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THE CONCEPT OF RATIONALITY AND THE MACRO-INDICATORS OF GOAL ATTAINMENT IN SOCIO-ECONOMIC DEVELOPMENT

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It is being circulated in a pre-publication form to elicit comments from readers and generate dialogue on the subject at this stage of the research.

I

It has nowadays become a commonplace that socio-economic development can hardly be looked at as a process which brings about solely desirable effects. Only some of its effects are desirable, while others are — sometimes highly — undesirable. As long as the process can be treated as purely spontaneous the above remains just a statement of fact which does not need any appraisal in terms of development goals and the level of their attainment. But such appraisal becomes highly topical whenever deliberate efforts are made to control the development process on behalf of a society.

To deal with a controlled process of development the notion of effectiveness of the development effort is needed. The positive effects of development can be treated as adding to total effectiveness, while the negative ones detract from it. But this is easier said than done. Even supposing (not very realistically) that a broad consensus exists with regard to the demarcation line between what is desirable and what is not, the very notion of effectiveness is contradictory.

This can be readily seen when assessing the experience of a country with a good development record. If we take the case of Poland for example, we see the historical fact that, within a few decades, the overall development level of the society was raised spectacularly. This must be treated as a manifestation of the high effectiveness of the development effort. Yet recent discussion on development policies for the future is focused on the need to raise effectiveness and reveals many symptoms of waste, uneconomical use of resources, unsatisfactory level of labour productivity, and various negative phenomena emerging in the sphere of the moral infrastructure. Would these be two different — and contradictory — concepts of the effectiveness of development effort?

Indeed there seems to exist a tendency (though never fully articulated) to split the concept of effectiveness of development into two separate parts. One of them is the essentially macro-economic aspect in which attention is focused on performance in terms of overall growth rates plus a multitude of corresponding sectoral achievements. The other is the essentially micro-economic aspect in which all the negative phenomena are accommodated and which acquires a social rather than economic meaning. But it does not make much sense to follow this kind of distinction. The notion of effectiveness of the development effort may have a real meaning only if it is made to encompass all the social effects of development activities of the society, including as a matter of course the economic performance. The fact that, in spite of this, the dichotomic approach tends to prevail seems largely attributable to some modes of thinking widely adopted in economics. The purpose of this paper is to identify the main sources of error and suggest a possible way out.[1]

II

The term effectiveness is commonly used in economics to denote the ratio relating the sum of benefits of an activity to the sum of its costs. But it is well known that both costs and benefits of socio-economic development are extremely heterogeneous and hardly commensurable. Hence all indicators of overall effectiveness which have to be used in analyses, comparisons, and appraisals and in the practice of development planning have to be based on some conventional simplifications. Because of this limitation it is difficult to assess the meaningfulness of the various indicators without considering first the real sense of the basic concept.

In economic theory effectiveness is a symptom and measure of rationality in economic activity: what is more effective is more rational. When we say that economics is concerned with prescribing methods of increasing the effectiveness of economic activity, we actually mean that we want to make this activity ever more rational. We need therefore a yardstick to distinguish between what is and what is not rational. To meet this need, economic theory introduced the principle of economic rationality, and this has been formulated in various terms ever since its first wording was provided by Quesnay. According to Oscar Lange, the principle of rationality in economic behaviour says that the maximum level of goal attainment is arrived at through action which is aimed either at goal maximization at a given level of outlays, or at minimization of outlays needed for a given level of goal attainment.[2] In other words one might express the same idea by defining rational behaviour as the making of decisions which lead either directly or through minimization of outlays to the maximum level of goal attainment given the constraints. It can be readily noticed that an indicator of effectiveness would then be a measure of the degree of success in attaining the goal — and hence of the degree of rationality of behaviour.

What are the factors affecting this degree? Foremost among them is the nature of the decision maker's knowledge about the real world. To grasp this factor the Polish philosopher T. Kotarbiński made an important distinction between real and methodological rationality.[3] Real rationality is a characteristic attributable not to behaviour or action, but to the level of knowledge; it finds expression in the fact that effectiveness of action depends on the scope and quality of knowledge available to the acting individual. On the other hand, as emphasized by Lange, the characteristic which can be attributed to action is methodological rationality; it implies that choices actually made are correct only in relation to such knowledge as is available to the decision maker.[4]

The non-availability of perfect knowledge about the real world is well recognized by social science. It is usually referred to as the informational constraint. It can never be fully overcome and therefore real rationality can never be completely achieved. But it is clear that all improvements in the scope and quality of knowledge are directly favourable to increasing the effectiveness of action by reducing the amount of errors caused by ignorance. This does not require further consideration in the present context.

Economic theory does not seem to have always been aware of the need to distinguish between real and methodological rationality. For example, neoclassical theory seems to be based on the concept of rationality in the real sense. But today, whenever in various theoretical approaches the assumption is found that economic decision makers tend to act rationally, it should be interpreted to imply methodological rationality. This means that, given any limited amount and quality of knowledge which the decision makers may have at their disposal at a certain time, their objectives are clearly defined and they have clear criteria of choice enabling them to maximize the level of goal attainment.

A further assumption that could be introduced is that decision makers are fully able to use the available knowledge in such a way as to make their choices comply with the principle of rationality; the limited effectiveness of action based on these choices would then result only from the imperfections of knowledge. The only way to increase effectiveness would then be to improve the available knowledge.

This would be a rather far-reaching simplification. Actually, and more realistically, it is usually (though often implicitly) assumed in economic reasoning that decision makers have neither the technical abilities nor the organizational set-up to make full use of such knowledge as is available to them. It would follow that, at any given level of knowledge, there are two ways to increase the methodological rationality and hence the effectiveness of action: to raise the level of technical ability and to improve the organizational set-up.

In the economic theory of socialism the first of these two ways takes the form of improving the techniques of applying the accepted criteria of rationality. These techniques include various forms of cost-benefit analysis and methods of planning. The second one pertains to the creation of an adequately responsive social and organizational set-up for properly applying these techniques and thus for carrying out the right economic choices. Both of these ways have to be used together to help improve the allocation of human and material resources between various lines of activity so as to bring about higher benefits from given outlays.

When both of the above factors that limit the methodological rationality of action are taken into consideration, a wide area is opened for theoretical analyses as well as for practical solutions. But the direction of these analyses and solutions is predetermined by the basic assumption concerning the criteria for decision making.

All economic decisions can be represented as choices between alternative uses of available means. A serious weakness of economic theory is that its directives concerning the way to deal with these choices are based on axiomatic application of criteria derived from the principle of economic rationality. These criteria are formulated in terms of goal functions in which a given magnitude is to be maximized or minimized. For example, with regard to the problem of optimum resource allocation on a national scale in a socialist economy, the universally used criterion for evaluation is the value of the goal function representing maximization of either the national income or its part — the consumption fund.

I put forward the proposition that, by adopting this approach, economic theory escapes from defining the real choices implied in comparing alternative patterns of allocation of social resources and therefore condemns itself to impotence in any advisory capacity. The practice of macro-economic decision making neither does nor should look that way. Therefore, these theoretical directives neither reflect what actually happens nor provide useful information to decision makers. I will try to show that, on the contrary, they may well prove to be misleading.

The main source of error lies in the failure to give due consideration to another possible cause of imperfect methodological rationality among economic decision makers, perhaps the most important one: at least some of these decision makers can hardly apply the accepted rationality criteria because they are not able to formulate an unambiguously defined goal function in terms which would permit them to employ the praxeological principle of economic rationality.

I will try to show that this does not imply the necessity to abandon the very concept of rational behaviour in economic activity. The so-called principle of rationality, instead of having general validity, can be shown to represent only a special case of rational behaviour, when there exists a well-defined and integrated goal. I put forward the proposition that other cases of rational action may exist when this requirement is not met. These other cases should be analysed by development theory.

III

The approach which prevails in economics is a heritage from earlier doctrines concerning the idea of rationality in economic activity. According to Oskar Lange, who based his ideas on the theory of Max Weber, rationality in economic activity makes its first appearance in the historical arena with the shift from a customary to a mercantile economy. This is attributed to the fact that only in the latter can the objective of economic activity be represented by a fully quantifiable single magnitude: the money income.

The proposition that customary economic activity was not methodologically rational reflects the historical origin of economic theory. This theory was born to corroborate the triumph of mercantile economy in its dominant role among various forms of activity leading to satisfaction of human needs. Money income, having acquired the status of a universal instrument for satisfying all possible needs, became apparently the most general human objective, the magnitude to be maximized, the measure of attainment for all the goals of human activity. This must have led to the belief that the very emergence of rationality should be linked to the separation of money-earning activities from those which had a customary nature and were — and in some places still are — dominant in precapitalist societies.

The customary household economy as known from history is indeed difficult to deal with in terms of the praxeological principle of economic rationality. It was concerned with pursuing a large number of goals determined by habit; this was best done by adopting standards of behaviour inherited from previous generations and established by routine. No maximization or minimization of any single magnitude could have been applicable in these circumstances, as no such magnitude was available.

But it does not follow that economic activity based on customary rules of behaviour deserves to be labelled non-rational in the methodological sense (though it could have been less effective as a result of more limited knowledge at earlier stages of development). Such activity also presupposed making choices justified by the level of knowledge available to those concerned. It was also aimed at making the best use of resources. But it was concerned with such use as would help to satisfy a whole set of needs hardly comparable to one another. The set was determined by tradition and included both material needs and non-material ones, such as those pertaining to the quality of family life. Even in our times one can still observe in some less-developed parts of the world, e.g., with some peoples in Africa, the phenomenon of genuine disregard for money incomes coupled with evident care for the proper use of resources.

The best use of resources can be termed optimum allocation. From the viewpoint of the conventional wisdom which prevails in a customary economy any departure from traditional patterns of behaviour means departure from optimum allocation. Moreover, it can indeed prove to be one. What is different as compared with mercantile activity is the understanding of how the optimum is determined and of what are the right measures leading to it.

It is true that strict adherence to customary rules of behaviour could be interpreted either as a way of seeking maximum satisfaction or as a risk-minimization programme for resource allocation. But this would not offer any possibility of quantification of choice criteria, and hence the link with the principle of economic rationality would remain purely verbal.

Thus it can be seen that in the absence of an unequivocally determined goal function customary activity was rational in a different sense from that which is implied in the praxeological principle of economic rationality. The latter turns out to be the child of the mercantile "rationality of money makers"; it cannot be claimed to represent the only possible type of rationality. In a customary economy, the concept of rationality cannot be defined in terms of minimization or maximization of any single magnitude; it must be given a different meaning, related to choosing between various alternatives of resource allocation with an unintegrated set of aims determined by tradition.[5]

In the light of conventional economic theory, the distinction between the principle of optimum resource allocation and the praxeological principle of economic rationality interpreted to mean maximization or minimization of a single magnitude does not appear to make sense. Optimum allocation is conventionally based on the criterion that something is maximized or minimized. But here is exactly where the theory seems to go wrong. What can be seen when considering the characteristics of a customary economy is that there was a long period in economic history when the optimum alternatives were sought while there was no available single magnitude which could reasonably be either maximized or minimized.

The conclusion can be drawn that the principle of maximizing or minimizing a single magnitude, i.e., the so-called principle of economic rationality, is not really the only possible principle for rational economic behaviour. This proposition has vital importance for understanding the social effectiveness of economic activity in a socialist economy.

IV

Within the theory of the market economy various attempts were made over the years to justify the proposition that all individual decision-making units which together constitute the socio-economic system tend to act in conformity with the principle of economic rationality. This was essential for proving that the system as a whole also acts rationally, i.e., allocates resources in accordance with the same principle. The overall rationality of the system could be treated as manifesting itself in the maximization of a magnitude corresponding to that maximized by individuals, i.e., income (whatever its precise meaning) expressed in terms of money.

But the praxeological principle of rationality proved to be applicable only to one group of decision makers — to capitalist firms or business enterprises. It proved inapplicable — in spite of many endeavours — to households or consumers. The idea of interpreting consumers' rationality in terms of maximization of utility or satisfaction turned out to be futile, utility not being susceptible to measurement. Besides, the market mechanism of modern capitalism tends to make consumers act less rather than more consistently and rationally. At best, it may be possible to adopt the proposition put forward recently by Harvey Leibenstein that the consumer acts rationally only selectively, from time to time.[6]

If consumers as elements of the market economic system do not act rationally, there is no reason to maintain that the working of the system as a whole is rational, as it depends ultimately on decisions made by consumers. In other words, the rationality of producers in a capitalist economy does not suffice to vindicate the overall rationality of the system. The rationality of the system can no longer be treated as resulting automatically from the interplay of market forces. Rational decisions made by individual firms do not lead to a joint outcome which can be considered rational from a broader, social viewpoint. This finds its most glaring expression in the fact that a free-market society fails to produce equitable distribution of the products of its activities. This is a manifestation of waste, waste being the opposite of rationality. It also finds expression in the way the system evolves towards monopolistic capitalism with its further deformations concerning allocation and distribution.

The contradiction between the rationality of elements of the system — the individual producers — and the lack of rationality of the system as a whole was explored in depth by Marxian economics. An important theoretical contribution resulting from this approach was the introduction of the notion that overall rationality of a system is separate from the individual rationalities of elements within the system. But the only guise in which this concept has so far appeared in the history of economics has been the question whether — or under what conditions — the national economy as a whole is able to maximize the total income of society.

V

The issue of rationality of the system as a whole acquires particular importance in the socialist economy. It creates first of all the need for articulating a definition of the common advantage of the society. This definition can no longer be derived from that of individual rationalities attributable to elements of the system (though these do not lose their significance). Although this may be questionable, I take it for granted that the socialist society is characterized by universality (as opposed to individualism) in its approach to social goals; in principle the advantage to society is considered the basic objective, while individual advantages should result from the pursuit of the common good. The rationality of producers — the socialist enterprises — is therefore necessarily subordinate to common advantage. With regard to consumers, there is no reason to expect that socialism can produce consistent methodological rationality in their individual behaviours.

One of the basic characteristics of the socialist system is the conscious control over economic processes exercised by a central decision-making authority. This implies the possibility of organizing economic activities in a rational way at the overall level, i.e., within the system's "national economy." In interpreting this, economic theory adopted the assumption that the central authority in socialism makes use of the principle of economic rationality in the shape in which it was produced by the market economy, i.e., that of maximization of a single quantifiable magnitude. The view that this is exactly what should be done, and that it helps to establish the foundation for solutions concerning the methodology of planning at the national level, was quickly accepted in the actual practice of central planning. This was not surprising, since the adoption of a well-defined goal function is of enormous help to decision making, for it provides a criterion for comparing alternatives and making choices.

This solution helped also in theory to reduce a very intricate issue to a much simpler one: the functioning of the centrally planned socialist economy could be discussed in terms of plan optimization. But it must be made clear that three conditions must be satisfied to justify this approach:

1. a clear criterion should be available in the form of a goal function defined in terms of a chosen magnitude which is to be either maximized or minimized;
2. this criterion should be consistently applied to all decisions; and
3. the decision-making authority should be capable of collecting and quickly processing information concerning all the possible alternatives for action.

In the theory of plan optimization it is often assumed (sometimes implicitly) that all these requirements are met in a socialist economy. In reality this is not true, in view of the existence of major difficulties. Among these, the difficulty of securing quick collection and processing of information, though very serious and with great consequences for overall solutions, is by no means the most important one.

What is most important is the very first condition, which pertains to the availability of the goal function. The point is that this basic condition is the most difficult one to meet. It is true that the general objective of socio-economic development under socialism is well known: to satisfy the material and cultural needs of all members of the society. This, however, is not a sufficiently operative formulation; it has to be made more specific in order to be applicable. But to accord with the theoretical requirements set by the praxeological principle of economic rationality, it would have to be formulated in such a way as to express the general objective in terms of a chosen magnitude, capable of being either maximized or minimized. This magnitude would then also be able to serve as a measure of the effectiveness of development.

Thus the need emerges for an aggregate macro-economic magnitude suitable to perform two roles at the same time: that of an integrating measure of the prime objective of development, and that of an indicator of the effectiveness of development activities. In view of the heterogeneity of operative goals into which the prime objective of development is fragmented for purposes of decision making, the first of these two roles is seldom referred to explicitly. However, it is the second one which creates the need to use for practical purposes some kind of conventional indicator.

VI

Such a widely used conventional macro-economic indicator is the annual per capita national product or national income of a society. This figure may indeed be treated as an indicator of effectiveness, since in a way it shows the aggregate effect of the sum total of outlays made in a given period by the society. The reasoning, of course, remains unaffected by the precise definition of national income adopted for the purpose. If the net material product approach is used, it is clear that ultimately we obtain an indicator of the social productivity of labour in terms of the material output.

It can be seen, however, that this same indicator is tacitly made to usurp the first role. The national income, once it is adopted as a natural, well-integrated measure of the total effect of the society's productive activity, takes on the appearance of a natural way to express the whole bundle of goals of socio-economic development. The apparent need to have such an aggregate expression stems from the theoretical attachment to the praxeological principle of economic rationality. As a result, theory focuses on the concept of national income maximization. But the question must be asked, how far it is altogether legitimate to use in a socialist economy the concept of national income maximization as the macro-economic criterion of rationality?

There would be no doubt about its legitimacy if national income as a measure of the effectiveness of economic activity could at the same time measure the increase in social well-being, the degree to which the prime objective of socio-economic development has been achieved. Its maximization would then lead to the fastest possible improvement in social well-being.

But national income is not an indicator of the level of well-being of the society. The net material product as the sum total of value added in a given period is nothing more than a measure of the productive effort of the society. The volume of output does, of course, influence the level of social well-being. There is, however, no reason to believe that there exists a constant relation between the growth of national income and improvement in social well-being. It can easily happen that an increase in national income does not bring about any improvement in the well-being of society. For instance, this is very likely to occur at a relatively high level of material production when only a small increase in national income is achieved. Thus national income as a measure of output can be considered only an indirect and rather abstract measure of social well-being. It may perhaps be used for broad international or historical comparisons, but it cannot be used for analyses which are needed in choices concerning development strategies.

Indeed, the possibility of divergence between the growth of national income and the improvement of social well-being disqualifies national income as an approximate measure of well-being. This does not deprive it of significance as an important tool of economic decision making and planning. Representing the volume of resources available in a given period, national income facilitates the making of decisions concerning the distribution of this sum among various social aims. But something which is only an instrument for decision making should never be considered the main objective of economic activity. Let us repeat that the main objective of economic activity, and hence of development planning, is not the growth of national income but the improvement of social well-being, which is decisively influenced by choices concerning the composition of resource outlays.

There are a few possible lines of defence for using the national income as the objective of economic activity. One of them is the pragmatic line based on the proposition that development policy must use national income as the main aggregate indicator in the absence of better measures. It is recognized, however, that this indicator is not comprehensive enough and therefore cannot be assigned absolute significance; it needs support from various auxiliary indicators which help to verify the general effects of economic activity and to make appropriate decisions at lower levels. Such auxiliary indicators should be used first of all with regard to fields of activity where effects are not easily quantifiable, such as health services, social welfare, etc.[7]

The pragmatic argument has much validity and probably has to be accepted as long as new instruments are not available. It would not make sense to throw away overnight the accepted methods of development planning in the absence of other ones which still have to be worked out. What can be done as a first step is to try to formulate a satisfactory theoretical base for the elaboration of the right kind of instruments.

The other line of defence takes for its point of departure the idea that all the aims of socio-economic development which do not find expression in national income can be represented in a normative way as constraints on the choice of alternative strategies. Once they are so represented, the goal function may be formulated in terms of national income maximization.[8] This approach seems indeed to offer real possibilities of practical solutions based on setting the constraints and securing compliance with them. But it requires in-depth analysis of the relationship between the growth of national income and realization of the other objectives of socio-economic development. There seems to be no a priori reason to choose for maximization this particular magnitude which represents only one among a wide variety of aims. The only reason is the intellectual heritage from a different socio-economic system and the tendency to imitate its development patterns and mechanisms.

VII

Once national income is discarded as a possible indicator of social well-being, the obvious next step is to try to find an indicator which would be more suitable to play the role of a scalar integrator of all the development aims. Indeed, attempts at elaborating new and more appropriate aggregate measures of social well-being have been made over the last decade by a number of authors in various countries, also in Poland. Two basic approaches to the construction of a new measure of well-being can be found in literature. One of them is based on the concept of a measure fully disconnected from calculations of monetary values; the other involves introducing certain alterations to the accepted monetary measures (such as gross national product or net material product) by adding to them some new items and subtracting others in order to arrive at a better approximation of the notion of social well-being.

The first approach found expression in the so-called level-of-living index, elaborated in 1966 by the United Nations Research Institute for Social Development in Geneva.[9] One of its authors, Jan Drewnowski, remains to this day the chief advocate of this line of thinking. The essence of the method rests on identifying a number of separate aspects of social well-being, determining a selection of quantitative indicators for each of them, and working out a more or less arbitrary set of weights that will lead to a single comprehensive indicator of the overall level of living. This method, with certain modifications, was also used in Poland.[10]

Methods belonging to the second approach attracted much attention throughout the world. Among the most important contributions along this line of thinking was the work of W. Nordhaus and J. Tobin in 1972[11] and the Japanese method presented in a pamphlet published in 1973 by the Economic Council of Japan.[12] In Poland this approach is represented by the ideas of M. Rakowski.[13]

All these methods enriched the analysis of the mutual relationships between different (and apparently not commensurable) aims of socio-economic development. They brought about some theoretical progress on the way to the integration of economic and social indicators of development. Yet they could not produce a satisfactory scalar measure of well-being which would fully integrate all these indicators. This task is not feasible.

VIII

On the basis of objective criteria, it is not possible to find a common denominator for all the diverse elements of social well-being and all the goals and effects of social activity in the economic sphere. This can be done only by crude approximation, by introducing value judgements making heroic assumptions which reflect a variety of conditions and constraints. An approximate global indicator arrived at in this way may have some informational value, but there is little justification for adopting the view that it should be maximized in choosing development strategies. Actions aimed at loosening some of the constraints may often prove more to the point than the maximization of the global indicator.

It is, of course, recognized both in economic theory and in practice that the essence of socio-economic development is social change, not maximization of any aggregate magnitude. The search for an aggregate measure which could serve to evaluate alternative structural patterns of social change and to indicate their respective levels of desirability in terms of a simple, scalar touchstone[14] reflects a natural drive for simplicity.

But the transition from one socio-economic structure to another results from the simultaneous realization of a multitude of development aims which are hardly comparable to each other. These aims are only to some extent (often quite negligible) complementary. In fact, they are strongly competitive with respect to resource allocation and hence contradictory. As was aptly pointed out by Paul Streeten, it is always technically possible to make all these contradictory aims comparable to each other by assigning to them respective numerical weights. The effects of alternative lines of action concerning this set of weighted aims can then be evaluated with due consideration to mutual interconnections, cross effects, and time distributions. All the different costs and effects of these actions can thus be represented in unified terms of the quantified surplus of "benefits" over "costs." But in this way the contradiction between the individual aims is not removed; it is only camouflaged by the relative values assigned to them.[15]

That the practice of economic policy making chose national income as the basic measure of social effectiveness of economic activity and as the magnitude to be maximized is a tacit expression of the view that the level of national income measures that of the well-being of society. This is tantamount to assuming that the composition of any planned increment in national income is predetermined in terms of a given product-mix. It then follows that the main problem which remains to be solved both in theory and in practice is that of finding the ways to maximize national income. But in reality the main problem is rather that of determining the composition of the increments. This is precisely why the acceptance of national income as a social measure of well-being, and as an instrument to integrate development aims, cannot be considered satisfactory either for theory or for planning.

Exactly the same is true with regard to any other aggregate indicator. The point is that always, irrespective of the type and scope of the indicator, the main problem both in planning the development processes and in evaluating their social effectiveness is not the quantity of the indicator and the amount of its change from year to year, but its internal composition and the ways in which it changes.

The situation may be different at a very early stage of a country's economic development. Even national income may then temporarily be considered a fairly accurate measure of social well-being, because the basic material needs of the society are so greatly unsatisfied that allocation priorities are easy to decide upon. In other words, at such early stages it can for a certain time be assumed that material production is the prime objective of development, and the desired product composition of total output and its annual change can be fairly easily determined. It is possible that the ready acceptance of national income in the role of a universal indicator of macro-economic effectiveness can be traced back to these characteristics of the early stage.

The picture changes considerably, however, when the process of development enters a more advanced stage and brings about growing complexity in the social and economic structure. The material objectives of development tend to lose their relative significance as components of the society's general standard of living in favour of much less tangible elements, often hardly measurable in money terms and some of them belonging to the moral infrastructure. Moreover, even the desirable proportions of the material objectives, as well as the cost and benefit differentials between various alternative sets of these proportions, become less and less obvious since changes in consumption patterns may have very far-reaching implications for many sectors of social life, sometimes very remote from each other. Finally, the increasing occurrence of certain negative aspects of economic growth makes comparing the true social costs and benefits of various lines of action even more difficult. In this new situation, neither national income nor any improved indicator of economic and social welfare can help solve the problem of determining the internal composition of annual additions to social well-being.

Planning, of course, has to deal again and again with the problem of determining this composition for every successive period, regardless of the tools it has at its disposal. Theory should be there to help in dealing satisfactorily with this task. But theory fails to offer any sound foundations for making choices between various alternative compositions. What is more, it offers misleading advice. For instance, attempts have been made now and again to provide such foundations by analysing the effects of various possible compositions on the rate of growth of national income. This can be exemplified by the search for a "more effective" composition of total consumption expenditure, meaning a composition which would make it possible to achieve a higher rate of overall growth than what is considered feasible without adjustment. In such an approach a solecism is perpetrated as a result of the mechanistic application of the principle of economic rationality. Indeed, what can be the social significance of making structural solutions subordinate to the maximization of an aggregate magnitude if the true objective is to satisfy the whole wide variety of social needs?

Also, in this approach the aforementioned contradiction between economic and social effectiveness is clearly visible. But it can now be seen that this contradiction results directly from the inability of economic theory to detach itself from the prejudice that a scalar aggregate indicator of goal attainment should be used in assessing socio-economic development. Theory has failed so far to disentangle itself from the line of thought which takes as a paradigm of the socialist economy the idea that the praxeological principle of rationality should be applied to the choice of alternatives expressed in terms of aggregate economic magnitudes.

IX

But, as I have tried to show, the praxeological principle of economic rationality is not the only possible way to characterize methodologically rational actions. Any action is rational if it is based on a comparison and choice of alternatives made according to criteria which correspond to the attained level of knowledge, even if these criteria do not include any clearly defined magnitude capable of being either maximized or minimized. Yet, though it is well known that all the material and cultural needs of a society cannot be expressed by means of any single aggregate magnitude, the consequences of this fail to be adequately recognized.

What has not been realized is that the habit of applying the principle of economic rationality to macro-economic choices (together with the resulting national income maximization approach) not only lacks justification but may lead to non-rational behaviour: errors are committed in identifying the available alternative courses of action,[16] and a false criterion of choice is used. What is more, this is true not only with regard to national income, but also with regard to any other aggregate measure of well-being, whether already known or imaginable. The principle of economic rationality in its praxeological formulation is suitable only for micro-economic choices, when an integrated objective is given or the goal structure is unambiguously determined.

The crucial decision (or set of decisions) in macro-economic planning is one which determines the internal composition of the prospective increment in the aggregate measure, irrespective of whether the latter is national income or any other magnitude. This implies the need to determine the method and desired level of attainment for all the sectorial objectives on which true social well-being ultimately depends.

In a socialist economy these structural decisions must be made by the central decision-making authority which acts on behalf of the society. As a rule, they have to be verified by the society, and this can be done either ex ante or ex post. But even the most efficient social machinery for such verification cannot be expected to secure fully consistent application of a criterion based on the principle of economic rationality.[17] The way in which this criterion is applied necessarily depends on changing situations. It must vary, e.g., with changes concerning the length of the time horizon for the assessment of effects of various decisions. What is also subject to variation is the scope and nature of information about the existing alternatives, which is usually influenced by sectorial interests.

It follows that the use of an aggregate measure of effectiveness (or of economic rationality) for the purpose of plan optimization cannot be a truly rational mode of behaviour at the macroeconomic level unless the term "rationality" is employed misleadingly to denote only use of certain techniques of calculation.

Thus the conclusion can hardly be avoided that, as long as the concept of rationality is used in the conventional sense of seeking maximization of a single magnitude, we must arrive at a position of doubt with regard to the possibility of rational behaviour at the level of national economy as a whole. But this is so not through any fault of the system; it results from making improper use of a principle which does not comply with the system.

Maximization of national income or any other aggregate magnitude is a convenient proposal for the practice of planning, but it has no theoretical justification, at least not in a developed socialist society or even in a society on the road to becoming one. In theory it leads to deducing steps for rational action which have little to do with the actual functioning of the economy.

It should be noted that the proposal to renounce the principle of maximizing national income or some other aggregate magnitude in choosing between development alternatives does not necessarily imply the slowing down of development. Development planning in a socialist economy must be oriented towards rapid development. This results from the pressure of real social needs and aspirations. But the idea of rapid development is far from being defined unequivocally. It may imply very different sets of development policies depending on the measures adopted for both the rate of development and its social effectiveness.

What follows is that, in a socialist society, the maintenance of rapid development should not be based on the criterion of maximizing any given aggregate magnitude. The rate of growth, as measured by such an aggregate indicator, should be treated as an outcome of decisions concerning the allocation of resources. These, in turn, result from the functioning of the socio-political mechanism and are based on policy choices for which no standard yardstick can serve as a substitute. The crux of the matter does not lie in arranging all the aims into an ordered set according to some preconceived weights, but rather in finding a more or less satisfactory compromise between various contradictory aims. But, taking into account the continuous evolution of the subject of analysis, no compromise can be expected to yield a lasting solution.

The practice of national economic planning is to a certain extent consistent with these ideas, as it can never fully rely on the principle of national income maximization. It waives this principle when it gives priority to such directions of resource allocation which do not directly contribute to increasing the material product but are considered socially important, e.g., housing services. But this is done in the way of exceptions, by limiting the scope of application of the maximization principle. Starting from this, theory seeks to find ways to bring back all such exceptions under the umbrella of the general principle by amplifying the contents of the aggregate magnitude to be maximized.

I believe that this direction is wrong. This does not mean that planning decisions should necessarily be arbitrary. It only means that a different theoretical path should be found to replace arbitrariness with rationality. The task for the theory is to look for solutions which would be useful for practical application, but not squeezed into allegedly logical formulae. This problem remains open.

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The road to a solution may well lead to the construction of such tools of analysis which would make it possible to compare various alternatives of structural changes from many points of view, taking into account the diversity of goals and effects but not aspiring to the selection of one optimum line of action. What is needed in order to do this is the adoption of a certain rule for the description of the structural changes, i.e., it is necessary to decide which of their aspects are to be compared. This rule cannot be universal but must be determined for each particular purpose. This is because there is no standard way to describe the structural changes in question. The description must depend on the particular "valuating classification of phenomena" adopted for each specific purpose.[18]

A relatively simple example of a structural decision (which is not to say that the decision itself is simple) is provided by the division of national income into consumption and accumulation. Apparently this decision is concerned with dividing a given whole into two parts only. But various different divisions unavoidably affect the internal composition of each of the two parts, as well as the future levels of national income.

Thus each alternative is characterized by a different set of effects on the process of satisfying the needs of the society, or — in other words — a different set of results in attaining the diverse goals of socio-economic development. Hence the description of alternatives cannot be confined to a few accounting figures. It should characterize the effects of each alternative on many different indicators chosen to represent various aspects of the general level of well-being of the given society. It is therefore necessary to ascertain what should be considered an adequate list of such indicators and to identify the relationships between them and the main variables used in decision making.[19]

To implement this task would involve constructing a complete simulation model to compare all the comprehensive choice alternatives while taking into account the aspects represented in the adopted set of indicators. This type of model would, in my view, be an appropriate tool for rational decision making. But it would not embody any single criterion of choice. It would only help to bring about a conscious confrontation of the multifarious advantages and disadvantages of various alternative lines of action. The ultimate decision on the choice of one particular alternative would be what it always has to be, a policy decision.

A model of this nature can, of course, only be stipulated. It is extremely difficult to construct such a model that conforms with the real world. The need readily arises to determine some kind of accounting procedures to make the job of comparing alternatives simpler. It may well happen that some of these procedures can be based on techniques already used in maximization calculations, if only appropriate structural constraints are introduced.[20] With these provisions, the proposed concept of a simulation model may indicate the approach to working out rational foundations for macro-economic decisions.

It should, however, be observed that rationality in decision making can hardly be considered a sufficient condition for ensuring high effectiveness of development activity in a society. It is nothing more than a necessary condition. For high effectiveness of development to be achieved, rationality of decisions must be supported by efficient transmission lines leading from decisions to their implementation, i.e., by what is often referred to as the functioning mechanism of an economy. But no mechanism can function satisfactorily without rational foundations for decision making.

NOTES

1. The present study is a substantially changed and improved version of a paper published in Polish in <u>Ekonomista</u>, no. 5, 1978. The author is indebted to all his friends and colleagues who read the earlier version and offered their comments and criticisms.
2. Cf. O. Lange, <u>Dzieła</u>, vol. 3, Warsaw, 1975, p. 384.
3. T. Kotarbiński, <u>Traktat o dobrej robocie</u>, Łódź, 1955, pp. 137 ff.
4. O. Lange, <u>op. cit</u>., pp. 375-376.
5. Lange criticized the approach adopted by von Mises who thought that since any human activity which is conscious and oriented towards some kind of goal is rational, there is no reason to distinguish the customary from the mercantile type of economic activity. Cf. L. von Mises, <u>Human Action: A Treatise on Economics</u>, New Haven, 1949, p. 20 ff., and O. Lange, <u>op. cit</u>., p. 375. The interpretation offered here is different from both that of von Mises and that of Lange (who in turn was criticized by Lipiński, Kula, and Godelier; cf. editorial notes to O. Lange, <u>op. cit</u>., pp. 926-928). I consider the distinction between customary and mercantile economic activities valid and important not because it draws a demarcation line between what is rational and what is not, but because it shows the relative nature of the concept of rational economic behaviour.
6. H. Leibenstein, <u>Beyond Economic Man</u>, Cambridge, Mass., 1976, Harvard University Press.
7. This line is represented, e.g., by T.S. Khachaturov in his "Éffektivnost´ obscestvennogo proizvodstva," <u>Voprosy ekonomiki</u>, no. 6, 1975; the article summarizes a broad debate devoted to this subject.
8. This line is represented, e.g., by C. Józefiak, and J. Mujżel in Reprodukcja w gospodarce socjalistycznej, Warsaw, 1974, PWE.
9. J. Drewnowski, W. Scott, <u>The Level of Living Index</u>, Geneva, 1966, UNRISD.
10. See A. Luszniewicz, <u>Statystyka jakości życia</u>, Warsaw, 1975, p. 35, PWE.
11. W. Nordhaus, J. Tobin, "Is Growth Obsolete?" In <u>Economic Growth</u>, New York, 1972, NBER.
12. <u>Measuring Net National Welfare in Japan</u>, Tokyo, 1973, Economic Council of Japan.
13. M. Rakowski, "Problemy metodyczne wyceny i wariantowej analizy ogólnej wartości posiomu życia ludności," Warsaw, 1975, Instytut Planowania.
14. This point was dealt with more extensively in M. Ostrowski and Z. Sadowski, <u>Wyzwania rozwojowe</u>, Warsaw, 1978, pp. 52 ff., PWE.

15. Cf. P. Streeten, "Cost-Benefit and Other Problems of Method." In Political Economy of Environment: Problems of Method (papers presented at the symposium held at the Maison des Sciences de l'Homme, Paris, 5-8 July 1971), Paris 1972, p. 47.

16. This point is connected with the question of rationality in determining the objectives of development, raised by J. Pajestka in his article "Conscious Shaping of Socio-economic Processes in a Socialist Economy," Oeconomica Polona, 1977, no. 1.

17. Cf. J. Kornai, Anti-Equilibrium, Warsaw, 1977, pp. 204 ff., PWE.

18. The concept of "valuating classification" is elaborated in M. Ostrowski and Z. Sadowski, op. cit., chapter 2.

19. In a way, this exemplifies and summarizes the focus of the work going on under the auspices of the committee "Poland 2000" within the GPID project.

20. Cf. K. Porwit, System planowania, Warsaw, 1978, PWE.