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**METHODOLOGICAL LINKS BETWEEN**  
**ECONOMIC AND SOCIAL PLANNING**

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METHODOLOGICAL LINKS BETWEEN ECONOMIC AND SOCIAL  
PLANNING

1. Economic Welfare as Part of Total Welfare

The basic link between economic and social planning is, I suppose, simple enough. Economic welfare is part of total welfare, namely that part of total welfare that is ascribable to economic causes. Economic objectives are not desired for their own sake, but are, ultimately, all "derived" objectives. Higher output of food or clothing is desired because of the nutritional value (or pleasure) that comes from eating, and clothing is desired for the warmth, protection and pleasure that comes from wearing clothes. The ultimate objectives for which these derived economic objectives, such as greater material product, are desired are thus on a par with other ultimate objectives that are generally regarded as non-economic, such the enrichment of life that comes from education or the increase in human dignity and sense of purpose that comes from full employment accompanied by satisfactory working conditions.

Once the essentially derived nature of all economic objectives is appreciated it is obvious that the problem of allocation of resources among competing economic objectives cannot be divorced from the problem of allocating resources among all the objectives in the social welfare function, since the final objectives have, qualitatively, the same status. Efficiency of resource allocation - or of any other activity for that matter - cannot be defined except in terms of basic objectives. If taken to the extreme, the justification of certain economic policy measures on the grounds that non-economic considerations have to be sacrificed in the interests of economic expediency, destroys the whole basis of any concept of efficiency in the conduct of affairs. In the allocation of scarce economic resources among competing ends, the role of some sort of calculus for comparing the costs involved with the benefits has always been recognized, and increasing use of such cost-benefit analyses has been made over the last twenty years or so. In view of what I have said above, therefore, it would seem only logical

to apply the same sort of analysis to the comparison between alternative economic ends and alternative non-economic ends, which for the sake of brevity, can be called "social" ends. The application of such analysis to social ends is thus simply the extension of the social welfare function, the value of which is to be maximized, to include all ends, and not to exclude those that are non-economic.

In spite of this undoubted link between the social and the economic maximization problem, I wish to adopt a very sceptical attitude, in this paper, to the possibilities of pursuing, in the field of social objectives, some of the refined techniques that are familiar in the field of economic objectives. My reasons for this are partly practical and partly conceptual, and also, perhaps, partly motivated by the belief that, in view of the way that cost-benefit analysis has become all the fashion these days, somebody has to be the devil's advocate, and it might as well be me.

## 2. Theoretical Need for Common Weights in Social Welfare Function

Once the conceptual unity of all ultimate objectives within the framework of the social welfare function is recognized, it follows that (a) conceptually comparable weights have to be attached to all ingredients of this function and (b) these will not be simply the economic returns to the the various elements in the function.

Thus the common procedure of estimating the economic return to, say, education investment, is a violation of the underlying *raison d'etre* of cost-benefit analysis of social projects. For example, it is very fashionable, nowadays, to evaluate many social programs solely in the light of their economic pay-off, as if it is only this that matters, whereas it is precisely in these fields that the need to recognize the importance of the ultimate non-economic character of all objectives is greatest. Only if the conceptual unity of all objectives within the welfare function is denied is there any point in treating economic returns as having a value in themselves.

But in that case, it would have to be admitted that the question of calculating the relative benefits of economic returns as against non-economic returns would be a meaningless question, since no common measuring rod for the two kinds of benefits could be devised. In fact, given the conceptual unity of ends, in the social welfare function, it would be more logical, in theory, to calculate the ultimate satisfactions to be derived from the economic objectives than to calculate the economic returns to be derived from the non-economic objectives.

However, it is not customary to try to calculate the ultimate satisfactions to be derived from economic activities by means of some measure of these satisfactions, partly because of the practical difficulties and partly because it is assumed that market prices (or shadow market prices) are sufficient indicators of the weights to be attached to the derived ultimate benefits to be obtained from such economic forms of output. As long as these prices are assumed to represent the correct weights in the economic parts of the welfare function then it is assumed that they are also the correct weights in the total social welfare function.

However this assumption is a debatable one. For since the distinguishing character of most social consumption, such as health and education, is that they are collective wants, the provision of which does not usually go through the markets, there is no precise way by which the population can express their relative preferences as between individual market (economic) activities and the collectively provided social activities. One can not assume that the relative weights which people ascribe to alternatives when their choice is over a limited range would be the same as when their choice is over the full range of the welfare function. For example, the relative valuation that people will place upon private medicine will be very different in a situation in which there is public provision of drainage and refuse collection from one in which these services, too, are in the private market economy.

### 3. Problem of Identifying Current Weights in Social Welfare Function

In theory, if the calculus of resource allocation over the whole field of activities relevant to the wider social welfare function is to be carried out, then common weights have to be derived for all the ultimate objectives in this function. Passing over my last point, namely that it is invalid to assume that the price weights found in the economic section of the welfare function are the correct weights for the larger welfare function, there is still the problem of finding some weights for the non-economic section of the function. Evaluating only the economic returns to these activities is, as I have already argued, quite inappropriate. Hence some other system of weights has to be found. The difficulties of doing so have, of course, been recognized, which is perhaps why the logically dubious procedure of concentrating on their economic benefits has been followed. However, suggestions have recently been made to the effect that the weights for the non-economic areas of the social welfare, or preference, function could be identified by means of some sort of direct public opinion enquiry. (1)

The suggestion is that one should carry out some sort of survey of how much importance the population attaches to alternative elements in what is called the "level of living" index.

#### Practical Difficulties

I will not here go into some of the obvious practical objections to this procedure, such as the fact that answers to such questions are now known to be very unreliable, even when restricted to the usual market research enquiry into housewives' preferences between different brands of soap-and even when conducted in relatively advanced countries. The notion of applying such techniques to developing countries is rather naive, to put it mildly. But apart from these practical difficulties, there are some fundamental problems attached to this attempt to provide weights to social objectives in order to link them with the economic objectives in a global preference function.

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(1) "Cost-Benefit Analysis of Social Projects", Report of a Meeting of Experts held in Rennes, France; United Nations Institute for Social Development, Geneva, 1966.

Do People Know What They Really Want?

One of these is the problem of how far people really know what they want. In the first place, peoples' social wants are as much influenced by fashions and publicity as are their economic wants influenced by advertising. They are also influenced by the prevailing pattern of society and the values of that society. Insofar as economic development will both necessitate and bring about radical changes in social structures, so the values of society will change. If the population could be made aware of the type of social change that would be required for economic development it might very well approve of these changes and would then have to face the question of whether it approved also of the resulting change in the pattern of social values, and hence of wants, that would result. Thus people may not be able to decide what they really want simply because the alternatives and their implications are rarely fully revealed to them.

A simple example will illustrate this point. Suppose an economic advisor were asked, by a community of monks, to draw up a plan that would increase their incomes and hence enable them to provide, every evening, better services for the dead. One might then submit a plan which, say, involved providing better facilities for tourists to visit the monastery and one would draw attention to this possible objection to the plan. But the monks might then say that, far from this being an objection, they would, on reflection, be delighted to have more tourists since a greater flow of tourists was desirable for its own sake in that it permitted greater scope for religious conversion. In the latter case one should then, logically, revise the whole plan, for if, after all, it appears that one of their revealed objectives was the provision of inducements to tourists, the original plan was clearly an inefficient plan since it did not allow

for this additional objective. The new plan might then, say, incorporate a "steel band" as an attraction for tourists, but the monks might object to this on the grounds that they attached even more importance to silence than to services for the dead. This newly revealed independent objective would require a new plan that made provision for sound-proof facilities in their establishment at the expense, perhaps, of both services for the dead and tourists. This process can obviously continue a long way, if not indefinitely; at each stage new and hitherto unrevealed objectives coming to light, some of which will have been unrecognized by the monks themselves until they were faced with the impact of the plans on some aspects of their way of life, which would force them to appraise more deeply than hitherto their real order of preferences.

At the time the British National Plan (1) was being drawn up one well known public opinion organization did, on its own initiative and quite privately, conduct a survey of peoples' preferences as between different social objectives, such as schools, Universities, hospitals, housing etc: etc:. The results were very interesting in that the ranking of preferences was more or less in inverse order of the contribution of the various factors to economic growth. This is, of course, no objection at all to satisfying these preferences in the declared order. But one might well have asked what the respondents' replies would have been if they had been told that the satisfaction of these preferences in that order would have slowed down economic growth and hence the scope for them to enjoy, say, more leisure or more consumer durables.

#### Level of Satisfaction or Proportion of Needs Satisfied?

Another treacherous aspect of the survey of preference patterns is the problem of what really makes people happy : satisfying many needs or

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(1) "The National Plan", H.M.S.O., London, 1965.

satisfying a high proportion of their needs. The two things are not the same. The latter objective could imply reducing the number of needs rather than satisfying more of them. The man who wants ten things and gets only five may be less happy than the man who wants only four things and gets them all. The Buddhists have known this for a long time. From the point of view of the individual, who has no control over the environment that determines his wants, the most rational procedure is simply to satisfy as many of them as possible. But for the planner, who is attempting to control this environment, rational behaviour must make allowance for the effect of his actions on the pattern of wants, and simply surveying public preferences becomes a form of the fallacy of composition.

The inter-relationships between the planners economic measures and preference patterns is clearly brought out in a penetrating article by Paul Streeten, who stresses the resulting inter-dependence of ends and means (1). Since the different means that the planner may choose to implement any given ends will affect the pattern of preferences and hence the ends, it is logically very difficult to present the planning problem as simply one of finding the optimum set of means to achieve any given pattern of ends. For example, in Britain, considerable attention is being addressed now to the problem of regional movements of population and the undesirable social costs of an excessive "drift" to the South East of the country. There are, no doubt, many forces responsible for this drift, and it is not claimed that they are well understood. At the same time, various alternative measures are being contemplated (or already implemented) to check the drift, such as control over the location of industry, bodies designed to accelerate the economic development of certain regions,

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(1) Paul Streeten "Unbalanced Growth, Programmes and Prognosis, and the Ideal Plan", Banca Nazionale del Lavoro Quarterly Review, June 1964.

discriminatory capital grants, and so on. Other possible measures might include the reconstruction of the environment in the areas from which population is moving, since in many cases these are unpleasant relics of the industrial revolution. These latter measures would almost certainly have a big effect on the sort of environment that people would come to regard as normal and desirable, not only in the regions concerned but also in other parts of the country. Thus preference patterns will have been changed, and a future public opinion poll would show that the relative importance attached to the provision of public parks, recreation facilities, communal cultural facilities and so on would have greatly increased.

#### Relationship Between Economic Development and Social Preferences

The effect of the planners activities on the pattern of social wants is clearly brought out in a most stimulating paper (unpublished) by George Krimpas, on the shape of the Greek economy in the year 2000. Krimpas raises the question of how far in Greece (and presumably in many other developing countries) one is faced by the "anti-Marxist monster" that economic developments are a function of political change rather than the other way round, and he then proceeds to analyze what are the likely changes in the political forces as between different groups and social classes in Greece, given such economic developments that seem to be inevitable (such as the transfer of population from rural to urban areas, concentration of industry, growing importance of foreign capital in Greek industry, and so on), and hence what will be the feed-back on the type of economic development policy that will subsequently be pursued. It seems clear that any long-range economic prediction should make allowance for such political and social prediction, though I must confess that, in making my own long range predictions for the British economy (1), this point had not occurred to me. If one does

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(1) W. Beckerman and Associates "The British Economy in 1975", Cambridge University Press and National Institute of Economic and Social Research, 1965.

proceed along the Krimpas lines, the need to take account of the way that society's valuation of different social objectives will change is forced upon one. This is a further reason for not paying too much attention to any indicators of present public preferences, even if one could find such indicators.

#### Future Preference Patterns

Another, and perhaps more familiar way of looking at the same argument, is to recognize that the essential idea behind any cost-benefit analysis is- or should be- to take account of future changes in prices and cost. If no such changes were to take place then one could base one's plans simply on projections of demand at present prices, for the adaptation of supply to such demand changes would lead to an optimum allocation of resources. However, as the community's transformation curve expands outwards, so the optimum point (where it is tangential to a higher indifference curve) will generally be at a point where relative prices and cost differ from those prevailing in the base period. Cost-benefit analysis can be seen as a way of identifying the new optimum since tangency between the transformation curve and the community's indifference curve can be translated into the familiar cost-benefit conditions. Hence, when it is a matter of deciding on social projects, present preference patterns are no more relevant than are demand patterns at present prices for the planning of output of economic goods and services.

Thus an optimising plan covering all activities-social as well as economic-has to face up to formidable difficulties of long range projection of changes in demand and supply conditions, which, for various reasons, including those given above, are particularly severe in the field of social needs. Later in this paper I will discuss some of the difficulties that have been encountered in the relatively simple area of projecting purely

economic developments, but before doing so I would like to say a little more about the manner in which obsession with mechanical techniques, such as cost-benefit analysis and input-output tables, has diverted attention from the more urgent and obvious problems that have to be faced in certain fields of social expenditures.

#### The Example of Manpower Needs and Education Planning

One of the most popular areas of enquiry these days is the economics of education. Subtle and ingenious minds are brought to bear on the problem of long-range manpower requirements and their implications for planning the education system. I have already referred to the way that this has tended to concentrate attention on the economic returns to education, to the neglect of its social desirability. But another feature of most manpower planning exercises-as to be expected-is the delight in using input-output tables in order to project the future patterns of output and hence the future pattern of manpower requirements. One such study, by SVIMEZ of Italy, uses an input-output table to project the pattern of industrial output over a fifteen year period, and then, applying coefficients to each industry that indicate the proportion of top level management, skilled labour, high grade technicians and so on in each industry, aggregate results are obtained for the totals of each category of manpower that will be required. A simple check shows that, if the pattern of output had been assumed to have remained absolutely stable, the resulting total requirement for each category of manpower would be practically the same as with the refined and very time-consuming method of projecting the pattern of output by industry on the basis of a highly dubious input-output table. Similar exercises have been carried out in a number of Mediterranean countries in the course of the O.E.C.D.'s "Mediterranean Regional Project"; in almost every case a great deal of effort being made to project the pattern of industry and the consequent "needs" for manpower along the above lines - these being then translated

into educational requirements according to another set of coefficients relating different categories of manpower to educational qualifications.

I have two main objections to devoting a lot of effort to this type of calculation. First, the results are subject to such huge margins of error that it would be a brave man indeed who would wish to interfere with the structure of education that people want in the light of such projections. Apart from the errors in the projected pattern of output, about which I will have more to say later on, the other steps in the calculations are equally dubious. The coefficients indicating the proportion of people of different skills in each industry are notoriously difficult to predict. One certainly cannot use present coefficients, since one of the objects of policy is probably to change these coefficients in the interests of accelerating technical progress. The coefficients relating technical qualifications to educational requirements are also likely to change - or should do, if educational policy is to concern itself with making a genuine contribution to economic and social development. The fact is that we know really hardly anything about the substitutability of different occupational groups for each other and it is only as between non-substitutable groups that the problem of adaptation of education to manpower requirements is a genuine economic (as distinct from social) problem. One might argue that the only non-substitutable groups in society, in the end, are men and women, and that all that is required is to see that the number of men in the world is roughly equal to the number of women.

But this would be ignoring the fact that, according to the particular economy one is dealing with, certain key areas of economic development can be identified on the basis of a sensible analysis of the structure of that economy - e.g. tourism or electric power - and the planner must try to ensure that, in such clear cut cases, provision is made for the requisite

specialized manpower. Apart from this, the real general problems of educational planning are not those that can be dealt with by the blind mechanical application of the economists' latest fashionable toys.

My second objection to the usual overall comprehensive projection of manpower requirements is that, in most, though not all, developing countries, the chief need in educational planning is to enable education to play its part in the revitalization of agricultural areas, without which development programs aimed at industrialization will come to grief on account of the growing import burden of foodstuffs. Hence the attack has to be on the curricula taught in rural areas, which need to be much more closely linked to the experience and requirements of the local agriculture. Revolutions in teaching techniques at the primary level in advanced countries show what great scope there is for flexibility in the methods that can be applied, even to elementary education of the type that every developing nation requires. Secondly, the reform of primary and secondary education needs to incorporate changes in the status of teachers in rural areas in order to retain, in such areas, the imaginative and creative members of the rural communities, who will otherwise be among the first to emigrate to the towns. They must be given a constructive role to play in the administration of the rural areas and the development planning of their communities. It is, in fact, desirable that promotion up the hierarchical ladder in the central organs of the national bureaucracy be made dependent on a period of service in the rural areas. And whilst it is the wholesale reform of the curricula and administration of primary and, perhaps, secondary education, that is most vital for developing countries, at the University level too, it is administrative reform that is usually infinitely more important than the projection of the exact number of electronic engineers for whom places have to be provided in fifteen years time.

Thus, as far as educational planning within the context of economic planning is concerned, the real problems consist of administrative and curricula reforms plus the identification of the few key specific activities the development of which is clearly crucial to the economic plan. For example, in Greece, where I have the honour to be advisor on the Development Plan, there is no doubt that economic development for many years to come will, unfortunately (from a social point of view), depend partly on the rapid expansion of tourism. But, at present, the total "output" of trainees from the corresponding training schools (covering every category from hotel manager to bell-boy) is about three hundred persons per annum, although tourism will have to increase, over the next five years at least, at the rate of about 250,000 extra tourists per annum. It is much more important to find ways of expanding the facilities for training skilled personnel for the tourist industry than to put effort into calculating requirements, over the years 1975 to 1990 (the minimum period relevant if the whole educational system is to be geared to the manpower requirements), for graduate mechanical engineers as against graduate electrical or chemical engineers or engineers with technician's qualifications of different kinds and so on. After all, in the event that there is a sudden shortage of certain specialized kinds of knowledge, overseas Universities can be used to some extent.

Even in developed countries there is a great danger that the simplification of the problem that is essential for any cost-benefit analysis to be carried out will divert attention from what are really the important problems of adapting education to the needs of rapid changes in society and in modes of industrial life. It is quite likely, for example, that, on account of continual changes in industrial techniques and hence in the needs for different categories of qualified manpower, what is

required is an education system that allows the process of education to be spread much more evenly over the whole life-span of the individual, thereby preserving the facility for adaptation and change as well as increasing the occupational mobility of the labour force. The present tendency to regard education as something that has to be completed by the age of about twenty two years, so that for the next forty or fifty years of their lives people have little systematic contact with the process of learning new ideas or techniques, may need to be scrapped altogether. A study of the possibilities of changing the education system along these lines would probably be more rewarding than resigning oneself to the impossibility of readaptation of the labour force once its basic education is finished, with the consequent apparent need to forecast manpower requirement over very long periods.

#### Costs of Cost-Benefit Analysis

The last point illustrates the need - as Prest and Turvey have stressed (1) - to take account of the costs of cost-benefit analysis. The opportunity cost is usually the other information that could be obtained by the scarce resources of skilled economists, statisticians, educationalists, and so on, if they were not being absorbed in attempting to carry out cost-benefit analysis of the conventional approach to needs in the fields concerned. In developing countries, in particular, there is a great shortage of straight-forward applied economists and statisticians able to provide the basic data needed for reaching any decision. It is simply bad resource allocation to use such precious qualified manpower that happens to be available in activities the return to which is so doubtful.

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(1) Prest and Turvey "Cost-Benefit Analysis: A Survey", Economic Journal, December, 1965.

As an example of the difficulty of obtaining basic data even in a developed economy where the statistics are better than most I would like to quote the experience we had, in Britain, in drawing up the section on the Health service in the National Plan. In the first place, in order to see how any objectives in this field could be made compatible with the overall resource balance of the economy - in this case, manpower was a major bottleneck - it was necessary to have some estimates of the different categories of manpower (including female employees) in the health service. Few items of information could be more basic. Yet even this information was not forthcoming. Partly as a result of the tripartite split of the British Health service between the central authorities responsible for general practice and dental care, the regional board responsible for hospitals and the local authorities responsible for many other activities about a third of the labour force employed in the Health service could not be identified at all. It was simply not possible to find out from available statistics how many were male or female, full-time or part-time, skilled or unskilled. Similarly, it was not possible, without a great deal of research to find out what would be the likely costs of different kinds of hospital treatment since these costs varied so much from hospital to hospital and were changing in very different manners. Such information would be of great value for extending the pioneering work of the type carried out by Marty Feldstein on the relative costs of different techniques for achieving given objectives in terms of specified kinds of treatment, a field of enquiry which opens up great possibilities of economies by substituting, for example, doctors for nurses or vice versa, or drugs or equipment for medical personnel, and so on.

Faced with such a situation (and there are innumerable other examples that could be given in this field), the notion of devoting scarce

resources to the analysis of what peoples preferences are likely to be as between saving lives at different ages, or reducing the mental anxiety associated with the prevalence of certain diseases, or the satisfactions to be obtained from reducing air pollution, is hardly likely to rate high in the priorities of any practical planner.

#### 4. Limits on Economic Prediction of Output Patterns

Finally, before discussing what the planner should do about social choices, something must be said about the prediction of the normal economic sections of the overall welfare function. For whatever one does about the analysis of future costs and benefits in the social field, there is still no way of deciding on a rational and feasible allocation of resources unless similar exercise can be carried out for the more conventional economic areas.

I have gone on record elsewhere concerning the difficulties that were encountered by myself and my associates in trying to project the pattern of output by industry in the British economy in 1975, and so will not go into details again here. Apart from the uncertainty surrounding any projection of the pattern of final demand, particularly investment demand and net exports (which often represent small balancing items between large aggregates of total demand and supply at home for individual categories of goods) the most intractable problem, as might be expected, is the conversion of the pattern of final demand into outputs by industry. In attempting to do so we were much more fortunate than is the case in almost any other country in that we had at our disposal the path-breaking work on the input-output tables for the British economy for 1954 and 1960 drawn up, on a comparable basis, by the Cambridge team under Professor J. R. N. Stone. However, as is described in detail in "The British Economy in 1975" one thing was clear from these data, namely that there

was no simple or safe method of projecting the input-output coefficients into the future on the basis of the coefficients for the past. Technological change in different industries simply seems to proceed in too irregular a manner, even if one makes no allowance for changes in relative prices of inputs. Another conclusion that was drawn from the experiment was that there was little point in seeking a neat general method for projecting all the input-output coefficients in a complete matrix, and that the best procedure seemed to be to concentrate, in consultation with a few industries, on the three or four key inputs into key industries: Once again, in other words, the search for elegant general mathematical solutions to problems threatened to divert attention from more practical approaches to the really important industries. Meanwhile, the situation with which we are faced is one in which it is still impossible to provide anything like a reliable detailed breakdown of industrial output for any length of time ahead, and without this any refined calculations of cost-benefit ratios in non-economic fields are unusable, since they cannot be brought into relation with the same ratios in the economic sphere.

##### 5. Responsibilities of the Economic Planner in the Field of Social Planning

After such a sceptical outburst, one might well ask what, after all, planners are expected to do? I hope I have not given the impression that I do not think there is any scope for planning. I am convinced that there is, but I am also convinced that, if planners are not, in the end, to bring discredit on themselves, they must (a) be prepared to concentrate on quantifying, in the manner which appears to be appropriate to each individual problem - and without preconceived notions of what techniques should be used - on what, after an initial examination appear to be the crucial questions that arise in that situation, and (b) they must be prepared to

make, or propose, value judgements about many objectives, particularly social objectives.

As regards the latter, this means, of course, that the planners have to be prepared, to some extent, to pursue their own objectives, rather than use up a lot of scarce resources in a futile attempt to be too refined about what public objectives really would be if the public could anticipate the way these will change and could allow for externalities. This is nothing new or terrifying. Already, as Professor Nove has recently pointed out (1), the fiscal systems of most countries discriminate between different items of consumers expenditure in a way that obviously does not respect very much consumers' preferences regarding, say, consumption of drink or tobacco. And in any case, the implication of what I have been saying above is that there is no alternative.

As an example, I may quote a question that was put to me when I was working on the British National Plan. I was asked to add my opinion to a file of opinions concerning a certain afforestation program. After enumerating the very many factors that would have to be considered if the solution were to be reached by the cost-benefit methods proposed by some of my predecessors in the file, such as the future demand and supply of timber in the world - and this over a period of about thirty years (the length of time before the trees reached maturity), the possible changes in synthetic substitutes, the changes in the rate of interest, the alternative uses to which the land concerned could be put and the prospective demands and supplies in the world for the products of these alternative uses, the effect on local employment and the ancillary demand for social capital in the regions affected and so on, I concluded that I was in favour of the project. The reason I gave was that I liked trees. I should add that I have no reason to believe that my advice on this point was taken, or, if

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(1) A. Nove, "Planners' Preferences, Priorities and Reforms" Economic Journal, June 1966.

it was, it was not for the reason I gave.

The same applies to more serious choices facing the planner. The decision whether to put resources into extending the length of life from seventy-one years to seventy-three years rather than improving public parks or reduce air pollution, is one that, in the end, has to be taken by the planner according to what sort of world he thinks one ought to live in. This decision can be changed by the electorate if it wishes and so is not a dictatorial way of shaping the pattern of economic development. But it has to be taken in the light of a long-range vision of where society is going, allowing for the feed-back of social developments on economic developments and vice versa. Such a decision is likely to be much more coherent and much more in the longer-term interests of the population than decisions based on a spurious scientism, which, in the interests of apparent rigour, is obliged to make outrageously simplifying assumptions and to ignore the dynamic processes of economic and social development.

Secondly, however, the logistic implications of such decisions, and of their alternatives, must be quantified as far as resources permit. Estimates are required of, say, the demographic evolution of the school population, the age structure of the teaching force, the sources of recruitment of teachers and the adequacy of the facilities, the size of classes, the age of the schools, the capital costs of school construction, the relative costs of different kinds of secondary and higher education and so on. Only this way, given the broad objectives, can a rational logistic path of expansion be worked out that will permit a smooth development of the education system within the framework of the other claims on the economy. The same sort of data are required in the field of health planning, beginning with the age structure of the population (a major factor on account

of the importance of children and old people in the demand for medical care), the resources required for different types of care, the technological developments in the various kinds of care and medical treatment (such as the recent great advances in the treatment of mental illness, which is reducing rapidly the demand for long-stay accommodation in mental institutions), the stock of qualified manpower and the facilities for adding to the stock, and so on.

All these types of data are indispensable for putting together an overall plan of economic development that takes account of social needs, and it is this type of information which is most urgent to collect, rather than completely misleading indicators of the weights of the various end-products in the social welfare function. There is no universally applicable method for establishing reasonable targets for needs in the various social fields. In each case, a preliminary analysis of the nature of the social activity concerned is required in order to establish what are the main determinants of changes in needs. For example, in housing these include, in addition to the usual data on the age structure and size of the population, data on the trends in family size and headship rates, and on the relationship between incomes and the demand for space. Data are also required on the age composition of the housing stock and their facilities. The final target will depend on a rather complicated logistic exercise to take account of the fact that the faster the stock of houses is brought up to the desired stock, the more rapidly will future new construction requirements fall to the level needed simply for expansion in the desired stock and for renewals. Also, a rapid reduction in the expected length of life of the houses entails a rise in the cost of housing on account of the higher depreciation charges, and so the

targets have to be linked to an assessment of what proportion of their incomes people will be prepared to spend on housing.

In health programming, the logic of the problem is completely different, involving considerations such as those mentioned above namely of the age structure of the population and the way that this is related to the demand for different kinds of care, as well as technological improvements affecting, for example, the length of stay in hospitals for different kinds of treatment. Health is also one of the activities where the "needs" are very much influenced by the supplies and conventional levels of provision for the satisfaction of needs.

Finally, when some provisional estimates have been made of what would be reasonable targets in these social fields, they will have to be balanced against other requirements for the uses of final output. This part of the operation follows the usual iterative process, in the course of which many adjustments will have to be made that are of a rather arbitrary nature. This does not, however, mean that they are necessarily irrational. Buridan's ass should have realized that an arbitrary choice between two alternatives is not irrational provided that there is no rational basis for discriminating between them and, also, that either is better than no choice at all.

#### Administrative Aspects of Planning

A plan must be a plan of action and not an academic exercise. This means that great care must be taken to ensure that the administrative problems in the various field are examined. Economic planning is, in fact, part of economic administration. In most developing countries, the real limits on the choices facing the planner are administrative, not limits arising out of refined comparisons of costs and benefits. It is futile, for example, to spend one's time trying to find out what is the marginal

pay-off to a bit more resources in one social field rather than another (or in another economic field) when the limits set by administrative factors in any field are well below the point where the marginal calculations called for by pure theory become important.

The importance of the administrative limit can be seen most clearly in the context of familiar doctrinal disputes about, for example, whether one should support export promotion rather than import substitution, or agriculture rather than industry. In practice, the problem is usually one of finding some viable projects either in export industries or import substitution industries, or in agriculture or industry, and wherever they can be found and organized they should be supported, subject to some check on the rate of return on the resources used, irrespective of aggregative disputes that originate in abstract models. This does not mean that rates of return are unimportant, but merely that the effective limits on the choices available will be much more of an administrative nature than of a cost-benefit nature. Furthermore, the analysis of alternative projects should be done in the full light, such as it is, of valid economic theory; for example, export promotion projects must not be regarded as desirable irrespective of their impact on the terms of trade or the real social costs of the exports. Similarly, externalities must be taken into account in evaluating any project wherever they are likely to be really important. But in this sense, economic theory is a protection against popular fallacies in planning in many countries, developed and developing. This is not the same thing as adopting the simplifying aggregation that is inevitable in the most economic models, for perfectly legitimate reasons.

#### Contribution of Social Factors to Economic Growth

Finally, the planner should encourage much more research than has usually been the case into the social factors in economic growth and

development in the particular situation that he is concerned with. My scepticism as to the value of many currently fashionable investigations into social items in planning does not arise out of any lack of respect for the importance of social forces, but merely out of a suspicion that inappropriate techniques of analysis are being applied to them. At the same time, I would accept that certain social phenomena, such as the attitudes to work and innovation of the labour force, the receptiveness of management to technical change, the attitudes of the public to what is the appropriate role for the public authorities to play in the economic life of the country and in the provision of many social services, and so on, are no less important for economic growth by virtue of lying outside the normal field of expertise of the economist. This means that, in drawing up development plans, the economist should, ideally, work in harmony with sociologists and industrial psychologists and experts in other related disciplines. Manipulation of public attitudes can play a major part in facilitating the achievement of many economic objectives. In conclusion, therefore, what I am suggesting is that one of the links between social and economic planning is not to find out what public preferences are so much as to find out how to adapt them in the interests of the planners' objectives in the field of economic and social development.

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