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Urban Finance in Seoul

Roy W. Bahl

Georgia State University, rbahl@gsu.edu

Michael J. Wasylenko

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Urban Finance in Seoul

Roy W. Bahl and Michael J. Wasylenko

[Seoul, Korea, is a very large and fast growing city which has been quite successful in finding ways to finance its expanding needs despite the relatively low per capita income of its inhabitants. The methods used should be of interest to cities confronting similar problems.]

Seoul, the capital of South Korea, has a population approaching six million, and is one of the largest cities in the world. The composition of employment in metropolitan Seoul shows that its economic base is dominated by trade, services, and government — only approximately two of every ten employed persons work in the manufacturing sector. The level of income was \$390 per capita in 1970. The rate of population in-migration to Seoul has been substantial, as evidenced by the differential between the average annual population growth rate of the nation as a whole (2.3 percent) and that of Seoul (10.2 percent). This rapid growth in population places a strain on existing infrastructure, adds to capital expenditure needs, and creates pressures on the level of current expenditures. When in-migrants are relatively lower income families, the growth of tax base due to in-migration may not be adequate to cover the increased expenditure demands. The level of public infrastructure in Seoul is still inadequate and in need of expansion. Nevertheless, the city has made considerable progress in mobilizing its financial resources, and meeting the needs of its fast growing population. (Note: the government of Seoul Special City, abbreviated here to SSC, covers a large metropolitan area

Dr. Bahl is Professor of Economics at Syracuse University; Dr. Wasylenko is Professor of Urban and Regional Planning, University of Wisconsin, Madison.

around the city center, and has a special status at the provincial level reporting directly to the Prime Minister rather than the Interior Ministry.)

Budget Structure

The budget of Seoul Special City is structured around three sets of accounts: a general account, an education special account, and a set of 12 other special accounts. These apply to specified activities, such as water supply, sewage, public housing, land development units, toll roads, river development, etc. Within budget categories there is no distinction between current and capital expenditures; but the general account is primarily current, and the special accounts are primarily capital expenditures. Within the education special account both current and capital expenditures are substantial.

A clear analysis of SSC activities by function is difficult, primarily because the budget is less consistently oriented toward a functional breakdown than toward a departmental or bureau breakdown. For instance, there are expenditures for road and street maintenance included in both the general and special accounts, and under heads such as "city planning" and "construction works." In order to obtain a functional breakdown of expenditures, a compatible set of expenditure functions and budget categories was developed by local authorities especially for this study.

Expenditures of Seoul Special City

From 1963 to 1972 the annual rate of increase in per capita expenditures of the SSC government was 34.5 percent. This dramatic annual growth in SSC expenditures has been greater than the rates of increase in either the city's population (8%) or in the price level (12%); thus, the levels of both per capita and real spending have risen. (After adjustment for the rate of price increase, real expenditures of the SSC increased at a rate of 22.5 percent per year between 1963 and 1971.) Per capita income in the SSC area was estimated to be growing by about 25 percent annually, somewhat less than the growth in SSC spending. The rate of expenditure increase of the SSC government is also high by comparison with rates of increase in the spending levels of the central government (about 23 percent a year) and of other local governments in Korea.

Structure of expenditure increase. The expenditure of the SSC government has been characterized by a relatively heavy and increasing emphasis on capital spending, a declining expenditure share for the social services (education, health, and welfare), and a large and growing share of expenditures on specific projects and/or public enterprise activities. Two years, 1963 and 1970, are disaggregated

here by both function and current-capital status. About 70 percent of the total expenditure increment over the 1963-1970 period is due to rising capital expenditures, with the result that by 1970 capital spending accounted for 65.2 percent of the total budget. Nevertheless the current expenditures of the SSC government grew at the very rapid annual rate of 22 percent, largely because of heavy increases in current spending for health services and education.

Table 1: Functional Distribution of SSC Expenditures, 1963 and 1970

| <u>Function</u> | <u>% of SSC Expenditure</u> | | | | <u>% of Increase in Total Expenditure</u> |
|------------------------|-----------------------------|--------------|----------------|--------------|---|
| | <u>1963</u> | | <u>1970</u> | | |
| | <u>Current</u> | <u>Total</u> | <u>Current</u> | <u>Total</u> | |
| Water Supply | 11.4 | 15.3 | 16.1 | 11.7 | 11.3 |
| Sewerage | .0 | 2.7 | .0 | 3.5 | 3.6 |
| Refuse Collection | 6.5 | 3.3 | 9.0 | 4.0 | 4.1 |
| Roads & Bridges | .0 | 17.3 | .1 | 21.2 | 21.6 |
| Transportation | .5 | .3 | 4.7 | 2.0 | 2.2 |
| Land Readjustment | .0 | 1.4 | .0 | 6.4 | 7.0 |
| Han River Construction | <u>.0</u> | <u>.0</u> | <u>.0</u> | <u>8.3</u> | <u>9.3</u> |
| Subtotals | 18.4 | 40.3 | 29.9 | 57.1 | 59.1 |
| Health | 4.9 | 2.4 | 6.2 | 2.8 | 2.8 |
| Education | 44.7 | 25.1 | 36.3 | 19.7 | 19.1 |
| Welfare | 6.0 | 2.9 | 4.6 | 1.8 | 1.7 |
| Housing | <u>.3</u> | <u>12.6</u> | <u>.4</u> | <u>8.0</u> | <u>7.4</u> |
| Subtotals | 55.9 | 43.0 | 47.5 | 32.3 | 31.0 |
| General Administration | 21.6 | 11.6 | 19.3 | 7.3 | 6.8 |
| Police | .0 | .0 | .4 | .3 | .4 |
| Fire | .8 | .5 | .5 | .3 | .4 |
| Industry | 1.4 | 3.7 | 1.8 | 2.5 | 2.3 |
| Debt Service | <u>1.7</u> | <u>.8</u> | <u>.5</u> | <u>.2</u> | <u>.1</u> |
| Subtotals | 25.5 | 16.6 | 22.5 | 10.6 | 10.0 |

This heavier emphasis on capital expenditures over the 1963-1970 period gave rise to marked changes in the functional distribution of SSC government expenditures (see Table 1). In general, the share of SSC resources devoted to the social service type of activities (education,

health, welfare) tended to decline, as did that of administrative activities, while the share devoted to construction and infrastructure types of activities, particularly land adjustment, Han River construction and roads, increased.

The sources of finance. It is an issue of some policy importance to explain the factors which underlie such a rate of increase in the level of expenditure. Rapid expenditure increase could be attributed either to rising expenditure demands or to an increase in resource availability. It seems reasonable to argue that in a relatively poor but fast developing country the direction of causation runs from revenues to expenditures, so that a relaxation of the resource availability bottleneck seems the more likely explanation. If so, the key to understanding Seoul's rapid expenditure increase lies in understanding the sources of its revenue increase. A thesis offered here is that the rapid increase was due mainly to the ability of the SSC government to raise additional resources from undertakings that are partly or wholly self-financing.

The total amount of SSC expenditure increase over the 1964-1971 period is 58.6 billion won. The absolute amount of this increase has been growing at an increasing rate since 1964, with particularly

Table 2: THE FINANCING OF TOTAL EXPENDITURES 1964-1971
(In Millions of Won)

| | 1971 | 1970 | 1969 | 1968 | 1967 | 1966 | 1965 | 1964 |
|---|-------------------------------|------------------|------------------|-----------------|-----------------|-----------------|-----------------|-----------------|
| Total Expenditure | 64,327 (100) ^{1/} | 49,510 (100) | 37,689 (100) | 28,844 (100) | 17,293 (100) | 13,154 (100) | 7,320 (100) | 5,685 (100) |
| Tax Revenues ^{2/} | 19,481 (30.3) | 17,099 (34.5) | 12,319 (32.7) | 8,711 (30.2) | 5,041 (29.2) | 3,497 (20.2) | 2,223 (30.4) | 1,612 (28.4) |
| General Non-Tax Revenues ^{3/} | 8,652 (13.4) | 8,013 (16.2) | 6,141 (16.3) | 4,004 (13.9) | 2,407 (13.9) | 1,938 (11.2) | 1,569 (21.4) | 2,144 (37.7) |
| Self-Financing Project Revenues | 23,378 (36.3) | 15,504 (31.3) | 11,602 (30.1) | 9,668 (33.5) | 3,540 (20.5) | 2,791 (16.1) | 1,113 (15.2) | 717 (12.6) |
| Revenues from Borrowing ^{4/} | 2,624 (4.1) | 531 (1.1) | 0 (0) | 0 (0) | 0 (0) | 230 (1.3) | 0 (0) | 87 (1.5) |
| Grants in Aid | 10,192 (15.8) | 8,363 (16.9) | 7,627 (20.2) | 6,461 (22.4) | 6,305 (36.5) | 4,698 (27.2) | 2,415 (33.0) | 1,125 (19.8) |

^{1/} Figures in parentheses are percentages of total expenditure in each year.

^{2/} Tax Revenues include these taxes: Acquisition Tax, Automobile Tax, Entertainment Tax, Slaughter Tax, Parimutuel Tax, License Tax, Property Tax, City Planning Tax, Fire Service Establishment Tax,

^{3/} Non-Tax Revenues include revenue from Property Income, rents from land and housing, land building sales, rents and fees including revenues from Public Industry, Admission fees, Stamp Revenues, surplus receipts from previous years. Transfers from Special Account and other Miscellaneous receipts in both the General and Education Accounts.

^{4/} Excludes borrowing for projects in the self-financing project category.

large increases since 1967. These expenditure increases must be financed from some combination of (a) increased tax revenues, (b) increased non-tax revenues, (c) increased external assistance, (d) increased short and long-term borrowing, and (e) increased revenues from "self-financed" projects which generate revenues that cover some part of costs. There are wide year-to-year variations in the importance of these various sources of finance; generally, the contribution of self-financed activities has been large and growing.

Tax revenues have amounted to about 30 percent of total expenditure over the period; they have increased in line with total revenue and maintained their share in it (see Table 2). Tax revenue increases may result from either changes in the tax rates or structure, or from automatic growth due to the income elasticity of the tax structure; in Seoul, the expenditure increase financed by taxation was almost entirely due to the latter. "Self-financed project revenues" are the major source of finance for the expenditure increase. However, the figures for this category in Table 2 are larger than the values for project-generated (i. e. self-financed) income since long-term borrowing for these projects is included in this amount, as are also some general fund transfers. A more complete picture may be gained from Table 2 in conjunction with the breakdown of self-financed project revenues presented in Table 3.

General non-tax revenues, e. g. fees, permits, licenses, etc., have declined in importance as a source of financing expenditure increase over the period since 1965. This is largely due to the low level of these charges and a structure of charges that does not respond proportionately to income increases. External assistance has likewise dropped as a percentage of total financing, primarily because of revisions in central government grant/subsidy distribution formulae. The proportion of expenditures financed from external grants in aid fell from 19.8 to 15.8 percent over the 1964-1971 period.

Some Self-Financing Activities

The remainder of this article will describe some of the "self-financing" activities as organized by the SSC. They are not, of course, financed without any assistances from the SSC through transfers from general funds, or transfers from the national government. Nevertheless, the extent to which self-financing has been achieved in the rapid expansion of infrastructure and services for this large and fast growing city, and the ways in which this has been done, are of particular interest as examples of urban finance in a developing country. Project-generated revenues include user charges of various kinds, and proceeds from the sale of assets. Some activities can be wholly financed from such sources, while others are only partly self-supporting.

Table 3: Components of Self-Financed Project Revenues, 1968-72
(In Millions of Won)

| | 1972 | 1971 | 1970 | 1969 | 1968 |
|----------------------------------|---------------------------------|-------------------|-------------------|-------------------|------------------|
| <u>Total Revenue</u> | 19,592 ^{1/} (100.0) | 20,334 (100.0) | 15,082 (100.0) | 12,787 (100.0) | 8,341 (100.0) |
| Transfer from General Account | 2,425 (12.4) | 788 (3.9) | 388 (2.5) | 4,161 (32.5) | 1,577 (18.9) |
| Borrowing | 5,363 ^{2/} (27.4) | 4,500 (22.2) | — — | 100 (0.8) | 803 (9.6) |
| User Charges | 1,152 (5.9) | 1,357 (6.7) | 1,150 (7.6) | 1,040 (8.1) | 1,067 (12.8) |
| Sale of Assets | 5,312 (27.1) | 5,601 (27.7) | 6,842 (45.4) | 5,303 (41.5) | 2,629 (31.5) |
| Other | 5,340 (27.3) | 7,909 (39.4) | 6,703 (44.4) | 2,184 (17.1) | 2,265 (27.2) |

^{1/} Figures in parentheses are percentages of total project revenues.

^{2/} Includes 3,676 million won borrowed from external sources.

SOURCE: Financial data for Special Accounts compiled by Seoul officials.

Note: Total revenues shown here differ from those for self-financed projects in Table 2 due to exclusion of revenues from night soil collection and pawn shops.

Water supply. The supply of drinking water for the Seoul metropolitan area is drawn predominantly from the Han River and is treated to acceptable standards of purity in treatment plants at five locations. The water produced is then distributed to about 86 percent of the city's total population, or 90 percent of the population within the present service area. The service area includes all parts of the city except some low-density fringe areas at elevations of 100 to 120 meters. Water loss, that is, the difference between treated water produced and water recorded on customer meters, is high; it is attributable mainly to leakage from old pipework, under-recording by meters, and illegal connections. Loss due to "accepted" unmetered usage, such as fire-fighting and certain civic functions, appears to be normal. The Water Bureau, by devoting considerable effort and expenditure to loss correction, reduced loss from an exceptionally high 62 percent in 1960 to 44.5 percent in 1970.

The Water Bureau was established to operate as a self-supporting entity, dependent primarily upon resources derived from the sale of water. The SSC Water Bureau has consistently generated a surplus on its current account and, accordingly, has financed both debt repayment and a portion of capital expenditures. The remainder of capital expenditures is chiefly financed through domestic and foreign borrowing for specific capital projects. There has been some transfer of resources from the city general account in a few years to meet a portion of the capital spending, but these amounts have been relatively small (only in 1969 was it as much as 5 percent of expenditures). Hence the water supply function is basically self-sufficient.

This self-sufficiency is a result of substantial revenue growth, which in turn may be attributed to increasing water consumption and to discretionary increases in water rates. There have been only three changes in the rate structure over the past decade: in 1968 and 1970 the city raised its water charges for industrial and commercial uses, and in 1972 residential rates were approximately doubled.

Land adjustment. The SSC has a land adjustment scheme, so called, under which certain areas of the city are designated for improvement. The improvement consists of rearranging the shape of plots, land grading, laying out and constructing roads, and provision of other basic infrastructure. The objectives of the program are: (a) to facilitate the development of areas, usually on the city's urban fringe, and usually difficult to develop because of their physical characteristics (plot shape, size, or topography); and (b) to recover public sector costs from such development. Fiscal transactions under this scheme are made through a Land Adjustment Special Account and administered by the Land Adjustment Bureau of the SSC government. The Land Adjustment Bureau has no maintenance responsibilities after the development takes place.

The city administration has a five-year plan with respect to areas designated for land adjustment. The decisions on which lands are to be adjusted are made by the Mayor and the city administration; it is also required that a majority of land owners agree to the projects. The finances of the land adjustment program are kept entirely in the Special Account, with the fiscal resources for the program derived from borrowing and the resale of land. The landholders must surrender some of their land to the government as payment for the improvements they receive. The landowner whose land will be improved donates to the government an amount of the land adequate to meet the costs of the improvement plus an amount for general uses such as parks, and open spaces. The government then resells the land to recoup the cost of improving the land. As of October 1972 there were 38 land adjustment schemes undertaken, 27 of which are complete; and the expenditure for the adjustment of land amounted to about 40 billion won.

Land adjustments can be initiated either by decree of the Minister of Construction or by those who are connected with the lands which are being adjusted, for example the city government, the National Housing Corporation, or a land-owner association which is formed for that purpose. The land adjuster, public or private, must submit an application to and obtain formal permission from the Ministry of Construction. The land adjuster first designates a certain area for land adjustment. Next, the land adjustment scheme is announced to the public and remains open to those concerned for public reference for a period of 14 days. The proposed scheme, the method of covering costs, and other matters must be approved by at least two-thirds of the land-owners. If the land-owners approve, the land adjuster then submits the land adjustment scheme to the Ministry of Construction and procures a permit. The land adjuster, most often the Seoul City Government, undertakes the planning and execution of the scheme.

Eventually all the costs of land adjustment are borne by the land-owners in the adjusted area. A precise description of the allocation of these costs among land-owners is beyond the scope of this article, but a general description might give some indication of the process. The land to be improved is classified into one of three categories, A, B, or C, according to the ease with which it can be adjusted, class A land being the easiest and least costly to adjust, and class C land being the most difficult. Cost estimates for these categories are based on past experience, and are obtained after detailing the cost of all improvements, e. g. fill, lands, sewerage, and drainage. The estimation of the selling prices for these types of land is also based on past experience. The area of the land which, if sold, is enough to recoup the cost of land adjustment is then calculated. The land adjuster sells the appropriate amount of land to private or public buyers and recovers the total cost of improving the land.

In addition to this "cost equivalent" amount of land, some common rate of land is surrendered by all land-owners to allow land for public parks, public squares, open spaces, and other public uses such as markets and schools. A proportion of 25-35 percent has been mentioned as being commonly required for institutional use. Finally there is an additional amount of land which must be surrendered for roads. The amount of land surrendered by an owner differs according to whether the road is in the front or beside his property. For front roads more than 10 meters wide and side roads of any width, the amount of land surrendered on either side of the road does not add to the total width of the road. The remainder is contributed by all owners on an equal rate basis. If there is a discrepancy between the actual cost of the adjustment project and the revenue from sales of cost equivalent land, then the difference will either be returned to the land-owner or invested in further improvement of the area. It is, however, rare that the price of the land after improvement is overestimated. These land adjustment activities have been a major factor in the in-

crease in SSC expenditures. The Land Adjustment Special Account has shown consistent annual surpluses from 1963 to 1972, with loan repayment more than covered by income from resale of lands.

Han River Project. Although the Han River Project is a form of land adjustment, it is treated as a separate Special Account. The purpose of the project, which started in 1968 and ended in 1972, was to construct several toll roads around the Han River connecting the city of Seoul with Yoido Island, which is located in the middle of the Han River and was granted by the Central Government to Seoul Special City. The project was also designed to develop Yoido Island, and included the construction of a protective dam around the island, filling and leveling ground, construction of roads, a public square and the provision of public utilities. The area of the island is about 2.8 km², of which 60 percent was developed for commercial use and 40 percent for housing. Most of the cost of the Yoido development was covered by sales of the improved land to the private sector and to other special accounts of Seoul City, such as Housing. Only 13 percent in the way of general account subsidy has been necessary in the overall financing of the Han River Project, almost all of that coming in the first year to enable start of construction.

Roads and bridges. The responsibility for planning, constructing and maintaining all roads within the Seoul urban area is divided between the SSC government, the central government, and the Korea Highway Authority. The city government operates two toll roads and several toll tunnels. The fiscal operations for these including debt service on loans is budgeted within the city's special account for the purpose. By 1973, budgeted toll road receipts were more than adequate to cover expenses associated with the maintenance and improvement of these toll roads. SSC expenses for all other roads and bridges, however, are shown in the general revenues.

Transportation. The transportation function in Seoul is defined to include traffic control, a minor and stable expense, along with the capital and current support of mass transit facilities. Until 1971, the bus system was the only form of mass transit included in the budget; subway construction first appears in the 1971 budget. Both bus service and subway construction are Special Account items, and together they account for almost all of the increase in transportation expenditures over the past decade.

The city bus company, which began operations in 1965, operates throughout the SSC and beyond the city limits. Bus routes are recommended by the city administration, and decided by the Mayor. Operational policy is that fares should at least cover current (operating and maintenance) costs. Bus company expenditures have doubled from 1968 to 1972, with the increase about evenly divided between current and capital expenditures. The financial sufficiency of the bus operation has weakened over this period, and the amount of transfer from the city general budget has increased. Bus fare revenues generated a sizeable surplus over current costs in 1968; but this became a modest deficit after 1969, and

extra-account funds have been used to cover all capital expenditures. Thus, despite recent increases in bus fares, self-financing of capital expansion is still out of reach, though current deficits are not large.

Housing. Both the city government and the national government are involved in public housing in the Seoul urban area. The SSC government's housing activities include housing construction for rental, housing construction for sale, and the rehabilitation of low-income housing. The rental program stems from city government apartment construction for slum dwellers. During the 1962-67 period, five pilot projects, including 240 housing units, were constructed, of which the city retains ownership. In at least three schemes, the SSC government constructs and then sells houses. First, under slum renewal during 1969-71, there was a total investment of 6.3 billion won in 430 "citizens' apartment buildings" with 22,000 units, constructed on cleared squatter areas. A second program, primarily for middle-income people, was begun in 1970 with financing through mortgage banks. The third purchase scheme is a special apartment complex on Yoido Island.

The city government is also involved in the rehabilitation of low-income housing. Under this program, squatters on government-owned land are given a chance to build according to prescribed standards. If they fail to do so after a certain time, they are evicted; if they meet acceptable standards, they are granted title to their dwellings. Finally the city government is involved in urban resettlement. This includes the Kwan-Ju urban development project and small settlement projects in approximately 43 locations around the city. The city has spent about 16 billion won on these developments, which are planned for about 36,000 households. The occupiers are obligated to pay the total cost of development in 10 annual installments, with no interest.

Expenditures on citizens' apartments, rehabilitation, and resettlement averaged about 4 billion won per year in 1969-72, over 95 percent of which is capital costs. Loans for higher level schemes, including both apartments and detached housing units were between 500 and 700 million won per year: debt repayment constitutes less than 2 percent of the total expenditure. There was a sizeable subsidy from city general revenues to support the housing program in 1969, but in other years the contributions of the central government have been by far the largest source of revenue. Thus, the program is almost entirely dependent on outside assistance for its capital expenditures. To some extent current costs are financed through tenant payments: for the loan amount, the city government borrows from a bank; the tenant pays a monthly rental, which the city government uses to amortize the bank loan until the debt is fully repaid; ownership then passes to the tenant.

Education. Primary and secondary education in Korea is a local government function. Current expenditures have been roughly two thirds and capital one third of the total for education, which is the

largest item in the SSC's budget. Education revenues are derived from three main sources: tuition, a contribution from the SSC government general account, and external assistance. Of the three, tuition and the general account transfer together account for about 40 percent of total receipts, with central government assistance accounting for the remaining 60 percent. Revenues from tuition fees, paid by junior and senior high school (but not primary school) students, have grown markedly in recent years with increasing enrollments. The fees have paid for an increasing share of education spending, rising from 11.2% in 1968 to 20.1% in 1971.

Conclusions

The demonstrated ability of the SSC to increase infrastructure and services to its fast growing population in 1963-72 is unusual among developing-country cities. This result was assisted by a rapid rate of economic growth in Seoul, and in South Korea, in these years; but success cannot be attributed to affluence, since the per capita income level is still relatively low. More important were the methods of organization and in particular the search for self-financing devices such as those which made the water works, the land development programs and the Han River development virtually self-supporting. To be sure, the self-financing revenues in transportation, housing and education have been much more limited, though perhaps more extensive than in other cities. But there seems little doubt that project-generated revenues made possible some capital projects that would not otherwise have been undertaken, and freed some revenue for other uses that might otherwise have had to go into those capital projects that were deemed essential.

Infrastructure building aside, the SSC also has a good record of keeping up with the more routine services under pressure of growth. Some estimates of the elasticity of response to increases in SSC income are the following:

| | |
|--|------|
| Increase in total tax revenue | 1.15 |
| Increase in locally raised non-tax revenue | .96 |
| Increase in General Account expenditures | 1.01 |

These figures indicate that tax revenues have grown somewhat faster than income levels, while general administrative costs and local non-tax revenues have more or less kept pace with income. As noted earlier, reliance on central government grants and on non-project borrowing has decreased. Thus, even if the self-financing projects in the budget are not considered, SSC finances are evidently both sustainable and flexible in response to need.

[Extracted from Urban Public Finances in Developing Countries: A Case Study of Seoul, Korea, World Bank, forthcoming. Prepared for a comparative study of urban public finances in LDC cities conducted by the World Bank under the direction of R. W. Bahl and J. F. Linn.]