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URBAN FINANCES IN DEVELOPING COUNTRIES: RESEARCH ISSUES AND FINDINGS

Roy W. Bahl and Johannes F. Linn[1]

At the beginning of the 1970s, the World Bank began to focus attention on urban development problems and issues, both in the context of project lending in developing countries and in its policy analysis and research work. As this new work unfolded, it became clear that public finance and administration play a major role in facilitating (or impeding) urban development, in general, and in providing a supportive environment for specific urban projects financed by external donors such as the World Bank. It especially became evident that the ability of developing countries to maintain and expand their stock of urban infrastructure in response to rapid population growth depended upon astute administrative and managerial skill with financial resources on the part of authorities in charge of providing urban services.

Yet little was known about the financial and administrative practices and problems of urban centers in developing countries and even less about methods to improve any weaknesses that were evident at the time. A broadly designed research project, "Urban Public Finance and Administration" (Ref. No. 670-70), was initiated to establish a comparative international data base for assessing such practices and problems, and for developing a better understanding of the types of solutions, showing potential success in specific contexts, which might be transferable to other cities or countries. During the course of the research, the issue of charging user-fees for urban services emerged as an important area of consideration, especially in the case of water supply and sewerage systems. These services generally require substantial capital and recurrent outlays that urban governments can seek to recover by means of user-charges imposed on beneficiaries. Therefore, a complementary research project, "Pricing and Financing of Urban Public Services: Water Supply and Sewerage Disposal" (Ref. No. 671-18), was initiated. These two projects, whose approaches and results are reviewed below, formed part of a broader research effort on major issues of urban development—the patterns, trends, and determinants of urbanization, labor markets and employment, housing, transport, and land development—in Third World countries.[2]

Research Methodology

For the comparative case study on the problems of urban finance and administration in developing countries, ten cities in seven countries were selected: Ahmedabad and Bombay (India), Bogota, Cali, and Cartagena (Colombia), Kingston (Jamaica), Jakarta (Indonesia), Manila (The Philippines), Nairobi (Kenya), and Tunis (Tunisia).

This selection of cities was guided by operational needs of the Bank and methodological considerations, including the range of country settings and city sizes and, hence, applicability of results to different countries and cities, and the value of surveying more than one city in a country in order to capture internal differences. Extensive background papers on each city's financial data and budgetary and administrative practices were prepared for comparative analysis. This comparative case study approach was chosen because, first, the lack of readily accessible and comparable data at the country and international level prohibited a more-detailed approach and second, a fairly large

1. Roy W. Bahl is professor of Economics and Public Administration and Director of the Metropolitan Studies Program at the Maxwell School, Syracuse University, New York; Johannes F. Linn is Senior Economist in the East Asia and Pacific Regional Office of the World Bank. The authors are grateful to the many individuals who made possible the research on which this article is based. Special thanks to Richard M. Bird, Francine Bougeon-Maassen, L. Kenneth Hubbell, Charles E. McLure, Jr., Roger S. Smith, and Hartojo Wignjowijoto for their contributions to the urban case studies. Douglas H. Keare provided guidance and support throughout the research effort. Gregory K. Ingram offered comments on earlier drafts of this article. Sharon Blinco helped in sharpening its focus. Nevertheless, responsibility for any errors of fact and interpretation remains with the authors.

2. The interim results of these comprehensive ongoing research efforts are summarized in B. Renaud, *National Urbanization Policy in Developing Countries* (New York: Oxford University Press, 1981) and J.F. Linn, *Cities in the Developing World: Policies for Their Equitable and Efficient Growth* (New York: Oxford University Press, 1983).

sample, reflecting the variety and importance of specific institutional characteristics and practices of different cities, was necessary to develop a suitable level of generalization.

For some broad aspects of the investigation, such as the share of local government expenditure in total public spending, the distribution of local government revenue and expenditure by category, and the allocation of public service functions to local municipal authorities, it was possible to draw upon data from other case studies, World Bank project documents, and national or international fiscal statistics. Depending on the aspect of local government finance covered, between 20 and 30 other cities were included in the study. Among them, relevant findings from studies of Calcutta and Madras (India), Karachi (Pakistan), Lusaka (Zambia), Managua (Nicaragua), Seoul (the Republic of Korea), and Teheran (Iran) are mentioned hereunder. Also, in Cali and Nairobi, small sample surveys, providing a more detailed analysis of the incidence of urban taxes and user charges, were conducted.

Areas of Investigation

The studies attempted the following:

- A description, analysis, and assessment of the role of local urban government in relation to higher levels of government, leading to conclusions about the appropriate allocation of responsibility for providing services and of the authority to expend and to raise revenue;
- detailed description, analysis, and assessment of the efficiency, equity, and administrative implications of alternative sources of revenue, namely,

  —*urban taxes*, especially property taxes and motor-vehicle taxes,

  —*user and development charges*, particularly for water supply and sewerage services, and

  —*intergovernmental financial transfers*;
- review of prevailing practices of budgeting and investment planning and of fiscal forecasting for urban governments;[3] and
- analysis of the relationship of city size and the costs of urbanization, especially for water supply and sewerage services.

This article focuses on the first two items, which are the core of the research. An overview volume on the major research findings is under preparation. For a current listing of reports and papers stemming from the research, see "Reports" at the end of this article.

A Summary of Major Research Issues and Findings

The Importance of Urban Government in Developing Countries. Studies of public finance in developing countries have generally focused on the activities of national government to the neglect of the role played by subnational (state and local) public authorities. The findings of the case studies indicate that, on average, subnational government in developing countries is of less importance than is the case in industrialized countries. Yet in many developing countries, especially those in Latin America, the share of subnational government spending in total public spending is comparable to those in the developed countries (nearly 50 percent). In other developing countries, by contrast, especially those in sub-Saharan Africa, subnational government is unimportant in total public finance. In particular cities throughout the developing world, a similarly varied picture emerges. Local government expenditure as a share of total public spending in urban areas was found to be very important (40 to 50 percent of the total) in Bogota and Cali, Ahmedabad and Bombay, and Jakarta, but of negligible importance (4 to 20 percent) in Kingston, Teheran, and Tunis.

Expenditure by local government in larger cities constitutes the greatest share of total public spending, and per-capita expenditures by them are higher than is the case in smaller cities. Furthermore, in large cities, the local authority is generally the largest public agency operating in the metropolitan area, although various ministries and other agencies of national and state

3. This topic was further investigated, in the case of Bogota, Colombia, in research project, Strategic Planning to Accommodate Rapid Growth in Cities of Developing Countries ("The City Study"), (Ref. No. 671-47); see *Abstracts of Current Studies 1983: The World Bank Research Program*, pp. 182-87; also, see J.F. Linn, (ed.), "Essays on Urban Public Finance in Colombia," Urban Development Discussion Paper (The World Bank: Water Supply and Urban Development Department, 1984).

governments, when combined, may represent a larger share of total public expenditure. While the patterns vary widely across countries and cities, evidence points up the importance of local government's role in providing urban services in many large cities of developing countries and of its effect on urban development. Even in situations where local government is seemingly unimportant, improvements in the fiscal and administrative capabilities of local authorities could substantially contribute to the provision of services demanded by rapid urban growth. The studies reviewed here demonstrate that the fiscal and administrative problems of cities deserve more attention than they are usually accorded under the mistaken belief that local government plays only a negligible role.

The Urban Fiscal Gap. Urban governments in developing and developed countries alike complain about the lack of resources to provide sufficient services to their populations. The gap between the perceived need for services and the financial resources to provide them—referred to as the fiscal gap—can be attributed in many cases to demands for unrealistically high standards of service which are beyond the resources available to the urban economy, even if revenues were raised and allocated in the most efficient manner. Efforts by urban governments to provide services at standards and levels commensurate with much higher levels of resources than conditions allow commonly result in inefficient and inequitable allocation of public sector resources. For example, excessively high standards for urban housing projects, water and sanitation facilities, and investments in transport, health, and education ultimately limit access of such choice public services to a few, usually the better-off segments of urban populations, leaving the majority with inadequate service or none at all. A more realistic approach to public investments, based on an accurate assessment of the resource constraints under which an urban economy operates, would allow better service to be provided to more people over the long run.

In other cases, the fiscal gap may have its origins in the misallocation of functions and revenues to urban governments by higher-level authorities. Urban populations in most developing countries have expanded rapidly in recent years and are likely to continue to do so.[4] This growth has led to concomitant increases in the demand for a minimum level of public services for each new urban dweller, thereby necessitating expenditure by urban authorities. Higher unit costs may also be associated with urbanization. In addition, rising incomes in urban areas increase the demand for public services. Yet as the demand for urban services increases rapidly, the revenues of local authorities most directly affected do not usually increase commensurately, despite higher urban incomes and taxable capacity that result from growth. The primary explanation for this situation is that urban governments are often restricted in their revenue-raising authority to relatively inelastic sources, such as property taxes, specific excises, fees, and fines, and generally stagnant or erratic transfers from higher-level governments. In such cases, the fiscal gap is the result of a mismatch between urban governments' responsibilities to provide services on one hand, and their authority to raise revenue, on the other. The allocation of functions and revenues to urban governments is, therefore, an issue of utmost importance.

The Allocation of Urban Government Functions and Revenue Authority.[5] The "fiscal gap" between the expenditure by local governments and the availability of resources to them can be redressed, in principle, in four ways: (a) a reduction in responsibilities that require local expenditure; (b) an increase in the local authority to raise revenue; (c) an increase in the amount of revenues to be transferred from higher-level government; and/or (d) an increase in the local effort to raise revenue in the face of unchanged revenue-raising authority.

The first option—a reduction of local (expenditure) responsibility—is frequently chosen for reasons of political convenience, but it is often a poor solution, because financing problems then move to higher levels of government, which are also subject to serious fiscal constraints. It also limits the accountability of government to the actual or potential beneficiaries of urban services, and reduces

4. See The World Bank, *World Development Report* 1979 (New York: Oxford University Press, 1979).

5. For a more extensive discussion, see R.W. Bahl and J.F. Linn, "The Assignment of Local Government Revenues in Developing Countries," in Charles E. McLure, Jr. (ed.), *Tax Assignments in Federal Countries* (Canberra, Australia: ANU Press, 1983).

the likelihood of recovering costs of the service through user-charges, to be collected directly from the beneficiaries.

Based on the case studies' evidence, a simple framework was developed to pinpoint sources of revenue that are appropriate to finance particular types of assigned urban expenditures. First, for publicly provided goods and services that are of measurable benefit to readily identifiable individuals within a jurisdiction, user-charges are the most efficient means of financing the services. Public utilities, such as water supply, sewerage, power, telephones, and public transit and housing, are especially strong candidates for such charges. These services may involve local externalities (that is, costs and benefits to others beyond the immediate beneficiary) that can be appropriately handled either by cross-subsidies among users of services or by subsidies from other sources of locally raised revenue. Second, local services, such as administration, traffic control, street lighting, and security, which are goods to the general public in the sense that individual beneficiaries are difficult to identify and individual costs and benefits difficult to measure, are most appropriately financed by taxes on local residents. Other services in this category are refuse collection, parks and recreation, and fire protection. Third, the costs of services for which significant spillovers to neighboring jurisdictions occur, such as health, education, and welfare, should be borne by substantial state or national intergovernmental transfers. Strictly local financing would lead to underprovision of these services from a regional or national perspective. Finally, borrowing is an appropriate source of financing capital outlays on infrastructural services, particularly public utilities and roads.

In practice, it was found that the assignment of revenue authority to local governments in many developing countries deviates considerably from this framework. Commonly, local taxes finance substantial shares of services that could be financed by user-charges, and intergovernmental transfers are used to finance services that are more appropriately financed by local taxes or user-charges. In Bogota and Cali, for example, actual revenue and expenditure patterns have roughly matched the guidelines set out in the preceding paragraph: general urban services are financed largely by local taxes, public utilities by user-charges, and social services by transfers. In Bombay, Calcutta, and Madras, Jakarta, Karachi, Lusaka, and Seoul, local tax revenues exceed expenditure on general urban services, while user-charges fall short of spending on public utilities, and transfers do not match expenditure on social services. Within this group, Bombay and Karachi are notable in that a high share of total spending is devoted to social services; this share is not nearly matched by transfers. In Ahmedabad, user-charges actually exceed spending on utilities. In Cartagena and Kingston, taxes fall short of covering general urban services, user-charges do not line up with public utility spending, and transfers exceed social service spending.

In considering fiscal reform in developing countries, say, in the context of decentralization efforts, reference to the normative framework herein would be useful. However, given the constraints on fiscal resources at higher levels of government, there is likely to be limited scope for closing the urban fiscal gap through increased tax authority or transfers to local governments. More promising avenues appear to lie in strengthening the local authorities' ability to raise revenues from user-charges and to finance major urban infrastructural investments through improved access to capital markets.

Local tax capacity and effort could, in fact, generally be strengthened by more careful design and application of certain higher-level interventions. All too often, such intervention restricts local governments in the definition, scope, and valuation of the tax base; dictates exemptions and the level and structure of tax rates and user-charges; and limits local capacity for tax collection. For example, in most Colombian municipalities, central and state government agencies determine the definition of the property tax base, are responsible for property valuation, define sizable exemptions from the tax base, and fix maximum tax rates and penalties for nonpayment, leaving local authorities virtually no room for independent action, except to collect the tax. In all these areas, simple neglect or, at times, deliberate design by higher-level government have contributed to weakening the local tax capacity and efforts. Merely assign-

ing to a local government the authority to tax or levy a user-charge is generally not sufficient: The local capabilities to use the authority must be actively strengthened by higher-level government, and deliberate steps must be taken to minimize unnecessary and harmful interventions that limit local efforts. Major issues and findings for the most important taxes collected by urban governments in developing countries, especially the property tax and automotive taxation, are discussed next, followed by a review of user-charges and intergovernmental transfers.

Issues in Urban Property Taxation. In principle, property taxation is in many ways an ideal way to finance many urban services. The property tax base, that is, the value of urban real estate, generally grows rapidly with urbanization and can be objectively assessed by physical inspection of an immovable object, making evasion difficult; it reflects the value of many urban services to the extent that they provide site- or area-specific benefits; ownership of real estate tends to be more concentrated than the distribution of income, thus making the tax generally progressive and conveying beneficial income-distribution effects.[6] Moreover, if properly administered, a property tax will result in only minor distortions in the allocation of resources. Finally, it can be argued that property taxes are most appropriately administered at the local level, since local government will have a better base for assessing property values and a greater motivation for collecting the property tax than do higher-level governments.

In practice, the property tax is indeed the most common, and generally the most important, among the taxes collected by urban governments in developing countries.[7] Despite this importance, the evidence gathered indicates that urban property tax revenues have generally not kept pace with the growth of urban incomes or property values, and often not even with the growth in urban population. Urban property-tax systems vary widely among developing countries, but all systems seem to suffer from a number of common problems: Assessment practices are inadequate, professional expertise for valuing urban properties is in short supply, collection and enforcement problems abound, and taxpayer resistance is a universal obstacle to more effective property tax administration. Some of these problems can be attributed to the limited technical and administrative capabilities of urban governments. Just as important, however, are a number of other factors: Land ownership and tenure conditions are often uncertain; higher-level governments interfere with, or limit the use of property taxes, for example, through the imposition of rent control or limits on tax rates; and higher effective tax rates on urban property are often successfully opposed by elites, among whom such land holdings are concentrated.[8]

Notwithstanding these practical obstacles, the urban property tax is clearly among the few major sources of local public revenue that have the scope for financing the rapidly growing requirements for urban expenditure. Substantial efforts and ingenuity, however, are required to mobilize the technical and administrative resources to develop accurate urban property registration and property tax valuation rolls, to update them at regular intervals, and to bill and collect property taxes effectively. In order to be politically acceptable, these improvements have to be introduced gradually and fairly, and need to be linked with a major effort to educate the public to develop a clear understanding about the relationships between the provision of essential urban services and the collection of the property tax.

Automotive Taxation. The ownership and use of motor vehicles represent excellent, but much neglected tax bases for urban governments in developing countries.[9] The growth in the number of automobiles is more rapid than the growth in city population, automobile ownership and use are easily taxable, and such taxes are likely to fall on persons with higher incomes. In addition, the growing number of automobiles results in increas-

6. See J.F. Linn, "The Incidence of Urban Property Taxation in Colombia," in R.W. Bahl (ed.), *The Taxation of Urban Property in Less Developed Countries* (Madison: The University of Wisconsin Press, 1979).

7. See R.W. Bahl, "The Practice of Urban Property Taxation in Less Developed Countries" in R.W. Bahl (ed.) *The Taxation of Urban Property*, 1979.

8. See R.W. Bahl, D. Holland, and J.F. Linn, "Urban Growth and Local Taxes in Less Developed Countries," Papers of the East-West Population Institute, No. 89 (Honolulu: East-West Center, 1983).

9. See J.F. Linn, "Automotive Taxation in the Cities of Developing Countries," *Nagarlok Urban Affairs Quarterly* (India) XI (January-March 1979), pp. 1-23.

ing requirement for public expenditure associated with the use of urban roads, and in considerable congestion and pollution costs. Thus, for purposes of revenue, efficiency, equity, and administration, automotive taxation represents a nearly ideal revenue instrument for urban governments. Particularly attractive are annual automobile registration fees, restrictive area licenses, and tolls.

Each of these measures has been applied with substantial success in a number of cities in developing countries. For example, in Jakarta, motor vehicle registration and sales taxes have contributed as much as 50 percent of tax revenues raised locally and more than 20 percent of total expenditure by local government. In Singapore, a restrictive area licensing scheme has significantly contributed to limiting central city congestion and reduced the need to make major infrastructural investments in roads.[10] These, however, are exceptional cases. Although in many cities the main elements required to administer an effective set of automotive taxes (automobile registration, and taxation of gasoline and diesel fuel at the retail level) are in place, much more could be done in most cities to draw more extensively on the significant revenue potential of this set of taxes.

Other Local Taxes. Local governments in urban areas generally draw on several taxes besides property and automotive taxes. Among these are local income and sales taxes. The major practical problem with these two types of taxes is that their success depends on effective coordination between local and higher-level authorities. Higher-level governments frequently do not accept them as suitable instruments of local taxation, because of the apparent competition with their own tax collection efforts. As a result, local income and sales taxes are not often found in the cities of developing countries, despite their unquestioned substantial revenue potential. In the absence of such obstacles, however, local sales and income taxes can be effectively integrated into the local revenue structure, as the use of a local sales tax in Managua and of local income taxes in selected African countries has demonstrated.

Much more common is another set of local taxes, namely, taxes levied on industry and commerce and sumptuary taxes. The main reason for their existence is that they can raise substantial amounts of revenue in politically acceptable ways and with little need for coordination with higher-level authorities. However, they almost invariably distort the allocation of urban resources. They are quite regressive and result in considerable administrative and compliance costs. In practice, these drawbacks tend to be given little weight by local legislators and administrators, to whom the expanded use of these taxes offers the path of least resistance in meeting their revenue objectives. An interesting example of the dilemmas faced by local authorities in the imposition of these types of taxes is the "octroi" tax, levied in many cities of India and Pakistan on goods entering the city boundaries. In Karachi, for example, as much as one-third of all local spending has been financed by octroi receipts, reflecting the capacity of this tax to raise substantial and bouyant revenues, generally without much interference from higher-level government. The fact that this type of tax has been labeled universally as highly inefficient because of its interference with inter-municipal trade and its substantial administrative costs, has not stopped its use on the Indian subcontinent.

Finally, urban governments generally still draw on a wide variety of "nuisance" taxes (selected excises, licenses, stamp duties, poll taxes), which perform poorly in terms of revenue generation, efficiency, and distributive effects, and have high collection and compliance costs. In Cartagena, for example, 24 taxes, duties, and fees, not counting user-charges, were collected at the time of the case study. Nuisance taxes continue to exist despite their drawbacks, again because their use is generally unencumbered by higher-level interference and because they are conventional and, thus, politically acceptable sources of local revenues in many developing countries.

Overall, these other local taxes show only limited potential for financing urban services, either because they are not likely to be acceptable to higher-level government (the sales or income tax), or because they are inappropriate on grounds of their negative efficiency and equity effects and

10. See *Research News*, vol. 4, no. 2 (Summer 1983), p.20, for a description of "Traffic Restraint in Singapore."

their high administrative costs (industry and commerce taxes, sumptuary taxes, and nuisance taxes).

User Fees and Development Charges. There can be little doubt as to the usefulness and desirability of developing broad-based charging systems for urban public services. The application of properly designed service charges or, more generally, the recovery of urban service costs from beneficiaries, can contribute to an improvement of resource allocation within and between urban areas. Such charges serve to limit the demand for urban services to efficient levels and to make actual and would-be urban dwellers and firms aware of the costs incurred by society. As experience has shown, service charges, or cost-recovery, furthermore, can generate substantial amounts of revenue for urban governments. Since they are directly linked to the provision and extension of much needed services, they are an important element in ensuring the replicability of urban investment programs.

In addition, service charges can contribute to equitable urban growth in more ways than one: First, by recouping the costs of public services from the beneficiaries, equity in the sense of fairness is maintained, since windfall gains are minimized under these circumstances. In practice, these windfall gains are usually appropriated by higher-income groups either in the form of increased property values or by channeling investments into areas where higher-income groups most directly benefit. Therefore, user-charges also serve to increase the vertical equity of the urban fiscal system. As practice has shown, user-charges can be designed to serve explicitly the redistributive goals of government, although this feature has to be tempered by concern for the efficiency and fiscal viability of the service being provided.

User-charges are not only tools for ensuring efficient use of public services; they may also serve as an investment guide, since consumers' willingness to pay for services is in many instances the only way in which the benefits of a service can be ascertained. What is more, the application of service charges or, more generally, the requirement of cost-recovery forces decision-makers to consider—beforehand—the ability and willingness of beneficiaries to pay and to design standards of service accordingly. In many cases, extensive subsidization of services in the past has contributed to the installation of unrealistically high standards of urban service.

The most common rule suggested by economists for guiding decisions on the pricing of public services is to set price equal to marginal cost. A review of the applicability of the simple marginal-cost pricing rule indicates that at least two precautions are in order. First, various dimensions of service, including use, access, and location, should be captured in pricing if the rule is to serve the goal of efficient resource allocation. For example, water supply tariffs can be structured to cover these three aspects: beneficiaries with the option to hook up to water service by way of an area trunk line could pay a) an area-specific property tax or development charge, designed to recoup the cost of trunk-line construction and other systemwide capital costs, b) a recurrent monthly fee to cover the costs of access—the connection from the trunk line to individual properties, as well as metering and billing, and c) a water-use charge related to actual consumption to cover the marginal cost of supplying water to the user. Second, the rule needs to be amended to take into account externalities, market distortions, and imperfect consumer information; other important objectives, in addition to efficiency, such as financial and fiscal viability, fairness, and equity; and institutional and political constraints. Considerations of equity and externalities, for example, can be simultaneously allowed for in so-called "lifeline" tariffs, by which the use of small amounts of service results in fees below marginal cost. Small consumers thereby use the service without an undue financial burden. At the same time, higher-income cross-subsidies that are derived, for example, by charging above-marginal cost tariffs or access fees to larger or wealthier consumers ensure the financial viability of the charging system. This approach has been successfully applied to the financing of urban water supply systems in a number of Latin American countries.

Despite these caveats and amendments to the use of the simple marginal-cost pricing rule, it provides a good starting point for the analysis of charging systems; refinements can then be made on a service-by-service application, taking into account locational context. Once an efficient pric-

ing structure is determined, its financial and equity implications and the extent to which it runs counter to established institutional norms can be explored. If the implications are sufficiently negative, amendments to the pricing structure, still bearing in mind the need to minimize the costs of such adjustments in terms of the loss of efficiency, are necessary. Often, various policy objectives stand less in conflict than appears initially, particularly where multi-part tariffs can be employed, as mentioned above. The common practice of starting the analysis of user-charges with objectives other than efficiency in mind almost invariably means that considerations of efficiency are neglected altogether. The result is even greater losses of efficiency than need be the case—a result that developing countries, given their low levels of income, can ill afford.

Development charges are a special form of cost-recovery for urban infrastructural projects. Often termed "special assessments," "contributions for betterment," "land readjustment," or "valorization contributions," to some extent, they serve different purposes and involve different practices. Featuring lump-sum charges, phased over a payment period of months or years, they are designed to recoup the public costs of infrastructural development from its direct beneficiaries. They may cover limited projects for a particular service, such as a neighborhood road-paving scheme or the construction of a sewerage line, or the full development of new areas of a city or even entire new towns. Property owners, rather than occupants of property or users of a particular service, usually incur such charges in the areas improved by public action.

Two different types of land development charges—land readjustment and valorization schemes—were researched in some detail.[11] First, the "land readjustment" schemes in Korea involve the public assembly of numerous small parcels of raw land without paying monetary compensation to the owners.

This land is serviced and subdivided for urban use, and then returned to the original owners in proportion to the value of their land contribution. Some of the land is retained by the public authority and sold at market prices to permit the recovery of the development cost. Second, in Colombia, "valorization" charges are levied by local authorities to recover the cost of improving municipal infrastructure, usually in already built-up areas, by distributing the costs across benefiting properties in proportion to the estimated value of the benefits generated from the public sector. Valorization programs in Bogota, for example, have financed the construction of major arterial highways, neighborhood road improvements, and of major sewerage networks.

These experiences demonstrate the varying role which such charges can play in financing urban development. While either system is not necessarily directly transferable to other countries, the evidence suggests that serious consideration of similar development charges is appropriate under most circumstances. Yet, the limitations and difficulties encountered with land readjustment in Korea and valorization charges in Colombia should not be downplayed or neglected. On the contrary, they provide useful clues to the pitfalls and complications which may be encountered when attempting to implement development charges. In the case of land readjustment, major difficulties arise in applying the system to the improvement of existing urban areas rather than new areas of development and in attempting to ensure benefits to lower-income groups. Regarding valorization schemes, financial viability and program development are among the major problem areas. In any event, reference to these experiences in Colombia and Korea should provide valuable insights and guidance in designing improved systems for cities in the developing world.

Intergovernmental Transfers. Depending on their design, transfers from higher-level governments can provide important incentives or disincentives to local revenue-raising efforts. They are also an appropriate way to finance those local government functions with regional or national spill-over benefits. Higher-level governments often

11. A separate, now completed, research project, "Urban Land Use Policies: Taxation and Control," was designed to assess their experience. For details on Colombia, see W.A. Doebele, O.F. Grimes, Jr., and J.F. Linn, "Participation of Beneficiaries in Financing Urban Services; Valorization Charges in Bogota, Colombia," *Land Economics* 55 (February 1979), pp. 73-92; and for the Republic of Korea, see W.A. Doebele, "Land Readjustment as an Alternative to Taxation for the Recovery of Betterment: The Case of South Korea," in R.W. Bahl (ed.), *The Taxation of Urban Property*, 1979.

treat transfers as a residual in their own budgeting process, even where elaborate allocation systems have been devised to distribute grants to local governments. The commonly severe constraint on national public finances in developing countries partly explains why intergovernmental transfers generally contribute a relatively small share of local government finances. This small share may, however, be justified on grounds that local public services in developing countries tend to have few spill-over effects on adjoining jurisdictions, mainly due to limited education, health, and welfare functions being exercised at the local level.

Transfers, therefore, are unlikely to resolve the fiscal problems of local authorities in developing countries. However, to the extent that grant systems are already in existence, substantial structural improvements can generally be made in the interest of authorities at all levels, for example, by stimulating local revenue-raising efforts or equalizing interjurisdictional revenue capacity. Rationalizing grant structures that now consist of a multiplicity of small, ad hoc transfers and putting them, instead, on a more predictable basis would permit more effective fiscal planning, especially at the local level.

The Scope and Prospects for Reform. Proposals, often major and sweeping, for fiscal reform as a means to alleviate serious problems of urban governments have been put forward in most, if not all, large cities of the world. While the nature of these reforms has varied with local conditions and with each team responsible for them, very few such reforms have been accepted in their entirety. Commonly, resistance on the part of policymakers and citizens facing the prospect of fiscal reform, however much needed, stems from doubts about unanticipated effects of untested, large-scale changes in the economic environment and about distribution of the windfall gains and losses associated with reform. Moreover, losses usually threaten to befall urban elites to the gain of larger, broader socioeconomic groups, including the poor, who have less political clout.

In most cases where major fiscal adjustments have occurred in the developing world, certain conditions have prevailed: either higher-level government took over important sources of revenue previously allocated to local authorities, sweeping political changes resulted in major shifts in national priorities, or fiscal problems were so unmanageable that reform was unavoidable.

In contrast, incremental adjustments have found general acceptance. Examples are the creation of special districts for capital cities giving them specific responsibilities to expend and to raise revenue, enlargement of metropolitan jurisdictions by annexation of adjacent municipalities, phased development of new sources of revenue and reform of existing sources, reassignment of expenditure functions, and ad hoc responses to fiscal pressures.

If the historical lesson, then, is that proposals for drastic fiscal reform rarely succeed in being adopted and implemented, except in cases of social or economic tumult, then gradual and stepwise adjustments of an existing fiscal structure, in the directions suggested by this research, are probably the best course of action.

Reports

Automotive Taxation

Linn, Johannes F. "Automotive Taxation in the Cities of Developing Countries." *Nagarlok Urban Affairs Quarterly (India) XI* (January-March 1979): 1-23.

Case Studies of Urban Finances

Bahl, Roy W. "Urban Public Finances in Developing Countries: A Case Study of Metropolitan Ahmedabad." Urban and Regional Report No. 77-4. The World Bank, August 1975.

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COMPLETED RESEARCH

Appropriate Industrial Technology (Phases I and II)

Ref. Nos. 671-51 and 671-77

Several interrelated issues of industrial development—the choice of appropriate technology, the role of the capital-goods sector in fostering efficient industrialization, and the sources and implications of low productivity—were considered in the two phases of this project.

Employing a number of detailed engineering and economic analyses of existing production technologies for a representative mix of industries in developing countries, it was estimated that the appropriate choice of technology, as compared with the use of relatively capital-intensive methods of production, could realize substantial increases in total value added, nonwage income, and employment and wage income.[1] ("Appropriate" means producing an output of specified quality at minimum cost, given input prices currently encountered.)

The achievement of such gains would not be dependent on government alteration of factor costs through tax or subsidy arrangements; rather, these gains would result solely from extending the range of technology considered and adopted by industrial firms in developing countries. In light of these potential benefits, many objections often raised to labor-intensive technology must be placed within a benefit-cost framework. For example, if labor-intensive processes exhibit greater skilled labor requirements, it is necessary to compare the benefits from their adoption with the cost of transforming unskilled into skilled labor. Several calculations used in the study demonstrate that the benefit-cost ratios for overcoming such "constraints" to the adoption of labor-intensive technologies are exceptionally high.

Why firms fail to search for and adopt appropriate technologies, despite large private benefits, was explored, and the implications for policy are discussed in the research papers stemming from the project. (See "Reports" below.) Also, enhanced dissemination of technical knowledge, encouragement of trade in used equipment, and promotion of capital-goods production in some developing countries are among the policy issues examined in the papers.

Regarding the capital-goods sector, reasons conventionally given for fostering manufacture of capital goods, more specifically machine production, include the belief that locally based producers in developing countries will be more responsive to

1. See Howard Pack, "Macroeconomic Implications of Factor Substitution in Industrial Processes," World Bank Staff Working Paper No. 377, pp. i-24. According to the assumptions and methodology set forth, the gross annual value added in manufacturing could increase as much as 72 percent, employment 311 percent, and nonlabor income 51 percent.