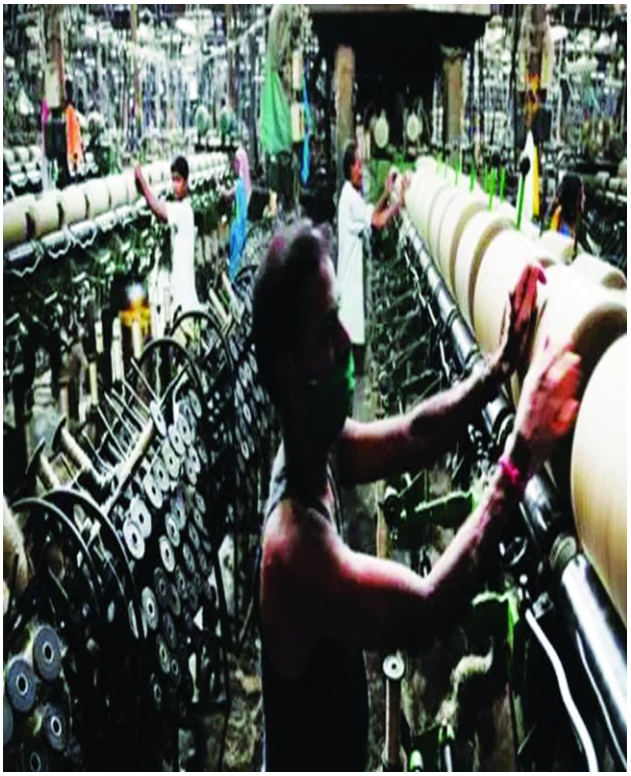
Are All Industries in West Bengal Bad-Performing?



General opinion about industrial performance in West Bengal (WB) is heart-burning and disappointing. There are reasons. In 1950, West Bengal's share in the country's capital stock in the manufacturing industries was 24.6 per cent. In 1977, it reduced to about 12 per cent. During the period from 1990 to 2020, the state contributed only 4.5 per cent in the value of output of all manufacturing industries in the country. Share of industries in WB in the total Invested Capital (IC), Value of Output (VO), Number of Factories (NF) and Number of Workers (NW) of country's manufacturing industries declined during the period from 2000 to 2020. While growth rate improved in respect of VO, NF and NW, it declined in respect of IC. Per capita and per factory IC and VO improved, but NW per thousand of population and per factory declined. It is interesting to note that state's position was much below the all India average in respect of all these parameters. Average of share of states' industries during the last twenty years period in the country's IC, VO, NF and NW was also less than what was during the ten years' period prior to 1991, the year of implementation of economic reform. Further, unlike West Bengal, number of factories and workers had not experienced a negative growth rate at the all India level. This gradual fall also implies that during the period from 2000 to 2020, other states have performed so well that they have steadily succeeded in outperforming West Bengal in industrial sector.

But then, do these data indicate that all industries in West Bengal are not performing well? Are all industries in WB bad performing? Let us study and observe. An in-depth study with empirical analyses does not indicate such an alarming industrial scenario in WB. So, let us understand the true and clear picture by adopting rational methodology step by step.

First, let us find out which are the major industries in West Bengal. The industries for which the cumulative percentage share was at least 90 per cent for each of the parameters, namely, value of output, invested capital and number of workers are selected as major industries. The Annual Survey of Industries (ASI) data for twenty successive years indicate that out of twenty seven manufacturing industries in NIC 1987 classification (two-digit level), twelve industry groups in West Bengal are major industries as defined above.

Second, let us find out the share of major industries in the state in terms of macro economic parameters. During the reference period, out of twelve major industries, basic metal and alloy industries has the highest percentage share in state's invested capital (IC) (28 per cent) and value of output (VO) (22 per cent). It is followed by basic chemicals and chemical products industries (14 per cent in IC and 12 per cent in VO) and industries engaged in manufacture of rubber, plastic, petroleum, coal products (9 per cent in IC and 14 per cent in VO). In terms of percentage contribution in number of workers, industries manufacturing cotton textiles, wool, silk, man-made fibre textiles, jute and other vegetable fibre textiles are the highest (35 per cent). On the other hand, industries manufacturing leather and leather products, fur and substitutes of leather have the lowest share in West Bengal's manufacturing industries.

Third, we find whether performance of major industries remained consistent throughout the reference period in terms of Kendall's coefficient of concordance which is a non-parametric statistics used for assessing consistency in the rankings. Results of empirical study show that performance of major industries in West Bengal remained consistent except two parameters, namely, growth in invested capital and growth in value of output. Despite showing consistency, contribution of all major industries in the state in the country's manufacturing sector, however, declined over the years. Out of twelve industry groups, contribution of basic metal and alloy industries is the highest and that of leather and leather products industries is the lowest.

Fourth, how did the twelve major industries of West Bengal grow with respect to IC and VO? How did these growth rates compare with the growth rate of similar industry group at the national level? In this regard it is interesting to note that growth rate is much less than the growth of the same industry group in the country. Industries manufacturing beverages, tobacco and related products are the only exception. Position is better with respect to other four industry groups, namely, leather and leather products; basic chemicals and chemical products industries; industries engaged in manufacture of machinery and equipment other than transport equipment and non-metallic mineral products industries. Picture is bad with respect to transport equipment and parts manufacturing industries; industries manufacturing cotton textiles, wool, silk, man-made fibre textiles, jute and other vegetable fibre textiles; machinery and equipment other than transport equipment manufacturing industries and paper, paper products and allied industries.

Fifth, the most important task is to assess the performance of major industries in terms of productivity measures, namely, capital productivity (value of output per unit of invested capital), labour productivity (value of output per worker) and material productivity (ex-factory value of products and by-products per unit of input). The results of empirical analyses in this regard, show that there exists heterogeneity in performance of the major industries with respect to their industrial performance. But then, such *prima-facie* opinion about the heterogeneity amongst the major industries has to be established by statistical analyses, namely, convergence and divergence analysis. The units are said to satisfy the condition of convergence if the dispersion decreases over time. The reverse pattern would imply the existence of divergence among the comparable units.

In the study made in this regard, selected parameters are three, namely, capital productivity, labour productivity and material productivity. The result that emerges from convergence and divergence analysis is that the twelve major industries in West

Bengal diverge from one another in terms of labour and material productivity. They, however, converge to each other in respect of capital productivity. Divergence in terms of labour productivity is due to labour unrest and resultant loss of production. Convergence in terms of capital productivity is due to incurring capital expenditure by most of the industries for upgradation of technology with a view to meet the challenging situation.

In any case, the analyses performed so far does not provide a robust support in favour of the argument that there exists heterogeneity or homogeneity amongst the major industries with respect to the three parameters. Validity of such observations can be strengthened from the results of clusters analysis. We, therefore, carry out cluster analysis as the sixth step. The analysis is performed with one of the non-hierarchical clustering techniques, namely, K-means method. The results of the cluster analyses indicate that major industries in West Bengal can be divided into two clusters – cluster 1 (good performing) and cluster 2 (bad performing). Five industry groups, namely, (a) industries manufacturing rubber, plastic, petroleum, coal products; (b) basic chemicals and chemical products industries; (c) beverages, tobacco and related products manufacturing industries; (d) Basic metal and alloy industries, and (e) leather and leather products industries are 'good performing'. On the other side, two industry group, namely, (a) industries manufacturing cotton textile, wool, silk, man-made fibre textiles, jute and other vegetable fibre textiles and (b) transport equipment and parts manufacturing industries are 'bad performing'. Remaining five industry groups, namely, (a) manufacture of food products, (b) manufacture of metal products and parts, (c) manufacture of machinery and equipment other than transport equipment, (d) manufacture of non-metallic mineral products and (e) paper and paper products and allied industries are in the median level.

Any empirical analysis without a comparative analysis is incomplete. So, as the last step, we have done it by comparing the performance of industries in West Bengal with the similar industry groups located in Gujarat, Maharashtra, Tamilnadu and Odisha. It was observed that performance of major industries in West Bengal is almost at par with similar industry groups located in these four states and with those at national level in respect of capital and material productivity. The difference lies in respect of labour productivity only. In respect of all the major industries, labour productivity in West Bengal is much less than that of other states and that at country level. The reasons are labour-unrest causing strike, lockout and loss of production.

Conclusion

It is found in the study that though industrial performance of West Bengal has shown a disconcerting sign in all aspects compared to Gujarat, Maharashtra, Tamilnadu and Odisha and the state's performance is much below the all India average in respect of invested capital, value of output, number of factories and number of workers during the reference period (2000-2020), the state has done well particularly in terms of output and capital during this period. Average labour productivity of the state's industries is, however, low. It is observed that in the last decade the high growth rate is associated with high growth of labour productivity. Thus, the silver lining in the industrial scenario in the state is that its major industries have performed well with respect to capital and material productivity. State-wise ease of doing business rank published by the Department of Industrial Policy and Promotion, Government of India shows that the states rank has improved from 15 (2016) to 9 (2019). One can, therefore, expect that investors may show interest in investing in the state provided the state adopts policy measures to improve labour productivity and infrastructural facilities.