UNIT 22 UNDER-UTILISATION OF CAPACITY

Structure

22.0 OBJECTIVES

In this unit in Block 6, we will analyse the concept and phenomenon of "capacity utilisation" to understand the process of investment and productivity growth in Indian industries. This concept plays an important role in economic theory and practical analysis. After studying this unit, you will be able to:

- comprehend the relevance of the concepts like capacity (or potential output) and capacity utilisation as performance indicators for industrial sector;
- learn the available measures of capacity utilisation;
- understand the nature of the problem of under-utilisation of capacity in Indian industries;
- know the impact of recent industrial reforms on capacity utilisation rate in Indian industries; and
- find out the suggested policy measures to rectify the problem of "under-utilisation of capacity" in Indian industries.

22.1 INTRODUCTION

Rapid growth in industrial productivity is recognised as an essential element in the development and structural transformation of the now developed economies. Industrial productivity measures the amount of output that is produced with given

amounts of factor inputs (mainly land, labour and capital) deployed in the industrial sector. The growth in productivity, however, is a broader concept encompassing the effect of many factors such as better utilisation of existing capacities, learning-by-doing, improved skills of labour, etc. Thus, capacity utilisation is one of the most critical determinants of growth in productivity.

Although India has generally followed prudent macroeconomic policies, its long-term growth record has been quite disappointing, with per capita income increasing by less than 2 per cent since1960. Almost four decades of pervasive government interference in economic decision-making, together with an inward oriented trade and investment policies have resulted in build up of excess capacities and low rates of return on investment, particularly in the industrial sector. During the 30-year period from 1950 through 1980, the compound growth rate for industrial sector was barely 5.2 per cent.

Industrial output and productivity growth showed some improvement during the 1980s, with industrial production growing at the compound rate of 7.0 per cent during this decade. The shift was related primarily to changes in policies including partial deregulation and increased market-orientation. However, only since 1991 the Indian authorities have made a determined effort to liberalise the economy by reducing pervasive government intervention. The initial impetus came from a severe balance of payments crisis in 1990-91. The crisis was converted into an opportunity for launching structural reform, which was rooted in fundamental rethinking of India's development strategy. Structural reforms were initially concentrated in the industrial sector and in trade liberalisation - aimed particularly at eliminating most investment and import licensing requirements. The liberalisation process has radically changed the operational environment of the industrial sector by dismantling the barriers to entry and growth and by promoting competition. The growth in competition and efficiency is expected to eliminate or at least significantly reduce the unutilised productive capacity that was created over earlier years of planned development.

Although much has been accomplished in response to the reforms in 1990s, the reforms are by no means complete and there are many factors, which have constrained a stronger investment response and better utilisation of productive capacity within industrial sector - the necessary preconditions for sustaining rapid growth in India. In this unit, we will discuss Indian industrial sector's "capacity utilisation" record and the impact of different development strategies on this indicator of performance with a view to identify a number of remaining structural impediments. However, it will be useful first to know the significance of this indicator in understanding the performance of industrial sector.

22.2 DEFINITIONS OF KEY CONCEPTS

i) **Capacity or Capacity Output:** Capacity is a vague and hard to measure concept, which varies over time and according to economic conditions. The economic theory of cost and production defines capacity output as the output at which the short and long-run average total cost curves are tangent to one another. Under conditions of long-run constant returns to scale, capacity output corresponds to that output at the minimum point of the short-run average total cost curve. Johansen (1968) defines capacity output as "... the maximum amount that can be produced per unit of time with existing plant and equipment, provided that the availability of variable factors of production (like raw materials or labour, etc.) is not restricted."

ii) Capacity Utilisation: Capacity utilisation rate for an entity (whether a firm or an industry or an economy) is defined as actual output divided by its sustainable maximum output (or capacity output). The capacity utilisation rate can and occasionally does exceed 100 per cent when measured for a firm or an industry, as sometimes-sustainable maximum output is lower than temporarily attainable peak production. However, for an economy as a whole, capacity utilisation does not go as high as 100 per cent because different firms reach their peaks at different stages of the economic cycle. Also, bottlenecks in one industry restrict supplies and therefore output in another. For example, during major cyclical peaks (i.e., upturn in economic activity) a shortage of steel can limit output of certain consumer durables or business machinery, and restrict capacity utilisation in those industries.

22.3 SIGNIFICANCE OF THE CONCEPT OF CAPACITY UTILISATION

The variation in the extent to which existing capacity is being utilised provides an indication of how the supply side of a particular firm, industry, or economy is evolving relative to its demand side.

For developing countries like India (which suffer from the chronic shortage of capital), this measure assumes special significance as better utilisation of existing capacity makes growth possible without the need for an additional investment of capital or labour. Empirical studies confirm that less than half the growth in output can be attributed to increases in factors of production (like capital or labour) and higher productivity explains the rest. As stated earlier, capacity utilisation is one of the most critical determinants of productivity as increased utilisation of existing capacity reduces the cost of production (by bringing the output closer to the point of minimum short run average total cost) and improves profitability and internal generation of resources.

The "capacity utilisation" measures are a prominent variable in several modern business cycle theories, especially those based on a version of the acceleration principle.

The business cycle is the more or less regular pattern of expansion (recovery) and contraction (recession) in economic activity around the path of trend growth. During an expansion (or recovery) the employment of factors of production increases (indicating higher utilisation of existing capacity), which, in turn, increases incomes, creates more demand, resulting in further more utilisation of existing capacities, and so the process continues. This is known as the "multiplier" effect. However, before long, producers come up against capacity constraints. If they are confident that demand will remain buoyant (positive expectations), they invest more in new plant and machinery (i.e., creation of more capacity), which generates even more demand. This is known as the accelerator effect.

The upward momentum cannot continue indefinitely. Eventually, output hits a ceiling owing to bottlenecks and supply constraints. Demand for investment funds may push up interest rates to the point where new investment is no more profitable. This will reduce the investment demand. Despite the steady consumer demand, a fall in investment demand pulls back the level of total output. With investment demand falling, the producers of capital goods start to cut back on labour. The higher unemployment reduces consumer demand. The multiplier, expectations and accelerator principles work in reverse and the economic contraction gathers momentum.

The output will not fall indefinitely. It will stop at some minimum level because employees retain jobs and spending power where they work in secure jobs with government or in industries supplying essentials. The welfare payments, past savings and new borrowings enable other consumers to buy essentials. The slack demand for investment funds may pull back interest rates making new or replacement investment more attractive. And with consumer demand steady, it is the investment demand (that leads to capacity creation), which begins to lift the economy again.

Another important use of the concept of "capacity utilisation" is that it signals inflationary pressures. For instance, strong economic growth with high capacity utilisation suggests inflationary pressures. When capacity utilisation rate for the economy as a whole is near its maximum level, any increase in demand cannot lead to higher output unless manufacturers undertake additional investment. In this situation, higher demand exerts direct pressure on prices, as supply of output has already reached its maximum.

Though there is no general consensus about what causes fluctuations in capacity utilisation rates, major influences include fixed investment and inventory cycles, external shocks and macro-economic policies of the government.

22.4 AVAILABLE MEASURES OF CAPACITY UTILISATION

The purpose of this section is to introduce alternative measures of "capacity utilisation" from a practical point of view. An exhaustive survey of the various means of computing numerical "capacity utilisation" measures is beyond the scope of this coursework. However, three of the most commonly used methodologies are briefly reviewed here in terms of their underlying rationale.

i) **The Peak-to-Peak Measure:** This approach attempts to measure the degree of utilisation of all inputs by examining a plot of the realised level of output (i.e., the actual output) through time. On a plot of output, relative periodic peaks are taken to -be points of full utilisation of all resources. The peaks are then connected with a straight line, which can be extrapolated beyond the most recent peak in order to represent the path of capacity output. A numerical capacity utilisation measure is then computed as the ratio of actual to capacity output. The primary advantage of this approach is that it computes capacity utilisation by using data only on output and not on inputs. In general, data on inputs is available at a much lower frequency and often only with a considerable time lag.

ii) **Survey-based Measures:** The most direct and obvious means of obtaining numerical capacity utilisation ratios is to ask firms for their own assessment of the extent to which they are using available capacity. Almost all industrial countries now include this question in monthly surveys of businesses. In India also, the companies are obliged to publish information (in terms of physical units of measurement) on installed capacity and actual production of various products that they produce in one of the schedules of their annual reports. From a practical point of view, these are currently the most accessible and timely indicators of capacity utilisation available for India.

iii) **The Production Function Approach:** This approach represents an attempt to take the economic theory of production and apply it at a sectoral or industry level in order to derive a measure of capacity utilisation. The production function approach shares with the peak-to-peak methodology the common objective of trying to measure the level of output that could be produced if all available

inputs were being fully utilised. However, this approach requires specification and estimation of some functional relationship between inputs (e.g., capital and labour), the state of technology and output. Once a production function for an individual industry or sector has been estimated (i.e., in the form of an equation), capacity output can then be calculated by evaluating it at the point where all resources are fully utilised. One significant advantage of this type of approach is that changes in capacity output can be decomposed into its respective components: capital stock growth, technological progress and growth of potential labour supply. This contrasts with the peak-to-peak and survey based measures, which do not allow any such decomposition.

Check Your Progress 1

1) Define the concepts of potential or capacity output and capacity utilisation.

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2) Explain the significance of the concept of capacity utilisation in the analysis of business cycles.

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3) Describe the alternative measures of capacity utilisation with their distinct advantages.

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22.5 LONG-TERM TRENDS IN CAPACITY UTILISATION IN INDIA

Indian planners and policy-makers have always been seriously concerned about the prevalence of relatively high level of under-utilised capacity in Indian industries. In the capital-scarce economy like India, the opportunity cost of capital is very high and under-utilised capacity signifies considerable waste of resources.

22.5.1 Why is "Under-utilisation" of Industrial Capacity Undesirable?

Capacity under-utilisation in the industrial sector produces a range of adverse effects on the economy, particularly in terms of - (a) an overall slowdown in the industrial activity and its impact on other sectors like agriculture and services through their various backward and forward linkages with the industrial sector, (b) higher costs of production and lesser generation of revenues in the industrial sector due to sub-

optimal use of capacities, and, (c) a negative impact on the expectations about future economic prospects.

22.5.2 The Problem of Capacity Under-utilisation in Indian Industrial Sector

One of the major features of Indian industrial strategy was the industrial licensing framework under the Industries Development and Regulation Act (IDRA) of 1951, which was to serve as the instrument for channelling investments in the industrial sector in "socially desired directions". This controlled not only entry into an industry and expansion of capacity but also technology, output mix, capacity location and import content. However, in reality the functioning of the industrial licensing system was characterised by over-conservatism and administrative delays. Instead of channelling investments in socially desirable directions, the system of licensing resulted in the development of "parallel" economy by driving investments "underground." This concept is very popularly known as the Black Economy. Furthermore, the emphasis of the development strategy was on creation of capacities, especially in the basic and capital goods sector under public ownership. The overemphasis on capital accumulation as against improving the utilisation of existing capital assets, created larger magnitudes of unutilised capacities in many industries over the years.

There was an explicit recognition of this problem in all the five-year plans. One of the first studies on the issue of capacity utilisation was undertaken by Prof C. N. Vakil for the years 1946 to 1953 covering about 80 industries. This study observed that nearly half of these industries had about 50 per cent of under-utilised capacity. The plausible reasons for the situation were identified as - (a) the practice of some industries to keep certain reserve capacity to meet sudden demand, (b) the indivisibilities (i.e., the necessity to create a certain minimum scale to make production happen) in creating capacities, and (c) the difference between expectations and results. The **First Plan (1951-56)** document had explicitly stated that by and large the capacities in industries producing essential goods was adequate in relation to the requirement (around that time) and there was a need for improving the efficiency of existing plants by renovation, modernisation and securing a better balance in the plants. The **Second Plan (1956-61)** also emphasised the question of "fuller utilisation of existing installed capacity in industries where there are wide gaps between capacity and production". Another important study on this subject was made by Morris Bodin and Samuel Paul, which included 75 industries. This study observed that there was substantial progress in utilisation of capacities in these industries during the period 1951 through 1959, with the exception for the year 1958, when the country was hit hard by a severe foreign exchange crisis and an overall slow-down.

As regards the industrial policy priorities, the **Third Plan (1961-66)** document said that "in the first place, where there are wide gaps between capacity and production, or where, by multi shift operation or the addition of the balancing equipment, it is possible to secure greater output at diminishing cost, fuller utilisation of existing installed capacity must take precedence over expansions or the setting up of new units." The study undertaken by the National Council of Applied Economic Research (NCAER) for understanding the reasons behind under-utilisation of capacity, covered the earlier part of the third five year plan. The study then identified the factors such as shortage of raw materials, shortage of foreign exchange and shortage in the supply of skilled labour as the reasons for capacity under-utilisation. The problem of capacity under-utilisation assumed serious proportion towards the end of the third five-year plan and many industries faced severe setbacks due to a fall in agricultural production.

Another study by the researchers from the Gokhale Institute of Politics and Economics for the year 1966-67 also showed the alarming nature of the extent of under-utilised

capacity in Indian industries. The study had primarily considered the intermediate and capital goods industries covering about 250 products in a detailed product-wise approach. Almost all the intermediate and capital goods industries showed capacity under-utilisation at about 40 per cent. Certain products like metal products, non-electrical machinery and equipment, fertilisers and food industries showed more than 60 per cent under-utilised capacity. In this study, the extent of under-utilised capacity and the reasons behind that were based on the information provided by the respondent manufacturing units. Of the two important reasons, i.e., inadequate demand and shortage of raw materials, it was generally concluded that, the former reason had affected nearly twice the number of units as regards the capacity under-utilisation.

During the **Fourth Plan (1969-74)** period, slow growth in capacity building in certain industries was considered an important factor affecting the industrial production. As a result, additional capacity of considerable magnitudes was sought to be created in fertilisers, finished steel, aluminium, electricity generation, and mechanisation of agriculture and in some select industries. However, this effort was quite partial and there were many lags in the creation of additional capacity in certain other industries, especially due to lack of funds. During the period of this plan, the economy witnessed a deceleration in industrial production resulting in lower availability of important consumer goods, which were already scarce. Even the supply of basic inputs like steel, chemicals, metals, power, coal, etc., became more tight, and the overall effect was much higher inflation putting tremendous pressure on industrial cost structure. The industrial strategy for the ensuing period was one of planning for fuller utilisation of existing capacity with emphasis on easing of the operational constraints. The **Fifth Plan (1974-79)** period was marked by slackening of real investment in the public sector and a deceleration in the rate of industrial growth. In this regard, T. N. Srinivasan had argued that the stagnation of real investment, especially public investment was among the principal causes of sluggish industrial development. As stated by Isher Judge Ahluwalia, the period of fifth plan was a period of official reflection as many committees were set up during this period to review different aspects of existing industrial and trade policies. This gave rise to the process of policy reorientation in the late 1970s, which gained further momentum in the 1980s. The basic thrust of new policy measures, introduced in the late 1970s was essentially on deregulation of Indian industry and freeing it of the bureaucratic procedures. Delicensing of some industries, deregulation of some others, greater scope for participation by large private industrial houses and a shift from direct physical controls to indirect financial controls were the essential elements of policy changes. However these changes did not affect significantly the public sector's role as the guiding spirit for development.

According to the **Sixth Plan (1980-85)** document, the pattern of industrial development at that time primarily reflected the structure of effective demand, which, in turn, was determined by the distribution of incomes. An unduly large share of resources was absorbed in the production of those goods and services, that formed part of the consumption basket of higher income groups - high quality housing and urban amenities, aviation, and super travel facilities, telephone services, etc. Thus, the expansion and diversification of industrial capacity within a few sectors reflected the distortions in the system.

22.5.3 Reform Since 1985

At the beginning of the **Seventh Plan (1985-90)**, the debate on promoting the extent of capacity utilisation had assumed a much more serious urgency in view of large-scale sickness and stagnation. This debate had centred around questions of

inadequate domestic demand. During this period, a strong need was felt (more than ever) for a reduction in the rate of increase in investment so as to ensure optimum utilisation of existing capacities and generation of appropriate profits.

Since the year 1985, liberalisation process took accelerated momentum with a series of far-reaching policy decisions. The main reforms were introduced in industrial licensing and regulatory policies. In all, 25 industries were delicensed and restrictions on product diversification were relaxed through "broad-banding" products among which the licensed producer could switch production. Exporters were given greater access to imports, some quantitative restrictions were replaced by tariffs and there was also a modest liberalisation of financial markets. These policies turned out to be conducive to growth. The combination of strong domestic demand, rapid export growth, and more liberal supply-side policies supported a broad-based increase in output growth to over 5.5 per cent a year during the 1980s, part of which could be attributed to better utilisation of capacities during the second half of 1980s.

However, with the large government deficit fuelling rapid credit expansion and continuous depreciation of the rupee, inflation rose from about 5 per cent in the mid 1980s to over 12 per cent at the end of 1990-91. Furthermore, notwithstanding the much higher growth in exports, the current account deficit widened from under 2 per cent of GDP to 3.5 per cent in 1990-91. These deficits were increasingly financed by borrowing on commercial terms, including inflows of short-term deposits by non-resident Indians, while official reserves were drawn down. These developments resulted in a marked rise in the external debt-service burden. There was little to cushion the adverse effects of the 1990 disruptions in the Middle East that had led to a sharp increase in the cost of imported oil and loss of workers' remittances. Concerns about the deteriorating external position and domestic political tensions caused a downgrading of India's international credit rating, and access to external commercial borrowing almost ceased by mid-1990. Combined with large outflows of non-resident deposits, the result was a major foreign exchange crisis that brought India to the brink of default in early 1991.

The adjustment strategy adopted in mid-1991 contained four major elements: (1) immediate stabilisation measures, notably a 19 per cent devaluation of the rupee and increase in interest rates, designed to restore confidence and reverse the short-term capital outflow; (2) fiscal consolidation aimed at reducing the Central Government deficit from about 8.5 per cent of GDP in 1990-91 to 5 per cent by 1992-93 (3) mobilisation of substantial exceptional borrowings from the IMF, the World Bank, and bilateral donors to maintain a minimum level of imports; and (4) the initiation of major structural reforms, the early emphasis of which was on industrial deregulation and trade liberalisation.

Check Your Progress 2

1) What is the experience of Indian industrial sector with respect to utilisation of its capacity over the decades of planned development?

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2) Based on the Indian experience, what factors would you like to identify as determinants of capacity utilisation in the Indian industrial sector?

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3) What kind of imbalances in the economy gave rise to the liberalisation process that has begun since 1991?

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22.6 INDUSTRIAL REFORMS AND CAPACITY UTILISATION IN THE 1990s

22.6.1 Industrial Reforms of 1990s

A common objective guiding the industrial reforms since 1991 has been to improve productivity and efficiency of the industrial sector. This has been partly achieved by dismantling the barriers to entry and growth and thus imparting a greater element of competition. These reforms primarily comprise the abolition of industrial licensing and restrictions on size of firms, liberalisation of direct and portfolio inflows of foreign investment and free imports of capital goods, raw materials and intermediate materials based on a declining level of tariffs. Another important ingredient of industrial reform policy has been to reduce the public sector's role in the industry and make the industry more outward-oriented. This policy approach has been adopted to reduce the size of public sector deficit and at the same time release more investible funds for the private corporate sector to enhance its investment spending. Furthermore, increased privatisation of the industrial sector is expected to improve efficiency in resource use and quicker building up of technological capabilities in the industrial sector.

22.6.2 Capacity Utilisation in the Industrial Sector in 1990s

The industrial reform process that began in 1991-92 resulted in a severe slowing down of manufacturing sector in the first two years of structural adjustment.

The overall capacity utilisation rate of the industrial sector declined sharply due to a variety of factors such as import compression, rise in the cost of imports on account of substantial devaluation of Indian rupee, tight monetary policy, and the cash margin requirements imposed on the entrepreneurs. From the demand side, there was a noticeable fall in effective demand due to mounting inflation and the reduction in public expenditure as a result of newly imposed fiscal discipline.

Lower capacity utilisation rates in the industrial sector during the years 1991-92 and 1992-93 were the essential fall-out of stabilisation measures initiated by the

Government for the macro-economic adjustment of the economy (see ICICI Study on Capacity Utilisation in the Private Corporate Sector, 1991-92 and 1992-93).

Gradually, the economy in general and industrial sector in particular started responding favourably to liberalisation measures in the form of faster growth, better export performance and greater self-reliance (i.e., larger financing of imports through export earnings).

The study by R. Rege-Nitsure and M. Joseph, 1999 for the sample of 802 medium and large-scale companies from the private corporate sector brought out many interesting findings. The study had computed various product-level capacity utilisation rates based on the data in physical terms for the period of five years, notably 1993-94 to 1997-98. The study revealed that after the first two years of structural adjustment, the private corporate sector staged a smart recovery from 1993-94, reflected in rising levels of capacity build-up, physical production and capacity utilisation rate until 1996-97 and up to 1997-98 in capacity build-up. The liberal import policy for capital goods contributed to the strong growth in installed capacity. Despite this policy measure, the growth in installed capacity was spearheaded by the growth in domestic capital goods sector reflecting the buoyant investment sentiments resulting from the liberalisation process. A broad-based growth of production implying rising income levels and the newly acquired outward orientation (giving boost to the exports) resulted in a steady increase in the capacity utilisation rate of the private corporate sector till 1996-97 indicating the multiplier-accelerator reaction (as explained in the section 22.3). Within the private corporate sector, the same trends were shown more sharply by the basic and capital goods industries. The capacity utilisation rates remained somewhat volatile for the industries producing intermediate and consumer durable goods during 1993-98. However, the recovery phase for the private corporate sector was reversed in 1997-98 due to a variety of factors. This phase of contraction was again led by the capital goods industries, followed by the consumer goods industries.

This study showed that the recovery phase (1993-97) has resulted in the large build up of capacity in the private corporate sector and on an average almost 22 per cent of its installed capacity was in the unutilised state in 1997-98. The study further showed that the extent of unutilised capacity is widest for the capital goods industry followed by the intermediate goods industry. The larger extent of unutilised capacity in the private corporate sector clearly shows that the cyclical downturn (i.e., deceleration in economic activity) was witnessed by this sector in 1997-98 long before the producers had actually come up against capacity constraints. This implies that there is considerable scope to achieve further growth (with the help of appropriate policy package) without subjecting the private corporate sector to undertake additional investment or to inflationary pressures.

The econometric work undertaken by these researchers further showed that both the policy variables such as the credit availability, import liberalisation and the fiscal management by the government (as depicted by the size of its current expenditure) as well as the non-policy variables like domestic and external demand for the finished products of various product groups had affected significantly the variation in capacity utilisation rates during 1994-98 for the private corporate sector.

Unfortunately, no empirical work at the disaggregated level has been done for the industrial sector as a whole (covering both the public as well as private corporate sectors) for the post-liberalisation period. To take care of this 'gap' in the literature, a small econometric exercise has been done to depict the movement of potential (i.e., capacity) and actual output growth and output gap for the manufacturing sector

as a whole for the period 1970 to 2001. The 'output gap' is defined as actual output less potential output as a ratio of potential output. In the short-term, the estimates of the output gap provide an indication of the extent of capacity utilisation. A positive output gap indicates a positive deviation of actual output from its potential level, while the negative gap means capacity under-utilisation. The series for potential output (i.e. capacity output or trend output) has been estimated using the time-series technique of Hodrick-Prescott filter.

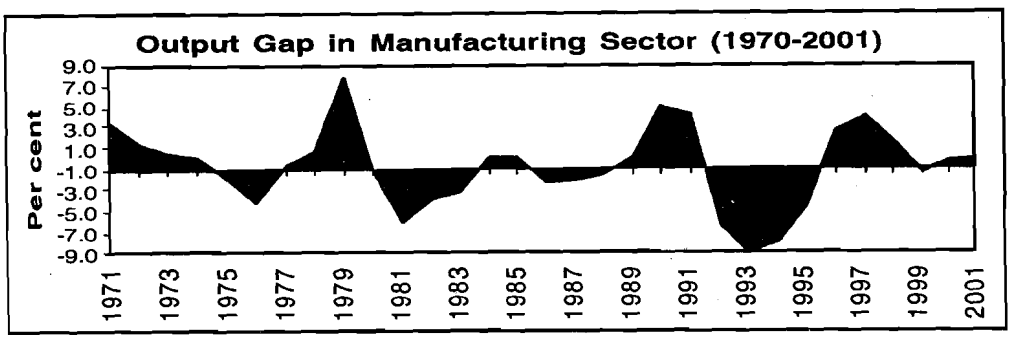

Figure-22.1

The Figure 22.1 above show that the negative output gap (indicating capacity under-utilisation) had widened considerably after liberalisation, especially till 1993 - the period of structural adjustment. The negative gap started narrowing down since 1994 and was closed in 1995 - indicating a gradual improvement in the capacity utilisation rate of the manufacturing sector. The manufacturing sector witnessed three successive years of above trend growth during 1996-98 - a noteworthy achievement of India's liberalisation process. However, the output gap became negative again in the year 1999, indicating a decline in the average capacity utilisation rate for the manufacturing sector. However, some improvement in capacity utilisation rate was witnessed during the years 2000 and 2001, as output gap again became positive (though marginally) during these years. It must be noted that this is just an indicative analysis of capacity utilisation (based on a uni-variate time series analysis) and cannot substitute for a detailed product-level analysis that takes into account firm-specific, micro-level characteristics.

22.7 SUGGESTED POLICY MEASURES

While having achieved a distinct beginning, the economic reforms have failed to generate a stronger investment response and better capacity utilisation rates in the industrial sector - a precondition for sustainable growth.

i) One of the reasons for this is the political uncertainty and the growth of "*ad hocism*" in political decision-making serving the narrow and short-term political goals rather than showing any firm commitment.

ii) Another factor responsible for poorer utilisation rates is the lack of co-ordination between the Reserve Bank of India's monetary policy and the Ministry of Industry's industrial policy. The monetary policies designed to restrain inflation by lowering the level of aggregate demand through monetary control have tended to depress capacity utilisation rates as well as further generation of capacities.

iii) Tightening of financial regulation has resulted in banks' extending lesser credit to commercial sector and over-investing in government securities for safe returns. This has adversely affected the flow of funds from banks to the commercial sector.

iv) Sustained efforts are needed at fiscal consolidation as large sized government borrowing puts upward pressure on interest rates (thus raising the cost of credit) and results in lesser availability of loan-able funds for the private sector.

v) There is also a need for a 'National Policy for Infrastructure Development' that clearly defines the regulatory and financing mechanisms. This, in turn, calls for wide ranging reforms in social security and insurance sectors, which would make available long-term finance for infrastructure investment. Furthermore, aggressive efforts at privatisation are also needed to increase the tempo of investment in infrastructure projects.

vi) Reforms have achieved a reasonable success in reducing the constraints on capital but not much has been done to improve the quality of labour. Rationalisation of labour policies, especially the exit policy needs to be sorted out.

Check Your Progress 3

1) Describe in nutshell the industrial reforms of 1990s.

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2) How has industrial sector responded to the liberalisation measures in terms of investment growth and capacity utilisation performance so far?

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3) What policy measures would you like to recommend at this juncture to improve the utilisation of capacity within the Indian industrial sector?

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22.8 LET US SUM UP

A decade has passed since the liberalisation process began in India with an objective to expose its economy progressively to market forces. The process has had maximum impact on the industrial sector and the thrust of these market-oriented reforms has been to increase competition to eliminate or at least significantly reduce the unutilised productive capacity in this sector. Barring the first two years of structural adjustment,

these reforms succeeded in reviving industrial growth and making it widespread across a broad spectrum of industries. Though the initial impact of reforms on the industrial sector was positive, the sector has been witnessing many ups and downs since the fiscal year 1997-98, raising serious doubts about the sustainability of reform process.

During the recovery phase of 1993-97, there was a huge build-up of capacity and the latest empirical study on the subject revealed that almost 22 per cent of total installed capacity remained unutilised in the private corporate sector in the year 1997-98. Though there has been a gradual improvement in the utilisation of capacity within the industrial sector over the decades of planned development, the extent to which the capacity still remains under-utilised indicates considerable waste of resources.

22.9 KEY WORDS

Basic Goods: These represent core or key inputs in industrial production like fertilisers and heavy chemicals, cement, basic metals, electricity and mining.

Intermediate Goods: These represent raw materials / inputs which enter various production processes at the intermediate stage like wood and cork, newsprint, leather, rubber products, petroleum products, storage batteries, bolts, nuts, nails, etc.

Capital Goods: These primarily represent machinery and equipment and heavy commercial vehicles.

Consumer Durables: These represent commodities like white goods, passenger cars, furniture and fixtures, etc. entering the final consumption basket and having longer durability.

Consumer Non-durables: These cover commodities like food items, beverages, footwear, drugs and pharmaceuticals, glass products, cosmetics, etc. which also are part of the final consumption but with shorter durability.

Investment: Investment is the key structural component of spending as it lays down the basis for future production. It covers spending on factories, machinery, equipment, dwellings and inventories of raw materials.

Productivity: Productivity measures the amount of output that is produced with given amounts of factor inputs mainly land, labour and capital.

Liberalisation and Deregulation: A process that abolishes or withdraws controls on investment, production, prices, interest rates, credit, foreign exchange and allows participants to respond to market forces.

22.10 SOME USEFUL BOOKS AND REFERENCES

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22.11 ANSWERS OR HINTS TO CHECK YOUR PROGRESS EXERCISES

Check Your Progress 1

1) See Section 22.1

2) See Section 22.2

3) See Section 22.4

Check Your Progress 2

1) See Section 22.5

2) See Section 22.5

3) See Section 22.5

Check Your Progress 30

1) See Sub-section 22.6.1

2) See Sub-section 22.6.2

3) See Sub-section 22.7