

Capital Expenditure, Recurring Expenditure, and Development Planning

Comments on Dr. Huda's Address

by

M. AKHLAQR RAHMAN*

INTRODUCTION

The purpose of this note is to discuss the nature of the problems created by the "impact of the capital expenditure on the subsequent liabilities of recurring expenditure"¹ of the government and to suggest certain remedies for either eliminating or reducing such problems.

The problem, as stated below, basically relates to the financial planning of development projects. The installation of a development project involves capital costs. The running of the project, after its completion, involves the costs of operation and maintenance, *i.e.*, the recurring costs. The purpose of financial planning is to maximize the surplus of returns over the costs of operation, including the maintenance and replacement costs.

Whether a project is undertaken by a private entrepreneur, or a government department, or a public corporation, financial planning has to be done and rigorously implemented. No private entrepreneur will undertake a project unless he expects to earn a reasonable rate of net profit. However, a private entrepreneur may undertake a project the returns from which might just break even provided that the project is complementary to some other projects which he has already installed or expects to instal.

In spite of its general character, the problem has special implications for government projects and government budgeting. Because of the well-known role of the public sector in the economic development of less-developed coun-

*Dr. Rahman is Chief Economic Advisor, the United Bank Ltd.

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¹Reference to such problems has been made by Dr. M. N. Huda in his Conference Address [1, paras 57 and 58].

tries, the development budgets of the government must include different types of projects in different sectors many of which, by their very nature, cannot be financially self-liquidating. Most of these projects mainly relate to the infrastructure where the initial capital expenditure is high, the gestation period long, and the returns are either nil or not commensurate with the recurring costs involved. Generally speaking, the private sector does not undertake, or is reluctant to undertake, such projects even though these are prerequisites to the initiation of economic growth. This means that, unlike the private sector, the public sector has to undertake projects which are not financially viable. The development budgets in Pakistan are no exceptions in this respect.

A scrutiny of the project-mix in the development budgets of the central and provincial governments of Pakistan would enable us to classify government projects in different groups accordingly as whether they are income-earning or non-income-earning.

First, some government projects are not directly income-earning. These relate to the development of the socio-economic infrastructure, such as, roads, flood and salinity control, education and research, health and other social services. Second, certain projects are income-earning, but because of the well-known socio-economic reasons, the incomes earned from them fail to offset the recurring costs involved. These relate to irrigation, fertilizer and pest control in the agriculture sector, and to ports and waterways' development in the transport sector. Projects for the development of communications may also be included in this group. Operation and maintenance of such projects necessitate heavy subsidy from the government. Lastly, there are projects in transport, agriculture, and industries sectors which are not only directly income-earning but also capable of ensuring a net profit.

An examination of Pakistan's development budgets would reveal that projects belonging to the first and second groups claim the largest share of the development expenditure. Consequently, unless the directly income-earning projects are so productive as to yield a net return at least equivalent to the recurring costs of the non-income-earning projects, the operation of the completed projects of the government will necessitate proportional increase in the tax revenues. Depending upon the magnitude of the amount of the recurring costs involved, it has certain important implications for capital accumulation as well as for the development strategy in the public sector. A proper solution of the problem involves a clear understanding of such implications.

2. IMPLICATIONS OF RECURRING COSTS FOR CAPITAL ACCUMULATION

The implications of the recurring costs for capital accumulation in the public sector can be analysed under simplifying assumptions without blurring its significance in any way. Let us assume that the government has a balanced

budget, *i.e.*, government revenue, R , equals its expenditure, E . The government revenue consists of tax revenue, R_1 , and non-tax revenue, *i.e.*, income from projects, R_2 . Likewise government expenditure includes those on the general administration including defence, E_1 , the recurring costs of projects, E_2 , and investment E_3 . Then

$$R_1 + R_2 = E_1 + E_3 \dots\dots\dots (1)$$

$$E_3 = (R_1 + R_2) - (E_1 + E_2) \dots\dots\dots (2)$$

Assume further that

$$R_1 = tY$$

$$R_2 = rY$$

$$E_1 = bY$$

$$E_2 = cY$$

Then by substituting the above relations in equation (2) we get

$$E_3 = Y(t - b) + Y(r - c) \dots\dots\dots (3)$$

$$\frac{dE_3}{dY} = (t - b) + (r - c) \dots\dots\dots (4)$$

It can be seen from equation (4) that E_3 will increase only if the sum of revenue surplus and revenue from public investment is positive. The rate of public investment will vary directly with $(r - c)$ and the rate of investment will be greater than, equal to, or less than, revenue surplus depending upon whether

$r \begin{matrix} > \\ < \end{matrix} c$. When $r < c$, the initial level of public investment can be maintained if $(t - b)$, the tax-revenue surplus, equals $(r - c)$ in absolute value. If it is not, t has to be increased or b reduced proportionately. In a developing economy it is unlikely that b can be reduced. If b cannot be reduced t will have to be increased proportionately, and more than proportionately if b also increases, or budget deficits will have to be increased to maintain the level of investment. If on the other hand $r > c$, the level of investment will be positive even if there is no tax-revenue surplus and hence it will reinforce the contribution of revenue surplus to investment.

Assuming that the strategy of development planning in Pakistan stipulates increasing the rate of investment in the public sector over the perspective-plan period, the attainment of the objective *ceteris paribus* will partly be facilitated by the appropriate financial planning of projects which would render r greater than c . We say partly because planned investment rate may be higher than the existing rate by an amount greater than the improvement in $(r - c)$. In this situation also in order to achieve the planned rate of investment, the government have to increase t and more so if b increases, or incur budget

deficits. It is clear that in order to increase rate of investment t will have to be increased and/or budget deficit will have to be incurred if $(r - c)$ cannot be improved and more so if $(r - c)$ deteriorates.

Because of the role of public sector in economic development and the consequent nature of the project-mix in the development budget of the government, it is unlikely that r will ever be greater than c . It is also doubtful if b can be reduced overtime. Under the circumstances, the rate of public investment can be increased only by increasing t or by incurring budget deficits. Since the increase in the level of the national income is a precondition for increasing t , the appropriate planning strategy would seem to be to maximize the growth of Y and to minimize the difference between $(r - c)$ which we feel will be a negative quantity, on intuitive grounds. Other things being equal, the attainment of these objectives, as will be clear from the following section, is largely a function of the appropriate project planning, *i.e.*, micro-economic programming.

3. PROJECT PLANNING

3.1 The Essence of Micro-Economic Programming

Macro-economic planning and micro-economic programming are, by and large, inseparable in the process of the formulation of realistic development plans and of the specification of requisite policy measures in the successful implementation of such plans². It is, therefore, difficult to say which precedes what. Let us assume that on the basis of the predetermined socio-economic goals and other constraints and on the basis of the various required exercises involved, a total plan specifying the total and sectoral investment targets is formulated and accepted. The next step, then, is to formulate and evaluate the appropriate sectoral programmes which necessitate the selection of projects/schemes to be implemented in each sector. Such exercises constitute the essence of micro-economic programming.

The most important aspect of micro-economic programming is the selection of projects/schemes to be included in the development programme which, as stated before, will include different groups of projects/schemes of different character. Each group of schemes is important. They may be required for the balanced implementation of the sectoral programmes. The problem is to select *a*) the appropriate schemes from among the alternative types of similar schemes, *b*) the appropriate schemes from among the alternative schemes in the same sector or in different interrelated sectors, and *c*) the appropriate points of time for the inclusion of the chosen projects/schemes in the development programme for the purpose of implementation. This calls for setting up of the requisite criteria for choice.

²For detailed discussion, see M. Akhlaqur Rahman and Arné Oiéén [3].

Following the tenets of benefit-cost analysis, the one overriding criterion should be the *maximization of the present value of benefits minus costs*. Benefit-cost analysis is not an easy task. It involves enumeration and valuation of benefits and costs which are in many cases intangible. Valuation involves the difficult question of the appropriate pricing of the inputs and outputs. The specification of a requisite framework of benefit-cost analysis is a part of the planning strategy and cannot be done in this note³. Only the need for such a framework for the selection of schemes is being stressed here. The argument is that the *proper use* of benefit-cost analysis in the selection of schemes is a precondition for attaining the objectives of maximizing the growth of the national income and the financial viability of all schemes taken together.

Note the emphasis on the term 'proper use'. It is necessary that rigorous benefit-cost analysis of each scheme be carried out. But it may not be sufficient for achieving the above-mentioned objectives. The selection of schemes, because of the interdependence between many of them, needs to be done individually as well as in groups. An example will make its importance clear. Suppose there is a choice between constructing two roads, A and B. Individually evaluated, neither may satisfy the criterion of choice. However, evaluated together A and B may pass the test. Or it may be that, individually evaluated, the benefits from A are higher than those from B. Now suppose that B is related to some other project, C, belonging to waterways and port development. When considered in conjunction with C the benefits from B may surpass those from A. In this case B should be the appropriate choice. The selection of income-earning schemes should be made in the similar way.

Such a process of scheme selection will not only ensure the maximum growth of the national income it may also economise the use of capital resources. And both are important in the context of the problem we are concerned with in this note. Maximization of growth rate will create conditions for increasing the tax rate and the tax revenue, while the economy in the use of capital will provide additional funds for the recurring costs.

Furthermore, proper selection of schemes will contribute directly to the solution of the problem of the recurring costs. In the first place, it will indicate the net direct returns which can be expected from each scheme as well as from groups of schemes. On the basis of this an attempt can be made at least to reduce the gap between, if not equalize, the total operating costs and the total returns through *a*) increasing the bundle of income-earning schemes in the programme and/or *b*) through prior and quick implementation of income-earning schemes without impairing the basic requirement of related intersectoral growth. In the second place, it will bring out clearly the requisite policy measures for realizing the estimated incomes from the income-earning projects.

³For a suggested framework of benefit-cost analysis for Pakistan, see [3, Pp. 65-71].

Notice, however, that the adoption of the suggested method of scheme selection involves certain practical problems. Evaluation of the benefits and costs of alternative schemes, or groups of schemes together, implies that such schemes are available. Unless alternative schemes are ready well ahead of time and unless there is close coordination between related development agencies, the planning authorities will not have an opportunity for the evaluation of the schemes in the manner discussed above.

3.2 Micro-Economic Programming in Pakistan

While formulating the total plan and determining the intersectoral allocations at macro-economic planning level, the planning authorities in Pakistan, excepting the carryover of certain on-going schemes from the previous plan, do not have available at their disposal completely prepared schemes for proper evaluation and integration into the total plan. What they have is a long list of schemes relating to different sectors most of which are not supported by even specific outlines. This is mainly due to the fact that the preparation of schemes requires time, money, and technical capabilities which are lacked by most of the development departments and agencies responsible for preparing the schemes for different sectors and subsectors. Consequently, schemes are prepared and submitted for approval of the planning authorities in the process of the implementation of the plan.

The process of selecting and sanctioning schemes in Pakistan has become administratively quite complex and difficult. All schemes relating to the development budgets of the provincial governments have to be primarily approved by the provincial development working parties. (In East Pakistan this agency is known as the Provincial Planning Authority.) The approved schemes have to be re-approved by the central development working party and finally by the National Economic Council through its Executive Committee. The primary authority for the approval of the schemes of the Central Government is the central development working party.

Even at the primary level the scheme-sanctioning process is not less complex. The schemes prepared by the development agencies have to be approved and forwarded to the planning department by the related departments of the government. The planning department evaluates the schemes, prepares working papers, and submits them to the provincial development working party for consideration and approval. Lengthy discussion is held on schemes in the meeting of the development working parties where certain schemes are approved with or without alterations and certain schemes are referred back to the agencies for revision and resubmission.

Development projects and schemes for different sectors and subsectors are prepared by different development agencies who do not have adequate technical staff for the preparation and evaluation of schemes. Often the schemes

are prepared by the foreign consultants. Among other things, the preparation of a scheme involves considerations for *a*) technical feasibility, *b*) financial feasibility, and *c*) economic feasibility. In preparing the schemes, the consultants conform to the requirement of the Form P.C.I. which calls for benefit-cost analysis without specifying the nature of such analysis. Consequently, estimates of benefits and costs are done in different ways by different consultants. Furthermore, the reports submitted by the consultants often overestimate benefits⁴ and underestimate certain costs. This is partly because of the deficiency of data used by the foreign consultants and the lack of their understanding of the nature of our economy and partly because of the built-in power politics involved in the process of development planning.

Different development agencies handle projects in different sectors/subsectors. Plan allocations are made without prior consideration of well-formulated schemes. The administrative costs of such agencies are partly borne out of their development budgets. Parkinson's law comes in; and the structure of the agencies continues to grow. The utilization of plan allocations becomes a condition of their existence. For this, schemes have to be prepared and sanctioned. In such a situation development agencies fall under the pressure for having their schemes sanctioned. The consultants are often influenced to exaggerate benefits. Even the schemes which belong to aided projects are not immune from such influences. Since the consultants' fees are dependent on the total cost of the scheme, they tend to blow up the capital cost often through the specification of over-heavy techniques which are frequently accepted without proper evaluation. Furthermore, sometimes schemes are also prepared because of local political reasons.

While the development working parties carry out their functions quite rigorously, they hardly make a serious appraisal of the benefit-cost aspect of the schemes. A glance at the working papers on schemes prepared for the development working parties would confirm our assertion. It will also be noticed that the major scrutiny of a scheme is over-burdened with the checking up of minor details. Not only that little is done in respect of analyzing the benefit-cost aspect of a scheme also the examination of benefits and costs lack uniformity of analysis in the case of different schemes. This is mainly due to *a*) the lack of time at the disposal of the technicians of the planning authorities, *b*) the lack of sufficient qualified technicians, *c*) the absence of a generalized framework for benefit-cost analysis, and *d*) possibly the lack of the realization for the necessity of rigorous project planning.

Since there is little coordination between different development agencies in charge of different sectors and subsectors in respect of the formulation of

⁴ I have also come across certain feasibility reports where the consultants have underestimated the expected benefits. Such rare cases reflect the lack of the development perspectives of the technicians who prepared such reports.

projects/schemes and since schemes are submitted separately and at different points of times, the development working parties are unable to evaluate schemes in groups or to make a proper evaluation of the benefits and costs of all schemes in a sector with reference to the planned targets. Furthermore, since the recurring costs of new schemes form the part of the capital costs during the period of implementation, the stress on the examination of this part of the scheme does not become as rigorous as it should be. Often such costs are reduced on the basis of the rule-of-the-thumb method without serious examination of their relation to the operational requirements.

Such a process and pattern of micro-economic programming has certain far-reaching implications for economic growth. First, although it is possible, under the existing circumstances, to keep capital expenditure within the limit of the plan allocation for different sectors, it is not possible to have an *ex-ante* idea of the contribution of such expenditure to the growth of the national income. Therefore, it is also not possible to test the validity or otherwise of the inter-sectoral allocations in the total plan. Consequently, it leaves scope for over- or under-capitalization in different sectors/subsectors rendering the use of development resources less efficient and hence preventing the maximization of the growth of the national income.

Second, since there is no examination of the relation between the total recurring costs of and the total incomes from the schemes sanctioned it is not possible to have an *ex-ante* idea about the extent of the increased liability of the government on account of the recurring costs of the implemented schemes. The *ex-post* assessment of such liabilities are also often dubious since the existing system of accounting and budgeting is not conducive to a proper evaluation of the progress and performance in respect of a scheme in the formulation of the annual budgets of the government [2, chapters 4 and 5].

Third, in the absence of rigorous benefit-cost analysis no economic appraisal can be made for realizing the necessity or otherwise for setting appropriate prices of services to be provided by schemes which are income-earning on the basis of *quid pro quo*.

Under the circumstances, the implementation of a plan may end up with disproportionately increased liability of recurring costs and less than the expected increase in the national income. For reasons discussed in Section 2, such a situation will make it difficult for the government either to maintain or increase the existing rate of investment in the following plan period.

4. CONCLUDING OBSERVATIONS

4.1 The role of the public sector and the nature of the project-mix in the development budgets of the government are such that the direct returns from projects are not likely to offset the corresponding recurring cost liabilities.

Under the circumstances, to run the implemented projects and to increase the rate of investment in the public sector the government will have to increase its tax revenue by increasing the tax rate and/or incur budget deficits.

The solution of the problem has to be sought in the process of the selection, implementation, and operation of projects/schemes as an integral part of the strategy of planning. The argument is that proper financial planning of projects will contribute *a)* to the efficient use of capital and, therefore, to the faster growth of the national income and *b)* to increasing the direct returns *vis-a-vis* the recurring costs of the implemented projects.

A lot can be done through the rigorous application of the criterion of benefit-cost analysis in the selection and sanctioning of schemes. This needs to be done for individual schemes as well as for groups of schemes. Where the latter is not possible, the selection and implementation of individual schemes must be improved.

Since under the existing circumstances, the relation between the direct returns and the recurring costs of schemes cannot be ascertained in the process of their selection, proper periodic evaluation of such relationship should be made for the completed schemes. The result of such exercises should be used as a guideline in the selection of new schemes with a view to improving the ratio between the direct returns and the recurring costs of development schemes. In other words, efforts should be made to increase the share of directly income-earning projects in public sector's investment portfolio and/or to increase the returns from the implemented projects through more efficient operation and/or to ensure that the non-income-earning projects make quick and effective contribution to the growth of the national income.

Such improvement in micro-economic programming will necessitate not only strengthening and re-orienting the mechanism of planning, but also complete integration of planning and budgeting and fundamental changes in the technique of budgeting and the accounting system of the government.

4.2 Reference has been made in subsection 4.1 above to the need for efficient implementation and operation of public sector's development projects. By efficient implementation is meant the completion of a project according to approved schedule and specification. A delay in implementation increases both capital and operating costs and creates budgeting problems over time.

The delay in scheme implementation is partly due to exogenous reasons, *e.g.*, the delay in land acquisition and the like. Some of these can be reduced to the minimum through proper policy measures. Sometimes it is due to technical defects in schemes. In many cases, it is found that certain technical specifications of schemes are not feasible. In such cases technical feasibility has to be

re-done, costs have to be revised (often upward), while the benefits remain unchanged and do not accrue as scheduled.

Sometimes schemes are left unfinished in the process of implementation because of financial and other administrative constraints, while some costs continue to be incurred. These are cases where costs are incurred without any benefit whatsoever.

Together with the increase in the efficiency of implementation, the efficiency of operation of the implemented schemes must be improved. Efficient operation of schemes is a precondition for reducing the recurring costs and for increasing incomes from the directly income-earning schemes. This is of special importance in the industries sector. The net returns from the industrial concerns in the public sector in Pakistan vary between 2 to 3 per cent only. One of the reasons for this is that many projects are, by nature, not so profitable. But the most important reason is the inefficient operation of most concerns due to the inherited bureaucratic system of administration. Because of this no effort is made to increase the profitability of such concerns.

Instead of making such concerns more profitable, the government tries to reduce the burden on the budget, in the name of increased capital investment, by selling such projects to the private sector. The usual arguments for such actions are well-known. What is not being realized is that such actions solve the present problems through creating similar problems in the future. Because of the problem of the recurring costs, it would be better for the government to increase its revenue from such projects by facilitating efficient operation. Since the concerns which will be bought by the private sector are likely to be relatively the more productive ones, by selling such concerns the government loses the sources of its income. In terms of our equation (4) it tends to reduce r and therefore, *ceteris paribus* E_3 which is temporarily offset out of the sale proceeds of the concerns involved. The best line of action would be to increase r and to decrease c by increasing the efficiency of operation of projects and to increase t with the rise in the national income.

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