The Application of Welfare Economics to Problems of Economic Development

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A great deal of the energy of the economics profession over the last 150 years has gone into attempting to elucidate the relationship between some fairly weak value postulates as to what the objectives and purposes of the economy ought to be, and their implications for economic policy. The whole of classical economics, in effect, is a defence of the decentralisation of decisions through a competitive market process and an analysis of the conditions under which some kind of optimum would be achieved by decentralised decision-making—decentralised to individual consumers and suppliers of original inputs on the one hand and to a series of entrepreneurs whose job it is to transform inputs into outputs on the other hand. The conditions under which these decentralised decision-makers, acting solely on the basis of the guidance given to them by the prices of the things bought and sold, will make decisions which are in some sense socially optimum, have been a major concern of economists right down to the present time. There has been a considerable clarification of this so-called ‘welfare economics’ literature within the last decade.

Now, one of the key issues that arises in all development policy is how far a country which is focussing its efforts on bringing down development can rely on market forces and decentralised decision-making and how far a fairly substantial degree of central guidance is required. The principal thing that I want to try to do is to analyse, in terms of the formal structure of welfare economics why decentralised decision-making has to be supplemented perhaps even more in an economy in the stage of “take-off” or just preceding “take-off” than is necessary in economies at more developed stages.

There are a great many ways one can go about this problem. One could approach it pragmatically. There are a great many common sense answers as to why a larger degree of centralised and governmental direction may be necessary in the “take-off” process. Many of these would be accepted by modern adherents of the classical school. There are, of course, a few hardy souls, like Peter Bauer at Cambridge or Milton Friedman at Chicago, who would still argue that the market will do everything that needs to be done in a developing economy as well as in a developed economy. But this position is taken by relatively few people. I would like to analyse the problem in terms of the logic of welfare economics itself and the key assumptions that must be made if the propositions of the so-called “new” welfare economics are to be valid. I shall try to analyse which of those assumptions are likely to be particularly unsatisfied in the development stages, and what follows from this for policy particularly in the “take-off” phase.

A word about what I have in mind when I speak of the “take-off” stage of an economy. I regard W.W. Rostow’s analysis of the stages of economic growth as a very useful set of generalisations. Broadly speaking the essential distinction he makes between developed countries and underdeveloped countries is not the distinction so frequently made between countries with low incomes and those with

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high-incomes. This, in fact, is a pretty good empirical way of distinguishing between the underdeveloped and the developed countries. But the essential distinction is that the developed countries have achieved a situation where the normal state of affairs is a regular annual increase in per capita product of from one to four per cent. This is self-sustaining in the sense that there is a level of investment that emerges from the level of savings of the community, which is sufficient to ensure that capital formation and the expansion of incomes continue.

In the United States, Great Britain, Western Europe and the Soviet Union regular annual growth is now the normal state of affairs. A depression in the U.S.A. need not be reflected in an actual decline in real national income. In 1958 there was a recession which created much discussion. It brought not a decline but rather a levelling off of per-capita income. Because growth is the normal state of affairs, this involved mounting unemployment and underutilisation of resources. This position is, of course, in contrast, to the situation in most underdeveloped countries where the normal state of affairs is one of essentially static or erratically fluctuating per-capita incomes, and of a level of investment too low to do more than maintain the level of per-capita incomes with the rising population.

Rostow believes that he has discovered in his historical studies some uniformities in the period of transition from the relatively static level of incomes which characterises traditional economies to the self-sustaining growth of the developed ones. As late as the early eighteenth century, there were no economies with built-in growth. Some were better off and some worse. But the phenomenon of regularly self-sustaining growth is a historically very new phenomenon that has appeared only within the last couple of centuries. The transition from a relatively stable per-capita level of incomes to a self-sustaining growing per-capita level of incomes is a transition which Rostow believes to have occurred in the developed countries in something like a decade or two in most cases. This is a transition which is particularly important for the underdeveloped countries to understand, because what they are really trying to do is to achieve self-sustaining economic growth.

This is a better way of stating the objective of an underdeveloped country than to say that it is trying to raise its standard of living. Once a country achieves self-sustaining economic growth, the rise in the standard of living occurs regularly, and over time may become quite substantial. If a country can get only two or three per cent a year growth in per-capita income built-in, the problem of development becomes rather simpler for compound interest works in its favour. A growth rate of two per cent a year doubles national income every 35 years or multiplies it nearly eight fold in a century. Once the country can achieve this situation, then it is really well on the way to doing what it wants to do.

I will now turn to the application of welfare economics to this hopefully limited period, in which a country is trying to move itself from a relatively static per-capita income situation to a regularly growing one. Why is it that the ordinary operation of market forces simply has not brought about a "take-off" before in the countries which have not yet achieved "take-off"? The question one has to ask of the Friedmans and Bauers is: if the market process can be relied upon to bring this about, why has it not happened. Their answer normally will be that it has not happened because there has been governmental interference with the market process at various times. But I would like to look into the underlying logic of their position and see what their assumptions are. So let me very briefly review the basic propositions of welfare economics.
Classical welfare economics starts first with an ethical proposition which I wish to accept. It is the individualist ethic, in effect, which accepts the tastes of the individual consumers in the society as controlling the values of the society, the ethic of consumer sovereignty as it is normally described. Each individual is thought of, in welfare economics, as possessing a pattern of tastes which can be expressed in a welfare function of some kind—classically a utility function (in more modern formulations, an indifference function)—which reflects the welfare of the individual as a function of the complete pattern of things which he consumes on the one hand, and as a function of the inputs which the individual puts into the economic system on the other hand. One of the points that I want to make later at rather greater length is that in the traditional analysis of welfare economics there has been, in my view, an under-emphasis on the "inputs" side. It is assumed that there is disutility to the exertion of effort or to the supply of the individual's set of efforts for productive purposes; that the individual parts with his labour or his efforts or his resources at a cost to himself and to his welfare; and that he does this because he gains in return the capability of consuming additional amounts of various good and services.

It is very important for my purposes to underline the point that classical welfare theory takes these functions for each individual as given. There is no value postulate that any economist has put forward that I know of that permits one to compare two different indifference functions for any given individual. If one assumes that the individual has a set of indifference functions subject to certain characteristics which can be mathematically summarized, one can then say something about whether one position or another is preferable for the individual from the standpoint of that given pattern of indifference functions. But there is no postulate for comparing the same individual when his tastes are different at two different periods of time.

Now, moving from the individual to social welfare, the classical economists, starting with Pareto, adopted a postulate which sounds like a very weak postulate in the sense that it is a postulate to which it should be possible to get very widespread agreement once one accepts the basic notion of consumer's sovereignty. The Pareto postulate is that if it is possible to increase the welfare of any individual in the system without decreasing the welfare of anybody else, then the system is not optimal and should be changed. A social optimum, by this Pareto criterion, is a situation in which it is impossible to improve the welfare of any individual in the society without making somebody else worse off. Now, it is a great tribute to the structure of classical economics that an enormous amount follows from this apparently simple and superficial proposition. Most of classical price theory is deducible, under certain assumptions, from this postulate. It is a weak postulate in the sense that there is an enormous number of situations in which this postulate would not give any guidance. Wherever there is a distributional problem, wherever there is a problem of shifting resources from one person to another, this Pareto postulate gives no guidance. Nonetheless, on the basis of this postulate we can arrive at a great many principles of policy: the desirability of marginal cost pricing, the evils of discriminatory practices, the theory of the consequences monopoly can all be derived from this simple Pareto optimization postulate.

It has been generally recognized for some years by virtually all economists, even the most ardent exponents of laissez faire, that the market process will not produce an optimum distribution of income. One needs an additional social welfare function of some kind which describes how one wants income to be distributed.
But it has been assumed that one can handle two such problems separately. One can handle the problem of the distribution of production between different kinds of commodities by applying the Pareto criterion. Then by a variety of measures, such as progressive income taxes and transfers conducted by government from one section of the population to another, one can adjust the income distribution between the members of the society in whatever way the society agrees is optimum.

There was, of course, a brief period in the nineteenth century when a few economists argued that the income distribution brought about by the free market was itself optimum. J.B. Clark in the United States felt that it was in some sense appropriate and correct that an individual should receive an income determined at the margin by his own marginal productivity. But this position is not now taken by any significant body of opinion. Virtually all the democracies have tax systems which attempt to alter the distribution of income from that which the free market produces. In what follows I shall assume that we all agree that there is a role for government in redistributing incomes.

Assuming that income distribution is in some fashion established in an optimum way, I want to concentrate my attention on how far the allocation of resources can be left to decentralized market determination by the individuals of the society. Note that this is not the problem of socialism versus capitalism, or of the public sector versus the private sector. As Lerner and others make particularly clear, one can have a publicly-owned set of productive instruments operating in decentralised fashion in response to price incentives in exactly the same way as private entrepreneurs would do. One simply gives to each of the socialist managers the instruction that what he has to do is to maximise profits just as he would do if he were reporting to a committee of stockholders, and one gets the same results. What I am really concerned with is the decentralised, either competitive or "as if competitive", system and the extent to which it can be relied upon to provide the right kind of guidance for the direction of production and distribution in an economy in the "take-off" stage.

A number of things are assumed to be given in classical and modern welfare economics. The givens are: (1) the indifference functions of the members of the society, (2) the initial endowment of resources which each member of the society possesses, (3) the set of technological constraints under which the economy operates, expressed in a series of production functions, each production function indicating how much output can be secured from a variety of inputs.

Thus, accepting the individualist ethic, the economic problem can be described in the following terms. One has for each member of a large population an almost infinite number of possible combinations of inputs which he can supply—inputs of labour, the things which he owns in the way of land, and so on. There is an almost infinite choice for nearly all of the millions of individuals in the system as to what those inputs should be. There is, at the same time, a related but distinct infinite (or virtually infinite) set of choices as to the complete specification of all of the outputs that are to be produced in the society and to be distributed to each of these several million individuals. Thus there is an essentially infinite number of variables at a given moment of time. But in addition there is the problem of inter-temporal substitution: how much of the inputs of today are going to be devoted to outputs tomorrow and how much will be devoted to outputs ten years from now? One has to multiply the set of variables for any time period by the total number of time periods he is going to consider. This process is subject to a very comp.ex set of technological constraints which determine what it is possible to do by way of transforming the inputs into outputs. The problem is: can one solve this infinite
set of equations with an infinite number of variables in such a way as to produce an optimum result, on the assumption that he has already dealt with the income-distribution problem? Now it is perfectly clear that this is a massive intellectual problem which the fastest computer could not handle at the present time even if he had all the data. The problem of trying to optimise this kind of system by explicit computational analysis at the centre is clearly a quite hopeless one—so hopeless that no planner has ever dreamed of solving this problem explicitly in this fashion.

The great merit of classical economics, which has been refined enormously in the recent literature, is that it demonstrates that under certain conditions this massive system of decisions can be made in optimal fashion with all decisions decentralised provided only that each individual in the system knows the prices of all the things that he could possibly supply as inputs and the prices of all things that he could buy as outputs, and that each businessman and each entrepreneur knows, in addition to the prices of inputs and outputs, the technological production functions that regulate the technical possibility of transformation from inputs to outputs in his business.

Several recent contributions to the literature have illuminated this new welfare economics. I might note two in particular. There is an article by one of my colleagues, Francis Bator in the American Economic Review for March 1957 on "The Simple Analytics of Welfare Maximization" which is a very nice summary of this approach. Perhaps the most elegant statement is the first essay in Tjalling Koopmans' Essays in Economic Science, setting forth the mathematical conditions under which decentralised-decision-making will achieve the Pareto optimum. The familiar classical statement of such conditions is that if each consumer equates the marginal utility of each thing he buys with the price he must pay, and the marginal disutility of each thing he sells with the price he can secure, he will optimize his own welfare. Competitive producers taking prices as given need only equate them in their product markets to the marginal cost of production, and in their input markets to the value of the marginal product of the various inputs.

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We may summarise briefly the conditions under which decentralised-decision-making will achieve the optimum result and then discuss their application to the development process. These conditions relate first to the production functions and their characteristics, second to the indifference functions and their characteristics, and finally to the relationship between indifference functions and production functions.

Incidentally, most of the discussion on the applicability of welfare economics to development problems has concentrated on the necessary and sufficient properties of production functions. My own view is that the real problem in the application of welfare economics to development lies not so much in the failure of production functions to satisfy the necessary conditions but in the failure of indifference functions to satisfy those conditions.

What, then, are the necessary conditions? In the first place, both production functions and indifference functions must be known to the people involved; they must have fairly accurate and complete information. Presumably, the consumer has no problem in knowing his own indifference functions. As for the producer, he must know what the technological alternatives confronting him are. The second proposition which is essential if the Pareto conditions are to be met by decentralised-decision-making, is that production functions for different commodities must be independent of each other; this, in effect, has to do with what in the literature is
described as "technological external economies." One must not have a situation where the physical relationship between the inputs and the outputs of one commodity produced by one producer depends intimately on what inputs and outputs other producers are using. These physical relationships must be independent. The classical example of this, of course, is the example of the bee-grower and the apple-grower. If one entrepreneur is producing honey and has a lot of bee-hives, an expansion of his level of output is going to influence the output of apples in the neighbouring orchards, because the more bees, the greater the number of apple blossoms that will be polinated and therefore the higher the yields of the apple orchard. One cannot leave the allocation of resources to honey-making exclusively to a honey producer, or the allocation to apple-growing exclusively to the apple-producer, because there is an inter-connection between their decisions which is not reflected in the market price signals to which each of them responds.

There has been a great deal of talk to the effect that external economies are much more prevalent in a developing economy at the "take-off" stage than in an economy at other stages. I shall return to that later. At the present moment, I simply want to identify this problem of the independence of production functions in different industries as an important problem.

The final condition with respect to production functions can be stated in many different ways; the most mathematically elegant statement is to say that production functions must be mathematically convex. The most important violation of this condition occurs when there are major economies of scale—when the inputs per unit of output decline with the scale of the enterprise. It can be demonstrated quite explicitly that decentralised-decision-making under market forces simply will not operate properly if any significant number of production functions are subject, over a relatively long range, to this kind of non-convexity—if, in other words, there are substantial economies of scale involved in the production of any considerable number of commodities.

With respect to indifference functions, the mathematical conditions are exactly the same, but their meaning may be slightly different. As already noted, they have to be known or given. In the second place, indifference functions must be independent of each other; the welfare of Mr. A cannot be directly dependent on the consumption of Mr. B. It must depend only on Mr. A's own consumption, his own inputs, and his own outputs, and not on the indifference functions of other members of the community. In other words, for Pareto optimization, one person's consumption cannot importantly influence another person's welfare. There are many cases of "neighbourhood effects" in all economies and these are recognised by all welfare economists as justifying some governmental intervention. City zoning is one clear case where one person puts a house right across the line of the other person's backyard. This influences the other person's satisfaction, and yet there are no market devices which can easily take account of this depreciation of the welfare of the other individual. There are, indeed, many goods which Paul Samuelson calls "public goods" of a type such that one cannot identify the consumption by any individual of those goods. More consumption by 'A' automatically means more, not less, consumption for 'B'; the national defence establishment is the obvious illustration.

Finally, the indifference functions must be mathematically convex. This means primarily that one must have diminishing marginal rates of substitution along indifference functions. Similarly, (and this I want particularly to emphasize) the input indifference patterns must possess the same regularity; that is, more inputs must always be less desirable than less inputs and must be increasingly less desirable.
as the volume of inputs expands. At the very least, the marginal disutility of labour must increase as the amounts of inputs of labour go up. Otherwise the ordinary price mechanism is just not going to work to achieve the optimum position.

It is, to repeat, a great triumph of the newer welfare economics, in the past decade or so, to have simplified, consolidated and generalised these conditions—three of them for indifference functions and three for production functions, the two sets of conditions being mathematically the same in both cases. However, one additional condition which turns out to be quite important (and to which I shall make further reference later) is that production functions and indifference functions must be independent; the fact that one changes from the production of one commodity to the production of another, or from one input combination to another, must not affect the pattern of tastes of the individuals of the society. Any change in the outputs available to those individuals is, of course, taken account of by the consolidation of tastes in the market system; but it must not be a case in which simple technological change in a production function has any influence on the indifference function itself, or the whole optimization argument falls to be ground.

Let me turn now to the application of these conditions to development problems. Of course, none of these conditions is wholly satisfied in any economy. Every serious economist, even the most ardent advocate of the use of the market as the method of guiding the economy, would agree that there has to be intervention in the cases where these conditions do not obtain. Everybody agrees that for public goods, like the defence establishment, fire department and police department, one cannot rely on the market to produce these things precisely because certain of these conditions are not met. Nonetheless, the advocates of a larger reliance on the market system feel that the system can be patched up by various kinds of special interventions in such a way as to make it work tolerably well with predominant and primary reliance on market forces. I do not want to examine all of the ways in which these conditions do not apply. I want to concentrate on what seem to me to be the crucial aspects in which these conditions fail much more to apply in the “take-off” stage of a developing economy than they do in developed economies like those of the United States or Great Britain. Most of the emphasis has been put on production functions, but I feel that the emphasis has to be very much more strongly focussed on indifference functions.

As regards the condition that production functions have to be known, it is probably true that there is a greater ignorance in underdeveloped economies of the technical possibilities than in developed economies. But this does not shake our reliance on the market system seriously. It does suggest that there is a major case for informational activities under governmental sponsorship. Perhaps there is even a more important case in underdeveloped economies than in developed economies for governmental subsidy for all kinds of educational, training and informational activities which will spread knowledge of the possible alternatives amongst the decision-makers on whom one is relying in the decentralised system to make the right decisions. I do not want to spend any time on this because everybody, I think, would concede that the function of improving knowledge and information is an appropriate governmental function, and that this may be a function that requires a larger percentage of the resources of an underdeveloped economy trying to develop than of a developed economy.

With respect to the question of external technological economies, my own view is that these have been over emphasised. I do not think that with one exception technological external economies are significant enough in either developed or underdeveloped economies to justify major intervention in the market. The one...
exception relates to training. It is quite true that the training activities undertaken by a given business on its own behalf, in order to bring its own labour force up to a level where it can contribute maximally to its own profits, have an external effect because of the fact that a labour force is not attached to an enterprise indefinitely. In an economy with reasonably high mobility (and a feature of development is a great increase in mobility), the value of the skill training which is undertaken by an industry is substantially larger than the value which would appear on the books of the company because a man once trained becomes a social resource and is available for other industries who then do not have to undertake the investment of training him. Thus there is a clear case for intervention in the market process to subsidise skill training of a variety of kinds beyond the level to which it would be carried by pure market forces in an underdeveloped economy. This is an illustration of technological external economies of a kind which may be substantively quite important in underdeveloped economies. But again this does not require a major modification in the market; there could be a relatively simple type of intervention, such as the subsidization of skills and technological training by governmental activity.

I do believe, however, that economies of scale are much more important in an economy in the “take-off” stage than in a more highly developed economy. This is because an economy in the “take-off” stage has a very small industrial sector and a very low level of demand for industrial products. Therefore, it is likely that a substantial number of the industries of that economy are going to be well below the minimum-cost size. This is especially true, of course, of social overhead capital. One cannot take a railroad between two towns a hundred miles apart and divide it in half and carry half the traffic. If one has a single-track line, a certain minimum investment has to go into this and a certain minimum scale of activities has to be undertaken. One may be able to reduce the capital investment by going to another form of transport, but only at a very significant cost in increasing the capital-output ratio. Now these economies of scale seem to me to be very pervasive in the early stages of development. They are particularly important because of two other features of the “take-off”.

As Nurkse has pointed out, if an economy is to increase its rate of investment substantially to get into the “take-off” and if it cannot rely heavily on foreign trade, then it is essential that its increased investment be spread over a wide range of activities. This is true for two different reasons. First, the new incomes generated by the investment will be spent on a wide variety of products, and there must be investment in those products to meet that demand. One cannot, to use Nurkse’s illustration, put all his capital resources in shoe factories, because if he creates ten thousand crores of income in shoe factories, all of the ten thousand crores are not going to be spent on shoes but only a fraction. He must produce a pattern of output which will match the pattern of demand created by the new income. One can considerably reduce the degree of dispersion required in economic activity through foreign trade, but there are limits to this.

The other reason one must have a balanced pattern of growth is that there is on the supply side a whole series of inter-connections in the industrial sector: steel needs coal which needs transport which needs wagons which need steel. This is all very familiar. Input-output inter-dependencies must somehow be satisfied in an investment programme for a “take-off” economy. The attempt to expand investment from 5% to 10% of national income must be done in such a way that this investment is spread over a large number of different industrial items. Again, one can limit this spread by foreign trade to some degree, but there is a large number of things which are not importable, and other things where comparative advantage suggests domestic production even below optimum scale.
As a small investment programme for an underdeveloped country has to be spread over a large number of items, each investment has to be of limited size. The chances are that many of those investments are going to be in industries which at that scale are subject to rapidly decreasing costs. This will be true for many more industries than in a developed economy which has achieved large markets and where the scale of enterprise is therefore more likely to be optimum for large sectors of the economy. This requires not necessarily an abandonment but a modification of reliance on the market as the right mechanism for directing investment into the proper channels. Because of this failure of market signals to work properly, it is necessary that much more systematic attention be paid by government to investment patterns in a "take-off" than in a developed economy.

Nothing I have said so far is particularly original or new; one will find it all spelled out at some length in the literature. However, inadequate attention has been paid, and inadequate thought given, to the limitations that are imposed on the effectiveness of the market by what happens to indifference functions in the development process. I think the problem of "increasing returns" in indifference functions is not terribly serious. It is probably valid to assume diminishing marginal utility or an increasing marginal rate of substitution on the consumption side. There is no reason to believe that this does not hold as much in an underdeveloped economy as it does in a developed economy. I would not expect to find significant cases where as one consumes more his demand for consumption rises sharply, with given tastes.

The independence assumption—the assumption that A's welfare is independent of B's consumption—is weak in all economies. The "demonstration effect" is a powerful thing: one may feel happier because his neighbour is better off or he may feel much worse, depending on what type of person he is. This is something very hard to treat systematically. There may be a case for arguing that the welfare of individuals in an underdeveloped economy is more directly influenced by the welfare of their fellows around them than is true in a developed economy. But I do not want to go into that; I am not much impressed with what one can do with that part of the argument. My own feeling is that it does not justify much greater intervention in an underdeveloped economy than in a developed one.

Perhaps the key problem in the application of welfare economics to development is the simplest and most elementary assumption that was made in the very beginning: that indifference functions are given and constant. It is the very heart of the development process that indifference functions change and change radically in the course of that process. This is true in two senses: first, in the sense that community tastes in consumption change and change radically through time; and second, in the sense that the preferences of the community as to what kinds of inputs they would like to supply change and change radically as development proceeds. Now, the essential content of the development process from this point of view seems to be an enormous widening of the perceived alternatives. A prime characteristic of the present population of traditional societies is not so much that they do not want things as that they really do not know what things they can have. The average person in a village community in an underdeveloped country has very low range of alternatives that he perceives as realistic for him. This is true for consumption, and it is even more true (perhaps much more significantly true), for his perception of the kinds of inputs he can supply to the productive process. If his father and his grandfathers were farmers on a few acres of land, it never occurs to him that he can be anything else. It never occurs to him to become a wage-employee, or that he could get an education and move towards a different status in life. I am speaking now of a really traditional society before the development process has begun to affect it significantly, or before there has
been an impact from abroad. The heart of the development process consists in large part of a widening of the perception of alternatives by the individual both as a consumer and as a supplier of inputs.

There has been an enormous neglect, in the economic literature, of the importance of the input-supplying side of indifference functions. When one stops to think of it, one’s satisfaction as an individual is influenced fully as much, if not a good deal more, by the time one spends in supplying inputs to the economic process as it is by one’s consumption out of that process. The better part of one’s waking hours is spent at work. One does this partly, of course, in order to have food to eat, clothes to wear and other goods to consume. But this is a vastly over-simplified image of the consumer and what motivates him, because there are great many satisfactions that come out of the work process itself. It is the increasing number of input activities valued for reasons other than the simple income they produce which constitutes a major part of the satisfaction derived from the development process. Here I suggest there may be some very serious non-convexity (to revert to mathematical language) in indifference functions. In other words, the notion that one would rather work one hour than two, and that one has to be paid a higher wage for the third hour than the second, to induce extra effort or to put in effort in a different form, is something which may well not be true for some of the most productive members of society.

In other words, what I would like to suggest is that it is entirely possible that a traditional society may completely meet the Pareto criteria, and that this is one of the reasons that it does not “take-off”. From the viewpoint of the tastes ruling in a traditional society it may be quite impossible to alter the allocation of resources in such a way as to improve the position of anyone in that society without making someone else worse off. Part of the problem is simply that the horizon of expectations and aspirations is so low, and the perception of possible alternatives so limited, in an underdeveloped society, that it may very well be in what would technically be described as a “Pareto optimum”. When one is moving from a traditional society with a static and virtually subsistence level of income, to a developing society with a growing level of income, it may be that the transition does not constitute a change from a non-Pareto optimum to a Pareto optimum, but rather a change from a Pareto optimum related to one set of tastes to a Pareto optimum related to a quite different set of tastes—a different set of tastes for which we have no basis of comparison in any value proposition that welfare economics gives.

The one final complication that I would like to describe is this: tastes evolve largely only through experience. It is by experiencing something that one decides whether he likes it or not. Now suppose one is in charge of the development programme of the country and he has the option of moving the economy in a number of different directions. Is he for example, going to focus on a large degree of urbanization and all that goes with it, or is he going to maintain a high degree of decentralisation and a rural pattern of life with a lot of industries in the countryside? This is a dominant concern in India.

How can one put this to a “consumer’s sovereignty” kind of judgment? Although people have lived in cities, rural people do not in general know what the cities are like. Once they have lived there, they seem to like it by and large; but sometimes they do not. The whole point is that whatever decision one makes may well be self-justifying, or may, on the other hand, be self-defeating. In either case, it depends on how it happens to work out, because the evolution of tastes is itself going to be influenced by the way one satisfies tastes. This is a situation where the
assumed independence of indifference functions and production functions does not apply. If one adopts a particular set of production functions, this will have an inevitable influence on the pattern of indifference functions that emerges as the society changes. Analytically, in other words, tastes through time are simply not independent of production functions through time; and this is especially true in a society which is going through the transition from underdevelopment to development, i.e., a society in which, to put it graphically, indifference functions are all melting and running around. If they are crystallized now they are going to be quite different in the near future.

In this kind of situation, I suggest that Pareto optimization is not a great help to the grand strategy of development policy. I still believe very firmly in the market as a highly efficient device for a great many purposes even in an underdeveloped economy. All I am arguing is that planners should have an additional focus of attention. They need to try to think through whether there are some values on the basis of which they can make judgments about alternative indifference patterns and alternative consumer preferences.

I can suggest only one such value (to which I hold very strongly), on a fairly high and general level. It is that the choices confronting people should be broadened as much as possible, and that their perception of those choices should be clarified as much as possible.

This is a value postulate; I am not saying that it can be defended as anything else. If one likes it, many things follow for development planning. By my criterion, any increase in the perception of choice would be a desirable thing, and any broadening of possible alternatives made available to the citizenry would be a desirable thing. Now this would suggest that where experiments with value patterns are not socially irreversible, one ought to do a lot of experimenting; that is, one ought to try a lot of different kinds of patterns of living in an underdeveloped economy where he can do this. One cannot do it when he is making a major decision as to whether he is going to crowd a lot of people in the cities or whether he is going to prevent cities from growing. One cannot do a little experiment with different sizes of cities and see how they work out and how the people are going to like them and move the people back and forth so that they can compare them. There are some kinds of decisions that are socially irreversible; these have to do with the whole grand strategy of a development programme. Where decisions are not socially irreversible, what I am suggesting is that if one accepts this principle of maximization of choice, what he wants to do is to maximize the experiments through which he is putting different sections of the population or through which they are at least given an option to go. Where choices are socially irreversible, I think that one has to make experiments in an imaginary rather than an actual fashion. Here the planner has a very important function to perform. His function is to try to describe a little more fully what the society that he is planning for would be like if it came about. In other words, the planning processes ought to include as much construction of Utopias as possible. The distinction between goals and techniques for achieving goals, is a distinction which is analytically very useful. But in a developing economy, this distinction misses the crux of the problem if one does not know, and one's own society does not know, what its goals are going to be ten or fifteen years from now. It is a part of the function of the planner, I would assert, to be not merely the technician who shows how to get there but also the evoker of Utopias—to be the guide to the many different places one might like if one could get there, so that the individual members of the society can make up their minds a little more intelligently in advance whether they are being trapped into an evolution of their own tastes which they may not ultimately like, or whether they perhaps could follow a different sort of course.