INDUSTRIAL DATA SYSTEM – A REVIEW OF ITS SCOPES AND GAPS

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Introduction

A pre-requisite for appraising the current economic situation, ascertaining short-term economic prospects and making a rational choice from amongst the specified policy instruments is the timely availability of reliable economic data. There are several key economic indicators which provide help in doing this function, one of which is the industrial data. In the context of economic development, the role of the secondary sector in the national economy is assuming great significance as will be evident from the fact that its share to the net domestic product is about 25%.

The object of this paper is to present a comprehensive review of the available sources of industrial data, focus on the shortcomings of the industrial data system, and analyse the various measures suggested from time to time by economists to improve the system.

The first section presents a general overview of the kind of industrial data and the organisations involved in their collection, processing and dissemination. The second section describes in detail each kind of data. This is followed by a review of the shortcomings of the more important data in the third section. The fourth and final section analyses the observations made from time to time by various committees and economists for making reliable and timely industrial data available for micro and macro-level economic planning.

1 Industrial Data System

1.1 Categories of Data

Industrial data may be broadly grouped as under:

(i) data on capacity, production and stocks and the related production index numbers and capacity utilisation index numbers;


Vol 22 No 4 Dec 1975 225
(ii) data pertaining to inputs, capital, employment and output;

(iii) data on industrial establishments.

The first category of data are related to "scheduled industries" as defined in the Industries (Development and Regulation) Act 1951 and several other key industries. These data are essential for the planning of the balanced development of the key industries. Sections 2.2, 2.3, and 2.4 describe this category.

The second category of data are related to, what is known as the organised sector (i.e., industrial units registered under Sections 2(m)(i) and 2(m)(ii) of the Factories Act, 1948) and, therefore includes industries covered by the first category as well as small-scale and ancillary units. Limited data are also available pertaining to the unorganised sector, i.e., the unregistered factories including the household industries. The major use of this category of data is to provide estimates of value-added by manufactures for purposes of national income computation. These data are also used for undertaking input-output analysis necessary for material resources planning. Sections 2.5 and 2.6 review this type of data.

The third category of data collected during the decennial census, related to the census houses used as workshops and factories, i.e., industrial establishments. These data are extremely useful for regional/local-level planning. Section 2.7 deals with the data pertaining to industrial establishments.

Data on foreign industrial collaboration have been excluded from the scope of the review.

1.2 Organisations in the System

Two types of organisations are involved in the collection, processing and dissemination of industrial data:

(i) regulatory agencies which collect and maintain data for exercising regulatory power; and

(ii) agencies set up specifically for collecting, processing, maintaining and disseminating data. Collectively they constitute the industrial data system.

Among the first category are:

(i) several ministries (and departments), commonly referred to as economic ministries responsible for the development and regulation of industries;

(ii) regulatory agencies pertaining to several key industries, e.g., Textile Commissioner, Iron & Steel Controller;

(iii) Directorate-General of Technical Development, technical consultant to Government of India and the major regulatory agency pertaining to "scheduled industries".
(iv) Development Commissioner for Small Scale Industries in the Ministry of Industrial Development; and
(v) State Departments/Directorates of Industries.

The second category comprises:

(i) Industrial Statistical Wing of the Central Statistical Organisation and the National Sample Survey Organisation, both under the Department of Statistics in the Ministry of Planning;

(ii) Department of Statistics of the Reserve Bank of India;

(iii) Office of the Registrar General, responsible for conducting decennial census; and

(iv) State Bureaus/Directorates of Economics & Statistics.

The two succeeding sections give (i) a list of the economic ministries along with the names of the industries under their control (Section 1.2.1); and (ii) describe the role and functions of the Directorate General of Technical Development (Section 1.2.2)

**1.2.1 Economic Ministries**

The following ministries are responsible for the development and regulation of industries mentioned against each [1].

(1) Department of Steel (Ministry of Steel and Mines)  
Iron and Steel Industry

(2) Department of Mines (Ministry of Steel Mines)  
Non-ferrous Metals and Alloys, Mining Industry

(3) Department of Petroleum (Ministry of Petroleum & Chemicals)  

(4) Department of Chemicals (Ministry of Petroleum & Chemicals)  
Heavy Chemicals, Fertilisers, Fine Chemicals, Plastic and Plastic Products, Dyestuffs, Drugs and Pharmaceuticals, etc.

(5) Department of Heavy Industry (Ministry of Industry and Civil Supplies)  
Iron and Steel Structure, Machinery and Equipment.

(6) Department of Industrial Development (Ministry of Industry and Civil Supplies)  
A wide range of Chemicals, Equipment and Instruments.

(7) Department of Electronics  
Electronic Equipment and Components.
1.2.2 Directorate-General of Technical Development

The Directorate General of Technical Development (formerly known as the Development Wing, in the erstwhile Ministry of Commerce and Industry), an attached office under the control of the Department of Industrial Development functions as a technical consultant to the Government of India. It is the major source of information about the industrial sector - regulatory, technical and statistical [2]. It is responsible for assisting in the planning and development of industries to secure a well balanced and properly coordinated pattern of industrial growth of the country, in conformity with the Industrial Policy Resolution 1956. In fact, its charge of formulation and execution of development plans covers all the industries, other than iron and steel, textiles, jute, sugar, vanaspati, and petroleum. About 3,500-4,000 production units involving 75,000 items of products, raw materials, components and spares, etc. are borne on its registers.

Some of its major functions are:

(i) collection and compilation of industrial data relating to installed capacity, actual production, employment position, stock prices, etc., as well as appraising their trends to the ministries concerned;

(ii) examination, from technical angle, of applications received under the Industries (Development and Regulation) Acts, 1951 for establishing new industrial units or for effecting substantial expansion of existing production units;

(iii) advising on collaboration terms in respect of industries seeking foreign collaboration; and

(iv) scrutinising applications for import of capital goods, raw materials.

1.2.2.1 Integrated Information System [3]

In view of the ever-growing need for precise and timely information for planning and industrial development, the organisation had planned to introduce a computer-based integrated information system which envisages, among others, the establishment of:

(i) a machinery for the collection and compilation of industrial data;

(ii) codification of industries, products, and reporting units;

(iii) data bank comprising products and industry files; and

(iv) collection of norms adopted by the directorate for processing import, industrial licensing and other applications.
INDUSTRIAL DATA SYSTEM

In developing this system, DGTD was first guided by Booz Allen and Hamilton International Inc., a management consultancy organisation. The organisation submitted its report in February 1966. After three years, the work of conducting a system study and subsequent designing and implementing this information system was entrusted with the Indian Institute of Management, Calcutta, in February 1969. The first two phases of the assignment involving the conceptual framework of the system and its design have been completed. The third phase comprising (a) programming, debugging, and final testing of programmes, and (b) data collection and creation of data base is in progress. In this phase, the priorities are:

(i) compilation of monthly production statistics; and

(ii) analysis of import licences for raw materials, industrial licences, capital goods licences and foreign collaboration data.

To facilitate collection and processing of data on production, the "monthly production return" has been redesigned in 1975. In order to monitor the half-yearly progress made in the establishment of industrial undertaking the "G" form as prescribed under Rule 19 of the Registration and Licensing of Industrial Undertakings Rule 1952, has also been suitably modified.

However, the Integrated Information System is yet to start functioning in spite of the recommendations of the Estimates Committee of the Parliament for expeditious introduction of the System [4]. The basic information about the industrial sector, production data, are available with considerable time-lag.

1.2.2.2 Publications

The Public Relations and the Publications Directorate of the Directorate-General of Technical Development brings out several serial publications concerning the industries falling within its scope:

Handbook of Indigenous Manufacturers of Engineering Stores (Updated frequently)

Handbook of Indigenous Manufacturers of Chemical and Miscellaneous Stores (Updated frequently)

Handbook of Industrial Data (Updated frequently)

Annual Report (presents a comprehensive review of the industrial science with statistical data)

Two recent ad hoc publications are worth mentioning:

Handbook of Foreign Collaborations (1974)

The Directorate-General announced in 1972 its intention to introduce a quarterly Journal of Industrial Development which had not yet materialised.

2 Review of the Available Data

While describing the various statistical data in this section, it will be found that the data are presented in accordance with some classification scheme. This section, therefore, begins with a description of the industrial classification schemes. This is followed by the review of three categories of data described in Section 1.

2.1 National Industrial Classification, 970 (NIC - 1970)

An Industrial classification scheme is essentially the classification of economic activities which produce goods and services.

A wide variety of classification schemes are now in use in India. In the field of labour statistics, three different types of classification schemes are used, one of which is compiled by the Labour Bureau. The Directorate General of Employment and Training has been using the Standard Industrial Classification evolved by it in 1958. This scheme was also used for the 1961 population census. ASI uses its own scheme for the census sector while for the sample sector the Labour Bureau's scheme is used. The Central Statistical Organisation has evolved in 1962 the National Standard Industrial and Occupational Classification which is used for the classification of industrial production data. This scheme at the third digit level has also been in use in the recent rounds of National Sample Survey.

In order to achieve comparability of statistical data available from various sources of different dimensions of the economy, a standardised national classification system is an imperative necessity. As a matter of fact, to facilitate international economic comparison, it is necessary to link up the national scheme with the international scheme. An attempt to achieve this was initiated in 1964 and 16 organisations which are required to use classification schemes participated in the deliberations. The result has been the designing of the National Industrial Classification, 1970 (NIC - 1970) [5]. The scheme has absorbed the major features of the revised International Standard Industrial Classification, 1968. In future, all kinds of economic data will be classified by the NIC - 1970.

The scheme provides for classification at (i) one-digit level (representing Division); (ii) two-digit level (representing major groups); (iii) three-digit level (representing groups); and (iv) four-digit level (representing sub-groups).

2.2 Statistics of Production

The data on production are collected by various agencies, each one being responsible for a specific industry or a group of industries. The Directorate-General of Technical Development (DGT) is responsible, among others, for the collection and compilation of data relating to installed capacity and production in respect of a wide range of manufacturing industries; DGT is thus the most comprehensive source of information about this topic. Section 2.2.1 discusses the comprehensive sources, while Section 2.2.2 deals with sources relating specific industry or group of industries.
2.2.1 Comprehensive Source

The most comprehensive source of production data is the Monthly Statistics of the Production of Selected Industries of India (MSPSI) compiled by the ISW. DGTD provides data in respect of about 30% of the 442 items normally included in the publication produced by manufacturing units having fixed assets of more than Rs. 7.5 lakhs. Data for the remaining items are furnished by the following 14 regulatory agencies:

<table>
<thead>
<tr>
<th>Industry</th>
<th>Source</th>
</tr>
</thead>
<tbody>
<tr>
<td>Coal including Lignite</td>
<td>Coal Controller, Calcutta.</td>
</tr>
<tr>
<td>Minerals (except Petroleum but including Gold)</td>
<td>Indian Bureau of Mines, Nagpur.</td>
</tr>
<tr>
<td>Sugar and Vegetable Oil Products (Vanaspati)</td>
<td>Chief Director, Directorate of Sugar and Vanaspati, Delhi.</td>
</tr>
<tr>
<td>Coffee</td>
<td>Indian Coffee Board, Bangalore.</td>
</tr>
<tr>
<td>Tea</td>
<td>Tea Board, Calcutta.</td>
</tr>
<tr>
<td>Salt</td>
<td>Salt Commissioner, Jaipur.</td>
</tr>
<tr>
<td>Cotton and Wool, Art Silk Fabrics, and Textile Machinery</td>
<td>Textile Commissioner, Bombay.</td>
</tr>
<tr>
<td>Jute</td>
<td>Regional Office (Jute Development), Calcutta.</td>
</tr>
<tr>
<td>Electricity</td>
<td>Central Water and Power Commission (Power Wing), Delhi.</td>
</tr>
<tr>
<td>Iron and Steel</td>
<td>Iron and Steel Controller, Calcutta.</td>
</tr>
<tr>
<td>Petroleum Products</td>
<td>Ministry of Petroleum and Chemicals</td>
</tr>
<tr>
<td>Railway Wagons</td>
<td>Railway Board, Delhi.</td>
</tr>
<tr>
<td>Railway Locomotives</td>
<td>Chittaranjan Locomotive Works, Chittaranjan, and Tata Engineering and Locomotive Co. Ltd., Jamshedpur.</td>
</tr>
<tr>
<td>Other Industries</td>
<td>Directorate-General of Technical Development, Delhi.</td>
</tr>
</tbody>
</table>

The returns on the basis of which the production and stocks statistics are estimated are voluntarily submitted to these agencies (including) DGTD, except in the case of coal, sugar, salt, cotton textiles, woolen textiles, iron and steel, all minerals...
except petroleum and gold where the collecting agencies have statutory powers to call for returns. Production data in respect of small units are excluded.

The publication covers the following [6]:

1. All-India data regarding (a) reporting units, (b) installed capacity, and (c) production and stocks.

2. State-wise production of about 79 selected industries

3. Index of Industrial Production (Base 1960=100)

The industries are classified according to the National Standard Industrial and Occupational Classification. For each item, monthly averages of latest five years and actual data for the latest 13 months are given.

The MSPSI is, however, very irregular. Only three issues were published, covering the data for the reference period, October 1969-June 1971:


Vol 22, No 2 - May 1971 (presents inter alia monthly data for the period May 1970 - May 1971) released early 1973

Vol 22, No 3 - June 1971 (presents inter alia monthly data for the period June 1970 - June 1971) released late 1973

An issue for March 1972 containing, inter alia, monthly data for the period March 1971 - March 1972 was promised but was not published.

According to the ISW, the production data are received in its office "from the concerned agencies with a time-lag of about 12 weeks. The compilation of production data and computation of index take about two weeks. The statistics is thus available with a time-lag of about sixteen weeks. But on account of printing delays, the published data become available only after a considerable interval [7]. With a view to making the data available to the users as soon as they are ready, a mimeographed publication, Monthly Bulletin Showing Production of Selected Industries of India and the Index of Industrial Production was introduced, containing the data for November 1968. The publication was made available free to selected institutions. The Bulletin provided provisional data for the current three months, in respect of about 312 items with an average time-lag of about 26 weeks. (For example, the data for February were released in late September 1972). However, this time-lag continued to increase. The data for the period April-September 1973 could be published in a combined issue released in late April 1974. With effect from the reference month October 1973, the title of the publication (continues to be a mimeographed document) has been changed to Monthly Production of Selected Industries of India and has been made a priced publication.
INDUSTRIAL DATA SYSTEM

To sum up the situation:

(i) Beyond June 1971, Production data are available for about 312 items instead of 442 items which used to be covered by the Monthly Statistics. Either some items have been dropped or aggregated data for a group of items are provided.

(ii) Access to detailed production and index data for the period June 1971 - September 1973, has become very difficult, since the copies of the ad hoc Monthly Bulletin are not readily available.

(iii) Current data as well as monthly averages for the years 1971-73 are available in respect of selected items only from Monthly Abstract of Statistics. The time-lag is about seven months. For example, data for September 1974 are available by the end of April 1975 (published in the March 1975 issue).

(iv) Beyond 1971, no data pertaining to stock position are available.

Other sources in which data relating to selected items are published are:

(i) Statistical Abstracts, India (Annual data for selected industries).

(ii) Report on Currency and Finance (Data in respect of 40 items/group of items are presented under four "use-based" groups: (a) Basic Industries, (b) Capital Goods Industries, (c) Intermediate Goods Industries, (d) Consumer Goods Industries)

(iii) Reserve Bank of India Bulletin includes one table of production data for 33 selected items.

(iv) Annual Report of the Directorate-General of Technical Development [The report for 1972-73 presented production data (along with number of units, installed capacity, value of production) of about 750 items for 1971 and 1972. The report is thus a very valuable source for disaggregated production data. Also included in the report are capacity licensed as at the end of 1972, and capacity utilisation in major industries during 1972].

The National Data Institute (Kanchenjunga, 1st Floor, Barakhamba Road, Delhi 110001) proposes to set up a computerised National Product Bank consisting of four data files, viz., product, capacity, production and technology. The system would be able to provide information according to product or industry, State, district, town or village and obtain instant computer print-outs of licensed and installed capacities, production, etc., as and when required [8]. There is, however, no indication that this venture has made any headway.
2.2.2 Sources for Specific Industries

Generally the regulatory agencies pertaining to specific industries are required to collect, process, and disseminate data for the products coming within their purview. Some examples are given below:

(i) The Office of the Cement Controller publishes a comprehensive annual statistical document entitled Cement Production and Despatches.

(ii) Indian Bureau of Mines publishes a comprehensive statistical review entitled Indian Minerals Yearbook. For disseminating current information it has a bi-monthly publication, Bulletin of Mineral Statistics and Information.

(iii) The Office of the Textile Commissioner presents a general review of the textile industry and comprehensive statistical data on different facets of the industry through its monthly journal Indian Textile Bulletin. Annual statistical data relating to machinery and equipment in the cotton mills are published in a special issue of this journal.

Similar data are also published by Chambers of Commerce and industrial associations. For example, the Fertiliser Association of India brings out two serial publications, viz., Fertiliser Statistics and Production and Consumption of Fertilisers - Annual Review.

Another source of statistical data is the reports of the various committees and commissions. The Report of the Committee on Drugs and Pharmaceutical Industry is a case in point. The report of the Tariff Commission on the fair selling prices of drugs and pharmaceuticals, similarly contains useful production data.

2.3 Index Numbers of Industrial Production (INIP)

The index numbers of industrial production indicates changes over time in the volume of production in the organised industrial sector and measures at regular intervals the general movements in the volume of industrial output. The following series of index numbers preceded the current series [9] with Base 1960 = 100:

(i) Interim Index of Industrial Production (Old Series) (Base 1937=100). The series covered 15 industries in three sectors - manufacturing, mining, and electricity. The series was discontinued in 1949;

(ii) Interim Index of Industrial Production (New Series) (Base 1946=100). Introduced in January 1949, this series covered 36 items of 20 industries. It continued up to April 1956;

(iii) Revised Index of Industrial Production (Base 1951 = 100). The publication of this series started from the October 1955 issue of the MPSPI and covered 88 items of production; and

(iv) Index of Industrial Production (Base 1956 = 100). In accordance with the recommendations of a Working Group which looked into the adequacy of the
INDUSTRIAL DATA SYSTEM

index numbers, another revised series covering 201 items of production was first published in the July 1962 issue of the Monthly Statistics.

The current series of INIP [10] with Base 1960 = 100 are based on regular monthly series for 317 items and annual series of 125 items. Though the published index is based on regular monthly series for 317, the weighting diagram is drawn up on the basis of the total 442 items with a view to using the same set of weights for the regular monthly index and the annual index covering the additional items as well. While compiling the monthly index for a sub-group, if any item for which regular monthly series are not available occurs in that sub-group, the weight of that sub-group is adjusted by dropping the weight of such item. However, no such adjustment is made while computing the group index from such sub-groups. This method is followed at all the stages.

The general (i.e., overall) INIP is the weighted arithmetic mean of the indices of the constituent items. The weights are proportional to the value-added by manufacture in the base year (i.e., 1960) to different items at the three-digit level of industrial classification according to the ASI-60 covering both the census and sample sectors.

The crude general index of every month is adjusted for seasonality by appropriate seasonal factors derived from the crude general index on the basis of twelve-month moving average method.

INIP was first included in the September-October 1967 issue of MSPSI. The publication used to provide group and sub-group indexes for the current 13 months and the crude as well as seasonally adjusted monthly general index since 1961. As mentioned in Section 2.2.1, MSPSI has been superseded by Monthly Production of Selected Industries in India. It gives only the current three months' data (including the crude and adjusted general index) in each issue.

The data are also reproduced in the following publications:

(i) Monthly Abstracts of Statistics: gives general, group and sub-group indexes for the current 14 months and annual data for the latest four years.

(ii) Reserve Bank of India Bulletin: gives general index (unadjusted and adjusted) and sub-group indexes arranged under four headings - basic industries, capital goods industries, intermediate goods industries, and consumer goods industries (durable and non-durable). Data are given for the current six months and current five years. Similar data are also published by the Bank in the Report of Currency and Finance.

(iii) For retrospective data, Statistical Abstracts, India is the useful source.

2.3.1 Reserve Bank of India Derived Series [11]

As has been mentioned in the preceding section, the revised series of INIP is classified and published according to Standard Industrial Classification. Since for analytical purposes this classification system was found inadequate, the Reserve Bank of
India reclassifies and re-arranges the items in the INIP into four major groups on the basis of use-base classification, viz.,

(i) Basic Industries;
(ii) Capital Goods Industries;
(iii) Intermediate Goods Industries; and
(iv) Consumer Goods Industries.

The index numbers for these four groups derived from INIP by the Bank are published in the Reserve Bank of India Bulletin. From July 1970, two more derived series have been introduced. In one, items are rearranged under three major input based industries viz., (i) Agro-based industries; (ii) Metal-based Industries; and (iii) Chemical-based Industries. In the other, the relevant items are rearranged under two sector-based groups, viz. (a) Transport Equipment and Allied Industries; and (b) Electricity and Allied Industries.

2.4 Production Capacity and Capacity Utilisation Data

The Statistical Intelligence Division, in the Department of Statistics of the Reserve Bank of India (RBI), has attempted at measuring the production capacity and capacity utilisation [12], using a variant form of the "trend-through peaks method" developed at the Wharton School [13]. Instead of using the terms, measures of "Production Capacity" and "Capacity Utilisation", the RBI had used "Index of Potential Production or Potential Indices, and Potential-Utilisation Ratios, or briefly, the Utilisation Ratios or Rates."

Potential for any given industry has been defined as the peak (maximum) monthly level of production attained for that industry at the point of time or prior to it at which potential is measured." This definition assumes that potential of an industry once built up, does not normally decline in subsequent period. Thus, if the peak monthly production for a given year is lower than that of the previous year, the earlier peak will be taken as the potential for subsequent years till a new higher peak is attained. Potential-Utilisation ratio for an industry/industry-group has been defined as the percentage ratio of the average monthly production index to the potential production of the industry/industry-group, during the period of one year.

The Index of Potential Production (IPP) (Base 1960 = 100) is constructed using the current series of INIP which has also the base 1960=100. The potential-utilisation ratio (PUR) is then derived from the IPP and INIP. Data relating to IPP and PUR have so far been computed for the years 1960 to 1971 for 72 manufacturing industries which account for 82 per cent of the weights in INIP [14].

As is done in presenting INIP data in the Reserve Bank of India Bulletin, the industries are arranged according to use-based and input-based classifications.

Data in respect of installed capacity of different factories were also collected through National Sample Survey for the period 1961-1968. However, this data have not been tabulated so far [15].
2.5 Annual Survey of Industries [16]

The enactment of the Industrial Statistical Act 1942 facilitated the systematic collection, compilation and dissemination of industrial data. In accordance with the provisions of the Act and the Census of Manufacturing Industrial Rules (1945) framed thereunder, the Census of Manufacturing Industries (CMI) was initiated in 1946. CMI covered 29 out of the 63 industry groups.

In order to increase the scope of the survey, Sample Survey of Manufacturing Industries (SSMI) was introduced in 1950 (the reference year being 1949) on a voluntary basis which covered all the 63 groups. Thus, there was inevitable duplication in respect of the industries covered by the two surveys.

With effect from 10th November 1956, the 1942 Act was replaced by the Collection of Statistics Act, 1953 (Act No. 32 of 1953) in order to avoid duplication and to adopt a programme of integrated collection of industrial statistics. Accordingly, the Collection of Statistics (Central) Rules 1959 under the 1953 Act were framed providing for a comprehensive ASI as from the reference year 1959. The ASI thus replaced both the CMI and the SSMI.

The CMI data are available for the period: (i) 1944-1945 (on voluntary basis); and (ii) 1946-56 (on statutory basis); and (iii) 1957-58 (on voluntary basis). The SSMI data are available for the period 1949-58.

ASI is a continuing survey carried out from year to year. Till April 1973, twelve rounds (i.e., ASI-59 to ASI-70) were completed. Normally a new round of survey is undertaken on completion of about 90% work of the preceding round. The objectives of the survey are:

(i) estimation of the contribution of the manufacturing industries as a whole and of each unit to the national income;
(ii) systematic study of the structure of the (a) manufacturing industries as a whole, (b) each type of industry, and (c) each industrial unit;
(iii) causal analysis of the various factors influencing industries; and
(iv) provision of comprehensive factual and systematic basis for policy formulation.

2.5.1 Coverage

The unit of survey under ASI being the factory, the industrial units registered under section 2(m) (i) and 2(m)(ii) of the Factories Act 1948, constitute the frame. These sections refer respectively to factories using power and employing 10 or more workers and factories not using power but employing 20 or more workers on any day in the preceding 12 months. ASI has also extended the survey to public utilities like water supply, sanitary services, electrical undertakings, etc. Factories located in Jammu and Kashmir are covered on a voluntary basis since the Act does not apply to this State.
ASI is conducted in two sections - census sector and sample sector. Factories in which the manufacturing process is carried out with the aid of power and which employ on the average 50 or more persons as well as those in which no power is used but employ 100 or more persons. Electrical undertakings are completely enumerated irrespective of size of manpower. Remaining registered factories constitute the sample universe. The field of work for both the sectors are conducted by the Field Operations Division of the NSSO.

At the instance of the erstwhile Ministry of Industrial Development and Company Affairs, commencing from ASI-66, specified groups of industries in the small sector are being completely surveyed every year. Thus, four specified groups have been covered since ASI-66, viz., ASI-66 & 67. Metal and Metal-based industries; ASI-68 - Chemicals; ASI-69- Textile group; and ASI-70 - remaining industries. All the factories falling under these industry groups were covered irrespective of their being included in census and sample lists. Excluding those covered in census and sample sectors, the remaining factories are grouped as Residual Small Scale Industries (RSSI). The factories owned by cooperative societies were covered for the first time in ASI-67 on a complete enumeration basis.

ASI returns meet the needs of several user organisations, e.g., Central Statistical Organisation, Labour Bureau, Department of Industrial Development, National Buildings Organisation, besides the State Governments. Currently, the returns consist of four parts covering the following elements of information.

Part - I - power equipment, capital, installed capacity, employment, emoluments, inputs and outputs;

Part - II - man-day worked, absenteeism, labour turnover, man-hours worked, earnings, and social security benefits.

Part - III - stocks and sales of products and imported materials consumed; and

Part - IV - residential tenements constructed/purchased and their cost.

Part I was introduced since the inception of the ASI which, however, underwent several changes in respect of the detailed item from time to time. Part II was introduced at the instance of the Labour Bureau since ASI-61 [17]. As regards the sample sector, the return now consists of only Part I.

Since the commencement of ASI till the completion of ASI-65, the reference period for collection of data relating to most of the industries was the "calendar year" (i.e., from January to December). For operational convenience, from ASI-66, the reference period was changed to the "accounting year" of the factory which ends between 1st April of the reference year and 31st March of the succeeding year. For example, a ASI-69 covers factories which closed their accounts on any day during 1st April 1969 - 31st March 1970.

Since ASI-67, combined summary of results of both the sectors are being published by the ISW in Annual Survey of Industries - Summary Results for Factory Sector. The publication is based on the summary block (Block 2) provided in the ASI returns which contains information about 17 principal characteristics of the
The first part, among others, reviews the survey while the second part, presents data relating to 17 principal characteristic in the following forms:

(i) aggregated data (all-India and all-industries combined)
(ii) industry-wise data (all-India)
(iii) State-wise data (all-industries combined)

For each characteristics, data on sample and census sectors are given separately. It also gives break-up of the data of census factories according to large units and small-scale units (i.e., those having a gross investment in plant and machinery of Rs. 10 lakhs or less). Data on percentage change in output and value-added to industries, and the relative contribution of census or sample sectors in selected items for each State are presented in two tables.

ISW also publishes for limited circulation, Annual Survey of Industries - Capital Employment and output - Estimates for Factory Sector by Capital size.

ASI reports for the census and sample sectors are also published separately. These documents have been described in the next two sections.

### 2.5.2 Census Sector

Although data for the census sector is collected by the Fields Operations Divisions of the NSSO, they are processed and published by the ISW. Census sector data are published in 10 volumes. The first volume gives, among others, two tables viz, (i) State-wise summary of (all-Industries combined), and (ii) industry-wise summary (all-India data). The following elements of information are covered in the table:

i) number of factories;
ii) capital employed;
iii) manpower;
iv) wages, salaries, benefits, etc;
v) inputs and outputs;
vi) man-hours worked;
vii) value-added by manufacturer; and
viii) percentage of wages, salary, etc. to value-added.

Other tables present industry-wise data on the following topics:

i) power equipment;
ii) value of additions to fixed capital and other transactions; and
iii) quantity of electricity purchased, produced and sold.

The Appendix gives (i) the text of Collection of Statistics Act and the corresponding rules, (ii) classification system for the industries, (iii) definitions, concepts, and procedures pertaining to ASI, and (iv) forms of returns. The remaining nine volumes present State-wise data for each industry. The following tables (each table containing appropriate break-up data) are given for each industry:
i) number of factories;
ii) productive capital employed;
iii) manpower, man-hours and emoluments;
iv) fuel, electricity, etc., consumed;
v) materials consumed;
vi) products and by-products manufactured;
vii) value-added by manufacturer; and
viii) summary by accounting period of factories.

The industries covered in ASI are classified in accordance with a scheme designed for the purpose. The scheme covers 26 major industry groups (two-digit classification) divided into 75 groups (three-digit classification). Some industries are further sub-divided into sub-groups (four- and five digit classification). Approximately, 269 groups/sub-groups are annually reported in ASI. ASI has now adopted NIC-70 mentioned in Section 4.1.

At present the survey period extends over about 22 months and it takes about another 12 months for collecting the returns from the field agency. The latest publication relates to the survey for 1966. Till the end of 1975 there were no further ASI reports.

The over-all response from the factories in the census sector is satisfactory as will be evident from the following data in respect of ASI-69.

**State-wise Response**

<table>
<thead>
<tr>
<th>Response %</th>
<th>Number of States/Union Territories</th>
</tr>
</thead>
<tbody>
<tr>
<td>100</td>
<td>3</td>
</tr>
<tr>
<td>97-99.2</td>
<td>12</td>
</tr>
<tr>
<td>93-96.2</td>
<td>5</td>
</tr>
<tr>
<td>89-80.0</td>
<td>3</td>
</tr>
<tr>
<td>50.0</td>
<td>1</td>
</tr>
<tr>
<td>96.7</td>
<td>24</td>
</tr>
<tr>
<td>(All-India)</td>
<td></td>
</tr>
</tbody>
</table>

**Industry-wise Response**

<table>
<thead>
<tr>
<th>Response %</th>
<th>Industry Groups</th>
</tr>
</thead>
<tbody>
<tr>
<td>100</td>
<td>22</td>
</tr>
<tr>
<td>95.4-99.7</td>
<td>23</td>
</tr>
<tr>
<td>90.9-94.5</td>
<td>11</td>
</tr>
<tr>
<td>81.8-89.9</td>
<td>4</td>
</tr>
<tr>
<td>96.7</td>
<td>60</td>
</tr>
<tr>
<td>(All-Industries)</td>
<td></td>
</tr>
</tbody>
</table>

Provisional summary results are published separately under the title, Annual Survey of Industries-Census Sector (Provisional Results) - General Review.
Publication is in three parts. Part I is a summary review. Part II gives the industrial classification at 3-digit level. Part III comprises three tables:

i) Industry-wise summary (all-India);
ii) State-wise summary (all-industries combined); and
iii) State-wise data for each industry.

In tables 1 and 3 data are presented up to 3-digit level of industrial classification. Like the Annual Survey of Industries - Summary Results for Factory Sectors, mentioned in section 2.5.1, this general review is based upon the summary block (Block 2), provided in the ASI returns. The data similarly cover 17 principal characteristics of the factory.

2.5.3 Sample Sector

The sampling design for the sample sector is a stratified uni-stage one where the State-cum-industry classification forms the strata. The sample size for different strata are decided upon with a view to providing usable estimates for (i) each industry at all-India level, (ii) each State for all industries taken together, and (iii) two major industries in each State (i.e., first two industries when arranged in order of their industrial employment in the concerned State). The sample in any stratum is drawn in the form of two inter-penetrating sub-samples each of size half the allocation to that stratum. The two sub-samples are selected in circular systematic manner and without replacement in such a way that there are no common units between them. A stratum is completely enumerated when (i) its allocation is more than the total number of factories in it (ii) the number of factories in it is small, and (iii) the difference between the total number of factories in it and its allocation is small. Several States/Union Territories are completely enumerated. Since ASI-68, it was decided to cover the entire sample universe in three years and, therefore, one-third of the sample universe was covered in each of the three surveys, viz, ASI-68, ASI-69, and ASI-70. The industries having less than 100 units in the sample universe on all-India basis were also decided to be completely enumerated. Thus the number of factories allotted (Sample size) rose from 6,187 in ASI-67, to 15,827 in ASI-68. The corresponding figure for ASI-70 is 21,427. In ASI-71, the sampling design has been reduced to 25% instead of one-third. The sample sector on the whole account for less than 20% of the value-added and employment in the registered factories sector [18].

The field work is conducted by the Field Operations Division of the NSSO. The data are processed and published by the NSSO in National Sample Survey Series in two stages:

(i) Tables with Notes on the Annual Survey of Industries - Sample Sector - Summary Results

(ii) Tables with Notes on the Annual Survey of Industries - Sample Sector - Detailed Results
The following tables are presented in the publication.

Table I - Estimates of selected items (all-india) for all-industries as combined by sub-sample;

Table II - Estimates of Selected items (State-wise) for all-industries by sub-sample; and

Table III - Estimates of selected items for each industry (all-India) by sub-sample; and

Table IV - Estimates (for sampled strata) and aggregates (for complete enumeration strata) of selected items for each State by industry and by sub-sample (for sampled strata).

The term "items" mentioned above refers to various dimensions of industrial activities. In the publication containing summary results only about 16 items out of the total 89 items of activities are considered. The detailed results cover 89 items in Table I & III, and 45 items in the Tables II & IV.

2.5.4 Time Series Data Based on CMI and ASI

The terms of reference of the National Commission on Labour provided for study and report, inter-alia, on "levels of workers" earnings, provisions relating to wages, the need for fixation of wages including the provision of incentives of workers". Accordingly, the Secretariat of the Commission examined the data available in the CMI (1946-1958) and the ASI (1959-1964). The data available from these two publications were retabulated and published and presented under the title Statistics of Selected Manufacturing Industries. The publication is in three parts:

Part I: All-India Summary Tables and Industries for which Continuous Time Series are Available for the Period 1946 - 1964.

Part II: ... ... for the period 1946-1958.

Part III: ... ... for the period 1960-1964.

As is evident from the title, only those industries for which continuous time series were available were included in these publications. Part I covers both CMI as well as ASI data, while Parts II and III are limited to CMI and ASI data, respectively. Parts I and II cover 15 industries each, while Part III covers 21 industries. Due to differences in coverage and the method of data collection as between CMI and the ASI, results are not strictly comparable. Data relating to ASI are limited only to the census sector and are given for all the years, i.e., 1960-1964. In the case of CMI, data for the period 1946-1958 are given at intervals of three years.

For each industry, three tables for each State have been presented:

(i) Main Characteristics (i.e., number of registered factories, percentage covered, productive capital, employees, man-hours worked, wages, salaries and benefits, gross inputs and output, value-added by manufacturer);
(ii) Selected Indicators relating to the characteristics; and

(iii) Economic Ratios (based on the characteristics).

The Appendix of Part 3 gives percentage of wages to gross output.

2.6 Unorganised Industrial Sector

Although the industrial activity of a large number of units not covered by the Factories Act, 1948 is very significant, not much statistical information is available for this unorganised sector. There are four significant sources of data about the sector:

(i) ad hoc surveys made by the State Governments;
(ii) National Sample Survey;
(iii) A Comprehensive Survey Sponsored by the Union Government; and
(iv) Boards/Commissions in the cottage and village industries sector.

2.6.1 Ad hoc Surveys

Several ad hoc surveys of widely divergent scope were conducted with specific objective by different States at different points of time. The available data are, therefore, neither comparable, nor can all-India estimates be worked out on their basis. A perusal of the Sample Surveys of Current Interests (Vol. 1, 1949/50) published by the Central Statistical Organisation will give an indication of the nature of the surveys [19]. However, the information given in the publication is not comprehensive since several all-India Boards like Khadi and Village Industries Commission, Coir Board, also regularly undertake sample surveys and ad hoc studies with a limited purpose. They are not covered by this publication.

2.6.2 National Sample Survey

Information regarding small-scale manufacturers was collected in several rounds but an organised effort was first made during the 7th round carried out from October 1953 to March 1954. The approach of the survey "was through households which were engaged in small scale manufacture and handicrafts enterprise at least in the subsidiary characteristics for one day during the last 365 days prior to the date of listing" [20]. The survey covered all activities in a small-scale sector described under the major group codes 2, 3 and 4 of the International Standard Industrial Classification, Government agencies, joint stock companies and other non-household enterprises engaged in small-scale industries were outside the scope of the survey. Also excluded were the manufacturing industries covering all establishments (including household)
registered under Factories Act 1948. The survey thus does not overlap ASI, but complements the ASI data. The reports are published as a part of the series of National Sample Survey [21]. In the Report No. 94 relating to the Fourteenth Round, for each industry group, estimates have been provided for the following items:

(i) number of manufacturing households;
(ii) number of workers engaged per working day;
(iii) working days in a month;
(iv) hired labour charges;
(v) output; and
(vi) fuel, lubricants, raw materials, and other expenses.

Two separate sets of data are presented for rural and urban areas.

The collection of data on household enterprises continued through eighth, ninth and tenth rounds. The schedule was again canvassed during the fourteenth and twentieth rounds. Several modifications were, however, introduced in the subsequent rounds. In the twentieth round, renewed efforts were made to cover the non-household manufacturers and a separate schedule was canvassed for collection of data. New blocks of inquiry have since been introduced on the availability of raw materials, State assistance, working capital, and outstanding loans. A stratified two-stage sampling design was adopted in this round but efforts were made to increase the size of samples and improve the representative character of the samples. Results of the twentieth round were not available till the end of 1975. The draft report No. 229 reporting the results of non-household sector is with the Government for clearance and publication. The household sector data are still under process.

2.6.3 Comprehensive Survey

The Ministry of Industrial Development launched in 1968-69 a Centrally-sponsored scheme to be operated by the State Departments of Industries/State Statistical Bureaus for the survey of the unorganised industrial establishments. The Central Statistical Organisation survey is responsible for technical coordination to ensure uniformity in the survey. The scheme, divided into four phases, envisaged a complete enumeration of all the units. If, however, for an industrial sub-group (fourth digit level) the number of units at the district level was more than 100, sampling might be resorted to. The four phases are as under:

(i) a quick census for preparing a comprehensive list of industrial units to be covered by the survey leading to the compilation of State-wise directory;
(ii) detailed survey through a schedule of enquiry finalised by the Central Statistical Organisation which covers details of operation, power used, capital, outstanding loans, employment and emoluments, inputs and outputs;
(iii) tabulation of the State and district tables by the State authorities; and
(iv) aggregation of State tables to generate all-India tables by the Central Statistical Organisation.
The scheme is expected to cover about 1.6 lakhs of small industrial units and collect comprehensive statistical data from them. However, the progress of the scheme has been woefully disappointing.

2.6.4 Boards/Commissions

There are several Boards and Commissions in the Cottage and rural industries sector, like Handloom Board, Sericulture Board, Khadi and Village Industries Commission (KVIC). These organisations often bring out ad hoc survey reports, publish annual reports, and occasionally disseminate statistical data in their house journals. The annual report of the KVIC is accompanied by a statistical supplement containing data about 22 industries.

2.7 Industrial Establishments - Decennial Census Data

2.7.1 1961 Census

At the 1961 Census, for the first time, comprehensive data were collected on census houses, and among others, two tables were prepared on full count. One table (Table E-I) relates the uses to which census houses are put, while the other (Table E-III) classifies census houses used as workshops and factories (i.e., as industrial establishments) (i) by nature of industry (using Standard Industrial Classification); (ii) kind of power used (electricity, liquid fuel, coal, wood or bagasse; and other/no power); and (iii) size of employment (classified into seven categories depending on the number of persons employed). Parts IV (A) and IV (B) of the census publications (All-India as well as State/Union Territory Series) contain the report of Housing and Establishments and Housing and Establishment Tables, respectively.

In the All-India series of the census documents (i.e., Vol. I), the Table E-III presents data pertaining to India, States, Union Territories, and big cities with population of one million and above. Separate data for urban and rural areas are given in respect of the first three categories. The All-India series gives three subsidiary tables relating to each State, Union Territory/other area, and big cities:

(i) E-III.1 - Proportion of establishments according to divisions, major groups, and selected minor groups (i.e., one, two and three digit-level classification) to 1,000 establishments;

(ii) E-III.2 - Distribution of 1,000 establishments in each kind of fuel by size of employment; and

(iii) E-III.3 - Distribution of 1,000 establishments in each division, major groups, and minor groups by kind of fuel or power used.

In the State/Union Territory series, E-III tables present data for (i) the State/Union Territory as a whole, and (ii) each district, (separately for rural and urban areas) as well as for each city and town having a population of 50,000 and over.

Although the data have been compiled down to the Anchal level, they have not been included in Volume IV(B) of the State/Union Territory series. Statistics of village...
industries extracted from the census house data have been included in the District Census Handbooks and the Village Directories.

2.7.2 1971 Census

At the 1971 census, a separate establishment schedule was canvassed to collect a variety of information on manufacturing, trade as well as other establishments run in the census houses. This schedule provides a more or less complete frame of all establishments in the country. The E-series Tables compiled on full count basis are entirely devoted to establishment data which are being published as the Part III (Establishments Report and Tables) of both the All-India and State/Union Territory Volumes. Of the four tables in the E-Series, the following are concerned with manufacturing, processing, or servicing (Industrial) establishments:

(i) Table E-I, a new one introduced in 1971 census, gives the distribution of all establishments by three broad categories, viz., (a) industrial establishments, (b) trade or business establishments, and (c) other establishments in each of the government or quasi-government, private or and cooperative sectors of the economy. The industrial establishments are further classified as registered factories, unregistered workshops, and household industries.

(ii) Table E-II A gives information about industrial establishments other than household industries under two categories - registered factories and unregistered workshops, classified by size of employment in each Division/Major Group of NIC-1970.

(iii) Table E-II B presents the distribution of industrial establishments other than household industries classified by industry (using NIC 1970), fuel/power (or manual) used as well as by size of employment.

(iv) Table E-II C presents data similar to those included in the table E-II B in respect of household industries.

In all the tables, data are presented separately for rural and urban areas.

3 Shortcomings and Gaps

In this section, four major dimensions of industrial data shall be considered:

(i) Index Numbers of Industrial Production;
(ii) Statistics of Production;
(iii) Data on Productive Capacity and Capacity Utilisation; and
(iv) Annual Survey of Industries.

The review in this section is largely based on the critical analysis of the data system made by economists in the two seminars on Data Base of Indian Economy [22] organised by the Indian Econometric Society and the Report of the Data Improvement Committee chaired by Dr. S. S. Minhas [23].
The major criticisms about the industrial data system may be summarised as:

(i) availability of data after a considerable time-lag rendering them useless for timely assessment of economic situation;

(ii) methodological shortcomings;

(iii) limitations imposed by non-response and the related problem of adjustment;

(iv) non-comparability of data over time in view of change in the coverage;

(v) classification gap arising out of inability to present the data in a form most useful to the users; and

(vi) absence of certain types of data, i.e., data gaps.

In this section, general observations on time-lag and gaps will be followed by specific comments relating to the shortcomings pertaining to the four major aspects listed in the beginning.

3.1 Time-lag

Curiously enough, the time-lag in the availability of almost all the key economic indicators has increased over time, and there is no indication that the situation will improve in the near future. While in the past, the production index used to be available with a time-lag of 3 months, to-day even the crude data are available with a time-lag of 6-8 months for the use of officials [24]. As has been mentioned in Section 2.2.1 these data are available to non-official users disseminated through official publications after about 14 months. The time-lag in respect of the detailed report of the Annual Survey of Industry has reached an all-time high of about 10 years.

All these facts lead to some basic questions - whether there is any need for these data for taking decisions? What is the quality of decision based on outdated data?

3.2 Data Gaps

Several major data gaps in the industrial data system have been revealed in the course of the various analysis made by the economists:

(i) non-availability of detailed and reliable data from the small scale manufacturing sector involving more than a crore of units/households;[25]

(ii) inadequate data about distributive trade;[26]

(iii) absence of a system of preparing forecasts of industrial output;[27]

(iv) absence of a coordinated effort for compiling input-output tables for industries;[28]
(v) inadequate and inaccurate data about productive capacity and capacity utilisation.[29]

3.3 Index Numbers of Industrial Production

(a) Apart from the time-lag, the Minhas Committee has pointed out three limitations [30] of the production index numbers:

(i) adoption of erroneous correction system for non-responses. For example, wherever the responding units account for 80 percent or more corrective measures are adopted, but no such action is taken if the response is below 80%. The Committee was unable to discern any rationale behind the procedure adopted to adjust data for non-response;

(ii) non-comparability of the index over time on account of changes in the DGTD list, (a) either because of units going out of existence, or because of new units coming into operation; and (b) changes in the criterion for registration/licensing with DGTD. The apparent decline in the rate of industrial growth in 1970 was attributed to the transferance of a number of units to the small sector. No corresponding adjustments were made for the earlier years in order to maintain comparability [31].

(iii) Any item meant for inclusion only in the annual index gets reported in the monthly index as well. This introduces the element of non-comparability to the extent that the variations in the output of the new items differ from output variations in the case of items in the sub-group already included in the monthly index. It does vitiate the usefulness of the data for studying trends in particular groups or sub-groups of industries.

(b) According to Rao, the index of industrial production being Laspeyre type of index number, it generally underestimates the actual change in the industrial scene. Adoption of base-year weights introduces an element of under-estimation, while the adoption of current year weights would introduce some over-estimation [32]. However, this argument has been disputed [33].

(c) The question of changing the base year, has thus been raised from time to time since the present index underestimates the real growth of industrial output because it does not allow for the changing share of different industries in total output. Srinivasan and Vaidyanathan [34], however, had argued that this by itself should not be a reason for changing the base year since growth rate would remain the same. The Data Base Seminar also noted this misunderstanding and misconception and recommended that a new weight base becomes really necessary only when (i) there is a structural change in the sense of changes in the value added per unit of output of items and prices relatives of inputs and outputs; and (ii) a number of new items claiming substantial share of the total value added is being produced during the period between current base period and the proposed base period [35].
3.4 Statistics of Production

Some of the observations made in the preceding section also holds good for the statistics of production since this set of data provides the basis for the compilation of index numbers.

Other shortcomings are:

i) The major shortcoming of this data base arises out of the inability to present data in a form most useful to the potential users. Non-availability of disaggregated production data for several commodities is a case in point.

ii) Inappropriate use of units of measurement to quantify the commodity is another drawback of the production data. For example, in some cases capacity and production are expressed in terms of value which does not convey any meaning. In some cases, installed capacity and production are expressed in value terms while the stock position is indicated by numbers. Venkataraman has referred to this problem faced by him in the course of a study on the underutilisation of industrial capacity [36].

(iii) the problems created by the present form of disseminating production data have already been referred to.

(iv) the capacity stock position and state-wise production data have since been abruptly omitted from the Monthly Production of Selected Industries in India.

3.5 Productive Capacity and Capacity Utilisation

At present there are three sources of information on this topic:

i) ASI

ii) Reserve Bank of India data

iii) MSPSI (It is presumed that this data in the near future will be again included in the concerned publication)

ASI data are comparable to those available in US, Canada, and Norway. While such data in these countries put to use in testing important economic hypothesis regarding economics of large scale production and the form of the production function, ASI data were collected under non-disclosure provisions of the relevant act and, therefore, are not made available even for research purposes [37].

The RBI data have been critically reviewed by Krishna, focussing on the methodological shortcomings [38]. He, however, has observed that despite of the limitations pointed out by him and this series of data is of some value in assessing the inter-temporal trends in capacity and capacity utilisation. As regards the MSPSI data, Krishna, [39] on the basis of the studies carried out in Gokhale Institute,
JS Agency for International Development, NCAER, pointed out several drawbacks of the data. For example:

i) official figures of capacity for the Vanaspati and domestic Refrigerator industries were underestimates;

ii) figures of capacity, in some cases, far exceeds that of production;

iii) to the extent the official basis for assessment of capacity did not take into account technical feasibility considerations, official statistics underestimated the capacity.

3.6 ASI

The major shortcoming of the ASI data is again the considerable time lag with which the reports are made available to the users. The time lag is attributable to the delay in collection, processing and printing of the publications. The sheer dimension of the universe of the survey presents almost an unsurmountable difficulty in making any meaningful coverage and reducing the time-lag. During the second seminar on Data Base of Indian Economy, the ASI data, particularly those related to Sample Sector, was discussed in great details and dissatisfaction at the inadequate coverage of the small sector as well as the unorganised sector was expressed. It was also questioned whether it is possible to meaningfully cover the unregistered sector in which the industrial activity is carried out by households without having any identifiable establishments, and which is carried out by people who are incapable of providing any sophisticated information about the concerned activity [40].

Some other defects of ASI are:

i) sampling fractions of the ASI-Sample Sector are fixed on more or less non-statistical or administrative grounds for different industry-groups. Thus the coverage ranges from 20% to 100%. [41]

ii) The classification of factories as small, medium or large scale on the money value of fixed capital is not satisfactory. [42]

iii) distributive trade needs to be brought within the purview of the ASI. [43]

4 Suggestions for Improvement

We shall not attempt here to enumerate all the suggestions and recommendations made from time to time for improving the quality of industrial data. The two reports of the seminar on Data Base of Indian Economy and the report of the Data Improvement Committee provide relevant information. We shall, therefore, make several general observations and refer to some major recommendations which involve major policy decisions.

At the outset it is necessary to highlight the point that economic data, no matter how good and timely they are, can be meaningfully utilised, provided the user has an appropriately defined analytical framework. Without this pre-requisite, it is extremely difficult to specify the data requirements with any precision. This clarity can be
achieved, provided more and more data are used, wherever relevant for taking policy
decisions. The Data Improvement Committee was struck by the fact that very few
agencies and individuals are hardly aware of the utility of data and the extent of their
availability. [44]

Although it is necessary to strive continuously for further refining the available
data and to attempt to bridge data gaps, making the economic data available within
reasonable time to all concerned is of utmost importance. B.S. Minhas attributed
the lack of timeliness to the absence of analytic tradition on the part of the policy
makers and equally conspicuous absence of a tradition of empirical work in the
economic profession. Most of the ailments of the data system, in fact, may be
attributed to these two factors. He had suggested two methods for encouraging the
producers of one data to do their work in time (i) instituting formal analytical
frameworks for undertaking major policy decisions and (ii) increasing use of empirical
data for economic research. [45]

Considering the importance of ASI as well as the unmanageable volume of the
data involve several suggestions have been made:

i) Instead of canvassing the detailed schedule every year, it would suffice
   if it is canvassed less frequently. A less detailed schedule can be used
   annually. [46]

ii) Improving field scrutiny of data to reduce the desk scrutiny.

iii) Desk scrutiny should be reduced by resorting to sampling

iv) Improving the sampling frame to give wider coverage to the small scale
    sector.

Of late we have been talking about computerised data bank as if it is a substitute
for the analytical work involved in the collection and processing of data. So far no
clear idea has also emerged about the scope and utility of such expensive ventures.
The widely publicised proposed data bank at the DGTD Office still exists on paper.
We do not do whatever is feasible. For example, telex facilities for quick transmission
of data, use of computers for processing raw data, and using of xerox [47] and off-set
printing methods will reduce considerably the time lag. The cost involved is also
marginal.

References

1. For a detailed list of industries under the charge of each ministry, see the
   annual publication INDIA. MINISTRY OF INDUSTRIAL DEVELOPMENT.
   pp. 139-43.

2. For detailed information about the role and functions of the Directorate, see:
   INDIA. MINISTRY OF INDUSTRY AND SUPPLY. Report of the Study Team
   on Directorate-General of Technical Development. (Delhi, Manager of
   Publications, 1965-66. 2 Vols.)

Vol 22 No 4 Dec 1975 251


8. Handout issued by the Institute; see also Times of India (Bombay) 28 May 1975.

9. The Central Statistical Organisation has decided to revise the base year from 1960 to 1970. The revised index is based on 352 items (290 in the manufacturing sector, 61 in the mining and one electricity) as against 317 in the current series. Hindusthan Standard 21 March '75.

10. For the scope of the series, method of construction and other details see, Monthly Statistics of the Production of Selected Industries in India July-August 1967; Jan-Feb 1969.


So far three reports are available - No. 42 (Seventh and eighth round, No. 43 (ninth and tenth round), and No. 94 (Fourteenth Round).


Only a limited number of the mimeographed copies of this report were prepared. This report has been cited as Minhas Committee Report.

Minhas Committee Report p. 92.


Ibid. p. 26

Ibid.


Minhas Committee Report, p. 93-4.


33. Ibid. p.227


35. Data Base Vol. 1 p.27


38. Ibid p. 76

39. Ibid pp. 70-3

40. Gupta S K. Surveys for the Unorganised Industrial Sector. Data Base Vol. 2 pp.283-95

41. Data Base Vol. 1 p.28

42. Ibid. p.26

43. Ibid. p.28

44. Minhas Committee Report p.67


46. Data Base Vol. 1; Minhas Committee Report p.97

47. Ibid p.96