

DEB KUMAR BOSE

Industries Under the Rolling Plan

THE DRAFT FIVE-YEAR PLAN for 1978-83 does not call itself the Sixth Five-Year Plan. The reason is perhaps to be found in the innovation of the idea of rolling plan where the terminal period shifts continually from year to year. The concept of shifting horizon has been discussed in economic literature. However, there the idea relates to shifting horizon for planning with long-term perspective. The relation between long-term objectives of growth and the short-term plans was considered by Paul Samuelson in his celebrated catenary turnpike theorem.¹ Samuelson showed that given an initial configuration of production factors for an economy and the target for the same in the terminal period, over a long period, the optimal growth path for the economy will tend to move along a catenary path.

One can visualize the short-term plans as links in a chain connecting the resources in the initial period with the target of goods to be produced according to a perspective plan. The concept of rolling plan, formulated by Goldman,² has been related to the catenary path by Dasgupta³ who shows how the short-term plans can be extended over additional periods by conforming to the conditions of catenary path. The rolling plans can thus be envisaged in the context of an optimal path determined by the considerations of a long-term perspective plan.

It follows that the five-year plans may be considered as parts of a long-term plan which defines the long-term perspective for the economy. The achievements of the five-year plans can then be checked against the targets specified in the perspective. A perspective for a 15-year period, 1960-61 to 1975-76, was suggested by the Planning Commission in 1964 with a similar objective. Although much of the significance of the exercises in detail diminished in the upheavals through which the economy passed in the subsequent period, the sense of direction that it sought to impart was not entirely lost and the planners sought to project their vision well beyond the terminal years of the five-year period of a plan. However, there has not been much attempt to pursue the concept of the perspective plan with any rigour. Such a concept, it may be observed, is built in the planning models of the Soviet economy.⁴

Need for Perspective Plan

The need for reviving the concept of perspective plan assumes greater importance in view of the introduction of the scheme for rolling plan in the current plan. In the absence of any direction from a perspective plan, the rolling plan can lead to arbitrary decisions during the extension of the planning horizon. There is no assurance that the rolling plans with shifting horizons would, under the circumstances, be following any consistent pattern, not to speak of an optimal path. It leaves the possibility of changes in the targets over the extended period being effected in a piecemeal fashion for the lack of any perspective over the long period.

There are reasons to fear that this is happening in practice in India. The draft plan, for instance, considered only a marginal addition to the capacity of steel production. Recent moves by the Government suggest that a large expansion in the capacity is in the offing. This may be considered an improvement on the draft so far as steel is concerned. But it does not appear to emerge as a result of any consistent thinking about the plan. On the other hand, the draft plan, it is claimed, has been checked against a consistency model.

The draft plan is rightly concerned with the contemporary problems of growing unemployment and poverty of the population, particularly in the rural areas. It allocates massive resources for rural development and labour intensive activities. It is understandable that at the present stage resources would be distributed thinly over wide areas to employ people in activities which may have low

productivity. But it is not clear whether this is part of a long-term strategy which recognizes the need for eventual transition to a level of higher productivity.⁵ The draft admits that though a shift in the distribution of the work force away from agriculture is desirable, it is not likely to materialize in India in the near future. The point is what would be our long-term perspective. The approach of the rolling plan rules out consideration of such questions.

Market Imbalance

The draft explains in the chapter on industry and minerals that industrial growth is being limited by the narrowness of the domestic market. The big increase in investment that is proposed in employment-intensive activities like agriculture is expected to stimulate demand for a wide range of mass consumer, intermediate and capital goods. Recent experiences, however, show that there is no straightforward relation between investment in agriculture, or agricultural growth, and demand for mass consumer goods. This is evident from the decline in the production of cotton textiles notwithstanding the growth registered in agricultural production over a number of years. While some increase in the demand for fertilizer and other chemicals and mechanical equipment accompanied the growth in agriculture, it did not prove sufficient for the revival of a stagnant industrial sector. It is now acknowledged that the fruits of development were garnered by the richer section of the peasantry and the poor did not gain. As long as the institutional structure in the rural areas remains intact, devious routes will be found by the rich to usurp the allocation meant for the poor. The income earned by the rich may not necessarily provide adequate demand for industrial goods. Nayyar found that an increase in food prices was accompanied by a decline in the proportion of expenditure on industrial goods to total expenditure after 1965.⁶ A rough calculation from the national accounts statistics showed that the proportion fell from 23.1 percent in 1965-67 to 19.3 percent in 1974-75. The demand from the rich provides only a narrow base for industrial goods in India. The demand for mass consumer goods by the poor can lead to a revival of industries. It remains to be seen to what extent the intentions expressed in the draft to raise the level of income of the poor in the countryside are translated into reality. For, similar expressions in the preceding plan documents did not affect the prevailing conditions in the countryside.

The industrial strategy of the plan calls for a fuller utilization of the existing capacities of large industries before committing resources for the creation of additional capacity. This means the freezing of capacities for a number of industries. Among them are the mining and construction machinery, electric locomotives, railway wagons, commercial vehicles, cables, storage batteries and a few others. For some of these, capacities remained unchanged over the fifth plan period as well.

The idea behind the freezing of capacities is presumably that the existing capacities are adequate for meeting the demand for the five-year period. The question of their expansion can be taken up during subsequent years in the scheme of rolling plans. However, most of the industries listed above have long periods of gestation for investment. By deferring a decision on investment in them we may be inviting problems of shortage in supply in the terminal years of the plan or beyond. May be we can meet the shortages by imports with the help of accumulating foreign resources. Our capability to import, however, weakens our desire to build up indigenous capacities.

Pattern of Investment

A large proportion of industries with unutilized capacities is in the public sector. The same is true for the industries mentioned above. The public sector now accounts for 30 percent of the output. In explaining the reasons for unutilized industrial capacity, the bottleneck in the supply of inputs is cited very often. But it is the public sector which is the largest producer of inputs for industries. The very same industries have been carrying excess capacities. The anomaly requires to be explained.

One explanation for the phenomenon is to be found in the erratic pattern of investment in the public sector which the present plan also pursues in respect of the four key industries—steel, coal, power and transport. They provide the crucial base over which industry as well as agriculture rest. The public sector itself is not only the producer of the goods and services of these four industries, it is also the largest consumer of their products. This is brought out by the figures in the inter-industry transactions table for 1968-69 prepared by the Central Statistical Organisation. We present here the data for outflow of the products of these four industries to large consumers. The figures are obtained from a condensed version of the CSO table worked out by the Reserve Bank of India.

TABLE I

INTER-INDUSTRY TRANSACTIONS FOR FOUR INDUSTRIES (1968-69)

Output	Input	Coal and lignite	Iron and steel industry	Elec- tricity	Railway transport equipment	Railway transport services	Sub- total	Inter- mediate Use	Out- put
	(Lakhs of rupees, Percentages in brackets)								
	1	2	3	4	5	6	7	8	
1 Coal and lignite	546 (2.23)	2724 (11.11)	4549 (18.56)	77 (0.31)	4039 (16.48)	11935 (48.69)	23039 (93.98)	24514 (100.00)	
2 Iron and steel industry	0	12778 (16.08)	0	1651 (2.08)	46 (0.06)	14475 (18.22)	73397 (92.34)	79479 (100.00)	
3 Electricity	541 (1.03)	2135 (4.08)	10393 (19.84)	305 (0.58)	1636 (3.12)	15010 (28.65)	45756 (87.35)	52382 (100.00)	
4 Railway transport equipment	0	0	876 (5.45)	2505 (15.60)	6700 (41.71)	10681 (62.76)	9246 (57.54)	16062 (100.00)	
5 Railway transport services	243 (0.27)	3452 (3.79)	2044 (2.25)	122 (0.13)	2926 (3.22)	8787 (9.66)	38105 (41.88)	90986 (100.00)	
6 Sub-total	1330 (0.50)	21089 (8.01)	17862 (6.78)	4660 (1.77)	15347 (5.83)	60288 (22.89)	189543 (89.82)	263423 (100.00)	

SOURCE: Reserve Bank of India Bulletin, November 1978.

It may be seen that the four industries in the public sector utilize between themselves 49 percent of the output of coal and lignite, 18 per cent of iron and steel, 29 percent of electricity, 63 percent of railway transport equipment and 10 percent of railway transport services. Besides these, about 35 percent of iron and steel is accounted for by the construction sector, a large share of which falls under the public sector. The largest users of the railway services, however, are the passengers, accounting for about 45 per cent of the total services.

The share of the outputs by all the four industries as a proportion of the total for intermediate uses, giving a better indication of the interdependence between the industries, would naturally be much larger. It is clear from the above that deficiencies in any one of the four industries will affect immediately the other three, setting in its trail bottlenecks in the whole range of industries in the economy. This is what has been happening periodically over the years.

Ad Hoc Approach

It has been customary on the part of the Government to deal with such crises on a short-term basis. The difficulties in the supply of coal has been met by a decision to reduce the target of production, the latest being its lowering from 135-million tonnes

to 113-million tonnes. The bottleneck in the railway wagons supply has been met by releasing funds for additional orders for wagons on an emergency basis. The response to the shortage in power supply is to permit the import of power equipment from abroad. The same goes for steel. The absence of a long-term view of the problems is reflected in the unutilized capacities in mining machinery, railway wagons and railway locomotives.

Nowhere has the failure of long-term planning been more damaging than in the case of the railways. Since independence the country has added only 5000 kilometres of railway line to the existing length of 55000 kilometres. The transport policy of the country was influenced by the availability of cheap oil and roadways held the centre of attention. The competitive advantage of the commercial vehicles discouraged the extension of railway links. It was expected that the oil crisis would generate fresh thinking about the future of the railways in the country. However, there is little indication of such rethinking in the plan. The railways continue to extend their lines along the old lines of connecting the raw material bases to the ports. The inland traffic of goods continues to depend heavily on the roadways.

The Government's policy towards the wagon industry has been disappointing. The railway wagons industry attained a peak level of production of 33,500 four-wheel units in 1965-66. Since then the annual production has consistently been at a low level of 11,000 to 12,000 wagons only. The pressure on the railway transport services has, on the other hand, increased by the changes both in the pattern and the volume of production of agricultural crops in the different regions, necessitating changes in the direction of wagon movement. Table II shows the figures for production of foodgrains in the States for the years 1970-71 and 1975-76.

Excepting for a few, all the States recorded a rise in production by varying magnitudes between 1970-71 and 1975-76. This affected the share of total production between the States. Punjab and Haryana and Andhra Pradesh registered the large increases, while Uttar Pradesh and Rajasthan showed a decline. The overall production increased by 13 million tonnes during the period. Railways have failed to meet the demand on them mainly because of inadequacy of rolling stocks. Railways' failure to transport coal to the power stations and industries has created problems both for the coal mines, which are loaded with pithead stocks affecting their production, and the power stations which fail to generate adequate power. Steel and other industries suffer from deficiencies in power supply and accumulation of inventories. The indifference towards

the expansion programme of the railways and allied industries and frequent changes in the targets of coal production reflect the lack of long-term view of the key sectors.

TABLE II
PRODUCTION OF FOODGRAINS IN INDIA BY STATES

States	Total foodgrains (000 tonnes)		Percentage of	
	1970-71 (1)	1975-76 (2)	col. (1) (3)	col. (2) (4)
1 Andhra Pradesh	6886.8	9428.2	6.38	7.80
2 Assam	2070.4	2441.0	1.92	2.00
3 Bihar	8145.6	9003.2	7.56	7.45
4 Gujarat	4406.1	4519.8	4.09	3.74
5 Punjab and Haryana	11756.6	13801.8	11.00	11.42
6 Jammu and Kashmir	1080.8	1043.9	1.00	0.85
7 Karnataka	5962.3	7002.1	5.53	5.79
8 Kerala	1294.0	1378.1	1.20	1.14
9 Madhya Pradesh	10796.2	12136.6	10.01	10.04
10 Maharashtra	5590.0	9106.3	5.18	7.54
11 Orissa	4929.4	5461.7	4.57	4.52
12 Rajasthan	8812.5	7719.1	8.17	6.39
13 Tamil Nadu	7023.5	7760.8	6.51	6.42
14 Uttar Pradesh	19483.3	19127.4	18.07	15.84
15 West Bengal	7418.4	8531.5	6.88	7.06
16 Others	2155.3	2401.9	1.93	1.99
All India	107811.2	120833.4	100.00	100.00

SOURCE: Bulletin of Food Statistics, Ministry of Agriculture.

The public sector has come to be the pace setter for the development of the economy. The draft plan also refers to the close relationship between total investment, particularly public investment, and industrial growth. The periods of growth from 1961-62 to 1964-65, decline during 1966-69 and the recovery during the fifth plan period are indicative of this relationship. The draft plan, however, fails to provide the requisite outlay for industries in the public sector. The proportion of expenditure on industry and minerals to the total expenditure under the fifth plan was 18.7 percent. This has been reduced to 14.9 percent in the draft plan, though in terms of actual expenditure it amounts to an increase of 40.6 percent. As for the key industries in the public sector, the rate of increase in expenditure between the two plans on coal, steel, railways and heavy engineering industries ranges between 48 and 63 percent. The rate of increase is exceptional for the power industries, being 124 percent. As against the industrial sector, the outlays on agriculture and allied activities are raised by 99.5 percent.

The draft plan seeks to solve the problem of industrial stagnation through the widening of the demand base in the rural

areas. The mechanism of rural development working within the existing structure cannot, however, guarantee an expansion of the base adequately. The plan, on the other hand, fails to recognize the key role of the public sector industries in priming the demand and generating supply of inputs for the ailing industries. The idea of rolling plan also inhibits the consideration of the long-term factors retarding their growth.

- ¹ PA Samuelson, "A Catenary Turnpike Theorem Involving Consumption and the Golden Rule", *American Economic Review*, June 1965.
- ² SM Goldman, "Optimal Growth and Continual Planning Revision", *Review of Economic Studies*, April 1968.
- ³ Dipankar Dasgupta, "Catenary Turnpikes and Rolling Plans: Synthesis and Extensions," *Indian Economic Journal*, April-June 1978.
- ⁴ NP Federenko (ed), *Economic Development and Perspective Planning*, Moscow, Progress Publishers, 1975.
- ⁵ CT Kurien, "The New Development Strategy: An Appraisal", *Economic and Political Weekly*, Special Number, August 1978.
- ⁶ Deepak Nayyar, "Industrial Development in India: Some Reflections on Growth and Stagnation", *Economic and Political Weekly*, Special Number, August 1978.