

INDUSTRIALISATION AND ECONOMIC DEVELOPMENT

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Industrial development has been a major factor in the economic development. Even in the newly independent developing countries, industrialisation has been assigned an important role in the development programmes. The reasons are obvious. The development of industry brings with it a relative easy access to modern technology which is highly capital intensive and is conducive to base for rapid industrial development. The spill over effects of industrialisation which result from the sophisticated intermediate inputs and capital goods, contribute to growth in all sectors of the economy. Industrialisation, thus serves the role of a catalyst that converts agriculture, construction, transport and other service industries into highly productive sectors, hence may be regarded as a fundamental component of economic development¹.

Industrialisation involves a considerable increase in the share of the industrial sector as national income increases. In this context, a country is said to be industrialised if at least 25 percent of its National Domestic Product originates from industrial sector. However, a minimum of 24 percent of NDP in the industrial sector may be regarded as a sufficient criterion for industrialisation, it would admit as industrial countries such as Venezuela or Zambia where a large foreign owned mining sector dominates the economy, while the rest of the industrial sector is extremely small; in both the countries manufacturing accounts for under 12 percent of G.D.P. Sutcliffe has given a comprehensive definition of industrialisation including different indicators"..... a country, 25 percent of whose

GDP arose in the industrial sector, of which has at least 60 percent in manufacturing, and which had at least one-tenth of its total population employed in industry would be counted as industrialised. Any country which did not satisfy these three criteria would not"².

Industrialisation has a wider connotation that the establishment of productive industries, because it includes the mineral base, energy, transport, scientific research and the supply of technical and scientific manpower also³. It has been defined as "a process in which changes of series of strategically production functions are taking place. It involves the basic changes that accompany the mechanisation of an enterprise the building of a new market and the exploitation of a new territory."⁴

Economic history demonstrates that to eliminate a country's techno-economic backwardness, it is necessary to develop industrial sector and then to diversify it over a wide range of area and activities. Industrialisation is the key to restructuring the economy, as it involves a number of structural changes, such as rise in the share of industrial output and employment, changes in the production techniques, factor intensities, increase in productivity, changes in import and export composition, patterns of demand etc. It helps to develop a technically up-to-date and diversified domestic economic structure characterised by a dynamic manufacturing sector, producing means of production and consumer goods.⁵

Industrialisation plays a vital role in providing employment opportunities, generating incomes,

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contributing to the maintenance and improve of society's capital assets and assisting the general improvement in economic and social welfare. Hence industrial activity contributes to economic development, but at the same time it is product of economic development⁶. It gives rise to desirable social psychological and institutional changes⁷. Industrialisation is thus inseparable from sustained economic development because it is both a consequence of higher incomes and a means of higher productivity.⁸

There have been a number of attempts to establish detailed pattern of growth within the industrial sector. A pioneer study relates it to composition of industrial output (consumers and capital goods) and was made by Walter Hoffman. He argued that "whatever the relative amounts of factors of production, whatever the state of technology, the structure of the manufacturing sector of the economy has followed a uniform pattern. The food, textile, leather and furniture industries, which are defined as "consumer goods industries" always develop first during the process of industrialisation. But the metal working, vehicle building, engineering and chemical industries, 'capital goods industries' develop faster than the first group. This can be seen throughout the process of industrialisation. consequently, the ratio of new output (value-added) in consumer goods industries continuously declines as compared with the net output of the capital goods industries.

In Hoffman's framework the pattern of industrial growth is a follows:

Stage-I: When consumer goods industries dominate, the ratio of consumer goods output to capital goods output being $5(\pm 1)$ to 1.

Stage-II: Capital goods industries become increasingly important and have (in terms of net output) an output nearly half as great as the customer goods

industries, and has a ratio of $2.5(\pm 1)$ to 1;

Stage-III: Balance of consumer goods industries and capital goods industries, capital goods industries expand rather more rapidly than the consumer goods industries, with a ratio of $1(\pm 0.5)$ to 1. So in all these stages, the output of capital goods, starting from a much smaller base, rises faster than consumer goods output until in the fourth stage, capital-goods output is higher than consumer goods output.⁹

The industrial structure of national output and productive resources is a key aspect of an economy in the process of economic growth because it permits to observe the impact of the advance in technological knowledge, the differential response of demand to increase productive capacity, rise in per capita income and shifts in the size and location of groups in society associated with the different industries.¹⁰

Structural changes within the industrial sector can be measured by the changes in the relative importance of the various industries comprising the sector in terms of certain economic attributes. Industries are distinguished from each other by the raw materials that they use, by the productive process which they engage, the size of plant, by the skill-mix of the labour force, by the capital intensity, etc., imposed by the specific production process, employment and by the finished product and hence the market that is being served. The most common attributes used for measuring the structural changes are shares of total output and shares of total employment. Other characteristics, including capacity, occupational composition of the work force, size of plants and firms, product mix, plant location and extent of foreign direct investment could also be used to document structural changes.¹¹

Structural changes within the industrial sector can also be defined as a shift away from 'Light'

(relatively labour-intensive) industrial activities towards 'Heavy' (more capital-intensive) industries, and away from light consumer goods towards industrial intermediates and durables both capital and consumer goods.

Hence, the changing industrial structure may be referred to the changes in the form of ownership, technological improvement, investment pattern and employment composition of industrial groups, administrative structure and regional structure etc.¹²

Technological change is a major source of the shifts in the industrial structure. When there are useful additions to existing knowledge, this results in the creation of a new product, of a new process or of a new way of using raw materials and thus provide the basis for a new industry. The emergence of a new industry means a change in the industrial distribution of national output and productive resources and hence there are shifts in the industrial structure. But even if technological changes involve only cost reductions and productivity increase changes in the established industry would very likely affect differently the rates of growth in output of several industries and in the volume of productive resources used by them. The higher the rate of technological change, the greater should be the shifts in the industrial structure.¹³

India now possesses a diversified modern industrial structure. The process of industrialisation over the last decades has been quite varied and diversified. There has been a definite shift in favour of basic and capital goods viz., those engaged in the manufacture of heavy and light engineering products, iron and steel, basic industrial chemicals, non-ferrous metals etc.¹⁴ In most of the manufactured products, the country has achieved a large measure of self-sufficiency, providing the capability to sustain the future growth of vital sectors of the economy primarily through domestic effort, This is

reflected in the commodity composition of our international trade in which the share of imports of manufactured products has steadily declined. On the other hand, industrial products particularly engineering goods have become a growing component of our exports.¹⁵

In the period since independence, industrial growth and development have been guided within the broad framework of industrial policy resolutions of 1948, 1956, 1980, 1985 and the five year plans. These policy and plans have been supported by massive efforts to raise resources and to invest them productively, the numerous rules, regulations and measures and by the establishment of a number of new agencies, departments and institutions and strengthening of the existing ones, all with a view to subserve, the objectives of the industrial growth and other objectives laid down in the policy and plans.¹⁶

At present, India is one of the major capital goods producers among the developing countries. The foundation of India's modern capital goods sector draws substance on the industrialisation strategy based on Mahalanobis planning model. The model assigned priority to capital goods sector, because "as the capacity to manufacture both heavy and light machinery and other capital goods increase the capacity to invest (by using home produced goods) would also increase steadily and India would become more and more independent of the import of foreign machinery and capital goods."¹⁷

When the industrial becomes more efficient at producing given machines and the benefits are passed on to using industries, prices (relative) of the machines are lowered. The subsequent improvement of the marginal efficiency of capital goods will lead to technological innovation in the whole economy. There is thus an implicit conception of the link of efficiency in capital goods production, with technical changes and innovations.

It is relevant in this context to note that the theoretical case for indigenous production of capital goods in a backward economy rests, apart from its contribution to expansion of output and employment by enhancing capital formation, on its decisive role as instrument for making appropriate choices, generation and diffusion of technological innovations throughout the economy.¹⁸

The changes in the industrial structure are attributed largely to the government policies which have influenced the pattern of industrialisation through controls over the composition of investment, the regulation of foreign trade and the direct influence on the pattern of income distribution, policies of import substitution and export promotion and the composition of demand. State participation and intervention has been a key factor in India's industrialisation process. The state has influenced the pattern of industrialisation not only through the control over foreign trade and investment but also through participation in director production activity. The dominance of state-owned capital goods producing industries is a marked characteristic of India's industrialisation. The government has created the required infrastructure through the active participation in the fields of finance, transport and power generation. Although India possess a diversified and sophisticated industrial sector, but the industrialisation has not been matched by growth in employment opportunities and reduction in income disparities. Further, the rate of growth of manufacturing output has decelerated since the mid-sixties. There are a number of explanations for both the low growth in employment opportunities and the declaration in growth rate of output, but the proximate and overriding reason appears to be the policy instruments deployed in the pursuit of the industrialisation strategy.¹⁹

The growth performance of the industrial sector during the post-independence period of the

country is certainly more satisfactory than that during the preceding half a century or so. However, the growth rate may be termed to be quite unsatisfactory in relation to the performance of several newly industrialising countries such as South Korea, Taiwan and Brazil. It is also significant to note that the ranking of the country among the major industrial countries of the world slipped considerably from tenth to eighteenth during the last three decades.²⁰

In terms of the share of the industrial output in GNP, India cannot be ranked high on the scale of industrialisation. All the same, the country has achieved high degree of maturity and sophistication of several major industries. The industrial structure is fairly diversified and during the last three decades the modern industries such as fertilisers and petro-chemicals have grown much faster than some of the traditional and less sophisticated industries such as textiles and food processing. A wide range of highly complex industrial products are being manufactured in the country. The quality of managerial and technical manpower available in the country is also of high order. The process of absorption of foreign technology is much faster in India than in most of the other developing countries. In spite of all these achievements in the field of industrialisation, it cannot be denied that the structure of industry has not been highly conducive for achieving faster rate of industrial growth. Import substitution has led to less efficient production in several modern industries. Some price (in terms of efficiency forgone) has been paid for realising the socially desirable objectives such as industrialisation of backward areas, more wider geographical dispersal of industries and avoidance of monopolistic/oligopolistic trends in industrial output. Sufficient importance has not been given to the creation of optimum capacities especially in regard to some of the creation of optimum capacities especially in regard to some of the modern industries like chemicals, petro-chemicals, automobiles,

machines building etc. Moreover, public sector which accounts currently for over two-thirds of productive capital employed in the factory sector, has not been generating surpluses on a scale that is conducive for achieving rapid cumulative plough back of internally generated funds into investments.

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