

309.223

R442

PN. A. B. C. 922
71514

RELEVANT CRITERIA FOR SOCIAL INVESTMENT

IN LESS DEVELOPED COUNTRIES

Some Guidelines for National Planners and Foreign Aid Agencies

by Edwin P. Reubens

Professor of Economics
City College of the
City University of New York

December 1967

The views presented in this paper are the sole responsibility of the author. The paper was prepared for the United States Agency for International Development, Office of Program and Policy Coordination, as the author's contribution to the 1967 Summer Research Project sponsored by that office.

Relevant criteria for social investment in less...

309.223 Reubens, Edwin P.
R442 Relevant criteria for social investment in
less developed countries; some guidelines for
national planners and foreign aid agencies.
Dec. 1967.
75 p.
Bibliography throughout.

1. Technical assistance. 2. Development planning. 3. Socio-economic development. I. Summer Research Project, 1967.
II. Title. III. Social invest' in less developed countries.

TABLE OF CONTENTS

I.	Summary and Conclusions	p. 1
II.	Background of the problem	p. 7
III.	Discussion	
	A. Techniques of Resource Allocation for Social Projects.....	p.11
	B. The Social Maximum and the Social Minimum.....	p.19
	C. Structural Versus Functional Criteria.....	p.26
	(1) The sectoral approach	p.26
	(2) The bottleneck approach	p.29
	D. The "Bottleneck Criterion" and Current Practices in Foreign-Aid Agencies.....	p.38
	(1) International Bank for Reconstruction and Development..	p.38
	(2) Agency for International Development.....	p.40
	E. Some Supplementary Criteria.....	p.51
	(1) Low-cost resources.....	p.51
	(2) High-yield technologies.....	p.53
	(3) Relevant foreign experience.....	p.54
	(4) Strengths of foreign agencies.....	p.57
	(5) Effective administration in the social field	p.59
IV.	Appendices	
	I. Social Services, Welfare and Growth in Japan, 1868-1910.....	p.61
	II. Comparative Expenditures on Social Services, around 1958, by national-income groups.....	p.69

-17

RELEVANT CRITERIA FOR SOCIAL INVESTMENT
IN LESS DEVELOPED COUNTRIES

Some Guidelines for National Planners and Foreign-Aid Agencies

by Edwin P. Reubens

Professor of Economics
City University of New York

I. Summary and Conclusions

This paper deals with resource allocation for social services in less-developed countries, from the standpoint of the national planner and the foreign-aid agency. The paper focusses on concepts, approaches and criteria, in order to assess current practices and arrive at guidelines for national policy. We stress the feature of relevance to the conditions and problems of the less-developed nations, and warn against inappropriate concepts and value-judgments derived from training and experience in very different Western contexts, or derived from experience with economic rather than social undertakings in the countries in question.

In the less-developed countries, poverty is endemic and general rather than special and concentrated. Frequently labor is already in surplus relative to other resources, so that welfare measures which merely increase the labor force bring zero or negative benefits. Rigid social structure and traditions are resistant to change; but if rapid change comes, a social collapse is threatened; to cope with either phase seems to require a tightly inter-related set of social services.

In consequence, the line of promoting socio-economic progress is all the more urgent in the less-developed countries but is by the same token all the more burdensome in resource requirements and all the weaker in results, since the aggregate income available for redistribution is so small in per capita terms. In these countries, the net contribution to output and general development to be expected from "the poor" is a main goal of policy -- rather

than a minor incidental effect, as in the U.S. poverty program -- but improvement cannot be provided for the whole population without vast outlays on both human and material capital formation. In dealing with these problems in a society which is not dynamic and rich, advisers give no real service if they keep stressing the enormity of the social needs, trying in effect to "put everything first". Instead, the sensible planner must seek new technologies to save scarce resources, must discriminate among groups and areas, and must enforce his overall priorities over the professional specialists in each sector.

Facing up to these dilemmas of the less-developed nations, we have first reverted to fundamentals of allocation theory; and have then come to feasible approximations or "rules-of-thumb". As basic principles, we reaffirm that economic development is the only ultimate way for poor countries to raise welfare on a self-supporting basis; and that such development will be maximized by finding the most effective combinations of the human factors with the material inputs; and that the quality as well as the quantity of these factors are related to economic development as both causes and effects. However, when these broad principles or impeccable tautologies are set against practical problems of estimating and comparing benefits and costs under prevailing conditions, it is soon evident how much we lack both the specific local data and the general functional relations needed to deduce programs, especially to formulate sector-wide programs. Hence we turn to the rules-of-thumb.

We recommend that social outlays in less-developed countries should be governed by two principal criteria, applied in series: (1) assurance of certain minima of social existence, against the perils of famine, epidemics, floods, civil strife, external invasions and other such basic threats to social survival; (2) above those minima, selection of social projects insofar as they break bottlenecks in regard to economic development, i.e., insofar as

countries whose social expenditures have been examined here.

The foregoing kind of sectoral guidelines only set the scene for micro-criteria for choosing particular projects, our main concern in this paper.

Holding these criteria in view, we have examined currently prevailing practices in A.I.D. as well as in the International Bank for Reconstruction and Development (I.B.R.D.), and have found considerable attention but very uneven use of the "bottleneck" criterion for social projects. In the I.B.R.D., the bottleneck measure is the usual rule, but the Bank engages in only a limited range of social projects -- mostly educational matters at present. In A.I.D., which is rapidly expanding its social range, the criteria vary: the field of Education seems to be governed much more by bottleneck considerations than is Health; and the bottleneck rule is more common among technical assistance proposals on social matters than among loan projects on such matters; and the various country Missions have their own diverse emphases.

Underlying many of the diversities which we have found in this whole social field is an ideological conflict, or contrast in developmental models. The "bottleneck" approach, which stresses the linkage of social projects to economic progress, is evidently in conflict with a current vogue for a more fundamentalist doctrine of social factors in economic development: that is the belief that a direct improvement in social conditions -- deliberately creating the so-called "pre-conditions" -- will improve the available resources, technologies, social practices and value-systems in ways which will accelerate development, as well as bring direct welfare benefits. In principle, and in the face of mixed historical evidence, this possibility remains open. Perhaps in the long-run of "perspective planning" for twenty years or more to come, the establishment of the "pre-conditions" in social as in economic infrastructure may be expected to pay off in accelerated development, though the costs and disappointments may well be heavy relative to the benefits, as we have suggested in discussing the celebrated historical case of Japan. But

PROCESSED

in the shorter-run of the four or five-year plans that are common practice today, the effort to set up social preconditions in a comprehensive way is evidently too large, too slow, too costly, too uncertain in its effects (some of which may easily be negative), and too hard to administer effectively, under the present circumstances in the less-developed countries. Indeed, such efforts tend to raise expectations while curtailing the near-term prospect of fulfilling them. These dangers are serious enough for an indigenous government to face. For a foreign-aid agency, they verge on stirring up trouble, and paving more hellish roads with good subventions.

Realistically speaking, it seems probable that enough social projects of the true bottleneck type will be generated by present trends and/or present plans for economic development, to use up all the funds likely to be available in foreign-aid agencies.

Such limited scope is all the more likely if we apply to foreign aid the two further criteria of feasible administration for all projects, and concentration on projects for which the aiding nation has some special strength or comparative advantage. For many social projects are notoriously difficult to coordinate in operation or to evaluate in results. And many social projects offer no special opportunities for the U.S., as they often require relatively few importable goods, but rather call for personal services, and these are of a kind not always to be found in American personnel.

In these respects, the instincts of the I.B.R.D., to move rather slowly and cautiously into social projects (mainly education so far), and the inclinations of some AID missions, to apply pragmatic tests of proposals (sometimes explicitly using bottleneck criteria), may be more soundly based than some grand designs of quick social transformation. Indeed, the bottleneck approach to social expenditures offers a technical way to integrate social projects with development programs, and without getting lost in a vast scale of "social

programs". In regard to policy in A.I.D. and in national planning, the bottleneck approach, with its supplementary criteria, offers a way to pursue the welfare objective as stressed in the President's "new initiatives", by integrating it with the objectives of efficient use of aid resources and constructive steps toward self-support for developing countries.

II. Background

During the past decade, the attention of scholars, planners and administrators has been sharply drawn to the quality of human resources as a factor in economic development, both in the already advanced countries and in the less developed ones. There has been a rapid expansion of activities and outlays for health, education, housing and other elements in this field, which is now commonly designated as "social investment". These are in addition to the continuation and expansion of outlays in this field for the sake of culture and welfare, valued as ends in themselves.

Formerly, the developmental contributions of social outlays were almost neglected by economists in a system of thought which treated the human agents of development as essentially "labor input", i.e. an undifferentiated mass of man-hours (or differentiated very crudely into "skilled" and "unskilled") whose productivity, innovations and other contributions to development were supposed to be determined mainly by the capital, natural resources and other inputs which were combined with the labor. 1/ The economists were in effect taking for granted the health, educational and other social activities which were already extensive in advanced countries and which greatly influenced the quality of the labor inputs. Now the pendulum has swung strongly in the opposite direction,

1/ While the different kinds of natural resources were well distinguished in the economic theories of rent and of international comparative advantage, capital was treated somewhat like labor as invariant in type or quality; here too we have come only recently to differentiate capital, giving great new emphasis to technological advance and the underlying research and experimentation

evidently responding very much to the felt shortages of qualified manpower for the sophisticated new activities in the industrial countries as well as for the creation and operation of modern agriculture, industry and services in the less developed nations.

In the course of this swing, scholars and planners have evolved a whole new literature: on the functional relations between the qualities of men and corresponding contributions to progress; on the institutions and practices which promote or inhibit the various human qualities; and on the systems of calculating the socially desirable allocations of resources to these matters. 2/ This literature has tended -- on the whole, and with some notable exceptions -- to attribute to human capital a large part of the observed economic progress; and to stress the role of education, public health, social mobility and other such factors in preparing the human capital; and to compute relatively high rates of social return on investment in these factors -- rates often equalling or exceeding returns on material capital.

At the same time, public leaders have come to give very high priority to these fields. The pronouncements of President Johnson on the welfare needs and programs of The Great Society in the United States are also embodied in his declaration of "new initiatives" for foreign aid. And these are paralleled in the national plans of many of the developing nations around the world. 3/ A very strong position has been taken by A.I.D., first in its Program for Fiscal

2/ For a useful summary of such techniques of calculation, chiefly with regard to educational allocations, see K.C. Kehrer, Human Resources Development Planning (A.I.D. Discussion Paper No. 15, March 1967).

3/ Around 1958, the various less-developed countries were spending from very small amounts up to in some cases 10 per cent of G.N.P. for social items (see table in Appendix II, below). The percentages have risen markedly since then in many countries.

Year 1967 and still further for FY 1968, in accordance with the President's initiatives. In the 1968 program, which declares "AID's belief that agriculture, health and education are the dominant challenges in development", 4/ and lists these three as "The Priority Programs" in the document's table of contents, the following global allocations are proposed for Health and for Education:

"\$202 million...to help developing nations improve the health of their citizens in fiscal 1968, representing a two-year rise of 60 percent in allocations for this purpose.... AID plans to commit \$250 million to the cause of education in the developing world in fiscal 1968, a figure up 50 percent from fiscal 1967 and about 82 percent from fiscal 1966". 5/

These allocations for 1968, as percentages of the proposed total "Economic Assistance" come to 8 percent for Health and nearly 10 percent for Education, and thus over one-sixth of the total for these two fields alone. If we add AID programs in other fields of "social investment" -- such as nutrition, family planning, housing, community development -- the divisional percentage would be greatly enlarged; and it would bulk still larger if taken only against developmental assistance (by excluding from "total economic assistance", the various amounts of "supporting assistance", administrative expenses, etc.). But even more important than the specific shares allocated to social investments for fiscal year 1968 is the trend of a rapid rise during the past two years. 6/

The swing in the direction of social investments has now proceeded so far as to raise the question of the proper orientation of the programs and

4/ Agency for International Development, Proposed Foreign Aid Program FY 1968: Summary Presentation to the Congress (Washington, D.C., May 1967), p. 1.

5/ Ibid., p. 6.

6/ During the preceding five years 1962-66, there was virtually no trend in A.I.D.'s commitments for social investments as a whole, although the sectoral total varied from year to year as some fields fluctuated widely (e.g., Housing), while other fields showed a slight decline (Education) or rise (Community Development) over these years. Source: tabulation prepared for this paper in the Statistics and Reports Division of A.I.D., on A.I.D. Dollar Commitments for FY 1962-66 in Health and Sanitation, Education, Housing, Community Development and Social Welfare; this coverage, however, differs from the 1966-68 figures stated above, such that the two sets of data cannot be compared directly.

proper choice of specific projects. The social projects which are now highly favored in the developing countries' plans and in AID's proposals are not easily accommodated. They are in most instances large and costly programs -- not a simple list of separable projects -- and as such are difficult to do piecemeal; they move slowly, yielding their benefits only after a good many years, and then with some uncertain net effects upon production and upon welfare, under actual social and economic conditions; they are difficult to measure and to administer; and in some additional ways -- particularly as they enter deeply into the social structure and cultural traditions of the recipient nation -- they are troublesome undertakings for both national authorities and foreign-aid agencies. They contrast markedly with the more familiar economic projects which are more specific, tangible, and controllable than the social projects, and even so have often proved refractory in experience to date. Moreover, the social projects tend to be derived from practices which are familiar in advanced industrial countries but often turn out to be quite unsuitable to different kinds of societies, and may yield much lower returns there; they are therefore much less transferrable than economic technologies.

Considerations of this kind underlie the present inquiry into criteria for social projects, an inquiry sponsored by the Office of Program and Policy Coordination of A.I.D. We have sought to formulate guidelines for resource allocation to social investments, in terms of actual conditions prevailing in developing countries of various types, and in terms of their current trends and plans, taking into account the resources, interests and practices of foreign-aid agencies, as well as present knowledge and uncertainties regarding the interconnections between the social and the economic factors during the process of development.

A. Techniques of Resource Allocation for Social Projects

A useful starting-point for our investigation is the conventional wisdom -- the criteria and practices currently followed in deciding allocations to social activities. The welter of varying practices here may be summarized in the following categories:

(a) maintenance of past patterns among all outlays (including social/economic proportions, with proportional increases when the outlay total is enlarged);

(b) reference to foreign patterns deemed relevant and admirable;

(c) adoption of all "well-planned" projects (clearly specified in inputs, outputs and administration) when more lofty projects are hard to devise and specify;

(d) adoption of all "feasible" projects (wherever total revenues can be forecast to exceed total costs, prices being assumed as given);

(e) utilization of the "available" resources (residual resources left for social projects after satisfying all programs with demonstrated higher priorities);

(f) acceptance of stated social needs (professional goals, or popular demands, or political pressures);

(g) formulation of social requirements (social means to some other end, especially economic development);

(h) special aims (such as minimizing urban migration or rectifying the balance of international payments or improving international relations).

It is apparent that these practices are all rules-of-thumb, diverse approximations to some more formal and rational principle which seems difficult to apply. Most of these practices avoid comparisons among diverse projects, and nearly all ignore costs in pursuing their notions of benefits. In application, they often yield divergent judgments, and sometimes lead to quite opposite conclusions.

. 12 .

In principle, however, the criteria for planning social outlays are neither special nor obscure, but rather involve standard, basic relationships. Like economic and military outlays, or any other form of expenditure of scarce resources, social outlays come under general principles of choice in the allocation of resources. These include the principles that - ceteris paribus - more benefit is preferable to less benefit, that present or early benefit is preferable to later benefit of the same magnitude, that no activity will be chosen if it is known to involve sacrifices greater than the benefits it brings, and that some net benefits are greater when jointly or collectively supplied or consumed than when pursued individually. Such principles are embodied in familiar technical concepts of "social marginal productivity" (SMP), and "benefit/cost ratios" (B/C), and comparison of "internal rates of return" (IRR). Then the rule is to adopt first the projects with the highest ranking, and proceed on down the ranks until the given resources are exhausted.

The stated concepts are, at bottom, equivalent to each other; and are perfectly general, so that they may be used as widely or as narrowly as desired, depending upon the kind of specifications and data fed into them, to define the terms "product", "benefit", "return", "cost". Thus we can, at one extreme, accept the verdict of the existing markets, specifying the key terms in actual transaction prices. In a broader outlook, we can go behind the actual prices to those which would prevail if market imperfections were removed for factors as well as for finished goods, and if incomes were equalized, and if complete information were available to individuals (as consumers and also as entrepreneurs), and even if certain value constraints were removed or added (e.g., taking account of the air-pollution effects of industry, or the wastes of urban travel or the values of good personal relations) thus arriving at "shadow prices" which are on the one hand more "representative" than market prices but on the other hand are more debatable.

Complicated as that elaboration is for economic variables, it becomes vastly more complex when we move to the other pole, and attempt to take into account the whole range of social goods and social costs, as well as the economic goods and costs, and relate them to one another in a single schedule for resource allocation. Here we draw a number of significant contrasts between social goods and most economic goods. First, the social goods are not well-priced in the market. Many are not in the market at all -- e.g., parent-child relationships, or a sense of cultural solidarity. For those which do pass through the market, prices are largely conventional and sluggish, so that such prices do not serve to adjust supply and demand. In turn, the demand schedule is influenced by the widespread occurrence of joint demand as well as consumer externalities: the benefits of a given social service often require co-operant-services, and the benefits often accrue in large part to persons other than those directly engaged in those services, while the latter have no device for recouping those benefits; for example, education may bring little benefit without health services, housing, job opportunities, etc., and may be financed by parents who derive little benefit in their own lifetimes. On the supply side, the production of social goods is subject to inelasticity of supply, for reasons which include factor scarcities, indivisibilities of scale, and long gestation periods -- although goods requiring only unskilled labor show highly elastic supply. Furthermore, social undertakings are remarkable for carrying a great danger not only of small or zero product, but of actually negative product: for example, a swift reduction in death rates, or rapid urbanization, or universal education in an economically retarded country, often bring severely negative effects upon both development and welfare. And these effects may in fact be irreversible, as the swollen population cannot

be reduced, the urban migrants cannot be sent back to the villages, and the ambitions generated through education can be neither satisfied nor removed.

Because of all these features, plus the great inadequacies of the data on social affairs, it is very difficult to figure costs and returns in this field, so as to estimate "efficiency", or to judge "feasibility", or to devise "well-planned projects". In practice, a great many social projects are treated like economic infrastructure: they do not appear in the private realm at all, but rather fall in the public sector; thus they become claimants against governmental budgets, requiring justifications to match those offered for other types of public projects. Since such justifications are difficult to provide for social services, the decisions are commonly left to political intuition.

Even in the economic realm per se, we know that planners, confronted with the difficulties of rational allocation, have tended to rely upon various approximations or rules-of-thumb. Where the working of the market cannot be trusted, economists become uneasy. One procedure is to forego comprehensive comparisons of proposals, and instead to concentrate on close alternatives: this permits the construction of "trade-off" ratios for given baskets of resources; but, of course, it gives no guidance for inter-sectoral allocations, which remain rather arbitrary. An even more extreme procedure is to narrow the consideration to a single proposal for which to make a "choice of technique" (in the light of relative scarcities of resources and the technological alternatives) or to construct "sensitivity measures" to reveal (in a topological way) the order of effects from altering some of the inputs in a given production function. In the same vein, the economist may decide to expand each activity where marginal revenues can be shown to exceed marginal costs, up to the production point where these magnitudes come into equality, while ignoring alternative cases where the surplus of marginal revenue over marginal

Another economist's device is to create a market for infrastructure and other goods not ordinarily priced in the market. Examples are toll roads, water rates, hospital charges, and tuition fees. In the truly social field, however, these devices are usually rejected on grounds of unequal income - distribution, ignorance of potentialities, the short time-horizon of the poor, and other factors adverse to maximizing welfare.

A different economic approach to allocative approximations follows a more dynamic and evolutionary line. Here the economist seeks for "pressures", "backward and forward linkages", "disequilibria" of all kinds promoting or constraining action, and therefore, deserving support so far as these actions promise to increase productivity and actual product.

All of these approximations are operable in the economic realm so long as we can construct production functions or input/output tables or marginal productivity curves relating the proposed outlays to some measurable results. Our chief difficulty in the social realm is the lack of measures for the results; or more exactly, the lack of functional relationships linking measurable inputs to measurable outputs. Consequently, we find the vogue of the diverse current practices with which we began this section. Our problem remains to seek the best approximations to the basic allocation principles, for use with social variables.

This search must allow not only for differences between social and economic projects in less-developed countries as outlined just above, but also for differences between social services in the developed countries familiar to us in contrast to social services appropriate to less-developed nations. The contrast is, of course, glaring when we talk of educational or medical services at the level actually provided for the majority of the population. A more significant comparison can be made with the services provided for the poor and disadvantaged in otherwise advanced societies.

In the United States today, we are addressing ourselves to problems

Xf

of poverty and deprivation that in some ways run quite parallel to problems of the less-developed countries but in other ways depart sharply. The American poor are only a fraction of the total population even under the loftiest standards (a stipulated "poverty-line", for family income in the United States, at \$4,000 per year minimum is many times the average family income in most of the countries to be aided); and the American poor are mostly concentrated in urban ghettos and rural slums which are in some cases "retarded areas" but in many other cases are "decayed areas" which have declined from former prosperity. Furthermore, we try to deal with these areas by bringing to them some of the prosperity and progress which are enjoyed by the rest of the society, and which can be either extended or transferred to the poor. One line of action is to provide jobs with higher productivity, income and future prospects, and to help prepare the poor for such jobs by means of migration, training and placement. The other main line is to bring certain social benefits to the poor by redistributing the fruits of already-achieved progress, via progressive taxation, welfare allowances, urban rehabilitation, improvement of schools and health services, etc. In the United States, little contribution is expected from the poor to the nation's output or to its further development (although in some other advanced countries, notably in Europe, where labor supply is tighter than in the United States, the unskilled and the hard-to-employ are a significant potential resource). Basically, United States society is so expansive and rich that it can provide either self-supporting jobs or direct welfare contributions for its disadvantaged groups (or could do so much more rapidly if it were not for the drain of the war in Vietnam). Despite its shortcomings, American society every year absorbs thousands of persons from the ranks of the poor and the disadvantaged. Only the extremist "black power" groups in the United States reject this marginalist kind of expansion and adjustment. And in many European countries such adjustments have already been accomplished with much less pain and more success.

These features highlight the contrasting problems of the less-developed X

areas. There poverty is endemic and general rather than special and concentrated. Resources to cope with poverty are scarce in per capita terms of the whole population and the whole area. Labor is already redundant relative to other resources, so that welfare measures which merely add to the supply of idle hands bring zero or negative benefits. Social structure and traditions offer heavy resistance to change; or collapse disastrously if rapid change occurs; so that either case calls for an inter-connected set of social services, like the similar requirements for resolving the ghetto situation in American cities. Indeed, a hypothesis here is that at low levels of per capita income and low rates of social investment, the social elements form a tightly inter-related set (or "vicious circle"), calling for interconnected programs which at first show low but increasing returns; whereas at high levels of income and social investment, the social elements are more separable, and the programs show high although possibly decreasing returns.

socio-

Accordingly, the line of promoting/economic progress is all the more urgent in the poor countries; but is by the same token all the more demanding in resources and all the weaker in effects, since the aggregate income to be redistributed is so small in per capita terms. In less-developed countries, the net contribution to output and general development to be expected from "the poor" is a main object of policy; but will not be obtained across-the-board without vast outlays on both human and material capital formation. To cope with these problems in a society which is not expansive and rich, the planner must seek new resource-saving technologies, must discriminate among groups and areas, and must make his decisions binding upon the sector-building professional specialists. These are all patterns of action not readily acceptable by Westerners today, nor by those in less-developed countries who follow Western standards.

70

B. The Social Maximand

The foregoing section has dealt with the technical problems of arriving at a maximum of various social goods, and an optimum of all goods taken together, -- on the assumption that the maximand is given. But those technical matters, important as they are, are in reality subordinate to the issue of what is to be maximized.

The traditional concept, generally accepted until recently, has been to distinguish sharply between final goods and instrumental goods: the former being designated as "welfare" in the most comprehensive sense (counting in tangibles with intangibles, and allowing for the pattern of distribution among individuals and groups, and including not only benefits to the individual but also social goods, such as national prestige). In this conception, the planner must choose whether to maximize welfare in the short run -- at some sacrifice of current development, and therefore, at some sacrifice of welfare in the long run; or to maximize development currently, with a view to maximizing welfare in the long run although not in the short run.

Now the national planner and the foreign-aid official are under great pressure to maximize social welfare currently. Indeed, no one can deny the absolute value of survival achieved by health care and improved nutrition, or the absolute value of understanding and cultural satisfaction provided through education, or the absolute value of comfort and security furnished by housing and community development, or the absolute value of parental ties restored by family services, etc. But, at the same time, no one can deny that in poor countries the desired scale of social welfare goes far beyond the available means. Furthermore, individuals differ in their relative rankings of the various absolute values, including their rates of discount of satisfactions in

time to come. Finally, the scale of welfare provided today may, as suggested above, reduce the level attainable later; or, as the new doctrine of investment-in-man contends, higher welfare today may lead to higher productivity tomorrow and therefore to still higher welfare thereafter. Accordingly, the planner must somehow arrive today at an allocation of the total resources among these competing aims.

We suggest that in view of the uncertainties, the first step toward such allocation is to set a range of social outlays between a minimum and a maximum. The minimum is a level below which social welfare must not fall lest the social fabric be torn apart. It is a minimum for survival, and comprises assurance of daily subsistence, steps to cope with disasters such as crop failures, floods and epidemics, efforts to prevent such disasters, also maintenance of law and order, defense against external aggression, and the like. The maximum for social outlays is a level above which social welfare will not be provided, at present, in view of all the other activities clamoring for resources, and despite all the desires and hopes which will be frustrated. Within this range between the minimum and the maximum are found all those feasible social projects which tend directly to raise welfare somewhat above the minimum, and indirectly to promote development which later will yield additional improvements in welfare. In the present paper, we are not attempting to cope with the difficult, painful and ultimately political problem of arriving at minima and maxima of social outlays, and at desirable levels of welfare above the minimum; these matters must be left to the political process. We concern ourselves here with the rationale of social outlays as means to social, political and economic development -- or alternatively, the development foregone when resources are devoted directly to welfare instead



of indirectly through the developmental process.

Yet, even this rough-and-ready distinction between social and economic means and ends is not entirely acceptable today, in a modern perspective of joint determinations and feedback mechanisms. As noted above, it was traditional to say that development is the sole foundation for self-support of steps toward future increments in welfare; and that every step to raise welfare now involves some sacrifice of both development now and welfare advances later. This traditional position has recently been challenged by a new doctrine contending that steps toward higher welfare now are also steps toward higher productivity in the near future, and indeed are indispensable steps, so that social improvement appears to be virtually a sufficient as well as a necessary condition for progress. This new doctrine is based partly on a moral pillar -- that human welfare is an end, not a means; and partly on an empirical pillar -- that improvements in welfare appear to bring, incidentally, improvements in productivity. The empirical assertion, in turn needs to be supported by evidence; and some relevant data are in process of assemblage; but the case is very far from established, and the doctrine remains to date largely a matter of impressions and assumptions.

In this way, the debatable issue as to criteria for social outlays arises from differing assumptions regarding the role of human qualities in the process of social and economic development. On the one hand, in orthodox economic theory of the nineteenth and early twentieth centuries, differences in human qualities were usually treated as negligible or indeed irrelevant in the production function; it was capital accumulation which was the key factor in the classical model of growth, and all inputs were treated in quantitative terms, largely ignoring differentiation by quality; and while the end-result

13

was to be improvements in welfare (if not unfortunately annulled by Malthusian pressure of population and worsening scarcity of land), there was not ^{much} concern with any important feedbacks from welfare into productivity. On the other hand, the new doctrine of "investment in men" tends to make human qualities the key factor in growth, reducing capital accumulation in material capacity to a secondary rank and a rather mechanical role, while urging the preparation of human capital -- in many if not all aspects -- as a precondition for sustained development, a necessary condition for progress. Indeed, in one recent version of this model, social improvement becomes virtually a sufficient condition for progress, providing its own resources, its own higher productivity, and of course, its own higher consumption which is regularly identified with higher investments. 1/

If we follow the classical model, we will carefully safeguard our limited investment resources, directing them into material capital formation plus some closely affiliated human capital (mainly training in technical skills) and leaving the improvement of social welfare to the end-result, namely obtaining increases in output which can be devoted to welfare viewed as entirely consumption. Contrarily, if we follow the human-investment model, we will divert a very large share of our investment resources to providing the

1/ Cf. H.W. Singer, "Social Development: Key Growth Sector", International Development Review, March 1965.

conditions of health, education, housing, family life, etc., which will raise the levels of living directly as well as promote rapid economic growth. The antinomy seems to be sharp and irreducible. But in reality, the policy-maker will choose between these models, or make compromises between them, in terms of several interrelated features: (a) available knowledge of the functional relations involved in each model, (b) the stage of development already reached in each country, and (c) scarcity of resources available for all uses.

(a) The fact is that at present the functional relations involved here are not well established.^{2/} The data come largely from advanced countries plus some of the more progressive poorer countries (such as Greece, Mexico and Taiwan), and therefore, do not adequately represent the retarded countries which are the prime objects of international aid. The data are mostly cross-sectional rather than sequential, and therefore, raise familiar technical questions when the former type is applied to the latter or is interpreted in a causal sense. The numbers themselves -- purporting to measure, directly or by proxy, levels of real income, growth of income, capital stock and its growth, health conditions, actual degrees of education, etc. -- are suspect and frequently hard to believe. And the correlations obtained with these data are often rather low, as well as very sensitive to various changes in definition, coverage and exclusions. Finally, all the reported correlations are subject to the reverse causal interpretation, namely that the observed social progress is the result of economic progress rather than its cause. Specifically, it is far from clear at present to what extent productivity is promoted in poor countries by reduction of infant mortality or eradication of epidemic diseases, or by the spread of general literacy, or by slum clearance, or even by better nutrition.

2/ Among the recent studies attempting to cope with this issue, one type is historical-analytic for a single country using the method of residuals as variously employed by J. W. Kendrick (Productivity Trends in the United States, National Bureau of Economic Research, Princeton: Princeton University Press, 1961), E. F. Denison (The Sources of Economic Growth and the Alternatives Before Us, Supplementary Paper No. 13, New York: Committee for Economic Development, 1962), E. F. Denison (Why Growth Rates Differ, Washington, D.C.: The Brookings Institution, 1967), and R. Solow ("Technical Change and the Aggregate Production Function," Review of Economics and Statistics, August 1957, pp. 312-320). In this approach, the increase in aggregate output of a given country over a given period of time is allocated so far as possible to directly measurable inputs (chiefly capital and labor), the remaining output being ascribed chiefly to "education and advances in knowledge". This method has so far been applied chiefly to long-term trends in the United States, plus shorter term (1950-1962) trends in 8 West European countries and the United States in Denison's most recent book. Severe criticism of the residual method has been expressed in several quarters, notably by W. G. Bower in O.E.C.D., Economic Aspects of Higher Education, pp. 181-184, and by T. Balogh and by A.K. Sen in O.E.C.D., The Residual Factor and Economic Growth, pp. 180-197.

A different approach is cross-sectional study of socio-economic inter-relationships, by correlating economic level or growth with social level or growth as shown by various indicators. The pioneering research along these lines was the United Nations 1961 Report on the World Social Situation. Currently it is being extended in studies at the U.N. Research Institute for Social Development in Geneva which in October 1965 issued a report, Aspects of Social and Economic Growth and has subsequently put out some further provisional papers. Another noteworthy study along similar lines but using somewhat different social variables is W. Galenson and G. Pyatt, The Quality of Labor and Economic Development in Certain Countries (I.L.O., 1964). There is in addition the extensive literature on the specific role of education in the process of development, such as F. Harbison and C.A. Myers, Education, Manpower and Economic Growth (1964).

For a survey of the gaps in our knowledge of social and economic functional relationships, and application to planning for the next generation in poor countries, see E.P. Reubens, Planning for Children and Youth Within National Development Planning, chapter 2 (United Nations, Research Institute for Social Development, Geneva, 1967).

(b) Facing these anomalies in the scientific findings to date, the planner in a poor country must give particular attention to the specific conditions in his own land. Some social projects which were effective and influential in more advanced nations may prove to be weak, slow, even upsetting in the situation of a largely agrarian society, partially commercialized, hostile to innovations, inelastic in supply functions, burdened with a redundant labor supply, etc. Social services which tend mainly to increase the numbers of hands available for work may be perverse in a situation where the marginal productivity of labor is already zero. In such situations, the national planner must choose among particular proposed social programs, by guessing whether the constructive effects -- such as raising productivity and encouraging innovation -- are likely to outrun and outweigh the adverse effects in increasing population pressure, excessive urban migration, individual frustration and inter-group conflict.^{3/}

(c) This dilemma of the national planner is intensified by the scarcity of resources available to him. While in advanced countries too the resources for social undertakings are not unlimited, the poor country presents much narrower margins of total feasibility as well as much more menacing consequences from substituting "social" for "economic" projects. This hard choice of "guns or butter or machines" is particularly acute in a temporal sense: the people are unwilling to wait precisely because the present situation is so desperate. Yet, the planner is unable, here and now, to tackle the vast, slow, expensive programs that would be required to elevate all social conditions, and is all the more unable to do so while trying simultaneously to elevate economic conditions. It is not possible to "put everything first".

^{3/} Cf. T. Balogh, The Economics of Poverty (1966): "It is quite illegitimate to claim that an educational system which in the framework of the United States has been accompanied by a certain growth rate would, in a different framework, be accompanied by a similar growth rate or a growth rate which can be calculated on the basis of the educational status (assessed quantitatively) alone. Such a quantity of education in the feudal-aristocratic countries of South America, the colonial-aristocratic areas of British Africa, and the litterateur-colonial areas of French Africa would produce not merely no growth but possible refusal to work on farms, an increase in urban unemployment, subversion, and collapse." ✱

C. Structural vs. Functional Criteria

If we are to come to the rescue of the harried national planner, it cannot be done by settling the causal issue very quickly -- although much more research effort certainly should go into exploring the relationships between social improvement and economic development; nor can it be done by treating all stages of development as though they were equivalent in conditions and interchangeable as to policies; nor can it be done by endowing the planner with unlimited resources so that he can simply "put everything first". Our aid must be essentially to reinterpret the dilemma facing the planner, so that rational choices can be made despite uncertainty and ignorance, and social action can go forward with some confidence as to efficiency and constructive contribution. To this end, we suggest that both the classical model of "capital accumulation" and the contemporary model of "human investment" have channeled and constrained our thinking into "structural criteria" of Aristotelian type; and that the avenue of escape from our dilemma lies along Platonist lines of "functional criteria".

By a "structural" kind of criterion, we mean one conceived in terms of a "sector" of activity, and tied to an organization or system. Thus, it is customary to speak of "the agricultural sector", and this is often a meaningful concept insofar as agrarian activities have a uniform character, present similar problems, and are sharply demarcated from other "sectors". It is likewise customary to speak of an "industrial sector", although this has less meaning when it must embrace a modern metallurgical industry or petrochemical industry, for example, along with traditional, household-based types of handicrafts such as weaving. Still less meaningful is the concept of "the services sector", which not only ranges from consumer-oriented to business-oriented activities, but also collects in poor countries all those persons who have found no place in the

other industries and therefore, seek to earn a living by little-needed activities (peddling, portering, street entertainment, thieving, etc.) which do little more than draw off a small share of other persons' incomes.

Despite these ambiguities in the usage of "sectors", for economic activities, the structural concept has recently been extended to social activities. Thus, we find ourselves speaking of "the health sector" or "the public health system" or "the educational pyramid" or "the welfare system" or "the housing sector", perhaps even a "nutritional sector". Yet, a little reflection indicates how different these activities are from a real sector such as agriculture, for the activities loosely assembled in the social "sectors" of poor countries are mostly disparate, intermittent, out of touch with each other, and heavily dependent upon activities outside that sector. In housing, for example, the improvement of peasant huts has almost nothing to do with the urban construction of low-cost multiple dwellings to replace slums; and nutrition is a function of such diverse elements as food supply and demand, transportation networks, and cookery practices; while health activities divide sharply between rural and urban areas, and in education the successive levels are severely detached from each other by high rates of drop-out and non-continuance for reasons other than the students' ability to profit from further schooling. In such sectoral ways of thinking about social affairs, as if they were certain types of economic and engineering problems, our practice becomes abstract and mechanical, losing sight of the actual people involved, and the diverse groups with their diverse behavior patterns. The entities created in that essentially Aristotelian way, by formal definition and by table-of-organization, tend to acquire a life and a status of their

own, with formalized relations to other sectors via budgets, specialized governmental agencies, and "sectoral plans". Indeed, when we take these social sectors along with the economic sectors, we begin to talk about "pre-conditions", "critical levels", "stage of take-off", "balanced growth", "general equilibrium" -- a whole set of ideas of a comprehensive and rigid kind quite inconsistent with our ignorance of many relevant facts and also inconsistent with the fluidity of the circumstances in developing countries. We are thus engulfed in the celebrated "fallacy" of misplaced concreteness".

In practice, the planner who thinks in these structural terms tends to project an image of a pre-conditioned labor force: healthy, vigorous, educated, rational, alert, mobile and even self-starting, eager to work and to advance, adaptable to innovations, ready for take-off. It is an agreeable and comforting dream, but it is an illusion. For a society containing such a labor force would be already advanced, not retarded. It is an illusion to suppose that an apparatus of sectoral programs, aimed to elevate the population in health, education, etc., will somehow transform the quality of men while all other features of the society stand waiting but so far unchanged. It is equally an illusion to suppose that the presence of a modern labor force -- if it could somehow be achieved by schooling -- would evoke the firms, plants, commercial connections, markets, etc., that would use those workers and so justify that schooling. Far more likely, on the basis of experience to date in countries where circumstances that have not become more propitious, is the opposite outcome: basic literacy that atrophies, ambitions that end in frustration, and community development that soon reverts to the rural or urban slum conditions. Even the very process of learning new things, and the very desire to try new things, will not persevere in an environment that fails to provide direct and immediate

20

uses for the emerging talents. Yet, it is also true that sectoral programs for the other features of the environment -- mainly the economic features -- are likely to suffer and dwindle in the absence of a well-prepared labor force. The obvious deduction is a "balanced growth" procedure, advancing on all fronts simultaneously. But this theoretical design tends in the real world to founder on the rock of scarcity of resources: a country which could afford such a many-pronged attack on its ruling conditions would not be a poor country -- and, therefore, would not be in need of our concern! The vicious circle seems to be closed.

Our suggestion for breaking this vicious circle is to turn to the alternative to structural thinking and planning; that is, to turn to a functional approach. Here we can begin not with sector-wide designs -- but with felt needs and operational requirements, as these arise from already ongoing activities along social and economic lines. The signal for action is given by some difficulty or obstacle encountered in current action; it is given by a "problematic situation", in John Dewey's phrase ^{4/}. In such a situation, an obstacle to successful action can be defined as the lack of the corresponding favorable factor, which may then be termed a "missing component". If there is only one such lack, while all other components are provided in due proportions (according to the technology adopted), it may properly be termed a "bottleneck". Then an appropriate project, or even a whole program, can be devised to supply the missing component. Whether a particular project or program of this kind should be adopted in actual practice will depend, of course, on other proposed projects and programs, each with its own bottleneck relationships, so that in principle a ranking of projects in their cost/benefit ratios can be prepared.

^{4/} J. Dewey, Logic: The Theory of Inquiry, chap. VI

34

This procedure is already familiar for economic undertakings, which are often examined in terms of "strategic factors", "feedbacks", "backward and forward linkages", and "a disequilibrium system of growth". What we are urging here is an extension of these concepts to social undertakings. Even more: we urge the limitation of social undertakings in poor countries, above the social minima already discussed, to just those matters which represent social bottleneck situations, excluding for the time being all those grander programs which lie equally beyond practical feasibility and foreseeable contribution to cumulative development.

By tying social projects to steps for breaking bottlenecks in current activities -- whether current trends or the implementation of plans -- we hope to restrict their expenditures to feasible limits, give assurances and motivation to the participants as they "learn by doing", provide a system of priorities among otherwise incommensurable values, and guide the planner in the face of incomplete and unreliable knowledge of the whole developmental process over time.

In recommending that social outlays above the minimum for survival in less-developed countries be determined largely in terms of developmental "bottlenecks" to be broken, we recognize that this approach is partial, crude and provisional. It puts the emphasis on social undertakings as means, neglecting their great importance as ends in themselves. Likewise, the bottleneck approach stresses direct and immediate effects of social outlays, often neglecting more remote indirect effects -- although the latter are not excluded in principle. Furthermore, it assumes a given environment, neglecting



major changes that may come about in the indefinite future. Nevertheless, we urge such an approach, in the face of its evident deficiencies, because we emphasize the actual conditions in L.D.C.'s which render unsuitable the more precise concepts and more ambitious programs as indicated in preceding pages.

In principle, the notion of a "bottleneck" is a quite relative term. Given a production function, all of the independent variables may be scanned, and the label "bottleneck" applied to the one whose supply is most deficient relative to the given supplies of the others, having regard to the "fixed proportions" stated in the production function. Thus, the bottleneck factor might turn out to be electric power, or materials of foreign origin, rather than skills of labor or management.

Furthermore, in a more neo-classical world, marked by a wide variety of technologies and corresponding production functions, the choice of product and production technique can be readily adapted to the local factor endowments. Thus, if human skills are relatively scarce, production can be adapted to use relatively little of this factor, by substituting more plentiful materials or even capital in the input mix, or shifting to other products. In such a neo-classical world, the problems of quality of the human inputs no longer seem large and stubborn; they become virtually tractable.

Yet, these clear and simple principles are evidently at variance with common circumstances in the less-developed countries. To take the second point first, the less-developed countries today do not live in a neo-classical world, but rather in one permitting only a very few technological choices. For all our talk about building small-scale industries and about reviving abandoned techniques, there are almost no examples today of successes along these lines on more than an experimental scale or subsidized anachronism. And it is not even clear that such enterprises would, in fact, overcome the handicaps of the unskilled

untrained, ill-fed and disease-ridden masses of the L.D.C.'s.

If we go back then to the case of a given technology and production function, we find a great difference in the supply elasticities as between economic factors and social factors in L.D.C.'s, and therefore, a realistic distinction must be drawn as to the actual "bottleneck".

In such an economy, a productive project commonly arises from the availability of some local material or funds or market, and the would-be entrepreneur then surveys the other requisites -- plant and equipment, power, water supply, transportation, storage, and of course labor. Now for most of these requisites he can estimate fairly accurately their availability and price, (e.g., the delivered price of materials per ton) or the conditions under which they could be provided (e.g., the cost of a railroad line or water-and-power dam which the public authorities are expected to construct). But the labor problem is more ambivalent: either the desired labor can be supplied via training on special order, i.e., on terms not much different from those for ordering raw materials, plant and equipment, or else the desired labor will not be forthcoming until a whole system of social services has been established, to supply labor through a labor market. In the special-order case, we can speak of labor as a "bottleneck" to be broken by certain specific and delimited actions, while in the other extreme labor supply becomes a feature of general economic and social progress over the whole course of development.

Accordingly, it seems reasonable to speak of labor quality as significantly different from the other factors to be supplied to productive operations, in the light of differences in supply conditions. If, in fact, labor proves to be the "missing component" in an actual situation where all other factors in the production function are available in mutually suitable

5/

proportions and efficiently large absolute amounts, and if the marginal cost of furnishing such labor is less than its marginal productivity (as estimated from the production function), then such labor is properly described as a "bottleneck" to be broken by social projects having the marginal cost mentioned above. Conversely, if the other factors have not been surveyed and their availabilities determined, and if therefore no estimate has been made of the marginal productivity of qualified labor of particular types, then no specialized selection of social projects is possible; and social programs under these conditions become policies of general progress, with trust in their beneficial effects -- ranging from direct improvements in consumption and welfare, through contributions to productivity and entrepreneurship, down to at worst a waste of resources and a vain arousal of hopes.

Exploring further the character of bottlenecks in the social field, we note that these may be related to either trends or plans. On the one hand, the scarcity of a certain quality of labor may turn up in the course of current activities, whether in the private sector or in the public sector, as these activities change, grow, and come into contact with other activities. For example, the need for foremen, accountants and economists may expand as production grows, as relative prices shift, and as pressures bear on the balance of international payments. On the other hand, labor scarcities may appear not only under current trends but also under plans to change, transform, or even reverse those trends. Thus, if the Planning Commission is determined to transform an export economy into an industrial system, or to put a base of heavy industry under a system of light processing, a new constellation of human skills will be required. To cope with both trends and plans, the technique of "manpower forecasting" may be used, but with a difference. Current

trends which can be observed closely, and followed from month to month, permit a careful tailoring of social projects to fit specific needs, and provide the participants with fairly reliable assurances of success at the end of the procedure. In contrast, long-range plans open great uncertainties as to the number and character of the personnel actually to be required, their probable productivity and earnings, and even questions of the survival of the new enterprises to be established under future conditions not entirely foreseeable today; thus such long-range plans are less concerned with specific bottlenecks than with general social development, suggesting that "manpower forecasts" may be a misleading tool of resource allocation in such a situation.

Itemizing some of the social bottlenecks which are specific and can be broken in short order by specific, delimited projects, we find:

- technical skills -- taught on the job, wherever possible, sometimes on a foundation of previous vocational training in short courses;
- middle-management capabilities -- taught in vocational institutes, followed by on-the-job learning experience;
- professional training -- taught in schools, which may be abroad whenever the number of students and the academic resources do not justify local schools;
- adequate nutrition for workers -- to be provided in subsidized canteens at the workplace;
- health care for workers -- to be provided in subsidized clinics at the workplace;
- sanitary conditions in some cities -- to be provided where urgently needed by pure water supply, covered sewage drains and similar projects using as much of idle labor as possible, and using simple tools;
- control or eradication of malaria and other endemic diseases in certain areas -- to be done in areas where all other factors are favorable to development, until resources are made available for wider public health measures;

population control of some kinds -- at present by I.U.D. insertions, etc., in future perhaps by chemical means in water, etc.

In many of these programs, some fees may be charged to the beneficiaries, to be recovered from their future enhanced earnings, and to ensure their active participation in the program to the end; but when the bottleneck is urgent for the nation, part if not all of the cost should be borne by the State.

The essential character of these bottleneck projects is underscored by contrasting them with more general social projects. These would include: the extension of literacy, the development of entrepreneurship, the supplementation of average food intake in the entire population, establishment of a system of urban and rural hospitals, reduction of infant mortality, provision of kindergartens and youth clubs, slum clearance in urban and rural areas, and general community development. All of these are unquestionably worthy projects, badly needed to raise welfare; but they are vast, slow, expensive, and uncertain. If these general social projects were undertaken, they would swallow up all developmental resources now available, without providing for their future support, let alone their future expansion. Since resources are limited, the social projects (above the "social minimum") must be limited to those promising an early addition to usable resources. We come back to the criterion of bottlenecks in development.

One more important feature of the bottleneck criterion is the separation or combination of projects. As already noted, many social activities must be undertaken jointly if the individual projects are to succeed. Notably, training in specific skills will be largely, if not completely wasted, if the trainees are feeble due to malnutrition, frequently absent due to illness, unable to concentrate on their work due to family problems, discouraged by scarcity of jobs or meager wage differentials, etc. But joint supply of a

variety of social services is too costly for the whole population of a poor country, or even for the whole population of many cities in such a country. In this case, it becomes necessary to discriminate among regions and among groups having the largest potential for economic development. In practice, such discrimination is accomplished with least objection by providing the joint services in certain cities rather than in the countryside, and within the cities by affiliation with places of work. An illustration of discrimination widely practiced today is the provision of hospitals in the cities, mobile clinics in the countryside; another illustration is the subsidized canteen provided in some factories; still a different example, found in Togo and other French-speaking areas of Africa, is the Caisse des Prestations, which provides a kind of contributory social insurance for a small elite group of skilled and semi-skilled workers. Combining the joint-supply feature with the urban priority, we find the example of the city schools which, besides classroom teaching, offer supplementary meals, health clinics, and recreational clubs.

To sum up the virtues of the bottleneck approach as applied to social allocation, we have found the following:

- (a) it insists upon sufficient conditions as well as the necessary conditions for the intended results;
- (b) it calls for the presentation of evidence regarding those conditions;
- (c) it avoids the huge and slow systems approach or sectoral treatment;
- (d) it puts the emphasis on the intended results, rather than merely on the workable project whose benefits may somehow emerge;
- (e) it permits some comparison among proposals, in terms of incremental product per dollar of social program;
- (f) it serves in these ways to integrate the social allocations with the economic allocations;

- (g) it reconciles in some degree the project-by-project approach with the broader program approach which must be converted finally into projects;
- (h) it provides for a claim to be put in at the budget bureau for adequate resources to meet a given aim, not just accepting the "resources available".

Overall, the bottleneck approach comes between the professional establishment of a given sector using "available resources" -- which tends to be a very parochial procedure -- and the overall comparison of benefit/cost ratios for all conceivable projects, which is of course not feasible.

D. The Bottleneck Criterion in Practice

The case which is made in this paper, on behalf of the bottleneck principle for deciding social outlays in poor countries, does not presume that this principle is an unheard-of idea in national planning or in the bureaus of A.I.D. or other foreign-aid agencies. In fact, all we are attempting to do here is to organize the whole range of arguments, and to supply a solid rationale for practices which already are partially at work in many regards. But these current practices are uneven and imperfect, and are having a hard time making headway against on the one hand the fundamentalist belief in social improvement as a pre-condition for economic development, and against on the other hand a hard-boiled scepticism toward social projects of any kind. Accordingly, we are trying to promote the spread of the bottleneck principle into all the social areas where it is appropriate.

The agency whose current practice comes closest to our bottleneck criterion is the International Bank for Reconstruction and Development (I.B.R.D.). Of course, the Bank has kept out of the social field until quite recently, and so far has undertaken social projects only in the field of education. The Bank's criteria for these judgments -- both those stated in IBRD documents and those which can be read between the lines, supplemented by discussions with IBRD officials -- are significant for our problem. It is the position of the Bank's management that since its mission is to promote economic development, it will not undertake projects which are primarily of consumption character or which are remote, slow and dubious in their effects on development. Accordingly, the IBRD has so far turned down all applications for health projects as such, and in the field of education has declined to support primary education and

general literacy as such 1/. Housing and community development likewise have been put beyond the pale. Conversely, the Bank's support has gone to projects of secondary education and especially to technical education and training designed to meet felt needs ("noticeable and serious gaps") in the less-developed countries. That is to say, the Bank has chosen to support social undertakings which promise to break visible bottlenecks in the actual process of development. 2/

1/ Cf. the statement by a representative of the I.B.R.D. for the Asian Conference on Children and Youth in National Planning and Development, in document ACCY/BP, dated 30 August 1965:

"Since economic growth and social progress are interrelated and since the level of education has a positive bearing on productivity, it would be wrong to emphasize one approach to the total exclusion of the other. There is abundant evidence, however, that the drive for universal literacy and education has led to a tragic misuse of scarce resources in many countries, which has contributed to the Bank's somewhat cautious entry into this field....Although the human rights target of universal primary education has not yet been achieved, primary enrollments have expanded over the past decade out of proportion with other levels of education and often beyond the country's ability to train teachers, and properly meet recurrent costs."

2/ Cf. statement by Geoffrey Wilson, a Vice-President of the International Bank and its affiliate I.D.A., in a talk to the Canadian Commission for U.N.E.S.C.O., in Montreal, March 11, 1965:

"We hope and believe that we can help to point the way by financing and providing technical assistance for carefully selected pilot projects that will fill strategic gaps in the educational systems of member countries. We also hope that we can encourage and assist our members in the formulation of sound policies. In addition, we can exercise some influence in the realm of administrative disciplines by applying in our educational financing the same high standards of project preparation, appraisal and inspection that we insist upon in other fields."

47

One important qualification which must be noted on the Bank's social criteria only tends in effect to reinforce the bottleneck principle. In many projects supported by the Bank for economic reasons, there is a significant component of welfare actions such as provision of housing, water supply, communal kitchens, field hospitals and even general health clinics. Such social components are large and outstanding in undertakings located in remote areas and in difficult living conditions, as for example in the project of developing the iron mines in Mauretania; but some such provisions are often found in less extreme undertakings, where certain welfare services appeared to be important for cutting absenteeism, reducing labor turnover, and raising the efficiency of the work force. While the actual extent of such services, as a percentage of IBRD loans granted, is not known at present, the whole category may be viewed as a kind of working-capital outlay and therefore not a departure from the Bank's criteria stressing contribution to economic development.

Turning to the Agency for International Development, a wide range of policies and practices has been found within the agency as regards the social field. This range includes declarations both for and against support for sector-wide programs, while project selection seems governed sometimes by bottleneck-breaking and sometimes by the appeal of "well-prepared projects" of less than highest urgency.

The existing A.I.D. Manual on Feasibility Studies, Economic and Technical Soundness Analysis, Capital Projects, which was issued in 1964, contains a chapter XIII on "School or Hospital Projects" but this is remarkably brief and vague on the central issue of criteria. The relevant passages are as follows:

D. Position of Project in Overall Program

- Extent to which inadequacies of community schools and hospitals are retarding economic growth of the community.
- National, regional or community program for development of schools and hospitals and priority of the project within this program.
- Demand for graduates from this type curriculum.

E. Anticipated Benefits

Increase in the education and health of the local population,
General economic effect of improved or expanded school and
hospital facilities.

Direct benefit to local population through local expenditures
of the project funds themselves for labor, materials,
food, rents, etc. (temporary benefit).

Here the first and third clauses refer to the bottleneck measure, the fifth clause relates to diffused general economic effects, and the fourth and sixth clauses point to direct welfare benefits, whereas the second clause stresses the programmatic or sectoral view. This is certainly a broad coverage of grounds for evaluating projects, but unfortunately it gives no guidance as to the relative weight of each ground, nor any detail as to the application of these general propositions. In particular, the Manual gives no guidance on how to determine whether and to what extent present inadequacies are in fact "retarding economic growth". This bottleneck approach, once mentioned, is soon swallowed up in devising a program for the whole educational or health sector, as the text moves on to the next section of the chapter, so-called "Requirements Analysis", which is much more extensively elaborated. This is at first virtually all demand factors: not social or economic requirements, but rather forecasts of population growth and enrollment ratios, and "types of services to be offered", and even "number of beds to be provided", so that functional relationships are assumed away, and demand is left without any rational constraints (it is remarkable that no mention is made of the technique of "manpower forecasting" for skill requirements, nor even of the criterion of "beds per thousand population" in the planning of hospitals). After about one page along these lines, there are three pages of intensive detail on "design criteria" and other technical and financial features of proposed projects. Such a manual evidently tends to deflect the operating official away from concern with the social and economic

42

significance of any proposal, and the prospects of its becoming useful under foreseeable conditions; and puts the emphasis on the paper work of an elaborately stated, "well-prepared" project.

Much the same comments apply to chapter XI of this Manual, concerned with "Municipal Water and Sewerage Projects". Here we find a similar pattern of bottleneck criteria mingled with consideration of vague general effects, and a predominance of technical concerns over methods of establishing socio-economic significance.

The A.I.D. Manual could be much improved by bringing it more into line with the Statement, approved by the President in May 1962, entitled "Policies, Standards, and Procedures in the Formulation, Evaluation and Review of Plans for Use and Development of Water and Related Land Resources" (which in fact appears as "Annex B" of the above-mentioned AID Manual). For this Statement begins with a list of purposes for which water plans are desired; and proceeds -- under headings "Specific setting for area under consideration" and "Types of primary benefits and standards for their measurement" -- to specify the "relationship between economic development needs and opportunities and potential water and related land resource use and development", including "the economic and social consequences of complete or partial failure to satisfy these needs". In the latter phrase is summed up the essence of the bottleneck measure. What is needed now is the extension of this approach to other social factors, many of which are less easily measured than water supply.^{3/}

^{3/} These virtues of the Statement on Water Plans do not excuse what seems to the present writer a serious error of principle in evaluating projects according to that document. This is the principle that wherever the benefits of a proposed project cannot be expressed in actual or simulated market prices, then they should be expressed in terms of "the cost of the alternative means that would most likely be utilized to provide equivalent products or services". It seems to us that the cost of the alternative is by no means a measure of benefits, but is only a measure of the savings in cost to be obtained by one means rather than another in pursuing the same, un-measured amount of benefits. This distortion of the economist's notion of "opportunity cost" (which properly refers to the measurable benefits from alternative uses of a given bloc of resources) has been

49

widely adopted in the A.I.D. literature, where it tends to favor a comparison of the technically alternative means in place of an evaluation of the expected economic and social effects.

Several recent A.I.D. documents do in fact contain policy declarations along bottleneck lines for social undertakings. We may cite, for example, the FY 1968 Country Assistance Program (C.A.P.) for Brazil (Unclassified), which deals with the new-initiative areas of agriculture, education and health by means of "expanding and new activities . . . designed to attack major problems impeding achievement of various objectives specifically identified in the Presidential messages" (p.5). It stresses "elimination of economic bottlenecks, strengthening and/or creating institutions, mobilization of internal resources, and redirection of domestic policies or resources" (p.8); and declares that it "will continue to place special emphasis on developing and financing projects in agriculture and education, sectors in which the USAID has strong technical expertise and which are considered critical investment sectors in terms of economic and social return" (ibid.). Despite these strong statements of approach and criteria, the actual specific programs and projects sometimes imply quite different approaches and criteria, namely an inclination to adopt proposals because they have been well-prepared even if not of highest priority, and an inclination to design whole sectors of action even if not very operational or efficient. In the Brazil program, these issues are highlighted in a considerable contrast between the Education section and the Health section, as well as in the avoidance of a "nutrition sector". Thus, the Education section states as the objective "to improve within the shortest time found feasible, the GOB capability to identify the key human resource bottlenecks currently impeding social and economic development, and to prepare concrete and feasible action programs specifically directed at eliminating such bottlenecks" (p.142); and to pursue this objective, it puts "special emphasis on secondary education", and on measures which will shift investment from school construction to improvement

15

of educational skills, and will anticipate the foreseeable leadership and manpower requirements, and utilize areas of idle capacity within the existing educational system (p.143). One may question some of the specific projects -- notably the proposed drive for "sharply reducing the number of grade-repeaters and drop-outs, especially in the first two grades", as perhaps not being "the most critical problem of Brazil's elementary education system" -- but one cannot deny the strongly instrumental type of approach here.

In marked contrast, the Health section of the Brazil Program states:

"the new dimensions of the health program include medical and para-medical personnel training, the creation of health planning organizations at the Federal and State level, the expansion and restoration of selected health centers and hospitals, pre-school age child nutrition, disease prevention and control, and research and teaching in demography. These activities are in addition to continuing support of the malaria eradication and National Water and Sewage Fund projects". (p.249)

In this broad declaration, and in the subsequent specific proposals, we find the emphasis falling more on standards of public health than on contribution to social and economic development. The Health program is aimed at "the most widespread diseases" rather than those which could be shown to be socially most harmful; it discusses how to use "the resources available" rather than how to justify a greater (or perhaps a lesser) allocation of resources to Health; it appeals to the Punta del Este goals regarding water supply and sanitation, and to recent (and still debated) studies of pre-school children, without indicating their relevance to the situation of Brazil; and it gives prime importance to developing an adequate public-health system, claiming that "Brazil's most critical deficiency in the public health area is the inability of its public health system to cope adequately with the myriad of serious health problems that afflict its people" (p.250). Certainly the authors of the Health section are humane people, sympathetic to the welfare problems of the Brazilian population; but they tend to conceive their task in rather narrowly sectoral terms rather than in broad social terms of interactions.

X6

Interesting light is thrown upon the sectoral issue in the Brazil Mission's effort to avoid drawing up a sectoral program for Nutrition. After affirming the undoubted importance of good diet, the Mission points to several ways in which other activities contribute to nutrition, e.g., increasing the production and diversification of food crops, informing people about dietary practices through the adult literacy program, etc. It is then stated that "in the end, perhaps this approach will be more useful and effective than attempting to projectize a multi-discipline, multi-faceted subject" (p.7). The implication seems to be emphasis on specific projects serving multiple socio-economic needs, but in practice much emphasis is given to a project for the supplementary feeding for pre-school children in the very backward Northeast region of Brazil (p.253).

The AID Program Memorandum for 1968-72 for India illuminates some of the same issues. The broadest statements of approach and objectives in that document stress the instrumental or bottleneck approach, particularly in emphasizing rapid returns from outlays on health and education through increased production in agriculture and industry, also emphasizing the utilization of excess manpower in developmental projects, and accepting India's revised Fourth Plan as the basis for foreign aid (subject to continuing review). The implementation of these generalities in the education field takes the form of concentrating on scientific, mathematical and technical instruction at the higher and secondary education levels (related to agricultural technology in rural areas, industrial types in the urban areas). These are considered most directly related to the manpower needs of the expanding economy and are believed to be areas of considerable U.S. special competence. For basic education, support is proposed only for rural radio networks for educational use. On the other hand, the document indicates

X

agreement with the Government of India on maintaining the shape of the educational pyramid -- expanding the secondary schools in order to accommodate the increased inflow from the primary schools -- a principle of more significance to school administrators than to developmental planners.

The Health section of the India program is not so closely framed to a bottleneck procedure, but still represents some improvement over the situation criticized by the so-called "Blume Memorandum" of March 1965. That review "failed to indicate a direct relationship between the present health program and India's priority development needs", and recommended that "U.S. activity in the health sector, except for family welfare planning, should be kept to a minimum" (p.9). Most of the programs so designated as non-developmental in the Blume report seem to be in process of phasing out in the Mission's plans for 1968-72.

Still other examples could be cited in which the bottleneck principle is affirmed for social projects. Among the African programs, for instance, the 1968-72 Memorandum for Nigeria stresses this principle in its proposals for Education.

Generalizing a little, it may be said that in most of the AID programs, the field of Education is governed much more by bottleneck considerations than is Health. Similarly, technical assistance proposals seem to take account of missing components more regularly than do loan programs which tend more to the sectoral view.

It is also noteworthy that the loan programs, where the big expenditures are found, are not usually presented with a justification of those expenditures as against alternative uses of those funds. The "Capital Assistance Papers" for social projects seldom attempt even the comparison of direct benefits and costs as is routinely done in estimating "feasibility" for economic projects.

48

However, it is not a foregone conclusion that all Health programs and all loan programs in A.I.D. ignore or reject the instrumental viewpoint. The various programs of malaria eradication illustrate the issue. As humanitarian activities and as activities peculiarly suited to American technical capacity, these programs have great appeal. As demographic factors, on the other hand, these programs swiftly raise the rate of survival, and therefore enlarge the population explosion. 4/ If the marginal productivity of additional hands is already low, or actually zero (a condition of truly "surplus labor"), the "success" of anti-malaria measures in saving some lives will be countered by the "failure" to maintain, let alone raise, living standards for all of the population. It is cultural myopia to miss this vital difference between the less developed countries with surplus labor and the advanced nations where additional hands may be strongly productive.

Nevertheless, there are cases where malaria eradication seems to be of opposite type, a true bottleneck program. One such case appears to arise in Paraguay, where -- according to the A.I.D. Capital Assistance Paper on this matter 5/ --- there are idle resources of land and timber; and existing malarial conditions have been a main obstacle to development of those resources, while the other main obstacle, which is transportation, has now been alleviated by improvement of roads; in addition, programs of land redistribution and of financial assistance to settlers are serving to convert a stagnant situation into a developing one as soon as the malarial features are eliminated. This case, where malaria eradication may

4/ The effectiveness of malaria control and other specific public health measures is still open to debate as to whether these actions are indeed the ultimate cause of the marked drops in mortality observed in most of the regions so treated. For according to some medical opinion, people saved from one ailment in a less-developed country will soon die of another disease, unless their strength and resistance have been built up by improved nutrition and other elements of consumption. Experience in Ceylon, for instance, indicates that death rates declined in the untreated region of that island along with the decline in the malaria-controlled regions, all apparently responding to island-wide economic improvement.

If this interpretation is reliable, it suggests that some crash-type public health campaigns against specific diseases may be wasteful in this sense: they may be limited in effect so long as general consumption stays low, and subordinate (if not redundant) when consumption does rise.

5/ A.I.D. - DLC/P-540, pp. 18-28 (Unclassified):

indeed break a crucial bottleneck, must be carefully distinguished from some opposite cases -- among which perhaps the anti-malaria efforts in East Pakistan are a notable example -- where constructive effects are much more debatable. 6/

Moving on from AID program documents to AID sectoral guidelines, we find some of the same divergencies between bottleneck approaches and sectoral approaches. In the field of Education, we have examined four guideline documents: one prepared in the Bureau for Latin American in 1965, another being the draft of a "manual order" drawn up in the Education Branch of A.I.D.'s Technical Assistance Division, the third being a memorandum prepared in the Africa Bureau in September 1966, and the fourth being a current revision of the Project Manual in the PPC office of A.I.D. and shown to the present writer in draft form.

Of these four documents, the first is of thoroughly instrumental type, particularly utilizing the bottleneck principle. It is a call for comprehensive planning of Education along with Population and Health in a human-resources

6/ In support of the successive AID loans to Pakistan for the Malaria Eradication Program, there are three successive Capital Assistance Papers (P-90 in Aug. 1962, P-223 in April 1964, and P-606 in June 1967 -- Unclassified). The first of these documents put a low ranking on Health -- ninth among the sectors considered -- on the grounds that public health efforts would not be effective without "opportunities for gainful employment and higher standard of living"; nevertheless the document proposed support for the malaria program, along with some other public health activities, and perhaps much influenced by the danger of external diseconomies (the danger of re-infecting Pakistan's neighbor countries where malaria was already much reduced). The second malaria loan paper ignored the reservations and low priority accorded by the first paper, and referred without details to some experience said to show increased agricultural yields in malaria-protected areas. The third paper, a much more elaborate document, relates the malaria program to the whole Health sector program, and offers some economic justification in terms of man-hours lost because of malaria; but the valuation placed on these man-hours appears (pp.36-37) to have used average output per man-hour rather than the marginal output which must be used a country like Pakistan where, as the document notes, "unemployment is substantial and under-employment is widespread."

strategy aimed at social, political and economic development. Its operative principle is in effect the determination and breaking of bottlenecks -- variously described in that document as "priority areas", "critical vacuums", "skills related to developmental needs", and sometimes specifically "bottlenecks". This principle is then embodied in such recommendations as: emphasizing middle-level manpower; underlining "economic opportunity" as the "indispensable condition for motivation and pay-off"; and favoring "selected areas of high growth potential rather than ... larger scale programs of national scope".

The second and third Education documents mentioned here give more emphasis to comprehensive organizational system. The fourth document, being a revision of the Project Manual, includes a section on Education and other social matters, but is primarily concerned with the basic technical concepts of resource allocation; in general this draft does not get down to the concrete conditions of less-developed countries, for which approximations must be found to take the place of the correct but inapplicable techniques of theory.

Turning to Health Sector Guidelines, we have examined a draft of a "manual order" prepared in the Population Division of A.I.D.'s Health Services. Here we find a combination of emphases: on sectors for efficiency considerations and on economic consequences for developmental significance. This document also speaks sometimes of "the available resources" and sometimes of "claims" on resources. Its chief proposal, however, is to take guidance from foreign experience, using the "profiles" of comparable countries to help determine proper allocation

of resources among sectors; this is an approach which -- as indicated in a later section of this paper -- offers useful perspective but tends to recommend the fashions of the past without critically evaluating either their excesses or their deficiencies.

E. Some Supplementary Criteria

While the social-minimum criterion (Section B) calls for social projects that are indispensable for social survival, and the bottleneck criterion (Section C) ties social projects to socio-economic development, there are some supplementary criteria which will help to maximize the net contributions of such social projects as well as to guide the choice of some social projects for final rather than instrumental reasons. We shall consider five such supplementary criteria: (1) the use of low-cost resources, (2) the use of high-yield technologies, notably some non-conventional ones, (3) the transfer of relevant foreign experience, (4) features which foreign-aid agencies are particularly qualified to supply, and (5) projects which can be effectively administered and supervised. Most of these considerations apply in some way to specifically economic projects too; but they present particular opportunities or problems in the social realm.

(1) By "low-cost resources" is meant idle labor, periodically deserted buildings, unused transportation facilities, and other such potential resources which are to be found in less-developed economies marked by imperfect markets and by bottlenecks in capital, skills, natural resources, and other scarce factors. The idle factors are here termed "low-cost" rather than "cost-free" because they can seldom be put to use without some accompaniment of scarce factors in however small amount. While these conditions are met in some economic fields -- e.g., road-building or water-control projects -- they are extensive in social fields. Notable examples are the mobilization of idle labor-time in villages for sanitation work, child care and general community development (as in India); the use of educated recruits in the armed forces as rural teachers, and as para-medical personnel made mobile with military vehicles and supplies (as in Iran); the training and payment of midwives to promote the use of

contraceptive devices (as in Pakistan); the mobilization of idle teenagers in "youth corps" (as in several nations of sub-Saharan Africa). Undoubtedly, the most spectacular effort along these lines has been made in Communist China; but after some substantial achievements during the early and middle 1950's, the excesses of the Chinese mobilization during the so-called "Great Leap Forward" of 1958-59 produced a general setback for several years thereafter 1/.

The particular relevance of surplus labor to the problems of social services lies in the very large role of labor, even unskilled labor, in social undertakings. Sometimes persons with very little training or equipment can do the whole job (as in sanitation or baby-sitting) or else can serve as aides to more skilled persons (such as doctors and teachers and public-health engineers). Some services, such as improved food-preparation, are only changes in existing habits, requiring no new scarce inputs -- except in the training courses.

In these low-cost projects, it is important to guard against hidden real costs -- whether scarce resources actually used, (such as management skills) or other activities correspondingly neglected (as in excessive mobilization of labor or transport) or indirect negative effects (such as population increase, migration to cities, detachment of children from their families or from their village roots, and projection of unrealistic expectations).

1/ See E.P. Reubens, "Under-employment Theory and Communist Chinese Experience", in Asian Survey, Dec. 1964; also Y.L. Wu, An Economic Survey of Communist China (Bookman Associates, 1956); also E. Gilbert, La Voie Chinoise (1962); and E. Guillemin, Six Cent Millions de Chinois. Also the subsequent "revival of mass peasant labor" described as "Spurs in a Weary Horse", The Economist (London), July 2, 1966, pp. 31-32.

(2) High-yield technologies for the social features of less

developed countries are apt to be non-conventional, and sometimes quite "unfashioned". For many of the technologies currently being imported from the West are ill-suited to present conditions in the developing nations and raise costs there. We may question such current practices as the organization of educational systems in the traditional pyramid with a broad base; the use of vocational institutes rather than on-the-job training; the reliance on manpower forecasts made with present or foreign parameters as fixed coefficients (while ignoring the costs of manpower preparation in ratio to the benefits); the drive to eliminate the most widespread endemic diseases, no matter how deeply rooted; the adherence to best-available professional practices regardless of costs in universities, hospitals, road-building, sewerage; and in some instances uncritical reliance on such social institutions as the family (presuming a stable, nuclear family pattern where the actuality may be matriarchal, clannish, or tribal, or marked by a high rate of desertion), also reliance on the village elders or the political elite (who tend to oppose innovations) or dependence on the commercial markets (presuming that these are vigorous, flexible and responsive).

Some alternatives to these unsuitable technologies already exist.

There is, for example, the narrow ~~pyramid~~ educational pyramid which was found in most Western countries and Japan during their advances in the 19th century (see Appendix I). There are simple mobile clinics which substitute for expensive fixed hospitals. Not all of these substitutes, however, are capital-saving in the simple sense: radio may prove to be a cheaper way to spread education than classroom teaching (according to some experiments in India supported by A.I.D.), and strongly-built roads may prove to be cheaper than flimsy roads in an area where maintenance is deficient (according to experiments in Africa supported by A.I.D. loans there). Sometimes the obstacles are institutional rather than economic, as in the resistance to non-conventional methods of home construction

in Latin America -- due to attitudes of construction labor, rigid building codes, and lack of bank credit for pioneering work (according to A.I.D. officials in housing). Evidently, more research and experimentation, examination of foreign experience both historical and contemporary, and will-to-change are required to develop new and relevant technologies.

(3) Relevant foreign experience.

Foreign practices in regard to social outlays are attractive as a norm to be used for those features, or in those countries, where a) analytic norms do not exist, or b), the proposed analytic norms are very far above feasible attainment. In the case of a), the international comparison indicates whether current practice in the given country is out of line with practice elsewhere, and measures the extent to which such current practice must be raised (or lowered) to conform to foreign usage. In the case of b), the comparison serves to indicate how Utopian the proposed analytic norms may be, and encourages and guides a more modest scale of programming in the given country. The availability of long historical experience elsewhere is particularly helpful for projecting the results of present programs whose effects are not immediately visible, because they are tied to the slow -- decadal -- growth of the coming generations.

Just how great or reliable is that assistance will depend upon the relevance of the foreign practice: the similarity of many actual conditions and objectives in the two countries. In practice, it is often the advanced countries which are taken as models, partly because of the scarcity of data in less-developed nations, and partly because of the prestige of the advanced ones, but perhaps mostly because of the emotional appeal of the high levels of welfare attained in some countries. However, the imitation of advanced

56

countries is likely to end in a lavish waste of resources in a developing nation. The attainments of the advanced countries in regard to social services, amid far greater resources of materiel and personnel and real opportunities for the next generation, are not a good guide to what is currently feasible in developing countries, although they may sometimes be a fine guide to ultimate goals.

Even if care is taken to adjust for differences in average income per capita, there are other conditions hindering the imitation of advanced models. Thus efforts to use a model requiring for its execution more mobility, more compulsion, or more continuity of administration, than is available in the imitating nation, will end in frustration. Innovations in childcare will not be readily accepted by mothers who are ignorant, timid, and dominated by husbands or older male relatives. Exhortations as to youth activities in foreign countries will be more upsetting than constructive in a situation offering its young people few opportunities for advancement in income, status or freedom. So basic a matter as the far higher proportions of dependent children in developing countries, combined with the more severe scarcity of resources for their maintenance and preparation, will make all the difference between the cases.

Other developing countries offer much better models for adoption. Also much can be learned from the earlier stages of now-developed countries like Japan, which formerly faced conditions much like those prevailing in the less-developed nations today.^{2/} However, even where data are available on other developing countries, the question remains as to whether their practice should be treated as in any way ideal: it may be exceedingly low, or conversely excessive, by reference to potentially available analytic standards or by reference to the levels of advanced countries. This is to say that any given country, measuring itself against such other developing countries as happen to

^{2/} See Appendix I.

57

offer data, may set goals for itself below its feasible capacity or beyond it.

Consequently, even if the exemplar or model showed rapid economic development along with social neglect at some stages -- e.g. Britain in the early 19th century, Japan (especially the rural sector) until the 1920's, or slum conditions in many rich cities down to the present day -- it would probably be rejected in principle on welfare-grounds today.

On balance, therefore, the use of foreign models and comparable stages is not really a substitute for analytic standards. Yet they are valuable guides where more formal standards are not available, and if used with care will encourage governmental officials and the ^{general} public to move ahead with action along at least some lines favorable to social development.

A useful compilation of data on these matters has been provided by the United Nations Bureau of Social Affairs, in the Report on the World Social Situation, 1961. In chapter III, a section on "Trends Over Time" assembles the records on literacy and mortality for a number of countries since the middle of the 19th Century, and summarizes them as follows:

while the now developed countries were considerably worse off in health when they were at an early stage of industrial growth, compared with less developed countries today at a similar income level, it seems that for at least some of the now developed countries, levels of literacy and school enrollments were substantially higher than the present levels in the majority of the less developed countries. (p.46)

A similar assessment of the historical situation in education, on the eve of the Industrial Revolution in a number of Western countries, and Japan, is stated by Professor Cameron in a recent paper.^{3/} If these estimates are correct, the implication is not only that education is a favorable pre-condition for subsequent development -- as Professor Cameron concludes; but also that rapid widening and deepening of education in later Western experience has rested on large prior stocks of education which were slowly accumulated during earlier decades in countries then at higher levels of per capita income than is true of the less-developed nations today. ^{4/} Likewise, the comparatively high level of health care in poor countries today (versus the early 19th Century), (as shown by comparative longevity and mortality rates -- despite popular impressions to the contrary) means that population pressure upon their per capita income is greater today than in the early stages of the Industrial Revolution.

Returning to another section of the Report on the World Social Situation, 1961, a tabulation in its chapter IV (reproduced here as Appendix II) shows the pattern of governmental outlays by country according to level of income per capita, on social items and on economic items, for years around 1958, but with many omissions and discrepancies (as indicated in the Note to the table). Even after some adjustment, these figures show a wide range of variation among the less developed countries; but in terms of medians of the adjusted outlay percentages, the less developed nations spent almost as high a percentage of gross national product on Education as did the

^{3/} Ronde Cameron, "Some Lessons of History for Developing Nations", Amer. Econ. Rev., May 1967, pp. 318-319.

^{4/} According to long-period income comparisons by Simon Kuznets, Six Lectures on Economic Growth, p. 26.

57

advanced countries, while spending proportionately less than half as much on Health as the advanced nations did. Allowing then for differences in income per capita, the poorer countries may be said to be already carrying as great a burden of these social services as the advanced nations, and consequently will have to shoulder a vastly greater burden in order to move toward the same absolute level of education and medical care.

More broadly, the causal interpretation of statistics of these kinds, to measure the connection between social outlays and economic development, has proved to be a complex and debatable matter, as indicated ~~xxx~~ above in section B of the present paper.

60

Pending the conclusion of such studies, we have a particularly valuable guide for planners in the set of standards for social outlays proposed by W. Arthur Lewis a few years ago.^{5/} Drawing upon the records of a wide range of countries, and intuitively sorting out the successful cases of development from the lagging or failing ones, Lewis advised developing countries to devote approximately 3 per cent of national income to Education, 2 per cent to Health, and 7 per cent to all other economic and social services; this comes to a total of 12 per cent for the whole social field, comparable to another 12 per cent to be devoted to material capital formation in order to achieve a growth rate of 3 per cent per capita per annum. While these proposed standards are not justified very precisely, they represent the judgment of a highly qualified and experienced economist, and may indeed compare very well with any proportions to be reached by elaborate calculations in this complex and difficult field.

(4). Strong points in foreign aid are important for the country that cannot handle all its social projects by itself but can enlist the support of foreigners. The aiding agency too is interested in leading from its strength, in the hope of maximizing the effectiveness of its outlays. As regards the social field in aid policy, it seems to be widely believed in Washington that the U.S. has great technical expertise in health work and in technical education. The relevance of this expertise, however, comes into some question from the viewpoint of the conditions in the recipient countries.

The professional standards which animate U.S. medical personnel and

^{5/} Economic Digest (Karachi) Winter 1960.

61

educators derive from a set of conditions in the U.S. which may be misleading as regards less-developed countries, involving them in larger outlays, more mechanical aids, more elaborate systems of organization, slower progress, greater dependence upon financial incentives to personnel and rational appeals to clients, than are suited to these countries. An instance which has recently become quite widely recognized is the unsuitability of formal "vocational institutes", no matter how much prestige attaches to the "well-rounded craftsman". Similarly, the American emphasis on equipment, as a means of substituting for expensive labor, is inappropriate to these countries -- unless their labor is so inefficient in social tasks as to justify replacement by capital equipment, along the same lines as installing sugar-cane cutting equipment in place of even cheap machete-men. Thus it may be that American expertise is highly relevant in some economic fields, as determined by political commitments and discontinuous production functions, but is not so suitable in other economic fields and in some social fields. Each project must therefore be examined carefully in this regard.

Other American propensities may be particularly adverse to social projects. U.S. concern with our balance of international payments, and Congressional insistence on tying foreign aid to purchases of U.S. goods, work against large programs involving local currency outlays in the less-developed countries (even though the dollars laid out for the local currency would eventually be used for purchases of U.S. goods or services). Consequently, they discriminate against such undertakings as educational projects, where U.S. exports are minor, but less so against medical projects, which call for shipments of equipment, medicines, D.D.T., specialists, etc. The Congressional rules also tend to favor certain technologies for a given project although those technologies may be inappropriate and wasteful; e.g., building with imported equipment and materials instead of local materials and labor-intensive methods; and dealing with health problems by means of hospitals, water-and-power

7600

complexes, and malaria eradication -- all of which require imports from the U.S. -- instead of clinics, local water control measures, and sanitation actions, which would take a much larger share of their support in local currency. (5) Administrative problems involve behavioral patterns conflicting with innovations. These may occur sometimes because existing structures of authority -- in the family, the village, the tribe, the central government -- are imperilled by education and the arrival of new figures of authority (the teacher, the doctor, the social worker). Or the problem may arise because social undertakings require a degree of cooperation among individuals on a voluntary basis -- in contrast to the involuntary, organic relationships of family, clan and village into which the individual is born. Many social undertakings must be undertaken on a minimally large scale, as in the case of sanitation or water supply -- a scale sometimes too large for the family or clan groups which might be willing to participate as a unit. Other social undertakings must be done in a tightly inter-connected set -- as in the syndrome of nutrition, sanitation and education; so that once more organization is difficult to initiate and sustain. Most of these organizational problems are more severe for social projects than for economic projects, which can often be broken down into feasible units, and in which equipment can often be substituted for people if the individuals prove refractory; whereas social projects are by definition matters of the behavior of people.

Accordingly, the planner must take as one criterion for social outlays the prospects and costs of organizing the persons involved, supervising their performance, and coordinating it with other related activities.

To be sure, a planner may choose to deal with the problems of human behavior by setting up training programs, new institutions, campaigns to inculcate different values. In AID, the Brazil Mission for example, gives much emphasis to such procedures. In the social realm, this procedure is expensive and slow; and may oblige a foreign-aid agency to use up much of its funds in importing foreign personnel to push through programs which have not evoked local enthusiasm.

By the same token, the national planner and even more the foreign aid

21

official tend to develop a predilection for the "well-prepared project" which -- like the "well-made play" in the theatre -- is coherent, easily understood, and readily administered. In AID, this tendency seems to appear much more strongly in the loan operations than in the technical assistance activities; and is most noticeable in a number of loans to African countries for small water projects, sewerage in some cities, small elementary and secondary schools, and campaigns for malaria eradication; but may also be found in the loans to Pakistan, for instance, for five water projects as well as for the malaria eradication campaign; and in the Latin American area, an example may be the current effort to promote Building and Loan Societies which seem to be feasible although their contribution to general economic development (and not just the comfort of a small middle class) is debatable.

To be sure, there can be no objection to a project being presented in a clearly articulated scheme. The objection arises rather in the appeal of such schemes to the harried planner so that he neglects other, very important considerations: reliability of the current prices in which such schemes are usually presented, comparison of the given proposal with alternatives, relation of the proposal to wider trends, plans and scarcities, danger of adverse effects emerging indirectly. Conversely, we have heard that many disapprovals of loan proposals in A.I.D. were based in the last analysis on administrative considerations, along with evident lack of country participation or self-help; and we see here a danger that some very useful steps toward economic development might be turned down because they were not so readily planned out as some less important but facile schemes.

6/4

APPENDIX I

Social Services, Welfare and Growth in Japan, 1868-1910

In many current discussions of developmental policy, the record of Japan during the course of its modernization is often cited for its alleged lessons in regard to developing countries today. For Japan presents one of the few apparent success-stories of modernization in fairly recent times, under internal conditions of population pressure, peasant agriculture, traditional social system, and other factors deemed adverse to modernization, and also widespread today, while the external setting of Japan a century ago was already that of a late-comer in the world's industrialization.

The actual record of Japan is, however, in considerable dispute: the scriptures here are obscure and imperfect, and so are cited rather indiscriminately by both the angels and the devils. Furthermore, it is not only the answers but the questions themselves which are questionable: for we are less concerned with the present welfare of the Japanese people, or their progress since 1920 (when the reliable statistics begin), than we are concerned with their early progress after the Meiji Restoration of 1868 and their experiences during those decades up to 1900 or 1914 when they attained a kind of "take-off" of modernization. Accordingly we set forth here some of the notable traits of Japan's outlays and accomplishments in social services during the early decades of her transformation into a dynamic modern economy.

We may begin with the strong indications of slow progress in popular welfare up to a rather late stage in Japan's evolution. Most observers of Japanese life even in the 1930's were agreed as to "the meager livelihood of the masses of people" and "the dire poverty of millions of tenant farmers and unskilled workers", and would concur in the statements that the "plane of living remained far below the minimum requirements of health, comfort and security, even by

65

Japanese standards", and that "standards of sanitation, education and housing were still needlessly low, in the city as in the country" ^{1/}. Distinct gains had been made in disease control, longevity, and nearly universal literacy; smaller gains had been achieved in diet, clothing and amusements; housing had made little progress in the countryside, and perhaps retrogressed in the urban slums, although electric lighting and power were becoming widespread in the late 1930's. Overall, six decades of economic advance had not carried the Japanese people very far above the levels of subsistence at which they are ^{commonly} believed to have begun their modernization. All the less, therefore, must have been their progress in welfare during the first few decades when the economic pace was slow and the constraints of poverty were very severe.

Turning therefore to a more direct examination of the decades of the 1870's, -80's, and -90's, we may look first at the course of education in Japan. It appears that Japan already possessed in 1868, on the eve of its modernization, a substantial stock of education. This was in the form of several millions of persons (in a total population of about 30 million) who had received some kind of formal instruction, ranging from the rudiments of literacy in the Japanese language through elements of mathematics and science (obtained via rangaku, or "Dutch studies", even under the isolationist policy of the Tokugawa period), and up to sophisticated literary and philosophical studies for a few. As regards the then-current flow of education -- from which the stock was derived by net accumulation -- it may be estimated that about one-third of Japanese males of elementary-school age were actually enrolled in such schools, but perhaps no

^{1/} These citations are from the substantial and virtually standard work on Japan's evolution by William W. Lockwood, The Economic Development of Japan, (1954) pp. 139-140 and 148-149. On the lag of consumption in promoting Japanese capital formation, see E.P. Reubens, "Foreign Capital and Domestic Development in Japan" in Economic Growth (ed. by Kuznets, Moore and Spengler, 1955).

16

more than one-seventh of the females.^{2/} Furthermore, in Japan in those days as in less-developed lands today, enrollment is far above actual daily attendance: whether because of lack of pupil interest, lack of evidence on benefits of education, heavy school fees (primary education was made compulsory in 1872 in Japan, but was not made free of tuition charges in most localities until 1898), or use of the children for farm work.^{3/} After three decades of effort to build the school system, the record in 1901 -- when the data were much more reliable than in 1868 -- shows that only about two-thirds of the whole population of school-going age was actually enrolled (nearly 5 million children enrolled out of 7.5 million in that age-bracket), although no doubt the proportions were much higher for males than for females; while the rate of daily attendance was given as 85.5 per cent, but probably was in actuality much lower.^{4/} This is to say that during most of the three decades from 1872 to 1901, the coverage of schooling was far from universal, and even for males was probably not much above two-thirds of the age-bracket until the turn of the century.

^{2/} These proportions are derived from data given ^{by} Ohkawa and Rosovsky, "A Century of Japanese Economic Growth", in W. W. Lockwood, ed., The State and Economic Enterprise in Japan (1965), p. 59. Their data indicate that some 1.1 million pupils of both sexes were attending elementary schools; and they declare that this number represents 50 per cent of the males and 15 per cent of the females. However, these percentages are inconsistent with the demographic data, which indicate approximately 2.6 million persons of each sex in this age group around 1868. Assuming that 15 per cent is indeed correct for the females, we come to about one-third enrollment for the males. Our estimate is in general agreement with enrollment percentages for 1873, given in Reischauer-Fairbank et.al., East Asia: The Modern Transformation (1965) p. 523.

^{3/} Cf. David S. Landes, "Japan and Europe: Contrasts in Industrialization", in Lockwood, ed., op. cit., p. 108: each school district "was required to establish at least one primary school. In spite of considerable prodding, it took decades to approximate this minimal standard . . . the rural areas were slow in sending their children to school". Likewise, Oshima (ibid. p.378), speaks of "widespread resistance to compulsory education" during that period.

^{4/} Data from Japan, Dept. of Agriculture and Commerce, Japan In the Beginning of the Twentieth Century (1904), pp. 743-751. The Reischauer-Fairbank volume, cit. sup., gives 90% enrollment for boys and 70% for girls, as of 1900.

Governmental expenditures on education were also modest, as shown in the following tabulation: 5/

Educational Expenditures of Central & Local

Governments in Japan

	<u>1873-77 (av.)</u>	<u>1880</u>	<u>1890</u>	<u>1900</u>	<u>1910</u>	<u>1920</u>
Percentage of Total Govt. Expenditures	3.9	7.5	8.3	9.9	10.9	9.6
Percentage of G.N.P.	-	0.75	1.25	2.0	2.7	-

Note: Until 1900 the private sector bore most of the costs of education; the governments took over the main burden beginning in 1898.

These figures are well below the educational outlays shown in poor, developing countries today. As a share of total governmental expenditures, there are very few percentages below 9 per cent today, and some are at 20 per cent or more, with most centering around 13-14%. The share of G.N.P. allocated to education today runs close to 4 per cent in many developing countries (as well as in several of the richer industrial nations). 6/

This record raises the important question of rational allocation policy for education in a poor country such as Japan was in the Meiji period. Since it appears that the government in that period up till 1898 could not shoulder the whole burden of elementary education, but rather imposed it upon the populace by mandating universal primary education without providing it, one may inquire whether the policy was not indeed excessive.

5/ Calculated from figures on total governmental expenditures as percentage of G.N.P., and figures on educational outlays as percentage of the governmental expenditures, according to data given by Oshima, "Meiji Fiscal Policy", in Lockwood, op. cit., p.366 and p. 370.

6/ According to tabulations for years at or close to 1958, (in United Nations, Report on the World Social Situation, 1961, p. 71, reproduced below as Appendix II), the central governments of the less-developed countries commonly spent about 2.5 per cent of their G.N.P. for educational purposes, although a few spent as little as 1.2% and several spent 3.7% or more; addition of local governmental outlays, together with the stepped-up educational efforts of the 1960's, would bring the percentages close to 4 per cent at least.

The strain on governmental finance has already been suggested. The strain on aggregate capital formation is indicated by the estimate that net domestic capital formation (material forms only) as a percentage of net domestic product during the period in question was only about 8 per cent a year 7/. The waste of much of the educational effort is indicated by the persistence of traditional ways of life, the predominance of agriculture as an occupation, and the spread of agricultural innovations not so much by written documents and mass literacy as by personal exhortation and visible example provided by a few pioneers to the mass of peasants. 8/ As Oshima puts the question: 9/

"Was there a need to force peasants to pay for so much of the education of their children? A large majority of them were hardly in a position to make use of the learning in their own lifetime, not even to read the newspapers (which they could not afford). As a result the acquired knowledge commonly tended to atrophy... it might have been more prudent in the Meiji period to initiate a system of selective compulsory education almost entirely paid for by the state... This would have enabled the peasants to shift the funds used for educating their children to meet farming needs, while the number educated would have been adequate for the needs of modernization".

It would appear from the foregoing analysis that Japan in the Meiji era of early modernization did indeed make a considerable effort for universal primary education, although less than comparable poor nations are attempting today; and

7/ Henry Rosovsky, Capital Formation in Japan (1961), p. 9.

8/ See S. Sawada, "Innovation in Japanese Agriculture, 1880-1935" in Lockwood, ed., op. cit., p. 340. On the other hand, Johnston insists that general education of peasants "served to enhance their receptiveness to innovations" (B.F. Johnston, Agriculture and Economic Development: the Relevance of the Japanese Experience (Stanford Food Research Institute Studies, 1967), p. 263.

9/ Op. cit., p. 379.

68

that the Japanese government did not quite succeed in attaining its goals before the turn of the twentieth century; and that even the success attained may well have been excessive for the real needs of the economy as well as for the cultural needs of the society.

* * * * *

70

A parallel history is observed in health services and demographic results. However, the facts are difficult to demonstrate, as the official statistics are unacceptable for the early decades of interest to us here: the reported birth rates and death rates both seem to show a rising trend from the beginning (around 1875) until 1893 for the death rates and until 1920 for the birth rates. If these rising trends were correct, they would suggest a decline in popular welfare right through the first few decades when production was rising strongly; in fact, a rising death rate during such decades would suggest that health services were of negative effect! It is of course more reasonable to suppose (as Taeuber, Notestein, Beal and others have done) that improvement in the reporting of deaths and births (the latter lagging behind the former) is responsible for the statistical artifact observed here.

As the count of population is more reliable and correctible than the birth rates and death rates, we turn to the rates of natural increase. Corrected figures for the period from 1873 to 1893 show the annual increase per thousand of the existing population to have been between 6.9 and 7.5; then rising to 9.7 during 1894-98 and 11.7 during 1899-03; and remaining at approximately the latter level until the mid-1920's when it rose to about 14 per thousand ^{10/}. The figures for 1873-93 are low in comparison with statistics for Western and Northern Europe, whether in the same period or over a longer period from 1841 to 1920, the European figures being mostly between 7.8 and 9.9 ^{11/}. To put the same point another way, in a comparison between the Japanese trends and the English trends from 1872 (1871) to 1912 (1911), there was an increase of 43 per cent for the Japanese and a bigger

^{10/} E.B. Schumpeter, The Industrialization of Japan and Manchukuo (1940), Table 3, p. 74.

^{11/} Schumpeter, *ibid.*, Table 2, p. 73.

increase of 60 per cent for the English.

After 1920 of course the Japanese rate of natural increase rose strongly while the European rate declined. What is more significant is that the Japanese rate, which was so low during the early decades of modernization, never rose above 15.2 per thousand at its peak in 1932 -- in extreme contrast with prevailing rates for less developed countries today, where figures of 25 per thousand are commonplace, and 30 or 35 are frequent, and even 40 is not unknown. Such population explosions, under circumstances of less economic expansion than was true of Japan, reveal how welfare measures today have carried nations demographically far beyond the Japanese model.

If we turn now to the expenditures on health services, we find that Japan made very small outlays on this sector, as follows: 12/

Health Expenditures of Central and Local Governments in Japan				
	<u>1880</u>	<u>1890</u>	<u>1900</u>	<u>1910</u>
Percentage of Total Govt. Expenditures	1.1	0.6	1.4	0.4.
Percentage of G.N.P.	0.1	0.09	0.28	0.1

The extremely low levels of these health programs stand out in comparison with those of the currently less developed nations as shown in the table in Appendix II: no nation today spends as little as Japan did on health measures; most present-day countries spend 3-4 times as much (and a few still more) in terms of share of total governmental expenditures, and they spend about 8 times as much in terms of share of G.N.P. (a few countries today spend 11 or 12 or more times as much as did Japan!). Probably no nation in the world today would accept the early Japanese level of health expenditure as a norm; but the comparison indicates how far these nations have outrun the Japanese scale in this regard.

12/ Figures derived from Cahima, op. cit. pp. 366 and p. 370.

APPENDIX II

The pattern of governmental expenditures for social purposes in a wide range of countries toward the end of the 1950's is shown in the accompanying table prepared in the United Nations. The figures in the first three columns represent percentages of all governmental expenditures in each country; the other columns represent percentages of Gross National Product.

The countries are grouped according to levels of national income per capita, Group 1 being the lowest and Group 5 the highest. The coverage and omissions of social and economic items are specified in the footnotes to the table. Particular attention is drawn to the fact that for many countries the figures, as given in italics, represent expenditures of central governments only; these are known to amount to less than 85 per cent of all social expenditures by all levels of government in many of these countries (as shown by addition of parentheses around italic numbers), especially in Groups 2, 3 and 4.

In view of these qualifications, some adjustments must be made for a number of countries before the figures shown in the table may be interpreted in absolute terms or in comparisons among countries.

10

Table 3. — ESTIMATED GOVERNMENT EXPENDITURES FOR SOCIAL PURPOSES IN FORTY-ONE COUNTRIES AND DEPENDENT TERRITORIES, EXPRESSED IN TERMS OF PERCENTAGES, ABOUT 1958^a

Income group	Percentage of government expenditures			Government expenditures in terms of percentage of GNP ^b				
	Education	Health	Social items aggregated ^c	Total	Education	Health	Social items aggregated ^c	Economic items aggregated ^d
Group 1								
Belgian Congo ^o	14.4	3.9	31.7	31.6	4.6	3.1	10.0	8.9
Burma ^e	7.6	2.5	15.0 ^l	36.2	2.8	0.9	5.4 ^l	
India ^e	9.0	4.0	14.5	15.8	1.4	0.6	2.3	6.3
Kenya ^b	13.7	5.0	26.4	22.3	3.0	2.1	6.9	4.4
Nigeria ^{bb}			34.7	12.1			4.2	3.4
Tanganyika ^b	19.5	8.7	30.7	14.0	2.7	1.2	4.3	4.0
Uganda ^b	17.9	10.2	37.1	22.4	4.0	2.3	8.3	5.1
Republic of Viet-Nam (1959) ^b ..	8.3	4.7	16.2	14.3	1.2	0.7	2.3	2.1
Group 2								
Ceylon	13.3 ⁱ		33.3	27.6	3.7 ^l		9.2	8.0
Colombia (1957)	(5.6) ^j	(3.5)	(11.0)	(9.4)	(0.5) ^j	(0.5)	(1.3)	(2.9)
Ecuador	(12.4) ^k	(3.7)	(21.3)	(10.9)	(1.4) ^k	(0.4)	(2.3)	
Ghana (1959/60)	13.9	6.2	28.4	17.7	2.5	1.1	6.0	6.7
Honduras (1954/55)	12.6	8.8	26.5	9.2	1.2	0.8	2.4	3.3
Republic of Korea (1960) ^{b1}	(16.2) ^m	(1.0)	(22.2)	(23.0)	(3.7) ^m	(0.2)	(5.1)	(4.3)
Peru (1957)	12.9	3.5 ⁿ	23.3 ^o	18.6	2.4	0.6 ⁿ	4.3 ^o	
Philippines	(23.8)	(6.7)	(33.1)	(10.4)	(2.5)	(0.7)	(3.4)	(3.5)
Thailand (1960) ^{b1}	17.4	3.0	25.8	16.8	2.9	0.5	4.3	3.5
Group 3								
Chile (1956) ^l	19.5	20.3	41.3	13.7	2.7	2.8	5.7	2.6
Costa Rica	24.2 ⁱ	2.7	41.3	12.7	3.1 ^j	0.3	5.3	
El Salvador (1954)	14.2		28.2					
Federation of Malaya ^{bp}	17.4	7.4	27.2	20.1	3.5	1.5	5.5	3.5
Japan ^l	(7.3) ^q	(2.2)	(30.0)	(21.1)	(1.5) ^q	(0.5)	(6.3)	(9.2)
Mexico	(11.1)	(4.4)	(23.3)	(10.1)	(1.1)	(0.4)	(1.9)	
Portugal (1957)	9.5 ⁱ	6.2	25.9	14.2	1.3 ^j	0.9	3.4	
Singapore (1960) ^l	24.6	14.3	45.5					
Group 4								
Austria ^e	(10.5) ^j	(0.5) ^s	(39.4)	(23.5)	(2.5) ^j	(0.1) ^s	(9.3)	(6.3) ^t
Belgium ^l	14.1 ⁱ		35.7	12.3	2.6 ^j		5.6	3.0
Finland	(14.3) ^m	(5.6)	(40.0)	(26.6)	(3.3) ^m	(1.5)	(20.6)	
Federal Republic of Germany ...	9.6 ^k	1.3	47.9	24.4	2.3 ^k	0.3	11.7	3.6
Israel (1954/55)	10.0 ^u	5.6	32.3	39.5	3.9 ^u	2.2	12.8	14.9
Italy	(12.3)		(24.6)	(21.2)	(2.0)		(5.2)	
Netherlands ^l	(13.0) ^j		(31.6)	(24.2)	(3.1) ^j		(7.9)	(3.8)
Venezuela (1955/56)	5.5	5.3	16.9	18.7	1.2	1.2	3.2	
Group 5								
Australia (1954/55) ^v	7.2	7.8	41.8	27.0	2.0	2.1	11.3	7.2
Canada (1956)	10.7	5.0	32.7	25.6	2.7	1.3	8.4	
France	9.9		31.9	25.2	2.2		8.0	4.5
New Zealand	9.2	6.2	41.0	34.5	3.2	2.1	14.1	
Norway (1955/56) ^v	12.7 ^k	4.5	34.6	25.2	3.2 ^k	1.1	8.7	8.8
Sweden ^w	12.9 ⁿ	7.7 ^z	42.4 ^o	35.3	4.6 ⁿ	2.7 ^z	15.1 ^o	
United Kingdom ^v	13.2 ^z	10.4	48.1	31.4	4.1 ^z	3.2	15.1	5.1
United States of America	12.4	3.5	30.9	30.4	3.8	1.1	9.4	4.2
Median	12.8	5.2	30.9	21.2	2.7	1.1	5.6	4.4

Source: United Nations, Report on the World Social Situation 1961, p. 71.

FOOTNOTES TO TABLE 3

Note. Figures in italics represent expenditures of the central Government only, inclusive of grants and loans to other levels of government; parentheses are added if the central Government's total expenditures for all purposes, so calculated, are estimated to represent less than 85 per cent of the expenditures of all levels of government combined. Other figures represent government expenditures as a whole, i.e., all levels consolidated.

^a Actual expenditures, i.e., final accounts, for 1958 or a fiscal year partly in 1958, except where otherwise indicated.

^b Gross domestic product at market prices for Tanganyika and Thailand; net domestic product at factor cost for Kenya and Uganda. In the following cases the GNP (or GDP) data are for an earlier year than the budget data, which tends to inflate the percentages slightly: Nigeria, 1956/57; Republic of Viet-Nam, 1956; Republic of Korea, 1959; Thailand, 1959; Federation of Malaya, 1957.

^c Includes — in general, but with some variation in detail from country to country — expenditures for items listed as social services in *A Manual for Economic and Functional Classification of Government Transactions*, i.e., education; health; "social security and special services" (including war veteran benefits, child and mother care and various other welfare institutions); and "other social services" (including housing, recreation, religion, etc.). Labour frequently appears as an item, often bracketed with welfare or social welfare.

^d Includes — in general, but with considerable variation in detail from country to country — the economic services items listed in the *Manual*, i.e., agriculture and non-mineral resources; fuel and power; other mineral resources, manufacturing and construction; transport, storage and communications (including, as suggested in recent expert discussions, all roads and highways, frequently a large item); and "other economic services" (including research, commerce, etc.). "Economic development" appears in certain cases as a main component part.

^e Partly budget estimates. In the case of Belgian Congo, an unknown amount of debt amortization is included in the Government total.

^f Excludes minor amounts of social service expenditure by boards and corporations, e.g., pension payments.

^g Includes Union and state government budgets (1957/58

accounts) but omits local expenditures, which in the previously cited "Exploratory Study" for 1954/55 accounted for 6.6 per cent of the all-level aggregate for social services. GNP rough estimates. Government expenditures from preliminary draft of *Economic-Functional Classification of Central and State Government Budgets — 1957-58*, a study to be released by the National Institute of Applied Economic Research, New Delhi, in 1957.

^h Based on unofficial data.

ⁱ Based on education expenditure estimate from UNESCO.

^j Education and culture.

^k Education, culture and research.

^l Budget estimates.

^m Education and research.

ⁿ Expenditures for goods and services only.

^o Includes estimated transfers.

^p Partly estimated, with municipal expenditures and local education expenditures not included.

^q Central Government expenditure for education here constitutes slightly more than one-third of the total for all levels of government combined, according to UNESCO data (see table 6).

^r Based on expenditures excluding transfers of shared taxes to regional and local authorities.

^s Not including extensive financing of social insurance expenditures (sickness and maternity benefits) outside the budget.

^t Includes deficit of government enterprises, especially railroads, arising from extraordinary pension liabilities, accounting for nearly three-tenths of the total.

^u Education, religion and research.

^v Government expenditures on a net basis, after deduction of fees and other charges for goods and services.

^w Rough estimates of unduplicated central-local totals.

^x Government consumption only.

^y Totals exclude debt interest but include net lending to public corporations.

^z Education and child care, including school meals, etc.