

Unlocking Land Values for Urban Infrastructure Finance: International Experience

Considerations for Indian Policy

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Abstract

Despite strong economic growth, investment in basic urban infrastructure—water supply, wastewater removal and treatment, roads, and other capital-intensive systems—has failed to keep pace with urban growth, leaving a critical urban infrastructure deficit. At the same time, urban lands in these many developing countries are among the most expensive in the world. Much of this land is owned by public authorities. Significant parts of it lie vacant, unused for public service provision or inappropriate for conversion to higher-valued economic activity. A composite public-sector balance sheet for India's urban areas would show an asset mix strong on public-sector landholdings but weak on infrastructure.

This raises the following questions: Can some excess public-sector land be exchanged for infrastructure, in a manner that is politically acceptable and economically efficient? Can public land sales be a realistic source of finance for critically needed urban infrastructure investment? This paper considers the policy context that has shaped different land-disposal and earmarking initiatives, provides details about the actual workings of institutions, and examines international experience in infrastructure investment. This study contributes to the consultative process underway in India to consider strategies to unlock public land values to help finance urban infrastructure investment.

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INTRODUCTION

Like many developing countries, India is in the midst of rapid urbanization. Despite a decade and a half of strong economic growth, investment in basic urban infrastructure—water supply, wastewater removal and treatment, roads, and other capital intensive systems having ‘public goods’ character—has failed to keep pace with urban growth, leaving a critical urban infrastructure deficit.

At the same time, urban land in India is some of the most expensive land in the world. Much of this land is owned by public authorities. Significant parts of it lie vacant, unused for public service provision, or appropriate for conversion to higher-valued economic activity. A composite public-sector balance sheet for India’s urban areas would show an asset mix strong on public-sector landholdings but weak on infrastructure. This raises the questions: “Can some excess public-sector land be exchanged for infrastructure, in a manner that is politically acceptable and economically efficient? Can public land sales be a realistic source of finance for critically needed urban infrastructure investment?”

PURPOSE AND STRUCTURE OF THE REPORT

This study is intended to contribute to the consultative process underway in India to consider strategies for unlocking public land values to help finance urban infrastructure investment. It examines international experience regarding key issues identified by the project’s Steering Committee, the World Bank, and the author. It is hoped that the review and assessment of international experience can be useful to other countries, other aid organizations, and other analysts, as well.

International experience does not offer off-the-shelf policy or institutional models that can be adopted ‘as is’ by other countries. I therefore consider the policy context that shaped different land-disposal and earmarking initiatives, and try to provide sufficient detail about the actual workings of institutions, so that readers can judge for themselves whether the core approach is suitable for adoption in India or elsewhere.

Structure of the Report. There is limited international experience with realizing the financial value of publicly owned land, then directly earmarking the revenue received to finance urban infrastructure investment. Much of the experience that exists comes from China (and Hong Kong SAR, China), where both the land-owning system and governance regime are much different from India’s.

Our approach therefore is to unbundle the components of a ‘land for infrastructure’ system, and consider international experience relevant to each. The report contains four sections:

I. Identifying Public Land Appropriate for Unlocking Value

Public agencies have inherent inertia. They have an interest in maintaining their bureaucratic or political power, including control over land assets. They are unlikely, as a matter of routine, to identify “surplus” land under their control as suitable for disposal, or to seek ways that their land assets could be put to more productive use by other parties. The first section of the paper examines international experience with:

- i. Identifying Public Land for Disposition
- ii. Regulatory and Financial Incentives that Can Induce Agencies to Regularly Consider the Best Use for Land Assets, including Disposal

II. Specialized Institutions to Help Manage and Dispose of Land Assets

One lesson to be learned from international experience is the important role that specialized, professionally managed institutions can play in unlocking the value of public land through sale, lease, or joint venture development. This section examines in some detail the workings of three such institutions in Germany, Canada, and the United Kingdom. It shows how policy determined at a higher level is translated into effective implementation by such organizations, and the steps that have to be carried out to achieve significant results.

III. Earmarking Revenues for Infrastructure Investment

Earmarking—i.e., dedicating specific revenue streams to particular investment purposes—has been used with varying degrees of success in the infrastructure sector. Earmarking also has been used to dedicate to defined purposes the revenues raised from public land sales, or to allocate public land assets.

The third section of the paper considers the general arguments for and against earmarking, and examines international experience with earmarking as it relates to infrastructure finance and land asset disposal, including:

- i. Current Practice for Using Revenues Generated by Public Land Sales
- ii. Road Funds
- iii. Sovereign Wealth Funds and Other Investment Funds
- iv. Earmarking Land Premium for an Infrastructure Fund
- v. ‘Rail Plus Property’ Models for Metro Rail Systems

IV. Compensation Policy for Public Land Transactions

Infrastructure and economic development are not the only claimants for the economic resources raised by public land disposition. In particular, public land parcels may be occupied, with or without the benefit of formal titling arrangements. The historical justification for public ownership may be clouded by past treaty agreements or by the contractual terms of public acquisition from prior private owners. These parties often claim compensation.

For India, the most significant of such claimants are the occupiers of public lands. The claims of current occupiers/owners are voiced in even stronger terms when the public sector uses eminent domain for mandatory acquisition of land parcels, which then are developed for higher-value use. The fourth section of the Paper examines evolving international practice with regard to compensation for transactions involving public lands.

Throughout, the paper seeks to illustrate international experience through case examples, which contain sufficient detail to convey an understanding of how a given mechanism or institutional arrangement works in practice. Each section offers the author's reflections on what can be learned from international experience and how it might be applied in India.

WHAT IS AT STAKE FOR INDIA

Public lands in India are held by every level of government: municipal, metropolitan, state, center, as well as quasi-independent trusts and publicly owned companies. The scale and value of landholdings indicate that aligning policy and institutions so as to unlock appropriate land values could make a significant contribution to aggregate urban infrastructure investment.

- India Railways, a public company under the central Railway Ministry, has designated 43,000 hectares of its massive landholdings as unnecessary for railway service. It has estimated the value of this excess land at some US\$40 billion.
- The central Airports Authority controls 20,400 hectares of highly valued land surrounding India's airports. State development authorities own additional lands adjacent to recently modernized airports.
- Major Ports Trusts hold more than 100,000 hectares of land, some 6,300 hectares of which is vacant, unneeded for future port operations, and located near key urban areas.
- Defence owns more than 750,000 hectares of public lands. The Performance Audit Report on Defence Management Estates estimates that about 32,800 hectares are excess by current land-requirement norms for military stations. It urges Defence to reexamine its policy of permanently retaining all landholdings.
- When the Mumbai Metropolitan Regional Development Authority (MMRDA) auctioned 13 hectares of Mumbai land in 2006-07, it realized \$1.2 billion, which was used primarily to finance projects in the metropolitan regional transport plan. The land-sale receipts were ten times MMRDA's total capital budget in 2005, and 3.5 times the total value of

municipal bonds issued by all local and state authorities in India over the previous decade. Development authorities in Delhi, Hyderabad, and Bangalore have sold land parcels at comparable values.

Despite the fiscal potential, public land disposition in India today is paralyzed. Part of this is due to the market. Land values have declined relative to the 2006-07 peak, requiring public authorities to manage through the real estate cycle. At a more basic level, India lacks both a clear policy for managing public lands and professional institutions that can efficiently implement a public land policy, once adopted.

It is this background that makes it useful to look at how other countries have addressed their public landholdings.

PART I: IDENTIFYING PUBLIC LAND APPROPRIATE FOR UNLOCKING VALUE

Two initial hurdles confront any strategy to unlock public land values:

- i. How do we know what land parcels the different agencies of government, and related parastatals, actually own?
- ii. How should it be decided which of these parcels are “surplus” or more appropriate for an alternative use?

The first question is answered by an inventory of publicly owned land. All of the successful examples examined in this report start with a land inventory.

The second question is perhaps more vexing. Rarely does a government agency volunteer that its landholdings are “surplus” or “excess”. Even more rarely does it take steps on its own, without some type of prodding, to ready land it holds for sale or other type of disposition. This is as true of developed countries as it is of developing nations. Nonetheless, there is considerable international experience to be drawn upon in answering the query: How do we go about identifying publicly held land that is appropriate for disposition?

PUBLIC LAND INVENTORIES

The elements of a good land inventory are straightforward. An inventory of public lands should record:

- The location and dimensions of each land parcel
- Legal title, and any restrictions on development
- Current use and future planned use, if part of a public development plan
- Valuation--for parcels of economic significance

More public institutions are moving to compile inventories of land they own, although progress has been patchy. Indicative of this progress is Indonesia’s Government Regulation Number 6, which requires that every government-owned asset be recorded and inventoried. At the local level, public asset owners are supposed to report this information to the recently created municipal asset manager. The asset manager is designed to be the common point of all asset management for the local government. This arrangement broadly follows asset management models established by Urban Development Investment Companies in China and public asset managers in Korea. The regulation is reported to have improved municipal performance in land inventorying, such that basic information on agency ownership, location, and parcel dimensions is now recorded.

The next step is to make land inventories more accessible and more useful for decision-making. As matters now stand, different agencies tend to maintain records in non-compatible

formats, which make it impossible to aggregate public landholdings across agencies for a developmental unit like a municipality or a metropolitan region. The United States only recently has introduced legislation, still pending, that would require its various national agencies for the first time to inventory land ownership in a common format. Meanwhile, the US Government Accountability Office has officially labeled federal land-asset management as a “high-risk” management area beset by information gaps and non-compatible reporting.

Introducing common, intergovernmental norms for recording and inventorying public land assets should be a policy priority for India. An overhaul of the reporting practice would be easiest to implement in the context of accounting reforms that require different levels of government to prepare balance sheets as well as budgets and annual financial reports. Land assets would figure on the asset side of agencies’ balance sheets. Reporting in this fashion would highlight the large role that publicly owned land could play in public finances. Reform of this type is a large undertaking, so it would probably make the most sense to start with a demonstration project in one municipality and corresponding metropolitan area.

At least as important as improving the quality of public land inventories is making them publicly accessible. A publicly accessible inventory of public lands is an essential element in accountability. Any lands being offered for sale or transfer should be flagged for public examination. An “accessible” inventory is not only one that the public has the right to access, but one that is designed to be user-friendly. That implies being able to sort the inventory by different characteristics, such as vacant properties or properties owned by a certain agency, and having maps to assist users in accessing information. As examples of these capabilities: Users can access the City of Chicago’s land database to identify 245 pages of unoccupied parcels owned by the city, with lot sizes and locations. Users accessing the land database of the Singapore Land Authority or the State of Berlin’s Liegenschaftsfonds (see next Section) can use a map to identify the location of each parcel, then zero in on a particular parcel to see its exact configuration and parcel characteristics, along with the characteristics of adjoining parcels.

IDENTIFYING “SURPLUS” LAND

“Surplus” land or property can be defined as property that is not needed, or not appropriate, for provision of the public service for which the agency owning the property is responsible. In the simplest case, land is vacant and not planned for future service use. In a more complex case, land may presently be in use, but planned to be vacated as part of improvements in service efficiency. Identifying “surplus” land may be thought of as a “supply-driven” approach to public land disposition. That is, land is not readied for disposition in response to demand for it in an alternative use. It is deemed “surplus” or “unwanted for service use” on its own terms, without regard to its market value or value in an alternative use. Once a list of “surplus” land has been identified, market forces and perhaps other agents of government can focus on the surplus parcels and express demand for them.

Military Bases—Implementing a Rigorous Standard of Surplus Land. By far the greatest source of public land disposition over the last two decades in developed countries has come from shuttered military bases. Canada has closed all or most of 27 military bases, many in or near major urban areas. The United States has closed more than 350 military installations, selling the land involved on the market or transferring it to local development authorities. More than 90% of the public land disposed of by the federal government in Australia since the mid-1990s has been reclaimed from shuttered military bases. Military bases in these countries have been closed after independent assessment of their appropriateness given the current mission of the armed forces and the cost effectiveness of different military locations. They thus incorporate a rigorous standard for identifying “surplus” property, which has potential application for other types of government-owned land.

Canadian Forces Base Rockcliffe

Canadian Forces Base Rockcliffe consisted of some 375 acres of prime urban land, located a few miles from Parliament Hill in Ottawa, the nation’s capital. Beginning in the 1980s and extending into the 1990s, Canada undertook an analysis of the appropriate size of its military and the cost-effectiveness of its military base structure, given the end of the Cold War. It determined that the country had an excessive number of different military bases, which led to higher costs of operation and inefficiencies in training. Some of these bases were very old, under-utilized, and ill-suited for military modernization. A special task force established by Parliament and the Department of Defense recommended realignment of bases and identified specific bases for closure, based solely upon the effectiveness of the base structure for military purposes.

One of the first bases recommended for closure was Canadian Forces Base Rockcliffe in Ottawa. As early as 1989, the Department of Defense’s Infrastructure Adjustment Program recommended closure of Rockcliffe as part of an initiative to reduce the total number of bases. The base dated to 1899, when it served as a rifle range, and later expanded to include an airfield. Its role was downgraded in the 1970s and 1980s, to the point that it was used largely to provide temporary housing for military personnel posted to Ottawa. The base’s location in the middle of an urban area prevented it from being used for broader training purposes.

It was not until budget reductions in the 1990s increased pressure on base realignment that Defense actually scheduled Rockcliffe for closure and disposition. Canada’s Treasury Board Secretariat reviewed the recommendation, as it reviews all plans involving “surplus” land. It identified Rockcliffe as a “strategic disposal” because of its potential impact on urban development. Treasury’s Steering Committee on Real Property confirmed the strategic disposal. A contract was signed to sell the site to Canada Lands Company. Canada Lands Company (CLC) is a for-profit, independent Crown Corporation that buys strategic surplus properties from the government at market value, and either readies them for sale or develops them in coordination with

the private sector (see next Section). In this case, plans called for redeveloping the military base as a mixed-use residential and commercial neighborhood, housing a population of 13,000 to 15,000.

As it turned out, consummation of the sale was delayed by litigation threatened by Algonquins of Ontario, based on First Nations occupancy of the site dating back to the early 17th century and terms of treaties signed at the time. Transfer of the military base became entangled in the much broader general issue of First Nation rights to federal and provincial property.

Negotiations resumed in 2008-2010. Final agreement apparently was reached in 2011, incorporating Algonquins in the development process, with CLC as the intermediary institution between government and the private sector and development planner. As of this writing, a formal contract has yet to be signed.

As one of the first sites to be proposed for disposal in this manner—and one of the first sites to be affected by Canada's new recognition of First Nation treaty rights—Rockcliffe's disposition has been a very lengthy process. However, it established the pattern for subsequent disposals. It introduced specialized bodies in different government departments to their roles in executing land disposition. Thirteen other military bases have been successfully transferred from government to CLC to the private sector.

Base Closures in the United States

The United States Base Realignment Commission (BRAC) offers another perspective on the declaration of surplus military land. The BRAC process specifically recognizes the widespread resistance to base closures and government land disposition. Resistance comes from individual branches of the military that are reluctant to cut back on bases or landholdings, and from local communities opposed to losing the economic activity associated with base operations. Local opposition leads to opposition by members of Congress. For many years, base realignments and closures were stymied by Congressional refusal to approve military budgets that included closure of specific bases protected by local Congressional representatives.

The BRAC process was designed to circumvent normal Congressional approval through the budget process. It was recognized that the base structure needed realignment and modernization, but that proposals for case-by-case base closures would be tied up endlessly in Congressional amendments. Under BRAC, the Secretary of Defense periodically recommends a full set of bases for realignment or closure. In the past, this recommendation was founded on the premise that the US had too many bases for efficient operation, many of which were outmoded or too close to urban centers to be used for military training. Individual bases were targeted for closure purely on the basis of relative cost effectiveness in serving their military and training purposes. The most recent round of base closure recommendations, in 2005, also took into account the strategic decision to co-locate bases from different branches of the military, in order to

support greater integration of operations. This resulted in recommending more bases for closure and realignment.

The base-closure recommendations of the Defense Department are submitted to a special Base Realignment Commission, appointed by the President. The Commission reviews and can modify the list of bases proposed for closure. BRAC then submits a final recommendation to the President, who forwards it to Congress. Under the terms of BRAC's creation, Congress can only vote 'yes' or 'no' on the entire base closure list; it cannot modify or amend the list. All five rounds of BRAC recommendations, starting in 1989, have been accepted by Congress.

Valuable urban property has been "unlocked" for alternative use by this process. Proceeds from land sales jumped when competitive auctions became the norm for disposing of valuable sites. For example, the Marine Corps Air Station El Toro, near Irvine, California, was closed in 1999. A 1,375-acre portion of the base approved for development was sold via online auction in 2005 for \$650 million. The remaining land was converted into park land and green space. The developable portion of land at another Marine Corps Air Station in Tustin, California was sold for \$208.5 million.

BRAC tries to coordinate its land disposition with local government redevelopment initiatives. Under the law it is allowed to transfer land to local development authorities at less than full market value if this is in the public interest. Using this provision, BRAC has entered into novel financing arrangements. For example, BRAC sold land in Brunswick, Maine and Orlando, Florida for a small upfront fee plus the right to participate in income generated by conversion of the military bases to mixed residential-commercial use and green space. Redevelopment typically involves an initial round of local investment in road, water, and sewer infrastructure to support more intensive land use. At times, the transfer of military land becomes the stimulus for major urban development initiatives. The most recent base realignment, for example, closed Walter Reed military hospital in Washington, DC, turning over 61 acres of prime urban land to the District of Columbia, which will become the backbone of local redevelopment planning. By law, all proceeds generated from BRAC land sales are earmarked to the overall BRAC budget to finance base realignment and removal of environmental hazards for land transferred to civilian use.

US procedures for disposing of "excess" military land illustrate two other realities often found in attempts to capture the economic value of publicly owned property. First, the BRAC process is complicated politically and introduces multiple avenues for avoiding market-value transactions. By law, excess military property must be offered first to a hierarchy of potential users, starting with other federal agencies and including local governments that have approved economic development plans involving the property to be released. Housing for the homeless is targeted as a priority use. Land transfers involving these uses are politically negotiated, typically at levels well below market value.

Second, the structure of incentives plays a significant role in the willingness of public landowners to enter into consideration of alternative land uses. Previously, the military commander of a large base had no legal authority to retain revenues generated by putting land parcels to alternative use. Now, military units and other federal property owners are able to retain a portion of new revenues. The change in incentive structure has made federal property owners more willing to consider outleasing or other initiatives to capture the economic value of excess land.¹

Building on the Base Closure Experience to Identify Other Surplus Lands. Canada's initial experiences with selling federal land involved closing military bases. However, a streamlined version of the same procedures, with many of the same institutional participants, has since been used to identify and convey other surplus land. In many respects, these latter transfers have been easier to carry out. They typically involve abandoned federal property, where there is much less pressure to maintain current use and the historical title is clear. The federal agencies owning the properties are relieved of maintenance responsibilities; these savings make land transfer more acceptable.

Montreal Port Redevelopment

Montreal's old, centrally located port has not been used as a port for decades. The waterways serving wharfs have been filled in. Port activities have been shifted to a new port with superior access to international shipping. The Ministry of Transport and Infrastructure, with approval of Treasury, declared the original port area "surplus" on the grounds that the land was not needed, and was not being used, for port services. The City of Montreal then entered into discussions with the federal government as to how the old port area could be transformed into a tourism and commercial center that would revitalize the downtown district. In a transaction similar to that proposed for Canadian Forces Base Rockcliffe, the land was sold to a subsidiary of Canada Lands Company for redevelopment as the central hub in Montreal's redevelopment of the Old City.

¹ The author wishes to thank a reviewer, Valerie Santos, for this information.

In 2007, an adjoining 23 acres owned by the Canadian Post Office were declared surplus and transferred to the project. The old post office had been closed in 2003 and relocated for efficiency reasons. The 600,000 square foot building had remained vacant. In 2007, the government transferred the post office land and building to the project company. Subsequently, land surrounding grain storage facilities, owned by the Ministry of Agriculture, and unused since the termination of port activities, was also declared surplus and transferred to expand the redevelopment project. Land assembly involving surplus properties from several federal agencies has put together a core project area with the potential to transform Old Montreal, as has happened with the Docklands in London, the Victoria and Albert Waterfront in Cape Town, South Africa, or the Inner Harbor in Baltimore of the United States.

The standards for declaring government land and property “surplus” in this case are straightforward. The land parcels were vacant. The buildings were vacant. There were no plans to restore them to service.

CREATING ADMINISTRATIVE AND FINANCIAL INCENTIVES FOR LAND DISPOSITION

In the examples cited thus far, government searches for and identifies landholdings that are “exceptions,” in that they are typically vacant, unused for public services, or specifically designated as inappropriate for government retention.

An alternative approach is to place the onus on government agencies to justify why they should hold *any* land parcels, by requiring them to demonstrate their necessary role in the agency’s public service provision. Australia provides the clearest example of this approach.

Australia’s Land Audit and Property Disposal Policy

Principle. Australia’s Commonwealth land policy starts with a clear statement of principle: Land held by government should be viewed as an input into the provision of the public service for which the landholding agency is responsible. All public landholdings therefore should regularly be reviewed, with the goal of divesting those properties not necessary or cost-effective for service provision. Commonwealth property having no efficient use is to be sold on the open market at full value.

One of the strongest statements of this principle was made by the representative of the Ministry of Finance and Deregulation at the Parliamentary Inquiry into the Disposal of Defense Properties:

An ongoing goal of government policy is to reduce its property holdings throughout Australia...The Commonwealth is not a property company. [There] is an opportunity cost of capital and the Commonwealth has determined there are better things for it to do than be a property holding company.

Annual Land Audit. This principle has been translated into practice by a series of regulatory and administrative measures. Central to the process was the establishment of a Commonwealth Land Audit. Each year, all agencies of the Commonwealth government must report to the Ministry of Finance and Deregulation their landholdings *and* provide a written justification of why these landholdings are necessary or efficient to provide the services for which they are responsible. This justification takes the form of a “business case” for land retention.

Business Case for Land Retention. The Ministry of Finance and Deregulation has provided standard guidelines for how the business case should be made. The property-owning agency must demonstrate that it is cost-effective for service delivery to retain land ownership, taking into account alternative ways to provide its services and alternative uses for the land outside of Commonwealth ownership. The Ministry of Finance prescribes the financial and economic variables to be used in making the business case, including opportunity costs and discount rates. The own vs. sale land decision is embedded in a broader policy of obtaining Value for Money in public property management. For example, the Ministry of Finance and Deregulation has prepared and disseminated throughout government a *Better Practice Guide on the Strategic and Operational Management of Assets by Public Sector Entities* (2010).

Changing Emphasis on Land Disposition. It is interesting to note a change of emphasis that accompanied Labour’s ascendance to power in 2005. The Annual Land Audit was retained, as was the statement that “Government’s core business excludes property ownership,” but added to this statement was the qualifier “unless particular circumstances apply.” Labour has continued the policy of requiring that Commonwealth agencies demonstrate a business case in favor of retaining land parcels. However, it has shifted disposal policy, as part of its National Urban Policy, to give priority to releasing surplus Commonwealth land to local governments or non-profit organizations that will use it to increase housing supply or support community development.

In their reports for the Commonwealth Land Audit, agencies are now required to report which land parcels fail to meet the business case for retention and, of these, which are suitable to advance housing or community outcomes. These properties are eligible to be transferred to local authorities or community organizations at less than full market value.

Leasing of Public Land. One topic that receives a good deal of attention in Australia’s land audit is the leasing of public property to private parties. Throughout the world, public property that is leased to private users tends to be priced well below market rents (Peterson and

Kaganova 2010). Although part of this pattern can be explained by a lack of focus on market valuations by public owners, the relationship also opens the way for public officials and public agencies to exchange below-market rents for greater political power, corrupt payments, or other mutually beneficial special arrangements.

By the criteria of Value for Money applied in Australia, the failure to obtain market rents in leasing deals becomes a reason for divestiture of public lands under the Land Audit. In fact, there is a general presumption against holding public land for lease to private industrial firms. The practice sets up the potential for rent-seeking officials to enrich themselves and/or pursue political objectives by manipulating lease awards, while keeping land-use decisions out of the marketplace.² Of course, similar incentives exist when land is sold by a public agency, but they are more easily controlled by a one-time, transparent public auction.

Charges and Taxes As Incentives to Reevaluate Public Landholdings

In principle, the opportunity costs to public agencies of holding valuable land could be brought home to them by a system of charges or taxes levied on the value of land. Both Australia and South Africa have launched initiatives that could expand into this area, though neither has significant impact at present on the decision whether or not to make land available for disposition.

Rental Charges for Public Property. Australia has a well-established policy of charging public agencies the full market rental rate for their occupancy of government buildings. The policy is overseen by the Property Division of the Ministry of Finance and Deregulation, and administered on the Ministry's behalf by a private-sector property management firm. Public agencies are not required to use public buildings; they are free to search the market for the most cost-effective locations. However, if they occupy public buildings they must pay full market rentals, a policy also pursued in several other countries. The rental value of office buildings, of course, reflects their location and underlying land values. Thus the system provides some incentive to public agencies to economize on public land use—i.e., only to occupy public land that is worth its rental price.

Australia has not extended this rental pricing system to vacant landholdings, preferring instead to rely on the Land Audit to recognize market opportunity costs and drive disposal decisions.

² In a very interesting study of the differences in the rate of privatization of industrial land across Russian cities and regions, Pyle (2011) finds that, paradoxically, the rates of public land ownership and leasing are highest in those places with the highest urban land values. He argues that public retention of land ownership in these cases maximizes political influence and rent-seeking potential, and that this is the motivation for leasing rather than sale. In fact, when industrial enterprises were privatized, the Moscow Duma passed legislation stipulating that the underlying land plots could only be leased, not sold.

Property Taxation of Government Property. South Africa is one of the first countries in the world to pass a Property Tax Law that includes government-owned property in the taxable base. In principle, the need to pay property taxes on government-owned property should provide a pricing incentive to agencies to reexamine the importance of retaining real estate.

As implemented in South Africa, the law assigns responsibility for property tax administration to the local government level. The law allows local governments to exempt from taxation whatever property they deem appropriate. At the same time, the national legislation redefined the property tax base as the full value of property (land plus improvements), replacing a system that emphasized land-value taxation.

As a result of these changes, local governments have generally exempted their own property from taxation. They have concentrated taxation on national government property having high value as developed parcels and on property owned by parastatal utility providers. The primary purpose of including public property in the taxable base under the Property Tax Law was to level the playing field between public providers of infrastructure services (like electricity and water) and private providers. It has helped achieve this goal, by eliminating the property tax advantages of public ownership.

There is no evidence to date of significant taxation of government-owned vacant (or underutilized) land or effective transmission of opportunity costs to government landholders that would incentivize land disposition because of property tax liabilities. However, local governments in South Africa are in the process of adjusting to the new law, and may extend its application to government lands in the future. The principle of subjecting government-owned property to the *same property taxes as privately owned property has long-term potential for discouraging public sector land and property hoarding.*

THE ENTREPRENEURIAL CITY: USING PUBLIC LAND VALUES TO FINANCE URBAN INFRASTRUCTURE INVESTMENT

A policy of disposing of surplus public-sector land is aimed, above all, at increasing the efficiency of public-sector operations. Under certain circumstances (including those now prevailing in India) implementing such a policy may generate enough revenue to contribute significantly to urban infrastructure investment. However, revenue generation is not usually the primary objective. In fact, the BRAC process used in the United States has been criticized precisely because land values are not taken into account in designating military bases for disposal. Camp Pendleton, for example, covers 506 square kilometers of land on the Pacific Ocean in Southern California. The market value of the land has been estimated in the range of 5 to 6 billion

dollars. Some critics have argued that the potential for realizing financial resources of this magnitude should be taken into account in making base realignment decisions.

Strategic Land Management. At the other extreme of designating land for sale without regard to financial value is a policy of *strategic land asset management* that looks to unlock public land values specifically to support urban infrastructure investment, and manages government land and infrastructure policy so as to enhance land values. The increase in public land values then can be captured to help finance infrastructure investment.

China is the prime example of this entrepreneurial approach to land-asset management. China's urban infrastructure boom has been fueled by land sales (technically, long-term land leasing). Several estimates find that 60 to 70% of all urban infrastructure investment over the past two decades, excluding national network systems, has been financed from municipal land sales.

In capturing public land values, China benefits from several special institutional arrangements. First, and most importantly, all urban land is “owned” by municipalities. It can be leased to users for 30 to 70 year terms, depending upon land use. Lease payments are made upfront, as in a sale. Second, until recently (see Part IV), municipal governments were able to acquire land at the urban fringe from farmers at prices far below market value in urban use. Farm cooperatives were forbidden to sell land to other parties, while municipalities could use eminent domain to compel sale. Third, municipalities in China enjoy substantial autonomy in managing, selling, or acquiring land assets. They retain all profits from land transactions. This autonomy in asset management stands in marked contrast to central government controls over local tax policy and tax rates. Local governments cannot introduce new taxes or set tax rates. They must share local tax revenues upward with the central government. These constraints have driven municipalities to focus on land management for revenue. It is estimated that, in recent years, as much as 40-50% of city governments' total budgetary revenues have come from land leasing.

Although these characteristics distinguish China's institutional setting from India's, some of the specific policies pursued in China's urban areas are worthy of consideration elsewhere.

Land Arbitrage at the Urban Fringe. Dependence on land financing has driven municipalities to adopt policies designed to maximize net revenues from land transactions. One device is to reclaim land from low-value urban users, or acquire land at the urban fringe from farmers, at government-defined low prices, and then sell the land-leasing rights for development at much higher, market prices. Until recently, municipalities could acquire land from farmers at defined multiples of annual “production value” in farm use. The same land would be leased, after conferring urban development rights and installing basic infrastructure, at far higher prices to urban land developers. Land-value arbitrage of this kind could generate government sale prices that were 10 times higher, or more, than acquisition costs.

Shanghai's Development of the Pudong New Area

One of China's most spectacular development successes is the Pudong New Area developed in the 1990s by Shanghai Municipality with support from the central government. Pudong is a 584 km² area now home to Shanghai's international airport, a series of luxury hotels, vast amounts of first-class office space and manufacturing facilities, and a focus of private-sector investment from both Chinese and international investors. Farmers and urban dwellers in the area are reported to have been paid an average of 20,000 RMB per Chinese mu (or roughly \$15,000 per acre at the time). Land was resold by the municipal government at an average of 300,000 RMB/mu. It has been estimated that the land transactions in Pudong generated a net profit of some US\$90 billion for the municipal government. Revenue from land leasing was used primarily to finance infrastructure investment, including construction of bridges connecting Pudong to the rest of Shanghai, and road, water, and wastewater networks to support high-end urbanization. More than 120,000 people had to be resettled. In a famous quotation, the Mayor of Shanghai stated that land transactions allowed the Municipality to carry out in 10 years urban development on a scale that otherwise would have required 100 years.

Rationalizing Public-Sector Land Use. Expansion of the urban footprint through compulsory acquisition of farmland at below-market rates is not a socially acceptable policy in China. Indeed, widespread opposition has forced the Chinese government to introduce strict curbs on municipal land purchases at the urban fringe and to move toward market-based compensation for farmers.

China's parallel policy of converting low-valued land within the public sector to higher-valued use, however, has broader applicability. Rationalization of public-sector land use has been a key both to China's infrastructure financing and its pattern of urbanization.

It was only in 1988 that China first introduced, on an experimental basis, market-based urban land reform. Until that time, the government allocated all urban land free of any economic or financial charge. As a result, China's cities were a patchwork of extremely inefficient land uses, with state-owned industrial enterprises typically located near the heart of the city. One important source of municipal land "supply" in the Chinese system has been the transplanting of state-owned enterprises from the central city area to industrial development zones outside the urban core.

In China, there are two types of state-owned enterprises. Some large firms are central-government or provincial state-owned enterprises. (The number of central government state-owned enterprises has been reduced to 124.) These report to higher-level governments and are not automatically subject to municipal development plans. Relocation of such enterprises has to be negotiated between higher and lower levels of government and the enterprise itself. A negotiated outcome typically involved provision of free land at an outlying industrial park with high-quality

supportive infrastructure, in return for transfer of the enterprise's centrally located land to the municipality. The central government transferred the vast majority of state-owned enterprises to municipal control and ownership in the 1980s and 1990s. The relocation of these enterprises is entirely a matter of municipal governments' choice.

The previous locations of state-owned enterprises near the city center were highly inefficient. Transportation to and from the enterprises was highly congested and generated spillover congestion for other urban activities. Most such enterprises were highly polluting, so that their relocation (often accompanied by modernization of facilities with lower pollution levels) was a benefit to urban air and water quality. In their new locations, enterprises enjoy superior transportation access and the localization benefits of high concentrations of complementary activities in the industrial supply chain.

Meanwhile, the land freed up by relocation becomes available through the municipal Land Reserve Center for sale to the highest bidder. The high bidder for centrally located properties typically is the developer of an office center, shopping complex, or upscale residential complex. Municipalities typically set aside some of the land for green space or parks as a value-enhancing amenity. Municipal ownership of the property to be vacated has accelerated municipalities' ability to relocate enterprises and treat large tracts of land as assets to be strategically managed. Freed-up land in the city centers of large cities has sold for as much as \$8,000 to \$10,000 per square meter. At the same time, allocation of vacated land to new end-users through the market has increased the efficiency of land-use organization.

Transplanting Municipal Offices. Driven by the twin motivations of financial profit and land-use planning, municipal governments have exercised a good deal of imagination in their efforts to rationalize urban development patterns. Starting in the mid-1990s (in the coastal region), municipalities began to recognize another inefficient use of the most valuable, centrally located land: its use as municipal administrative centers. Municipalities (and provincial governments in capital cities) began to move their administrative offices and municipal halls to new suburban or even exurban locations removed from the central city. This strategy has two financial payoffs. First, it frees up more land that the municipal government can sell on the market. The vacated land typically contains many of the most highly valued parcels in the city, since historically urban development has clustered around government administrative offices. Second, by moving to new, undeveloped locations, municipal governments automatically spawn new centers of economic development activity, thus shaping the pattern of urban growth and (not at all incidentally) driving up the value of surrounding vacant land, also owned by the municipal government and available for market leasing.

Case studies of nine interior cities in central and western China, conducted for the Cities Alliance and World Bank "City Development Strategies" program, found that all nine cities either already had moved their administrative centers from the central city to alternative, suburban locations, or were far advanced in their planning and implementation to do so. Several of the old

administrative centers already had been transformed into top-of-the-line commercial and office development complexes, laid out around newly cleared downtown park space.

Relocation of state-owned enterprises (SOEs) and municipal administrative centers has not been without problems. A 2012 study by the World Bank found that relocation at sites far from the city center had contributed to urban sprawl and carbon generation. Meanwhile, many of the central- and provincial-owned SOEs have set up real estate development subsidiaries of their own and became property speculators. A study published by the National Bureau of Economic Research (US) found that central-government SOEs accounted for 51% of all land purchased at auction in Beijing in 2010, up from zero in 2003, and that they paid higher prices than private developers for comparable land. The national government in 2011 had to promulgate regulations forbidding central-owned SOEs from engaging in property development, except for the 14 SOEs that have this as their principal mission.

LESSONS FROM INTERNATIONAL EXPERIENCE: PART I

Four lessons stand out from this Part I review of international experience:

Importance of Having a Policy That Encourages Active Management of Public Land Assets and Unlocking of Economic Value

India does not have a central policy, or provide policy guidance, regarding management of public land assets. It does not encourage examination of public land hoarding, or encourage agencies to explore ways to unlock land values. Worse, at the center level, India currently has a policy that freezes any type of alienation of center land—whether by sale, leasing, contribution of property to joint venture developments, or pledges of land values to support infrastructure investment. The “freeze” on all public-land activity has been imposed by Cabinet, in order to provide time for development of a Cabinet-level policy governing public land management and public land disposition.

Preparation of such a Cabinet policy would seem to be a top priority. It has the potential not only to unlock center-controlled public lands, but to serve as a model for states and urban local bodies. The statement of policy principle can be simple—perhaps along the lines of Australia’s statement that the purpose of public land ownership is to enhance public service delivery, and that government is not in business to be a permanent property owner. The policy then could clarify the prerequisites and safeguards for land disposition and specify the conditions under which decisions about land use will be delegated to individual departments or agencies.

Value of Public Land Inventories

Informed decisions about the disposition of public lands will require reliable inventories of public landholdings--by owning agency, location, current and planned use, size, and (for

significant parcels) approximate market value. No country in the world has moved toward implementation of land disposition policies without first preparing such inventories.

Land inventories accessible to the public and to market participants also are essential for accountability. Parts I and II of this report describe several different approaches to the preparation of public land inventories. They range from straightforward presentation of information about landholdings to the further requirement that the landholding agency provide a justification as to why continued holding of significant land parcels is in the interest of efficient service delivery.

Importance of a Well-Defined Process for Public Land Disposition

India's record of land disposition involves case-by-case consideration, following rules that are not defined beforehand and are subject at any point to higher-level intervention. The ad hoc nature of these procedures stands in the way of efficient decision-making. Parts I and II of this report describe several different procedures for identifying "surplus" public land or land that could contribute more effectively to public goals if sold or leased. The lesson from international experience is not that a single procedure is appropriate, but that there should be clarity and certainty about the procedure to be followed.

Ironically, India has a significant leg up in preparing land inventories and unlocking public land values, if institutions were allowed to move forward to implementation. The Railway Land Development Authority (RLDA), for example, was established precisely for this purpose. It has completed a basic inventory of Railways' vast landholdings, and identified 305 mostly urban parcels suitable for development either through sale or joint venture. Despite Railways' urgent need for investment financing, RLDA has been prohibited from moving forward by the Cabinet-level freeze on all public land initiatives. Similarly, an inter-agency committee prepared in 2010 a new Land Policy for Major Port Trusts, which required the major ports to prepare inventories of their landholdings and develop plans for land use over the next decade. An important byproduct of this exercise is identification of land parcels which are not now used and are not planned to be used for port purposes. Many of these "surplus" land parcels are in major urban areas. They should be examined to determine how the greatest economic and fiscal value can be extracted from them, consistent with good urban planning. However, action to unlock land values for major ports is also frozen by Cabinet-level order. Similar de facto "freezes" on public land disposition or development have been imposed by state governments in several metropolitan areas.

Entrepreneurial Management of Public Lands

State-owned companies, as well as government agencies, continue to hold valuable blocs of land in Indian cities. Some of these state-owned companies have shriveled in market size, or now own property that they cannot effectively utilize. Relocation of selected SOEs could contribute both to a more efficient urban development pattern and generate sizable resources for public investment.

India, of course, is not China. The legal and institutional rules in India make it far more difficult for public sector planners to influence SOE land use. However, given the potential for very large gains in land values, it should be possible to negotiate company moves in a manner that produces benefits for the company, public sector investment, and urban inhabitants. A policy statement by government that encourages or incentivizes such action would be the first step in this process.

FURTHER READING FOR PART I

AUSTRALIA

Department of Finance and Deregulation, *Commonwealth Property Disposals Policy*, Feb. 25, 2009 [Updates strategy for land disposition, including priority for housing supply]

Commonwealth Government, *Property Ownership Framework*, July 1, 2005. [Modifies framework to conform to Labour's policy platform]

Department of Finance and Deregulation, Guidelines for Land Audit, *Estimates Memorandum 2005/31 and 2007/28* [provide guidance on how the business case for land retention should be calculated]

Department of Finance and Deregulation, *Commonwealth Property Management Guidelines*, Oct. 2009 [requires all agencies to have a property management plan and provide data on all property that they own or lease.]

Department of Finance and Deregulation, *Better Practice Guide on the Strategic and Operational Management of Assets by Public Sector Entities*, 2010 [guidance on the own vs. divest decision for land assets and other asset management issues]

Commonwealth Government, *Financial Management and Accountability Act*, 1997. [establishes the basic requirement that agencies have “strategic planning, policies and procedures in place to achieve value for money in property management.”]

Department of Finance and Deregulation, *Register of Surplus Commonwealth Land Potentially Suitable for Housing and Community Outcomes*, Sept. 2011 [most recent register of lands available for housing etc.; 90% consists of Defense properties]

Department of Finance and Deregulation, *Commonwealth Land Audit*, Jan. 2011 [most recent agencies' Land Audit]

CANADA

Canada Lands Company, www.clc.com [current information and past publications]

Canada Lands Company, *Annual Report, 2010-2011*. Published Jan. 2012 [available at above website]

Canada Lands Company, *Corporate Plan Summary, 2010-2011 to 2015-2016*. Published 2011 [available at above website]

Canada Lands Company, *Acquisition of Landmark Site in Ottawa*, May 9, 2011 [available at above website]

National Executive Forum on Public Property, www.publicpropertyforum.ca [convenes senior managers of public land assets and other public property from federal, provincial, and municipal levels, with academics and private sector property managers.]

UNITED STATES

Defense Base Closure and Realignment Commission: *Final Report to the President*, vols 1 & 2, 2005 [recommendations and rationale for base closures and realignment]

Federal Land Asset Inventory Reform {FLAIR} Act, introduced in Senate, 2011. [repeats legislation introduced annually since 2009 to mandate a comprehensive inventory of federal government landholdings and valuations]

Government Accountability Office, *Federal Real Property: Excess and Underutilized Property Is an Ongoing Problem*, Testimony before Subcommittee on Federal Financial Management, Government Infrastructure and International Security, Senate Committee on Homeland Security and Governmental Affairs, 2006. [one of a series of reports by GAO highlighting land asset management as a “high risk” area of federal management.]

CHINA

Nelson Chan, “Land Acquisition Compensation in China: Problems and Answers,” International Real Estate Review. [2003, vol 6, No. 1, pp136-152] [reviews past acquisition practices and land value arbitrage]

Deng, Yongheng, Randall Morck, Jing Wu, and Bernard Young. *Monetary and Fiscal Stimuli, Ownership Structure, and Chinese Housing Market*. National Bureau of Economic Research, Working Paper 16871. March 2012. [impact of China’s 2008-09 stimulus package on urban land and housing markets, and SOEs’ role in property demand]

Peterson, George E., “Land Leasing and Land Sale As an Infrastructure Financing Option,” in George E. Peterson and Patricia Clarke Annez, (eds), *Financing Cities: Fiscal Responsibility and Urban Infrastructure in Brazil, China, India, Poland, and South Africa*, World Bank 2007.

Wu, Jing, Joseph Gyourko and Yongheng Deng, *Evaluating Conditions in Major Chinese Housing Markets*. National Bureau of Economic Research. 2010. [Reports increase in land prices and change in structure of property market]

PART II: SPECIALIZED INSTITUTIONS AND INSTITUTIONAL ARRANGEMENTS FOR DISPOSING OF PUBLIC LANDS

The sale or leasing of public lands is not self-executing. It requires specialized institutions and special institutional arrangements, particularly if land disposition is to be a recurring activity rather than a one-off event, and is to support broader policy goals. In recent years there has been a pronounced trend toward the creation of specialized public land-asset managers. China has mandated the establishment at the local level of institutions known generically as Urban Development Investment Companies (UDICs). These hold the investment assets, including land, of the municipality, and make investment decisions regarding land assets. A specialized Land Reserve Center handles land transactions and auctions. The Singapore Land Authority manages Singapore's land development and land leasing. As part of decentralization, Indonesia mandated the creation of local asset managers. Their primary responsibility is to inventory and manage local government land and property assets.

Outside of Asia, similar institutions can be found at all levels of government. The Canada Lands Company has sole responsibility for disposition of surplus federal lands in Canada. A specialized institution was created by the State of Berlin, Germany to dispose of surplus state lands. The Johannesburg (South Africa) Property Company and Ottawa (Canada) Community Lands Development Corporation are two of many examples of local institutions created to manage public real estate assets, including sale of excess lands and development of other properties.

Part II of the report examines in greater detail the way two of these specialized institutions function in managing public land disposition. Both are quasi-independent, professionally managed intermediaries executing government policy. Their working procedures are described against the background of their policy mandates. Although the working arrangements differ considerably, they follow a basic common framework that could be adapted to India's needs.

LIEGENSCHATFSFONDS, BERLIN GERMANY

Background. Berlin is both a city and a state under the German federal system. It covers a small area (only 829 sq. km.), but is the capital region of the country and contains highly valued real estate. As a city, Berlin is divided into 12 local boroughs.

By the year 2000, the intergovernmental assignment of assets necessitated by German reunification had been completed. As part of the former East Germany, the State of Berlin retained a good deal of publicly owned land. Some of this land was being sold piecemeal by agencies. Occasionally, the Berlin state parliament or the national parliament would intervene in land

transactions. There was no overarching strategy or common procedure guiding land disposition. Land transactions also lacked transparency. Only insiders had access to information about the specific characteristics of land parcels or agencies' intention to sell them. More than 30 different offices in the state government served as contact points for approving or delaying land sales.

Berlin did have the advantage of a comprehensive Land Register that identified legal ownership of public properties as well as site dimensions. However, the Land Register was not published for public access, and was not organized so as to link economically connected parcels.

Policy Mandate and Institutional Arrangements. Liegenschaftsfonds was created by an act of the state Parliament in 2001. The policy mandate given it by Parliament was to collaborate with state government agencies to identify surplus state property and dispose of it in an orderly manner that supported the physical development plans of Berlin. The financial goal was to generate revenue from land sales that could be returned to the state treasury. An initial block of lands was transferred to Liegenschaftsfonds (the Fund) as surplus property to be managed for disposition. Procedures were set in place for identifying and transferring further property to the Fund, after an updated inventory was completed.

The general policy context was Parliament's determination that the state government held too much public land. Agencies were required by law to identify parcels not being used for current or planned service provision, and to designate these as surplus properties eligible for disposal.

The Fund is organized as a 100% publicly owned company, with a governance structure similar to private companies in Germany. It has a Supervisory Board appointed by the government. The Supervisory Board is composed of members knowledgeable about real estate and intergovernmental relations.

Two policies built into the Fund's design distinguish its workings. First, the Fund is mandated to sell property at full market value, except when parcels are being allocated for public use. The latter represent less than 5% of total transactions. Second, the potential for conflict between the state government and local boroughs was recognized and addressed from the outset. Most of the properties sold by the Fund are destined for more intensive development, placing infrastructure and service demands on the boroughs where redevelopment takes place. To protect against overburdening the boroughs, all properties sold by the Fund are subject to local (borough) planning, density, and zoning restrictions. Further, between 10% and 15% of sale proceeds, depending upon transaction, are allocated to the borough. These funds typically are used by the boroughs to help finance the infrastructure costs associated with more intensive development.

Inventory. The Fund has modernized its land inventory and made it accessible to the public. A user can access by internet a map showing all of the land parcels held by the Fund throughout the State of Berlin. The user then can zero in on individual parcels to find exact site dimensions, site use, details of buildings on the site, and relation to nearby streets, metro, and other

public facilities. If the site is being offered for sale, additional information on the sales process is provided.

At the time of the Fund's creation in 2001, of the 892 sq. km. of land in the state, 425 sq. km. were owned by state government. Of these, 368 sq. km. were assigned assets used by government agencies for public service provision or other public purposes. Nineteen sq. km. were categorized as financial assets—i.e. land leased to the private sector under existing contracts. A total of 33 sq. km. (3300 hectares) were designated as surplus property and transferred to the Fund for disposition, primarily by sale to the private sector.

Operations. The continuing operations of the Fund are a dynamic process. The Fund sells or otherwise disposes of properties. Agencies can designate additional surplus lands to the Fund, sometimes after discussions with the Fund regarding optimal land assembly. The Supervisory Board must unanimously approve transfers of new properties into the Fund, in part to avoid potential liabilities from environmental cleanup.

The Fund is an intermediate-term manager of public property. It optimizes the value of land under its control by working with boroughs to gain re-zoning and planning approvals before sale. It manages landholdings through the real estate cycle. During the economic downturn of 2008-09, it did not attempt property sales. Sales resumed in 2010 with Germany's economic rebound.

The Fund has the right to sell property through competitive bidding, direct negotiation, or invitation to tender at minimum purchase price. All properties are sold subject to borough planning and permitting restrictions. The Fund also has the option of leasing properties at annual rates ranging up to 6.5% of market value. The typical lease period is 50 years.

Properties are sold subject to

- Initial approved use. A change of use requires both borough and Fund approval.
- An “added-value levy” clause. Subsequent investment that adds significantly to the value of the property triggers an additional levy paid to the Fund.
- All sales in excess of Euro 3 million, and any sales at below-market value, must be approved by the lower house of Parliament.

Results. Over the ten years, 2001-2010, the Fund entered into 5,423 contracts. It sold land having a sale value of 2.04 billion Euro, and entered into annual leases yielding 25.0 million Euro. The Fund paid 1.749 billion Euro into the state treasury and 227 million Euro to local boroughs to finance supporting infrastructure and public services.

The Fund has succeeded in its mission of transferring surplus state property to the private sector. It has introduced professional management into the land disposition process, while following well-defined procedures for parliamentary oversight. Local boroughs have become active partners in planning the re-use of surplus sites.

CANADA LANDS COMPANY

Background and Institutional Structure. Canada Lands Company originally was established with a single mission: to sell the excess lands owned by the Canadian National Railway on behalf of the federal government. The national railway—a Crown Corporation—had become a money-losing operation for government. In the 1990s, it was decided by government to groom the railway for privatization. As part of this process, the excess lands and property owned by the railway—i.e., property not needed for rail operations—were separated from the railway. Shares in the railway were sold via a market IPO. The sprawling excess lands formerly owned by the railway were transferred to a reactivated company, the Canada Lands Company (CLC) for separate sale. CLC was given a 5-year time frame commencing in 1995 to dispose of the land property. Almost all (86%) of the land parcels were sold within the 5-year period, realizing some \$500 million for the federal consolidated fund.

The exercise in disposition of excess federal property was deemed sufficiently successful that in 2000 the mandate for CLC was expanded so that it would operate as an intermediary in disposing of surplus federal property across all agencies of government.

CLC is organized as a profit-making, non-agent Crown Corporation. A non-agent Crown Corporation is owned by government, but is not subject to government direction in carrying out its activities. Government can decide to dissolve CLC, but it cannot direct CLC to undertake specific investments, influence its land sales, or intervene in decisions about real estate projects. CLC thus is a professionally managed implementer of government policy. It reports to Parliament through the Department of Public Works.

Part of the background for expanding CLC's mandate was an Auditor General's report that found the then-current practices for selling federal land ineffective and non-transparent. The report criticized land-sale practices for disposing of land "as is" without attempting to enhance its value for development prior to sale, for failing to make use of open, competitive bidding, and consequently for failing to realize value on behalf of federal taxpayers. The Auditor's Report contained examples of buyers' "flipping" properties purchased from government, almost immediately, at multiples of their purchase price.

CLC's mandate in the broadest sense is to professionalize federal land disposition, so as to optimize federal monetary receipts consistent with local economic development and other values. These other values include environmental sustainability and participation of First Nation indigenous groups in development and its benefits.

The mandate for CLC is buttressed by legislation requiring federal agencies in Canada to identify surplus property and transfer it to the private sector or local government. The Financial

Administration Act makes it illegal for federal agencies to hold property that is not used for public service or planned for future service use.

Land Inventory and Surplus Designation. Under the Canadian system, federal agencies are required to compile records of their landholdings in a common format. These records then are combined in the *Directory of Federal Real Estate*. All federally owned property is listed there. The Directory is available for public inspection and use.

Agencies are required by law to identify their surplus properties. Departments' lists of surplus properties go to the Treasury Board Secretariat and Treasury's Steering Committee on Real Property. Property is classified as "strategic" or "routine." "Strategic" refers to property in urban locations that has significant development and financial impact. Surplus strategic property is transferred to CLC for management and disposition. "Routine" property—typically, low-valued rural property—is sold directly by the department that owns it.

In addition to department-initiated designations of surplus property, the system uses external prompts to identify surplus land. The Treasury Board issues instructions to departments regarding criteria that should be met for retaining land. Canada Lands Company also takes a proactive role in identifying surplus properties. It inspects various federally owned parcels that appear to be unused or under-utilized. It meets with department and Treasury Board officials to make the case that some of these parcels could be released to the market through CLC.

Mode of Operation. CLC deals only with properties identified by government as surplus and strategic. A unique aspect of CLC's operation is that it is mandated to buy properties from the federal government at market value. It negotiates sale terms with the department owner and Treasury Board. The government commissions independent land appraisals prior to sale. CLC does its own market analysis.

Given that CLC is the only authorized buyer of federal strategic properties, sale prices in principle could be distorted by the lack of market competition. However, audit results confirm that sale prices approximate those that would be reached in competitive, arm's length transactions—with the exception of the financing arrangements described below.

When CLC buys a property from government, it issues a non-interest bearing promissory note to Treasury in return for the property. The promissory note is paid off as CLC realizes income from sale of the property to the private sector. In addition, CLC pays a profits dividend to the government consolidated fund. CLC has consistently generated profits and paid dividends to government.

CLC views its principal role as a value-creator for the property it receives from government and sells to private parties. Much of this value added derives from master planning of property development, coupled with negotiations with local government to obtain planning approvals and density permits. Planning sovereignty rests with local authorities. They retain the right to approve

land-use allocations and zoning. Most of the properties CLC oversees are developed as residential and mixed-use communities. CLC may sell at the stage of development approval, or commission private-sector developers to build out the community and share in final receipts.

Incentives. What are the incentives for federal agencies and local governments to participate in this process? From the federal government side, there is the legal requirement to dispose of surplus property, and to do so exclusively (for strategic property) through CLC. However, the system also contains financial incentives. CLC payments go to the Consolidated Fund, but they are earmarked for the selling agency, provided it proposes an approved use of the funds through the budget process. In addition, agencies are able to shed costs of maintenance and upkeep of unused or under-used properties. The costs of maintaining decommissioned military bases, in particular, can be very substantial.

For local governments, there are dual incentives. Development projects provide a boost to the local economy. CLC's award-winning community development plans have helped urban areas expand in environmentally responsible fashion. Moreover, CLC's ownership transfers land from federal ownership (where it is exempt from local property and other taxes) to the local property tax rolls. Once in the hands of CLC, even before physical development commences, the property is subject to all local taxes and regulations. These incentives have made local governments willing partners in the federal land disposition process.

Results. CLC to date has purchased from government 13 decommissioned military bases for redevelopment, as well as numerous other, smaller parcels. A subsidiary manages the large-scale redevelopment of Montreal's port area, described in Part I. CLC has operated at a profit, and maintained successful political relations with federal agencies, local governments, and Parliament. It also has been a leader in expanding the criteria by which development success is measured. It has introduced a Balanced Scorecard containing 34 different financial and non-financial targets, with metrics for measuring success on each dimension. These range from specific measures regarding environmental impact to measures of community satisfaction with development projects, and from measures of First Nation participation in the development process to measures of financial return on equity.

LESSONS FROM INTERNATIONAL EXPERIENCE: PART II

It is dangerous to try to draw conclusions for India from the operation of two institutions. However, the basic design of Liegenschaftsfonds and Canada Lands Company suggest factors that should at least be taken into account in implementing a land disposition policy.

Value of Quasi-Independent, Professionally Managed Institutions. Both Liegenschaftsfonds and Canada Lands Company place operations in the hands of real estate professionals one step removed from politics. The institutions operate more transparently than most government agencies. Their land inventories are open to inspection by the public and by potential purchasers. They have been able to work as effective intermediaries between higher-

level government, local government, developers, and communities. They have been able to capture for government the value-added that comes from negotiating zoning and density permits prior to land sale.

Above all, both institutions have been able to move ahead expeditiously with land disposition, consistent with the guidelines contained in their mandates. Well-defined rules have protected them from political intervention. Institutions of this type could be considered appropriate at different levels of Indian government: to coordinate state land disposition across state agencies, to implement land disposition for a large landholder like a Major Port Trust or Railways, or to operate at the level of an individual city or urban region.

Need for a Political and Policy Mandate. Merely creating an institution and staffing it with qualified real estate professionals does not guarantee successful operations. Of greatest importance are (i) the policy mandate from government, making clear what the organization is to do, and (ii) the political mandate ensuring that it is free to move ahead, with accountability but without interference, in implementing policy. Canada Lands Company, as a non-agent Crown Corporation, enjoys the clearest political mandate of this kind. Canadian law specifically prohibits government or political agents from any involvement with CLC's operations. Berlin's Fund retains tighter government and parliamentary oversight, but it is able to report its operations in a well-defined, orderly manner, while executing its policy mandate.

Identifying Surplus Public Land. One lesson from international experience is that government agencies, on their own, rarely are aggressive in identifying surplus land that can be better used by others. Quasi-independent intermediary organizations like CLC can be helpful in calling attention to under-used landholdings and pressing for their fuller utilization, including by disposition.

Other countries' experience offer additional examples of external prodding to identify surplus lands. Great Britain in 2010-11 launched what it has termed a "Community Right to Reclaim Land." Any individual or community organization can identify apparently abandoned public property or unused public land and file a Public Request to Order Disposal—that is, a request that the land be sold so that it can be brought into use. To make this policy work in practice government has required all central departments to prepare inventories of their landholdings and make these available to the public. Requests for disposal of all but the most sensitive properties are supposed to be handled by departments alongside other planning casework, without the escalation to Ministerial level that has delayed past initiatives of this type. Government estimates that there are some 63,750 hectares of previously developed, now-unused, government-owned land potentially available for reclamation.

In the Indian context, a process that specifically authorizes Public Interest Litigation groups to identify unused public properties and file Public Requests to Order Disposal could accelerate land disposition.

FURTHER READING FOR PART II

Canada Lands Company. *Annual Report, 2010-11*, March 2012. available at www.clc.com

Canada Lands Company. *Corporate Plan Summary, 2010—2011 to 2015-2016*, 2011. available at www.clc.com

Department of Communities and Local Government (UK). *Community Right to Reclaim Land*, issued October, 2011.

Kaganova, Olga. *International Experiences in Government Land Development Companies: What Can Be Learned?* Urban Institute. IDG Working Paper 2011-1. February, 2011.

Liegenschaftsfonds, Berlin. *Reporting on Our Experiences*. Berlin. February 2011.

McIvor, Gordon. “Presentation to Steering Committee on Canada Lands Company.” Mumbai, March 2012

Mole, Steven. “Improving Property Asset Management in the Central Civic Estate.” 2011. Available at ogc.gov.uk/better_asset_management.asp

PART III: EARMARKING REVENUES FOR INFRASTRUCTURE INVESTMENT

How should the revenues generated by public land sales or land leasing be used? Should they be earmarked for specific types of expenditures or channeled into specialized institutions designed to receive the revenues and invest them?

Purpose and Limitations of Earmarking. Earmarking is a means of automatically directing revenues to a designated expenditure purpose. The general category of “earmarking” covers a number of different arrangements. Revenues may be earmarked for the capital budget and used for any of the expenditure items therein. Earmarked revenues may be tied to very specific types of expenditures or to individual projects. Earmarking rules may split up total revenue receipts and designate specific percentages of the total for different uses.

The purpose of earmarking normally is to boost spending on targeted types of expenditure, or to ensure a certain level of spending for earmarked activities. At a general level, earmarking has been criticized because it takes expenditure decisions out of the hands of elected officials and limits their flexibility to respond to voter preferences. The rigidity of earmarking can be especially problematic in times of fiscal stress, when ministries of finance would prefer to make all spending categories eligible for cutbacks, rather than be constrained by earmarking rules.

Earmarking also has practical limitations. The revenues generated from earmarked revenue sources may exceed, or fall short of, optimal expenditure levels, depending upon economic factors or other circumstances. If spending is constrained by dependence on earmarked revenues, the process may result in less investment than desirable and possibly less investment than would have taken place if projects were financed from general revenues. If earmarked revenues exceed optimal expenditures, the process may result in wasteful or low-productivity investment to use up the available revenue. If earmarked revenues are just part of total budget financing for targeted expenditures, other financing for the expenditure item may be adjusted upward or downward to take account of fluctuations in earmarked revenues. The net impact of earmarking on spending levels then may be minimal.

Part III of this report is divided into six sections. The first section summarizes the rules now in place for using revenues from public land disposition in a number of different countries and states, including those examined in Parts I and II. Just as specialized institutions have emerged for handling public land disposition, so specialized institutions have been created to receive earmarked public revenues and handle their investment. The second and third sections consider whether the models of Road Funds and Sovereign Wealth Funds, respectively, have potential applicability for linking revenues from land sales to urban infrastructure investment. Hong Kong SAR, China is one of the few places in the world that currently has specialized institutions and specialized rules for connecting the revenue from general land leasing to investment in urban public works. The fourth

section examines more closely the workings of Hong Kong SAR, China's system. In practice, much of the earmarking of land revenues to urban infrastructure investment occurs at the project level, where revenues from land sales are used to help pay for investment in metro construction, roads or other facilities. Project investment increases land values, including the value of publicly owned land. Part of the increment in land values can be captured to help finance investment costs. The fifth section examines the linkage between public land revenues and urban investment at the project level. The final section considers lessons relevant to India from the review of international experience.

CURRENT PRACTICE REGARDING THE USE OF REVENUES GENERATED BY PUBLIC LAND SALES AND LAND LEASING

In a government accounting system that distinguishes between the capital budget and the operating budget, asset sales generally are recognized as a source of capital income. 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 purposes covered by the capital budget, or earmarked for some specific sub-set of capital budget activities.

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 pay down debt. 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, the new national constitution requires that at least 90 percent of proceeds from local governments' upfront leasing of land-use and development rights be used to finance local infrastructure investment. The State of California (United States) a few years ago passed legislation earmarking the proceeds of all state land and property sales for servicing a special issue of Debt Financing Bonds.

Of the land disposition arrangements discussed in Parts I and II, Berlin's Liegenschaftsfonds deposits revenues from land sales in the state consolidated fund, but earmarks a portion of receipts from each land sale (between 10 and 15 percent) to the local government borough where the site is located, to help finance the local infrastructure investment required to support higher-density development. Canada Lands Company makes payments into the federal consolidated fund. Revenues in turn are earmarked through the budgetary process for the department selling a land parcel, provided the department prepares a satisfactory plan for expenditure. In Australia, revenues from federal land sale go into the consolidated fund. However, land assets themselves are preferentially targeted for below-market transfer to local government and community groups for housing and community activities. [A similar preferential targeting of land assets is used in the UK.] Canberra is the only Australian city that retains public ownership of all land. Revenue from land leasing in Canberra is dedicated to the capital budget and used to finance local infrastructure. China does not have legislation dictating how revenues from municipal land leasing are to be used. However, the national government has provided clear instructions that these revenues are to be used to finance local infrastructure.

The Philippines illustrates the application of more detailed earmarking rules. Republic Act no. 7227 authorized the sale of land in Metro Manila military compounds formerly used as US military bases. The first land sale, of Fort Bonifacio, realized roughly US\$800 million. Act 7227 specified how revenues realized from the sale of land in military compounds was to be used: 50% was to be invested in infrastructure to develop Special Economic Zones at other former US military sites; 32.5% was to be used for modernization of military equipment and housing for military personnel; 4% was dedicated to provision of housing for the homeless; 2.5% was allocated to the three municipalities within Metro Manila most affected by redevelopment of Fort Bonifacio; and 10% was to be contributed to the general budget of the national government.

It is difficult to track the ultimate impact of these revenue allocation rules. Revenues are fungible once they enter the budget process. The clearest connection can be established when earmarked land revenues finance the bulk of local infrastructure investment. Analysis of local infrastructure spending in Ethiopia reveals that investment expenditures fluctuate closely in line with receipts from land leasing. The constitutional earmarking of land revenues to infrastructure investment seems to have had the desired effect of significantly increasing local infrastructure spending, especially on road and water systems. Urban infrastructure investment in China has surged in line with revenues from land leasing. It is universally acknowledged that up to now essentially all locally financed infrastructure investment in China's cities has been financed by land leasing, either directly or by using land leasing proceeds to service bank borrowing and municipal bonds.

There has been considerable controversy in the Philippines as to whether the earmarking provisions of Act 7227 have been applied appropriately. Funds from land sale go into the consolidated fund and are allocated as part of the government budget process. Exact tracking of the use of funds from land sales is impossible. However, all of the expenditure purposes identified in Act 7227 have been supported, indicating that earmarking rules have had an impact on expenditures, at least at a broad level.

On occasion, earmarking rules have had perverse effects. The Little Hoover Commission of the State of California concluded that the rules dedicating all revenues from agency property sales to debt service in the consolidated fund had the effect of discouraging agencies from identifying surplus properties. It recommended that agencies identifying surplus property share in the proceeds of sale, as an incentive to active participation in property disposition. As matters now stand, the Commission found, agencies do not even fully report their property holdings to the state inventory system, out of fear that their properties will be identified as surplus and sold without any benefit to the agency.

SPECIALIZED FUNDS FOR MANAGING EARMARKED REVENUES: ROAD FUNDS

Earmarking links specified revenues to specified expenditure purposes. This linkage can be managed through the general budget process. However, as noted in the previous section, it is difficult to track the actual use of earmarked revenues within a fungible budget process. To provide more transparency, and to tighten the connection between designated revenue and designated expenditure, countries often have established specialized Funds for receiving and disbursing earmarked revenues. Only a few of these Funds attempt to tie revenues from public land disposition to local infrastructure investment. However, many of the Funds operate more broadly within the infrastructure sector. Their experience may offer lessons for the design of Funds dedicated to managing revenues generated by land sales.

Road Funds are the most common type of dedicated infrastructure fund. Many countries have instituted Road Funds at various points in their development. Road Funds generally seek to finance road and highway investment from earmarked revenue sources that serve as proxies for user fees. Some of these funds have been abandoned; some have been maintained. The summary below captures key elements of international experience.

Road Funds: International Structure and Experience

Developed Countries

United Kingdom: The UK established a Road Board (later Road Fund) in 1910, funded by dedicated vehicle excise duties. The original intent was to have earmarked revenues fully fund road investment. The legislation provided that no other claims were to be made on the Exchequer for road construction. Initially, the earmarked revenues led to a surge in road investment. However, the Road Fund was never fully utilized for road works. It regularly returned a surplus that was contributed to the general budget. Earmarking of revenues to the Road Fund was formally terminated in 1936, when vehicle excise duties became payable to the general budget account. The Road Fund then was financed from general budgetary allocations. The Road Fund eventually was dissolved, in favor of funding subnational road investment via government grants.

France: A special fund for road investment, *Le Fond Special d'Investissement Routier*, was established in 1951. It was financed by dedication of 22% of fuel tax receipts. The revenue stream was intended to match expenditures on road investment. Initially, the Fund financed a substantial increase in road and highway expenditures. However, in the face of budget deficits, increasing portions of the fund's revenue were diverted to the general budget. The fund was terminated in 1981. A special fund for large investment projects, *Le Fond Special de Grands Travaux*, was operated from 1982-86, financed by a hike in fuel taxes. However, the road and highway portion of funding was offset by reductions in support from the general budget.

United States: The Highway Trust Fund is the source of federal financing for roads, highways, and bridges. It is supported by earmarked gasoline taxes. The initial impact of the Fund was to substantially boost highway spending. However, the gasoline tax rate has not been increased since 1993, while uses of the Trust Fund have been extended to mass transit and pedestrian projects, as well as hundreds of special projects written into budget bills by members of Congress. As a result, funding for highways is now generally regarded as inadequate. Capital investment in roads and highways in the US declined from 3% of GDP in the early 1960s to 1.1% in 2007, despite the earmarking provisions. In fact, the US experience illustrates many of the problems associated with a fixed revenue source imposed at a fixed rate. Revenues from fuel taxes are projected to decline in the future, as automakers adjust to fuel economy standards and high gas prices lead to cutbacks in miles driven. In recent years Highway Trust Fund revenues, which previously paid for all federal highway support, have had to be supplemented by financing from the general budget.

Japan: Japan established a Road Improvement Special Account in 1954 as part of the effort to rebuild infrastructure after World War II. It was funded by a dedicated fuel tax and later a tax on registration of vehicles. Tax rates were increased to finance the investment levels called for in the five-year investment plan. During the 1990s, general budget resources were used to augment spending on highway construction, beyond dedicated revenue levels, as part of a stimulus package intended to re-ignite the economy. In 2008 the Road Fund was integrated with five other special infrastructure funds, diluting its earmarking.

Developing Countries

Latin America: Most Latin American countries have at one time established Road Funds or Road Maintenance Funds, supported by dedicated fuel taxes. The funds often were created with support from international donor agencies, and had provisions that were supposed to protect them from general budget claims. However, none of these funds has survived. All have been folded into the general budget under fiscal pressure. Some of the funds, as in Colombia, financed earmarked intergovernmental transfers, which in turn were used by municipalities to back borrowing for local road works. When the earmarked transfers were eliminated, many municipalities defaulted on their debts.

Asia: A variety of Road Funds exist in Asia. International organizations have perceived a bias in favor of new construction over maintenance, which they believe could be corrected by Road Funds. In 2003 the Asian Development Bank recommended the establishment of off-budget Road Maintenance Funds as separate institutions, under the governance of Boards of experts. The recommendation was made on the grounds that politicians neglect maintenance and that maintenance spending therefore should be removed from the political realm. The experts sitting on the Boards of Road Maintenance Funds were supposed to have authority to raise dedicated fuel tax and vehicle registration tax rates to the levels needed to adequately fund road maintenance. However, no country has adopted such a system.

Impact of Dedicated Road Funding. What impact has earmarking of revenues via Road Funds had on road investments? In his comparative analysis of Road Financing, Yamaguchi found that the level of national revenue generated from fuel taxes was positively associated (with a lag) with national investment in roads and highways in the United States and Japan, where these revenues are earmarked to Road Funds. In France and Germany, two countries that do not have Road Funds or other forms of earmarking for highway spending, there was no relation between national fuel receipts and national highway investment. He concludes that historically Road Funds have performed at least a portion of their earmarked purpose: broadly linking expenditures to levels of earmarked revenues. Whether this linkage remains desirable in an era of declining fuel tax receipts is a separate question.

As our brief review of Road Funds suggests, introduction of these Funds led initially to boosts in road and highway spending. After a period of operation, the majority of Road Funds were folded back into the general budget, often in response to overall fiscal pressures. This experience suggests that specialized infrastructure funds may best be viewed as intermediate-term devices for increasing expenditures for targeted investment purposes. This is likely to be especially true for Funds financed from public land sales. Public land appropriate for sale is limited. Revenue receipts from this process are not recurring revenues, but asset sales that cannot be replicated indefinitely. It therefore is appropriate to design an institution to receive earmarked revenues that is intended from the outset to have a limited life.

India's Experience

India's experience with its Central Road Fund parallels international experience, though the Central Road Fund still is in the stage of increasing revenues and targeted expenditures. The Fund, originally created in 1930, was revived from long-term dormancy in 2000 when the government decided to make road investment a national priority. A special cess tax on petrol and high speed diesel was imposed and dedicated to the Road Fund. Originally, the cess was imposed at R 1 per liter. After two increases, it now stands at Rs. 2 per liter. In 2009-10, the last year for which final data are available, the dedicated revenues generated 16,591 crore for the road sector, almost triple collections in 2004-05.

The Central Road Fund is essentially an accounting device within the central budget. The Fund has no institutional management or ability to contract road expenditures. It has, however, served its purpose of increasing central spending on roads. Dedicated cess revenues finance essentially all of the central government's spending on rural roads and grants to states for road financing.³ They have allowed the government to sustain spending on national highway

³ Cess revenues are allocated as follows: Of the first Rs1.5 per liter, 50% of cess revenue from high speed diesel is allocated to rural road development. The remainder (i.e., 50% of the cess on high speed diesel and all of the cess on petrol) is divided 57.5% for the National Highway Authority, 12.5% for construction of roads over/under bridges and

development in the face of sharp cutbacks in international donor grants and loans, as shown below. This is especially true since the flow of future cess revenues is used to back the borrowing that helps finance current capital expenditure.

Table 1
Sources of Financing for National Highway Authority (%)

Source	2005-06	2009-10
Dedicated Fuel Cess	40.0%	81.4%
Donor Grants & Loans	33.8%	3.7%
Borrowing	15.6%	12.7%
General Budget Support	8.6%	2.2%

Source: Receipt Budget, Government of India, 2011-12

SPECIALIZED FUNDS FOR MANAGING EARMARKED REVENUES: SOVEREIGN WEALTH FUNDS

Sovereign Wealth Funds offer another model for managing earmarked revenues. Interest has multiplied of late in using Sovereign Wealth Funds as vehicles for financing infrastructure investment. The heightened interest reflects both the perceived underinvestment in infrastructure projects and the precarious nature of bank lending, historically the principal source of infrastructure finance in Europe and Asia.

In November, 2011, for example, George Osborne, Chancellor of the Exchequer of the United Kingdom, stated in a public speech that Britain's Private Finance Initiative was essentially dead in the water as a source of future infrastructure finance. Bank lending for infrastructure was being cut back. Public policy limited aggregate new borrowing, based both on banks' weak capitalization and the already high levels of debt in the public sector. The banking sector, said Osborne, could not provide the funds that would be needed for new infrastructure investment and to roll over outstanding infrastructure loans. A new model of infrastructure finance was needed that would draw more extensively on pooled equity.⁴

rail crossings, and 30% for grants to states for state roads. An additional R0.5 per liter, imposed in 2005, is allocated in its entirety to the National Highway Authority and the National Highway Development Programme.

⁴ On Nov. 29, 2011 Osborne formally unveiled the "new platform" for infrastructure finance in Britain. It targeted a pool of 20 billion pounds to be raised from pension funds, backed by an agreement in principle with the National Association of Pension Funds to invest more heavily in infrastructure. The day before, Nov. 28, the CEO of China Investment Corporation (China's Sovereign Wealth Fund) published an op-ed article in the Financial Times indicating China's "keen" willingness to invest in British infrastructure if local managers shared in the risk.

Sovereign Wealth Funds are an example of this ‘new model’ that may have relevance for earmarking revenues from land sales for infrastructure investment.

Growth of Sovereign Wealth Funds. Sovereign wealth funds have become one of the fastest-growing forms of institutional finance over the last decade. At least 19 new sovereign wealth funds (SWFs) have been established since 2005. Total assets are estimated by the Sovereign Wealth Fund Institute at \$4.8 trillion. Infrastructure is a growing target of SWF investment. Sixty-one percent of SWFs reported investing in infrastructure as an asset class in 2010, as opposed to 47% in 2009.

In terms of their funding, SWFs fall into two broad categories. One group draws upon dedicated revenues from natural resource exploitation, especially from oil and gas or mineral extraction. The majority of SWFs are of this type. They range from Abu Dhabi’s SWF—long the world’s largest—or Kuwait’s, both based on oil revenues, to Chile’s Social and Economic Stabilization Fund, based on revenues from copper mining, to subnational funds like Alberta (Canada’s) Heritage Savings Trust Fund.

SWFs in the second category are funded by excess foreign exchange reserves. The largest of these are China’s two Investment Corporations, but the SWFs of Singapore and South Korea are also funded by foreign exchange reserves.

Norway’s Sovereign Wealth Fund

Norway’s Oil Fund (now formally titled Government Pension Fund—Global) illustrates the workings of a natural resource-based SWF. The Oil Fund reportedly has become the world’s largest SWF, having a value of \$570 billion as of June 30, 2011. (Abu Dhabi’s SWF does not publish its valuation, but is estimated to be in the same range.) The rationale behind Norway’s Oil Fund and its earmarking of oil revenues have potential application to the design of an institution drawing upon the proceeds of land sales.

Norway’s fund was created because it was recognized that the discovery of North Sea oil would provide a large but temporary inflow of wealth. The Fund is designed to receive earmarked oil revenues, invest the revenues, and provide a source of income for public finance in support of future generations when oil and gas resources have been exhausted.

Earmarked Revenues. Part of the income stream into the Oil Fund comes from leases of exploration and production rights from undersea land owned by the State of Norway and thus is analogous to other types of publicly owned land. The Fund also receives revenues from taxes on oil

and gas production, from directly owned state interests in producing fields, and from dividends paid by oil companies in which the State has a large ownership interest.

Earmarked Outflows. The primary financial obligation that the Fund is designed to help finance is the burden of future public pension payments and other social expenditures required by an aging society. Overall, the Fund aims to smooth out the benefits of the one-time exploitation of Norway's oil wealth, so that future generations benefit from it. With this goal, the Fund invests all of its revenues. It is estimated to hold 1% of all publicly traded equities in the world and 1.8% of European traded equities. The Fund currently pays out a 4% annual distribution to Norway's consolidated budget, similar to the payments that an Endowment Fund would make.

Norway's Oil Fund is an example of passive asset management. A growing number of SWFs have a more "strategic" investment policy. These SWFs invest to support national or regional economic growth. Investments range from acquisition of overseas natural-resource supplies needed for future growth to investment in domestic infrastructure. The China Investment Corporation, Singapore's Temasek and Malaysia's SWF stand out in this respect.

Alberta's Heritage Fund

The Heritage Savings Trust Fund (Heritage Fund) of the Province of Alberta (Canada) exemplifies a provincial-level, strategically managed SWF. It illustrates the potential and risks of such a Fund. The Heritage Fund was established in 1976 as a vehicle for translating the province's oil and gas resources into permanent public wealth. The Fund initially was earmarked 30% of the revenues that Alberta received from leasing province-owned land to oil and gas companies. Its sources of revenue therefore closely resemble those that would come from leasing or sale of urban lands.

During much of the 1980s and 1990s, the Heritage Fund pursued an active investment policy intended to promote Alberta's long-term growth. It became a primary source of capital project financing. The Fund invested more than C\$500 million in major irrigation projects designed to strengthen Alberta's agricultural sector. The Fund financed construction of a large Grain Terminal. It invested in Syncrude (Alberta's major oil sands producer) and Alberta pulp mills. It purchased bonds of provincial Crown corporations, including \$1.0 billion of debentures issued by the Alberta Agricultural Development Corporation.

The Fund's operations became a source of controversy. For one thing, the magnitude of annual earmarked revenues escalated far beyond levels anticipated at the time of the Fund's creation. The value of oil and gas rights on provincial land skyrocketed, leading to ever-higher receipts from the Fund's 30% earmarked share of lease revenues. Moreover, both the public and provincial parliament felt that the Fund's investment spending was out of control. The Fund had no longer-term strategic investment plan. It tended to operate independently of parliamentary

oversight in making investment decisions. The result was a seemingly scattered array of investment projects, some of them expensive failures, that ate up the entirety of incoming revenue.

In 1987, parliament revoked the earmarking of further lease revenues to the Heritage Fund. As the Fund continued to invest in capital projects, its corpus was drawn down. In 1997, the Fund was reorganized as a passive endowment fund. It no longer invests in strategic projects, but invests in public equity and debt markets. Income earned by the Fund is paid into Alberta's consolidated governmental account, after withholding an amount to offset inflation. As of Sept. 30, 2011, the Heritage Fund's valuation was C\$14.7 billion.

Sovereign Wealth Funds are one form of wealth pooling that could be used for investment in infrastructure.⁵ Other types of pooled equity funds also can be used to target infrastructure investment. Prominent among these are public pension funds. The Province of Ontario's (Canada) teachers and municipal employee pension funds have become worldwide leaders in local infrastructure investment. They have invested in British water supply and distribution systems, Australian toll roads, and won the contract to operate the Channel tunnel rail link for 30 years. The State of California announced in 2011 that its public pension funds would seek to invest \$800 million in state infrastructure projects to boost the state's economic competitiveness. The Governor of the State of New York is attempting to put together a consortium of state and city pension systems to finance reconstruction of the Tappan Zee Bridge north of New York City, and hopes to use this as precedent for a continuing pooled infrastructure fund.

In October 2011, India's Industry Ministry issued a discussion paper calling for creation of a Sovereign Wealth Fund to invest in infrastructure needed to support India's industrial development. The proposal was supported in principle by some members of the National Planning Commission. As the proposal was outlined, the Fund would operate as a strategic investor, much like the Alberta Heritage Fund. However, instead of financing itself from earmarked revenues, it would have been financed by an initial allocation of India's "excess" foreign reserves.

EARMARKING LAND PREMIUM FOR AN INFRASTRUCTURE FUND

China and Hong Kong SAR, China have been international leaders in dedicating land revenues to urban infrastructure finance. Mainland China, in fact, adopted its infrastructure financing model based on Hong Kong SAR, China's experience. The workings of Hong Kong SAR, China's system therefore are instructive in assessing the benefits and problems that stem from earmarking land revenues for public works on a grand scale.

⁵ Abu Dhabi's Public Investment Authority is a large investor in a transaction in which Chicago leased its 36,000 parking meters for 75 years in return for an upfront payment in excess of \$1 billion.

Hong Kong SAR, China’s Land Finance System. Hong Kong SAR China’s land finance system is a legacy of British colonial rule. The British wanted Hong Kong SAR, China to be self-financing, but also to be a free port and have low income tax rates. The solution was to finance government in large part through land rents. Government owns the land. It leases parcels to users (now typically for 50 years, renewable in practice), and charges ground rent.

The land finance that funds public capital investment, however, does not come from these recurring rents. Rather, it comes from the upfront land premium charged when new leases are entered into. Most of the economic value of the land premium derives from the change-of-use planning authorization that accompanies a new land lease. Land is made available for sale at densities and uses that conform to government’s design for urban development. A large part of the value of development rights is captured by the public sector upfront in the form of land premium charged to developers.

Under Hong Kong SAR, China’s system, revenue from land premium is earmarked to a separate account called the Capital Works Investment Fund (also known as the Capital Works Reserve Fund). Expenditures from the Fund can be used only for public works investments—primarily roads, highways, waterworks, and ports—and related land acquisition. Earmarked land premium is the Fund’s only source of revenue.

Hong Kong SAR, China’s Capital Works Investment Fund

As a funding source for infrastructure investment, the Capital Works Investment Fund (CWIF) has performed well over time. It has consistently funded the great majority of public infrastructure investment in Hong Kong SAR, China. Public works spending in Hong Kong SAR, China grew by 18% in 2008/09, by 37% in 2009/10, and by 54% in 2010/11. CWIF was able to finance 83% of total public works investment in 2008/09, more than 100% in 2009/10, and 80%+ in 2010/11.

The reliance on land revenues for financing exposes Hong Kong SAR, China’s public finances to the volatility of property markets. Government release of land for sale and development is timed in part to take advantage of favorable demand conditions. Between 2001 and 2003, Hong Kong SAR, China suspended all sales of land for commercial use due to lack of demand and precipitously falling land prices in the wake of the Asian financial crisis.

The Capital Works Investment Fund is designed to smooth out steep fluctuations in earmarked revenue receipts. The Fund accumulates a surplus during years when the real estate market is strong, and spends down its reserves or issues debt against future land premium income in weak years.

Structure of the Fund. The Capital Works Investment Fund is solely a revenue and accounting arrangement. It has no employees or institutional incorporation of its own. As a financing operation, it is fully transparent. Projected revenues from land premium for the current year, as well as carry-forward reserves from the past, are spelled out in an Annex to the government budget. An accompanying statement explains which land parcels are planned for release to the market during the year. Actual revenue performance for the previous year is compared to budgeted amounts.

On the expenditure side, budgeted public works investments are listed by category and major project. Also identified are the officers of government that are authorized to approve CWIF drawdowns for each investment item—e.g., the Chief Civil Engineer or relevant Housing director. Expenditure heads cannot be exceeded without budget amendment.

Policy Issues. Although financially successful, the CWIF and the earmarked land premiums that fund it have stirred controversy in Hong Kong SAR, China. First, it is charged by some that the earmarked revenue sources (budgeted at HK\$65 billion, or roughly US\$8.3 billion, for 2011/12) lead to excessive revenue generation and excessive investment in public works to support urban expansion. The fixation on capital works is alleged to result in low-productivity over-investment in infrastructure, and the accumulation of excess reserves derived from land premiums. Reflective of this backlash, the Hong Kong SAR, China government reduced its capital-spending budget in 2011. For the first time it returned to citizens in the form of cash payments some of the reserves held by CWIF.

Criticism also has been leveled at the ties between government and ‘tycoon land developers.’ Land releases by the government involve such large and expensive parcels that only large developers can afford to participate in market auctions. For example, in 2011/12, the Government’s Land Sale Program calls for release of only 16 land parcels for residential development and release of land planned for commercial development in large-scale packages. Government and ‘tycoon developers’ are thought to have a shared interest in slow release of public land, in order to sustain high land prices and high governmental land premiums. The profits generated by land developers contribute heavily to Hong Kong SAR, China’s income inequality, which by some measures is the greatest in the world.

EARMARKING LAND REVENUES FOR INFRASTRUCTURE FINANCE AT THE PROJECT LEVEL: METRO SYSTEMS

A good part of international experience with earmarking land revenues for infrastructure investment occurs at the project level. Transportation projects in particular are good candidates for this type of project financing. The construction of roads, bridges, and metro systems creates access benefits. These benefits are capitalized into land values. When the land benefiting from a

transportation project is privately owned, part of the increment in land values can be taxed away by government to help pay for the project. Variants of land-value taxation long have been used by public authorities as an instrument of infrastructure finance.

When the land benefiting from project investment is publicly owned, the process of cost recovery is even more straightforward. Project investment increases the value of publicly owned land. This land can be sold, and the proceeds earmarked to finance project expenses. Alternatively, a public authority can borrow to finance project construction, then use proceeds from the sale of value-enhanced land to repay its debt. Land-value creation plus earmarking of revenues from land sales to pay for project investment have provided the primary source of financing for urban infrastructure in Chinese cities.

The land-value impact of transportation projects is particularly pronounced in the case of metro rail systems. This has led to efforts to fully fund the capital costs of metro systems from appreciation in public land values.

Hong Kong SAR, China’s Metro System: the “Rail Plus Property” Model

Hong Kong SAR, China’s metro system is one of the most intensively used metro systems in the world, carrying 4.6 million passengers per weekday. The existing system was built on what Hong Kong SAR, China calls the Rail Plus Property model. The capital costs of the system have been financed almost entirely through the process of capturing gains in land values. These gains are caused by a combination of metro’s construction and the high-density development rights that government allocates for development around metro stations.

Mass Transit Railway Corporation. The central player in Hong Kong SAR, China’s metro development is the Mass Transit Railway Corporation, or MTR. MTR originally was a public enterprise. It now is a partially privatized company, trading on the Hong Kong SAR, China stock exchange, with majority ownership in the hands of the Hong Kong SAR, China government. MTR not only is responsible for the greater part of Hong Kong SAR, China’s public transit system, but has built (and is continuing to build) metro lines in Hangzhou, Shenzhen, and Beijing in mainland China. It also operates, on a concession basis, metro lines in Melbourne and Stockholm, as well as rail lines in the United Kingdom.

In building Hong Kong SAR, China’s metro system, MTR has relied on its ability to capture the increment in land and development value caused by metro stations and grants of development rights. Land is not granted free to MTR. Rather, the government sells to MTR long-term Land Use Rights based on market value in current use, prior to metro construction. The government simultaneously allocates high-density development rights to MTR around station nodes. Metro routes are planned by government in collaboration with MTR. Stations are located at nodes

designated by government planners for higher density development. The Town Planning Board has final authorization regarding site development plans.

The combination of metro access and planning approval for densification produces much higher land prices. MTR either sells the enhanced Land Use Rights to developers, or develops properties in partnership with developers, retaining ownership. MTR builds the metro line and purchases equipment for its operation without further charge to the government.

As a result of this process, MTR has become a large property owner and a key player in Hong Kong SAR, China's development. At the end of 2010, it owned 12 shopping malls with 225,000 square meters of retail space, 18 of the 20 floors of the International Finance Centre with 41,090 square meters of office space, as well as several large land parcels in different stages of development. MTR managed more than 81,000 housing units, most on land whose development rights had been sold to developers by MTR.

The importance of property profits to construction and operation of Hong Kong SAR, China's metro system under this model can be seen from the summary in Table 2 of MTR revenues and profits. It refers to MTR's operations in Hong Kong SAR, China, excluding overseas operations. In both 2007 and 2010 profits from property accounted for all of MTR's profits. The aim of rail operations is to break even on passenger fees. Property profits take the form of realized gains on sale of land use rights and developed property, profits from rental operations on property for which MTR retains ownership, and the "mark-to-market" gains in the value of MTR's land and property holdings.

Table 2
MTR Sources of Revenue and Profit
(Millions of HK Dollars)

Item	2007	2010
Revenue from Rail Operations	7,115	12,459
Total Profit before Taxes	18,265	14,762
*Profit from Property Development	8,304	4,034
*Profit from Property Rental & Management	3,575	6,915
*Profit from Increase in Fair Value of Property Assets	6,609	4,074

Policy Issues. From an infrastructure perspective, the attraction of the Rail Plus Property model is that the rail system gets built quickly, without cash expenditure by the government. The location of rail lines and rail stations gives shape to the density patterns that town planners want to promote.

The model, however, has a top-down character that recently has been challenged. Local communities have demanded a greater voice in the location of new lines that will go through their communities, and in density decisions. MTR’s 2010 Sustainability Report acknowledges that the company has had to adjust to an “increasingly assertive Hong Kong SAR, China society that seeks to participate in and direct public policy.” Public participation in land-use decisions has reduced the ability of government and MTR to plan metro lines and development near metro stops around the principle of maximizing land-value gains.

Difficulties in implementing the Rail Plus Property model in some locations have led MTR and the government to diversify their financing approach. While some of the lines now under construction continue to use the Rail Plus Property model, others are being financed by government and managed by MTR on a concession basis. One line has been funded in part by a government grant to MTR. The grant was necessary to supplement the profits that can be generated from land development, now that development is subject to stricter limitations.

The Rail Plus Property model essentially builds an operating metro rail system in exchange for land development rights. The model has precedent outside of Hong Kong SAR, China. It was used to finance Tokyo’s underground system and, more than a century ago, portions of New York City’s subway system.

India’s Experience. Over the past several years, India has experimented with different models for financing metro rail construction, including variants of the Rail Plus Property model. The metro system in Hyderabad originally was to be built in this way. The signed contract called for the developer to build and operate the rail system without charge to the government. The contract even called for the developer to make a capital contribution to government—a negative capital grant. In return, the contractor was to receive land development rights along the rail corridor. However, the agreement collapsed with the property market in 2008 along with the failure of the developer. Hyderabad has retained elements of land development in its present financing model, but has encountered obstacles in acquiring title to private properties along the proposed rail route.

Bangalore has compiled experience with another approach to taking advantage of publicly owned land. It designed its metro rail system to traverse, as far as possible, government property. It has been reported that 74.3 percent of the total land used for Bangalore’s metro (the first segment of which was opened for operation in October 2011) comes from 57 government parcels, including parcels owned by Defence. Most of these parcels were vacant. Compensation for public land was fixed at guidance value as notified by government—a much lower price than paid in acquisitions of privately held land. As a result, the 74.3 percent of total land acquired from public entities accounts

for only 33.6 percent of total land acquisition costs. At least one large commercial center will be built on excess government land to generate property profits.

LESSONS FROM INTERNATIONAL EXPERIENCE: PART III

Part III has covered a wide variety of institutional experience. The principal lessons from this review are:

Advantages and Limitations of Earmarking. Earmarking revenues can be an effective way to boost spending for priority expenditure purposes. However, it is difficult to sustain an earmarking system in equilibrium. Earmarking can generate “too much” revenue—in the sense that the governmental system is not equipped to invest efficiently the inflow of funds. When this happens, revenue either accumulates unspent in the receiving Fund or the Fund invests in low-productivity projects in order to expend revenue receipts. Both results can be observed internationally and in India. At the other extreme, the earmarking system can generate “too little” revenue—in the sense that the revenue received is able to finance only a small portion of desired investments, or is received in an unpredictable manner that makes it difficult to draw up investment plans. Lumpy receipts from public land sales can be especially difficult to plan for.

These considerations suggest, first, that earmarking should be viewed as an intermediate-term strategy, designed to finance catch-up investment. The strategy is likely to be most effective if it starts with a series of well-defined, prioritized investment projects that cannot be financed from ordinary revenues. Incoming earmarked revenues from land sales could then be applied to incremental projects in their prioritized order. This strategy could be applied within a single institution like Railways or by state government across an array of urban infrastructure investment projects.

What Type of Institution Should Receive and Disburse Earmarked Revenues? Under present arrangements, revenues from land sales typically flow either into the government consolidated fund, where they may carry an earmarking label, or into a special Fund. A specialized Fund may operate solely to receive and disburse monies, or it may also be responsible for investment prioritization.

Of these choices, a specialized Fund limited to receiving and disbursing monies seems preferable in most instances. Once revenues flow into a consolidated fund, they tend to lose their earmarking characteristics. This is true even if, in a legal sense, the revenues received are assigned to the correct expenditure line item. In a consolidated fund, all monies are fungible. Earmarking at best can ensure that expenditures for the earmarked purpose reach the earmark threshold. There is no further accountability.

Investment prioritization is not an appropriate responsibility to delegate to a professionally managed, quasi-independent institution. It is one of the core functions of government. The government may choose to contract with various institutions for implementation of project investments. However, combining the functions of revenue receipt/disbursement with investment prioritization/implementation in a single quasi-independent institution invites the creation of power centers outside of government.

The Capital Works Investment Fund of Hong Kong SAR, China exemplifies the single-purpose Fund. Its job is to ensure that earmarked revenues go into a lockbox, are withdrawn only for approved and budgeted investment purposes, as authorized by the designated government officer, and that withdrawals do not exceed budgeted amounts.

Transparency of Operations. Public trust in land-based financing requires transparency in operations. Incoming revenues from earmarking, as well as the allocation of earmarked revenues to investment projects, should be a matter of public record and reported in transparent fashion. The Sovereign Wealth Fund Institute has devised a 10-point Transparency Index that serves as a standard for SWFs and other Funds. Among other things, the Transparency Index rates Funds based on:

- (i) Clear reporting of sources of revenue and disbursements
- (ii) Timely publication of Annual Reports
- (iii) Independent audits, up-to-date and available for public inspection
- (iv) Clear statement of operating strategy, moving forward
- (v) Clear statement of institutional organization, including lines of control between the Fund and higher-level institutions and between the Fund and subsidiaries
- (vi) Identification of management structure, individual officers, and their responsibilities
- (vii) Availability of a website, easily accessible, up-to-date and containing all of above information

Land-Based Financing of Metros. It is notable that Hong Kong SAR, China's Mass Transit Railway Corporation is moving away from 100% financing of metro construction through capture of public land value appreciation. Such a model not only requires that the public sector own essentially all of the land around railway lines, but that authorities be able to plan density development so as to maximize the capture of land-value gains. These conditions are unlikely to be satisfied in India. It therefore is appropriate to lower the target for land-financing of metro construction, while retaining the principle.

Designing metro systems so that they traverse publicly owned land, to the extent possible, is a first step. Working out arrangements with different public sector landowners, so that land can be acquired for the least cost possible, is a second step. Capitalizing on opportunities to create and capture land-value gains is the third step. Metro construction has the potential for creating such large gains in land values that government should be able to capture a significant portion of construction costs through land sales or land development.

ADDITIONAL READING FOR PART III

GENERAL

Peterson, George E. and Olga Kaganova. 2010. *Aligning Regulation of Subnational Land Assets with Subnational Debt Regulation*. World Bank Working Paper.

Peterson, George E. 2009. *Unlocking Land Values to Finance Urban Infrastructure*. World Bank and PPIAF.

ROAD FUNDS

Asian Development Bank. 2003. *Road Funds and Road Maintenance*. Manila. [Analyzes underfunding of maintenance and recommends institutionally separate, off-budget Road Funds]

Congressional Budget Office. 2011. *The Budget and Economic Outlook: Fiscal Years 2011 to 2021*. Washington, DC. [Projects fuel tax receipts and under-funding of Highway Trust Fund]

Government of India, Ministry of Road Transport and Highways. 2011. *Guidelines for Investment in Road Sector*.

Government of India. 2011 and 2010. *Economic Survey 2011-2012, Economic Survey 2010-2011*. [Chapter of ‘Energy, Infrastructure and Communications’ discusses road spending and revenue/spending from Central Road Fund.]

Government of India, Ministry of Finance, Department of Economic Affairs. 2009. *Position Paper of Roads Sector in India*. [Financing strategies, role of PPPs.]

Roth, Gabriel. 2010, *Federal Highway Funds*. Cato Institute. Washington, DC. [Criticizes non-highway spending from Highway Trust Fund.]

U.S. Highway Trust Fund. “Solvent through Sept. 2012.” 2011 (Jan.) Testimony of Secretary Ray LaHood before Congress.

World Bank. 2008 (Dec.) *Assessment of Road Funds in Southeast Asia Region*.

Yamaguchi, Katsuhiro. 2008. *Funding System and Road Transport: International Comparative Analysis*. Discussion Paper E-08-003, Graduate School of Public Policy, University of Tokyo.

SOVEREIGN WEALTH FUNDS

Government Pension Fund—Global, Annual Report 2010. 2011. Oslo.

Heritage Savings Fund, Alberta. 2011 Annual and Quarterly Reports at www.finance.alberta.ca/business/ahstf

Hudson, Michael. 2011 (March). "What Does Norway Get Out of Its Oil Fund, If Not More Strategic Investment?" Working Paper No. 657, Levy Institute of Economics, Bard College.

Sovereign Wealth Fund Institute. 2011. www.swfinstitute.org [Summary descriptions of all Sovereign Wealth Funds, ratings by asset values, transparency index, discussion of growing interest in infrastructure investments]

HONG KONG SAR, CHINA CAPITAL WORKS INVESTMENT FUND

Capital Works Reserve Fund. *Memorandum Annex to Hong Kong Budget. 2011* at www.budget.gov.hk [provides full financials, method of operation, investment priorities]

Capital Works Reserve Fund. 2011. *Audit Commission Report*.

Brown, Stephen and Christine Loh. 2004. *The Political Economy of Land*. Civic Exchange. Hong Kong. [critical of ties between government and big developers]

Poon, Alice. 2011 (Oct.) *Hong Kong's Land Policy: A Recipe for Social Trouble*. [Argues that government land policy drives up land prices and housing costs]

HONG KONG SAR, CHINA'S MASS TRANSIT RAILWAY [MTR] and OTHER TRANSPORTATION

MTR Corporation Limited. 2011 and 2010. *Annual Report 2010, Annual Report 2009* [full discussion of financials, expansion projects in Hong Kong SAR, China and sources of financing, discussion of overseas projects, especially China, with less detail on sources of financing.] At www.mtr.com.hk/eng

MTR Corporation Limited. 2011. *Sustainability Report 2010*. At www.mtr.com.hk/eng

Transportation Research Board. 2011. *Leveraging Land Development Returns to Finance Transportation Improvements*. Washington, DC

Harvey, Steve and Ken Powell. 2007. *Tax District Financing: A Guide to Funding Infrastructure through Land-Serviced Bonds*, National Association of Homebuilders. Washington, DC.

Borrero, Ochoa; Esperanza Duran, Jorge Hernandez, and Magda Montana. 2011. *Evaluating the Practice of Betterment Levies in Colombia: the Experience of Bogota and Manizales*. Working Paper. Lincoln Institute of Land Policy. Cambridge, MA

PART IV: COMPENSATION IN PUBLIC LAND TRANSACTIONS

Compensation has emerged as one of the most controversial aspects of monetizing public lands. “Compensation” is most commonly addressed in the context of compulsory land acquisition by government. When a government exercises its right of eminent domain, it acquires land in private ownership for a “public purpose,” as defined by the law⁶. “Interested parties” affected by the acquisition have a right to claim compensation. The interested party may have a full interest, as in the case of an owner holding land title, a partial interest, as in the case of a tenant, or a not fully defined interest, as in the case of a de facto occupier. Compensation policy determines how the different interested parties will be compensated and the rules that protect against government abuse of power in compulsory land acquisition.

Our focus in Part IV is not the acquisition by government of title to new land parcels. As elsewhere in this report, we are concerned with land already owned by government or by a public agency. The action in question is government’s sale, lease, or redevelopment of the land. Nonetheless, there may be other interested parties with compensation claims. These include de facto occupiers of public lands. They also include parties who have existing Land Use Rights or contractual lease rights under the law. Even though government owns land title, it needs to reacquire Land Use Rights, or clear the property of occupants, before it can sell unrestricted title to a developer or redevelop properties on its own. The compensation claims of affected parties stands in the way of swift land disposition.

In a broader sense, we can recognize still other interested parties that may have claims on compensation in public land sales. Some of these parties are public entities. Their claims were discussed earlier in the context of earmarking. Local governments that have to provide infrastructure to service the high-density development resulting from federal or state land sales are one interested party. The individual land-owning agency is an interested party, when government undertakes to sell or redevelop its land. The earmarking rules discussed earlier can be seen as forms of compensation for these interests. A system that allocates part of the proceeds of federal land sales to affected local governments, or shares proceeds between general government and the individual land-owning agency implicitly recognizes the different parties’ claims to compensation.

⁶ The scope of “public purpose” is illustrated by India’s Land Acquisition Act. Under the Act, the “public purposes” justifying compulsory land acquisition include, among others: (i) planned development of land from public funds in pursuance of government policy, (ii) acquisition by a corporation owned or controlled by government, (iii) acquisitions for the purpose of carrying out any educational, housing, health or slum clearance initiative, and (iv) any other development scheme sponsored by the state.

In the end, there is a trade-off between compensation payments and the magnitude of funds available from public land sales for infrastructure investment. Throughout this report, we have seen examples where increased compensation payments (or project redesign in the face of compensation claims) have reduced the net gain that governments can realize from land sales. As the head of Vietnam's Institute for Research on Urban and Infrastructure Development pointed out, after that country's reforms, more than half the cost of urban infrastructure projects in Vietnam now consists of compensation payments and resettlement costs. This has slowed down infrastructure projects, as compared to earlier periods when government and developers could remove the occupants of urban land parcels, with scant regard for compensation or due process.

Relevance of International Experience. Part IV examines recent changes in compensation policy in Hong Kong SAR, China and mainland China, two places that have made the most aggressive use of land transactions in financing urban infrastructure. The details of compensation policy in these locations may or may not have application in India. However, they illustrate two important points. First, a strong shift is taking place throughout Asia toward more vigorous protection of occupiers' land-use rights. Compensation policy everywhere is likely to further restrict governments' ability to extract net gains from redevelopment or sale of occupied public lands. This reality, in turn, should help define a realistic agenda for moving forward with a strategy to unlock land values for urban infrastructure finance.

Second, although compensation policy in mainland China and Hong Kong SAR, China should in no way be viewed as a model for India, the fact that both places are attempting to spell out in full legal terms what their compensation policy is deserves attention. India has yet to define the compensation rights of occupiers of public lands, except on a case-by-case basis.

Compensation policy continues to evolve. It therefore is useful to remind ourselves of the desired end point of this process: a relatively stable and predictable set of rules that has social acceptance for adequately compensating parties that are dispossessed, while allowing government to capture a share of the value of land that it owns for purposes of infrastructure investment. Another way of stating the objective is: to identify ways that all of the stakeholders in public land disposition can be made better off, and to establish procedures that make it easier to repeat the process in the future.

COMPENSATION FOR OCCUPANTS OF RECLAIMED PUBLIC LAND: HONG KONG SAR, CHINA

In India as in most other Asian countries, urban development has meant continual redevelopment of older and poorer parts of the cities. Development of publicly owned land is an important part of this process. Compensation for the occupants of public land who are displaced by urban development has risen near the top of public awareness as a policy issue. "Compensation" in

this case means both the size of payments (in-kind or in cash) to affected households and the application of due process in executing land clearance

Hong Kong SAR, China's Compensation Framework for Urban Development

For 60 years, Hong Kong SAR, China has been in a constant state of urban development and redevelopment. Hong Kong SAR, China is renowned for the rapidity and scale of its urban transformation. The framework for compensation has underpinned the redevelopment process, even as the framework has been modified in recent years to enhance the rights of occupants.

In Hong Kong SAR, China, as in mainland China, all urban land is owned by the government. Land parcels are leased to occupants, typically for 50 years (renewable) in the case of residential use. Hong Kong SAR, China has a well-defined statutory system for government “resumption” of leasehold land. Most reacquisition of leaseholds actually is done through negotiation at higher prices than called for in statutory provisions. However, the existence of more severe statutory rules serves to accelerate negotiations.

Hong Kong SAR, China’s attempt to balance pro-development interests with compensation protections for leasehold occupants can be summarized as follows:

Public Purpose Leasehold Acquisition. According to Hong Kong SAR, China’s Land Resumption Ordinance, land leaseholds may be resumed by the government “for any purpose of whatsoever description...which the Chief Executive in Council may decide to be ‘public purpose.’” Specifically, economic redevelopment is unequivocally an eligible public purpose allowing authorities to compulsorily acquire property.

Statutory Compensation. Statutory compensation for land leases that are compulsorily reacquired is set at the open market value of land in existing use, taking into account the remaining life of the leasehold. That is to say, leaseholders do not have the legal right to participate in the expected increase in land value due to infrastructure investment or parcel redevelopment. Parties whose land is reacquired by government can appeal to the Lands Tribunal for claims of inadequate compensation.

Compensation in Practice. In practice, leaseholds are reacquired mostly through negotiation, using the statutory value as a base. “Ex Gratia Allowances” are added to the base. These have the effect of compensating leaseholders for part of the increase in land value that will result from development. Ex Gratia Allowances have increased considerably in recent years. The term “Ex Gratia Allowance” emphasizes that these payments are voluntary payments on the part of government, not statutory requirements. Their magnitude is discretionary.

Housing Allowance. In addition to compensation for the reacquired land use right, government provides a House Purchase Allowance (HPA). In statutory terms, the HPA is defined as the difference between the market value of the current house and a notional replacement flat based on a 7-year old unit of similar size and other characteristics. In practice, the norm has been to compensate house owners with payments equal to three times the value of their current house. Commercial properties are compensated at four times existing building value.

Squatter Clearance. Squatters—those without land leases—are not eligible for statutory compensation if their settlements are cleared. Hong Kong SAR, China has recognized the right of displaced households to social housing. Government policy holds that social housing of at least comparable quality (in physical terms) should be provided to displaced squatters. Government retains the statutory right to evict squatters without compensation. The physically comparable social housing provided in resettlement often is not comparable in terms of location or community cohesion.

Social and Economic Protections. Hong Kong SAR, China follows a specific procedure in terms of social and economic protections. The Urban Renewal Authority (URA) Ordinance requires URA to take a census and inventory of population in the redevelopment area as of the date that a redevelopment project is announced. Social service teams are required to conduct two Social Impact Assessments. The first Assessment is called the Freezing Survey. It is designed to inventory ex-ante conditions. Typically, the Freezing Survey is conducted immediately before (same day as) announcement of redevelopment. It is intended to exclude from compensation benefits those who would move into the area upon public announcement in order to capture compensation payments.

The second Social Impact Assessment gathers information on households' resettlement needs, employment, work-place locations, and community networks. The intent is to match Housing Payment Allowances and resettlement to social housing as closely as feasible with household needs. The findings and recommendations of the Social Impact Assessments are submitted to the Town Planning Board and Secretary for Development for approval.

Special Rules to Facilitate Urban Redevelopment. Majority (80%) owners of buildings more than 50 years old and in poor condition have the right to force minority owners to sell to enable redevelopment. There is no requirement to establish a public purpose. In practice, this means that developers can acquire 80% interest in old properties through voluntary negotiation, then compulsorily acquire the remaining interest. Land assembly has been greatly facilitated by this ordinance.

Source: Drawn primarily from LaGrange, 2011.

CHINA'S RECENT COMPENSATION REFORMS

Another perspective on land compensation is provided by mainland China's recent reforms. The story of China's urban redevelopment is the story of an alliance of local governments with private developers. Between them, the two parties targeted low-value areas or "urban villages" for redevelopment. Land was obtained at low cost. Upon redevelopment land was sold at much higher prices. Profits were split between the municipal budget, where it was used largely to finance infrastructure, and the developer.

Regulations Supporting Redevelopment. Key to the implementation of China's system of rapid redevelopment were three enabling regulations from the central government: (i) a regulation, as in Hong Kong SAR, China, allowing municipal authorities to designate without restriction areas for compulsory redevelopment, (ii) a 1998 regulation specifying floor space and house condition (not land value) as the primary basis for compensation, and authorizing compulsory demolitions of property by those who refused to move, and (iii) a 2001 regulation authorizing municipalities to designate developers as their agents in clearing redevelopment sites.

The alliance between municipality and developer often advanced in brutal fashion. Developers could take the lead in identifying profitable redevelopment areas. Utilities could be cut off for holdouts. Developers bulldozed homes of those who refused to move, and bulldozed homes of others before they had received compensation. Popular resistance mounted, highlighted by individual owners standing in front of their homes in the face of demolition crews.

Recognition of Private Property. In 2004, China ratified a Constitutional amendment recognizing for the first time private ownership of urban property and the right to compensation "based on" market value, including the value of the Land Use Right. This ownership right only applies to urban property, not communal rural land.

During the period of accelerated redevelopment of low-value areas within the urban region, several abusive practices had become common. Before exercising the compulsory reclamation of Land Use Rights permitted by law, the municipality or developer would designate an appraisal agent to establish the compensation value of property. Value was estimated on the basis of floor space, house condition, location, and remaining period of the land lease, without reference to market value. The resulting system was skewed in favor of developers, who acted as agents of the municipality in price negotiations and demolitions.

As public protests multiplied, five professors wrote an open letter to the People's Congress stating that condemnation of urban property was taking place in a form inconsistent with the 2004 amendment to the Constitution.

Compensation Legislation. In January, 2010, new draft legislation addressing urban property compensation was posted on the website of the Legislative Affairs Office. The five protesting professors had participated in its drafting. Public interest in the issue was demonstrated by the 117,690 ‘hits’ on the website by 9:00 pm of the day of posting, with 2,400 comments. After consultation and modest revision, the legislation was passed by the People’s Congress in January, 2011.

The new reforms, taken at face value, strike at the heart of the old land condemnation and compensation system. Perhaps most importantly, municipalities are prohibited from having developers act as their agents. Developers cannot negotiate compensation; they cannot demolish homes. The municipality must act on its own as the responsible party. Authorized grounds for compulsory reacquisition of Land Use Rights are limited to public uses, including basic infrastructure projects and publicly approved redevelopment plans.

The legislation and supporting regulations go further to define how property values are to be determined for compensation purposes. Lead cities have begun to put into effect the new system, which calls for municipalities to publish a matrix of property values by zone location, house size, land lease period, etc. These values are to be published and used for all public purposes, including compensation (and potentially property taxation). As a result, compensation amounts should be known beforehand, not subject to negotiation between unequal parties. The legislation also forbids municipalities from cutting off utility services or demolishing homes before compensation agreement has been reached and occupants have moved. Occupants are entitled to compensation for lost income from on-site production.

It remains to be seen how these reforms will be implemented in practice. Central regulations in the past have taken long periods to filter down to local governments, especially outside the largest cities. The legislation only covers the estimated 70% of urban residents who have land use rights. The remaining 30% of the population—including the large ‘floating’ population that lacks urban residency permits—is not protected by the new rules.

In the short run, the most observable impact of the new legislation has been a reduction in the number of takings of urban property. Over the intermediate term, China has shifted markedly from compensation based on replacement social housing, often located at uneconomic distances from work centers, to compensation based on market value. Commentators have suggested that the policy shift will cut into land financing available for infrastructure investment.

LESSONS FROM INTERNATIONAL EXPERIENCE: PART IV

The lessons for India from the international experience reviewed in Part IV are straightforward.

Selecting a Land Disposition Strategy. More generous compensation for the occupants of public land represents responsible social policy. At the same time, it squeezes the gains that can be achieved from public land sales, delays transactions, and reduces the revenue that can be earmarked for infrastructure investment.

This reality should shape the sequencing of a strategy to unlock public land values in India. A realistic strategy should, at least in the beginning, avoid the immense complications created by resettlement and compensation. Instead, it should follow the sequence outlined in here. First priority should be given to identifying genuinely “surplus” public lands that are unneeded for public service provision and unoccupied by informal settlers. Preliminary studies have found that there are plentiful supplies of such land within government agencies like India Railways and the Major Port Trusts, not to mention Defence estates. Identification of further surplus, vacant or sparsely populated parcels should be a priority for state governments. Once India has made progress in monetizing these land assets, and successfully investing the proceeds in infrastructure, it can consider whether it makes sense to tackle the more difficult challenge of reclaiming lands where large-scale resettlement is necessary.

Clarifying Compensation Policy. India at present has only case-by-case policies for compensating de facto occupiers of public lands. If redevelopment of public land is to play a more important role in shaping urban growth and generating revenue for infrastructure investment, it will be critical to define general guidelines for compensation.

FURTHER READING FOR PART IV

Chan, Nelson. 2008. "Land Acquisition Compensation in China—Problems & Answers," *International Real Estate Review*, vol 6, No. 1, 136-152

China State Council Information Office. 2010. *Assessment Report of the National Human Rights Action Plan for China*. Beijing

China News Service, Xinhua. 2011 (July 13). "China to Further Standardize Land Acquisition and Compensation Practices." [Local regulations in conflict with legislation of Jan. 2011 must be annulled by Oct. 1, 2011]

Dyon, Geoff. 2011 (March 7). "China: A Democracy Is Built," Financial Times.

Dyon, Geoff. 2010 (Jan. 30). "China Shakes Up Land Seizure Rules after Outcry at Violence and Evictions," Financial Times.

LaGrange, Adrienne. 2011 (November). *Reform of Legal and Regulatory Framework for Involuntary Resettlement in the Hong Kong SAR*, Consultant Report for Asian Development Bank. Manila.

Lai, Weihang. 2011 (March 1). "Guangzhou Land Compensation Acquisition and Protection Standards", www.chinesecivilization.org

Mahalingam, Ashwin and Aditi Vayas. 2011. "Comparative Evaluation of Land Acquisition and Compensation Processes Across the World," *Economic and Political Weekly*, Vol XV, No. 32. August.

Peterson, George. 2009. *Unlocking Land Values to Finance Urban Infrastructure*. World Bank. Washington, DC.