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PROGRESS REPORT ON THE COMPARISON OF THE INDUSTRIAL STATISTICS  
SYSTEMS IN SELECTED HIGHLY INDUSTRIALIZED COUNTRIES

(Memorandum by the Secretary-General)

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PROGRESS REPORT ON THE COMPARISON OF THE INDUSTRIAL STATISTICS  
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I. INTRODUCTION

1. At its tenth session the Statistical Commission requested the Statistical Office to prepare a detailed analysis of the systems in force in a few highly industrialized countries for the collection and compilation of data relating to industrial activities.<sup>1/</sup> The Commission expressed the view that such a comparison was needed both as an additional step toward improving the international comparability of industrial data and as a means of providing more detailed information regarding the statistical systems of some highly industrialized countries, including those with a planned economy.

2. Through the co-operation of their national statistical services much detailed information has since been collected concerning the Federal Republic of Germany, the Netherlands, the Union of Soviet Socialist Republics and the United States. There has not as yet been time to complete the translation and detailed analysis of the wealth of material provided by these countries. Further, the analysis carried out to date indicates that a number of questions of interpretation have still to be resolved and some additional material gathered. It is the purpose of this document, therefore, to sketch certain of the broad characteristics of the industrial statistical systems of these countries, leaving to a later date the compilation of the detailed study requested by the Commission.

II. GENERAL REMARKS

3. From the work already done it is apparent that in all of the above-mentioned countries the same kinds of economic data are collected for industrial units. The frequency and methods of collection, the detailed nature of the items of data requested and the statistical units used, however, vary considerably. The differences among the systems reflect several factors - the different view of the

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<sup>1/</sup> See Report of the Tenth Session, E/3126, para. 24 and Resolution 1 (X) para. 26.

uses to be served by an industrial statistics system, the differences in the organization of the national economy, the differences in the way industrial enterprises have been organized or have organized themselves, and, to a certain extent, differences in the way the national statistical services have developed. The similarity in the kinds of data compiled for industrial activities simply reflects the unavoidable similarities in the productive process and the need of every Government, regardless of its economic philosophy, to have quantitative measures of that process.

4. In the following sections, a brief explanation of the statistical organization of each of the four countries is given. Also the kinds of surveys covering industrial activities are described together with an indication of the kinds of data gathered and the relationships existing between the various surveys. At a subsequent stage of this continuing study it is anticipated that the items of data collected will be compared with respect to level of detail, frequency of collection and definitions. Further, the tabulation of these data will be examined as well as the compilation of certain aggregate indicators of industrial activity.

### III. THE FEDERAL REPUBLIC OF GERMANY

#### A. Introduction

5. While the collection of most of the data relating to industrial activities is carried out by the eleven regional (Land) statistical offices, responsibility for the design and conduct of the industrial surveys is centered in the Federal Statistical Office. The industrial statistics system is built around a decennial census of the structure of the non-agricultural sector of the economy. The system contains, in addition to the general structure census, annual and more frequent inquiries into the employment, production and other activities of each division of the industrial sector. Apart from the surveys into the financial aspects of industrial enterprises, each major division of the industrial sector is the subject of a separate survey, or series of surveys, tailored to the kind of information desired and to the characteristics of each division - i.e., in general, a separate group of annual and current surveys is designed to cover

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(i) mining and manufacturing, (ii) electricity and gas, and (iii) construction. Most of these inquiries do not cover the smaller units and with the exception of the construction industry, licensed handicraft units are covered only in a separate census. A broad range of detailed data covering virtually all aspects of their activities is collected from the mining and manufacturing divisions - data that yield both detailed and global figures on an annual, quarterly and monthly basis.

6. The basic statistical units employed in the industrial inquiries are the enterprise, defined as the legal entity, and two varieties of the local unit. For the general structure census, the local unit (Arbeitstätte) is very strictly defined with respect to singleness of location while for other surveys the unit used is the "Betrieb", which includes as part of the local unit all ancillary units regardless of their location. In addition, however, a number of reports on mining and manufacturing request selected items of data for each different kind of activity carried on within the Betrieb. In the sections below the inquiries that are a part of the industrial statistics system are outlined.

#### B. The Non-Agricultural Work-Place Census

7. The non-agricultural work-place census, as its name implies, covers all local units engaged in any kind of economic activity except agriculture. Last undertaken in conjunction with the 1950 censuses of population and agriculture, this census will be repeated, with some modification, in conjunction with the 1960 census programme. Designed primarily as a survey of the structure of the economy of the Federal Republic of Germany considerable attention is devoted to the identification and description of the local units and of their association with a parent enterprise (legal entity). Further, the census serves as a benchmark for more frequent industrial inquiries and inquiries into other sectors of the economy.

8. At the local unit level, data are requested on employment, distinguishing detailed functional status and sex, and, where appropriate, number of vehicles by type. In addition each local unit is asked to indicate its main activity (goods made, repaired, processed, sold, etc. or services rendered) and whether or

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not it is a licensed handicraft unit. Total sales outside the enterprise is requested at both the local unit and the enterprise level. As a means of keying the work-place census to the monthly industry survey (see below), all local units are requested to indicate whether they reported in the monthly survey and if so which of these units are grouped together to form a "Betrieb" for the purpose of the monthly report. Information is also obtained on the legal form of the enterprise and, where applicable, its capital.

C. The Cost Structure Survey

9. The first cost structure survey was undertaken for 1950. Data were sought from selected industrial enterprises and from certain other kinds of non-agricultural enterprises. In addition to certain balance-sheet items, detailed data on output and inputs were requested, including value of shipments, changes in the various categories of stocks, value of fixed assets produced for own use and value of materials, goods and services received. In addition, data were collected on wages and salaries and other payments made by the enterprise in connexion with the employment of labour. Plans call for repeating this survey on a sample basis for 1959 and thereafter at four year intervals.

D. Surveys of Mining and Manufacturing Units, Except Licensed Handicrafts

a. Annual surveys

10. An annual sample survey on the net product of industry is conducted covering enterprises which comprise "Betriebe" that fall within the monthly industry survey<sup>2/</sup>. Less detailed than the cost structure survey, data are obtained in this survey on total receipts and costs and the components of these. Data on inventories are also sought. From these data the net value of production can be computed for the enterprise. In addition, total employment of the enterprise at the middle of each quarter is requested. From selected enterprises in certain industries, information is also sought on the source of purchases and the destination of sales.

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<sup>2/</sup> See para. 12 below.

11. To supplement the information gathered in the monthly and quarterly surveys, an annual survey of small units is conducted - i.e., of units employing fewer than 10 persons. In general, only the kind of activity of the unit and its employment are requested, but at infrequent intervals these units are requested to report sales.

b. Quarterly and monthly surveys

12. Quarterly and monthly data on mining and manufacturing are collected from all "Betriebe" employing 10 or more persons through three integrated surveys. In the early monthly production report and the quarterly production report data are requested on the output of individual commodities - the quarterly in great detail, the monthly for approximately 530 selected products. In both cases, quantity and value of goods produced for sale by the "Betriebe" are sought and for selected commodities, the quantity produced for further processing within the same enterprise is obtained.

13. A relatively broad range of data is requested in the monthly industry report on the activities of the "Betriebe" other than production. The kinds of data collected are the following: employment (distinguishing operatives, apprentices and others) by kind of activity; man-hours worked by operatives; wages and salaries (distinguishing operatives and other employees); sales of own products outside the enterprise (distinguishing domestic from foreign sales) according to kind of activity; sales of merchandised goods; quantity of fuel oil and coal (by type) received, consumed and in stock; quantity of electricity purchased, generated, transferred to others and consumed; and quantity of gas consumed. In addition, units with twenty-five or more employed are generally asked to report new and cancelled orders by kind of activity and by whether orders are from foreign or domestic sources.

14. In addition to the general survey outlined above, special current surveys into certain mining and manufacturing activities are a regular part of the statistical programme. Illustrative of these inquiries are the monthly surveys of the iron and steel industry, and the non-ferrous and precious metals industry. In the case of the iron and steel industry, detailed data on production, shipments and stocks and on some aspects of consumption are, where pertinent,

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sought for key stages in the mining, manufacturing and distribution of iron and steel products. The non-ferrous metals industry is requested to furnish monthly data on mine and smelter production and stocks at smelters. On a quarterly basis, data are requested on consumption and stocks of selected commodities at smelters, semi-fabricators and foundries. Information is also sought on the inventories of dealers in these commodities.

E. Surveys of Electricity and Gas Producing Units

15. The public utility enterprises and the mining and manufacturing enterprises that produce electricity and gas are covered in separate surveys. The activities of the public utilities are covered annually and monthly. The annual survey of public utility power stations with more than 1000 kw capacity and of all gas works concentrates primarily on employment data - number of employed by sex and functional status; wages and salaries and man-hours worked. In addition, sales to final consumers, distinguishing domestic and foreign sales, are requested. In the monthly survey of public utility power plants, the emphasis is on production and consumption - electricity generated by source of power; quantity transferred to the public grid and consumed for own use; imports and exports of electricity; capacity and peak generation by source of power; and consumption and stocks of fuels. Similarly the monthly survey of public utility gas works emphasizes production and consumption - production and deliveries of gas and coke; stocks of coke; production of crude benzol; and consumption and stocks of coal.

16. In addition to the surveys of public utility gas and electricity producers, inquiries are conducted on a biennial basis for power plants, with more than 1000 kw capacity, operated by enterprises in the mining and manufacturing field and on an annual basis for gas works operated by such enterprises. Further, at intervals of approximately six years, a limited amount of data are collected for the ancillary power plants of 1000 kw capacity or less. Data are obtained on the following topics in the biennial inquiry: employment, number and capacity of boilers, prime movers and generators; capacity of plant by source

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of power; quantity of electricity purchased, generated, transferred and consumed; and quantity of fuel consumed. From the annual survey of ancillary gas works the following data emerge: number of gas generators by type and capacity; charge by type of fuel; charge in each month of the reference year; and quantity of gas generated by type and use.

F. Surveys of Construction Units

17. Information on the construction industry is gathered mainly through an annual survey of all "Betriebe" in the industry and a monthly building survey that covers all "Betriebe" employing twenty or more persons. Conducted after July of each year, the annual survey elicits data on the following subjects for that month: employment, wages and salaries and man-hours worked; sales; accounts receivable; and the number of certain specified types of construction machinery and equipment. In addition, data are sought on sales for the preceding half-year and the preceding calendar year and on accounts receivable as of the end of the preceding calendar year. In the monthly building report the following data are requested: employment by functional status; wages and salaries; man-hours worked by type of construction; and sales by type of construction.

18. In addition to the data collected directly from units in the construction industry, information is obtained regularly through administrative channels concerning building activity subject to authorization and construction work undertaken by public agencies or with public funds.

G. Census of Licensed Handicrafts

19. Periodically a census is taken covering the employment and other activities of all units inscribed in the official register of handicraft units. This census was last taken for 1956 and included handicrafts attached to non-handicraft enterprises or engaged in certain service activities. The data obtained from these units are as follows: employment by functional status, sex and age group; wages and salaries, distinguishing wages paid to homeworkers; sales, distinguishing receipts from the sale of merchandised goods from receipts stemming from production, repairs and services; and value of materials and goods received, distinguishing goods for merchandising from materials for processing.

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H. Special Data from Administrative Sources

20. Certain data on enterprises are also collected monthly from secondary sources. From the registry courts information is received on the total number and changes in the population of incorporated enterprises and their nominal share capital, and from the published reports of companies certain important balance sheet and income statement items are collected. These data cover industrial as well as other kinds of enterprises.

IV. THE NETHERLANDS

A. Introduction

21. Responsibility for the collection and compilation of data relating to the industrial sector of the economy rests with the Central Bureau of Statistics. As in the Federal Republic of Germany, the core of the industrial statistics system is the decennial general economic census covering all non-agricultural activities. This census not only delineates the structural characteristics of the economy, but serves as a benchmark and frame for the annual and more frequent industrial and other inquiries. Data relating to the productive activities of units engaged in mining, manufacturing and the production of electricity and gas - and the characteristics of these units - are collected through a system of annual, quarterly and monthly surveys that in general are directed to the larger enterprises employing 10 or more persons. The monthly surveys deal mainly with quantitative data relating to consumption, receipts, production, shipments and stocks of individual commodities. In the quarterly surveys, on the other hand, information is sought only on employment, sales and orders. The most extensive range of data is obtained through the annual inquiries which are devoted not only to virtually all aspects of the productive activities, but to certain financial activities as well.

22. The activities of the construction industry, which lies outside the system of inquiries outlined above, are covered through the compilation of reports required for administrative purposes.

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23. In addition to the surveys of productive activities, three annual financial inquiries are undertaken covering limited liability companies. These are the surveys of fixed capital formation, profits, and financial assets and liabilities. In abbreviated form the survey of assets and liabilities is repeated at quarterly intervals.

24. Six statistical units are used in the inquiries mentioned above. These are: (i) the legal entity; (ii) the enterprise, defined as the group of legal entities for which consolidated accounts are maintained; (iii) the establishment, defined to include all units engaged in the same activity and located within a single municipality; (iv) the local unit ("bedrijf"); (v) the kind-of-activity unit, defined as the collection of all technical units within the same enterprise engaged in the same activity; and (vi) the technical unit. With the exception of the general economic census, however, it is the local unit or enterprise (either as the legal entity or group of legal entities) for which almost all items of data are collected.

25. The construction industry is not covered by direct surveys, but rather through reports required under municipal licensing provisions. In the following sections the surveys mentioned above are described briefly.

#### B. The General Economic Census

26. A general economic census covering all non-agricultural activities is conducted every ten years. This census, which is designed to outline the structure of the Netherlands economy, identifies and describes each place of business ("bedrijf" or local unit), its association with a parent enterprise, and the technical units within the local unit. For the local unit, information is requested on main kind of activity; location; capacity of power equipment; number of specified kinds of transport equipment; and employment by sex, status and whether adult or juvenile. In the forthcoming census of 1960, a question on sales at retail may be included. For the technical units within the local unit, information is collected on kind of activity and employment. And from the central office of a multi-unit enterprise, information is gathered on the legal organization of the enterprise and the number and location of local units under its jurisdiction.

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C. The Annual Production Inquiry

27. The annual production survey covers primarily the larger enterprises in mining, manufacturing or the production of electricity and gas. In general enterprises employing fewer than ten persons are not covered, although this cut-off point varies from industry to industry as does the size criterion itself - i.e. the factor determining whether the enterprise is to be covered or not is sometimes its annual production, etc. In most industries two questionnaires are used - one complete and detailed for the very large enterprises (commonly those employing fifty or more persons), the other very much less complex addressed to the medium-sized units employing ten to fifty persons. Again these size distinctions are varied for different industries.

28. Changes are currently being made in the annual production survey. Since these changes are being introduced on an industry by industry basis, the old and new systems are both in use at the present time. The content of the old and new surveys is outlined below. The new techniques have already been introduced in the paper and pulp, textile, and ready-made clothing industries.

29. The major difference between the old and new annual surveys is in the treatment of the multi-unit enterprise. In the old system the basic statistical units were the "bedrijf" (local unit) and the enterprise, while in the new system the basic units are the enterprise and the kind-of-activity unit. The kinds of data collected and the statistical units to which these relate in the two systems are as follows: employment data and wages and salaries are collected for the local unit under the old system. In the new system these data - except for data on operatives which are reported for kind-of-activity units - are collected for the enterprise. Social welfare payments are in both cases reported on an enterprise basis. Total value of shipments and the number of selected production machines (where appropriate) are the only other items of data collected on a local unit basis under the old system, and these data are collected on a kind-of-activity basis in the new. Other items gathered for the enterprise in the old survey are the following: purchases and stocks, both total value and quantity and value of individual materials and fuels; cost of contract

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services; sales and stocks, both total value and quantity and value of individual products; value of products shipped to own retail outlets; value of stocks of work in process; receipts for contract work; excise taxes; and capacity of power equipment. These same data are also collected in the new survey, but the following items are collected for the kind-of-activity unit rather than (or in addition to) the enterprise: purchases and stocks, both total value and quantity and value of individual materials and fuels; shipments and stocks, both total value and quantity and value of individual products; value of stocks of work in process; and receipts for contract work. In addition, where appropriate, the quantity of individual materials consumed that were produced within the enterprise are requested on a kind-of-activity basis. Also, some additional data are requested on an enterprise basis that were not included in the older survey. These are: cost of goods to be resold in the same condition as purchased; value of stocks of auxiliary and packing materials; sales and stocks at own retail outlets; investment in new fixed assets; and selected business costs of the enterprise such as advertising, legal and accountants' fees, rents, etc.

D. The Annual Financial Surveys

30. In addition to the annual production surveys, three annual surveys of industrial enterprises are conducted. From the survey of investment in fixed assets the following information is collected: main kind of activity of the enterprise; cost of fixed assets installed during the previous year and expected cost of fixed assets to be installed during the current year, distinguishing in each case between business structures, other construction, land, transport equipment, production machinery and equipment, and office and warehouse equipment; the sales value, during the past year, of fixed assets used by the enterprise, distinguishing the same categories as for purchases; and cost of fixed assets produced by the enterprise for its own use. Also requested are data on the composition of total fixed capital investment during the year and on the sources of the funds used to finance that investment. To arrive at total fixed capital investment during the past year, the following data are requested: total cost of

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fixed assets installed during the year plus prepayments made during and prior to the reference year for fixed assets not yet installed as of the end of the year less prepayments made prior to the reference year for fixed assets not yet installed as of the end of the reference year. Of the total fixed capital investment during the year thus derived, the respondent is requested to distinguish the funds obtained from outside (e.g., issue of stock, long-term loans, new investment of partners) from funds originating within the enterprise.

31. Also included in the system of annual inquiries is a survey of profits, dividends and depreciation, addressed to limited liability companies, from which selected items of data from the profit and loss account are obtained. Among other items of data, the net profit and its distribution is requested and the status of capital and other reserves. Data relating to depreciation of fixed assets and tax liability are also collected.

32. An annual survey of the financial assets and liabilities of corporations is also undertaken. This survey shows the balance sheet position at the end of each year. The different assets and liabilities are sub-divided according to degree of liquidity and to some extent according to the character of the debtor or creditor. Selected items from the balance sheet of these corporations are also collected quarterly.

33. In addition to the data emerging from the direct inquiries into the financial aspects of industrial enterprises, data are compiled from the annual tax returns of all enterprises except single proprietorships and non-limited liability partnerships. The data compiled include selected items from the balance sheet accounts in addition to net profits, dividends, and taxes paid and changes in net worth.

#### E. Quarterly and Monthly Surveys

34. As a means of developing a series of current indicators on activities in mining, manufacturing and the production of electricity, gas and steam, quarterly surveys are conducted covering approximately the same field as the annual production surveys. Wherever possible the local unit, or "bedrijf", is the statistical unit except that an enterprise may complete a consolidated report for

all units located within a single municipality. In a number of cases, however, multi-unit enterprises are unable to report data other than employment on a local unit basis and for this reason only employment data are compiled on a regional basis. Such regional compilations are undertaken every second year. The data collected for each quarter are the following: employment, distinguishing operatives from other employees and men from women; the number of vacancies in the personnel ranks, distinguishing vacancies requiring trained and untrained persons and vacancies arising from an expansion of facilities from those arising because of replacement; value of sales during the quarter and value of unfilled orders on the books at the end of the quarter, distinguishing in each case domestic from foreign orders.

35. The monthly production surveys are devoted entirely to eliciting quantitative data for, among other purposes, the construction of a current production index. The data collected - both in kind and number of items - vary markedly from industry to industry. In the ready-made clothing industry, for example, only the number of specified articles of clothing produced during the month, distinguishing between adults' and children's clothing is requested. In the textile industry, on the other hand, considerably more data are gathered - e.g., quantity of stocks of specified materials and products, receipts of materials, production of specific commodities (including the production of certain intermediate goods, shipments and consumption of certain goods, and number of loom-hours worked.

#### F. The Construction Industry

36. Activity in the construction industry is covered through reports required under municipal licensing provisions. These reports are required for each construction project expected to cost 2,000 guilder or more. Further, persons undertaking projects valued at 10,000 guilder or more are required to report the following data quarterly for each such project: estimated cost of the project at its start; value of work put in place during the quarter; value of work finished during the quarter; and value of work as of the end of the quarter at various stages of completion (i.e., not yet started, started, 20 per cent, 40 per cent, 60 per cent or 80 per cent completed). These data are collected and compiled by the Central Statistical Bureau on the basis of reports from the municipal authorities.

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## V. UNION OF SOVIET SOCIALIST REPUBLICS

### A. Introduction

37. It may be well to indicate at the outset that in the terminology of the USSR, unlike that generally employed in this paper, "industry" does not include "construction". Further, the concept of industrial statistics is broader than in the countries of Western Europe or the Americas. This difference arises from the fact that in the USSR the Government or its agencies undertake many of the direct management functions that in the West are exercised by the management of the enterprise itself. As a result much detailed data that in the West would be found only in the internal cost accounting records of the enterprise are within the scope of the industrial statistics reporting system of the USSR. Only with such data at their disposal could the responsible Government agencies exercise their planning and management functions. An additional, and important, difference is that the Central Statistical Agency and the Finance Ministry are able to establish and standardize the internal accounting system to be used by the enterprises. Because of this the problem of obtaining consistent reporting is minimized.

38. The Central Statistical Agency, generally operating through its regional agencies, is responsible for the collection of all industrial data.<sup>3/</sup> Included in the regular system of periodic reports are daily, five-daily, ten-daily, monthly, quarterly, and annual returns. In general the reports submitted more often than monthly are submitted directly to the CSA by telegraph and relate only to quantity of production (planned and actual) of important basic products such as iron, steel, coal and oil. Monthly, quarterly and annual returns - requiring progressively more detailed data concerning the operations of all important enterprises - are for the most part collected locally and summarized and analysed at the regional statistical offices before being sent on to the CSA. In addition periodic censuses of the numerous small industrial units are

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<sup>3/</sup> As in other countries, of course, data relating to certain activities would also emerge from administrative agencies.



undertaken for purposes of gathering basic data concerning their activities, and special inquiries are undertaken at irregular intervals in order to collect detailed data on special subjects not considered of sufficient current interest to be included in the regular system of reports.

B. Coverage of the Various Inquiries

39. The monthly, quarterly and annual returns are submitted by all enterprises<sup>4/</sup> in the heavy basic industries and all other industrial enterprises categorized as large. In addition to the independent enterprises, these surveys also cover the large industrial units attached to essentially non-industrial enterprises (e.g., large repair shops of a machine tractor station). A "large" industrial unit or enterprise is defined as one employing thirty or more workers or sixteen or more workers if power machinery is used. Also, electric power stations with 15 kw capacity or more and grinding mills with five or more millstone units are considered large regardless of the number of persons employed.

40. As well as the regular surveys concerning large industrial and capital construction enterprises, a periodic survey of all small industrial units is undertaken twice during each five-year period. In this census basic data are gathered relating to the many small industrial units not covered in the regular surveys - e.g., industrial units attached to collective farms. Such units number in the thousands although in the aggregate they contribute little to the total output of industry. Periodic coverage of these small units, however, supplements the annual survey of large enterprises and produces a complete account of the industrial activities of the nation.

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<sup>4/</sup> An enterprise is defined as having the following attributes:  
(a) a single administration, possessing the right to conclude contracts;  
(b) an independent production plan approved by a superior agency;  
(c) a current account at the State Bank; and  
(d) a self-contained system of bookkeeping producing a balance sheet and profit and loss statement.

41. Special surveys and censuses<sup>5/</sup> are also undertaken periodically covering the larger enterprises to gather data of a specialized character that would normally not be elicited through the regular reporting system. The age distribution of workers, stocks of specific materials or the type, quantity and condition of specific kinds of machinery are examples of the kinds of data, not reported regularly, that have been the subject of special surveys or censuses.

C. Statistical and Reporting Units Utilized

42. The enterprise always serves as the reporting unit for statistical data. In the majority of cases it is also the "unit of observation" (i.e., the statistical unit). Frequently, however, the large, important enterprise engages in a broad range of activities and then the statistical unit becomes a sub-division of the enterprise. In some cases, for example, a large, essentially manufacturing enterprise has, in addition to its manufacturing units, a separate capital construction department (which is non-industrial in terms of the Soviet classification), a workers' supply section (which often includes the raising of agricultural commodities), a technical school, a housing unit in charge of constructing, administering, and maintaining dwellings for workers, etc. Where an industrial enterprise includes such non-industrial activities, the industrial portion of the enterprise is always treated as a separate statistical unit (i.e. unit of observation) for the collection of all reports except balance sheets and profit and loss statements.<sup>6/</sup>

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<sup>5/</sup> It should also be noted that a distinction is drawn between inquiries the source materials for which are the records of the enterprise (i.e. surveys) and inquiries in which the enumerators compile the data required from direct observation (i.e. censuses). This difference is exemplified by an inventory inquiry: in the first case the data would be taken from the existing inventory records of the enterprise, in the second the stocks in question would be weighed or counted directly.

<sup>6/</sup> It appears that in some cases these accounts too are prepared separately for industrial and non-industrial portions of the enterprise.

43. The industrial portion of an enterprise is itself generally divided into more or less homogeneous units based on similarity of process carried on or the products manufactured. These subsidiary units (or shops) are classified into four types - (i) basic shops which produce - or have a hand in producing - the products that are the main business of the enterprise; (ii) accessory shops which utilize the by-products or waste from the basic production operation; (iii) auxiliary shops (e.g. instrument shops, repair shops, power plants) which provide services or goods that do not become a part of the main products of the enterprise; and (iv) subsidiary shops which provide such things as packing boxes and the like for the enterprise. The basic and accessory shops together would correspond to the "technical units" defined in the ISIC, while the auxiliary and subsidiary shops would be covered under the term "ancillary units".<sup>7/</sup> In many large enterprises in the basic industries, the work of each basic shop is outlined in the development plans for the industry and hence data must be collected at that level as a means of assessing the performance of the basic shop in relation to its planned performance. Likewise certain auxiliary units of the industrial enterprises may be an important factor in their own sector. Own account capital construction by departments connected to industrial enterprises, for example, constitutes an appreciable proportion of the total capital construction. Because of this it is considered essential that such departments be treated as separate statistical units for the collection of data.

#### D. Types of Data Gathered and Compiled

44. As already noted, the reporting system in the USSR performs essentially two functions - it provides the planning agencies with the detailed data concerning all aspects of the operations of each enterprise and also the raw data required for the more general analysis of industrial activities. Thus the enterprise generally submits one copy of each report to its superior economic agency and one copy to the agency of the CSA within whose jurisdiction the enterprise is located. The economic and planning agencies use the reports for operational direction of the enterprises, but do not summarize or tabulate the data. Since at the

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<sup>7/</sup> See, for example, The Statistical Unit in Economic Inquiries, E/CN.3/259.

international level interest centres on the kinds of data summarized and classified to provide a coherent, integrated account of industrial activities, it is the tabulation process, and the items of data that enter the summarizing process, that is of primary interest rather than the whole collection of items of data gathered from the industrial enterprises.

45. In the annual surveys the following kinds of data are collected and summarized: (i) detailed balance sheet and profit and loss items, including a series of supporting financial statements; (ii) output data, including gross and marketable production, production of individual products (and in some cases intermediates), and sales; (iii) labour data, including average number of workers by status and function, number of man-days and man-hours worked, and average gross production per worker; (iv) wage and salary data, including payments from the wage fund to various categories of personnel and payments to the personnel from sources other than the wage fund; (v) fixed capital investment, distinguishing the kinds and uses of the fixed assets; (vi) purchases, generation and consumption of electricity; (vii) inputs and costs, including raw materials (both total value and quantity and value of individual materials), fuels, depreciation and amortization of fixed assets, interest payments, payments for services, etc.; (viii) information on transport and communication equipment and activities; and (ix) data relating to the public facilities and housing under the aegis of the enterprise. Most of these same kinds of data are also collected in the monthly or quarterly inquiries, but the level of detail varies.

46. For the infrequent census of small industrial units, a much abbreviated questionnaire is used. Data are requested on output (both in physical and value terms), labour, fixed assets and power supply. Some additional special data are requested from certain industries such as small power stations and timber enterprises.

47. A distinctive feature of the regular industrial surveys is the design of the questionnaires. These are generally specialized not only for each industry, but by subject matter. Thus separate report forms relate to labour, output, costs, etc. It is often within a particular report form that distinctions are made between the various activities or shops within the enterprise. In the report on the fulfilment of the labour plan, for example, the enterprise's total

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employment is separately requested for those working in the industrial and non-industrial sections of the enterprise and, within the industrial portion, those working in the various shops. Similarly output and other data are often gathered on the same questionnaire for the whole industrial portion of the enterprise and for its separate shops.

48. The fact of detailed government planning gives to the report forms some distinctive features not encountered in the countries of Western Europe or the Americas. One of these is that wherever the item of data requested relates to a planned activity, the report shows both the planned figure and the actual outcome for the period under review. In many cases, of course, such plan figures are stated in value terms at a chosen base period price. Hence comparison of actual to planned performance requires that many value figures for current activities be based on these same base period prices as well as on current prices. Further, the emphasis on comparison with past performance as well as with plans for the current period leads to the request for data for the previous period. This in turn leads to the idea of "comparable" and "non-comparable" items. Thus, for example, detailed data on the production of individual products distinguishes between those items manufactured in past years and those newly put into production in the current year. For the former, comparisons can be made with respect to output, costs and other factors.

## VI. UNITED STATES OF AMERICA

### A. Introduction

49. Responsibility for the collection and compilation of data relating to the industrial sector of the United States economy is divided among a number of government agencies. These agencies may be roughly grouped into: (i) general purpose statistical agencies whose primary function is the collection, compilation and publication of statistics in specific fields for general use; (ii) analytic and research agencies which primarily use statistics collected by other agencies for interpretive purposes, including the preparation of composite measures; and (iii) administrative and regulatory agencies which collect statistics primarily as a by-product of their administrative and operating responsibilities. These

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categories are not, of course, mutually exclusive. Administrative agencies sometimes engage in the collection of data in addition to those emerging as a by-product of their administrative function and all agencies engage to a greater or lesser extent in the analysis of data. It should be emphasized, however, that the Office of Statistical Standards has been established, with certain co-ordinating functions, in order to promote the integration of the statistical work of these several agencies.

50. There seem to be a number of reasons for the division of statistical responsibility. First, there is the view that statistical data should, to as great an extent as possible, be garnered from the necessary administrative activities of the various agencies. Second, historically the direct collection of data often arose out of the needs of the operating agencies for information concerning their special areas of interest and, in many instances, these agencies are considered to be most aware of the analytic and other needs for data in their special fields. It has long been recognized, however, that a broad range of reliable data was necessary for the different sectors of the economy, and that the technical means of collection themselves constitute a special skill that might best be concentrated.

51. As a means of obtaining an integrated set of data concerning mining and manufacturing activities, the Census Bureau was given the responsibility for conducting a periodic census, broad in scope, of these two divisions of industry in addition to business activities. This benchmark survey not only provides a broad range of data for each of these areas of the economy, but also produces a complete, non-overlapping register on which the separate annual and current surveys of these fields may be based. In their turn, the operating agencies, such as the Bureau of Mines which is responsible for the annual and current surveys of mining, provide to the Census Bureau information concerning producers of mine products.

52. As a further means of obtaining integration of a broad range of data on manufacturing, the monthly survey of sales, orders and inventories has been put under the direction of the Bureau of the Census so that it can be brought into line with the other current, annual and benchmark inquiries conducted by the Bureau. There is, too, an increasing tendency for the Census Bureau to act as

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agent for other government organs desiring special data. With this system the other agencies determine the data needed for their purpose and the Census Bureau then determines how these data can best be gathered within the framework of the existing programme in order to yield the information efficiently in the most useful form. An example of such a project is the research and development expenditures surveys undertaken at the instance of the National Science Foundation. The data pertaining to industrial expenditures for research and development are collected by the Census Bureau

53. Considerable effort has also gone into the joint use of data directly collected and data emerging from administrative records. The quinquennial census of business, manufactures, and mineral industries, for example, covers establishments with one or more employees. In order to round out the data to cover those many small establishments with no employees, the records of the Internal Revenue Service are sampled and certain basic data for this group are estimated from these records. Similarly, the Census Bureau and the Bureau of Old Age and Survivors Insurance (BOASI) co-operate in the compilation of basic economic data for each county every two to three years. For this survey the records of the Census Bureau are used for data pertaining to multi-unit establishments, while the BOASI records provide the data for all single unit enterprises.

54. There are also increasing efforts to establish direct links between the sets of data produced by different surveys and agencies. An important project of this kind is the attempt to link the data from the quinquennial censuses of the Census Bureau to the financial data compiled by the Internal Revenue Service from tax records. The initial phase of this project was undertaken in connexion with the 1954 census of business, manufactures and mineral industries and it is planned to extend this work markedly for the 1958 census.

55. Also two important quarterly financial surveys are undertaken as a joint operation - the survey of actual and anticipated capital expenditures, by the Office of Business Economics, the Securities and Exchange Commission and the Federal Trade Commission, and the financial survey of manufacturing corporations conducted jointly by the Securities and Exchange Commission and the Federal Trade Commission. In general such co-operative programmes involve the use of a common questionnaire with each agency responsible for the collection of the data from enterprises under its administrative jurisdiction or, in some cases, one agency

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is responsible for the collection of data from enterprises outside the jurisdiction of the administrative agencies.

B. The Statistical Units Utilized

56. A number of different statistical units are used in surveys covering industrial organizations. The definition of the enterprise used is often conditioned by legal provisions. Thus, for example, the social security laws provide that each legal entity be responsible for the collection and payment of social security taxes, hence the Bureau of Old Age and Survivors Insurance data relate to the enterprise defined as the legal entity. The income tax laws, however, permit companies to file either on a legal entity basis or on a consolidated basis when two or more legal entities are bound together by ties of ownership. The data, therefore, emanating from the tax records themselves relate to an enterprise somewhat variably defined, although it is in most cases the legal entity. The Census Bureau, on the other hand, in its quinquennial inquiry of business, manufactures and mineral industries, extends the enterprise concept to always include the group of legal entities bound together by ties of ownership - either when the ownership is absolute (i.e. more than 50 per cent of the equity of each is owned by other members of the group) or where control is admitted. And since the data required for the enterprise in that census do not require that consolidated accounts be maintained, this condition is not imposed. In addition certain financial surveys are undertaken in which the enterprise definition is made to depend on the existence of consolidated accounts.

57. Because the enterprise is often a very large heterogeneous unit, attempts are being made to collect certain enterprise type data on a divisional basis. This is being done, for example, in the Census Bureau survey of sales, orders and inventories. A divisional organization is common in the large United States companies, and in general these divisions are organized along kind-of-activity lines. It is anticipated, therefore, that certain data related to divisions rather than to whole enterprises will be more amenable to analytic treatment.

58. The unit for which most industrial data are collected is the establishment - defined as a unit at one location occupied in activities that would be classified to a single heading of U.S. standard industrial classification. In practice the

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establishment is almost always identical to the local unit. The criteria used to determine the need for sub-dividing a local unit are as follows:

"Where a single physical location encompasses two or more distinct and separate activities for which different industrial classification codes seem applicable, such activities should be treated as separate establishments and classified in separate industries, provided it is determined that: (1) such activities are not ordinarily associated with one another at common physical locations; (2) no one industry description in the United States Standard Industrial Classification includes such combined activities; (3) the employment in each such economic activity is significant (usually 100 or more employees in mining or manufacturing activity, and 50 or more employees in activities other than these); (4) reports can be prepared on the number of employees, their wages and salaries, and other establishment type data."

The establishment appears as the main or sole statistical unit in the census of business, manufacturing and mineral industries, the annual and current surveys of manufactures, mining and labour.

59. The technical unit also appears in the quinquennial census of manufacturers. The use of this unit is, however, restricted to activities or operations that are of special interest - e.g. to separate out foundries attached to establishments engaged in producing machinery or to isolate certain important metal working operations.

60. In the following sections the main surveys covering industrial activities are described briefly. The surveys described cover a wide range of data on the productive and financial activities of industrial units and are taken on a five-year, annual and more frequent basis. For the most part the very specialized inquiries conducted by certain administrative agencies are not considered. While such data - e.g. the data on the manufacture of alcohol and tobacco products compiled by the Internal Revenue Service - are important, they are not an integral part of the industrial statistics system.

#### C. The Benchmark Inquiry into Mining and Manufacturing

61. The most comprehensive survey of industrial activities is the quinquennial census of mining and manufacturing industries which includes all establishments engaged in these fields employing one or more persons. This census is undertaken by the Bureau of the Census. The basic statistical unit is the establishment

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with the enterprise and the technical unit being used as supplementary statistical units. In most cases data are collected through the enterprise and employment, sales, inventory and capital expenditure data are collected for the enterprise. The technical unit is used only in selected industries - e.g. integrated pulp and paper mills, to isolated coking and blast furnace activities in integrated steel mills and certain metalworking operations in the machinery industry.

62. In addition to the items of data mentioned above, a sample of the larger enterprises included in the 1958 census of manufactures (the same sample that is used for the annual manufacturing inquiries) were requested to supply data in the direction of their shipments. For each group of similar products the enterprise distinguished between shipments, (i) to other manufacturing establishments of the same enterprise, (ii) to separate sales branches, (iii) to separate merchant wholesale establishments of the enterprise, (iv) to individuals and farmers, (v) to other manufacturers, (vi) to industrial, construction, institutional, and commercial users and State and local governments, (vii) to wholesalers, (viii) to retail outlets of the enterprise, (ix) to other retail stores, (x) to the Federal Government, and (xi) for export. For the same product groups data were also requested on the ~~distribution of sales~~ made by sales branches, sales offices or administrative offices of the enterprise. It is anticipated that in the future, surveys such as this, which are designed to provide supplementary or complex data, will be conducted in non-census years in order to reduce the already formidable work load of the census. The census will then be restricted to key items of data for a wide field of establishments.

63. The kinds of data related to the establishment collected in the quinquennial census are the following: (i) employment, distinguishing status and function; (ii) man-hours worked by operatives; (iii) wages and salaries, by broad functional category; (iv) capacity of installed power equipment; (v) size or capacity measures of certain specified types of equipment; (vi) expenditures for fixed assets; (vii) inventories; (viii) inputs, including consumption of raw material, fuels (including consumption of important individual materials and, where appropriate, intermediate products produced in the same plant), products purchased for resale, electricity, and cost of contract work; (ix) outputs, including shipment of products (including shipment of individual products and,

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where appropriate, production of intermediate products to be consumed within the same plant), receipts for contract work, sales of scrap or refuse, sales of products purchased and resold without processing.

D. Manufacturing

64. The quinquennial census of manufactures provides the basic frame for the annual sample survey of manufactures conducted by the Bureau of the Census. This frame is kept up to date, however, by current information on new establishments provided in part by the social security agency and in part by the Bureau itself. The only statistical unit used in the annual survey is the establishment, and efforts are made to assure that these units are identical to those reporting in the quinquennial census.

65. Essentially the same kinds of data are gathered in the annual as in the quinquennial survey - the difference being primarily in the level of detail required. Thus, in the census detailed inputs of individual commodities are requested while in the annual survey only the total value of raw materials, components supplies, etc. are required. Data on the output too is requested in less detailed form. Instead of the output of individual products only the value of classes of products shipped are asked for.

66. A sample survey of manufacturers sales, orders and inventories is also conducted monthly by the Bureau of the Census. This survey draws on the Internal Revenue Service list of enterprises. The data obtained are: value of stocks by stage of processing; value of sales; value of new orders received and cancelled; and value of unfilled orders. Since these data would be more useful if they could be analysed by narrower kind-of-activity categories than allowed by using the enterprises as a statistical unit, the Bureau of the Census is now experimenting with the possibility of collecting these data on a divisional basis.

67. The current industrial surveys of the Bureau of the Census are devoted entirely to eliciting data on the production of over 2,000 important products of manufacturing and the quantity and value of shipments of many of these. For the most part the production of each group of products is requested monthly, but in some cases only at quarterly or annual intervals. In most cases the

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statistical unit utilized is the establishment, but where adherence to this ideal would impose an undue burden on the respondent, the production data are reported for the groups of establishments falling within a single State. Annually, however, each enterprise is required to report on an establishment basis in order that the data are comparable to those emanating from the annual survey of manufactures.

E. Mining

68. An annual survey of the mining industry is conducted by the Bureau of Mines. To some extent this survey - which also uses the establishment as the statistical unit - overlaps the field of the survey of manufactures. This occurs because of the interest of the Bureau of Mines in the consumers as well as the producers of mine products. The points on which this survey concentrates are production and stocks in quantitative terms and various aspects of employment. The kinds of data gathered are: average employment on active days; man-hours worked and average per shift and total man-shifts; quantity of stocks of selected ores and concentrates at mines and smelters and quantity of stocks of selected mine products held by producers and consumers; quantity of all important ores and minerals produced and quantity and value of important ores and minerals shipped, distinguishing, where appropriate, type and grade of ore and direction of shipment.

69. Current data on mining are also collected by the Bureau of Mines. At weekly, monthly or quarterly intervals - depending on the importance of the mineral - quantity data on the production and shipments of mineral products are obtained.

F. Electricity

70. The electric utility industry is surveyed annually by the Federal Power Commission. In addition to detailed balance sheet and income statement data, data on certain physical characteristics and the operation of power plants are collected - production capacity of generating stations by source of power and output of electric power stations, distinguishing operating revenues by type of operation, quantity and value of sales by type of customer, and quantity of electricity generated by source of power and class of user.

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71. On a monthly basis the Federal Power Commission collects data on the production capacity of generating stations by source of power, the total consumption of fuel for the production of electricity and the consumption of fuel per kilowatt hour produced, and quantity of electricity produced by source of power.

G. Construction

72. Construction activities are the least systematically covered of any of the divisions of industry. The data representing the most complete coverage of construction activities are collected monthly by the Bureau of the Census from all permit-issuing areas in the United States, supplemented by a sample survey of all non-permit issuing areas. Based on information gleaned from construction permits and the sample survey, estimates are made for the number of projects by type of construction and their estimated cost. In addition data are gathered through public agencies concerning construction projects undertaken by these agencies and from private trade organizations.

H. Labour and Wages

73. Current employment and wage data are collected monthly by the Bureau of Labor Statistics from establishments in all branches of activity. This survey, which is on a sample basis, produces the following kinds of data: number of employees, distinguishing operatives and others; labour turnover; man-hours of operatives paid for; and overtime man-hours worked; number of days for which employees were paid; and wages paid to operatives. In addition, the Bureau of Labor Statistics gathers data quarterly or annually for a variety of related factors - e.g. wage rates, work injuries and industrial accidents, and work stoppages.

I. Financial Inquiries

74. The most detailed and comprehensive annual financial data on industry as well as all other kinds of activity are the by-product of income tax reporting to the Internal Revenue Service. These data relate, of course, to the enterprise, but the tax laws allow reporting either on a legal entity or consolidated basis at the option of the respondent. There is not, therefore, in all cases, an

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exact correspondence between these enterprises and the enterprises defined for the purpose of the quinquennial census of business, manufactures and mineral industries. The most detailed data compiled are for the balance sheets and income statement items derived from corporate tax returns.

75. Using a frame derived from the lists of the Internal Revenue Service, the Federal Trade Commission in co-operation with the Securities and Exchange Commission undertakes a quarterly sample survey of manufacturing corporations. This survey provides important selected items of data from income statements - relating mainly to profits and their distribution - and balance sheets - having to do primarily with the liquidity of business units and the relationship between assets, liabilities and net worth.

76. Also using an Internal Revenue Service panel of enterprises, the Office of Business Economics, the Securities and Exchange Commission and the Interstate Commerce Commission conduct a quarterly sample survey to provide data on the fixed capital expenditures - both actual and anticipated - of enterprises. The data collected are: actual expenditures for fixed assets in each of the past two quarters and the anticipated expenditures during the next two quarters, distinguishing in each case new from used assets. Annually, respondents are requested to report actual expenditures over the past year and anticipated expenditures during the current year as well as actual sales during the past year and anticipated sales during the current year.

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