

STUDY OF THE PROBLEMS OF INDUSTRIALIZATION IN THE UNDERDEVELOPED COUNTRIES

This article is an English translation of the second article "Izuchenie problem industrializatsii slaborазvitykh stran" published in *Sovremennyi Vostok* (Contemporary East) Moscow, September 1959.

1. I am sincerely obliged to Soviet colleagues for their valuable comments on my article "Industrialization—a key to consolidation of independence" published in the Journal 'Contemporary East' (in December 1958). While agreeing in general with many of these remarks I think it would be useful to submit some additional remarks on a concrete level. I fully share the opinion of the Soviet economists that initiative and constant efforts for economic development must come from each country; I also agree that for such a country as India there is urgent necessity for agrarian reforms through the consolidation of holdings and organization of agricultural cooperatives. These problems are receiving serious consideration on our part.

2. I would like to emphasize that, in general, the conditions in India are quite typical. For the economically less developed countries, though there are essential differences (for instance, in the number and intensity of population), definite differences are also inherent in the socio-political conditions, system of government, education, scientific activities and the like. There is no doubt that while studying the problems of economic development in different countries such differences must be taken into account. Nevertheless I consider that it is possible and even desirable to work out on the basis of planning experience in the USSR technical and economic norms, coefficients and balance-sheets laying down guiding principles and methods for planning and this might, in general, be useful for all the underdeveloped countries.

3. We cannot but note that the classical and Keynesian theory developed in the advanced capitalistic countries might possibly suit these; but they are of little help for tackling the problems of economic development. For instance, the Keynesian theory may be applied for the purposes of eliminating unemployment—a consequence of economic crisis and depression. But this is inapplicable when we have to deal with the chronic under-employment in the underdeveloped countries.

4. The economic theory of the highly developed countries appears to be basically static in character and they are concerned, above all, with the most efficient distribution of the stock of capital and of other resources and not with the problems of economic development through an increase in capital accumulation. A theory of the same brand did not help the economic development of India or any other underdeveloped country; it hindered such developments on the other hand.

5. The accepted economic theory in the capitalist countries does not help the idea of economic planning. But, as we know, many underdeveloped countries with their differing socio-political conditions (Burma, Ceylon, India, Indonesia, UAR, some countries of Latin America and others) have come to be seriously interested in planning and have set up planning commissions and boards. It is for this reason

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that new guiding principles on concrete technical and economical levels have become urgently necessary, so that these might help planning the economically underdeveloped countries.

6. After this let me venture to suggest some proposals regarding the utilization of the very rich experience of planning accumulated by the USSR and other socialist countries. I would like to treat separately three different aspects of such experience (they are, in fact, inter-connected among themselves but even so may be differently viewed for operational purposes).

7. Firstly, we have general theory of social-economic changes which I will call the economic theory aspect or the abstract economic theory of economic growth.

8. Secondly, there are the technical and economic norms, coefficients, balance-sheets and the like. All these, as a rule, are concrete and appear in the form of quantitative indicators. But these must be carefully distinguished from the third aspect which would be called by us the 'technical project aspect' dealing with specific engineering and technical data.

9. My proposal is directly related to the technical and economic aspect of planning. It is clear enough that what we call the abstract economic theory had played the most important role in the historical development of the Soviet economy. It is quite obvious also that technical project work is extremely important for the implementation of economic planning. However, while considerable volume of information and literature are available on the general questions relating to the progress of the socialist economy in the Soviet Union and in other socialist countries, very little is known regarding technical and economic aspects of economic planning. Meanwhile there is, in my opinion, the urgent necessity for studying the above-mentioned aspect of planning. This is the aspect which may render the greatest help in economic planning to the underdeveloped countries.

10. The technical project level would become important only after definite decisions for projects are arrived at in economic planning. We shall cite an example from Indian experience with the purpose of classifying what we understand by the terms technical and economic information and guiding principles and also showing the extent to which these ranges of information are significant for planning for such a country as India.

11. In India the Steel Industry was founded in the year 1908. However, in the year 1951 when the implementation began of the First Five-Year Plan (1951-56), the production of steel in the country did not exceed a million tons (for a population of 360 million).

12. The proposal for constructing a new steel plant with a million ton capacity was rejected from the First Five-Year Plan under the influence of the economic theory of the capitalist countries. This was done on the ground that demand for steel (estimated for the year 1950) was put at a total of 1.6 million tons. But by 1953-54 with the growth of economic activities during the First Five-Year Plan the deficit in steel was found mounting. Much foreign exchange was required for cover-

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ing this deficit in steel through import. All these happened, because at the time of preparing the First Five-Year Plan the ideas of material balance-sheets and technical-economic information relating to these balances were not existent in India.

13. By 1954 it came to be realised that we needed to build up new steel plants. At this stage we proposed to build up heavy machine building for production of machinery which were to be supplied to the new steel plants. The Government approved this idea very enthusiastically. But, unfortunately, at the time of preparing the draft of the Second Five-Year Plan in 1955 we could not have technical data. As a result of this, a doubt arose in certain circles regarding the possibility of building the heavy machine building plant.

14. Immediately after the launching of the Second Five-Year Plan we received proposals from the Soviet Union for the construction of an integrated heavy machine building plant with a productive capacity of 80,000 tons of heavy machinery (of items individually weighing upto 130 tons) at a cost of 700 to 800 million rupees. For this the foreign exchange, that was required, constituted 450 million rupees for the import of machinery. At the same time, it was decided to increase the production of steel up to 5 million tons by the end of the Second Five-Year Plan period (1961).

15. Now it has come to be acknowledged that if we proceeded more wisely and began building up of a heavy machine building plant with a capacity of 80,000 tons considerably earlier, then after the plant came into full production we could have annually produced such a volume of machinery as would have been sufficient for the new metallurgical plant with a capacity for a million tons of steel or for other plants of comparable magnitude. It is quite possible that if we possessed the requisite technical and economic information during the years 1954-55, we might have decided even then to construct the heavy machine building factory with a capacity of 80,000 tons. This would have saved us 4 to 5 years of time and much of foreign exchange also.

16. I hope this example will be a sufficiently convincing proof of the necessity for having reliable technical and economic information in the form of numerical indicators as well as the need for using proper methods of technical and economic analysis as well as for comparative study. There are also other important questions arising out of the necessity for having at disposal data on the material balances and the structure of industrial productions including data on norms of technical nature (for instance, consumption of 150 tons of steel for one steam locomotive, 50 thousand kilowatt hours of electrical power for a ton of aluminium, 3 tons of coal for a ton of finished output etc.). Some of this information is also available in India though scattered here and there. But we still lack much. If the Soviet specialists would offer us information of this type, they would render a very valuable service for our planning. There is a two-fold task. It is necessary to lay down on the one hand, a general method for working out the necessary balances and, on the other, special methods which would answer to the specific conditions of different countries (for

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instance, to conditions of India with her 400 million population and with large stocks of high quality iron ore). As regards lesser countries it appears to me that priority should be fixed, say, for production of steel or for heavy machine building. There are other important problems also, for which guiding principles are absent. In my opinion this work must and should be included in the programme of joint investigations.

17. Let me examine in brief one of the most important problems for the underdeveloped countries, namely, the problem of proper training of technical personnel. If we assume light industry may be built up during a period of 4 to 5 years, then for the building up of power, metallurgy and transport industry we would obviously require 8 to 10 years, and more for heavy machine building, chemical production and production of heavy power equipment. But the most long-drawn-out process of all would be the training of technical personnel. This is the reason why the question of scientific and technical personnel, which would be required by the country as its economy goes on developing during the next 5 to 10 or 15 to 20 years, has become a matter of deep concern for the economically underdeveloped countries. Future requirements would naturally depend on the changes in the structure of production. It is quite important that we should have a dynamic approach to this sphere (as in other spheres also). Information on the requirements of technical personnel for each separate industry must be the initial starting point.

18. We spoke of the necessity for a dynamic approach. Such approach has certain technical consequences. Material balance-sheets or balance-sheets of separate industries may be studied through an analysis of the inter-relations between the material expenditures and output (input and output analysis). And this type of information should have valuable application in the underdeveloped countries or for individual industries, in which cases the technological inter-relation is more or less stable.

19. It should be emphasized that the analysis of the inter-relation among the material expenditures and output (input and output analysis) or linear programming has a basically static value. In all probability they do not offer great help for studying the problem of rapid industrialization, when the structural inter-relations themselves among the material expenditures and output come to alter in a radical fashion. However, the study of the ratios among the expenditures of production and output at different levels of development in such a country as the USSR may throw light on the problems of economic growth.

20. I may venture to state that a study of such relations in their historical perspective in the different republics of the USSR in different plan-periods may be of great interest for purposes of economic planning of the underdeveloped countries. The relatively important point is that technical and economic methods be worked out for studying the problems of planning for economic growth—methods based on concrete data in the form of numerical indicators.

21. We can note in this connexion that our efforts towards perspective planning in India have come to provide us with some experience. It has been found by us

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that it is extremely useful to know a number of economic coefficients not only in respect of every branch of industry but also for industry-groups and even for national economy as a whole. These include the ratio between the total value of product and total capital; the ratio of net output to national income, as well as to the total capital; the ratio between the circulating and the fixed capital; between capital and the number of workers; between physical volume of production and capital; between physical volume of production and the number of workers, etc.

22. I have tried to show through concrete examples the nature of works (studies) which, I think, might be useful on the basis of planning experience in India. There are many other questions also, about which we would like to receive more information, namely, on norms and variations in production (of labour forces, equipment, labour conditions and the like), on norms of performance (in railways, in communications and the like), on incentives which would raise labour productivity (relative scales of wages for different professions, etc.). These questions, according to us, are of great value to the underdeveloped countries. Undoubtedly there are also other items of information, which the Soviet specialists might themselves offer us, and these also would be of great value to us.

23. It appears to me that the really urgent task is to set up even a small group of workers comprised of three or four economists, three or four specialists having experience in planning work and three or four statisticians. They would begin studying the Soviet experience in planning at a technical-economic level in concrete and quantitative forms. I think that a group of 8 to 10 even working part-time are capable of preparing a programme for useful investigations. And it is only when the foundation has been laid that we can start defining the lines of approach. New ideas and new approaches to scientific research work would spring up in course of work. Moreover, necessity will arise for drawing in this work other specialists also, for instance, geographers, geologists, technologists and scientists. In my first article I have touched on the question of collaboration among the underdeveloped countries. I think it might be useful to carry on this work in two directions or at two different levels. First, such a collaboration would provide the Soviet specialists with concrete cases and set before them definite tasks in connexion with the development of the economically underdeveloped countries. This would lick the scientific research work into a concrete shape. Secondly, the specialists from the underdeveloped countries will be able to make their contributions with actual data and information for studying the special problems of economic development in their respective countries. Work of a similar nature may be started on a bilateral basis and thereafter it may be expanded, as and when opportunities arise.

24. While we were occupied in our work of perspective planning in India, we have been eager for joint work with the Soviet specialists. For the last 5 or 6 years from 1954 onwards we have been inviting them to India for joint work. The organization of a working group in the USSR would create an active nucleus, which would permit us to push ahead in the study of this problem. We would eagerly look forward to collaborate in this work in any directions deemed suitable by our Soviet friends.

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25. I shall now examine another most important aspect of economic development, namely, external trade. The smaller the country, the greater is the significance of external trade for her. This raises the question of a specialization according to the nature of resources and skills and other possibilities existing in each country. In their remarks on my article some Soviet economists rightly observed that it was necessary to find out new principles of division of labour on an international scale. This is a most difficult and, at the same time, the most important task for the future peace and prosperity of entire humanity. It is impossible to solve it without international collaboration, which, of course, cannot be achieved to the extent necessary in the near future. But we propose to start even now some joint work regarding this problem—as a start on a bilateral basis between the countries who are ready to take up such work voluntarily. I propose that Soviet and Indian specialists may start joint studies regarding planning in the Soviet perspective. These studies might be completely distinct from and independent of the current agreements between the countries for a period of 1 to 2 years. Joint investigations may deal with the problems of the future development of trade (perspective). A dynamic approach to this problem is extremely necessary. The purpose of joint investigation must be not only an increase in the volume of trade of the existing pattern but also alterations in the structure in relation to the economic development of both the countries. The pattern of trade must be altered or should increase in such a way as would be advantageous for both the countries.

26. Joint investigations would define the future possibilities at a concrete level and as a result of such it would be easier to take action in the appropriate directions. The above-mentioned investigation will be conducted purely for informative and consultation purposes. It is quite conceivable that if tangible progress be achieved in this matter, other countries may be brought to participate on a bilateral or multilateral basis.

27. I have spoken at length on the possibilities of collaboration between the Soviet Union and India on different problems, because I wish that such collaboration might be started right now though on an experimental basis and on a small scale. But I have spoken also of the multilateral basis, which might be useful not only for tackling the problem of industrialization of the underdeveloped countries but also for the development of international trade. The greater the number of countries which participate in such investigations, the more effective this investigation. Hence it is necessary to direct all efforts to the implementation of such investigation in a spirit of broad international collaboration. This would be greatly helped by permanent committees and international symposia on the study of problems of this kind.

28. We consider that it would be expedient at present to hold an international Economic Conference for the study of economic development of the underdeveloped countries. Such a conference, in my opinion, may be held primarily at a technical and non-governmental level though with the sanction of respective governments. It is quite clear that a great amount of preparatory work would be required to make this conference really effective.