The concept of national income for an underdeveloped country is a topic of great importance. In the current estimates of national income, goods and services are treated alike. The sector of the economy producing services is generally known as the tertiary sector. In the developed western countries, this tertiary sector contributes a great deal to the total. As a matter of fact, in the case of countries like the United States, additions to national income have mostly taken the form of increase in services, explaining to a certain extent the fall in the capital-coefficient in recent decades.

Since the neo-classical reasoning the economic problem is how to satisfy consumers' needs with given scarce resources, there has been no logical fallacy in including services in estimating the national product. As a matter of fact, it would have been rather inconsistent not to include services for that would have violated the only criterion of homogeneity postulated by the neo-classical economists, viz, the scarcity of supply in relation to demand. In the national income accounting of the post-General Theory period, no attempt was made to subject the basic issues to a fresh consideration. As a matter of fact, it was hardly deemed necessary for the General Theory was basically in the neo-classical tradition. Of the two major problems of economic growth, the supply of real capital and the supply of labour, Keynes assumed away the first by postulating a short period in which capital stock did not change. Regarding the other, he assumed the labour supply curve to be perfectly elastic but only up to the point of full employment, beyond which it sharply turned upwards. Thus he was actually postulating a situation of labour scarcity. The twin assumptions of labour scarcity and abundance of capital stock are just the opposite of what prevails in an underdeveloped economy seeking to initiate growth. Here there are strong reasons, contrary to what has generally been supposed, to exclude the so-called tertiary sector from the calculations of national income.

The tertiary sector, as it prevails in an underdeveloped economy, is very heterogeneous. It includes organised banking and insurance side by side with small traders and domestic servants. Now, the plethora of domestic servants and small traders etc. illustrate the basic economic phenomenon of under-development, viz., the unlimited supply of labour at subsistence wage. They are indicative of the basic shortage of real capital in the economy. As such, if in a time series of national income estimates we and that the proportion of the total income going to this class is going up, we have to read the figures as showing a gradual weakening of the structure of the economy rather than the other way round.

There is another reason for neglecting these services, even after assuming that they are wholly performed within the monetized sphere of the economy, viz, that they are very often cent per cent labour intensive. As such, they do not make any or scant demand for the reallocation of the capital resources of the community. Now, from the point of view of development, it is the objective of stepping up the rate of accumulation that matters, and the real economic criterion for the present purpose is whether the scarce capital resources are to be deployed or not.

The main reason is that such services which have such an important position in the economic structure of the developed countries, e.g. banking and organised insurance, there are cogent reasons for excluding them too. First from the point of view of general economic theory, they represent certain necessary expenses for the circulation of the product. They may be called in the present day terminology, an intermediate products or in Prof Kuznets's words, "an offset to the centralisation of production in an industrial society". No one suggests that such services in themselves are of importance in augmenting the capital stock of the community. All that is meant that such services are necessary for offsetting certain disadvantages from which an industrial society suffers, e.g. the anarchy of capital-output ratio, the absence of economic security, etc.

Finally, it may be urged that the demand for such services is a result of the income generated in the primary and secondary sectors of the economy. Conceptually, such services cannot exist unless there has been prior growth of the primary and secondary industries, while it is possible to conceive of primary and secondary industries without these auxiliaries historically. It has been observed that it is the development of commodity production that has given rise at a certain stage to service industries. From the point of view of a short-term model of the economic process, such an argument may be considered to involve a non sequitur and hence logically fallacious. But what we are interested in is a long-term process of economic growth meaning thereby a long process of accumulation of capital. As such, we should naturally seek to isolate those factors having a direct bearing on the problem we are considering from those which are indirectly connected. This is by no means to suggest that such services can be dispensed with or it is desirable that they should in all cases be dispensed with. All that is meant is that they are irrelevant variables for our present purpose.

In general, we may say that the course of tertiary production does not indicate the course of economic development registered by a developing yet underdeveloped economy. It is entirely misleading to accept the generalisation concerning economic progress a la Colin Clark as has been so forcefully argued by Bauer and Yamey. The main reason is that the proportion of total resources devoted to tertiary production plotted against the current definition of income is bimodally distributed. We have seen that a failure to distinguish between tertiary incomes that are poverty induced and those that are prosperity induced and lumping them up together in the national income totals makes the current practice particularly unsuitable from the growth standpoint.
"Help—let me out!"

Many motorists may have wondered, seeing the rather technical look of some petrol advertisements, just what it's all about. Perhaps, blinded by science they even wonder whether there is very much in it after all.

This is a pity, for things have been happening to petrol. It is better—and different. Modern petrol is no longer obtained by simple distillation. First-class high power petrols—such as SHELL and B.O.C.—are produced by advanced refinery processes that lead to better fuels at an economic cost. But refining is only half the story. Additives play an increasing part in giving motorists the higher performance they need. You probably remember the first important additive—tetraethyl lead—which in 1922 sensationally reduced petrol 'knock'.

The latest, and most important since tetraethyl, is I.C.A.—the ignition control additive—which, incorporating tricresyl phosphate, was developed by Shell Research to overcome problems of power loss through engine deposits. These deposits interfere with normal firing of the mixture, particularly in high compression engines, and were a serious brake on engine design. I.C.A. has proved the complete answer.

It is a triumph of fundamental research as far removed as can be from an advertising 'stunt'. It is by products such as SHELL and B.O.C. petrol with I.C.A., available at Burmah-Shell sales points, that motoring becomes better, smoother and more economical.

BURMAH-SHELL... in India's life and part of it
The current practice also confuses the growing points of the economy with those which are not growing or actually hinder the process of growth. In an underdeveloped country, there are certain types of goods and services, demand for which follows from the highly unequal distribution of incomes (most of it being caused by the existence of vested interests in land), which receive an exaggerated amount of importance in the calculation of national income. The growing points of the economy are precisely those spheres of production in which reproducible wealth is used and where the use of reproducible wealth raises the productivity of hired labour. In contrast, the stagnant parts are precisely those which use little or no capital and the products of which are generally not susceptible to accumulation.

The inadequacies of this Anglo-American concept in the context of the problem we are discussing here must by now be quite obvious. There is yet another point to be made explicit. There is a tacit assumption underlying the western methods of calculation, viz, a kind of distributational equilibrium prevailing in the economy. What it means is that the total resources of the economy have been so distributed among the different sectors of the economy that the returns that accrue to labour in agriculture are more or less equal in value to what can be earned in, say, personal services. This places all the different sectors on a sort of par and to a certain extent justifies the inclusion of all the various kinds of economic activities in one comprehensive national income total. But the same does not hold good in the case of a developing or underdeveloped economy. There the disequilibrium in the distribution of resources as between the different sectors of the economy is quite acute. We may notice, for example, the huge supply of labour into the services sector while the industrial working force is all too small. The basic reason is that in underdeveloped countries due to the shortage of real accumulation, capital does not figure at all in certain branches of production while in developed countries, even services are being capitalized and brought within the sphere of commodity production.

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Oil from abroad costs valuable foreign exchange. Oil from inside India saves it. And we must have ever-increasing quantities to cope with the expansion of industry and agriculture.

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But no effort is spared to find oil and turn it into the fuel, lubricants and by-products which are so vital to the progress and prosperity of India.

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put has been the source of very lively controversies among the Soviet economists themselves. As is usual with any type of definition, there are certain borderline cases which it is rather difficult to classify any particular activity as productive or not. The general practice is to regard the following sectors as productive: (a) manufacturing, (b) mining, (c) agriculture, (d) transport (freight), (e) communications, connected with material production only, (f) forestry, (g) trade, (h) construction. In eastern Europe, it appears a wide range of activities is classed as productive. In Poland, for example, in addition to the sectors regarded as productive in USSR, credit institutions which serve productive industries, wholesale and retail distribution and catering and passenger transports, communications serving final consumers, laundries and other services within the sphere of the "communal economy" are regarded as productive. The sectors excluded are Government and those services falling "outside the scope of communal economy". These differences arise apparently because it is rather difficult to draw any satisfactory line of distinction between production of material goods and non-material goods production. The word 'material' by itself does not connote any economic significance nor does it provide us with a criterion for classifying economic activities. The fact of the matter is that material production concept of productive labour is at bottom nothing but an approximation to the more basic definition of productive labour suggested by Marx in his "Theorien Uber den Mehrwert". This is not the place to discuss the validity of this approximation under the specific conditions prevailing in USSR. But it appears that from the operational point of view, the approximation serves its purpose well in USSR, for it helps to isolate that broad segment of the economy which lies within the arena of policy making from that part of economic activities which depends on other factors.

But we are interested in finding out a growth-oriented concept of national income for those economies which differ in structural essentials from a full-fledged socialist economy like USSR. As such, we are not so much interested in the specific approximation adhered to in USSR as in the principle underlying the approximation. In his appendix to the chapter on Adam Smith in Theories of Surplus Value, Marx clearly regards the material production definition of productive labour as a subsidiary, although useful, definition under certain circumstances.

IV

A full theoretical discussion of the concept of productive labour must start with Adam Smith. As is well-known, the concept of productive labour occupies a crucial position in Smith's analysis of the Wealth of Nations. Along with division of labour, the augmentation of the productive labour force is thought to be vitally connected with the process of accumulation. The chapter dealing with productive labour in the "Wealth of Nations" indicates the close relationship in which Smith held them. But Smith's treatment of the concept was rather confused. As in the theory of value, he appears to have held several alternative definitions of productive labour which were conflicting. But the main purpose of this distinction as has been so ably pointed out by Ronald Meek was to isolate that part of the economy that was being organised on the capitalist principles from that conducted on pre-capitalist lines. Since economic growth was held characteristically to be a function of the capitalist system, Smith with his interest in the problem of growth found an enlargement of the physiocratic concept of labour an eminently useful one.

Marx criticised in detail Smith's handling of the problem but he was quick to appreciate Smith's central insight. Although he regarded any labour in the abstract as productive, but from the point of view of the process of capital accumulation, only such labour was regarded as productive that exchanged with capital. The chief characteristic of all labour that exchanged with capital was that it yielded a surplus. As such, productive labour could also be defined as labour that yielded a surplus. But there is one important point to note. The surplus here is not a physical surplus, a mere conglomeration of 'use values', but a surplus in the 'value' sense of the term. Value surplus and the physical surplus can together be meaningful only in agriculture. Hence the strength as well as the weakness of the physiocrats. But they should not in any case be equated. Schumpeter considered productive labour as labour paid out of business capital. But the main point about productive labour is not merely that it is paid out of business capital, but also that it helps to augment capital. Since accumulation constitutes the essence of the whole process, productive labour may therefore be defined as labour that furthers accumulation as distinct from the labour that merely shares in the fruits of accumulation.

We shall now point out the significance of the above discussion from the point of view of the problem that we have set to ourselves.

The general relevance of the above discussion from our point of view should be apparent. It has often been stated in connection with formulation of a theory of growth that we should try to recapture something of the classical vision for a meaningful orientation. What we have tried is to examine the concept of productive labour in order to isolate that part of the economy which is most important from the accumulation angle. Since productive labour is labour which directly furthers accumulation, we should naturally regard those sectors of the economy as productive which are directly connected with the process of capital accumulation. Now, accumulation is economically significant only when the productivity of labour is higher than what is needed for labour's maintenance or productive consumption. This is possible only when labour is assisted by scarce capital resources. Only such sectors of the economy are to be regarded as 'productive' as utilise reproducible wealth and help to augment total reproducible wealth. It is not significant from the present point of view whether the development of labour and capital takes place under the aegis of the state or that of the private entrepreneur. What matters is the isolation of those sectors that are capitalistically oriented from those that are essentially pre-capitalist in nature. The principle behind this may be called the principle of finding out "irrelevant" sectors (analogy with Tinbergen's 'irrelevant variables' may be noted). All that it means is that if we are interested in analysing certain aspects of the economic process, we should do well to
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concentrate on those parts of the economy which happen to be connected with the process and exclude all other parts on the assumption that internal changes in those other sectors are unlikely to affect the particular process which we seek to explore. With regard to the question of excluding 'housewives' services, Tiber Barna echoes the above principle. He writes, "The reason for excluding housewives' services apart from the difficulties of computation is that the policymaker is not interested in the distribution of incomes within the family."

The usefulness of the classical concept of 'productive labour' lies precisely in enabling us to apply the above principle. The first line of distinction should then be drawn between the sectors that, are called 'capitalist' and those that are 'pre-capitalist'. Further, even within the capitalist sector we should make a distinction between, the sectors which are engaged in production as distinct from those which are engaged in circulation. There may be certain cases, e.g. freight transportation where the process of production extends into the sphere of circulation but, in general, circulation is a phenomenon essentially distinct from production. Circulation no doubt forms a part of the whole process of 'reproduction' in the Marxian sense of the term. "But that does not imply that if a higher proportion of total resources is devoted to the process of circulation, we should be proceeding by having a higher rate of growth. Quite the contrary. In advance economies, distributive services have such an important place precisely because they put a sort of check on an otherwise too high a rate of accumulation. With regard to the other types of tertiary industries, enough arguments in favour of their exclusion have already been put forward. With regard to the current administrative activities of Government, it is difficult to see how they can be regarded as 'productive' in our sense of the term. It should be apparent from the above discussion that, some of our suggestions have a striking similarity with certain of the suggestions Prof Kuznets makes in his article "National Income and Industrial Structure". But the difference between the two approaches is too wide to need any mention. We may thus sum up our suggestions regarding the most appropriate concept of national income for the underdeveloped countries: Isolate the sectors of the economy that are organised on the 'capitalist' lines. Within the 'capitalist' sector find out the activities that are typically connected with the process of production as distinct, from those concerned with the process of reproduction. Now national income should mean the net value generated in these sectors and the incomes of all the other sectors of the economy should be viewed as the redistribution of these primary incomes.

It may be urged that for a country like India, this will result in too low a figure of national income. But this should be no surprise as our economy is precisely one in which the range of growth oriented activities is very small indeed. One important test of economic development is then the extent to which the scope of such activities enlarges as time passes. In the circumstances, the way we interpret national income should serve as a better index of economic progress than the currently adopted procedure.

It may very well be asked if we really gain anything by adopting the change proposed above. This is quite natural, for the current practice appears to have established itself so securely that most people would find it difficult to adjust themselves to the changed perspective we are trying to set up. As we have seen, the choice of an appropriate concept of national income hinges on four basic sets of considerations. The very first consideration we have noted is the choice of an appropriate field. It is on this issue that the approach suggested here departs sharply from current practice. With regard to the other three questions, we are not here suggesting any different answer. Even on those points, deliberate deviations may be needed but we are not in a position to say anything new before making a detailed investigation. In general, the four considerations are independent of one another. As such, a different answer to one does not automatically necessitate different answers to the others. Some people may say that all that we have done is to change the denotation of the concept of national income. That is to say, the meaning of the concept has changed only in its extensional aspect. We are only substituting a part for the whole and deluding ourselves into thinking that the part is the whole. This is not correct. The various estimates of the GNP in order of their comprehensiveness stand on an altogether different conceptual footing from the approach suggested here. The main thing to understand in this connection is that national income is, indeed, a broad genus, having many different but related species. The species we are considering here is the national income from the growth angle. Bearing in mind the basic idea of a growth oriented national income, we may conceive of a number of measures centering round the basic total, just as we have all the different variants of the GNP in current national income literature.

A community may be interested in many things other than economic growth as we have defined it above. For example, it may be interested in maximizing an index function of 'social welfare' however defined. The national income that will be relevant in that context will depend necessarily on how the social welfare function itself is defined. Similarly, for purposes of finding out the taxable capacity of a community or for ascertaining its spending potential we may have to use somewhat different concepts of national income. It is by no means suggested that answers to all possible questions that may be asked concerning the macroscopic aspects of economic processes will be satisfactorily given by the concept of national income we have recommended. It is however claimed that the reorientation of the concept on the lines suggested earlier will enable us to understand better the process of economic development in an underdeveloped area. By refusing to lump up the growth-inducing activities with those that are not connected or at best only remotely connected with the process of growth, it will serve the very important operational purposes of isolating the factors that are crucial for understanding and initiating the process of economic growth. Models of economic expansion based on postulated relationships between income, savings and investments will acquire a greater degree of meaningfulness if the very basic concept of national income is redefined in our way.
sons to believe that the exclusion of the pre-capitalist sectors will help largely in improving the accuracy of the relevant statistics. Errors in official estimates arise for the most part because of the huge imputed totals that have to be taken account of, even when we have a very slender basis for making legitimate guesses. Since we have nowhere suggested that the pre-capitalist sector lies outside of the economy, our decision to exclude it from national income calculations does not mean that no information about this sector need be collected at all. On the other hand, we need much more detailed information on the nature and composition of the sector which may be obtained only by means of very intensive surveys of the rural areas. But in order to be meaningful, the procedure for surveying these areas will necessarily be different from that pursued in the capitalist sectors.

In the course of this paper, we deliberately abstracted from all considerations relating to the statistical problems of measurement and estimation. This was done because we did not believe in putting cart before the horse. That is to say, we thought it more logical to delineate the concept first before going on to measure the complex of activities for which the concept stands. There is little doubt that when confronted with the practical job of estimating the national income on the lines suggested by us, we may have to make adjustments or approximations here and there. That has been so with any economic concept and is quite in the nature of things.

The next most important task from the theoretical point of view would however be to investigate the interdependence between the choice of a field and the choice of the corresponding set of weights. If it can be shown that the 'weights' are invariant with respect to the choice of a field, or in other words, the weights remain the same whatever may be the nature of the 'production boundary' to use Stone's term, the theoretical cogency of the above thesis would be to a certain extent impaired. The total that we consider to be relevant from the growth angle would still retain its validity but it would not be qualitatively different from other national income totals. It is in this case doubtful if we are justified in calling this total a measure of national income. If the total we are referring to is the growth inducing part of national income. It is, however, contended that weights themselves would vary with changes in our economic view point and the corresponding changes in the 'field'; variability of weights would make the resulting totals qualitatively different. A discussion of this rather complicated logical question is not attempted here. We hope to take it up sometime in the future.

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- We consider Keynes to be in the neo-classical tradition for he assumed away in his own posing of the economic problem the two major issues that worried the classical economists including Marx, viz, supply of labour and the supply of real capital.
- On the neo-classical reasoning all the economic resources were deemed to be scarce, ex delinitione. Hence they failed to understand one of the basic phenomena of underdevelopment, e.g., the unlimited supply of labour at subsistence wages. An underdeveloped economy being characterised by labour surplus and capital shortage, there are strong reasons for excluding the so-called tertiary sector from the calculations of national income. Refer in this connection to W A Lewis: 'Economic Development with Unlimited Supplies of Labour', Manchester School 1955 and the same author's Theory of Economic Growth, Economic Survey of Europe since the War, Geneva, 1953.
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