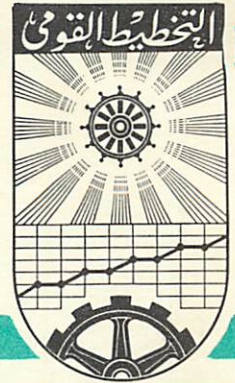


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THE ROLE OF INDUSTRY
IN
ECONOMIC DEVELOPMENT

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The Role of Industry
in
Economic Development.

It is industry that makes a country rich and powerful . This is so obvious that it may be rather senseless to discuss the mentioned point. However, though there is full agreement on the necessity of a rapid industrialization , I have the feeling that there are many ideas on this problem which differ from each other sometimes considerably. . .

This note is not meant to compete with many good books which had been written in this field. It rather tries to give an outline and the background of some problems involved together with some details for illustration.

Any modern economy - both in terms of sociology and technology - is an industrial one. If planning as a socio-economic phenomenon is adopted it should concentrate on industrial development. Thus industrial planning being the most important part of national planning. This holds true, in particular, with respect to developing countries. Yet, we say that development is generally understood as the process of (initial) industrialization .

1. Industry and Productivity.

Productivity is the basic problem of economic progress. Productivity , however, is closely linked with mechanized production methods (apart from other factors). Such methods gave rise to industrial activities in economic history. They are spreading now over other sectors like e.g. construction and agriculture. At the same time industrial production methods are being improved themselves. Thus industrialization can be

conceived as a two fold tendency : establishment and expansion of industrial branches on the one hand and technological transformation of other types of economic activity on the other .

In any country industrialization of economic activities other than the traditional industrial ones has to be preceded by an industrialization in the narrow sense of the word. This so, because industrialization represents a tendency of furnishing the economy with productive equipment which comes from industry only. Developing countries, therefore, have to think , first , about a rapid development of industry . There must not be any doubt that it is finally a high rate of growth in productivity which will enable developing countries to avoid any further extending discrepancy between them and the industrialized countries.

It is worth while to discuss this point in detail because we all know very well the alternative labour intensive techniques versus capital intensive techniques. In terms of this note we may call this low productivity vs. high productivity . As the reader can easily see the author is in favour of high productivity which proves a synonym of capital intensives techniques.

(3)

Developing countries are much concerned with the strikingly increasing gap between industrializing and industrialized countries. One reason for that are the different rates of growth and the different levels of labour productivity.

Thus, the annual rates of growth of output per worker in manufacturing (which is a general indicator of labour productivity) marked from 1950-1960 .

in	Japan	12,2%	(18,1%	output)
	West Germany	5,1%	(10,1%	"
	Italy	7,6%	(9 %	")
	France	5,8%	(6,5%	")
	US	2,7%	(3,6%	")
	United Kingdom	2,3%	(3,5%	")

(World Economic Survey, 1961, UN, P. 65)

In most cases, a high rate in output per worker was linked to an accordingly high rate in total output.

It should be mentioned that the highest rates of growth in output per worker can be found in those countries which have an annual rate of growth of employment (in manufacturing) which out-paces any other western economy, namely Japan = 5,3% and West Germany = 4,7%. This seems to be an eloquent example about the importance of increase in productivity even if labour is more abundant.

In order to make our study complete some figures, we believe ,

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should be given about productivity in socialist countries which as to, their starting points of economic development had been far less homogenous than those economies stated above.

During the period from 1950 to 1961 output per worker in industry increased as follows:

Bulgaria	191 %
Hungary	168 %
Germany	239 %
Poland	247 %
Roumania	233 %
USSR	207 %
Czechoslovakia	223 %

Obviously, a high rate of growth in productivity is a basic precondition for economic development in general and for industrial expansion in particular. It should be noted that this holds especially true in countries which started from a very low economic level after World War II (Poland, Bulgaria etc.) The latter embarked on a policy of intensive industrialization attaching top priorities to industrial activities conducive to a considerable increase in productivity. It is this general trend which enabled them to narrow the gap between themselves and the "classical" industrial economies.

Productivity, therefore, is at stake both in the initial stages of development and later on in the permanent process of reequipping the production apparatus of any nation.

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A very informative indicator of economic progress is the share in increase of industrial production which accrues from labour productivity. Hungary e.g. shows a steady increase of this share:

1959	=	35 %
1960	=	48 %
1961	=	67 %

(Source: Wirtschafts-wissens-schaft No. 4/63; p. 584, Berlin)

This tendency seems to be a general rule over a long period in both relatively less and more developed economies. Even countries with relative abundant manpower like e.g. Poland, Roumania etc. show a marked increase in the indicator under discussion.

Share of increase of productivity in growth of
industrial output (in %)

	1950-55	1966-60	1962
Bulgaria	52,2	21,1	72
Hungary	24,2	46,2	63
Germany	33,7	75,5	-
Poland	51,5	73,4	66
Roumania	53,3	67,5	-
USSR	66		
Czechoslovakia	61,3	62,4	52
Yugoslavia	23	48	-

It should be noted, however, that the ever growing weight of productivity in industrial production is both preceded and accompanied by

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a high growth of labour productivity as such. This can clearly be seen from the following table:

Increase in (a) productivity (output per worker) and (b) production of industry
(1950=100)

	1958		1961	1962	1962
	A	B	A	B	A
Bulgaria	162	291	191	397	7,6
Hungary	133	232	168	265	5,7
Germany	188	241	239	292	8,4
Poland	192	278	247	338	4,1
Roumania	185	267	233	340	6,6
USSR	175	248	207	300	6,0
Czechoslovakia	183	228	223	282	-

From all these, though rough, figures two main conclusions can be drawn:

First, The process of economic development is based on a rapid growth of productivity from the very beginning.

The widening gap between many industrialized and industrializing countries calls for a faster increase in the latter in order to turn this widening discrepancy into its reverse.

Secondly, the increase in productivity as such should be faster than

the increase in industrial employment. Hence the economic possibility of a considerable further extension of employment in absolute terms because the economic surplus will be higher.

It should be a main concern of any development planner to provide for adequate measures and not to be induced to pay most attention to abundant manpower only. Otherwise, the respective countries which follow this line would run into terrible troubles in the long range.

Economic progress is a process of constantly re-equipping the national production potentiality which tends to become more costly though necessary all the time. Any choice of mainly labour-intensive techniques (i.e. low productivity), therefore, would mean a substantial waste of national resources.

Capital is usually regarded a scarce factor in developing countries. But capital, i.e. equipment etc. is required in ever growing quantities if a country intends to be up to date in the economic field. Capital can be derived, *ceteris paribus*, from the economic surplus only. The latter, in turn, is the result of a highly productive economy. Consequently, in order to gain a high investible economic surplus, one has to embark upon a policy preferring capital-intensive techniques.

Industrializing countries are in need of capital; they have therefore, to produce it partly by investing their limited resources in adequate techniques. Low productive techniques yield small output (in absolute terms) and consequently, a low economic surplus (in absolute terms, too) even if one should regard it appropriate to reduce wages drastically. Because this would not mean any increase in the economic surplus produced but rather

a different pattern of distribution in favour of the investible surplus. The main problem, however, is to produce more.

The more we manage to produce all the more we can allocate both for investment and consumption. Any use of the limited investable surplus for low productive techniques leads to a low output, low economic surplus and a low accumulative economy. This obviously, never can help bridge the gap between industrialized and industrializing countries.

As a result, a developing country proceeding in that way would not even gain the means to equip its economy according to the present international standards in technology. Moreover, in the meantime technico-economic progress is going on asking for even more capital investments which, naturally, would not be available either in developing economies. later on. Thus, any preference to labour-intensive investments inevitably can not solve any basic economic problem but postpone and even aggregate it.

Mention should be made of another problem related to this issue. Technico-economic progress implies by definition highly and adequately trained manpower. How can this be achieved with prevailing labour-intensive techniques? Even training abroad, excellent as it may be, could not be continued at home for lack of well equipped factories. However, it is practical experience in operating modern machines and running up-to-date plants which makes manpower really qualified ones and who are, in addition to this, fit and elastic enough to keep up with technical progress in any field.

Summarizing we may say that any concentration on labour-intensive techniques actually means:

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- (i) to use the national economic surplus in order to produce less than it would be possible if a policy were adopted which is in full line with the objective trends in technology and economy. But this, obviously, is uneconomical, waste of national resources;
- (ii) to postpone the necessarily expensive investments in modern techniques until they have become even more expensive .
At that time the discrepancy between means and ends would be greater than it is now;
- (iii), to remain backward in the field of training and re-training practically manpower for lack of modern equipments. This holds true also for any research and development activity in the according fields.

2. Industry and General Structural
Changes .

Industrialization is a permanent process which implies

- (i) an increasing share of industry in national production;
- (ii) industrialization of economic activities others than the classical industrial ones and ;
- (iii) structural changes inside industry.

It is the share of industry in national production (and / or national income and employment as well) which economists use to classify countries as advanced, less developed, industrial ones etc. We need not discuss at length this problem because economists are in full agreement that industry should prevail. Consequently, it has to grow faster as against other sectors of the economy. This is of particular significance in such cases where the industrial share in the national product is low. As a substitute for a detailed discussion let us quote some data.

Share of industry (incl. construction)
in total national output (excl. services)
1950 - 1960

US	75 %
UK	77,8 %
Italy	58,3 %
Denmark	58,1 %

(World Economic survey U.N. 1961 P. 61)

Share of industry (incl. construction)
in national income (excl. services) in current
Prices.

	<u>1950</u>	<u>1961</u>
Bulgaria	43,4 %	53,7 %
Hungary	58,6 %	67,6 %
Germany	53,3 %	69,9 %
Czechoslovakia	70,0 %	72,0 %

The second point, industrialization of economic activities outside industry, is no urgent problem in the early stages of development since the existence of a solid industrial basis is the prerequisite of it. First comes industry; industrialization will spread over other sectors of the economy later on.

It may be quite interesting, however, to learn how far this process has already developed in some industrially more advanced countries.

The East German construction sector is undergoing a process of mechanization which so far resulted in a percentage of 48,3 being carried out by means of modern assembling methods (for which standardized building elements are used). In residential building only, this share marks 70,8 % (all data for 1962) out of total production in this field. Agriculture, being relatively well mechanized, now faces the problem of full mechanization. Crop harvesting of cereals is fully mechanized on 50,7% of the respective cultivated area (i.e. cutting and threshing are executed by machines in the fields). Crop harvesting of sugar beets—a very labour-intensive

operation-is now completely mechanized on 72% of total sugar beet acreage.

The third point of our definition of industrialization-intra-industrial structural changes proves the main problem in development policies. This holds true in both the initial and the subsequent stages of economic growth. Such changes are going on continuously every-where. Our approach must be, therefore, a rather dynamic one.

No country can go into industrialization straight away because structural changes are different at the various stages of development. Priorities attached to certain industrial activities (branches) in one period have to be transferred to others during the next one. Moreover, industrialization is a long-term problem. It requires adequate allocation of national resources as well as accordingly long-term planning. These tasks are mostly undertaken by the governments, i.e. responsibility is a national one. The approach, therefore, must be a national one, too. Any mistake in our planning means mis-allocation of national resources and loss of time. Its correction needs, in turn, even more public funds and more time.

It is our job now to study this issue of intra-industry structural changes with special reference to general trends underlying the process of specific national industrialization. We shall start our discussion with the main factors affecting the structural set-up of industry as the dominating sector of the national economy.

- (i) Any nation, and emerging new nations in particular, faces the problem of modelling its own national economy. Planning, consequently, has to outline (and, later on, to help implement) a comprehensive national pattern of development. All economic activities have to be fit together,