only adverse consequences for themselves but also systemic fiscal risks. Subnational defaults on debt, for example, may create pressure on national government to bail out the defaulting governments—placing sometimes acute burdens on national finances, as well as exposing the entire national credit market to higher risk ratings based on subnational performance. Potential exposure to systemic risk has been a primary motivation for the adoption of rules-based regulation of subnational credit markets. Typically, the rules limit the amount of debt that subnational governments can incur, and expressly disavow national-level bailouts of subnational credit defaults.

The potential systemic risk posed by land asset bubbles has been exemplified by the case of Japan where the explosion of land values at the end of the 1980s and intensified bank lending to land and property developers were followed by collapse of the land asset value, which contributed to the lost decade of near zero growth in Japan (Shiratsuka 2003; Ito and Mishkin 2006; Borio, Furfine, and Lowe 2001). Recognizing the systemic dangers that can be created by land asset bubbles, various developing countries have started reform efforts. In some countries where the majority of urban land is held by subnational governments, these efforts have translated into a series of new rules affecting subnational land transactions. China, for example, has begun to develop rules for subnational governments' land asset disposition.¹

This paper deals with managing the fiscal risks of subnational land financing and transactions against the background of subnational borrowing regulation and the framework for managing subnational financial risks. It emphasizes *ex ante* prudential rules to reduce fiscal risks. There are broader issues relating to land management which are outside the scope of this paper,² including

¹ See "Report on the Work of Government," Third Session of the Eleventh National People's Congress, Beijing, China, adopted March 14, 2010, http://news.xinhuanet.com/politics/2010-03/15/content_13174348.htm. People's Online Daily 2010.

² Broader issues include the role of publicly owned land in spatial planning and urban development, the inter-relation between public land transactions and land market dynamics, resettlement and safeguard, coordination of land policy across different governmental and quasi-governmental institutions, as well as effective economic management of individual parcels of property owned by subnational governments. We

the political economy challenges, i.e., the potential lack of organized groups pushing for land regulation from a fiscal management perspective. Although it is beyond the scope of this paper to discuss how such a constituency could be mobilized, the politics of reforms needs to be recognized. Although the paper does not address urban planning and urban land markets as such, one element of intelligent urban planning is recognition of the value of land in alternative uses, an issue which the report does address. One of the most important risks in public land management is that public sector entities either will ignore the market value of land in making land-use decisions or, at the other extreme, will act as profit-maximizing quasi-monopolists whose goal is simply to extract the greatest financial value from the land or development rights they control, potentially contributing to a land asset bubble. These institutional risks, and how to protect against them, are addressed.

Many different government institutions can own or control urban land. It is typical of most developing and developed countries that control over public land is split among a large array of public agencies belonging to different levels of government. Individual municipalities often own sizable parcels of well-located land. Above the municipality, typically, are a variety of metropolitan-scale agencies, such as Urban Development Authorities, Housing Authorities, public infrastructure providers, and many others. These may be independent agencies, part of a consolidated metropolitan government, or arms of the state or national government. Large urban land parcels may also be held by national-level agencies or public corporations, such as the Railways Authority, the Ports Authority, or the Airports Authority. These institutions come into play not merely because they hold important parcels of land, but because they often hold large “excess” land parcels not used for public service provision. In federal or quasi-federal systems, state and provincial governments also can account for a large share of urban land holdings.

Below the municipal level, land frequently is held by municipally owned enterprises or other subsidiary institutions, like utility companies. When these enterprises are not merely owned by the municipal government but effectively controlled by it, key land-use and land disposition decisions are made by the municipality. More often, local government enterprises have goals and decision-making processes of their own, which makes them at least partially autonomous and resistant to coordination. Perhaps the most common theme encountered in urban land asset management, as well as in metropolitan-scale urban planning and urban infrastructure financing, is the difficulty of coordinating plans and financing across these fragmented agencies. Each has its own budget, its own legal powers, its own mandate, and its own bureaucratic instinct for survival and growth. It is beyond the scope of this report to tackle the politics of metropolitan governance. However, some of the financial implications of institutional fragmentation for urban land management are discussed.

The focus of this report is managing the fiscal risks of subnational land financing and transactions. The paper brings together two tracks of work. A significant amount of work has been carried out on the appropriate regulatory frameworks for subnational borrowing and fiscal sustainability covering several developing countries (see Canuto and Liu, 2010; Liu and Waibel 2008, 2009). A recent study of land financing of infrastructure investments has documented the large role that public land assets play in financing urban infrastructure in developing countries (Peterson 2009). By bringing together these two tracks of work, the paper focuses on the fiscal and financial risks involved in land financing, and the regulatory framework for reducing such risks.

have focused on *urban* land in this report because of its significance as the most financially important land asset, and because in many developing countries subnational governments have ownership rights to urban public land that are more clearly defined than in rural areas.

The paper is structured as follows. Section II examines the fiscal risks involved in land asset financing, and different policy approaches to dealing with these risks. Section III identifies the key elements of a regulatory framework for managing fiscal risks from land financing. The section includes a comparison of emerging land-financing regulations with existing subnational debt regulation. Section IV draws upon the experience of both advanced countries and several developing countries in actually designing and implementing fiscal risk management for subnational land financing. The review shows that design of the appropriate framework for risk management is a work-in-progress, but that different countries are wrestling with similar issues. Section V draws general conclusions for moving forward, both in policy design and research.

II. LAND FINANCING: FISCAL RISKS AND POLICY ISSUES

This section examines some of the specific financial risks and policy issues involved in using land transactions to finance subnational budgets. The regulatory framework that is emerging can reduce these risks and provide incentives for better management. It can: (i) prohibit or restrict actions that create inappropriate risk, (ii) prescribe actions that reduce risk or improve economic efficiency, and (iii) establish incentives that better align institutional behavior with desirable financial and economic outcomes.

How Much Land Does Subnational Government Own? How Much Does It Sell?

Critical to the design of fiscal management frameworks is accurate information. For land financing, the basic ingredients of an information system are the amount and value of land held by subnational governments, the extent of “surplus” land (i.e., land held by subnational institutions that is not required for public service delivery or other public use), the volume and value of public land sales, the prices at which land is being sold, and the budgetary use of land-transfer proceeds. This information is needed for effective financial management at the local level. It is also a prerequisite for design of a subnational fiscal management framework and for monitoring compliance with framework rules.

Information and transparent reporting of this kind are missing in many countries. The lack of reliable information would make it difficult for higher-level authorities to identify current or potential fiscal risks that need to be addressed. Specifically:

- It is important to have reliable reporting for an urban area of total land sold, land prices, land-sale proceeds, or the use of proceeds. The institutions holding land may do their transactions off-budget, and try to avoid transparent reporting. Sometimes, they do this for fear of having to share revenue proceeds with other governmental institutions.
- Many public authorities do not have adequate records of the land they own or control. Many have no institutional memory of their total landholdings.
- It is a challenge to aggregate consistently subnational landholdings by key characteristics.
- When comprehensive inventories are undertaken, they reveal surprisingly large amounts of land in public hands. When land sales are aggregated across institutions, they also tend to be surprisingly large.

In short, frameworks for managing the risks arising from land transactions need to be grounded with accurate data gathering. The absence of comprehensive information heightens risk. The situation may be compared to the early days of designing fiscal rules for managing subnational debt, when the very magnitude of debt issued by subnational institutions, as well as the terms of credits and the extent of subnational guarantees, were frequently unknown.

Box 1: Public Land Ownership

The World Bank's Urban Growth Management Initiative reports that publicly owned land accounts for more than half of total city territory in 19 percent of the cities in its sample, including Algiers, Moscow, and Singapore, and more than one-quarter of city territory in an additional 19 percent of cities, including Ho Chi Minh City, Istanbul, and Pusan. A partial inventory of publicly owned land in Chennai, India, conducted some years ago, found that 30 percent of all land was owned by government institutions. At the metropolitan scale, the public share of land ownership is often greater. There is a regional pattern to public ownership of urban land in developing countries. The percentage is highest in Asia, Eastern and Central Europe, the Middle East, and Africa. It is lower in Latin America and North America.

Sources: Rajack (2007); Bertaud (2002).

How Should Publicly Owned Land Be Valued?

For financial management, the economic or market value of property is fundamental to many decisions about land use, including the decision of whether or not to sell a land parcel, how to evaluate the public's contribution of land to a joint venture or public enterprise, or how much land collateral should be pledged as security for a subnational government's borrowing. All these activities have implications for fiscal risks and contingent liabilities.

Despite the manifest advantages of knowing the value of publicly held land before making decisions about how it should be used, it is a practical challenge to systematically value public land. One issue is the cost of land-value appraisal. Another issue is the volatility of urban land prices, which can lead to steep fluctuations in reported subnational land values from one year to the next. A system that requires annual market valuation of all land assets would be difficult and expensive to implement, with relatively modest practical payoff, since few of these parcels will be sold or transferred in a given year, and many of the land parcels are dedicated to public service provision and therefore cannot be sold.³

Economic distortions resulting from the lack of information about land values can be compounded by deliberate national policies that assign zero or artificially low values to land owned by subnational governmental units as an incentive to certain types of economic development.

A policy priority is to establish fair market prices for those land parcels that government has under consideration for disposition—through sale, contribution to public-private partnerships, transfer to subsidiary enterprises, or designation as surplus property. Countries have adopted alternative instruments for this kind of price discovery. On municipal governments' contribution of public land to private infrastructure partnerships, Kuwait's new land regulations require that any public land parcel considered for contribution to a PPP must be appraised by two independent specialized appraisal firms, whose valuation estimates are to be made public before any decision is made about a land transaction (Kuwait 2008). Alternatively, some countries now require that public land be sold only through competitive auctions.

³ In Roman law, applicable to most of continental Europe, Mexico, South Africa, and a number of other countries, government-owned properties are divided into two major groups: (1) those belonging to the "public domain," which cannot be alienated (i.e., sold or mortgaged) without special prior legal approval; and also may have restrictions limiting them to public use, and (2) those belonging to the "private domain," where publicly owned property is regulated similarly to privately owned property. In most other countries, specified legal steps are required to declare that property used for public service delivery "surplus" property, is no longer required for that purpose, and hence available for sale or alternative use.

Box 2: South Africa's Property Tax System

South Africa has introduced a promising solution to the valuation of subnational property and, at the same time, a mechanism for making institutions that hold valuable public property feel the opportunity costs of continuing to hold such property. Under South Africa's Municipal Property Rates Act (implemented in 2005), public property is assessed at market value using the same valuation techniques that are used for assessing private property. Public property owners also must pay property tax, following the same principles as private property owners. Land is valued separately from improvements at market rate.

Source: Pillay, Tomlinson, and DuToit (2006).

Volatility of Financing Capital Budgets

Publicly owned urban land assets are in limited supply. Although urban authorities can acquire new land at the urban fringe, and under certain conditions can acquire land through condemnation or eminent domain, urban land cannot be "produced" indefinitely. Sale or leasing of public land is not a "recurring" source of revenue. For this reason, revenues from the sale or other disposition of public land should be treated as one-time revenues, with proceeds used to finance investment in urban infrastructure assets or finance other one-time expenditures such as major institutional reforms. In countries that have formal capital budgets, revenues from land sales typically are designated for budget purposes as capital revenues. They are used to finance activities eligible for spending under the capital budget, along with other sources of capital revenue such as borrowing and carryover of savings from the operating budget. The City of Warsaw, Poland, for example, following national financial reporting rules, shows the proceeds of all property sales, as well as the proceeds of land sales, on the revenue side of its capital budget (Warsaw City 2010).

In moderation, the use of land-based revenues for capital finance should reduce overall capital financing risk. Land sales, upfront land leasing, and contributions of land to infrastructure joint ventures all generate revenue or assets up front. Land transactions of this kind complement other types of financing by reducing uncertainty about future financing sources. When land finance substitutes for borrowing, it reduces the risk surrounding future debt repayment capacity and the need to generate future revenue streams to meet future debt service.

Extreme reliance on land assets to finance urban capital budgets, however, creates risks of its own. Urban land markets are highly volatile, especially in developing countries. Land prices can undergo swings of 50 percent in either direction, and in times of crisis even more, as demonstrated during the Asian financial crisis of the 1990s (Mera and Bertaud 2000) and again during the market collapse starting in 2008. Demand for land development can collapse in volumes as well as in price. Volatile land prices and swings in developer demand for land conversion combine to create volatility and uncertainty in this source of capital finance. Box 3 illustrates for Mumbai, India the effect that such volatility can have on capital budgets, when revenue from land asset sales or upfront land leasing is a main source of public infrastructure finance.

Other examples of volatility abound. Hong Kong, China between 1996 and 2000 raised via land leasing revenues an amount equal to 130 percent of its expenditures on public works and 18 percent of its entire budget expenditures. However, land prices and demand for land fell precipitously as a result of the Asian financial crisis, leading Hong Kong, China to suspend land leasing altogether between 2001 and 2003. The loss of revenues from land leasing contributed to steep fiscal deficits that at their peak reached 30 percent of fiscal revenues (Hong 2003; Peterson

2007). In Warsaw, Poland, proceeds from municipal land auctions fell from 329.6 million PLN in 2007 to 1.2 million through the first 10 months of 2009 (Kaganova 2010).

Box 3: Volatility of Land-Asset Revenues and Capital Spending

Mumbai, India has adopted a long-term urban development plan. The anchor infrastructure projects in this plan are a new metro rail system and a 23-km bridge over open water connecting the island city of Mumbai to the mainland peninsula to the east, where a concentration of industrial Special Economic Zones is being constructed. The most recent financing plans for these projects called for both to be financed primarily from the proceeds of land sales received by the Mumbai Metropolitan Regional Development Authority (MMRDA). The vast majority of MMRDA's land sale revenue comes from sale of land at its Bandra-Kurla financial complex. The table below shows how steeply demand and land prices have fluctuated at Bandra-Kurla. As a result, no private bidders responded in January 2009 to the government's tender for bids to build the trans-harbor bridge.

Land Sales by MMRDA at Bandra-Kurla Complex

<u>Year and Use</u>	<u>Price per Square Meter</u>
1993	Rs.30,000
1995 (Diamond Bourse)	Rs.42,500
1998-2000	Sales suspended because of Asian financial crisis
Late 2000 (Citibank)	Rs.86,000
January 2006 (convention center)	Rs.153,000
November 2007 (commercial complex)	Rs.504,000
Late 2008	Failed auction Sales suspended because of the global financial crisis

Source: Peterson (2009).

Land as Collateral for Subnational Borrowing

During the high-growth period of urban development, publicly owned land often has been used as collateral for borrowing to finance subnational public investment. The expectation that land values will increase with urban growth has made land an attractive asset for loan collateral, both for public borrowers and private lenders. However, this practice magnifies the risks related to borrowing, as land values decline in periods of economic stress, when it is most difficult to finance loan repayments. In many cases, not only subnational governments but also their enterprises have borrowed using property under their control as collateral. There is a potential for heightened systemic risk when the entire subnational sector relies heavily on land and land values to provide security for subnational borrowing. Box 4 illustrates the historical use of land-based municipal borrowing to finance the re-building of Paris in the 19th century, and the risks that eventually triggered a financial crisis that impacted the national finance system. It also summarizes China's use of subnational borrowing against anticipated land-value gains to finance major urban highway projects—a practice that the national government now has prohibited by regulation in order to limit subnational fiscal risks.

Box 4: Risks of Land as Loan Collateral

Baron Haussmann's reconstruction of *Paris*, France in the 19th century was one of the largest urban redevelopment programs ever undertaken. Two-thirds of the costs were borne by the municipal government, via budgetary contributions, land sales, and borrowing. Haussmann acquired huge swathes of land through condemnation and expropriation at current-use value or less. After construction of grand boulevards and installation of infrastructure lines, excess abutting land was sold to private promoters at prices greatly enhanced by the public works. Land sales by the municipality were used to repay the borrowing used to finance construction.

For more than 15 years, this process worked successfully to finance massive urban investment. In the end, however, it revealed two types of risks that undermined the scheme. First, the courts eventually ruled that the municipality could not capture all of the land-price gain resulting from public improvements. Much of this gain had to be shared with the original landowners. This impaired the municipality's ability to finance investment from public land profits. Second, most of the investment activity and borrowing was conducted off-budget, unknown to the municipal council and without public oversight. When the rules regarding landowner compensation were changed, the city had to default on many of its debt obligations, precipitating a crisis throughout the entire French financial sector.

In urban *China* during the 1990s and early 2000s, one of the most used forms of financing for major infrastructure projects was to borrow against the future anticipated value of land after infrastructure was installed. For example, the city of Changsha (Hunan Province) contributed undeveloped land on both sides of a proposed ring road to the municipal-owned Ring Road Corporation. In its existing condition, without infrastructure or road access, the market value of most of this land was very limited. However, the Corporation was able to borrow US\$350 million from China Development Bank and commercial banks for highway construction, based on the projected value that the land would have after completion of the ring road. Borrowing that is based on the *future* appreciation of land values is particularly risky, given the history of land market fluctuations in China and elsewhere, as well as the risk of project completion. One of the first steps that the government of China took in limiting the risk of subnational debt (in 2003) was to require that banks making loans to municipalities appraise land collateral at its current market value rather than at its projected value after the completion of infrastructure investment.

Sources: Peterson (2009); Peterson (2006)

Land and infrastructure often are the ultimate collateral supporting debt to finance publicly sponsored development projects. Experience has demonstrated that the risks in this arrangement require special regulations. When the State of California (United States) adopted Proposition 13, it essentially froze local property tax assessments and property tax rates, limiting local governments' borrowing power. Other laws directly restricted local debt issuance. As a result, public authorities looked for ways to shift to private developers (and ultimately homebuyers) the costs of infrastructure investment for new residential subdivisions. One instrument was Mello-Roos bonds, which allowed private developers to borrow against land values and the anticipated revenue stream that would materialize when the subdivision was sold out. Private developers were allowed to add the amounts necessary for debt repayment as a separate item in the public property tax bill. In recognition of the potential fiscal risk, from both declining land values and the failure to complete or sell out development projects, special regulations were put in place limiting the amount of infrastructure debt developers could issue to one-third the appraised value of land. Even so, Mello-Roos bonds have had much higher default rates than local government bonds issued to finance the same types of infrastructure, and have been flagged as risky instruments by the credit rating agencies.

Diversion of Land-Sale Proceeds to the Operating Budget

One of the greatest potential risks to subnational finances is that the proceeds from the sale of land or other assets owned by subnational governments will be used to finance recurring operating expenditures. This practice can build an unsustainable level of current spending, and place the subnational government unit at risk when it has to cope with a budget shortfall once asset sales are exhausted. It also depletes wealth that should benefit more than the current generation.

This risk is high if subnational budgeting systems do not separate capital revenues from current revenues and do not restrict the use of revenues from land and property sales. A parallel risk arises when land transactions are conducted by subnational governments and public enterprises off-budget. Revenues are not reported through the formal budget system. A subnational institution may have greater incentive to conduct off-budget transactions when it should share most or all of its revenue from land sales with a higher-level or general-purpose government. In this case, the subnational institution has an incentive to treat land sales, and other revenue-producing land deals, off-budget, so that they do not have to be reported to higher-level government. One way of shifting land off budget to avoid revenue sharing has been to transfer property to subnational enterprises and to conduct property transactions through them.

There are a number of ways to mitigate the risk that land sale revenues will be funneled into operating budgets. Regulatory and accounting requirements that such revenues be treated as capital revenues within the capital budget provide the most straightforward solution in countries that have separate operating and capital budgets. As part of the capital budget, revenues can be used for public investment but also for financing one-time budgetary structural reforms. Another option involves regulatory earmarking of such revenues for capital investment. For example, national law in Ethiopia requires that 90 percent of municipal urban land sale revenue be used for financing infrastructure investment.

Recurring revenues from land owned by subnational authorities may appropriately be allocated to subnational operating budgets. In cases where public authorities develop commercial or industrial projects on public land, for example, development costs can be recaptured through annual rental charges and used to finance debt service through the operating budget. For economic efficiency and fiscal prudence, it is essential in these cases that all parts of a public development project, including land, be valued at market prices, and that the decision whether to publicly develop a site, sell land to the private sector for private development, or hold land in the public domain for future development and future increases in land value be made taking into account realistic market valuations.

Institutional and Behavioral Issues

To this point, we have considered specific financial risks associated with land financing and the management of public land assets. On the ground, a common complaint lodged against public use of land financing tends to be institutional and behavioral. Although these issues are beyond the scope of this paper, they deserve mention. Individual officials and public institutions can create large land-value gains through their actions. Large sums of money pass through their hands, largely off-budget and off-balance sheet, when land transfers are consummated. This mode of operation invites abuse and corruption. Even when corruption is not involved, the institution that sells land is likely to try to keep the proceeds within its agency and may use them for such purposes as new office buildings for agency employees. The belief that revenue generated from public land sales can be misused, wasted, or corruptly diverted has contributed to the public resistance land sales have encountered when proposed as a financing strategy for urban development in places ranging from the United States to urban India.

In countries where municipal governments have full control over urban land, there is a fiscal incentive for governments to act like profit-maximizing land monopolists, by acquiring as much land as possible as cheaply as possible at the urban fringe, converting it into municipally owned urban land, and selling the land or land-use rights to developers at the highest price the market will bear. Altschuler and Gomez-Ibanez (1993) long ago called attention to the fiscal incentives embedded in land-use controls in the United States. The tactics of some Chinese municipalities in acquiring land at the urban fringe and stockpiling it for future financial use have prompted the national government to impose several important regulatory restrictions. These include new

compensation standards for municipal acquisition of rural land, and strict enforcement of regulations prohibiting municipalities from stockpiling excess land by designating it for future industrial development zones, without explicit higher-level authorization.

III. TOWARD A SUBNATIONAL REGULATORY FRAMEWORK

This section outlines the basic elements of a framework for regulating the fiscal and budgetary risks associated with subnational land financing and land transactions. We look at the parallels between subnational debt regulation and land asset regulation, to see if a similar approach can be employed in designing the regulatory framework.

Integrating the fiscal aspects of land financing into the subnational fiscal management framework fits within a broader context. Land financing is part of land asset management, which in turn is part of more comprehensive government property management. Government property management, including government buildings and infrastructure, manages public assets so as to improve economic efficiency in both the public and private sectors. Where systemic risk from land price bubbles is a factor, fiscal controls over subnational governments may have to be complemented with other macroeconomic initiatives, such as regulations on lending for land transactions by financial institutions.

It needs to be emphasized that there is no single set of “best practices” or “model frameworks” that apply to all countries. Several of the risks discussed in this paper can be tackled in different ways. Policies of land asset regulation need to be consistent with the institutions and intergovernmental relations that each country has developed. A national regulatory framework needs to be carefully designed so that it does not demand of subnational governments more sophisticated performance than they can reasonably deliver. If there is a common failing in the frameworks now in effect in developing countries, it is that they require unrealistically high standards of performance in some aspects of land asset regulation, while providing no guidance on other critical matters.

Comparison with Regulatory Frameworks for Subnational Debt

From a balance-sheet perspective, there is a parallel between subnational debt on the liability side of the balance sheet and publicly held land assets on the asset side of the balance sheet. It is instructive therefore to compare the regulatory framework that has evolved for subnational debt management since the late 1990s in developing countries with the framework that is beginning to emerge for subnational land asset management. The comparison addresses primarily *financial* management of land assets and land transactions.

National regulation of subnational debt has been motivated in large degree by the fear that excessive borrowing at the subnational level can place national fiscal management at risk, because of the expectation that the national budget would be used to bail out subnational debt obligations in the event of default. This risk has been greatest in federal systems, where states have independent borrowing authority, or in highly decentralized fiscal systems, where state and local governments are responsible for the bulk of infrastructure investment and can issue their own debt. In these cases, subnational borrowing can take place on a scale that, if not prudently managed, can place national fiscal stability at risk. Subnational fiscal imprudence in countries such as Argentina, Brazil, India, Mexico, and Russia contributed to the macroeconomic deteriorations there in the 1990s (Liu and Waibel, 2008).

Subnational debt regulations have sought to impose prudential limits on borrowing, and often have sought to separate national liabilities from subnational liabilities by expressly stating that the national government will not assume responsibility for debt servicing in the event of subnational

default. At the same time, subnational debt regulation has the intent of supporting subnational fiscal stability. One type of the new generation of fiscal controls often calls for budgetary intervention by higher-level governments when a subnational government defaults or is in danger of defaulting (Canuto and Liu, 2010a; Liu and Waibel, 2009). The framework for subnational debt regulation is part of a broader regulatory framework designed to discourage excessive risk-taking at the subnational level, and to encourage prudent fiscal management.

In the case of fiscal risks associated with land asset management, most attention has been devoted to establishing rules that require or help subnational units to manage their own financial dealings more prudently. Although the risks involved in poor subnational land asset management have on occasion escalated into national financial crises, these instances are relatively uncommon and most often have been associated with excessive debt taken on to finance public land development. Nonetheless local land asset management does have fiscal spillovers at the national level. Given their financial significance, if public land assets are not managed responsibly, they place pressure on national governments to finance local infrastructure investment through intergovernmental grants and subsidies. The countries that have taken the lead in intergovernmental land management, like Canada, Australia, and the United Kingdom, have done so with the explicit recognition that subnational authorities (and the national government itself) must do more to realize the financial value of property assets, in order to reduce reliance on taxes and borrowing to finance infrastructure investment.

Recent worldwide experience has highlighted the potential of systemic risks deriving from land and property price bubbles. In countries where the bulk of urban land is owned by subnational governments, national authorities have focused increasing attention on framework rules that set prudential limits regarding the operations of subnational governments in land transactions. China has been a leader in this regard, as it seeks to sustain rapid economic growth, supported by moderately expansive credit policies, without triggering land and property price bubbles.

Since the late 1990s, various developing countries have moved toward national frameworks regulating subnational debt. Rules-based regulation of subnational debt markets has helped enhance the stability of these markets, and reducing the danger that subnational debt crises will escalate into national fiscal crises (Canuto and Liu 2010). Table 2 outlines the structure of a prototypical framework for subnational debt regulation, and considers the analogous rules that might apply to the management of fiscal risks from subnational land financing. Given that this is the first attempt to explore such an analogy, we focus on main conceptual elements only, without dwelling on technical details. The purpose of the exercise is to explore the potential, and limitations, of a similar rules-based approach to regulating fiscal risks of subnational land finance.

Table 2: Comparison of Regulatory Frameworks -- Key Elements

Regulation on Borrowing	Rationale/Comment	Applicability to Land Assets
<p>Purpose of Borrowing Long-term borrowing—i.e., borrowing for other than cash flow management within a fiscal year—must be used for capital investment.</p>	<p>This is the most universal regulation. It reflects the basic ‘golden rule’ of macro finance, that debt should be used for capital formation or other expenditures that fit appropriately within a capital budget.</p>	<p>A parallel rule would apply to land sales, with similar rationale. Asset sale proceeds must be used to finance capital expenditure, finance similar investments, or one-time budgetary expenditure reforms.</p>
<p>Foreign Exchange Regulation Local governments are prohibited from borrowing in foreign currency unless it is approved by the central government, meet debt limitation rules, and/or guaranteed by the central government.</p>	<p>Not universal, but a common prohibition. Rationale is that local governments do not earn foreign exchange, and therefore have no control over their ability to repay debt denominated in foreign currency. This also reflects the disastrous experience that many countries previously had with foreign currency debt at the subnational level (Mexico, Argentina, Russia, etc.)</p>	<p>A partial parallel exists regarding international capital flows. Many countries have identified these flows as the driving force behind rapid land price increases. Flows from oil-rich nations accounted for part of the very rapid increase of land values in Egypt, Turkey, South Africa and elsewhere. A number of developing countries have imposed limitations on foreign investment in land and property, in an attempt to limit the volatility of land markets and reduce their exposure to land price bubbles.</p>
<p>Fiscal Targets A debt ceiling is prescribed in law. This ceiling may be expressed in terms of the stock of debt, relative to subnational budget revenue or subnational GDP, or in terms of the debt service ratio (debt service/revenue), or both.</p>	<p>This is nearly universal. It is intended to reduce/eliminate the risk that a subnational government will borrow more than it can repay. It provides a shorthand measure of debt capacity.</p>	<p>A partial parallel exists on the asset side of the balance sheet. It concerns “excessive” asset sales, or asset stripping to generate short-term revenue. Regulations may require local authorities to certify that land (or other assets proposed for sale or transfer) is not needed for public purposes.</p>
<p>Supply Side Regulations Banking regulations often require that banks maintain risk-adjusted capital ratios for different types of loans, where the capital ratio depends on the credit rating of a subnational government or the central bank’s mandated capital ratios for different types of loans, reflecting risk assessment.</p>	<p>The regulation is intended to protect the banking or financial sector from risky lending, by lowering credit leverage as credit risk increases.</p>	<p>Loans or bonds backed by land collateral may require special regulation, due to land price volatility and the dependence of land values on the completion of major infrastructure or development projects. Such rules could set minimum collateral/loan ratios for land-backed loans, and prescribe that for collateral purposes land must be valued at current market value.</p>

Table 2: Comparison of Regulatory Frameworks: Key Elements (Continued)

Regulation on Borrowing	Rationale/Comment	Applicability to Land Assets
<p>Contingent Liabilities & Inventories Regulations require that subnational government guarantees of third-party loans (e.g., subnational enterprises) be counted as debt for debt ceiling purposes, either at full value or risk-adjusted. This in turn requires a comprehensive inventory of subnational guarantees, as well as all of the different types of debt that a municipality and its constituent elements have incurred.</p>	<p>In practice, this “inventory” of subnational debt obligations and guarantees has been one of the most difficult challenges. Until an inventory is undertaken, there typically is no comprehensive understanding of subnational aggregate debt obligations.</p>	<p>A closely parallel situation arises in managing subnational land finance. An accurate accounting and reporting of subnational land transactions and land ownership is necessary to understand the potential risks. Similar to loan guarantees, land may be transferred to or from third parties in non-transparent ways that entangle and obscure financial reality.</p>
<p>Fiscal Transparency Subnational borrowing should be brought on budget, preferably through a separate capital budget that spells out capital revenue sources and investment expenditures. Outstanding debt obligations should be spelled out on the liability side of the local government balance sheet, or in equivalent notes. Budgets, financial statements, and balance sheets should be publicly reported.</p>	<p>Transparency of this kind is necessary to reduce private financial dealings and corruption, and to build the basis of fiscal accountability, both ‘downward’ to citizens and ‘upward’ to higher-level governments. Off-budget transactions can obscure financial reality.</p>	<p>Bringing land transactions on-budget is a critical part of regulation in this area. All information on public land inventories, public land valuations, land sales, and land contributions to public-private joint ventures or subsidiaries should be conducted through transparent instruments, be reflected in the budget and financial statements of either the subnational government or of the special purpose vehicle serving as the financing instrument, and be a matter of public record.</p>
<p>Collateral Restrictions Regulations commonly identify public-purpose property that cannot be offered as collateral for subnational borrowing. A Pledge Law commonly requires registration of all property pledged as collateral so as to protect against “double pledging.”</p>	<p>The purpose of the first regulation is to prohibit a lender from foreclosing on property that is essential to service delivery or the performance of basic government responsibilities.</p>	<p>Exactly parallel. In fact, the same law typically identifies what types of publicly owned property can and cannot be alienated, either by sale or as collateral for loans. The registration of land and property collateral for land-management purposes involves exactly the same information required for subnational debt regulation.</p>

Sources: Liu and Waibel (2008, 2009) on subnational debt regulation, authors’ own research.

Additional similarities exist between other aspects of Debt Management Policy and Land Asset Management Policy. Some of the issues below may be addressed as policy guidelines rather than regulatory requirements.

Table 3: Policy Parallels between Subnational Debt Management and Land Asset Management from a Fiscal Risk Perspective

Policy on Borrowing	Rationale/Comment	Applicability to Land Assets
Limiting or prohibiting subnational guarantees of third-party loans. Restrictions on lending from one public entity to another.	Recognizes that there is an incentive for risky borrowers to seek subnational guarantees, and for inter-related public entities to support one another in ways that violate arm's-length standards. Rules may prohibit private companies from getting such guarantees, limit the scope of guarantees for subnational enterprises, or require full accounting of such debt in debt ceilings.	Parallel involves prohibition on the transfer of surplus land to other government units or enterprises, private developers, or public-private partnerships, except on a fully disclosed contractual basis. Land values should be disclosed as part of this reporting.
Establishing "trusts" that receive the receipts of bond sales, bank loans. Proceeds are dedicated by law to infrastructure investment (or specified investment projects). A legal trustee is responsible for seeing that funds are not diverted.	Intended to serve two purposes: (i) that proceeds from borrowing are not used for unauthorized purposes, (ii) the same trust, or a separate one, may collect revenues earmarked for debt repayment, to ensure that revenues are collected per debt covenant and are available exclusively for debt servicing. These trusts have been an important element in establishing subnational creditworthiness in some countries.	A parallel policy argument may apply. A land trust (as recommended for Egypt, or found in some US states) could receive land sale proceeds, and ensure that proceeds are used for infrastructure investment as prescribed by law.
Market pricing of borrowing. There is a policy argument for having creditworthy subnationals borrow at the true, market cost of capital. There are counter-arguments for subsidizing loans under some conditions.	This issue has been the subject of continuing policy debate. However, it is generally agreed that significant movement toward market pricing of municipal and state/provincial debt would be economically efficient, at least for those municipalities that are creditworthy.	Very closely parallel. If anything, the argument for market pricing of land is even stronger—though there are counter arguments for incorporating subsidies under certain conditions. Clarifying guidelines identifying the specific situations in which below-market land pricing is permissible would be helpful.
Competition. One important policy is that a competitive market should be established on the lending side, to ensure the lowest cost, sustainable availability of credit. This means opening access on equal terms to bank lending and bond issuance, prohibiting monopolies of 'municipal or provincial/state banks,' etc.	This has been a tough challenge. The primary experience coming out of Europe and many developing countries has been to have a specialized municipal or provincial/state lending bank with monopoly lending rights, often tied to allocation of grants/subsidies for infrastructure projects.	Competition in this case means encouraging equal market access to all potential buyers of land, mandating auctions with adequate public advertising or similar competitive procedures for disposing of land assets, ensuring that these are administered to encourage open access, etc. In some countries, state-owned enterprises have been alleged to have unfair advantages in bidding for land. Restrictions on their participation in auctions have been adopted.

The above review suggests a useful parallel between subnational debt regulation and national oversight, or subnationals' own regulation, of fiscal risks relating to subnational land transactions.

The introduction of a regulatory framework for subnational debt management can serve as a useful precedent for introducing a regulatory framework for managing fiscal risks associated with land transactions. However, the analogy should not be pushed too far. The national government's own fiscal condition is likely to be placed at greater risk by exposure to uncontrolled subnational borrowing. The case for intergovernmental regulation of land or property asset management rests more on the support it gives to sound fiscal management at the subnational level, and the consequent relief of demand for grants from the national budget to finance basic infrastructure. The emerging understanding of the dangers that "land price bubbles" can pose for macroeconomic management is an exception to this generalization. In countries where subnational governments are the primary holders of urban land, fiscal and monetary management to avoid land price bubbles necessarily carries over to the framework for managing subnational land finance.

IV. CURRENT AND EMERGING PRACTICES FOR MANAGING THE FISCAL RISKS OF SUBNATIONAL LAND FINANCE

Another way to approach the preparation of guidelines for regulation of fiscal risks from subnational land finance is to examine current practice, ranging from advanced countries to relatively low-income developing countries. So far, little has been compiled comparatively about the actual rules governing the financial aspects of land asset management across different countries. In an attempt to start filling this void, the authors have taken stock of actual land asset regulations applicable to subnational governments in the following areas: inventories of publicly owned land, valuation of land parcels, reporting of land transactions, competitive land market disposition, use of funds for capital earmarking, and land as collateral for borrowing including risks from potential land asset bubbles. These areas provide a basis from which to develop regulations of fiscal risks from land related financing.

We assembled comprehensive information in these areas for four countries in our sample: Indonesia, Kyrgyzstan, Serbia, and the United Kingdom.⁴ The mix of these four countries covers a critically important case of governments that have a high level of discretion regarding municipal property, albeit from two countries that differ on the scale of development: Kyrgyzstan and the United Kingdom. In particular, in Kyrgyzstan, municipal borrowing does not exist yet (though it is permitted by law), but there is a high level of decentralization of public land and land management. In the United Kingdom, though it has a centralized government, local authorities own substantial property portfolios and exercise a high level of discretion over them, but must work within one of the world's most advanced and quickly evolving regulatory frameworks. Indonesia has decentralized both financial management and property asset management, along with other responsibilities as part of its decentralization since the early 2000s. Serbia is still in the early stages of government decentralization, and property assets are controlled by the central government to a large extent.

Original research in these four countries was complemented by a desk review of the evolving regulatory frameworks in several other countries, including China, Egypt, Ethiopia, Hungary, and Kuwait, as well as the current regulatory frameworks at the national level in Australia and Canada, which are acknowledged leaders in public asset management.

Below we provide a summary of current regulatory practice, and recent changes in practice, for several of the major areas of fiscal risk highlighted in Section II and in Section III's comparison

⁴ This work was with the participation of local professional colleagues. After the framework results are published, we hope others will collect data on more countries to further accumulate empirical information on the subject.

between the regulation of fiscal risks from subnational land-asset and the regulation of subnational debt.

Inventories of Publicly Owned Land

Every country that we examined requires that local governments prepare inventories of publicly owned land and other property. The problem lies not in the desirability of the standards written into higher-level regulation, but in the practical fact that subnational governments may not have the capacity and incentives to meet the regulatory standard. Moreover, national governments, while requiring regulatory compliance of subnationals, often do not themselves follow adequate inventorying procedures. In the United States, for example, the Government Accountability Office (GAO) has assessed national land-asset management as a “high risk” area beset by information gaps and non-compatible reporting (GAO 2006, 2007).

As an example of a country-specific approach to subnational land inventories, new regulations in Indonesia (Government Regulation Number 6 of 2006), require that every government-owned asset at the local level must be recorded, inventoried, and reported from users to the local government’s asset manager. The local asset manager is supposed to be the common point of all asset management for the local government. This law is reported to have improved municipal performance in land inventorying, such that basic information on public ownership, location, and parcel dimensions is now generally recorded.⁵

Valuation of Land Parcels

Many of the important financial decisions about land assets hinge on the market value of land. Historically, recording values of public land assets has been an accounting task. Until recently, the common public accounting practice throughout the world has involved recording land at acquisition (historic) cost. This is true in the majority of developed and developing countries, including all three developing countries in our detailed sample, Indonesia, Kyrgyzstan, and Serbia. In many transitional countries, this accounting practice leads to the assignment of zero value for land owned by subnational governments, because land was transferred to local governments from the central government as part of decentralization, without charge.

Even in Canada, which has been one of the world leaders in land asset management, accounting standards call for recording land at historic cost, though authorities recognize this is not the value relevant to land management decisions. Some of the few exceptions to this accounting convention are Australia, New Zealand and the United Kingdom where most of subnational property assets are recorded at one or another form of market value.

The weakness of an accounting system that assigns no value to important land parcels is clear: property may be disposed of at any price, or given away to favored parties, without ever recording a transaction loss. On the other hand, market-based valuations have generated other concerns and contributed to an ongoing debate: if public-use land is not intended to be sold, why should it be recorded at market value?

Recognition of the underlying issue—that traditional public sector financial and budgeting systems are not well suited to the needs of public asset management—is expressed in a special British report on public asset management, which became an internationally recognized document (Audit Commission 2000). Reduction of systemic risk requires a system of land “valuation-for-management,” independent from financial accounting valuation in cases where the latter is not based on market values. Such valuation should be promoted as a matter of either law or policy

⁵ However, the information is not in the form of a searchable database.

and incentives, at least for the most valuable categories of land and before any transactions occur, including transactions between governmental entities.

In practical terms, many countries are moving toward this goal of assigning market value estimates for management purposes to significant land parcels for which land-use decisions must be made. The types of situations that trigger these market valuations differ from country to country. In Kuwait, the policy debate surrounded the contribution of subnational land to private developers or public-private partnerships, sometimes in return for constructing development-level infrastructure. In response, regulations were promulgated that require dual independent appraisals of market value to be obtained and published before any decision about the contribution of land to a PPP is made. In South Africa, all government-owned land is assessed at market value for property tax purposes, with special emphasis on land used by infrastructure providers. The policy purpose behind this practice is to ensure that public providers of infrastructure services pay the same property taxes as private providers, in order to maintain an even playing field. Hungary has recognized the fundamental distortion created by assigning zero value to subnational government land, as a result of the transfer free of cost of public land from the central level. In 2000, there was a compulsory revaluation of municipal land in Hungary (Peteri 2009). As a result, land originally transferred by the central government and carried on the books at zero cost was assigned approximate market value. The goal of revaluation was to introduce economic factors into municipal land-use and development decisions, as well as to make municipal balance sheets more reflective of financial reality.

Auctions provide an additional instrument of price discovery. If the decision has been made to sell a land parcel, the subnational government can move directly to auction and let the market reveal the price. However, even in these cases, a prior market appraisal is appropriate. This information can be used to establish a threshold auction price, and to decide whether it is in the municipality's interest to dispose of a parcel.

Reporting of Land Transactions

A lack of transparency and reporting of basic information regarding ownership and transfer prices can tilt land markets in favor of developers who specialize in spotting unreported, publicly-owned land parcels. Land developers can strike non-competitive (or corrupt) deals with public officials to obtain land title or development rights. Transparent public reporting at all stages of land asset management should provide a cure to this kind of manipulation, especially if transaction information is included. Though reporting requirements for improving transparency of land asset management are conceptually clear (see below), a good part of this agenda has yet to be fully implemented. Each institution controlling urban public land should be required to disclose and publish the following:

- *Public land ownership* – The inventory of land parcels, including all of the parcel information from agencies' records.
- *Land valuation* – Any information an agency maintains on the estimated value of significant land parcels, with a special section on valuations of parcels being considered for (i) coming dispositions or contribution to public-private joint ventures or public enterprises and (ii) acquisitions by the institution.
- *Disclosure of transaction-based information* – What was sold or leased or contributed to another entity, to whom, by which method (auction, direct sale, etc.), at what price, or in exchange for what. Similar information should be published on property acquisition by the institution. It also should periodically publish plans for property disposals and advertise each transaction / sale in advance.
- *Balance sheet (if prepared) and budget (both proposed and actual)* – The balance sheet should show land at value required by the current accounting valuation standards and

note which part of legal land holdings is included on the balance sheet. The budget should show income from land sales as a revenue source. Institutions that do not produce balance sheets for accounting purposes should be encouraged to do so. Development rights, water rights, and other rights attached to land likewise should, in principle, be valued and made public.

Many countries are moving in the direction of more transparent reporting. For example, local governments in the United Kingdom now are required to publish their financial reports and balance sheets. They must also report the valuation of asset holdings, and income from property assets, based on guidance documents produced by the Royal Institute of Chartered Surveyors.

Competitive Land Market Disposition

One of the most fundamental rules for good land asset management is that all sales of significant land parcels should be conducted through transparent means. Public auctions are one important instrument for determining market values, especially in countries where it is difficult to appraise market values due to market volatility, lack of appraisal expertise, or risks of corruption. Contributions of land to public-private joint ventures should take place only after independent professional valuation of parcel values, and through open competition after adequate marketing and public advertisement.

Over the past decade, various developing countries have adopted rules for competitive disposal of land under subnational control. The rules are aimed at eliminating abuses, in which government land has been transferred at far-below-market prices to favored developers or favored enterprises. China, Egypt, Hungary, Indonesia, Kuwait, Kyrgyzstan, and South Africa are among the countries that have adopted national regulations requiring that subnational governments use auctions for sale of government-owned land. The increase in prices obtained through competition can be striking. In the case of Egypt, according to newspaper reports, the sale price of broadly comparable desert land outside of Cairo designated for new town development increased from two Egyptian pounds to 300 pounds per sq meter, when the transfer mechanism was changed from privately negotiated sale to public auction (Peterson 2009). China's regulatory requirement, adopted in 2001, that municipal land-use and development rights be sold via auction has transformed the municipal land market and greatly increased local government receipts. Following promulgation of national regulations prescribing the use of auctions for land transfers, the proportion of parcels whose Land Use Rights actually were sold at auction in Shanghai rose from 17 percent in 2001 to 76 percent in 2003 (Chen 2009).

Experience in many countries has demonstrated that the quality of the auctioning process may be as important as auctioning itself. Otherwise, auctions can be used as window dressing for non-competitive transfers.⁶ Transfers of land assets to governmental subsidiaries or joint ventures are often governed by more opaque rules than direct dispositions to the private sector. For this reason, the most recent generation of national regulations has required market-based valuations, and competitive procedures, for transfers of property assets between subnational entities, as well as between these entities and the private sector.

⁶ Typical ways of reducing auctions to practically non-competitive transactions include: obscure marketing of sites, too-short advertising periods, land use parameters and conditions "tailored" for a specific buyer, last-minute changes of auction date/place, leaving an honest winner out of deal by imposing additional requirements after the auction, and granting after-auction payment discounts (for example, for expected jobs created on the site).

Use of Funds: Capital Earmarking

It is becoming more common for regulations to require that revenue generated by the sale of public land or land-use rights be used for capital investment. The United Kingdom requires that proceeds from the sale of local public property go into the capital budget, where they can be used to finance new investment or finance other expenditures that legally fit within the capital budget. In Serbia, revenues from long-term leasing of land-use and development rights must, by national law, be earmarked for local utilities and used for utility infrastructure investment. In Ethiopia, national law requires that at least 90 percent of proceeds from local governments' upfront leasing of land-use and development rights be used to finance infrastructure investment. How narrowly should the fiscal framework restrict subnational spending from land sales? Strict earmarking has the disadvantage of removing decentralized governments' flexibility over budget allocations. Among developed countries, Canada has one of the most sophisticated approaches to land valuation and land management. However, its budgetary rules allow the proceeds from land sales to be added to a subnational unit's general budget.

The principle behind the golden rule holds that one-time revenues from asset sales should be used to finance investment, or one-time expenditures similar to investments. Whether this goal is best reached by imposing regulatory restrictions or by granting subnational governments budgetary flexibility is best decided within a particular country's institutional context.

Financial reporting practices make it difficult to monitor whether subnational governments are complying with earmarking rules, when these exist. In cash accounting systems, all revenue goes into a single budget, from which expenditures are made. Because all revenues are fungible, it is possible to track compliance with capital targeting requirements only through separate notes to determine whether capital investment at least meets the threshold of revenue received from land sales.

Land as Collateral for Local Borrowing

The four countries we examined in detail—Indonesia, Kyrgyzstan, Serbia, and the United Kingdom—have no specific restrictions on the use of land or local government property as collateral for borrowing.

China has identified the use of land collateral as a potential systemic risk and put in place regulations to limit risk exposure. Land plays a critical part in subnational finance in China. In 2008, proceeds from the leasing of land use and development rights accounted for 79.4 percent of subnational-controlled own-source revenues (China Ministry of Finance 2009). A significant part of the subnational government borrowing is backed, directly or indirectly, by land on the balance sheets of subnational governmental units. The national government therefore has a special interest in regulating the exposure of subnational governments to the combined risks of land markets and debt.

Until 2003, it was common practice in China for subnational governments to borrow from banks to finance infrastructure projects, using as collateral the *projected value* of land once the infrastructure project was completed. For example, ring roads around major metropolitan areas were routinely financed in part by loans secured by adjoining land, whose value would be greatly enhanced by ring road construction. The Urban Development Investment Corporations of subnational governments were allowed by banks to value land used as loan collateral at the expected market value the land would have upon completion of the road project. In addition, projects were designed so that the proceeds from the sale of leasing rights to land adjoining the ring road would be used to repay construction loans. This practice, while successful in generating financing and helping finance China's massive infrastructure growth, exposed banks to both

project completion risk and land-market risk. To reduce this risk, China in 2003 promulgated new rules requiring banks to value land collateral at its current market value rather than at projected market value upon works completion.

Land asset bubbles, i.e., “excessive” increases in land and property prices, have received a great deal of attention as a potential source of systemic macroeconomic risk. Recent worldwide experience has made developing countries more sensitive to the potential for land and property bubbles. Land owned by subnational governments has received attention from policymakers, especially in countries where a large proportion of urban land is owned by subnational authorities.

All three of the developing countries in our four-country sample impose substantial limitations or prohibitions on foreign acquisition of land owned by subnational government entities, motivated by concern about the price impacts of international demand. Beyond these three countries, China imposed temporary restrictions on foreign purchases of housing, during the land-price escalation of 2007, limiting acquisition to those who had been in the country for a year or more.

China’s initiatives in 2009-2010 illustrate the variety of policies that are being applied to the subnational sector in an effort to avoid a land-price bubble. The government emphasized the challenge of managing the economy through a period of credit expansion at low interest rates—a policy necessary to sustain economic growth in the midst of weak worldwide economic performance—without triggering asset price bubbles.⁷ China has taken a series of policy actions to manage the risks of potential land asset bubbles. These actions include tax on resale of properties within five year period, placing price limits on subnational land parcels, prohibiting banks from lending to developers that hoard land, and restricting state-owned-enterprises from competing in municipal land auctions.⁸

V. CONCLUSIONS

Land finance has become an important source of capital financing for subnational infrastructure investment. Not only do land transactions generate substantial amounts of revenue, but conversion of surplus land into infrastructure can promote urban growth in an economically efficient manner. Using surplus land to pay for capital investment also relieves the pressure on subnational governments to tap credit markets for financing, potentially reducing their overall risk profile. Land finance, in short, is a positive *opportunity* for subnational governments. Like other forms of capital finance, however, it carries risks. This paper has emphasized fiscal risk mitigation. However, the objective of a subnational fiscal framework should not be to reduce land-based financing in the name of risk mitigation. Rather, it should identify specific risks that can be reduced through prudential management, while at the same time encouraging more effective utilization of the land-financing option.

At present, in many developing countries and many developed countries, comprehensive information about ownership structure of land at the subnational level is lacking including the value of various land assets and how much of which can legitimately be classified as “for sale or development,” because it is not required for public service delivery or public amenities. In most countries, information remains to be collected on how much land is being sold, or how important the revenues are relative to subnational budgets. Transparency in other aspects of land finance is

⁷ See “Report on the Work of Government,” Third Session of the Eleventh National People’s Congress, Beijing, China, adopted March 14, 2010, http://news.xinhuanet.com/politics/2010-03/15/content_13174348.htm. People’s Online Daily 2010.

⁸ See also Wang (2010).

equally important—such as the terms on which public authorities contribute land to public-private joint ventures, or what happens to the revenue generated from public land sales.

It is difficult to design and implement an appropriate fiscal risk management framework without accurate information. An important task therefore is to gather reliable information on land finance and the potential risks inherent in current practices. These will vary by country, depending upon the scale of subnational land finance and the transparency of current reporting. A priority in integrating land finance into the subnational fiscal framework would be establishment of uniform reporting requirements for subnational land ownership, land sales, contributions of land to public-private ventures, land transactions between different types of subnational institutions, and revenue generated by land sales. These are the essential building blocks needed to translate a priori principles into meaningful fiscal oversight. One important step (adopted by China for example) is to require that land transactions be placed ‘on budget’, so that there is full upward reporting to higher-level authorities.

To capture the full benefit of land sales, and to make informed decisions about whether to dispose of public lands to help finance infrastructure investment, subnational governments need to have reliable valuations of the principal land parcels they own. They need to take advantage of the competitive market for land development, by selling land via transparent public auction or conveying it to joint-venture partners after open competition. The fiscal framework can support this objective by requiring that public lands be sold at auction, and by requiring public disclosure of land valuations before deals are struck with private infrastructure developers or other entities. Transparency in land transactions can help reduce risks, but it also promotes full realization of the potential of land financing.

Urban land markets are volatile and cyclical. Extreme dependence on land finance for capital investment funding will impart this volatility to subnational capital budgets. The fiscal framework should mitigate such risk. Risk mitigation may take the form of ceilings on land-finance dependence (similar to ceilings on local indebtedness) or encouragement of permanent infrastructure funds that accumulate proceeds from land sales and spread out expenditures over time, according to an infrastructure investment plan.

The “golden rule” of public finance should be applied to subnational land financing. Capital revenues generated through land sales, like the revenues generated from debt issuance, should be used for capital investment or equivalent purposes. Rules that require revenues from land transactions to be dedicated to investment reduce the financial risk that arises when one-time revenues are used to finance recurring operating expenditures. Such rules also open the opportunity to diversify and augment own-source financing of capital investment.

Recent worldwide experience has highlighted the macroeconomic repercussions of land and property bubbles. The extent to which the risks of systemic land-price bubbles overlap with subnational fiscal regulation will depend upon each country’s system of land ownership. At a minimum, limits on the use of land collateral for subnational borrowing should be in place, so as to avoid compounding the risks inherent in subnational debt with the risks of land-market volatility. In countries where subnational governments are the principal owners of urban land, a greater variety of initiatives may be necessary to steer subnational governments away from creating market risks that run beyond their regional borders.

In this paper, we have focused attention on land financing as an element of the subnational fiscal framework. In practice, it is likely that financial and fiscal regulation of land financing will be bundled together with rules designed to improve the economic and institutional management of subnational land assets. Steps such as inventorying land assets, assigning valuations to key land parcels, and increasing the transparency of land transactions between different governmental

institutions or between subnational government and the private sector enhance the efficient management of land assets as well as reduce fiscal risks. When land has been used extensively as collateral for bank borrowing, prudential rules for land finance are likely to be adopted in coordination with rules for regulating subnational debt.

The principal pieces of national legislation that were reviewed in preparation of this paper tackle subnational fiscal management of land finance in conjunction with broader issues of efficient land and property asset management. These topics are likely to continue to be joined together in public policy debate. Integrating land financing into effective subnational fiscal management, however, deserves separate analytical attention, even if it is likely to be bundled together with other aspects of subnational property management in national regulation or legislation.

This paper is a first attempt to identify fiscal risks embedded in land financing based on a cross-country context. Future research can go further to include more topics. For example, how to incorporate land financing into medium-term fiscal framework and capital investment plans given that multiple agencies own and manage public land assets? If land is used as collateral for bank borrowing, what are prudential rules for capital reserve ratio? How to develop disclosure and reporting standards for fiscal risks from land transactions?

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