PUBLIC INVESTMENT REVIEWS: A PRELIMINARY SURVEY

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Public Investment Reviews: A Preliminary Survey

Abstract

The paper (a) reviews the theoretical literature relevant to an analysis of public investment and (b) provides an overview of Bank work in the area of public expenditure review. To a large extent, this review focuses on the public investment component of public expenditure.

The survey of the theoretical literature draws heavily on the development planning literature, in the context of which aggregate and multisectoral models of different vintages have been utilized to map out the implications and quantitative dimensions of alternative investment strategies defined in terms of broad objectives of overall economic growth and distribution. The relevance of these models, and the theoretical as well as data limitations, particularly in their operational use in countries with limited data, are noted. The paper also refers to the bottom-up approach to public investment analysis which attempts to arrive at an assessment of the investment program in terms of the evaluation of individual projects constituting the program. The relevance of the Little-Mirrlees approach in project selection and other approaches to cost benefit analysis are touched upon briefly. Their application in specific Bank studies is elaborated in more detail in the review of Bank public expenditure analysis.

The survey of Bank work spans across countries such as Portugal and Turkey where the Bank undertook a major public investment review exercise, as well as countries such as Sudan and Romania, where a review of public investment was attempted within the context of a more general report.
The survey brings out the commonalities as well as differences in these analyses. A concluding section of the paper points to some of the conceptual and practical problems that are likely to plague attempts at an objective evaluation of public expenditures.
PUBLIC EXPENDITURE REVIEWS: A PRELIMINARY SURVEY

Introduction

1. Public expenditures are one of the direct means by which government
   seeks to influence the direction of economic development. There are, of
   course, other direct and indirect means: fiscal and monetary policies,
   industrial licensing policies, to name a few, which through various incentives
   and disincentives attempt to channel economic activity in desirable direc-
   tions. In order therefore to evaluate public expenditures, these must be
   related to the objectives which they seek to achieve; moreover they must be
   evaluated in the context of the overall policy environment. For clearly, if
   the thrust of public investment is contrary to or in conflict with the over-
   all policy environment within which economic activity is undertaken, the
   expected outcomes are not likely to be forthcoming.

2. Broadly, what are the kinds of issues that should concern us in
   reviewing public expenditures? At one level, the revi . should clarify and
   articulate the criteria by which public expenditures (or more narrowly,
   public investment expenditures) should be made. For instance,

   (a) how should one determine the level of government and public
       sector expenditures over a given period;

   (b) how should this be split between recurrent and capital budget;

   (c) in the capital budget, how should one allocate investment in
       different sectors and subsectors, or ministries, for example
       between agriculture or manufacturing, or between primary or
       secondary education;

   (d) within any sector, how should projects be chosen; and
(e) in times of budget cuts, how should priorities be assigned?

3. At another level, it is important to know how these decisions are actually made, not only in terms of the criteria used, but also in terms of the institutional mechanisms through which these decisions are reached.

(a) What are the stated criteria for public expenditure allocations?
(b) How are sectoral/ministerial investment plans prepared, particularly in the social sectors?
(c) What is the mechanism by which these are integrated and made consistent?
(d) What is the extent of involvement of the various agencies in the final decision?
(e) To what extent is the private sector involved in public investment decisions?
(f) How are budget cuts allocated across sectors, etc., and between recurrent and capital expenditures?

Do existing institutions and processes of public investment decision making preclude efficient public investment choices or are the institutional mechanisms consistent with sound decisions. Is the problem one of determining appropriate criteria or is it one of designing proper processes within the government to implement these criteria?

4. A comprehensive review would have to address both these issues. They are of course related in that in the absence of a clear-cut criteria for public investment decision making, the appropriateness or otherwise of the actual processes cannot be evaluated. In section I which follows, we will review some of the analytical work that could be used in answering the questions raised in para. 2. In section II, we will review the approach
adopted by the Bank in PIP reviews in a few countries and in section III we will summarize the discussion and its implications.

I. Review of Theoretical Literature

5. In this section we will very briefly review some of the analytical tools that may be useful in the evaluation of a public investment program. We focus on investment expenditure rather than recurrent expenditure as there is little in the formal literature that pertains to analysis of recurrent vs. capital allocation.

6. The early literature on public investment expenditure (beginning from Samuelson's pioneering work) was concerned with isolating circumstances in which market-determined allocations would not be efficient. The circumstances could arise in the presence of significant externalities, uncertainty or economies of scale—all instances of market failure. Under these conditions it was demonstrated that investment allocations based on the market mechanism could be dominated by public sector investment. The case of public goods—goods the consumption of which by any agent cannot be precluded once they are made available, whether or not he contributed to their provision—were particular cases where public investment was clearly justified. Public investment has not been confined to public goods alone. Capital market imperfections, lack of information, private sectors attitude to risk have provided the motivations for public investment. Thus public sector investment has been undertaken in economies when projects require large investments spread over a number of years so that the private expected returns, at least in the short run, are too low to provide a sufficient incentive for private capital. Moreover, to the extent private sector attitude is more risk averse than that of the public sector (say, because the latter has a comprehensive
development plan for the future which the private investor does not), particularly in large capital intensive industries like steel, petrochemicals, etc., public investment may be undertaken in response to sluggish private sector initiative. Be that as it may, while the early literature provided rationale for public investment at a time when the virtues of the market were unquestioned this literature does not provide any guidelines on the magnitude of such investment nor its composition between different sectors.

7. The appropriateness of a public investment program (PIP) should of course be assessed in the context of the overall development strategy to be pursued, given the resources available to the economy. To what extent is the size and composition of public investment in conformity with overall objectives? Is the PIP feasible in the overall policy framework? These issues can then be discussed at various levels. At the aggregate level, is the size of the total public investment program reasonable in relation to the total (public plus private) investment planned for the economy? Is the balance between public investment and private investment (and between private foreign and domestic) consistent with their relative efficiencies? The same issues arise at the sectoral and subsectoral levels. Finally, at the projects level the criteria for public investment projects has to be evaluated: should this be different from the criteria of private profit maximizing firms? If so, how?

8. In the development planning literature, aggregate and multisectoral planning models of the static and dynamic variety have been used to map out the quantitative dimensions of alternative investment strategies defined in terms of broad objectives regarding overall growth and distribution.

9. At the aggregate level, a Harrod-Domar type of framework has been utilized to forecast the maximum growth in income that could be feasible given
the overall savings rate and efficiency of investment in the economy. The two
gap models generalize this framework to account for foreign trade bottlenecks,
absorptive capacity limits and other disequilibrating phenomena. These models
are useful in that they provide a quantitative dimension to growth prospects;
they also suggest targets (in terms of savings rate, efficiency of capital,
etc.) that would have to be achieved in order to attain higher growth.

10. At a level of sectoral disaggregation, the input output consistency
model could be used in the evaluation of specific investment projects. As is
well known, these models calculate the output (and thereby the labor
employment, capital, foreign exchange) implications of alternative final
demands. By plugging the expenditures of the investment program in the final
demand vector, its implications for resources could be calculated. This
technique could serve as an important complement to other project evaluation
methods, particularly when the investment project is large or concentrated in
a sector with many inter-industry linkages. When this inter-industry
structure is well developed, such a framework is also useful in planning
public investment across sectors and in indicating the desirable magnitude of
private investment in a mixed economy.

11. The static consistency model is limited in its usefulness for
investment choices because it treats capital accumulation exogenously and no
choice elements are present. Dynamic models attempt to incorporate capital
accumulation in a consistent manner. In countries that have an interest in
developing a capital goods industry, this framework may help point out
possible alternative timing patterns for investment projects that will relax
the bottlenecks.

12. LP-models seek to select the 'best' pattern of resource allocation
from the feasibility set, based on the maximization of a welfare function.
Feasibility is usually defined in terms of a number of constraints (expressed in linear inequalities) e.g., input-output balances, absorptive capacity limitations on the amount of investment that could be undertaken in a given industry; political constraints such as lower bounds on employment, upper bounds on imports, etc., and finally, ad-hoc restrictions to prevent a flip-flop solution to the model.

13. The LP model can in principle be used in two ways. First, by mapping out the boundaries of the set of feasible allocations for the economy, it provides useful indications of the importance of different constraints. The second use lies in applying the shadow prices for outputs and resources obtained from the solution of the LP problem (that is, the solution of the dual price problem) to determine whether a proposed project yields a positive net benefit, selecting only those projects yielding positive benefits. 1/

14. However, at their present state of development, these models do not approach a competitive resource allocation so that the interpretation of shadow prices as reflecting an economy in full general equilibrium does not hold. Dominance of linear relations to simplify computations and artificial attempts to prevent the almost inevitable flip-flop behavior inherent in an LP model cause jerky and unreasonable behavior of price solutions. While these problems make it difficult to accept shadow prices derived from a multi-sectoral planning model as appropriate for project selection, these could be supplemented and corrected by using information from other sources—guesses by experts, micro project information, etc.

1/ If the projects are of sufficient importance that the shadow prices will be altered once the project is included, the programming model has to be run again to determine a new set of shadow prices for further selection. If the projects are small enough and the model has enough substitution possibilities, the shadow prices may be insensitive to the inclusion of such projects.
15. The discussion so far has been focussed on the top-down approach, that is starting from the broad objectives of development the models attempted to determine the aggregate and sectoral pattern of resource allocation. In so far as the shadow prices derived from these exercises could be utilized in project selection, the final selection of projects that would emerge from this analysis would be consistent with an optimal development strategy. There are a number of conceptual problems in this approach and these have been dealt with extensively in the literature. 1/ More importantly, in the context in which public investment decisions are being evaluated in Bank work, these approaches are severely handicapped by data and computation limitations.

16. Could one evaluate a PIP on the basis of the projects that constitute this program? It might be argued that all one needs to do in order to arrive at an optimal PIP is to rank all individual projects according to their rates of return and pick those that fall within the constraints of public sector resources, provided these returns are above the opportunity cost of capital. This is easier said than done and begs the question of how rates of return are to be calculated. Clearly, when markets fail or function imperfectly, market prices do not reflect social valuation and project selection on the basis of market price calculation would not be appropriate. Shadow prices, ideally calculated from a detailed economy wide model, supplemented by other information would again be necessary for the purpose.

17. Given the conceptual, and more important, data and computational limitations of applying a comprehensive approach to the evaluation of a public expenditure program, partial approaches to project evaluation have been common. These approaches rely on approximations to a general equilibrium

approach (as in the Little-Mirrlees manual) or a partial equilibrium analysis to provide project selection criteria. The basic assumption behind the LM criteria is that for tradeable commodities, the shadow price is the marginal border price. However, in an open economy in which the government is pursuing various trade and tax policies and where some policy instruments are optimal while others are not, the LM criterion of equating border prices with shadow prices breaks down. Different criteria, depending on the constraints on public policy instruments have to be applied. 1/

18. Benefit-cost analysis has been used extensively in the evaluation of public investment projects. While this application has had considerable success in the evaluation of projects that produce clearly identifiable benefits, the technique has limited application in the case of large, long-gestation projects which produce significant externalities and where benefits are typically hard to evaluate (e.g., large multisectoral power projects, projects in public health and education). In such sectors as health where costs are easier to estimate than benefits, selection of projects has been governed by cost-effectiveness.

II. Survey of Bank Reviews

1. In most countries where the Bank has been involved, governments have played a significant part in economic activity. Therefore, in discussing and analysing the country's economic development and prospects, it has often had to comment on the appropriateness (or otherwise) of government activities, including not only public sector resource allocation but also other economic policy interventions that influence its efficiency in overall resource use. Thus, typically the Country Economic Memorandum (CEM) would contain a section on public sector investment, which would attempt to place the investment program in the context of the overall development scenario of the government. However, these discussions were not meant to be very detailed and were often confined to the macro or at best broad sectoral level. Typically the analysis consisted of assessing the feasibility of the plan size on the basis of past trends and experiences and comparing allocation of investment resources across broad sectors with past shares. Any significant deviations from past shares indicated a shift in priorities, the desirability and feasibility of which was then discussed on the basis of the development objective and past experience. However, in the absence of any clear methodology or criteria for evaluating the investment program, it was not very often that the Bank could make a drastic and convincing critique.

2. In recent years, there has been a greater emphasis on the review of public expenditures. The sharp increase in public sector investment activity in some countries, say as a consequence of increasing oil revenues, and the problem of structural disequilibrium (most commonly, severe balance of payments deficit) that resulted from the drying up of these resources, has led the Bank to focus more sharply on public investment. A number of regions have
responded by organizing special missions for evaluating investment programs (examples, Portugal in June 79, Turkey in October 1980, and more recently Morocco, Tunisia, Thailand, Mexico, South Yemen etc.). Typically these exercises have involved a large number of Bank staff and outside consultants. The attempt has been to make a detailed assessment of the governments long term development objectives, reconcile these with the need to make structural adjustments and to evaluate to what extent investment priorities conform to these objectives. In the process, attempts are made to obtain and analyse detailed project level information, at least for projects that are large and are likely to have a significant impact on the constraints in the economy. The criteria for project selection and the institutional mechanisms and organizational procedures by which funds are allocated across sectors and between projects are quite often discussed.

3. While the focus of these reviews is on public investment allocation, it is impossible to ignore other aspects of government policy affecting resource use and efficiency, not only in the public sector but in the private sector as well. The reports typically contain a discussion of different policies - price and exchange rate policies, taxation and subsidies, trade liberalization, export promotion - that would influence efficiency of resource use and their allocation across sectors.

4. While such a comprehensive discussion of the PIP will certainly reveal more than a more limited one, it is not yet clear if such a major effort is worthwhile. Partly this arises from the fact in many countries detailed project level, and sometimes even sectoral, data is not available. There is also the feeling that without any clear methodology or rigorous tools of analyses, an assessment must rely on a large dose of judgement in which Bank staff may not always have comparative advantage. Moreover, the most
obvious cases of misallocation of resources, and often the easiest to locate (the so called "white elephants") are precisely those that the Bank is powerless to influence because of political and other non-economic factors.

5. This section is based on a reading of a few selected reports that attempted to evaluate a country's PIP. The reports that were read included: Portugal: Priorities for Public Sector Investment (No.2883-PO, July 1980); Turkey: Public Sector Investment Review (No.3472-TU, December, 1981); Sudan: Investing for Economic Stabilization and Structural change (No.3551a-SU); Morocco: Priorities for Public Sector Investment (Yellow Cover, October 1982); Romania: CEM (Yellow Cover, August 1983). However, since there are many similarities in the approaches adopted, detailed discussion has been confined to Portugal, Turkey, Sudan and Romania.

6. The depth of analysis differs in different countries and this is often a reflection of the extent to which data is available. The extensive discussion in the Portugal and Turkey reports was facilitated by the wealth of project level information that was available. The relatively limited discussion in the case of Romania was partly because of an almost total absence of project level information. The case of Sudan, Morocco and Tunisia is more typical, somewhere in between the two extremes.

7. The starting point is an evaluation of the past development experience which seeks to identify the emerging constraints to, and potential sources of, future growth. Typically, and particularly in recent years, the context within which reviews have been undertaken have been quite similar. A rapid increase in public investment in the past, focussing on the development of capital intensive, import substituting heavy industries, infrastructure and social sectors is commonly believed to have resulted in a structure of production that was no longer sustainable and imposed a severe burden on
scarce resources, most notably foreign exchange. Insufficient domestic savings and the limited implementation capability of an overextended public sector were two other constraints that were frequently cited as limiting the scope of public sector activity in the future.

8. The identification of objective constraints also suggests the strategy of development to be followed (for example, stress on expansion of exports, encouragement of private sector, development of energy sector etc.). In order to achieve the maximum feasible growth objectives. These broad concerns are then translated into investment targets, both in the aggregate and sector/sub-sector levels, by a sector by sector review of the investment levels that are required to achieve sectoral growth objectives. A macro model, typically of the RMSM variety, is used to arrive at a balance between investment in sectors that is consistent with overall resource availability, primarily foreign exchange and domestic savings.

9. The proposed public investment program is judged in relation to the investment allocation thus arrived at. If it is too large and needs to be scaled down, the analysis shifts back to sectoral and project levels and an attempt is made to select those projects in the program that are in line with the overall development strategy, yield large rates of returns and are implementable. Where project level information is limited, this analysis is necessarily cursory and relies more on sector knowledge and general perceptions.

10. The Portugal report was one of the first Bank reviews that attempted to evaluate the country’s PIP, both at the aggregate macroeconomic level in terms of the country’s overall development strategy and at the same time at the project level. This was also the approach in Turkey where an attempt was made at integrating a “top-down” assessment of public investment with a
"bottom up" review of a very large number of projects proposed in the PIP. In Sudan (and to a lesser extent in Morocco), the data base was relatively weak. Although major projects were examined individually wherever feasible, it was generally not possible to make an exhaustive project-by-project review of the sectoral programs. In many cases, the projects included in the Plan were not at a sufficiently advanced stage to permit even a preliminary evaluation and information on economic rates of return was precarious. In these reports, therefore, we have an assessment of the feasible level of public investment based on macro economic projections and the reaction of Bank sector specialists to the projects and programs explicitly proposed in the PIP, based on existing data and general sector knowledge. In the rest of this section we discuss three reports in greater detail: Portugal (Report No.2883-PO; July 1980); Turkey (Report No.3472-TU; December 1981); and Sudan (Report No.3551a-SU, February 1982). We comment briefly on some recent work on Romania where the issues and concerns were somewhat different.
Portugal

Background

1. The period 1974-77 was characterized by mounting deficits both in respect of foreign exchange and domestic resources. By 1977 there was a substantial deficit on the external current account (U.S.$1.5 billion) and the domestic budget (7% of GDP), the level of inflation increased to more than 20% and open unemployment amounted to 8% of resident labor force.

2. By end of 1977 an adjustment program with the IMF was undertaken. The focus was on fiscal restraint, stringent interest rate and credit policies, exchange rate adjustments with the objective of dampening the rate of economic growth and switching expenditures to production for exports. The success of these short term stabilization measures in 1978-79 enabled in Portugal to undertake a gradual policy of economic expansion. In this context the need arose to look at the country's long term investment needs.

3. In 1977 and 1978 the various government agencies undertook a substantial amount of project identification and preparation, much of which was discussed with Bank missions and subsequently led to Bank loans for some of the projects. During the same time a series of World Bank sector missions in most of the key areas of economic activity examined the broad sectoral strategies which were being evolved. In early 1979, the government asked the Bank to participate in an exercise which would relate the projects (in all, 283) which had been prepared to the sectoral strategies and incorporate them into a consistent macro economic framework. This was also to serve as a valuable input into the planning process in Portugal. In June 1979 the Bank mounted the review mission on which the report is based. The mission included sector specialists for agriculture, energy, transportation, housing and
industry. Of the 283 project oriented activities in the program about 31 major projects covered almost 60 percent of the investment program.

Methodology

Since Portugal did not have an explicit public investment program (PIP) for the period 1980-84 at the time of the review, the Bank put together the investment proposals of the individual government departments and public corporations and assembled them into an implicit PIP for 1980-84. It was this program which the mission then sought to evaluate, in terms of its size and sectoral composition.

To do so it was necessary to articulate a medium-term development strategy which would make best use of Portugal's resources and overcome the constraints imposed by a current account deficit, inadequate domestic savings and the need to reduce unemployment to reasonable levels. A target rate of growth of income of 3.6 percent was postulated over the period. Growth rates lower than this were not considered as they implied unacceptable levels of unemployment while higher growth rates were not likely to be sustainable given the likely availability of foreign exchange and domestic savings.

To achieve this growth target, sectoral investment levels were estimated. This was based on a brief review of each sector's growth potential and the total (public and private) investment required to meet the growth objectives. 1/ A macroeconomic model of the RMSM variety, modified to take account of characteristics peculiar to Portugal was then used to check the internal consistency of the growth and investment scenario with the balance of

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1/ The investment needs of various subsectors were derived from the "bottom-up", through identification of viable projects in these subsectors. While this data may have been available for the public investment component, it is not clear how the private sector component was evaluated to arrive at the overall sectoral investment need.
payments and domestic resource mobilisation. Such a scenario required the expansion of private investment in light industry, agriculture, tourism and housing construction, with public investment being focussed on economically viable projects in heavy industry and infrastructure. The priority for light industry and tourism was dictated by the fact that these sectors offered the best scope for expanding exports. Development of agriculture was expected to reduce the need for imports of food while expansion of investment in housing was recommended because this could be achieved without a large demand on imports. Moreover, these sectors were important as they were relatively more labor intensive. It was against investment targets so determined that the government’s implicit program was judged.

Given the aggregate (public plus private) investment required to achieve the targeted growth (obtained from RMSM) and the proposed PIP, the size of the private sector investment, in aggregate and its sectoral breakdown, was derived as a residual. The private sectors investment level and composition that was so obtained was judged against past private sector investment behavior and in the light of changes in government strategy. It turned out that the proposed PIP was not consistent with the government’s overall strategy because

1) its size was so large in relation to the feasible aggregate investment target that it implied private investment activity far below what had been the sector’s role in the past. This reduced role for the private sector was not consistent with the announced strategy of the government to encourage private investment activity; and
(2) the reduced role of the private sector was also not consistent with the
objective of maximizing exports and employment which required an expansion
of investments in sectors such as light industry, agriculture, etc. where
the private sector predominates.

The conclusion was therefore that to be consistent with the
development objectives, the size of the PIP would have to be reduced. An
attempt was then made to select those projects in the PIP that were consistent
with the overall development priorities and available resources, were
economically justified and could be implemented by the concerned agencies.
For this a sector-by-sector review was undertaken, based on project level
information. In this task the study drew extensively upon the experience and
findings of previous Bank sector work. While the implicit program was
dominated by 283 project-oriented activities of the various public agencies
and corporations, a relatively few major projects loomed large in the total.
Thus 31 project activities accounted for about 60 percent of the 1980-84
implicit program. Most of these projects were capital intensive and judgement
on these was critical for evaluating the program as a whole. These were also
the projects that severely taxed the implementation capability of the
responsible agencies.

In agriculture, the size of the program was determined on the basis
of the work done by the various Bank agriculture sector missions. The review
suggested a shift from the excessive focus on irrigation, where many of the
proposed new projects were inadequately prepared. It recommended that a
substantial part of the planned investment in irrigation could be delayed or
discontinued as they did not seem viable. Instead it recommended greater
allocation towards the relatively quick gestation investments (irrigation
rehabilitation, marketing) and those investments that would directly support private production effort (extension and research).

In manufacturing, priorities were defined based on Portugal’s comparative advantage and the need to expand exports and unemployment. This required (i) developing industries that were relatively skilled labor intensive (metal products, light engineering, etc.); (ii) full exploitation of potentialities of resource based industries (such as cork, pulp, and paper, etc.); and (iii) upgrading of the quality and increasing production for exports of traditional industries (textiles, garments, shipbuilding, etc.). Expansion of public investment in heavy industry was recommended as Portugal needed a modern heavy industry base with its imminent entry into EEC. Moreover, it was recognized that these industries had both backward and forward linkages with other sectors of the economy and to a large extent had employment linkages which extended beyond their direct employment content. Within these broad guidelines, investment projects were assessed in different subsectors based on up-to-date rates of return, realistic project scheduling, implementation capacity, marketability of output, and ensuring no duplication with other facilities being created.

In the context of the selection of projects from the subsectors of manufacturing, the report made the interesting point that, when taken singly, sector/project level parameters such as value added per worker, capital intensity, workers per unit of output, etc. are useful, though partial, indicators of the project’s impact. However, they may be of little use in selecting projects when as often happens, they rank projects differently. This is illustrated well in the table below which shows the difficulty in selecting projects from such indicators, given the quite contradictory signals they sometimes give. The selection solely on the basis of such parameters is
Apart from the agriculture and manufacturing sectors, the report undertook a detailed evaluation of projects in the sectors of energy, transportation, housing, health and education. Where no coherent plan existed (as in transportation) the criterion of "immediate needs" was most important, with funding recommended for only those projects that could not be postponed.

In the social sectors, of health and education it was recognised that there is no easy formula for determining the appropriate level of capital expenditures. In fact most of the expenditures were current rather than capital. The mission made a thorough study of the needs of these sectors and policy issues and recommended that the discussion in these sectors should focus more on the current expenditure implication of the modest investment program and on the choice of suitable sectoral policies.

While the primary focus of the report was on investment size and allocation, the report commented extensively on the overall policy framework as well as specific sectoral and subsectoral policies (and the
institutional mechanisms) that would be consistent with the development effort. Since many of these recommendations are common to the Turkey case as well we mention them in that context.

Turkey

Background

Towards the end of 1980, the Turkish economy was faced by three major constraints. These were:

- a serious balance of payments deficit,
- increasing unemployment, and
- increasing inflation, caused in part because of the insufficiency of domestic savings to match public investment levels.

To alleviate these crises, the government undertook a number of policies directed generally at opening up the economy to market forces and international trade. It was in this context the Bank was requested to review the government's public investment program for 1981 as well as for the medium-term 1982-85. To what extent was the investment program tailored to fit the reduced availability of both financial resources (domestic savings and foreign exchange resources) and implementation capability in the economy and did the program reflect the stress on promotion of exports?

To undertake this review the Bank mounted a large mission (17 members) comprising general economists and specialists for the important sectors of the economy. They undertook a comprehensive review of the growth potential and investment requirements of the different sectors, basing themselves on a large body of public sector project data for the period under review.
Methodology

To assess the viability of the PIP for 1981 (comprising of about 8000 projects), it was necessary to view it in the context of the development objectives and financial and other constraints that were existing at the time. To do this, a macro model of the standard RMSM variety, modified to account for some of the structural features of the Turkish economy was utilised. Based on plausible assumptions regarding growth of exports and imports and domestic and foreign resource mobilisation, the model set out the maximum feasible growth that was feasible for the economy, as well as its structural distribution. Based on ICORs estimated from sector knowledge and past experience and trends, investment requirements in different sectors and the economy as a whole were arrived at. These provided the upper bounds within which the proposed PIP had to lie. Clearly, if the sum of the level of public investment and past years' private investment level exceeded the aggregate level projected by RMSM, then it implied either

1) the public investment level could be maintained without straining available resources only by scaling down private investment, or

2) if private investment could not be reduced then public investment would have to be scaled down to prevent inflation.

Since it was the stated intention of the government to encourage the expansion of private sector investment in order to reduce unemployment (assuming the private sector is more labor intensive) and increase exports (assuming private sector has a comparative advantage in such activities), the Report recommended a scaling down of the 1981 public investment program.

To assess the size of the public investment program for the period 1982-85, it was first necessary to define what this was. In the absence of any explicit investment program for this period, an implicit program was
defined, based on the assumption that all investment projects approved in 1981 would be funded on the basis of realistic scheduling in the future as well.

This implicit program was compared against an estimate by the Bank of the "maximum level of public investment sustainable within the constraints assumed." This estimate was arrived at from a "bottom-up" sector by sector review of what levels of public investment were sustainable given implementation and financial constraints. 1/

This comparison showed that the size of the implicit program was almost double the size that was sustainable. Moreover, a public investment program of this size would imply a substantial reduction in private sector investment compared to the past. This contradicted the government's efforts to induce greater investment in agriculture, light and medium industry, etc. where private investment predominated.

Once the need for reducing the size of this PIP was established, an attempt was made to review in depth the economic rationale and justification for the large projects proposed in the program. These projects, though small in number, constituted the bulk of public investment funds. 2/ This review of projects was based, to the extent possible, on rates of return, preliminary feasibility studies, implementation capacity, market constraints and intersectoral coordination problems. In addition, there was a tendency to favour projects yielding benefits sooner than later, which was reflected in the preference for: ongoing projects rather than new ones; projects with

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1/ The report is rather terse on this aspect. Given its critical importance, it would have been useful if this had been elaborated upon.

2/ For instance in manufacturing, of the 891 projects in the 1981 program, 61 projects (mostly in iron and steel, fertilizer, refineries, petrochemicals and paper and pulp) represented 87 percent of the total project cost.
already high sunk costs; and projects for rehabilitation and maintenance of existing facilities rather than building new facilities.

In terms of specific projects, in agriculture the review advocated a shift from investment in large scale, slow gestation irrigation schemes towards supplying services at the farm level, for example extension services and inputs such as seeds and credit. In manufacturing, it recommended that public investment be kept confined, to the extent feasible, to certain heavy industries (such as ordinary steel, fertilizer feed stocks such as ammonia, basic petrochemicals and primary aluminum where private operations were not considered suitable at that time. The private sector was to be encouraged to increase its investment in light manufacturing industry in keeping with the view that these industries provided the greatest scope for increased exports and capacity had already been created in the private sector. In transportation, investment needs were assessed in terms of the planned activities in the user sectors and priority was assigned to those projects that directly contributed to alleviating transport bottlenecks for exporting. Apart from investments for rehabilitation and maintenance, stress was laid on systems improvement rather than large scale new investment. In energy, investment needs were substantial. However, given the size of projects and their long run impact, evaluation was also most difficult. In the circumstances, the report argued for deferring starts on many new generation projects and instead to spread the resources so released over ongoing projects in an advanced stage of completion. The report did not have much to say on investments in the social sectors.

The report was critical of investment scheduling in the program. Typically, investment funds were spread thinly over too many projects rather than focussing more resources on a smaller number of priority projects. This
resulted in a large number of incomplete projects, delayed benefits and low returns. The report argued that, to the extent possible, the aim should be to identify priority projects for full funding.

While the focus of the report was on investment allocation and the selection of projects, it was felt necessary to comment on the general macro and sectoral policy environment as well as the institutional and organizational framework within which investment allocation decisions were made and implemented. It was recognised that investment by itself would not be sufficient to improve the performance of the sector. Support policies, such as a rational pricing policy in agriculture, appropriate exchange rate and other export promotion policies for manufacturing activity in general and policies to induce greater participation by the private sector in economic activity in general were strongly recommended. Similarly, organisational deficiencies in the process of preparation and evaluation of projects and problems of management in implementing agencies were also commented upon.

In summary, the strengths of the Turkey and Portugal reports lay in the ability to obtain data on all major public investment projects in the program and to screen from among these projects those that appeared to respond most favourably to the emerging constraints in the economy. Macro economic considerations were relevant both in providing rough orders of magnitude about the size of the total investment outlay that was likely to be sustainable and more indirectly in evaluating the benefits of projects in terms of the output produced (or input used). However, in the absence of any accepted methodology and despite the vast extent of project level information available, it is still true that in many critical areas such as the export potential in sectors, efficiency in investment, absorptive capacity, implementation capability, feasible domestic resource mobilisation, etc., experience and
judgement remain crucial. These exercises were clearly useful in that they illustrated how staff resources could be mobilised to make a selection of an entire shelf of projects. The approach is, however, of limited applicability because (i) it is intensive in staff time and resources, (ii) it requires a large body of project level data which most countries don’t gather or reveal, and (iii) given the importance of judgement, it is not clear to what extent unambiguous conclusions can be arrived at, except in the case of clear “white elephant” projects. However, short cut methods of assessment, based on a few selected sectoral and project level parameters, are also of limited practical use as these parameters often rank projects (or sectors) differently. In these circumstances the Turkey and Portugal reports provide an approach that could be adapted to other countries, based on their data base and the degree of comprehensiveness needed in the review.

**Sudan**

**Background**

As a result of a combination of external events and the development strategy adopted by the government in the seventies, Sudan was in a difficult economic position by the late seventies and early eighties. There was a current account deficit of 12 percent of GDP and public debt had grown to over 4 times the export earnings. With limited domestic savings, substantial borrowing by the government from the central bank resulted in high rates of monetary expansion and inflation. GDP stagnated in real terms since 1977-78 and there was a decline in real per capita income.

Working with the IMF, the government began in 1978 to change the macro economic policy framework in areas such as exchange rate and credit.
The government's stabilisation effort centered on measures designed to improve fiscal performance, reduce domestic borrowings, and regularise the external payments situation. In May 1979, an Extended Fund Facility (EFF) was established which agreed to ceilings on credit expansion, to exchange rate measures such as devaluation, to restrictions on external borrowing and changes in pricing and incentive policies, etc.

As part of these measures, the government's 3-year PIP for 1980/81-1982/83 was designed to give priority to (a) completion of ongoing projects with best promise of quick foreign exchange benefits; (b) rehabilitation of projects, particularly those in the irrigation subsector that have high potential for economic viability; and (c) infrastructure facilities to support export oriented production. It was this program the Bank sought to evaluate.

**Methodology**

The feasibility of the PIP was judged primarily in terms of its demand on scarce foreign exchange and domestic savings. The PIP had a foreign exchange requirement of US$1,570 million, or about US$525 million per year. But disbursements from old and new commitments were not expected to average more than US$440 million per year, leaving an unfinanced gap for the PIP of US$90 million per year. Thus, unless means were found to finance this foreign exchange gap through an expansion of export earnings, a reduction in import volumes or an increase in foreign assistance, the PIP would not be feasible.

The feasibility was also assessed in terms of domestic financial resources, in view of the tight budgetary situation. Of the LS 1,335 million allocated to the 3-year PIP, LS 550 million or 41 percent of the total was local currency expenditures. This would have had to be financed basically from central government and public enterprise savings or from domestic borrowing.
Given this focus, the report made a detailed analysis of the prospects for increasing Sudan's foreign exchange resources and the feasibility of mobilising the maximum domestic financial resources to finance the PIP.

Two alternative projections of the balance of payments situation were made. The "base" case scenario took into account the anticipated impact of policy changes already in place in connection with the stabilisation program. With import and export growth assumed to be in line with past trends, these projections indicated that a continuation of past trends, even with minor policy changes would result in an unsustainable situation, with an unfinanced gap of nearly US$1 billion per year over the period 1981/82-1990/91, even though all other reasonable sources of finance were included.

The "optimistic" scenario postulated additional actions by the government to induce greater availability of foreign exchange—price incentives to farmers to stimulate production, particularly of cotton for exports, active rehabilitation programs for the irrigated subsector in agriculture, sufficient local cost financing and adequate infrastructure facilities, increased petrol price to reduce consumption and a number of other measures to improve the administrative skill and staff resources in the field of foreign exchange budgeting.

Under the "optimistic" scenario the current account was in balance suggesting that the PIP was sustainable in terms of its foreign exchange costs if only the appropriate measures were adopted.

A similar exercise was done on domestic resource availability. The report examined in quantitative terms the implications for public investment financing both of a continuation of past trends (base case) and of a substantial but feasible program of improvement in fiscal performance
(optimistic case). It was clear that if past performance with respect to revenues and expenditures continued, it would be difficult to mobilise the savings required to finance the PIP. In fact, by 1989-90 the overall deficit would be too large—about 14 percent of GDP. If the government and the public sector received credit roughly in relation to their contribution to GDP (i.e. about 35:65), an expansion of credit to the public sector equivalent to about 14 percent of GDP could result in a gross expansion of domestic credit equivalent to about 40 percent which, with a money multiplier of 3.0, for example, would lead to an overall expansion of the flow of money of over 100 percent. The implications for the rate of inflation were obvious and unacceptable. It was pointed out that while the dramatic results of this hypothetical case would be modified in reality by allocating less than proportional credit to the private sectors, a scenario in which all of the credit expansion was allocated to the public sector, leaving nothing for the private sector, was also entirely unacceptable.

In the "optimistic" case a number of specific proposals on raising revenues (through direct and indirect taxation) and to control expenditures were suggested. Suggestions for improvement in the administration of public finances were also made such as in the fields of tax administration, development budgeting including project costing, disbursement improvement, etc. 1/ If these steps were taken and if private savings and investment could

1/ It was suggested for example that the 3-year PIP should give the total estimated project cost, not just the cost during the 3-year period. The program should also indicate how much had already been spent on each project. This would give a much better picture regarding future claims on government resources. This was important because of the "foot-in-the-door" policy pursued by some spending units whereby they succeeded in getting a modest allocation made for a new scheme which then became an ongoing scheme claiming priority in future allocation.
be encouraged by the government, the projections showed a fiscal balance could be achieved.

Once the conditions for feasibility of the overall program were articulated, investment requirement in major sectors/subsectors and specific investment projects were reviewed. The following sectors were reviewed in detail—Agriculture, Manufacturing, Public Utilities, including power and water supply, Construction, Transportation, Petroleum, and Population, Labor and Training. This review was facilitated by the availability of a detailed breakdown of the program, indicating by individual projects, the foreign and local costs, total project cost, expenditure before and after the current three-year period, project financing and current status. However, given the shortage of information in Sudan on investment opportunities and on the cost and benefits of alternative projects, it was recognised that the establishment of priorities among sectors was as much a matter of judgement as of science. Basically, the analysis was guided by the following considerations:

(a) what had been the allocation of each sector in the past relative to what is planned for the future;
(b) have past allocations seemed to result in a reasonable balance of investments among sectors;
(c) what were the key bottlenecks;
(d) were the major projects included in the PIP generally regarded as of highest priority; and
(e) given the severe shortages of public investment and managerial resources, was there a chance that some of these investment could be carried out on a complimentary basis by the private sector either alone or in joint venture with the public sector.

In agriculture, in the irrigated subsector priority was given to the
completion of ongoing schemes and on better utilisation and maintenance/rehabilitation of existing capital assets. In the rainfed subsector the report recommended priority to rehabilitation projects. Of new projects priority was recommended for those with the prospect of a relatively early pay-off. Apart from this the public sector was urged to support private commercial farming by providing technical and infrastructure support services.

In manufacturing most of the investments were for completion or rehabilitation of existing installations which were important to reduce infrastructure difficulties and shortages of replacement machinery. The report also concurred with the government's view that the best use of public funds was to invest in infrastructure that would support private manufacturing activity rather than undertake additional new public manufacturing activity.

In construction and transportation, there was substantial scope for private sector investment. In fact it was suggested that if the government found it necessary to reduce its overall investment size, the construction sector would be a possible place, for this was an activity that over time could be turned over to the private sector on a contractual basis. In transportation, while public investment in railways was crucial for rehabilitation and maintenance of existing facilities, private sector could be encouraged to play a greater role in river and road transport industries.

In the social sectors, including education and health, increases in public investment expenditures were justified, first because of pressing needs to improve health and primary education and because such public goods are the natural domain of public activity. Secondly, in the longer term, more adequate education and health would provide an invaluable basis for future economic growth, even if in the short run these expenditures are not immediately productive.
Romania

In contrast to the reports discussed earlier, the exercise in Romania was more limited, both because relatively little data was available but also because the issues were somewhat different. In particular, the virtual absence of private sector activity (except in agriculture) means that questions of complementarity/substitutability of public and private sector activities do not arise and evaluating the size and composition of public investment is equivalent to evaluating the aggregate investment portfolio. As such, the focus of the review was on assessing if the size of the program seemed reasonable in relation to the country's implementation capacity, whether its sectoral composition reflected the shifts that seemed to be required in the crisis situation and whether there existed a reasonable institutional mechanism and policy framework to ensure that project selection was based on economic criteria and took account of implementation constraints.

In assessing the size of the program the focus was almost entirely on the physical implementation capacity of the responsible agencies. This was so partly because organisational and coordination deficiencies in implementation of investment programs had been marked in the past, resulting in too many projects being initiated but left incomplete. To reduce waste and inefficiency, this problem had to be overcome. The priority given to completion of ongoing projects in the years of the plan reflected this judgement. 1/

While domestic resource mobilisation was not a problem in the past and was not expected to be a binding constraint in the future, the foreign exchange costs of the investment program was an important constraint.

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1/ More than 90 percent of plan investment was on completely ongoing projects.
However, no information was available about projects in the program—let alone the breakdown of foreign currency and local currency costs.

In terms of sectoral composition, an effort was made, using broad sector and subsectoral level data to see how shifting government priorities (as articulated in various government newspapers and documents) were actually reflected in changes in allocation. While there was an increase in the share of agriculture, the emphasis on energy development was less marked in terms of sectoral investment shares. To the extent possible, the rationale for these shifts was evaluated in terms of their likely impact on the balance of payments.

Given that most (more than 90 percent) of the investment funds were to be allocated to ongoing projects, the investment program was not likely to lead to any significant change in the structure of investments in the near future. In such a situation an important aspect of the review was to assess to what extent it was possible to redesign, and modify existing projects to make them more compatible with changing priorities, particularly in terms of energy conservation and improving productivity. This was done for some of the important sectors such as energy and industry.

The report reviewed some of the policy measures undertaken recently to assess their likely impact on improving efficiency in resource use. While most of the policy changes—the steep increase in energy prices, the upward revision of interest rates, exchange rate adjustments, the proposed shift in the sources of investment financing from the state budget to self generated funds and bank credit—were in conformity with Bank advice, it was still too early to assess their impact on resource allocation.

To summarise, a few of the striking features and questions common to the different reports may be pointed out.
1. Presumably because the public investment reviews were undertaken by the Bank in different countries in response to similar crises, it is not surprising that in all countries there were three or four common guidelines for assigning priorities in project selection. **First**, in line with the objective of alleviating the foreign exchange shortage, projects that increased export earnings or reduced dependence on costly imports received priority. Since in most cases there were sectors where the private sector had a large role to play, care had to be taken to ensure there was no overlap with comparable facilities in the private sector. **Second**, ongoing projects with substantial sunk costs or new projects that could be completed in a relatively short time received preference over longer gestation projects, particularly if these were not capital intensive. **Third**, investment for maintenance and rehabilitation of existing facilities had priority over investment for new capacity. **Fourth**, public investment in infrastructure and basic industries that provide inputs to exportable products had priority over projects that overlapped with private investment activity.

2. While it is appropriate to analyze public investment in the context of development objectives, it seems that these are often interpreted narrowly. For instance, insofar as public investment is partly motivated by a desire to prevent excessive income disparities, the costs in terms of this objective arising from a shift in emphasis to the private sector need to be compared to the gains in efficiency. But it seems doubtful if this would be possible. Even without this complication, the strategy discussion is not easy.

3. At the sectoral level, how does one evaluate feasible growth prospects? Past trends can only provide some guidelines. Ideally, in order to do so, one would want to look at the list of proposed projects and their
feasibility, technical and financial. But, while it may be possible to do this for the public sector, in the absence of private sector plans it is not clear how this was arrived at.

4. At the subsectoral and project level, the preference is for projects and subsectors that are quick to mature (ongoing projects rather than new projects); rehabilitation investment rather than creation of new capacity. While this bias against long-gestation capital-intensive projects may have been dictated by short-term constraints, their costs in terms of long-term growth need to be ascertained. This is particularly so because, traditionally, it is the capital-intensive long-gestation sectors that the public sector has played a major role. A similar consideration arises in the stress placed on economizing on imports and producing for exports. While this clearly is important in a crisis b.o.p. situation, the emphasis needs to be moderated to allow for the development of sectors which might have long-run comparative-cost advantages.

5. Where information existed, projects were assessed on the basis of a number of relevant considerations like economic rate of return, soundness of demand forecasts, costs, gestation lags, labor use, economy in use of scarce resources, export potential. But clearly, it is very likely that the same project would be ranked differently according to different criteria. Presumably judgement is again crucial in determining the actual choice of projects, with the exception of certain "white elephant" projects. In the case of certain large projects, with significant interlinkages and long-term implications, the discussion showed the very weak base that exists for evaluating their worth, in the absence of a comprehensive framework and up-to-date technical and feasibility studies. Given the fact that large multi-sectoral projects form an essential part of public investment programs, this
is an important limitation in project level analysis.

6. Finally, (i) there is relatively little discussion about the appropriate level of public investment in the social service sectors such as health and education, spheres where public investment is crucial. How are these expenditures to be evaluated? Where this subject is discussed (as in Portugal), the attempt is to estimate perceived shortages (hospital beds, equipment, rural health centers in health; technical manpower in education, etc.) and to assess to what extent and at what costs the proposed projects meet these needs. However, in most cases the discussion is very general because projects are typically not well defined nor are they related to any broad sectoral strategy. Moreover, since investment expenditures in these sectors are typically relatively small and recurrent expenditures large, the issue is often one of determining whether the investment program would not place excessive demand on the operating budget; (ii) the Bank reviews have dealt extensively with the allocation of investment expenditures. It is equally important to assess the allocation of total development expenditure between investment and recurrent expenditures. As briefly mentioned in the paragraph above, this issue has only been touched on in the context of investment in the social sectors.
III. Conclusion

Our survey of the theoretical literature has shown that while there exist methods of analysis that address the issues relevant in a PIP evaluation, a number of important conceptual problems remain unresolved. Moreover, these models have informational and computational requirements that far exceed what is typically available in most of the countries where Bank reviews are undertaken. For these reasons no formal sophisticated model can be used. At best a set of partial models (or frameworks) may help in complementing and quantifying insights obtained on the basis of more general information culled from diverse sources.

Presumably because these reviews have typically been undertaken in a balance of payments crisis situation, where the question is one of deciding how best to reduce the size of a PIP in the face of mounting domestic and foreign exchange deficits, the focus in these reviews may not be the most appropriate for a more general context. This is primarily because of two considerations: (a) In Bank evaluations and in the context of a b.o.p. crisis, the size of the PIP is essentially limited by the size of the financial resources that can be raised, both domestically and internationally, during the plan period. In a wider context, particularly in a planning context, it may, however, be argued that the amount of resources available depends on the plan itself, so that the problem of financing of development plans is closely linked with the nature of the physical tasks for which resources need to be mobilized. The right approach then is to investigate closely the nature of the problems to be tackled, the solutions to be sought, the concrete tasks to be carried out and the physical resources, skills and organizational effort to be mobilized for this purpose. If these real resources could be mobilized, financial policies could be devised to mobilize
its financial counterpart.

While this approach is irrefutable, there may still be limits to financial resources the government may be able to mobilize. If this is so, how can priorities be assigned? This brings us to the second feature of Bank evaluations. (b) Typically, relatively short-run considerations predominate the discussion with ongoing, short-gestation, less capital-intensive sectors usually getting priority over new, long-gestation, capital-intensive projects. Insofar as the latter are often vital for long-term development (e.g., power) and are typically in the domain of public investment activity, a cut in their allocation needs to be based on longer-term considerations rather than solely because of a financial resources constraint over a 5-year period.

Furthermore, this attempt to decide on sectoral priorities solely in terms of concepts that are really project related (gestation lag, capital intensity, import content) has certain difficulties that lie at the core of PIP evaluation.

Basically, when we evaluate an investment program we are in effect evaluating the size and pattern of outputs that would materialize if the investment program was initiated. Thus, in assessing the impact of a cut in the investment program, one has to evaluate its impact on the size and pattern of output. This raises the entire issue of what is society's implicit valuation of the different sectoral outputs. By focusing solely on characteristics such as gestation lag or capital intensity or import use across sectors, we are ignoring this most important issue—the community's preference for the sector's output, as articulated in the development strategy.

While these characteristics may not by themselves be meaningful for evaluating intra-sectoral priorities, they are relevant in comparing
alternative projects producing the same output in a given sector. Thus when
capital or foreign exchange is scarce, a project that uses less capital and/or
foreign exchange is likely to be socially preferable.

The last two paragraphs point out the most basic difficulty in
analyzing a PIP in order to determine the magnitude and distribution of
investment cuts. Insofar as this involves assessing society's valuation of
different outputs (power and education, say) at a point in time and inter-
temporally, any partial method is likely to be misleading. A broad assessment
may be possible based on a number of factors—the sector's contribution to(exports, its linkages with other sectors as intermediate input, its demand on
scarce non-tradeables like power, etc. Exactly how these considerations will
be translated into priorities is far from clear.

At the sectoral level can anything be said at all? Insofar as
investment is just one of the determinants (though the most important,
possibly) of output, it is important to determine to what extent a shortfall
in output as a consequence of a cut in investment could be compensated by
increasing the contribution of other inputs determining output. If this were
possible then the effect of a cut in total investment on output could be
mitigated by other measure:

(a) if there is any excess capacity then in the short run at least,
    investment could be reduced without reducing output;
(b) changes in organization of work (multiple shifts in industry) and in
    institutions (e.g., land reforms in agriculture) could result in the same
    investment producing more output; and
(c) efficiency of investment could be raised through the use of better
    technology.

In evaluating public investment we have an additional degree of
freedom and the question is can we maintain the aggregate level and composition of total investment despite a cut in the size of public investment. Since it is the size and composition of the aggregate (public plus private) investment that matters for output, the response of private investors to public policies becomes important. Thus, if there exist feasible government policies in response to which the private sector can be induced to fill the gap caused by a shortfall in public investment then clearly the adverse impact of the shortfall will be considerably mitigated. To the extent this is not feasible, a cut in public investment would mean a reduction in total investment and output as well.

In talking of private investment, we should in principle be considering both domestic and foreign investors. This is important to consider because there may well be activities where domestic private initiative may be constrained (because of lack of information, technology, imperfect credit markets) even though private foreign investment may be forthcoming. The appropriate question is to assess the feasibility (in terms of economic, administrative and political costs) of alternative government policies and the private sector's response.

These considerations suggest that a cut in public investment is less damaging in sectors where (a) there is excess capacity, (b) there is scope for increasing efficiency of existing investment either through better technology or change in organization or institutions and/or (c) the private sector can be induced to expand its investment by appropriate government policies. By this criteria, in most cases public expenditures on social sectors such as health and education would receive greater protection. Investment programs in
sectors like power and transport may be cut less than in light manufacturing. 1/

This criteria is useful precisely because it allows one to ignore passing judgement on the relative desirability of different sectoral outputs. This is because the idea is to accept the initial output pattern as desirable and the attempt is to allocate the cut in public expenditures in such a way that the resultant output pattern stays as close as possible to the original in the absence of the cut in public investment.

1/ Public investment in transportation could be reduced in the trucking subsector and in power there may be possibilities of private investment in transmission.