Strategies for Measuring Industrial Structure and Growth

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Strategies for Measuring Industrial Structure and Growth

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EXPLANATORY NOTES

Symbols of United Nations documents are composed of capital letters combined with figures.

The following symbol has been used in the tables throughout the report:

A dash (--) indicates that the amount is nil or negligible.

EXECUTIVE SUMMARY

I. The present publication has been produced in response to a request of the Statistical Commission, at its twenty-sixth session, that the Statistical Division of the United Nations Secretariat (UNSTAT) prepare a technical report on the various strategies available to deal with problems of capturing reliable and timely information on industrial activity.[1/] It approaches the subject from both conceptual and practical perspectives, taking into account the international recommendations for industrial statistics.[2/]

II. The conceptual discussion begins with an overview of the main characteristics of the various strategies (paras. 11-36), their advantages and the problems associated with their use. This is followed in chapter II by a more detailed discussion of the options, based on specific survey objectives (paras 37-62). The conceptual discussion concludes (paras. 64-81) with a description of the Fully Integrated Rational Survey Technique (FIRST) methodology, which uses the various components to build up a total profile, as dictated by local conditions, in terms of both patterns of economic activity and available information sources. The FIRST approach is designed to produce a statistical system that maximizes survey efficiency at the national level.

III. Chapter III of this publication then moves on to consider national practices currently in place for capturing information on industrial structure and growth. The review is based on the results of a survey questionnaire sent to national statistical offices by UNSTAT. The survey results are derived from the responses of 89 countries, which together produce nearly four fifths of the world's gross domestic product (GDP). The countries included reflect a wide variety in terms of size, level of economic development and geographical distribution as well as economic organization, but none the less the results show a remarkably high degree of homogeneity in patterns of data collection for non-agricultural economic statistics in general and for industrial statistics in particular.

IV. Based on this review of country practices, it is possible to characterize a typical survey for the collection of non-agricultural economic statistics as annual in frequency, and covering either all units, or selected units (and if the latter is the case, using as a criterion for selection the number of persons engaged). Furthermore, the typical survey is a complete enumeration carried out by mail. If a sample survey, it uses a list frame based on a register of establishments.

V. That such a model is not fully consistent with the one outlined in the international recommendations, namely, the infrequent census enumeration interspersed with annual surveys, comes as no surprise, for this was the very concern that led to the request of the Statistical Commission, at its twenty-sixth session, that UNSTAT prepare a discussion paper on the topic for consideration by the Commission at its twenty-seventh session. The fact that most countries with an ongoing industrial statistics programme choose to measure industrial activity exclusively on an annual basis, without an

infrequent census, accentuates the priority given to current information. The lack of use of economic census enumerations clearly reflects the unfavourable cost-benefit ratios attached to them and the orientation towards large-scale production processes using annual surveys based on list frames developed with cut-off points.

VI. At the same time, the proceedings of the International Roundtable on Business Survey Frames illustrate the difficulty of accurately maintaining business registers even in countries with well-developed statistical systems, and few if any countries with a less developed statistical infrastructure would be in a position to maintain the accuracy of their registers. It is therefore unclear whether those countries reportedly using a register of industrial establishments but without carrying out a periodic economic census are actually establishing their annual survey on solid foundations.

VII. Finally, according to the survey of country practices there is only infrequent use of the practice of subdividing the statistical universe, however defined, into subsets suitable for different methods of enumeration. This is probably related to the fact that in those cases where the industrial sector has a large segment of small units, countries opt for selective surveys covering only the units with more than a certain minimum number of persons engaged. They thereby circumvent the problem of enumerating the small units that cannot be reached by the most common survey method employed, that is, the mailed questionnaire issued on the basis of a business register. Such surveys, by excluding a whole segment of the industrial sector, can have only limited value for planning and economic analysis in countries with a substantial segment of small establishments, as is generally the case in developing countries.

VIII. Therefore, there are clear dilemmas but also clear options. It is apparent, for example, that because of the difficulties connected with creating and maintaining suitable establishment registers in many developing countries, economic or other census-type enumerations will continue to be an important element of industrial statistics programmes in those countries for some time to come. It is their position that could be changed, to one following rather than leading the survey programme. Census enumerations might then be targeted only at the residual part of the statistical universe that cannot be accounted for through registrations and publicly available accounting statements. The FIRST methodology, which is introduced in this publication, offers such an approach. The FIRST methodology decomposes the statistical universe into FIRST Large based on available list frames and FIRST Small based on an area sampling frame adjusted for all available lists of known and easily enumerated establishments.

IX. It may be mentioned here for the sake of clarity that the building blocks used in FIRST are not new. They are the standard sampling and enumeration procedures based on list and area frames, which are familiar to all. The new element introduced with FIRST is the integration of these parts into a comprehensive, non-overlapping structure that can be used as a cost-

effective approach to data collection in the field of non-agricultural economic statistics in nearly any situation.

X. Although not necessary in principle, the use of microcomputers for implementation of various parts of the FIRST methodology, including the preparation of the universe for the sample survey, the drawing of the sample, data processing and tabulation, is strongly recommended. It is an effective method for reducing the time required for the whole operation.

XI. What then are the implications of all these considerations for the World Programme of Industrial Statistics? Based on the evidence presented in this publication, it may be that there is no longer a place for an industrial statistics programme in isolation from the statistical programmes relating to other economic activities. There could, however, be a very important place for a World Programme of Economic Surveys that would pull together within a single framework all the survey elements needed to generate an integrated profile of the national economy and would set the standards for international comparisons. Such a Programme would build upon those practices, conventions, concepts and definitions that had been developed for industrial statistics over the many decades of the Programme. At the same time, it would take into account the requirements of many other applications of the data, including national accounts and input-output tables. Of course, the alignment of the structure and cycle of economic survey programmes with the cycle of the compilation of benchmark and annual (or more frequent) national accounts estimates at current and constant prices would have organizational implications for national statistical offices. Discussion on these issues is found in the Handbook of Statistical Organization. A study on the organization of national statistical services and related management issues.[3/]

XII. While setting new standards and establishing integrated methods for economic surveys, such a Programme would equally well serve as a vehicle for the consideration of a number of other basic issues that have been recognized as important elements of a statistical system but have not been fully developed within the international industrial statistics programme. Examples include the timing of the various survey components through a decennial (or quinquennial) cycle, the creation of standard formats for the reporting of basic statistical information on economic structure and activity, and the exploration of linkages between the data and their uses for economic analysis and policy formulation.

INTRODUCTION

1. The Statistical Commission, at its twenty-sixth session, requested the Statistical Division of the United Nations Secretariat (UNSTAT) to prepare a technical report as part of the documentation for the 1993 World Programme of Industrial Statistics, setting out the various strategies available to deal with problems of capturing reliable and timely information on industrial activity and taking into account the strengths and weaknesses of such instruments as benchmark inquiries and various kinds of annual surveys.

2. The present publication has been prepared in response to the request of the Statistical Commission. It describes the merits of the use of various strategies for capturing reliable, timely data on industrial activity and beyond. In addition, it reviews country practices in the field of industrial statistics and introduces a completely new integrated methodology for the development of a data-collection system for establishment-type units engaged in all economic activities. Within this system, industrial statistics programmes are brought into a larger statistical framework of which they form one important part.

3. Chapter I describes the purpose of the study, along with the advantages and disadvantages of various approaches used for the collection of industrial data. Chapter II describes the conceptual options available, with the major emphasis placed on the introduction of an integrated approach that can be used as a cost-effective solution to data-collection problems under a wide variety of situations.

4. As an integral part of this study, a survey of country practices in the field of industrial statistics was undertaken to evaluate the options actually used by countries in terms of the international recommendations. (The historical development of the international recommendations is outlined in annex I.) Response to the elaborate survey questionnaire circulated to national statistical offices has been impressive, in terms of both the actual number of countries reporting and the level of detail of the information provided. (The questionnaire is contained in annex IV.) The survey results are discussed in chapter III.

5. This publication has been prepared as a joint effort of UNSTAT and the Institute of Social Studies Advisory Service (ISSAS) in The Hague. The methodology has been developed under the responsibility of Ivo C. Havinga (ISSAS) and S. M. Ishaque (at the time Director-General, Federal Bureau of Statistics, Islamabad) in close collaboration with W. A. van den Andel. The authors of the methodological part of the publication are W. A. van den Andel and Ivo C. Havinga, who served as consultants for UNSTAT. The collection and analysis of information on country practices and the coordination of practical and conceptual perspectives in the publication were carried out at UNSTAT.

I. OVERVIEW

6. The present publication deals with strategies for measuring industrial structure and growth. The critical factors in these strategies are (a) the preparation of the data set(s) on which the measurement will be based and (b) the methodologies used in obtaining the information. From there on, the matter is one of analysis, which is largely beyond the statistician's domain. This publication outlines various alternatives that have been or may be used in the collection of statistical information on the industrial structure of different countries over time. That information makes it possible to describe the industrial structure of the country and, by comparison with similar information relating to an earlier period, enables the measurement of growth.

A. Purpose

7. The purpose of this publication is to propose an affordable methodology that yields accurate and timely information for the measurement of the industrial structure of any country. In principle, the World Programme of Industrial Statistics focuses on information for all industrial activities, defined as mining, manufacturing, electricity, gas and water supply, and construction, although it is sometimes difficult to cover these varied industries with similar approaches. In practice, however, it is often possible and desirable to extend the coverage of a data-collection activity beyond the industrial sectors and to include various service activities within its scope. Indeed, as will be shown later in the present work, there are clear advantages in including at the starting-point of the statistical exercise a whole array of economic activities.

8. At the same time, since the subject here is industrial statistics programmes, no attempt will be made to broaden the perspective. Therefore, although many of the observations may have wider applicability to economic activities beyond industry, the general assumption for this publication is that all discussions are confined to industry unless otherwise clearly specified. This means that while the experience of the World Programme of Industrial Statistics allows for the identification of the limitations of a particular methodology or approach in terms of its use for data collection in industrial statistics, those limitations as they apply to other sectors of the economy are generally not specified in detail.

9. The items of information to be sought through the statistical activity are not specified here. In principle, all data required for specific industry-related studies,[4/] as well as those needed for the compilation of the national accounts,[5/] should be collected wherever possible. Sometimes the methodology that is used determines the data items that can be collected, but limitations in this respect are often caused by more practical considerations relating to data availability. For instance, household/small manufacturing establishments in many countries do not maintain proper business accounts and it is therefore very difficult, using the standard line of questioning as used

for large units, to obtain detailed information on cost structures, levels of output and balance sheet items from this class of units.

10. The explicit reference to the collection of data required for the compilation of the national accounts in the foregoing paragraph is made to indicate that there are specific data needs for national accounting that have generally not been met in the industrial statistics programme. However, it is also recognized that there are specific data needs for industrial planning purposes that require either more detailed information or the presentation of data substantially different from those in the national accounts. Important measures used in inter-industry analysis are the technical input-output coefficients and the companion census value added,[6/] that is, value added net of the goods-producing sectors only. These measures present a clear picture of the technical details of the production process involved in the industry, unlike the national accounts concept of value added and input structures which may present a distorted picture of the industry as such. At the same time, the national accounts concept involves certain distinctions that may be very important for broader, financial analysis. For example, national accounts value added will be lower for the same establishment if more expense is incurred through the leasing of equipment, advertising and sales promotion, but census value added will not be influenced by such expenditure.

B. Characteristics of various strategies

11. The ultimate aim of any survey strategy is to obtain comprehensive and accurate statistical information on the subject-matter under study, in this case, the industrial universe and its structure. That information may be derived through the data flowing from the inquiries forming part of the survey strategy itself, or through institutionalized links with data sets available elsewhere, both within and/or outside the statistical organization.

12. None of the three main approaches described in this section, namely benchmark enumerations, establishment registers and sample inquiries, are necessarily used exclusively. In fact, without some type of benchmark information it is impossible to even design a sample survey. Establishment registers, even if they are properly maintained, may be limited to only a part of the universe and may require a link to the benchmarks for proper analysis. On the other hand, since benchmark inquiries are generally carried out rather infrequently, supporting information from establishment registers or sample surveys may be needed in order to derive current estimates.

13. In addition to the above considerations, it might be mentioned that the quality of an industrial survey depends not only on an accurate definition of the statistical universe but also on the quality of the survey operation itself, that is, the method of enumeration and the accuracy of the data-collection procedure. Unless all information is compiled directly from the company's financial accounts, and unless all companies are covered in this way and no errors made in the process, there will be errors in the data sets produced. Since in practice these conditions are too stringent for

statistical data sets, it can safely be assumed that there will always be errors.

14. Those errors fall into two broad categories, namely non-sampling errors and sampling ones. The methodological approach to data collection along with the quality of the work done largely determines the types and sizes of the non-sampling errors. The sample design, sample size and sampling procedures determine the size of the sampling errors. While the latter can be calculated and their influence on the survey results controlled, it is nearly impossible to correct for non-sampling errors once these have been introduced in the data set. To the extent that these factors may have implications for survey strategies, they must also be taken into account.

1. Benchmark enumerations

15. In this publication, the term "benchmark" should be defined more precisely at the outset, because it has been applied rather liberally in the past. In this respect, it is important to distinguish an establishment or economic census from a baseline inquiry. The establishment or economic census is here defined as an infrequent inquiry that is limited in terms of data content such as name, address, location, kind of economic activity, legal and ownership status, employment, volume of sales and value of output. The census is undertaken to establish a complete list (business register) and/or area frame of units of production in the universe. Simultaneously or consecutively there might be undertaken a baseline inquiry, which is here defined as an inquiry comprehensive in terms both of coverage of units of measurement (preferably using complete enumeration above a cut-off point and sample enumeration for the complement of the universe) and of data items collected. The baseline inquiry may be followed by annual or more frequent inquiries (using, however, sampling procedures instead of complete enumeration of the universe) by which similar or fewer data items are collected. The results derived from the annual or more frequent inquiries may be linked to the benchmark estimates derived from the baseline inquiry so as to link the structure established by these estimates to the monitoring of change and growth established through the annual or more frequent inquiries.

16. Economic or establishment censuses can normally provide the most comprehensive set of data for establishing the frame of the universe, but they are generally very costly and require large inputs of manpower and time. This tends to limit them, to a low frequency such as one every decade for the population/housing and agricultural censuses of most countries, and to the quinquennial or decennial cycle recommended for industrial censuses in the World Programme of Industrial Statistics. This frequency may be acceptable for the measurement of structure in various demographic or socio-economic characteristics that do not show wide variations over time, but it tends to be of limited used in subject areas where major changes can take place in short periods of time.

17. This is the case, for instance, in the manufacturing sector, where major expansions or contractions of activities can take place in relatively short time-periods of one to five years. Such changes in levels of activities depend not only on secular domestic growth trends, but also on business cycles and economic developments in other countries, especially the major trading partners and competitors in the international markets.

18. Traditionally, the international recommendations for industrial statistics have promoted a cycle of establishment censuses (at 10-year intervals) and annual census-type baseline inquiries using cut-off points, and sample inquiries when they are considered relevant for the complement of the statistical universe. However, a recent survey of country practices in the field of industrial statistics, which is discussed in chapter III, has revealed that only very few countries actually followed this recommendation on the cycle of data collection. The reasons for the discrepancy probably include those mentioned earlier.

19. In addition to the problem connected with the difficulty inherent in establishment censuses of providing reliable estimates of characteristics that may change fast and in unpredictable ways, this type of enumeration also faces problems of ensuring full coverage. This is the case for countries where a part of the survey universe cannot be reached by means of the enumeration procedures followed. For instance, in countries with substantial populations of nomads, homeless people or illegal immigrants, the standard practice of population censuses of enumerating the number of inhabitants in each housing unit will cause an undercount. Similar problems exist in economic censuses.

20. Moreover, if registers are used to guide census-type baseline inquiries using cut-off points, activities that do not fall within the statistical universe may be overlooked or underrepresented. In practice, this is the case in most countries for informal sector activities, which may require some form of registration, for example, at the local level (whose enforcement, however, is often not possible). This renders such registers of little use for statistical purposes. Only where the universe of the inquiry matches economic realities, can baseline inquiries based on business registers yield useful results. In other words, useful information is forthcoming from such censuses only when all types and sizes of units producing industrial goods for sale or exchange (the System of National Accounts (SNA) definition) have been covered. Consequently, in most countries the economic census at infrequent intervals, in the form of a field operation, is the key statistical instrument for canvassing economic activities.

21. The usefulness of baseline inquiries may be further limited by the data items covered. The international recommendations place great emphasis on the collection of data to determine census value added. While this is very important, as indicated earlier, it is also imperative that all data items needed to derive value added according to the national accounts concept are also covered, as this provides the only means to integrate the information with that of other sectors of the economy.

22. In principle, the economic census combined with baseline enumerations provides the most comprehensive statistics on any subject, but their costs in terms of money, manpower and time are generally very large. Their usefulness may be limited further by the content or subject-matter and by the definitions used for the universe of the inquiry. Perhaps most important for economies undergoing rapid change, the profile generated by such enumerations may be out of date even before the results become available.

2. Creation/maintenance of establishment registers/directories

23. Establishment registers are used in many statistical data-collection activities, mainly because of the ease of reaching the respondents on the list, although in many cases it is nearly impossible to ensure full coverage of the universe included in the register. However, the most serious drawback is that the creation and maintenance of such registers are usually not straightforward and often not successful.

24. There are two main problem areas in this regard. The first problem relates to the definition of the universe to be covered by the directory. This may comprise, for instance, registered manufacturing establishments, with the terms "registration" and "manufacturing" reflecting the definitions of a government department, which may not be suitable for industrial statistics or national accounting. The lower cut-off point for registrations is seldom very clear-cut (often it is established in terms of regular employment or initial capital investment) and adherence is mostly not properly enforced. As registration frequently involves additional burdens for the establishment in terms of taxation, labour laws, industrial safety regulations and the like, there are many incentives to circumvent or ignore the registration requirements. Circumvention is generally rather simple, for instance, by using mostly casual labour or investing initially below the limit and then adding quickly to the initial investment afterwards. Ignoring the registration requirements is easiest in places where there exists a weak enforcement of the regulations or where political influence or outright bribes can ease the situation. Apart from the administrative consequences, it is clear that such registers do not provide an adequate basis for statistical use.

25. A second problem relates to the difficulties faced in maintaining a directory or register in terms of new entries, without taking into account the coverage problem described above. Maintenance includes the entry of information on new establishments (births), the de-listing of units that are closed and should therefore no longer form part of the register (deaths) and the tracking/identification of establishments that have not ceased activity but have undergone change in ownership, name, mailing address or, in some cases, physical location. When a central (computerized) register exists, it is a rather straightforward matter to obtain the particulars of changes in the register from time to time from this source, although confidentiality sometimes makes it hard for statistical agencies to obtain even such basic information, especially from tax authorities. The problem looms larger in

cases where registration is carried out at the local level and only manual procedures are used in the process. Such decentralization often results in delays in obtaining the required information.

26. In cases where the register is copied from administrative sources that require an annual (or other regular) registration renewal fee to be paid, establishments that have been closed will be excluded after the lapse of one period. In cases where such a requirement does not exist, or where the re-registration requirement is not adequately enforced, this method of updating the directory (from administrative sources) is not feasible. When used in full-enumeration-type surveys, this method does not pose a major problem, as closed establishments that can no longer be found in the field are thus automatically eliminated. However, when the directory from administrative sources is used to draw a sample, the inclusion of closed units on the list may cause problems, depending on the sampling procedures as well as the size of the sample. A related problem in de-listing is that in mailed surveys, addresses are sometimes not written correctly or clearly, thus resulting in non-delivery of the questionnaires, and the interpretation of non-delivery as indicating closed units. It is not uncommon to see those units eliminated from the list without proper investigation (for example, through trying to contact them by telephone or telex). Changes of address (often of postbox numbers) also cause problems in mail inquiries. Low-cost computerization of address lists has reduced these problems over the past few years but has not entirely eliminated them. Name changes of establishments, often when they are acquired by new owners, may cause problems similar to those faced with address changes, as ownership changes are often accompanied by changes in the office address of the establishment, which is used mainly for mailed surveys. Physical relocation of the factory is far less common, although older units may shift from congested downtown sites to new industrial areas at a time of major expansion or modernization of the facilities.

27. The maintenance of business directories or registers at statistical offices is in practice feasible only if the registers are being maintained for administrative purposes by other government or quasi-government agencies. Statistical offices normally do not have the resources available, nor the authority, to ensure full compliance by establishments with registration requirements. Important work on the creation and maintenance of business registers is currently being carried out through the International Roundtable on Business Survey Frames.

28. For statistical work, registers or directories will therefore be useful only if full coverage of the universe can be assured and updates are straightforward. In many countries this limits the scope of such lists to the corporate sector, that is, to those enterprises incorporated as public or private limited liability companies and registered with the authorities accordingly. In addition, information on state-sponsored units is generally also readily available. For national accounting, directories based on these criteria are acceptable, as they conform to the definition of some of the institutional sectors used in the SNA.[7] For industrial statistics, the cut-off is also suitable, as it provides a break between units included in the

list that maintain complete business accounts and other units, most of which do not maintain modern accounts. For survey purposes, this is an important distinction, as the questions that may be asked of units maintaining accounts are in their nature and complexity quite different from those for units not maintaining accounts.

3. Sample inquiries

29. A sample inquiry normally provides an efficient method for obtaining statistical information from large populations without the enormous costs and large input requirements of economic census-type enumerations. However, sample surveys always assume the existence of a known universe and are therefore affected by any weaknesses relating to it.

30. For instance, a sample survey based on a directory will be inflated to full coverage using, for some available characteristic (for example, employment or asset size), the ratio of the value for the sampled units to that for other units in the directory. Any sample drawn on an incomplete directory or register will have the shortcomings of the register compounded by its non-sampling error. Similarly, a sample survey based on an area sampling design requires some basic knowledge of the entire universe in order to calculate the raising factors needed to blow up the sample results to full-scale information. Inadequate knowledge of the universe (for example, of the total number of units or employees outside the sample areas) will yield biased results for the total.

31. This applies not only to knowledge about the size of the universe, but also to various relevant geographical characteristics. In many cases, for example, specific types of manufacturing activities are concentrated geographically (traditionally, the American automobile industry was concentrated in Detroit, Michigan), and if detailed information on such activities is required, they should be covered in the sample through the choice of an appropriate sampling procedure.

32. A sample survey can yield accurate estimates of the population characteristics on the basis of a relatively small number of observations. The accuracy depends on the control of non-sampling errors and of sampling errors. The latter in turn depend upon the sampling procedures as well as on the sample size in both relative and absolute terms. A larger sampling fraction yields more accurate results than a smaller fraction, but for large populations the marginal gains from increasing the sampling fraction (and thus, the costs) declines with the increased size of the sampling fractions. Beyond a certain absolute size of the sample, those gains are marginal compared with those obtained from increasing very small sampling fractions.

33. Two forces work together to reduce the reliability of information derived from very small samples. First, in a small sample, the relative importance of each observation is greater than in a large sample. A single observation in a sample of 100 represents 1 per cent of the total, while in a

sample of 1,000 it represents only one tenth of 1 per cent of the total. Second, in practice the chance that an observation has a representative value is less for a small sample than for a larger one. For each observation in the small sample, several observations are available from the larger sample, which can therefore show more differentiation.

34. Nowadays, with ample computer power available at low costs, it is rather simple to check the sensitivity of the results based on sample size for any sample survey. This can be done by creating a 50, 20 or 10 per cent sample of the survey results (every second, fifth or tenth record respectively) and then running the same tabulation on both the full and the abbreviated data sets. When the sample size is adequate, the sets of results will show the same distribution and accuracy, especially among the cells with low values. Of course, accuracy can also be checked with various statistical measures, although it is often very cumbersome to calculate them, and their presentation may cause problems. Furthermore, their interpretation requires much more statistical knowledge than that required for the simple comparison described in this paragraph.

35. From the recent survey of country practices with respect to the collection of economic statistics (which is described in chapter III), it is apparent that most countries apply sampling procedures for the collection of data on economic structure and growth. A variety of sampling methods is used to obtain statistics on economic activities without resorting to census-type enumerations either for baseline inquiries with an elaborate set of data items covered or for annual and more frequent inquiries with a limited set of data items covered. Inquiries of the latter type are usually applied to support recurrent annual national accounts compilations, while baseline inquiries serve the dual function of generating a detailed set of basic statistics to serve specific planning needs and informed policy decisions, and supporting the preparation of benchmark estimates for the national accounts.

36. In general, it might be considered that the large-scale segment of the economy, irrespective of its precise definition, is, if defined as a separate statistical universe, not suited for sample surveys because the differentiation in size and activity is great compared with the number of units involved. However, the smaller establishments, whose number tends to be much larger, are far less heterogeneous than their large-scale counterparts. For this part of the industrial sector, sample surveys can be gainfully used, although a relatively large sample size tends to be required if results are to be made available by industry class (International Standard Industrial Classification of all Economic Activities (ISIC), four-digit level) or group (ISIC, three-digit level).

II. BASIC CONSIDERATIONS

37. A variety of methods are being used to obtain estimates of industrial activities without resorting to full-coverage enumerations. Many of those methods are based on establishment registers of some type, while others use area frames to obtain the estimates. The most important are summarized below, in sections A through E, according to the ends being sought. The methods discussed here may be used singly or in any number of combinations. Moreover, while the discussion emphasizes their potential pitfalls or disadvantages, the prudent use of these methods yields acceptable results. The discussion of individual methods is followed, in section F, by a brief description of the orientation of the international recommendations for industrial statistics. Finally, section G introduces a different, pragmatic approach, which focuses on the integration of survey components to form a complete structural profile.

A. Different strategies according to size of industrial units

38. A very common method of developing industrial statistics is to divide the industrial sector into two subsets: the large-scale and the small-scale subsector. The dividing line between the two is different from country to country but based mostly on any one of three criteria, that is, employment size, output size and registration requirements (including legal organization), the last of which is often defined in terms of employment or fixed asset size. The choice of a criterion for the dividing line is generally determined by administrative rules or guidelines that mostly define the large-scale subsector.

39. The distinction between units of different size, in whatever way measured, is especially important for many developing countries where the number of units in the small-scale industrial subsector is large and the subsector itself is also relatively important. In traditional industrial statistics programmes the small units in this subsector often were not covered at all, or only very partially.

40. In addition to employment or licensing requirements, there are two other possible criteria considered important for distinguishing between the large-scale and small-scale parts of the industrial universe. Although these are far less commonly used, they may be appropriate in certain circumstances.

41. The first such possible criterion separates those units with a fixed location from those that do not have a fixed location. The latter category is not important for larger establishments, which generally have a larger stock of fixed assets and are therefore more likely to remain at a fixed location. For units operating in the small-scale, unorganized sector,[8/] the quantity of fixed assets employed is often very small and thus presents no limitation on mobility, that is, the unit can move at any time to a location close to its supplies of raw materials or to its customers. It may be noted that there is also a large difference, statistically speaking, between the two subsets, as

the units with fixed location can be reached much more easily in statistical inquiries than those that move around during the year or over time.

42. A second criterion, which may be important in many developing countries, is whether the unit can be reached by postal service, telephone or telex. Smaller establishments often do not have the need for, or cannot afford the expense of, telephone or telex. In a number of countries mail delivery is not house to house, but limited to postboxes at post offices only, thereby reducing access of smaller units to these services also. The implication for statistics is that since only large units can be reached by post, telephone or telex with some degree of certainty, mailed surveys can effectively be used only for larger units. Thus, data collection in industrial statistics in most developing countries cannot be carried out entirely by using mailed surveys. However, such surveys do provide very useful low-cost solutions for less comprehensive enumerations at frequent intervals, such as for the compilation of monthly production indices.

43. It may be noted that the small-scale subsector, although discussed, is not defined here. It may include any or all economic units below a certain cut-off point, or those in the informal or unorganized sector.[9/] From a statistical point of view, the SNA definition of "economic unit" is "one that produces, in general, for sale or exchange".[10/] However, the SNA also includes (a) the own-account production of all goods that are retained by their producers for their own final consumption or gross capital formation, as well as (b) the own-account production of housing services by owner-occupiers and (c) domestic and personal services produced by employing paid employees. While (b) and (c) are not directly relevant in the case of establishment-type data collection, (a) could be significant for the determination of the overall level of production.

44. The international recommendations for industrial statistics recognize that the coverage of industrial units in terms of size, and the lower cut-off point of the inquiry, may differ from country and also between industries within a country. No specific recommendation is given in this field for the annual inquiries. Nor is there a clear statement on the coverage of the infrequent inquiries: On the one hand, use of the SNA definition of "all establishments" in the statistical universe is recommended, on the other hand, the difficulties of identifying and including small units are acknowledged.

45. Furthermore, the fact that the international recommendations are generally geared towards the so-called organized or large-scale subsector probably reflects an earlier period in the evolution of the international programme, when the main objective was to standardize the concepts and definitions of existing industrial statistics programmes being carried out in developed countries. (For details on the historical development of the international recommendations, see annex I.) This is evident, for instance, from the lack of information in the recommendations on sampling as well as on the line of questioning to be used to obtain similar information from the small establishments that do not maintain accounts.

B. Different strategies for selected cities or regions

46. In many countries, economic activities tend to be concentrated in a limited number of cities or regions. It is therefore often possible to limit regular industrial surveys to those cities or regions that have the bulk of industrial activity. Infrequent inquiries, which treated the units in the remaining areas of the country as the statistical universe, would then provide the basis for complementary estimates of industrial activity.

47. However, the use of different survey strategies for different geographical areas does have disadvantages. There is a possibility that if economic developments outside the covered cities and core regions are not measured with a certain frequency, the total estimates derived on this basis will become unrepresentative over time.

48. Such developments have affected some of the major agro-industries such as sugar refining and vegetable oil-pressing. Those industries tend to be very close to the sources of raw materials, at locations that may frequently be outside the core regions covered by the regular industrial surveys. In addition, important developments in industrial activity may be scattered widely beyond as well as within the cities and regions covered by the regular surveys. Under such conditions, use of this method probably would introduce a bias in the overall estimates and preclude reliable estimates at the industry (ISIC), three- or four-digit level.

C. Different strategies for different industries

49. Levels of economic activity are distributed unevenly over various industries, and in many countries a major part of the activity takes place in only a handful of industries. It is therefore possible to limit regular data collection to those industries and use other methods to obtain estimates for the activity in the remaining industries.

50. The concentration of data-collection efforts on a small number of activities significantly reduces the volume of work and the inputs required to obtain regular estimates for the most critical part of the economy. In general, the estimates for other industries will be based on extrapolation of some benchmark results. By adding this estimate to the results of the survey, a fair estimate for the total level of industrial activity will be obtained.

51. However, a problem with this procedure is that except for the year(s) of benchmark enumeration, no information is available on the developments in the industries not covered by the regular surveys. Therefore, unless the benchmark enumerations are rather frequent or ad hoc supplementary information is used, it is very difficult to ensure representativeness of the data over time for any of the minor industries that may be growing rapidly.

D. Different strategies according to the type of information required

52. In principle, it is the data items to be collected that will dictate the selection of the statistical unit for any economic inquiry. The 1983 World Programme of Industrial Statistics refers to the establishment as the statistical unit because it is the most detailed unit for which the range of production-related data are normally available. Apart from the availability of the most homogeneous production-related data items at the establishment level, the single-location characteristic is considered important by many countries, for establishing a geographical mapping of the industrial activity.

53. However, some countries prefer to use the enterprise as the statistical unit at the expense of a more precise characterization of the geographical dimension and the classification by kind of activity. They consider it more important to direct the inquiries to units that can provide not only production-related information but also information on balances of assets and liabilities and other non-production-related transactions with other units. Also with the enterprise as the statistical unit, its ancillary activities are captured more easily than at the establishment level.

54. In practice, the difference between the two statistical units will not be that great. Countries using the multi-establishment enterprise as the unit of measurement try to ascertain the smallest level of enterprise for which level the required combined profit-and-loss and balance sheet information is available in a non-consolidated form with a parent enterprise. In those countries, the statistical offices make considerable efforts to determine the parent-subsidiary relationships in business accounting. Moreover, in developing countries where the bulk of employment and economic activity is the small-scale sector, the multi-establishment enterprise structures have not yet matured. It is even suggested that in case of more-frequent-than-annual industrial inquiries, because the required information on new orders, volume of sales, and fixed capital formation is not available at the establishment level.

E. Establishment-type questionnaires on economic activities administered during household surveys

55. With a view to capturing at least some information on small-scale economic activity, many countries have expanded the contents of household surveys beyond the standard questions on income and expenditure to include, as a regular feature, questions on productive activities, often in separate questionnaire modules.

56. There are two main advantages to this approach. First, it significantly improves the quality of the data. In traditional household surveys, the income questions are rather simple; and, typically, for each member of the household, only a summary amount by sources of income is asked for. The use of special modules or more probing questions for small establishments and households engaged in economic activities provide more detailed and therefore

more accurate data on incomes generated and the expenditures associated therewith than are normally collected in such surveys. Second, this approach allows the inclusion of all income-generating activities, thus also accounting for the units without fixed location that cannot be covered in regular establishment surveys, as well as for own-account production of goods and services.

57. The main disadvantage of the use of household surveys for this purpose is that the sample for such surveys is not designed to provide a representative coverage of economic activities, but only of the distribution of households. It is likely that in many cases the two distributions are different, as economic activities tend to be concentrated in commercial and industrial zones and are not spread across areas in the same way as the population.

58. Thus, the use of household surveys probably does not provide accurate information on the absolute levels of the output of these different activities because of problems with the representativeness of the samples of those surveys for such a purpose. Despite this limitation, however, inclusion of establishment-type information in household surveys does improve the quality of the income data and should provide useful information on the relative shares of income generated by various types of activities, for example in mobile units as compared with those with a fixed location.

F. Strategy outlined in the international recommendations for industrial statistics

59. The basic recommendation for collection of industrial statistics in the international recommendations has always centred on the mix of annual inquiries and infrequent full-coverage inquiries, possibly supplemented by more-frequent-than-annual inquiries. The annual inquiry is presented as the central feature of the system, with the infrequent inquiries playing a supporting role to provide benchmark data. It was observed earlier that any type of sampling can be employed successfully only if the statistical universe is known. It therefore seems more logical to give first priority to the establishment of the complete statistical universe so that the more frequent inquiries can be raised to the total for the economy.

60. The international recommendations emphasize a close integration of the proposed inquiries of different frequency. They stress the need to ensure consistency in scope and coverage, in the statistical unit used, in the classification used, in the reference period and in the items of data gathered and their definitions. This attention to consistency is very important. However, it is also important to be more explicit about the coverage and the line of questioning for obtaining similar information on the household and small-scale industries, and to include not only the industrial inquiries but also surveys in other fields of economic activity, so that a better integration of all economic data can be achieved.

61. The international recommendations assume the availability of a register of establishments or enterprises and the suitability of such a list as the basis for a system. The limitations of registers have been dealt with in chapter I, section B.2 above. For developing countries with a large informal or unorganized subsector of household and small-scale industries, an establishment register is not by itself an adequate basis for inquiries in industrial statistics. Indeed, for small-scale activities in developing countries, such a register cannot even be built, let alone maintained.

62. Such glaring discrepancies between the ideal and the real conditions suggest the need for a complete re-evaluation of the internationally recommended approach. The question is how to generate a reliable statistical universe of economic activity while minimizing the difficulty and expense of benchmark enumerations. The following section outlines a strategy by which such a goal could be attained, including suggestions on an efficient data-collection cycle of inquiries.

G. Integration of various components to build up a total structural profile

63. Until now, conceptual and methodological developments have largely dictated statistical practices, instead of having been adapted to practicable solutions in the field. Reversal of this pattern is the key to the discussion that follows.

64. In order to overcome the shortcomings of the various survey techniques described above, and taking into account the conditions in the field, a completely new approach has been developed for establishment surveys. The Fully Integrated Rational Survey Technique (FIRST) methodology, which is described in the present section, has been designed to work with an absolute minimum of information required for statistical survey work. At the starting-point, some census enumeration (a population census will generally do) is required to establish the complete statistical universe for sample construction and sample selection. In addition, good supporting documentation on sample areas/enumeration blocks used for the benchmark enumeration is also needed. However, beyond these basic requirements it is conditions in the field that guide the selection of the most appropriate design for any particular FIRST survey.

65. The FIRST methodology is integrated in terms both of its scope across various economic activities and of its coverage across size classes within those activities. Although the methodology is most effective when applied to a large section of the economy, the present discussion is oriented towards its relationship to the various problems of capturing reliable information on industrial activity. Schematically, the place of FIRST is shown as in the following figure. As may be observed from the figure, the FIRST methodology divides the statistical universe into two parts, namely a list frame of the large-scale subsector which is clearly defined and represented by relatively

few enterprises, and an area frame of the medium- and small-scale subsector which covers all other economic units and is not so readily defined.

66. In FIRST, the largest establishments/enterprises are covered on the basis of a business register/directory, preferably by mailed questionnaire with follow-up visits where required. The definition of the term "large-scale" as used here has been based on practical considerations and will probably differ from country to country. Ease in maintaining the directory constitutes the single most important criterion for defining what constitutes the large-scale subsector. The directory is made up of the following groups which are easily identifiable:

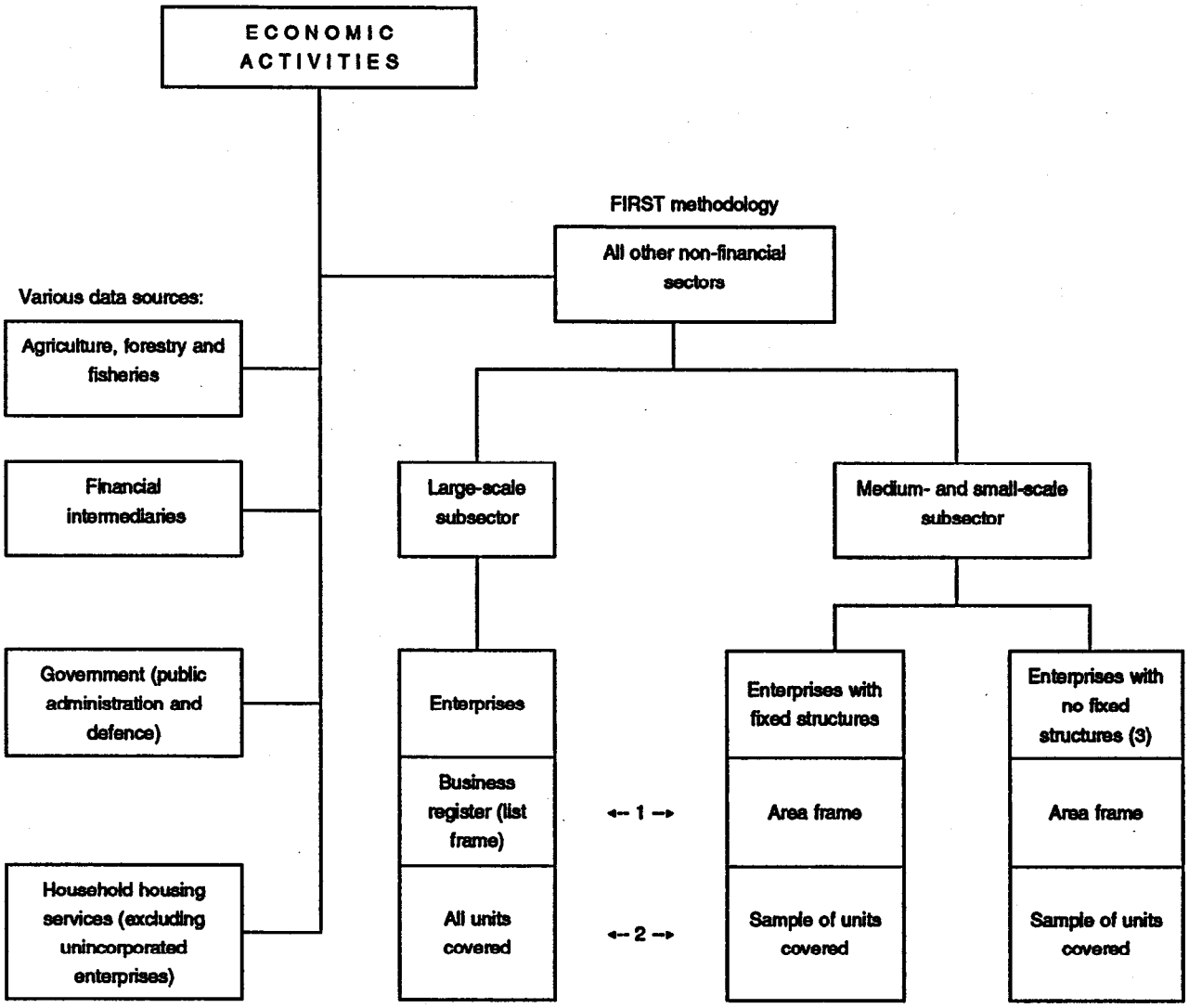
(a) Public limited companies (in other words, companies listed on a stock exchange);

(b) Private limited companies (in other words, companies registered with a government agency such as the Justice Department, a corporate law authority or the like);

(c) Government-sponsored enterprises (public-sector units which may also have been included under a or b above).

The first two groups are mutually exclusive but the third, that of government-sponsored enterprises, may overlap either of the other two. Therefore, care should be taken to prevent double entries.

Schema of the FIRST methodology



1. All units on the business register are excluded from the area frame.

2. All units in the sample that are part of a large-scale subsector unit and included therein are excluded from the sample.

3. FIRST methodology is applicable on the assumption that a distribution of units with no fixed structure is similar to that of enterprises with a fixed structure.

67. It may be observed that these groups can easily be identified. By law, each of the units must maintain proper business accounts and have a fixed address. This makes it easy to reach the units with mailed questionnaires and to organize targeted follow-up visits.

68. The three groups listed above make up the directory of large-scale units. All units not covered within these groups fall within the part of the universe referred to as the medium- and small-scale subsector. Data collection for this subsector will be done on the basis of area sampling. It may be noted that the number of enterprises in the large-scale subsector is relatively small (in most countries not more than a few thousand), but that their economic importance is very large. In many countries these units represent more than three quarters of the output and value added of the industrial sector.[11/]

69. For most economic activities outside agriculture,[12/] the FIRST methodology of integrated surveys for the large-scale subsector and the medium- and small-scale subsector will be capturing complete, consistent economic data. The major exceptions would be units engaged in mining and quarrying and construction and mobile units such as those in trade, services and transport. These small-scale (mobile) units form an important group in most developing countries, especially in terms of employment. However, if it is reasonable to assume that their distribution is similar to that of other small enterprises, they can be covered within the same survey. In cases where such assumptions are not realistic, it becomes necessary to develop other techniques to capture information for these subsectors.[13/]

70. In countries where an economic/establishment census has been conducted, normally it can be employed as a sample frame, although a special survey of this kind is not really needed because of the close proximity of the number of economically active persons in various sectors to the number of medium- and small-scale enterprises, especially when some stratification is used (urban versus rural; industrial or commercial areas versus other areas). Thus, a population census may also be used as the frame, whereby the sample selection can take place on the basis of the number of economically active persons (outside agriculture) or households. This then replaces the number of persons employed or the number of enterprises in an area as a measure of size that is commonly used when an economic census forms the sample frame. Stratification by urban and rural areas and, where possible, by density of industrial and commercial activities, should normally be used.

71. While the FIRST strata can be determined directly from an economic census, it also can be done on a "local knowledge" basis. Areas comprising industrial estates or other concentrations of industry as well as commercial areas are easily identified and known to the local population.

72. FIRST is an establishment-type survey in principle, using for the medium- and small-scale part of its approach areas sampling techniques similar to household surveys. At the initial (listing) stage, each structure in the selected areas is visited to determine whether an economic activity is taking

place there. If so, it is classified by kind of activity and in the second stage, enumeration of the actual activity will take place.

73. If it is decided that (mobile) enterprises with no fixed structures/location should also be covered in the survey, some additional questions need to be asked of households at the listing stage, to establish whether any of their members are engaged in such activities. If, for example, mobile trade and transport units are included, then a household member operating a taxi on own account or selling various goods along the street should be listed and interviewed at the home address.

74. All establishments in the selected areas that are within the scope of the survey should be covered, irrespective of their kind of activity classification. This has a major benefit (aside from reducing survey costs) in ensuring a non-overlapping grouping of enterprises by kind of economic activity. Each establishment is classified in one and only one sector and the questionnaire design should be such that reclassification of an establishment afterwards is possible if the data show an inappropriate sector assignment. In most surveys, such a unique assignment is not easy for a number of subsectors, such as those comprising bakers, tailors and shoemakers, who may be retailers, repairers or manufacturers according to the relative contribution of the various activities concerned to total revenue. Evidence from different surveys in some countries suggests that when those surveys for different kinds of economic activities such as manufacturing, trade, business services and other services were administered at consecutive points in time, establishments may have been enumerated as manufacturers in one and as retailers or repair shops in another, thereby inflating the level of economic activity in the country as well as incorrectly representing the structure of industrial activity. It is the potential for distortion of survey results presented by such inconsistencies in the assignment of an establishment to an economic activity that constitutes the most important reason for extending the scope of the survey exercise beyond industry to include all economic sectors.

75. The FIRST survey questionnaire design takes care of the diversity of activities by providing sector-specific modules on typical incomes and outlays, while other, common items of information are requested in the principal questionnaire, which is administered to all sampled enterprises in different economic activities. The questionnaire also makes optimal use of available information. Financial questions are divided into two parts: One part, for those establishments maintaining accounts, requests information on an annual basis (last accounting year) while the other part, for other establishments, requests information according to what can be supplied most accurately, such as taxes on an annual basis, electricity and gas bills on a monthly basis and other data even possibly on a weekly basis, to prevent memory lapse. Better integration of all economic data also requires that concepts and definitions of the data items be standardized in the design of questionnaires administered to different economic activities. For data items collected to be used in compilation of national accounts estimates, definitions comply with the SNA. These need to be supplemented by information required for other applications of the data, as well as other data items

including those provided in the international recommendations for industrial statistics.

76. Finally, a check needs to be made for units covered in the area sample on possible links with larger enterprises enumerated through the directory system. Those establishments encountered whose activities are consolidated in a parent company's accounts have to be deleted from the area sample. This refers, for example, to warehouses or depots operated by manufacturing companies in different parts of the country or to retail outlets forming part of a chain. However, units with independent accounts that are controlled by larger enterprises, but whose links are through management and dividend/profit payments only, do form part of the sample universe.

77. The same sample frame can of course be used to organize more frequent, smaller surveys or specific studies. Keeping these within the same frame, and using standard sampling procedures, allow a straight comparison of different survey results, which is not possible when different procedures, methodologies and sample frames are used for individual surveys.

78. As mentioned above, the scope of FIRST is not universal, but within the sectors included, all establishments, in terms of both size and location, are covered. An important part of economic activities that can be covered by FIRST only by using some relatively safe but disputable assumptions is the mobile segment. These units are difficult to locate, while the intensity and regularity of the activity may vary greatly over time. For instance, enormous volumes may be traded on the weekend markets, often by government employees to supplement their incomes.

79. As described above in section II.E, a household survey can register the different sources of incomes of the members of households enumerated, both by amount and by type. However, there is one essential difference between the household survey approach and FIRST: The sample design of a household survey is based on population size, while the FIRST sample design is weighted according to the concentration of economic activities rather than population size, Depending on the sample frame, economic activity may be defined in terms of establishment-type information when using an establishment census or the like, or in terms of the characteristics of the economically active population when a population census forms the basis. It is probably a fair assumption that in most countries mobile units show a distribution in line more with economic activity than with population. On this assumption, the FIRST sample can be used also to cover mobile units as described for household surveys in section II.E.

80. Needless to say, in this era of low-cost, powerful microcomputers, the basic data of the FIRST surveys should be processed on computer so as to be available for further analysis and cross-reference with other data sets. A change-over to the FIRST methodology will not in general involve major problems in data consistency or cause a disruption in time-series, although this depends somewhat on the definitions in use at the time of change-over. Problems are more likely in places where the universe is subdivided into small

and large. In FIRST, this subdivision is made on the basis of legal status, but traditionally the dividing line has been drawn more often on the basis of number of persons engaged, capital employed or licensing status. In such a situation, the earliest procedure would be either to retabulate the latest information available under the old system in a way that is consistent with the FIRST subdivisions or to ensure that FIRST results may be retabulated according to the same definitions as were used earlier.

81. A list of survey design considerations for FIRST is given in annex II. This check-list enables prospective users of the methodology to avoid some of the problems common in survey design and in the execution of fieldwork, data processing and tabulations. Raising factors for the sample part of the FIRST survey are calculated in a number of steps, which are described in some detail in section F of annex II. The level of accuracy of the results of the FIRST survey is determined by the sample size and the relative share of the sampled part in the total survey. As the large-scale part is a census-type operation and thus fully covered in all cases, and this subsector forms a substantial part of the total output and value added in most situations (often 70-80 per cent of the total, the overall accuracy of the results is normally high. The accuracy is likely to be even higher if the small-scale part of the FIRST survey has, as recommended, been subdivided into high-density areas that are fully enumerated and low-density areas that are sampled. The sampled part is then unlikely to cover more than a quarter of the total activity, even in the most extreme cases. This will reduce the sampling error in the overall survey to a few per cent only. It also may shorten the time required for the survey cycle, which is an important consideration for policy makers and other users.

III. COUNTRY PRACTICES

A. Background

82. The internationally recommended model for a national industrial statistics programme consists of an infrequent benchmark inquiry to determine the universe of establishments, accompanied by annual (and, if needed, more frequent) surveys, usually more limited in scope and coverage. To relate current national practices to the existing international recommendations for industrial statistics programmes, the Statistical Division of the United Nations Secretariat conducted a survey in which national statistical offices were asked to describe their non-agricultural economic statistics programmes. Objectives of the survey were to review the approaches employed by countries in collecting industrial statistics within the framework of a country's non-agricultural economic statistics programme, and to compare actual national practices with the international recommendations for industrial statistics that had been adopted by the Statistical Commission,[14] especially with respect to the use of benchmark inquiries, annual surveys and sampling methods.

83. The survey questionnaire, which was mailed to the statistical offices of 179 countries in February 1992, consisted of three sections: Section A was an inventory of all inquiries currently being used to measure non-agricultural economic activity, including their frequency and scope; section B contained detailed questions concerning the coverage of each inquiry and the method or methods used in the enumeration; and section C requested a bibliography of the published results of each inquiry. The questionnaire was sent in English-, French- and Spanish-language versions. A copy of the English version is contained in annex IV.

84. Section B below is a profile of countries responding to the survey. Sections C and D describe the survey findings. Annex III lists the characteristics of national inquiries as reported by each country responding to the survey questionnaire.

B. Profile of responding countries

85. As of 1 November 1992, 89 complete questionnaires (or equivalent national publications) had been received, representing a 50 per cent response rate from countries to which questionnaires had been sent. An additional six countries responded but indicated that they were unable to participate in the survey. A list of responding countries is provided in annex III.

86. Approximately two thirds of the countries in the sample were developing, one quarter were developed, and the remaining 7 per cent were in transition to a market economy. Responding countries accounted for over 80 per cent of world GDP (1990 estimate).[15]

Responding countries by economic grouping

Economic grouping	Questionnaires sent	Responding countries		Response rate (percentage)
		Number	Percentage	
Developed	28	22	25	79
Developing	139	61	69	44
In transition	12	6	7	50
Total	179	89	100	50

87. The table below shows that except for the underrepresentation of African countries, the geographical distribution of responding countries generally followed that of the questionnaires sent. Response rates by region ranged from 35 to 62 per cent.

Responses by region

Region	Questionnaires sent		Responding countries		Response rate (percentage)
	Number	Percentage	Number	Percentage	
Africa	52	29	18	20	35
East/South Asia	26	15	15	17	58
Western Asia/Middle East	14	8	7	8	50
Europe/North America	37	21	23	26	62
Latin America/ Caribbean	38	21	21	24	55
Oceania	12	7	5	6	42
Total	179	100	89	100	50

C. Survey results

88. The results of the survey of country practices will first be summarized using the country as the statistical unit and looking at practices in the context of the international recommendations. This will be followed by a more detailed review of the survey findings, using the individual inquiry as the statistical unit.

1. Results by country

89. Countries are grouped into three categories in the table below, according to their general approach to measuring industrial activity: (a) those that combined an infrequent benchmark enumeration with an annual industrial inquiry, (b) those that have an industrial statistics programme that was not linked to a benchmark enumeration and (c) those that did not have a separate industrial statistics programme per se.

Overview of industrial statistics programmes, by economic grouping

		Economic grouping			
		Developed	Developing	In transition	Total
(a)	Census* and annual industrial inquiry	7	11	0	18
(b)	Annual industrial inquiry only	14	39	6	59
(c)	General economic inquiry only	1	11	0	12
Total		22	61	6	89

* For half of these countries, the scope of the census was limited to industrial activity only; for the other half, a wider range of economic activity was included.

(a) Countries that conduct an infrequent census of establishments, either general economic in scope or specific to industry, combined with an annual or more frequent survey of industry

90. This is generally the model proposed in the international recommendations for industrial statistics. The infrequent census may be either a substantive inquiry or one designed only to update a register of establishments. About one fifth of respondent countries fell into this category; of these, about one third were developed countries and the remainder developing countries (none were countries in transition. Among both developed and developing countries, about half of the infrequent inquiries were general economic in scope and half were confined to industry.

91. For three of the seven developed countries included in this category, the subsequent industrial inquiry was monthly or quarterly rather than annual. However, these more frequent inquiries were similar in terms of content to an annual survey.

(b) Countries that conducted annual or more frequent inquiries for measuring industrial structure and growth, but did not conduct an infrequent benchmark inquiry

92. This was the largest group of countries, encompassing two thirds of those responding. These countries reported that they either carried out a complete enumeration of industrial establishments within the annual inquiry or maintained a register of establishments. It might also be the most problematic group in terms of the quality of the statistical results, as it was not known whether every country in this group had adequate provision for a complete definition of the industrial universe.

(c) Countries that captured industrial statistics only as part of a general economic inquiry, and did not have an ongoing industrial statistics programme per se

93. Twelve countries (13 per cent of the sample), mainly those for which industry accounted for only a small part of the national product, fell into this group. This category also included two countries that had once carried out a census-type industrial inquiry, but did not have a current programme.

2. Results by inquiry

94. The 89 countries discussed above reported a total of 1,140 inquiries relating to non-agricultural economic statistics. Of these, 997 were accepted for the following analysis as "production-related". To establish a common ground for analysis, an inquiry was classified as production-related if: (a) its content was considered relevant to the production approach in national accounts estimations and (b) it involved some type of primary data-collection activity, so that it was not based solely on data originally collected elsewhere. The remaining 143 inquiries covered such subject areas as price indices, labour statistics, certain financial and trade statistics, and the recording of building permits.

95. While the average number of inquiries per country was about 13, there was a wide range in the number reported by individual countries, from 1 to almost 70. (The number of inquiries by country is shown in table A of annex III.) It should be pointed out that the variation in the number of reported inquiries did not necessarily reflect national differences in survey strategies for capturing information on industrial structure and growth, although it has affected the current analysis of survey results by inquiry, through the disproportionate weight given to countries reporting a larger number if inquiries.

96. A variety of factors could account for the range in the number of inquiries reported by countries, including (a) differences in national economic structures and (b) differences in statistical programmes, as well as (c) varying interpretations of the survey questionnaire by country respondents. These are briefly reviewed below:

(a) The size of a country's economy or the size and importance of the industrial sector within the economy: Many of the countries reporting a much higher than average number of inquiries also claimed a large share of world GDP and/or had a higher than average contribution of industry to GDP. However, the correlation between GDP and the number of inquiries did not always hold: Several countries with large shares of world GDP reported a relatively low number of inquiries;

(b) The organization of a country's statistical programme: Some countries collected within a single industry statistical material that other countries would have distributed among several inquiries. This probably reflected the degree of centralization or decentralization in data collection and processing;

(c) Varying interpretations of what was being requested in the questionnaire: Certain ambiguities in the survey questionnaire became apparent from responses. The most common of these was the listing of reports instead of inquiries in section A of the questionnaire even though several of the reports might have been based on the same inquiry. Efforts were made to eliminate this type of duplication, using information provided in section C of the questionnaire or other evidence. However, it is possible that the number of inquiries reported by some countries may have been slightly inflated for this reason.

The relative impact of these and possibly other, unrecognized factors on the definition of the universe of non-agricultural economic inquiries being examined is not known.

97. The following analysis focuses on the 997 production-related inquiries considered most relevant to the subject of the technical report, namely, the measurement of industrial structure and growth. The table below shows the distribution of those inquiries among the developed and developing countries, and the countries in transition.

Distribution of production-related inquiries, by economic grouping of countries

Economic grouping	Inquiries		Countries	
	Number	Percentage	Number	Percentage
Developed	451	45	22	25
Developing	383	38	61	69
Transitional	163	16	6	7
Total	997	100	89	100

D. Characteristics of production-related inquiries

98. For descriptive purposes, each production-related inquiry was assigned to a category thought to best reflect its scope and content. It should be noted that both the selection of categories and the assignment of inquiries to them involved some subjective judgement. However, it was necessary to organize the data in some way to facilitate analysis, and to characterize the patterns reported by responding countries.

99. The table below indicates that inquiries relating primarily to industry formed the largest group. This was to be expected given the importance of industry in the economy of most countries: Industry, including construction, accounted for about 35 per cent of GDP among responding countries. It should be noted that in addition to broad surveys of industry, this category also included surveys devoted to specific sectors or individual industries.

Primary focus of production-related inquiries

Economic activity	Number of inquiries	Percentage of inquiries
Industry	272	27
Construction (only)	89	9
Industry and construction	361	36
Wholesale/retail trade	115	11
General economic	89	9
Transportation	80	8
Labour	66	7
Inputs/energy use	52	5
Hotels/restaurants/tourism	46	5
Investment	41	4
All others*	147	15
Total	997	100

* Including a number of less common categories comprising various types of services, communications and government.

100. The following sections discuss specific characteristics of production-related inquiries, beginning with an overview of all inquiries and then continuing for various subcategories: infrequent inquiries, annual industrial inquiries, and the more-frequent-than-annual industrial inquiries.

The discussion generally follows the order in which items appear in the questionnaire, which is contained in annex IV.

1. Overview of production-related[16/] inquiries

101. The frequency of enumeration of these inquiries is shown in the table below. Forty-five per cent of the inquiries were conducted annually, and 41 per cent were conducted more frequently than annually (usually monthly or quarterly). Only 12 per cent were conducted on a less-frequent-than-annual basis, and 2 per cent were conducted only once.

Frequency of inquiries

	Number	Percentage
Once only	21	2
Less frequent than annual	120	12
Annual	446	45
More frequent than annual	410	41
Total	997	100

102. The scope of production inquiries correlated in part with the structure of a country's economy. The table below shows that the manufacturing sector was included in more inquiries (44 per cent) than any other kind of economic activity. All 89 countries conducted at least one inquiry that included the manufacturing sector. In 77 countries, manufacturing was included within an inquiry concerned specifically with industry, as opposed to the economy in general.

Scope of inquiries

Economic activity	Number	Percentage
Mining	317	32
Manufacturing	436	44
Electricity/gas/water	302	30
Construction	267	27
Wholesale and retail trade	320	32
Hotels and restaurants	240	24
Transport/storage/communications	276	28
Other services	307	31
All inquiries	997	100

103. The coverage of inquiries is shown in the table below. More than half (56 per cent) covered all units in the statistical universe. Among those covering only selected units, 62 per cent used the number of persons engaged as a selection criterion. Other criteria included size or volume of output, legal organization, and location (urban/rural, or in specific cities or areas).

Coverage of inquiries

	Number	Percentage
All units	557	56
Selected units	440	44
Of which criteria used:		
Persons engaged	271	62
Output	66	15
Legal organization	63	14
Location	58	13
Licensing	31	7
Economic activity	28	6
Other	11	3
Total	997	100

104. Only 101 (10 per cent) of the production-related inquiries described by responding countries used different enumeration methods for different subsets of the statistical universe. These 101 inquiries were divided into 213 subsets. This yielded a total base of 1,109 inquiries or subsets - that is, the 213 subsets plus the 896 inquiries that had not been divided into subsets - for the tabulations on enumeration method and sampling question 2 in section B of the questionnaire; see annex IV). As in the definition of survey coverage, most subsets were again defined by employment size of the establishment.

Use of subsets of the statistical universe in inquiries

	Inquiries		
	Number	Percentage	Total number of subsets or inquiries
Using subsets	101	10	213
Not using subsets	896	90	896
Total	997	100	1 109

105. The table below compares the method of enumerations used in the inquiries and the frequency with which they were carried out. Mail was the primary method in 63 per cent of the inquiries (or subsets). Field interviews or a combination of mail and field enumerations were used in 27 per cent of cases. Most likely owing to time and cost considerations, inquiries conducted more frequently than annually tended to be administered by mail, and those conducted less frequently than annually tended to involve more fieldwork.

Method and frequency of enumerations

Method	Number	Percentage	Frequency* (percentage)			
			More often than annual	Annual	Less often than annual	Once only
Mail	695	63	74	57	56	17
Field	209	19	10	21	26	83
Mail/field	94	8	6	12	6	--
Telephone	13	1	3	--	--	--
Records	28	3	1	3	5	--
Other	26	2	2	3	1	--
No answer	44	4	4	4	5	--
Total inquiries, including subsets	1 109	100	(410)	(446)	(120)	(21)

* For the percentage distributions by frequency of enumeration, any inquiry with subsets was counted only once. The absolute totals in parentheses reflect this count.

106. The following three tables address the use of sampling and the characteristics of sample surveys. A little more than one third (39 per cent) of the inquiries (or subsets) were sample surveys; the remainder were complete enumerations of the universe.

Type of enumeration used in inquiries

	Number	Percentage
Complete enumeration	671	61
Sample survey	438	39
Total inquiries, including subsets	1 109	100

107. The following table shows that almost all (91 per cent) of the 438 reported sample surveys (or subsets) were based on a list frame. A business register was used as the source of the list in almost two thirds of the sample inquiries; the remainder reportedly used either an economic or population census, or a listing specially conducted for the purpose.

Characteristics of sample surveys

Type of frame	Number	Percentage
List	400	91
Area	21	5
Both	2	--
No answer	15	3
Source of frame		
Register	286	65
Census (population or economic)	60	14
Special listing	66	15
All of the above	3	1
No answer	23	5
Total using sampling	438	100

108. Stratified sampling was used in slightly more than half of the 438 inquiries or subsets. The stratification criteria used most often were kind of economic activity and employment size. Many inquiries involved the use of more than one criterion.

Criteria used in stratified sample surveys

	Number	Percentage of total using sampling
Kind of activity	163	69
Employment size	151	64
Location	50	21
Output	66	28
Other	15	6
Total using stratified sampling	235	54

2. Infrequent inquiries

109. According to the document prepared for the previous round of the World Programme of Industrial Statistics, in 1983, an infrequent establishment census was a key element in an integrated programme of economic statistics.[17] Because of the importance given to the infrequent benchmark inquiry and its role in establishing a register of establishments, the data were examined to determine the incidence of this practice among countries.

110. Twenty-one of the 89 respondent countries reported carrying out a total of 28 production-related inquiries referring either to economic activity in general or to industry only, and at frequency intervals of at least three years.[18] Eight of these had been directed to the smaller, household or newly registered establishments, or were specialized in content. Therefore, only 20 inquiries (conducted by 19 countries) could be classified as a benchmark or census-type inquiry consistent with the international recommendations. That number was so small as to raise questions about whether or not observed patterns would constitute reliable information on country practices. Notwithstanding this qualification, tabulations on the 20 inquiries and a brief review follow.

111. The table below shows that less than half of those benchmark inquiries focused specifically on the industrial sectors; the remainder encompassed most or all kinds of economic activity. Nearly every inquiry covered all units in the designated universe, and most were carried out by complete enumeration. However, in several cases, subsets of the larger inquiry were defined, and their measurement usually involved sampling.

Characteristics of infrequent economic or industrial inquiries: scope, coverage and type of enumeration

Scope	General economic	11
	Industry only	9
Coverage	All units	19
	Selected units	1
	Total	20
Type of enumeration	Complete enumeration	21
(Inquiries including subsets)	Sample survey	6
	Total	27

112. The following table shows the largest number of these inquiries to have been quinquennial in frequency, but with no apparent correlation between frequency and scope of economic activity.

Periodicity and scope of infrequent inquiries

		Scope	
	Total	General	Industry
3 years	1	0	1
5 years	13	6	7
10 years	4	4	0
Irregular	2	1	1
Total benchmark-type inquiries	20	11	9

113. Finally, field interviews predominated among the methods of enumeration, as might have been expected (see below).

Method of enumeration of infrequent inquiries

Mail	6
Field	17
Mail and field	2
Records	1
No answer	1
Total, including subsets	27

3. Annual industrial inquiries

114. According to the current international recommendations for industrial statistics, the annual inquiry is regarded as the central inquiry of the system,[19/] in many ways determining the structure and content of both the infrequent and the more-frequent-than-annual inquiries in the statistical programme.

115. The annual industrial inquiry is defined for the purpose of this analysis as a production-related inquiry that includes within its scope one or more of the industrial sectors - mining, manufacturing, and electricity, gas, and water. Occasionally, construction or a sector outside industry is also included.

116. The table below shows that 66 countries, or about three quarters of respondents, reported carrying out one or more inquiries fitting this definition. Of the remaining countries, 11 conducted only quarterly or monthly surveys of industry (apart from any infrequent or benchmark-type inquiry), and 12 had no ongoing industrial statistics programme.

Survey patterns in industrial statistics among respondent countries

	Number	Percentage
Annual inquiry	66	74
More-frequent-than-annual surveys (no annual inquiry)	11	12
No industrial statistics	12	13
Total	89	100

117. Shifting from countries to inquiries, the following tabulation shows that the 66 countries supplied information on 126 annual inquiries. Because of the importance of the manufacturing sector, and in view of the fact that inquiries that do not include manufacturing are often limited to state- or monopoly-owned mining, energy or utility enterprises, the inquiries that included manufacturing were examined separately as well. Approximately two thirds of the 126 inquiries (86) included the manufacturing sector.

118. The characteristics of the annual industrial production inquiries as well as those relating to manufacturing generally followed the same pattern observed for all production-related inquiries, except in the areas discussed below.

119. The coverage and coverage criteria of annual industrial inquiries are given in the table below. It will be seen that two thirds of the annual industrial inquiries that included the manufacturing sector covered only selected units, compared with less than half of production-related inquiries in general, with the proportion for all annual industrial inquiries falling in between. Nearly all of the annual industrial surveys covering selected units used the number of persons engaged as a selection criterion, occasionally in conjunction with a secondary criterion. This difference from the pattern for all production-related inquiries may be of historical origin, as the major emphasis in manufacturing sector statistics collection, which predates most series on trade and service statistics, has been on the larger "organized sector" units. In industrialized countries, which have the oldest industrial statistics programmes, this delineation for survey coverage was adequate, but it is different for most developing countries. The lower cut-off point for the majority of these inquiries is, at 20 persons engaged, rather high. It may also be noted that nearly all of the annual industrial inquiries that covered selected units only included manufacturing (58 out of 63). Of the annual industrial covering all units, less than half included manufacturing, and this may have been due to the more specialized nature of those inquiries.

Characteristics of annual industrial inquiries: coverage

	Annual industrial inquiries				All production-related inquiries	
			Including manufacturing			
	Number	Percentage	Number	Percentage	Number	Percentage
All units	63	50	28	33	557	56
Selected units	63	50	58	67	440	44
Of which, criteria used:						
Persons engaged	58	92	55	95	273	62
Output	3	5	1	2	66	15
Legal organization	3	5	3	5	62	14
Location	3	5	3	5	57	13
Licensing	3	5	3	5	31	7
Activity	2	3	2	3	26	6
Other	1	2	1	2	13	3
Total	126	100	86	100	997	100

120. The following table compares the method of enumeration used in carrying out all reported production-related inquiries, including subsets, with the annual industrial inquiries and with those relating only to manufacturing. The data show that although enumeration by mail was everywhere the most common method, field interviews (including those combined with a mailing) were also important. Thirty-eight per cent of annual industrial inquiries used a field interview (or a combination of mail and field interviews), compared with 27 per cent for all production-related inquiries.

Characteristics of annual industrial inquiries: method of enumeration

	Annual industrial inquiries				All production-related inquiries	
			Including manufacturing			
	Number	Percentage	Number	Percentage	Number	Percentage
Mail	76	55	51	54	699	63
Field	36	26	26	27	211	19
Mail and field	16	12	12	13	89	8
Telephone	0	--	0	--	11	1
Other	4	3	2	2	55	5
No answer	5	4	4	4	44	4
Total	137	100	95	100	1 109	100

121. The table below shows that the proportion of sample surveys in this group was small; however it generally followed the pattern of all production-related inquiries.

Characteristics of annual industrial inquiries: type of enumeration

	Annual industrial inquiries				All production-related inquiries	
			Including manufacturing			
	Number	Percentage	Number	Percentage	Number	Percentage
Complete enumeration	104	76	64	67	676	61
Sample survey	33	24	31	33	433	39
Total	137	100	95	100	1 109	100

4. More-frequent-than-annual industrial inquiries

122. Some countries do not conduct an annual industrial survey, but use a monthly or quarterly inquiry for ongoing information, and aggregate data to an annual basis as well. The table below shows the periodicity of the 121

more-frequent-than-annual industrial inquiries reported by 52 countries. Of these, 58 per cent were monthly and the remainder mostly quarterly.

Periodicity of more-frequent-than-annual industrial inquiries

	Number	Percentage
Monthly	70	58
Quarterly	49	40
Semi-annual	2	2
Total	121	100

123. The following three tables indicate that the more-frequent-than-annual industrial inquiries generally differed from the annual industrial inquiries in several important respects. Specifically, they were more likely to cover only selected establishments and to include as criteria for defining coverage the value of output, legal organization, and location, in addition to number of persons engaged. The more frequent inquiries appear to have been used for interim estimations and for the national accounts (as suggested in the international recommendations), with coverage often limited to the larger, higher-volume or perhaps more easily contacted establishments.

Characteristics of more-frequent-than-annual industrial inquiries and of annual industrial inquiries: coverage

	More-frequent-than-annual		Annual	
	Number	Percentage	Number	Percentage
All units	39	32	63	50
Selected units	82	68	63	50
Of which, criteria used:				
Persons engaged	60	73	58	92
Output	12	15	3	5
Legal organization	9	11	3	5
Location	7	9	3	5
Licensing	3	4	3	5
Activity	5	6	2	3
Other	0	--	1	2
Total	121	100	126	100

124. The following table shows that enumeration by mail was more common for the more-frequent-than-annual industrial inquiries than for the annual industrial inquiries and the use of field interviews less common.

Characteristics of more-frequent-than-annual industrial inquiries: method of enumeration

	More-frequent-than-annual		Annual	
	Number	Percentage	Number	Percentage
Mail	87	70	76	55
Field	12	10	36	26
Mail and field	8	6	16	12
Telephone	2	2	0	--
Other	7	6	4	3
No answer	8	6	5	4
Total	124	100	137	100

125. Finally, the table below shows that sampling was used more often for the more-frequent-than-annual industrial inquiries than for the annual industrial inquiries. The sampling procedures used for the more-frequent-than-annual industrial inquiries generally followed the same patterns as those observed for the annual industrial inquiries.

Characteristics of more-frequent-than-annual industrial inquiries: type of enumeration

	More-frequent-than-annual		Annual	
	Number	Percentage	Number	Percentage
Complete enumeration	67	54	104	76
Sample survey	57	46	33	24
Total	124	100	137	100

Notes

1/ See Official Records of the Economic and Social Council, 1991, Supplement No. 5 (E/1991/25 and corrigenda), para. 100(i).

2/ International Recommendations for Industrial Statistics, Statistical Papers, Series M, No. 48, Rev.1 (United Nations publication, Sales No. E.83.XVII.8).

3/ Studies in Methods, Series F, No. 28 (United Nations publication, Sales No. E.79.XVII.17).

4/ Data items considered relevant for an internationally comparable industrial statistics programme are outlined in International Recommendations for Industrial Statistics, Statistical Papers, Series M, No. 48, Rev.1 (United Nations publication, Sales No. E.83.XVII.8), tables 1 and 2.

5/ Data items on industrial statistics considered relevant for the internationally comparable national accounts programme are outlined in System of National Accounts, 1993 (United Nations publication, Sales No. E.94.XVII.4), chaps. VI and XV. The volume was prepared under the auspices of the Inter-Secretariat Working Group on National Accounts.

6/ For definitions of output and value added according to the "census" concept, see International Recommendations for Industrial Statistics, Statistical Papers, Series M, No. 48, Rev.1 (United Nations publication, Sales No. E.83.XVII.8), paras. 200-212.

7/ A System of National Accounts, Studies in Methods, Series F, No. 2, Rev.3 (United Nations publication, Sales No. E.69.XVII.3).

8/ A term commonly used nowadays by the World Bank and the Organisation for Economic Cooperation and Development (OECD) is "small and micro enterprises" (SME). SME are defined as units with less than 50 persons engaged. Micro enterprises are those with less than 10 persons engaged and small enterprises have between 10 and 50 persons engaged. This publication refers to the smallest segment of SME, namely that comprising units with less than 10 persons engaged.

9/ The terms "unorganized" and "informal" are used here in a general way. Various definitions of the concepts underlying such terms exist; perhaps the gaining in currency is contained in a resolution of the fifteenth International Conference of Labour Statistics, dated January 1993, from which the following excerpt is taken:

> "The informal sector may be broadly characterized as consisting of units engaged in the production of goods or services with the primary objective of generating employment and incomes to the persons concerned. These units typically operate at a low level of organization, with little or no division between labour and capital as factors of production and on a small scale. Labour relations - where they exist - are based mostly on casual employment, kinship or personal and social relations rather than contractual arrangements with formal guarantees."

For further details on the distinction between formal and informal activities as adopted in the 1993 System of National Accounts, see System of National Accounts, 1993, prepared under the auspices of the Inter-Secretariat Working Group on National Accounts (United Nations publication, Sales No. E.94.XVII.4) (especially chap. IV, paras. 4.153-4.162 and chap. IV, annex, as well as chap. XIX, paras. 19.9-19.13).

10/ Conceptually the SNA definition is clear; however, in practice it is often difficult to determine the lower cut-off point for economic units. The definition also includes units without paid employees, while those have generally been ignored by traditional industrial statistics programmes because of their small size, and put into the arena of the household survey, as defined by the National Household Survey Capability Programme (NHSCP). The SNA definition covers economic activity more accurately than the NHSCP definition and is therefore preferable. It is recommended that industrial statistics programmes be extended to also cover units without paid employment, rather than that own-account units be peeled off and defined as belonging to the household sector with its own data-collection system.

11/ For the distributive trades and services, the pattern is somewhat different. The relative importance of large-scale units tends to be as high as for industry in developed countries, but in developing countries it is the small-scale subsector that accounts for the major share.

12/ Agriculture can also be covered in a FIRST survey, but the situation is not always straightforward, as agricultural production is quite distinct from that of other sectors because of its seasonal nature. Furthermore, agriculture is largely concentrated in rural areas and sample frames based on population densities are not suitable for the agricultural sector. In developed countries, where a more corporate-style agricultural sector exists, these problems are not as big as in developing countries, where much of the sector's production is close to subsistence level and records on production, income and expenditure are nearly non-existent.

13/ The problem for mining and quarrying and construction is the small-scale subsector. The large-scale enterprises involved in these activities can be identified and included as easily as those engaged in other economic activities.

14/ International Recommendations for Industrial Statistics, Statistical Papers, Series M, No. 48, Rev.1 (United Nations publication, Sales No. E.83.XVII.8).

15/ The three largest countries, measured in terms of share of world GDP, that did not respond to the survey questionnaire were the Russian Federation and other successor States of the former Union of Soviet Socialist Republics (USSR) (except Latvia) (approximately 4.5 per cent), Canada (2.6 per cent) and the Republic of Korea (1.1 per cent).

16/ For a definition of "production-related", see para. 94; for details by country on the characteristics of production-related inquiries, see the various parts of table B in annex III.

17/ See Recommendations for the 1993 World Programme of Industrial Statistics, part one, General Statistical Objectives, Statistical Papers, Series M, No. 71 (Part I) (United Nations publication, Sales No. E.81.XVII.11), para. 10.

18/ The inquiries in the survey that had been conducted at two-year intervals appeared actually to be substitutes for annual inquiries, perhaps for reasons of resources or logistics, and so were not included in this analysis.

19/ See International Recommendations for Industrial Statistics, Statistical Papers, Series M, No. 48, Rev.1 (United Nations publication, Sales No. E.83.XVII.8), para. 23.

Annex I

HISTORICAL DEVELOPMENT OF THE INTERNATIONAL RECOMMENDATIONS

1. International recommendations for industrial statistics were formulated by the Statistical Division of the United Nations Secretariat for the first time in 1953.[a/]

2. The objectives of the recommendations, for countries at that time collecting industrial statistics, were to improve the international comparability of their statistics, and for other countries, to stimulate them to start collection of industrial statistics using the recommendations, while adapting them for national purposes where necessary.

3. The original recommendations were followed in 1960 with a revised enhanced set,[b/] which also took into account developments in country practices since the original recommendations had been prepared.

4. Further revisions of the international recommendations took place in 1968[c/] and 1983.[d/] The main purposes of these revisions were to bring them into line with the change in industrial structures taking place during these periods and to introduce additional features into the recommendations. Although a need for separate recommendations or guidelines on the collection of statistics on household and small-scale manufacturing industrial has been felt for some time, especially in developing countries, until now none have been published. However, a draft was prepared in 1987.[e/]

5. The international recommendations have always stressed the importance of the international comparability of industrial statistics. This has become an even more important issue over the years with the rapid expansion of industrial production all over the world and the growth of international trade in manufactures at an even more rapid pace. While initially the interest in international comparability of industrial information may have been more

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a/ International Standards in Basic Industrial Statistics, Statistical Papers, Series M, No. 17 (United Nations publication, Sales No. E.1953.XVII.7).

b/ International Recommendations in Basic Industrial Statistics, A Guide to Objectives and Definitions, Statistical Papers, Series M, No. 17, Rev.1 (United Nations publication, Sales No. E.60.XVII.8).

c/ International Recommendations for Industrial Statistics, Statistical Papers, Series M, No. 48 (United Nations publication, Sales No. E.68.XVII.10).

d/ International Recommendations for Industrial Statistics, Statistical Papers, Series M, No. 48, Rev.1 (United Nations publication, Sales No. E.83.XVII.8).

e/ "Draft recommendations for a statistical programme for household and small-scale industries" (PROVISIONAL ST/ESA/STAT/SER.M/80 and Add.1).

academic in nature, the radically changed global patterns of industrial production nowadays make such information of critical importance also to government planners and businessmen.

6. In parallel with the international recommendations, a series of international classifications of activities and commodities have been developed. These classifications have also been undergoing revisions from time to time to accommodate changes in technology and industrial structures. The international classifications of importance for industrial statistics include the International Standard Industrial Classification of All Economic Activities (ISIC),[f/] the Standard International Trade Classification (SITC),[g/] the Classification by Broad Economic Categories (BEC),[h/] the Central Product Classification (CPC)[i/] and the Harmonized Commodity Description and Coding System (HS)[j/] along with their cross-references.

7. While ISIC determines the scope of industrial statistics in terms of industrial activity, the commodity classifications make it possible to develop standardized procedures for the coding of inputs and outputs. This ensures the compatibility between data on domestic production and foreign trade, which is important for the development of an integrated system of national accounts and for the study of commodity balances and consumption in the national economy and at the world level.

8. In the field of distributive trades, international recommendations were published in 1975,[k/] while, so far, there have been no international recommendations or guidelines for statistics on services.

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f/ International Standard Industrial Classification of All Economic Activities, Statistical Papers, Series M, No. 4, Rev.3 (United Nations publication, Sales No. E.90.XVII.11).

g/ Standard International Trade Classification, Revision 3, Statistical Papers, Series M, No. 34/Rev.3 (United Nations publication, Sales No. E.86.XVII.12 and corrigenda).

h/ Classification by Broad Economic Categories, Defined in terms of SITC, Rev.3, Statistical Papers, Series M, No. 53, Rev.3 (United Nations publication, Sales No. E.89.XVII.4).

i/ Provisional Central Product Classification, Statistical Papers, Series M, No. 77 (United Nations publication, Sales No. E.91.XVII.7).

j/ The Harmonized Commodity Description and Coding System (Brussels, Customs Co-operation Council, 1986).

k/ International Recommendations on Statistics of the Distributive Trades and Services, Statistical Papers, Series M, No. 57 (United Nations publication, Sales No. E.75.XVII.9).

Annex II

FIRST SURVEY DESIGN CONSIDERATIONS

1. Any successful survey requires a clear and unambiguous definition of the statistical universe, without gaps and overlaps in its various segments. Integrated surveys such as those carried out under the Fully Integrated Rational Survey Technique (FIRST) are considered useful in this regard. The FIRST methodology offers and additional advantage that it provides a means by which comprehensive information can be collected in a short time-span with relatively modest means. The FIRST methodology, if properly implemented, obviates the need for trade-offs between survey contents and the timeliness of results which often play a large role in survey design considerations.

2. In the FIRST methodology, emphasis has been given, within the cycle of inquiries, to surveys of an annual frequency. These annual surveys are generally based on some form of census enumeration. Such enumerations may have been specifically designed for use in economic surveys such as an economic census or in those of a more general nature, such as a population census. These enumerations may be repeated at regular intervals (for instance, every 10 years), or they may occur only once. In the latter case, some procedures are generally established to update the sample frame on the basis of the data obtained from the annual survey so that the census information retains as much current value as possible. In addition, statistical information on economic activities is normally also collected for shorter periods; examples of such information are monthly and quarterly production data. Most of these surveys will be restricted to the (large-scale) corporate sector, as they require low-cost, fast enumeration methods, such as mailed or telephone inquiries. The analytical value of these frequent surveys can increase substantially if they are also based in the FIRST methodology. The major advantage of such an integration would be in terms of the elimination of sampling errors in the comparison of results from the different surveys.

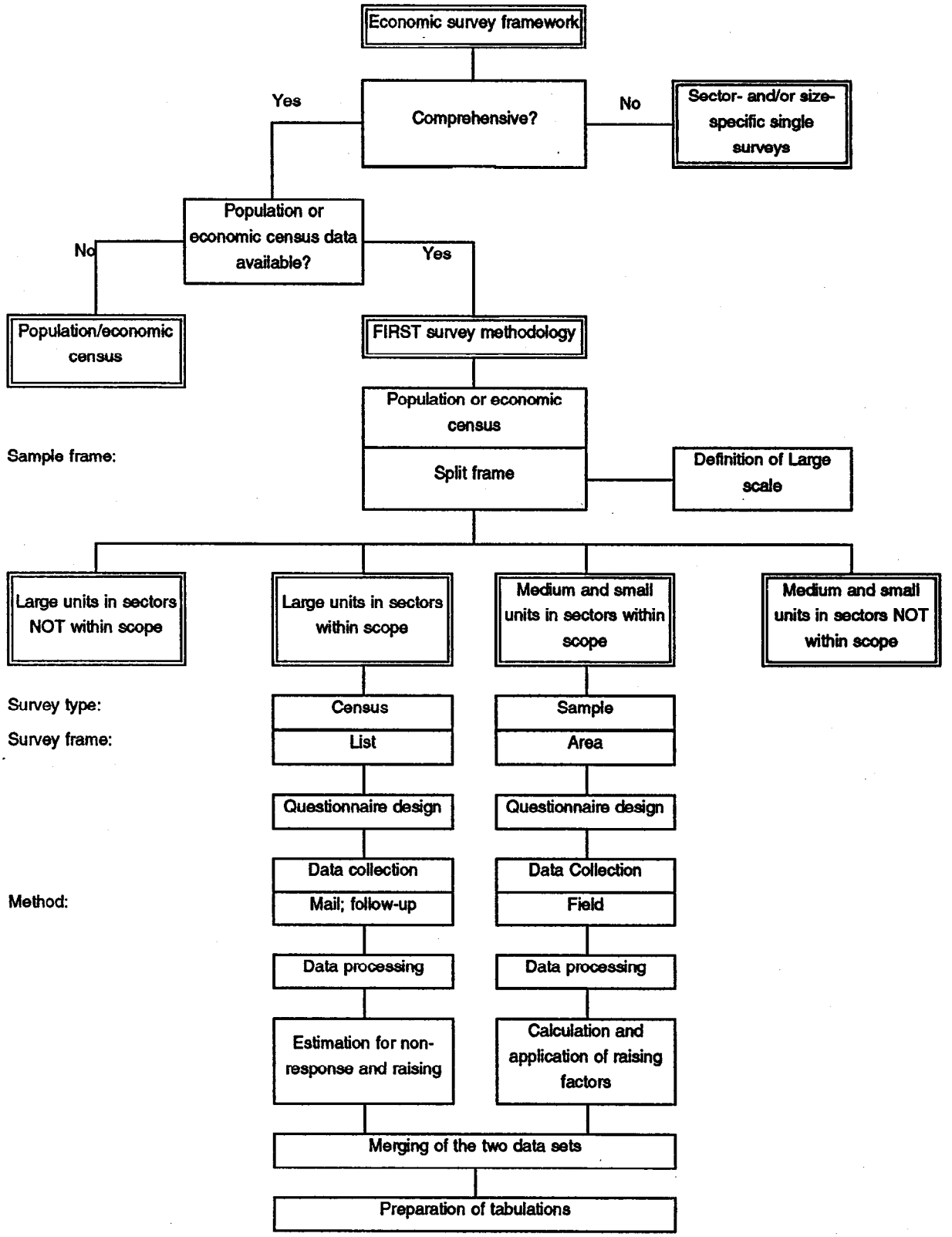
3. The position of the FIRST methodology in the overall framework of economic surveys has been presented in figure I. This overview describes a number of practical survey design considerations. While these are not necessarily restricted to FIRST, they have been brought together here in order to assist prospective users in the efficient planning and execution of an integrated survey.

A. Universe/sample frame

4. The universe of FIRST consists of all economic units engaged in the sectors selected for the survey. Those sectors may include manufacturing,A wholesale and retail trade, hotels and restaurants, transport, various business services, personal services and so on. The full list of economic activities, defined in accordance with the International Standard Industrial

Classification of All Economic Activities (ISIC) or the comparable national classification, should be appended to the publication for ease of reference.

Figure I. The FIRST methodology within the economic survey framework



5. Geographically, FIRST should cover all urban and rural areas within the country and any deviation from this coverage (for instance, when export-processing zones or the like are excluded) should be clearly indicated when presenting the results.

6. In sample surveys a major cost component is generally the transport to and from sampled enumeration areas. The listing stage of the sampled enumeration area involves the same amount of work whether one sector is included within the survey or more. Thus, extension of survey work beyond the industrial sectors generally entails only the costs for the extra time required to cover the larger number of establishments selected for the survey. This is a relatively minor cost component and if surveys were planned for non-industrial activities at some point of time, their inclusion in FIRST would yield substantial savings in time, manpower and finances.

7. FIRST is subdivided into two parts, designated as Large and Small. FIRST Large is a full-coverage survey (census) based on a directory list. FIRST Small is a sample survey, using area sampling. FIRST Small covers all establishments in the various industrial that are not covered in FIRST Large.

8. The sample frame for FIRST may be prepared on the basis of a population census or an economic/establishment census. In either case, the information should be available at the level of the enumeration area, preferably on computer, along with supporting maps and area descriptions regarding the physical location of the selected areas during fieldwork. The approaches used to derive necessary information from each census are somewhat different and are described separately below.

Economic/establishment census

9. An economic census or establishment census, where it has been carried out, provides the most suitable frame for a FIRST survey. It is assumed that at least the basic information for each establishment -- that is, the economic activity, employment size, legal organization type and ownership class -- is known. This enables the preparation of a sample for FIRST Small.

10. The first step in sample preparation is to eliminate those establishments from the data set that are covered in FIRST Large. As the directory for the latter is prepared on the basis of some straightforward criteria of ownership and legal organization, the same criteria can be applied on the main data set to find all units that will be included in the FIRST Large survey and then eliminate them from the data set for the sample selection of FIRST Small.

Population census

11. The basic unit of enumeration in a population census is the household. In nearly all population censuses, some information is sought on the economic activities of all household members. This can then be used to prepare a FIRST

sample. However, such preparation, in comparison with that of the sample from an economic census, requires some additional steps.

12. First, a summary data set has to be prepared by counting the number of people employed by different types of units within each category of economic activity. If the types of units unambiguously include those defined as large-scale in FIRST, it is a simple procedure to eliminate them from the data set. However, this is generally not the case. In many cases, the type of activity is identified in population censuses in terms only of such categories as the self-employed, employees, employers and unpaid family workers. It is then not possible to use this selection criterion and in order to eliminate large units it therefore has to be assumed that the majority of workers are employed near their place of residence.

13. Second, on the basis of auxiliary information, such as registers or partial surveys covering large-scale units only, the number of workers in various industries employed by large-scale units in the different geographical areas will then be subtracted from the number of persons in those industries as reported in the population census. The resulting figure will of course be limited by the fact that the number of persons engaged in a particular small-scale activity within a given area cannot become negative. The possibility therefore exists that not all large-scale employment will have been eliminated from the data set, and this may in turn result in some bias during sample selection.

14. If the employment assumption is too strict, that is, if many workers are living far from their places of work, the distribution of the economically active population that is derived from the population census will not be the most appropriate one and it is possible that on this account some bias may be introduced into the sample. It is precisely the possibility of such a bias in the sample derived from a population census that makes an economic census preferable as a sample frame. However, in most cases the bias will be small, especially when a stratified sample design (whereby all areas with a high density of economically active persons in the sectors included in FIRST are included in the sample by default) is used.

B. Directory preparation and large-scale survey

15. The preparation of a register for use in FIRST Large, or the updating of an existing one for this purpose, is a relatively straightforward activity, as the criterion for demarcation of the FIRST Large survey is based on administrative expedience. While it may differ somewhat from country to country, the directory for FIRST Large basically consists of a large segment of the limited liability companies, supplemented by government-sponsored units and, where important, foreign-owned enterprises that are not covered adequately elsewhere. These categories are clearly defined and as they require registration within the government system, the preparation of the list is simply a matter of copying the information from the relevant sources.

16. It should be noted that enterprises on the lists of state-sponsored units and foreign-owned companies may also be registered as limited liability companies (incorporated). To prevent double counts, the lists need to be cross-checked.

17. In order to improve the usefulness of a register further, it is desirable also to add supplementary information for the enterprises included. Items of information that are important in this respect are the location of the production units (preferably coded in the same way as the frame used for FIRST Small); the industry code; the value of the fixed assets or capital employed; the volume of sales or the value of output; and the size of employment. This information, or as much of it as can be obtained, is extremely important for targeting follow-up, for estimating non-response and for adjusting the statistical information for such non-response. It also will assist in the preparation of a sample frame for FIRST Small in those cases where FIRST Small is based on a population census.

18. The most efficient survey approach for FIRST Large generally is by means of mailed questionnaires, with follow-up for non-response by mail, telephone and visits. In addition to its low costs, this approach also allows companies more freedom in choosing the most appropriate time to complete the questionnaire. In this regard, it may be mentioned that the questionnaire for FIRST Large tends to be quite elaborate and thus requires information from various departments of the company in addition to that available from the finance department, including, for instance, employment data from personnel and input-output information from production. It is very difficult to coordinate all this information within a single visit without major disturbances to the regular work of those departments. Therefore, mailed questionnaires are also preferable from a company point of view.

19. An additional point in favour of mailed questionnaires is that these can be sent to individual companies at the most appropriate time much more easily than field visits can be arranged. Balance sheet and financial data generally become available three to six months after the end of the company's accounting year. Questionnaires sent during this period tend to receive greater attention because the information is fresh and not much time is required to recall the various details requested. It is a straightforward matter to indicate the accounting year of the company in the register and then to generate monthly mailing lists on the basis of the company's year-end, and to target the mailings of both questionnaires and reminders accordingly. Good timing of the mailing of questionnaires can also improve response rates.

20. As FIRST Large is in principle an annual survey, its sustainability is well served by a regular, timely response. Follow-up of non-response should be seen in this light and especially during the first few years, much can be achieved by building a good relationship with respondents. To achieve rapport, emphasis during follow-ups should be on explaining the use of the data and assisting the companies in completing the questionnaire rather than on enforcing response by whatever legal means may be available.

21. In case no information is received from a company by survey cut-off time, an estimate has to be prepared. This may be done in various ways. Initially it generally means using raising factors derived from auxiliary information, such as the value of fixed assets, the volume of sales, the value of output and the size of employment. In these cases raising should be done on the basis of the common characteristic available for the non-respondent(s) and for all responding companies engaged in the same industrial activity.

22. If more information is available for the non-responding company, for example a previous year's response or its annual report, it should be used. The simplest procedure is to bring forward the information from the earlier year to the current period; such a procedure implicitly assumes that no growth in nominal terms (thus also no inflation) has taken place. A more sophisticated procedure is to calculate an average rate of change for similar companies within the industry that have responded in both periods and to apply that rate to the non-responding unit.

C. Sample selection and small-scale survey

23. After subtracting the number of establishments in FIRST Large and their employment, which are included in the overall sample frame (population or establishment census), the resulting data set forms the universe for FIRST Small.

24. In cases where FIRST Small replaces a number of surveys that have been carried out in the past, improvements in sampling efficiency due to the integration of the various surveys through simultaneous administration will make it possible to reduce the sample very significantly without reducing accuracy and detail.

25. On the basis of the variability of the characteristics for which estimates are to be prepared, the distribution of establishments and the field resources available, the sample size can be determined.

26. A two-stage sampling procedure, whereby enumeration areas are selected as Primary Sampling Units (PSUs) and establishments within those PSUs as Secondary Sampling Units (SSUs), normally provides an efficient model. If sufficient information is available (generally when an economic census forms the sample frame), a stratification of the areas by intensity of activity may give additional benefits. In those circumstances, all enumeration areas with a high concentration of activities would constitute one self-representing (all enumeration areas are being enumerated) stratum, with the other areas forming the second stratum. Consequently, the first-stage raising factor (FRF) becomes one by definition.

27. Self-representing PSUs are those that exceed a minimum number of establishments or size of employment engaged in economic sectors falling within the scope of the survey. The minimum number can be determined

separately by geographical area and for urban/rural areas on an empirical basis.

28. The number of establishments in the self-representing PSUs is then deducted from the total number of establishments in the urban and rural areas of all geographical areas. The residual represents the sampling universe for the second part of the sample, from which the enumeration areas are sampled by random selection proportional to size by using as the measure of size the number of establishments in each area, their employment in each area or, when a population census has been used, the number of workers living in an area.

29. The establishments engaged in activities within the scope of FIRST then form the Secondary Sampling Units (SSUs) of the survey. For most economic sectors, all establishments found in the selected areas will be enumerated, but such enumeration is not strictly necessary. For more homogeneous activities (for example, those of small retail shops), it may be adequate to gather information on a smaller number only, especially where many are expected.

30. On the basis of information by industry in the database an estimate can be prepared for the expected number of establishments (SSUs) covered in the survey. Depending on the number of units expected and the variability in the kind of activity within each sector, sampling fractions for the different sectors can be established. Information on the expected number of establishments to be covered can then be used to divide the workload among the available enumeration staff.

31. The information on the distribution of the above-mentioned activities derived from an initial round of FIRST can also be used to determine whether it is feasible for sampling purposes to subdivide the sectors into subsectors which may be sampled in different fractions within the selected enumeration areas. However, lack of information in this respect often precludes the possibility of using this procedure (and therefore of reducing the sample size) for the initial round of a FIRST survey.

32. As regards the enumeration itself, for practical purposes it may be organized by activity, so that a particular enumerator visits units in the same sectors and thereby gains proficiency in working with these specific sectors, thus improving the quality and consistency of the data.

D. Questionnaire design

33. The questionnaire for the Large and Small segments of the universe have to be distinct because the differences in data availability and in methods of enumeration to be used for these two substrata.

34. There are a number of important aspects of the survey that have to be taken into account when drawing up the questionnaires. First of all, the questionnaires should be as short as possible and only the information that is

really needed and available should be requested. This information should be asked for in such a way as to allow the information to be coded and entered into a data set on the computer for analysis. All information received should be entered into the data set. Information requested on one questionnaire should be compatible with that requested on the other, that is, the data items should have the same definition. In addition, for those items included in the FIRST Large survey but omitted from the Small survey questionnaire, summary estimates should be requested so that comparable totals relating to income and expenditures can be calculated for both data sets.

35. Furthermore, the terminology used in requesting the data should be familiar to the respondents. For example, the term "value added" is not known in business circles and should therefore be derived by survey staff from the information requested on income and expenditures. For the FIRST Large questionnaire, terms should be chosen that are familiar and that are used in the company accounts, where practical. The definitions should be spelled out so that respondents can determine exactly what to report against a particular data item.

36. Since the information requirements for various sectors of the economy are different, the questions can be grouped into two modules - one that is common to all and includes the data that are collected for all sectors, and a second, which includes the sector-specific items relating to income and expenditures. A separate version of the second module should be prepared for each distinct sector.

37. While the questionnaires for the Large and Small segments of the survey will be different in size and a number of data items will be sought only from large units, the two should be aligned properly to ensure the possibility of their integration at the tabulation stage. This of course also implies the use of identical definitions.

E. Data processing

38. Data processing should be done on computer. During the past few years the capacities of personal computers (PCs) have grown so much that there is generally no need for machines any more sophisticated than PCs, possibly in a network, to process the information.

39. Data entry should be done as far as possible interactively by subject-matter staff rather than in batch mode by data-entry staff. This method of data entry ensures a lower error rate and a substantial number of errors introduced or detected at the data-entry stage can be corrected on-line, thereby greatly reducing the requirements for manual editing.

40. Consistency checks to ensure complete coverage of the two subsectors and editing checks to ensure correct data entry and codes should form part of the data-entry package. The result should be a "clean" data set that can be used for calculation and application of raising factors and adjustments for

non-response and differences in reference periods. These are described in some detail below.

F. Data preparation and publication

41. There are several steps to be taken before the cleaned data set is ready for analysis and tabulation. The calculation of raising factors for FIRST Small and the synchronization of data of FIRST Small and Large towards the same reference period are the two most important steps in this process. Those steps are described in some detail in the following sections.

Raising factors for FIRST Small

42. In the description that follows, it is assumed that the sample for FIRST Small has been divided into two parts, namely self-representing (SR) areas, with a minimized number of establishments, and a non-self-representing (NSR) part, which includes all other areas. When such a stratification has not been used, the references to the self-representing part of the sample may be ignored, as the whole sample is then NSR.

43. Two sets of raising factors for the survey are calculated for each sector within each sampled enumeration area. The first-stage raising factors can be calculated at the design stage, whereas the second-stage raising factors can be determined only after completion of the survey and the data-entry work.

44. The first-stage raising factors for the SR part of the sample (if any) are equal to one, as these areas are selected on the basis of their own characteristics, rather than of their being representative of a larger number of areas.

45. First-stage raising factors for the NSR part of the sample survey are calculated in principle for each kind of economic activity within the urban and rural areas of each geographical area for which information will be tabulated separately. They are calculated by dividing the total number of establishments reported in the economic census (or the number of workers in a population census) in each stratum, if any, or in the universe of the NSR part of the survey, by the number expected in the sample areas selected. The NSR part comprises all establishments within the urban or rural area of a province minus those that are in the SR areas.

46. For the urban and rural areas within each geographical area (province, State), the number of establishments by sector in the total universe, the number in the SR sample and the number in the resulting NSR universe and its sample are given. The first-stage raising factors, therefore, are also given, although it may be noted that in a number of cases the raising factor cannot be calculated owing to the fact that no establishment in the sectors has been reported in the economic/establishment census within the areas selected. In those cases, as well as in cases where less than a minimum number of

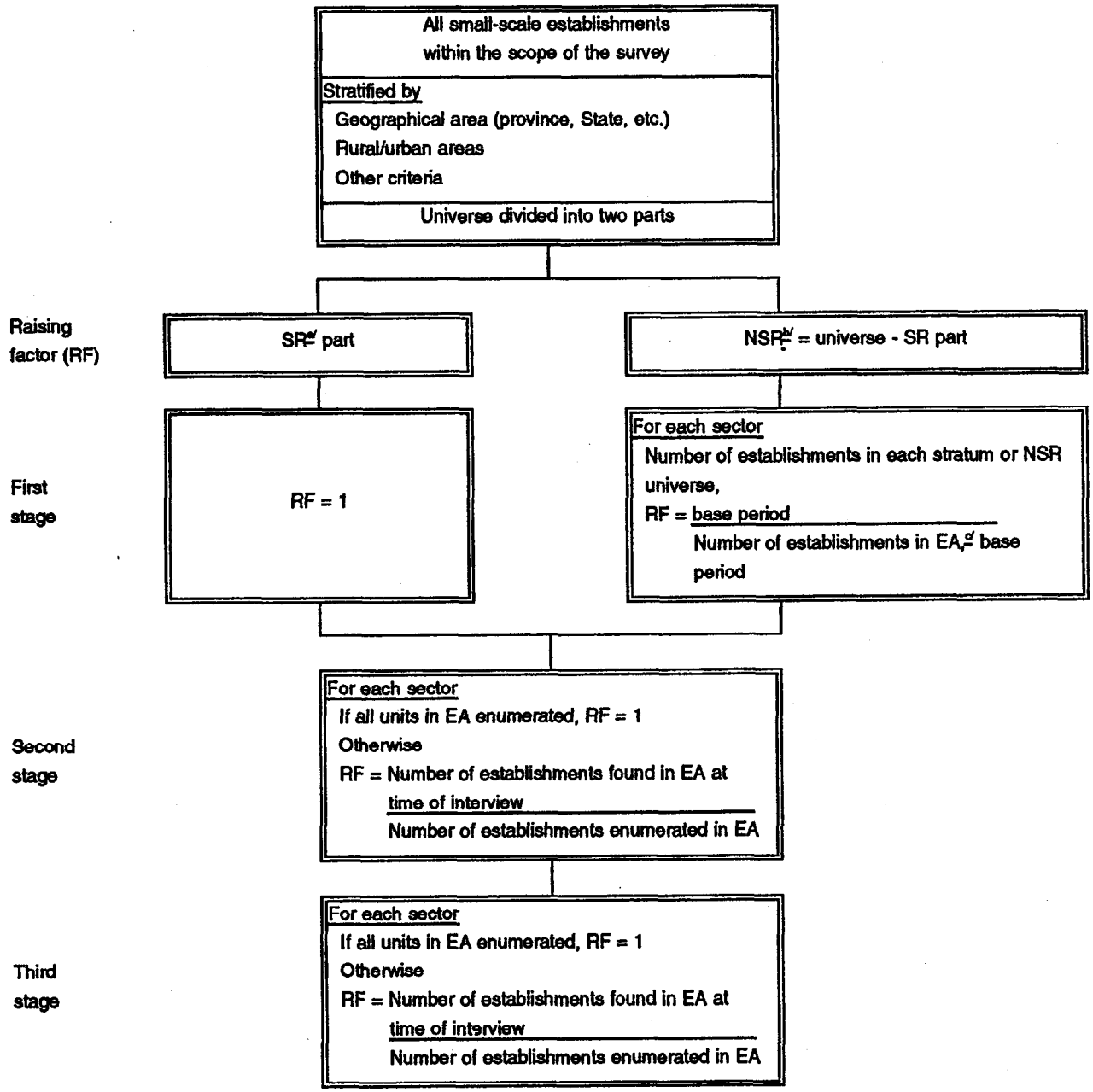
establishments have been reported within a sector, the raising factors for the total country (urban or rural) should be used.

47. The second-stage raising factors apply to both SR and NSR areas. They are calculated once the survey is completed by dividing the number of establishments within a sector found in an area by the number in existence at the time of the economic census. Where the number of units in the area for a sector was zero at the base period, and there are establishments during the survey period, special arrangements have to be made to assign a second-stage raising factor of one. The second-stage raising factors are meant to adjust the survey results for changes in the number of establishments between the base period and the survey period.

48. Third-stage raising factors are required only for those sectors where only a sample of establishments in an area have been enumerated. They apply to both the SR and NSR parts of the survey. They consist of the total number of establishments within that sector in the sample area divided by the number of establishments enumerated. It follows that for sectors where all units are enumerated, this third-stage raising factor equals unity.

49. The overall raising factor for each sector within each sample area is then obtained by multiplying the first-, second- and third-stage raising factors. Schematically, the process is shown in figure II.

Figure II. Schematic representation of the FIRST methodology



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a/ Self-representing.

b/ Non-self-representing.

c/ Enumeration area.

Reference period/synchronization

50. The data for a FIRST survey will normally relate to different time-periods. It is therefore important to synchronize the data so that the results produced are meaningful and can be used without further adjustments.

51. The reference periods used in the current FIRST are three:

(a) FIRST Large: latest completed accounting year (if the company's accounting year is different from the reference year, the accounting year with the largest overlap with the reference year should be taken);

(b) FIRST Small (for units maintaining accounts): latest completed accounting year (if the company's accounting year is different from the reference year, the accounting year with the largest overlap with the reference year should be taken);

(c) FIRST Small (for units NOT maintaining accounts): last completed month during the current year. This is a moving reference period, as is common in household surveys.

52. The information for units maintaining accounts in FIRST Small needs to be adjusted and deflated in order to bring it into line with the other data for the reference period. This process consists of two parts.

53. First, all units included in the survey that were established after the reference period must be excluded from the tabulations, although they will be retained in the data set for future use.

54. Second, the data for FIRST Small need to be deflated to reflect price levels of the reference period. It is therefore implicitly assumed that output of the reporting units has not changed during the intervening periods, thereby probably inflating the reference year's estimate (as some increase is likely). Deflation is done on the basis of developments in wholesale price indices for the various industry groups between the reference period and the survey period so that each individual response is brought back from the reporting month to the average prices for the reference period.

55. This procedure results in a fairly accurate estimate of reference period output, value added, input structures and other characteristics of the sectors covered in FIRST.

Publication of the information

56. Presentation of the results of the FIRST survey is the final activity in the cycle and a very important one because it is the ultimate measure of survey success. The report must contain as much information as possible, presented in a concise and at the same time detailed manner. Where possible, results for FIRST Large and Small (which match the institutional sectors of non-financial corporations and households) should be presented separately as

well as combined. Details by economic activity should be presented in every case.

57. As part of the publication, a clear description of the methodology and definitions used in the survey should be included. Copies of the questionnaires used should be annexed for reference.

Annex III

CHARACTERISTICS OF INQUIRIES AS REPORTED BY RESPONDING COUNTRIES

TABLES

Table A. Number of inquiries

Category	Country name	Region	Total number of inquiries	Number of production-related inquiries	Number of production-related inquiries including subsets
Developed	Australia	Oceania	32	21	26
	Austria	Europe	7	7	7
	Denmark	Europe	29	24	25
	Finland	Europe	16	14	15
	France	Europe	29	25	29
	Germany	Europe	69	59	69
	Greece	Europe	13	8	10
	Ireland	Europe	17	14	14
	Israel	Middle East	3	3	3
	Italy	Europe	11	11	11
	Japan	East Asia	6	5	6
	Luxembourg	Europe	12	12	14
	Malta	Europe	4	4	4
	Netherlands	Europe	48	48	48
	New Zealand	Oceania	9	9	9
	Norway	Europe	32	25	28
	South Africa	Africa	52	37	37
	Spain	Europe	12	10	11
	Sweden	Europe	27	23	24
	Switzerland	Europe	10	9	9
	United Kingdom of Great Britain and Northern Ireland	Europe	42	37	47
	United States of America	North America	52	46	57
Developing	Algeria	Africa	10	8	13
	Argentina	Latin America	8	6	6
	Bahamas	Caribbean	6	6	6
	Bangladesh	South Asia	4	4	6
	Belize	Latin America	2	1	1
	Botswana	Africa	5	3	3
	Brazil	Latin America	21	21	21
	Burkina Faso	Africa	2	2	2
	Burundi	Africa	1	1	1
	Cameroon	Africa	3	3	4
	Chile	Latin America	13	11	11
	China	East Asia	19	19	19

Table A (continued)

Category	Country name	Region	Total number of inquiries	Number of production-related inquiries	Number of production-related inquiries including subsets
	Colombia	Latin America	3	3	3
	Cook Islands	Oceania	2	2	2
	Costa Rica	Latin America	3	3	3
	Cuba	Caribbean	20	19	19
	Cyprus	Middle East	24	19	23
	Ecuador	Latin America	5	4	4
	Egypt	Africa	8	8	9
	El Salvador	Latin America	6	6	6
	Equatoria Guinea	Africa	3	3	3
	Ethiopia	Africa	4	3	3
	Fiji	Oceania	7	6	6
	Guatemala	Latin America	2	2	2
	Guinea	Africa	4	4	4
	Haiti	Caribbean	1	1	1
	Hong Kong	East Asia	30	22	27
	India	South Asia	2	2	4
	Indonesia	East Asia	17	17	19
	Iran, Islamic Republic of	West Asia	6	6	11
	Jamaica	Caribbean	4	4	4
	Jordan	Middle East	6	5	5
	Kuwait	Middle East	4	4	8
	Lesotho	Africa	6	6	6
	Madagascar	Africa	1	1	1
	Malaysia	East Asia	8	8	8
	Maldives	South Asia	1	1	1
	Mali	Africa	4	3	4
	Mauritius	Africa	3	3	4
	Mexico	Latin America	5	5	5
	Mozambique	Africa	16	16	16
	Nepal	South Asia	3	3	6
	Netherlands Antilles	Caribbean	3	3	6
	Nigeria	Africa	10	10	10
	Pakistan	South Asia	5	5	5
	Panama	Latin America	2	2	2
	Peru	Latin America	20	20	22
	Philippines	East Asia	4	4	5

Table A (continued)

Category	Country name	Region	Total number of inquiries	Number of production-related inquiries	Number of production-related inquiries including subsets
	Qatar	Middle East	8	8	12
	Saint Lucia	Caribbean	3	2	2
	Saint Vincent and the Grenadines	Caribbean	1	1	1
	Singapore	East Asia	13	11	11
	Sri Lanka	South Asia	2	2	2
	Swaziland	Africa	6	6	6
	Syrian Arab Republic	Middle East	5	3	3
	Thailand	East Asia	11	11	13
	Togo	Africa	1	1	1
	Tonga	Oceania	2	2	2
	Trinidad and Tobago	Caribbean	7	5	5
	Turkey	Middle East	10	10	11
	Venezuela	Latin America	3	3	4
Transitional	Bulgaria	Europe	23	21	21
	Former Czechoslovakia	Europe	24	24	24
	Hungary	Europe	53	39	43
	Latvia	Europe	30	21	21
	Poland	Europe	42	41	47
	Romania	Europe	18	17	17

Table B.1. Frequency of production-related inquiries

Category	Country name	Number of production-related inquiries	Frequency			
			More frequent than annual	Annual	Less frequent than annual	Once only
Developed	Australia	21	10	6	5	0
	Austria	7	0	5	2	0
	Denmark	24	12	9	3	0
	Finland	14	7	6	1	0
	France	25	13	11	1	0
	Germany	59	19	26	13	1
	Greece	8	3	3	2	0
	Ireland	14	7	5	2	0
	Israel	3	2	1	0	0
	Italy	11	5	5	1	0
	Japan	5	1	1	3	0
	Luxembourg	12	3	3	4	2
	Malta	4	2	2	0	0
	Netherlands	48	10	35	3	0
	New Zealand	9	4	1	3	1
	Norway	25	14	10	1	0
	South Africa	37	19	5	13	0
	Spain	10	3	2	5	0
	Sweden	23	7	11	5	0
	Switzerland	9	5	2	2	0
	United Kingdom of Great Britain and Northern Ireland	37	21	14	2	0
	United States of America	46	17	16	13	0
Developing	Algeria	8	3	3	2	0
	Argentina	6	5	1	0	0
	Bahamas	6	0	6	0	0
	Bangladesh	4	0	1	1	2
	Belize	1	1	0	0	0
	Botswana	3	2	1	0	0
	Brazil	21	3	13	5	0
	Burkina Faso	2	1	1	0	0
	Burundi	1	0	1	0	0
	Cameroon	3	1	1	0	1
	Chile	11	6	5	0	0

Table B.1 (continued)

Category	Country name	Number of production-related inquiries	Frequency			
			More frequent than annual	Annual	Less frequent than annual	Once only
	China	19	11	7	1	0
	Colombia	3	2	1	0	0
	Cook Islands	2	1	1	0	0
	Costa Rica	3	0	1	0	2
	Cuba	19	17	2	0	0
	Cyprus	19	5	9	5	0
	Ecuador	4	0	4	0	0
	Egypt	8	0	8	0	0
	El Salvador	6	1	5	0	0
	Equatoria Guinea	3	1	1	1	0
	Ethiopia	3	0	3	0	0
	Fiji	6	0	6	0	0
	Guatemala	2	1	1	0	0
	Guinea	4	1	1	0	2
	Haiti	1	0	0	0	1
	Hong Kong	22	13	9	0	0
	India	2	0	1	1	0
	Indonesia	17	4	11	2	0
	Iran, Islamic Republic of	6	0	3	0	3
	Jamaica	4	3	1	0	0
	Jordan	5	0	5	0	0
	Kuwait	4	0	4	0	0
	Lesotho	6	0	6	0	0
	Madagascar	1	0	1	0	0
	Malaysia	8	3	5	0	0
	Maldives	1	0	1	0	0
	Mali	3	1	0	1	1
	Mauritius	3	0	1	2	0
	Mexico	5	4	1	0	0
	Mozambique	16	13	3	0	0
	Nepal	3	0	1	1	1
	Netherlands Antilles	3	0	3	0	0
	Nigeria	10	3	7	0	0
	Pakistan	5	0	3	1	1
	Panama	2	0	2	0	0
	Peru	20	9	11	0	0

Table B.1 (continued)

Category	Country name	Number of production-related inquiries	Frequency			
			More frequent than annual	Annual	Less frequent than annual	Once only
	Philippines	4	2	1	1	0
	Qatar	8	0	7	1	0
	Saint Lucia	2	1	1	0	0
	Saint Vincent and the Grenadines	1	0	1	0	0
	Singapore	11	6	4	1	0
	Sri Lanka	2	0	2	0	0
	Swaziland	6	0	6	0	0
	Syrian Arab Republic	3	0	3	0	0
	Thailand	11	1	5	4	1
	Togo	1	0	1	0	0
	Tonga	2	1	1	0	0
	Trinidad and Tobago	5	2	2	1	0
	Turkey	10	4	5	1	0
	Venezuela	3	2	1	0	0
Transitional	Bulgaria	21	13	7	0	1
	Former Czechoslovakia	24	8	16	0	0
	Hungary	39	16	19	4	0
	Latvia	21	15	6	0	0
	Poland	41	27	13	0	1
	Romania	17	13	4	0	0

Table B.2. Scope of production-related inquiries

Category	Country name	Number of production-related inquiries	Scope							
			Mining	Manufac-turing	Electricity/ gas/water	Construc-tion	Wholesale/ retail trade	Hotels/ restau-rants	Transpor-tation, storage, communi-cation	Service
Developed	Australia	21	9	9	10	12	10	9	10	10
	Austria	7	5	5	4	3	2	2	2	3
	Denmark	24	8	18	5	7	7	5	4	8
	Finland	14	2	4	3	3	1	1	1	8
	France	25	11	12	9	7	9	4	3	6
	Germany	59	17	20	14	16	18	6	8	12
	Greece	8	3	4	2	2	1	1	1	2
	Ireland	14	5	5	5	4	5	3	2	6
	Israel	3	2	2	0	0	0	1	0	0
	Italy	11	8	9	5	7	5	6	6	4
	Japan	5	1	3	1	1	3	4	1	3
	Luxembourg	12	5	5	3	4	4	2	2	2
	Malta	4	2	2	3	2	0	1	2	2
	Netherlands	48	4	7	6	4	2	2	18	24
	New Zealand	9	4	5	4	4	6	4	4	4
	Norway	25	8	8	5	4	6	5	4	7
	South Africa	37	2	7	3	4	8	4	4	9
	Spain	10	5	5	5	3	5	5	3	4
	Sweden	23	7	7	2	3	8	5	10	9
	Switzerland	9	5	6	6	8	5	6	5	5
	United Kingdom of Great Britain and Northern Ireland	37	11	17	7	5	11	4	6	15
	United States of America	46	9	18	13	14	21	11	13	18
Developing	Algeria	8	4	4	4	3	3	1	2	1
	Argentina	6	1	4	1	1	2	1	2	1
	Bahamas	6	1	1	1	1	1	1	1	1
	Bangladesh	4	0	4	0	0	2	1	0	2
	Belize	1	1	1	0	0	0	0	0	0
	Botswana	3	1	2	1	2	2	1	1	2
	Brazil	21	5	5	7	4	5	3	4	8
	Burkina Faso	2	2	2	2	1	1	1	1	1

Table B.2 (continued)

Category	Country name	Number of production-related inquiries	Scope							
			Mining	Manufac-turing	Electricity/ gas/water	Construc-tion	Wholesale/ retail trade	Hotels/ restau-rants	Transpor-tation, storage, communi-cation	Service
	Burundi	1	1	1	1	1	1	1	1	1
	Cameroon	3	1	3	3	0	0	0	0	0
	Chile	11	0	4	0	0	1	2	5	1
	China	19	12	12	12	9	9	7	11	7
	Colombia	3	0	2	0	0	1	0	0	0
	Cook Islands	2	1	1	1	1	1	2	1	1
	Costa Rica	3	2	3	2	3	3	3	3	2
	Cuba	19	3	5	5	3	4	5	7	0
	Cyprus	19	7	8	7	5	6	6	6	8
	Ecuador	4	1	1	0	0	1	1	1	1
	Egypt	8	1	1	2	1	1	1	1	1
	El Salvador	6	0	2	0	1	2	0	1	1
	Equatoria Guinea	3	2	2	2	2	2	2	2	3
	Ethiopia	3	1	1	1	0	0	0	0	0
	Fiji	6	2	2	2	2	2	1	3	1
	Guatemala	2	0	2	0	0	0	0	0	0
	Guinea	4	4	4	3	3	3	3	3	3
	Haiti	1	0	1	0	0	0	0	0	0
	Hong Kong	22	2	11	5	9	8	9	9	10
	India	2	0	2	2	0	0	0	0	0
	Indonesia	17	6	5	4	4	2	3	4	2
	Iran, Islamic Republic of	6	1	1	0	0	1	1	1	1
	Jamaica	4	4	4	4	4	3	3	3	3
	Jordan	5	1	1	1	2	1	1	0	0
	Kuwait	4	1	1	1	1	1	0	0	1
	Lesotho	6	1	1	1	1	1	1	0	0
	Madagascar	1	0	1	0	0	0	0	0	0
	Malaysia	8	1	3	0	3	1	2	2	3
	Maldives	1	1	1	1	1	1	1	1	1
	Mali	3	2	2	2	2	2	2	2	3
	Mauritius	3	3	3	3	3	2	3	3	3
	Mexico	5	0	3	0	1	1	0	0	0
	Mozambique	16	3	3	1	4	0	1	7	0

Table B.2 (continued)

Category	Country name	Number of production-related inquiries	Scope							
			Mining	Manufac-turing	Electricity/ gas/water	Construc-tion	Wholesale/ retail trade	Hotels/ restau-rants	Transpor-tation, storage, communi-cation	Service
	Nepal	3	1	3	0	1	1	0	1	0
	Netherlands Antilles	3	3	3	3	3	3	3	3	3
	Nigeria	10	2	2	0	2	1	1	1	1
	Pakistan	5	2	3	2	1	1	1	1	1
	Panama	2	0	2	0	0	1	0	1	1
	Peru	20	3	9	3	2	4	3	3	2
	Philippines	4	3	4	3	3	3	3	3	3
	Qatar	8	0	1	0	1	1	1	1	3
	Saint Lucia	2	2	2	1	1	1	1	1	1
	Saint Vincent and the Grenadines	1	1	1	1	1	1	1	1	1
	Singapore	11	4	4	1	1	4	4	3	5
	Sri Lanka	2	2	2	2	0	0	0	0	0
	Swaziland	6	1	1	1	1	1	1	1	1
	Syrian Arab Republic	3	0	1	0	2	0	0	0	0
	Thailand	11	0	6	0	0	4	5	0	5
	Togo	1	1	1	1	1	1	1	1	1
	Tonga	2	0	2	0	1	0	1	0	1
	Trinidad and Tobago	5	2	4	4	4	3	4	3	4
	Turkey	10	3	6	1	2	2	2	1	2
	Venezuela	3	0	1	0	0	2	0	0	0
Transitional	Bulgaria	21	12	12	12	9	10	10	8	8
	Former Czechoslovakia	24	15	15	15	0	6	5	0	4
	Hungary	39	16	22	18	15	22	16	21	16
	Latvia	21	8	9	9	7	12	12	7	2
	Poland	41	16	15	21	11	17	3	13	9
	Romania	17	8	7	7	3	5	1	5	1

Table B.3. Coverage of production-related inquiries

Category	Country name	Number of production-related inquiries	Coverage	
			All units	Selected units
Developed	Australia	21	9	12
	Austria	7	5	2
	Denmark	24	10	14
	Finland	14	7	7
	France	25	23	2
	Germany	59	18	41
	Greece	8	5	3
	Ireland	14	5	9
	Israel	3	1	2
	Italy	11	6	5
	Japan	5	4	1
	Luxembourg	12	9	3
	Malta	4	1	3
	Netherlands	48	38	10
	New Zealand	9	8	1
	Norway	25	10	15
	South Africa	37	34	3
	Spain	10	5	5
	Sweden	23	18	5
	Switzerland	9	7	2
	United Kingdom of Great Britain and Northern Ireland	37	8	29
	United States of America	46	36	10
Developing	Algeria	8	6	2
	Argentina	6	1	5
	Bahamas	6	6	0
	Bangladesh	4	2	2
	Belize	1	1	0
	Botswana	3	3	0
	Brazil	21	20	1
	Burkina Faso	2	2	0
	Burundi	1	1	0
	Cameroon	3	1	2
	Chile	11	8	3

Table B.3 (continued)

Category	Country name	Number of production-related inquiries	Coverage	
			All units	Selected units
	China	19	7	12
	Colombia	3	0	3
	Cook Islands	2	2	0
	Costa Rica	3	3	0
	Cuba	19	9	10
	Cyprus	19	17	2
	Ecuador	4	1	3
	Egypt	8	7	1
	El Salvador	6	4	2
	Equatoria Guinea	3	0	3
	Ethiopia	3	2	1
	Fiji	6	6	0
	Guatemala	2	1	1
	Guinea	4	2	2
	Haiti	1	0	1
	Hong Kong	22	16	6
	India	2	0	2
	Indonesia	17	15	2
	Iran, Islamic Republic of	6	6	0
	Jamaica	4	0	4
	Jordan	5	4	1
	Kuwait	4	4	0
	Lesotho	6	3	3
	Madagascar	1	0	1
	Malaysia	8	4	4
	Maldives	1	0	1
	Mali	3	0	3
	Mauritius	3	1	2
	Mexico	5	1	4
	Mozambique	16	5	11
	Nepal	3	1	2
	Netherlands Antilles	3	0	3
	Nigeria	10	2	8
	Pakistan	5	3	2
	Panama	2	1	1
	Peru	20	15	5

Table B.3 (continued)

Category	Country name	Number of production-related inquiries	Coverage	
			All units	Selected units
	Philippines	4	3	1
	Qatar	8	6	2
	Saint Lucia	2	1	1
	Saint Vincent and the Grenadines	1	1	0
	Singapore	11	8	3
	Sri Lanka	2	0	2
	Swaziland	6	6	0
	Syrian Arab Republic	3	3	0
	Thailand	11	4	7
	Togo	1	0	1
	Tonga	2	1	1
	Trinidad and Tobago	5	0	5
	Turkey	10	3	7
	Venezuela	3	0	3
Transitional	Bulgaria	21	9	12
	Former Czechoslovakia	24	0	24
	Hungary	39	6	33
	Latvia	21	8	13
	Poland	41	21	20
	Romania	17	17	0

Table B.4. Method of enumeration of production-related inquiries

Category	Country name	Number of production-related inquiries	Production-related inquiries including subsets	Method						
				Mail	Field	Mail/ field	Records	Tele-phone	Other	No answer
Developed	Australia	21	26	24	0	0	1	1	0	0
	Austria	7	7	6	0	0	0	0	1	0
	Denmark	24	25	0	0	0	0	0	0	25
	Finland	14	15	15	0	0	0	0	0	0
	France	25	29	29	0	0	0	0	0	0
	Germany	59	69	67	1	0	1	0	0	0
	Greece	8	10	9	1	0	0	0	0	0
	Ireland	14	14	14	0	0	0	0	0	0
	Israel	3	3	2	1	0	0	0	0	0
	Italy	11	11	10	1	0	0	0	0	0
	Japan	5	6	0	6	0	0	0	0	0
	Luxembourg	12	14	14	0	0	0	0	0	0
	Malta	4	4	4	0	0	0	0	0	0
	Netherlands	48	48	35	0	0	13	0	0	0
	New Zealand	9	9	9	0	0	0	0	0	0
	Norway	25	28	26	0	0	2	0	0	0
	South Africa	37	37	37	0	0	0	0	0	0
	Spain	10	11	8	1	2	0	0	0	0
	Sweden	23	24	21	0	0	3	0	0	0
	Switzerland	9	9	9	0	0	0	0	0	0
	United Kingdom of Great Britain and Northern Ireland	37	47	47	0	0	0	0	0	0
	United States of America	46	57	49	3	0	4	1	0	0
Developing	Algeria	8	13	8	5	0	0	0	0	0
	Argentina	6	6	3	3	0	0	0	0	0
	Bahamas	6	6	6	0	0	0	0	0	0
	Bangladesh	4	6	1	5	0	0	0	0	0
	Belize	1	1	1	0	0	0	0	0	0
	Botswana	3	3	3	0	0	0	0	0	0
	Brazil	21	21	0	0	0	2	0	0	19
	Burkina Faso	2	2	0	2	0	0	0	0	0
	Burundi	1	1	1	0	0	0	0	0	0
	Cameroon	3	4	1	3	0	0	0	0	0

Table B.4 (continued)

Category	Country name	Number of production-related inquiries	Production-related inquiries including subsets	Method						
				Mail	Field	Mail/field	Records	Telephone	Other	No answer
	Chile	11	11	4	7	0	0	0	0	0
	China	19	19	7	0	1	0	11	0	0
	Colombia	3	3	3	0	0	0	0	0	0
	Cook Islands	2	2	2	0	0	0	0	0	0
	Costa Rica	3	3	0	3	0	0	0	0	0
	Cuba	19	19	19	0	0	0	0	0	0
	Cyprus	19	23	0	22	1	0	0	0	0
	Ecuador	4	4	0	3	0	0	0	1	0
	Egypt	8	9	0	9	0	0	0	0	0
	El Salvador	6	6	0	6	0	0	0	0	0
	Equatoria Guinea	3	3	0	3	0	0	0	0	0
	Ethiopia	3	3	0	3	0	0	0	0	0
	Fiji	6	6	6	0	0	0	0	0	0
	Guatemala	2	2	0	2	0	0	0	0	0
	Guinea	4	4	0	4	0	0	0	0	0
	Haiti	1	1	0	1	0	0	0	0	0
	Hong Kong	22	27	14	9	3	1	0	0	0
	India	2	4	0	4	0	0	0	0	0
	Indonesia	17	19	2	17	0	0	0	0	0
	Iran, Islamic Republic of	6	11	0	11	0	0	0	0	0
	Jamaica	4	4	0	4	0	0	0	0	0
	Jordan	5	5	0	5	0	0	0	0	0
	Kuwait	4	8	0	8	0	0	0	0	0
	Lesotho	6	6	5	0	0	1	0	0	0
	Madagascar	1	1	1	0	0	0	0	0	0
	Malaysia	8	8	8	0	0	0	0	0	0
	Maldives	1	1	1	0	0	0	0	0	0
	Mali	3	4	0	4	0		0	0	0
	Mauritius	3	4	3	1	0	0	0	0	0
	Mexico	5	5	0	5	0	0	0	0	0
	Mozambique	16	16	16	0	0	0	0	0	0
	Nepal	3	6	0	6	0	0	0	0	0
	Netherlands Antilles	3	6	0	6	0	0	0	0	0
	Nigeria	10	10	4	6	0	0	0	0	0

Table B.4 (continued)

Category	Country name	Number of production-related inquiries	Production-related inquiries including subsets	Method						
				Mail	Field	Mail/field	Records	Telephone	Other	No answer
	Pakistan	5	5	3	2	0	0	0	0	0
	Panama	2	2	0	2	0	0	0	0	0
	Peru	20	22	0	0	0	0	22	0	0
	Philippines	4	5	0	5	0	0	0	0	0
	Qatar	8	12	0	1	11	0	0	0	0
	Saint Lucia	2	2	2	0	0	0	0	0	0
	Saint Vincent and the Grenadines	1	1	1	0	0	0	0	0	0
	Singapore	11	11	11	0	0	0	0	0	0
	Sri Lanka	2	2	2	0	0	0	0	0	0
	Swaziland	6	6	6	0	0	0	0	0	0
	Syrian Arab Republic	3	3	0	3	0	0	0	0	0
	Thailand	11	13	6	7	0	0	0	0	0
	Togo	1	1	0	1	0	0	0	0	0
	Tonga	2	2	1	1	0	0	0	0	0
	Trinidad and Tobago	5	5	5	0	0	0	0	0	0
	Turkey	10	11	10	1	0	0	0	0	0
	Venezuela	3	4	0	4	0	0	0	0	0
Transitional	Bulgaria	21	21	18	1	0	0	2	0	0
	Former Czechoslovakia	24	24	24	0	0	0	0	0	0
	Hungary	39	43	43	0	0	0	0	0	0
	Latvia	21	21	21	0	0	0	0	0	0
	Poland	41	47	47	0	0	0	0	0	0
	Romania	17	17	17	0	0	0	0	0	0

Table B.5. Type of enumeration of production-related inquiries

Category	Country name	Number of production-related inquiries	Production-related inquiries including subsets	Type	
				Complete enumeration	Sample survey
Developed	Australia	21	26	10	16
	Austria	7	7	6	1
	Denmark	24	25	20	5
	Finland	14	15	10	5
	France	25	29	8	21
	Germany	59	69	48	21
	Greece	8	10	7	3
	Ireland	14	14	9	5
	Israel	3	3	0	3
	Italy	11	11	7	4
	Japan	5	6	3	3
	Luxembourg	12	14	6	8
	Malta	4	4	3	1
	Netherlands	48	48	31	17
	New Zealand	9	9	3	6
	Norway	25	28	19	9
	South Africa	37	37	21	16
	Spain	10	11	3	8
	Sweden	23	24	4	20
	Switzerland	9	9	6	3
	United Kingdom of Great Britain and Northern Ireland	37	47	22	25
	United States of America	46	57	19	38
Developing	Algeria	8	13	7	6
	Argentina	6	6	3	3
	Bahamas	6	6	3	3
	Bangladesh	4	6	3	3
	Belize	1	1	1	0
	Botswana	3	3	0	3
	Brazil	21	21	16	5
	Burkina Faso	2	2	2	0
	Burundi	1	1	0	1
	Cameroon	3	4	1	3
	Chile	11	11	9	2

Table B.5 (continued)

Category	Country name	Number of production-related inquiries	Production-related inquiries including subsets	Type	
				Complete enumeration	Sample survey
	China	19	19	19	0
	Colombia	3	3	1	2
	Cook Islands	2	2	2	0
	Costa Rica	3	3	1	2
	Cuba	19	19	19	0
	Cyprus	19	23	7	16
	Ecuador	4	4	4	0
	Egypt	8	9	8	1
	El Salvador	6	6	5	1
	Equatoria Guinea	3	3	1	2
	Ethiopia	3	3	3	0
	Fiji	6	6	5	1
	Guatemala	2	2	1	1
	Guinea	4	4	4	0
	Haiti	1	1	1	0
	Hong Kong	22	27	12	15
	India	2	4	2	2
	Indonesia	17	19	12	7
	Iran, Islamic Republic of	6	11	3	8
	Jamaica	4	4	0	4
	Jordan	5	5	0	5
	Kuwait	4	8	4	4
	Lesotho	6	6	6	0
	Madagascar	1	1	1	0
	Malaysia	8	8	4	4
	Maldives	1	1	0	1
	Mali	3	4	2	2
	Mauritius	3	4	3	1
	Mexico	5	5	0	5
	Mozambique	16	16	16	0
	Nepal	3	6	2	4
	Netherlands Antilles	3	6	3	3
	Nigeria	10	10	8	2
	Pakistan	5	5	5	0
	Panama	2	2	2	0
	Peru	20	22	14	8

Table B.5 (continued)

Category	Country name	Number of production-related inquiries	Production-related inquiries including subsets	Type	
				Complete enumeration	Sample survey
	Philippines	4	5	1	4
	Qatar	8	12	9	3
	Saint Lucia	2	2	1	1
	Saint Vincent and the Grenadines	1	1	1	0
	Singapore	11	11	6	5
	Sri Lanka	2	2	0	2
	Swaziland	6	6	6	0
	Syrian Arab Republic	3	3	0	3
	Thailand	11	13	7	6
	Togo	1	1	1	0
	Tonga	2	2	2	0
	Trinidad and Tobago	5	5	0	5
	Turkey	10	11	9	2
	Venezuela	3	4	1	3
Transitional	Bulgaria	21	21	21	0
	Former Czechoslovakia	24	24	24	0
	Hungary	39	43	33	10
	Latvia	21	21	6	15
	Poland	41	47	38	9
	Romania	17	17	15	2

Annex IV

QUESTIONNAIRE

COUNTRY_____

United Nations Statistical Office

QUESTIONNAIRE ON NATIONAL SURVEY STRATEGIES FOR MEASURING ECONOMIC STRUCTURE AND GROWTH

Instructions

This questionnaire consists of three sections. Section A is a general inventory of your work programme in economic statistics. The information provided in Section A should refer to all non-agricultural economic activities surveyed, irrespective of the size of the unit, that is, it should include household and small-scale economic activity as well as the largest enterprises. Section B requests for each inquiry listed in Section A (and for subsets of the statistical universe that you may be treating differently in terms of survey methodology) specific details considered pertinent to various strategy issues. Finally, Section C requests a bibliography of the published results of the inquiries.

In Section A please give the name of each economic inquiry that would be considered a part of your current statistical survey programme on non-agricultural economic activities and indicate the frequency of the enumeration and the scope of economic activity addressed. Use additional pages if necessary, making sure to number each inquiry. Then, in Section B, please supply further details on each inquiry or subset, as requested. You should use one page of Section B for each inquiry listed in Section A. Five pre-numbered pages have been provided for Section B, as well as one un-numbered page, to be used for additional copies, if necessary.

If you have any questions concerning the questionnaire, please feel free to contact us by FAX (the FAX number is 212-963-4116), or you may prefer to telephone Ms. Ferrara of the Industrial Statistics Section, who is the person directly involved with this survey. Her telephone number is 212-963-4585. Since we too may have questions as we compile the responses to your returned questionnaire, we would appreciate receiving from you the name, address and telephone number of a person whom we might contact directly, if necessary.

Name of person: _____

Address: _____ Tel. _____

_____ FAX _____

Thank you for your kind attention. The results of this study will help to ensure that the methodological work of the United Nations Statistical Office in industrial statistics is based on a comprehensive picture of the activities of Member States in this field in all parts of the world.

COUNTRY_____

Section A

OVERVIEW OF THE NON-AGRICULTURAL ECONOMIC STATISTICS PROGRAMME

If, for any inquiry, parts of the statistical universe (expressed in terms of scope of activity or establishment size, etc.) are surveyed at different times and/or frequency intervals, please list each part as if it were a separate inquiry.

INQUIRY NO.	NAME OF INQUIRY	FREQUENCY	SCOPE (Check as many as apply)
1.	_____	☐ Once only ☐ Monthly ☐ Quarterly ☐ Annual ☐ Biennial ☐ Quinquennial ☐ Decennial ☐ Other:_____	☐ Mining ☐ Manufacturing ☐ Elect., Gas & Water Supply ☐ Construction ☐ Wholesale & Retail Trades ☐ Hotels and Restaurants ☐ Transp., Storage & Comm. ☐ Other Services
2.	_____	☐ Once only ☐ Monthly ☐ Quarterly ☐ Annual ☐ Biennial ☐ Quinquennial ☐ Decennial ☐ Other:_____	☐ Mining ☐ Manufacturing ☐ Elect., Gas & Water Supply ☐ Construction ☐ Wholesale & Retail Trades ☐ Hotels and Restaurants ☐ Transp., Storage & Comm. ☐ Other Services
3.	_____	☐ Once only ☐ Monthly ☐ Quarterly ☐ Annual ☐ Biennial ☐ Quinquennial ☐ Decennial ☐ Other:_____	☐ Mining ☐ Manufacturing ☐ Elect., Gas & Water Supply ☐ Construction ☐ Wholesale & Retail Trades ☐ Hotels and Restaurants ☐ Transp., Storage & Comm. ☐ Other Services
4.	_____	☐ Once only ☐ Monthly ☐ Quarterly ☐ Annual ☐ Biennial ☐ Quinquennial ☐ Decennial ☐ Other:_____	☐ Mining ☐ Manufacturing ☐ Elect., Gas & Water Supply ☐ Construction ☐ Wholesale & Retail Trades ☐ Hotels and Restaurants ☐ Transp., Storage & Comm. ☐ Other Services
5.	_____	☐ Once only ☐ Monthly ☐ Quarterly ☐ Annual ☐ Biennial ☐ Quinquennial ☐ Decennial ☐ Other:_____	☐ Mining ☐ Manufacturing ☐ Elect., Gas & Water Supply ☐ Construction ☐ Wholesale & Retail Trades ☐ Hotels and Restaurants ☐ Transp., Storage & Comm. ☐ Other Services

COUNTRY________________________

Section A (continued)

OVERVIEW OF THE NON-AGRICULTURAL ECONOMIC STATISTICS PROGRAMME

If, for any inquiry, parts of the statistical universe (expressed in terms of scope of activity or establishment size, etc.) are surveyed at different times and/or frequency intervals, please list each part as if it were a separate inquiry.

INQUIRY NO.	NAME OF INQUIRY	FREQUENCY	SCOPE (Check as many as apply)
___	______________________	☐ Once only ☐ Monthly ☐ Quarterly ☐ Annual ☐ Biennial ☐ Quinquennial ☐ Decennial ☐ Other:__________	☐ Mining ☐ Manufacturing ☐ Elect., Gas & Water Supply ☐ Construction ☐ Wholesale & Retail Trades ☐ Hotels and Restaurants ☐ Transp., Storage & Comm. ☐ Other Services
___	______________________	☐ Once only ☐ Monthly ☐ Quarterly ☐ Annual ☐ Biennial ☐ Quinquennial ☐ Decennial ☐ Other:__________	☐ Mining ☐ Manufacturing ☐ Elect., Gas & Water Supply ☐ Construction ☐ Wholesale & Retail Trades ☐ Hotels and Restaurants ☐ Transp., Storage & Comm. ☐ Other Services
___	______________________	☐ Once only ☐ Monthly ☐ Quarterly ☐ Annual ☐ Biennial ☐ Quinquennial ☐ Decennial ☐ Other:__________	☐ Mining ☐ Manufacturing ☐ Elect., Gas & Water Supply ☐ Construction ☐ Wholesale & Retail Trades ☐ Hotels and Restaurants ☐ Transp., Storage & Comm. ☐ Other Services
___	______________________	☐ Once only ☐ Monthly ☐ Quarterly ☐ Annual ☐ Biennial ☐ Quinquennial ☐ Decennial ☐ Other:__________	☐ Mining ☐ Manufacturing ☐ Elect., Gas & Water Supply ☐ Construction ☐ Wholesale & Retail Trades ☐ Hotels and Restaurants ☐ Transp., Storage & Comm. ☐ Other Services
___	______________________	☐ Once only ☐ Monthly ☐ Quarterly ☐ Annual ☐ Biennial ☐ Quinquennial ☐ Decennial ☐ Other:__________	☐ Mining ☐ Manufacturing ☐ Elect., Gas & Water Supply ☐ Construction ☐ Wholesale & Retail Trades ☐ Hotels and Restaurants ☐ Transp., Storage & Comm. ☐ Other Services

COUNTRY_____

Section B

DESCRIPTION OF INDIVIDUAL INQUIRIES

INQUIRY NO. 1 (as listed in Section A) NAME OF INQUIRY_____

1. STATISTICAL UNITS COVERED BY THIS INQUIRY (DEFINITION OF THE STATISTICAL UNIVERSE)

☐ All units covered----------> Go on to Question 2

☐ Only selected units covered----------> Answer Part a below

a. Please indicate all criteria used to define the units covered; where requested, indicate also the category used within each criterion.

☐ Number of persons engaged (Specify)---> ☐ 5 or more engaged
☐ 10 or more engaged
☐ 20 or more engaged
☐ 50 or more engaged
☐ Other (Specify):_____

☐ Location (Specify)----------> ☐ Rural areas only
☐ Urban areas only
☐ Other (Specify):_____

☐ Licenced/registered units (Please describe the basis on which licencing or registration is required):____

_____

☐ Other criteria (Please describe in detail):_____

_____

2. METHODS OF ENUMERATION

If survey method for this inquiry is the same for all units covered, please answer questions only in the first column below. If method differs for subsets of units, use a separate column for each subset. See back of page for additional columns, if needed.

ALL UNITS
OR Subset #1 (Describe):_____

a. Inquiry carried out by:

☐ Mail
☐ Field enumerators
☐ Telephone
☐ Other (Specify):_____

b. Type of inquiry:

☐ Complete enumeration
☐ Sample survey (Please answer below)

Type of sampling frame:
☐ Area
☐ List

Source(s) of sampling frame:
☐ Register
☐ Population/housing census
☐ Special listing activity

Sampling procedure:
☐ Single-stage
☐ Multi-stage
☐ Cluster
Stratification criteria:_____

_____

_____

Subset #2 (Describe):_____

a. Inquiry carried out by:

☐ Mail
☐ Field enumerators
☐ Telephone
☐ Other (Specify):_____

b. Type of inquiry:

☐ Complete enumeration
☐ Sample survey (Please answer below)

Type of sampling frame:
☐ Area
☐ List

Source(s) of sampling frame:
☐ Register
☐ Population/housing census
☐ Special listing activity

Sampling procedure:
☐ Single-stage
☐ Multi-stage
☐ Cluster
Stratification criteria:_____

_____

_____

INQUIRY NO. 1 (Continued)

METHODS OF ENUMERATION

Subset #3 (Describe):_____

a. Inquiry carried out by:

- ☐ Mail
- ☐ Field enumerators
- ☐ Telephone
- ☐ Other (Specify):_____

b. Type of inquiry:

- ☐ Complete enumeration
- ☐ Sample survey (Please answer below)

Type of sampling frame:
- ☐ Area
- ☐ List

Source(s) of sampling frame:
- ☐ Register
- ☐ Population/housing census
- ☐ Special listing activity

Sampling procedure:
- ☐ Single-stage
- ☐ Multi-stage
- ☐ Cluster

Stratification criteria:_____

_____

_____

Subset #4 (Describe):_____

a. Inquiry carried out by:

- ☐ Mail
- ☐ Field enumerators
- ☐ Telephone
- ☐ Other (Specify):_____

b. Type of inquiry:

- ☐ Complete enumeration
- ☐ Sample survey (Please answer below)

Type of sampling frame:
- ☐ Area
- ☐ List

Source(s) of sampling frame:
- ☐ Register
- ☐ Population/housing census
- ☐ Special listing activity

Sampling procedure:
- ☐ Single-stage
- ☐ Multi-stage
- ☐ Cluster

Stratification criteria:_____

_____

_____

COUNTRY_____

Section B

DESCRIPTION OF INDIVIDUAL INQUIRIES

INQUIRY NO. 2 (as listed in Section A) **NAME OF INQUIRY**_____

1. **STATISTICAL UNITS COVERED BY THIS INQUIRY (DEFINITION OF THE STATISTICAL UNIVERSE)**

☐ **All units covered**----------> Go on to Question 2

☐ **Only selected units covered**----------> Answer Part a below

a. Please indicate all criteria used to define the units covered; where requested, indicate also the category used within each criterion.

☐ Number of persons engaged (Specify)---> ☐ 5 or more engaged
☐ 10 or more engaged
☐ 20 or more engaged
☐ 50 or more engaged
☐ Other (Specify):_____

☐ Location (Specify)----------> ☐ Rural areas only
☐ Urban areas only
☐ Other (Specify):_____

☐ Licenced/registered units (Please describe the basis on which licencing or registration is required):____

_____

☐ Other criteria (Please describe in detail):_____

_____

2. **METHODS OF ENUMERATION**

If survey method for this inquiry is the same for all units covered, please answer questions only in the first column below. If method differs for subsets of units, use a separate column for each subset. See back of page for additional columns, if needed.

ALL UNITS
OR **Subset #1** (Describe):_____

a. **Inquiry carried out by:**

☐ Mail
☐ Field enumerators
☐ Telephone
☐ Other (Specify):_____

b. **Type of inquiry:**

☐ Complete enumeration
☐ Sample survey (Please answer below)

Type of sampling frame:
☐ Area
☐ List

Source(s) of sampling frame:
☐ Register
☐ Population/housing census
☐ Special listing activity

Sampling procedure:
☐ Single-stage
☐ Multi-stage
☐ Cluster
Stratification criteria:_____

_____

_____

Subset #2 (Describe):_____

a. **Inquiry carried out by:**

☐ Mail
☐ Field enumerators
☐ Telephone
☐ Other (Specify):_____

b. **Type of inquiry:**

☐ Complete enumeration
☐ Sample survey (Please answer below)

Type of sampling frame:
☐ Area
☐ List

Source(s) of sampling frame:
☐ Register
☐ Population/housing census
☐ Special listing activity

Sampling procedure:
☐ Single-stage
☐ Multi-stage
☐ Cluster
Stratification criteria:_____

_____

_____

INQUIRY NO. 2 (Continued)

METHODS OF ENUMERATION

Subset #3 (Describe):_____

a. Inquiry carried out by:

- ☐ Mail
- ☐ Field enumerators
- ☐ Telephone
- ☐ Other (Specify):_____

b. Type of inquiry:

- ☐ Complete enumeration
- ☐ Sample survey (Please answer below)

Type of sampling frame:
- ☐ Area
- ☐ List

Source(s) of sampling frame:
- ☐ Register
- ☐ Population/housing census
- ☐ Special listing activity

Sampling procedure:
- ☐ Single-stage
- ☐ Multi-stage
- ☐ Cluster

Stratification criteria:_____

_____

_____

Subset #4 (Describe):_____

a. Inquiry carried out by:

- ☐ Mail
- ☐ Field enumerators
- ☐ Telephone
- ☐ Other (Specify):_____

b. Type of inquiry:

- ☐ Complete enumeration
- ☐ Sample survey (Please answer below)

Type of sampling frame:
- ☐ Area
- ☐ List

Source(s) of sampling frame:
- ☐ Register
- ☐ Population/housing census
- ☐ Special listing activity

Sampling procedure:
- ☐ Single-stage
- ☐ Multi-stage
- ☐ Cluster

Stratification criteria:_____

_____

_____

COUNTRY_____

Section B

DESCRIPTION OF INDIVIDUAL INQUIRIES

INQUIRY NO. 3 (as listed in Section A) **NAME OF INQUIRY**_____

1. **STATISTICAL UNITS COVERED BY THIS INQUIRY (DEFINITION OF THE STATISTICAL UNIVERSE)**

☐ **All units covered**----------> Go on to Question 2

☐ **Only selected units covered**----------> Answer Part a below

a. Please indicate all criteria used to define the units covered; where requested, indicate also the category used within each criterion.

☐ Number of persons engaged (Specify)---> ☐ 5 or more engaged
☐ 10 or more engaged
☐ 20 or more engaged
☐ 50 or more engaged
☐ Other (Specify):_____

☐ Location (Specify)----------> ☐ Rural areas only
☐ Urban areas only
☐ Other (Specify):_____

☐ Licenced/registered units (Please describe the basis on which licencing or registration is required):___

_____

☐ Other criteria (Please describe in detail):_____

_____

2. **METHODS OF ENUMERATION**

If survey method for this inquiry is the same for all units covered, please answer questions only in the first column below. If method differs for subsets of units, use a separate column for each subset. See back of page for additional columns, if needed.

ALL UNITS
OR **Subset #1** (Describe):_____

a. **Inquiry carried out by:**

☐ Mail
☐ Field enumerators
☐ Telephone
☐ Other (Specify):_____

b. **Type of inquiry:**

☐ Complete enumeration
☐ Sample survey (Please answer below)

Type of sampling frame:
☐ Area
☐ List

Source(s) of sampling frame:
☐ Register
☐ Population/housing census
☐ Special listing activity

Sampling procedure:
☐ Single-stage
☐ Multi-stage
☐ Cluster
Stratification criteria:_____

_____

_____

Subset #2 (Describe):_____

a. **Inquiry carried out by:**

☐ Mail
☐ Field enumerators
☐ Telephone
☐ Other (Specify):_____

b. **Type of inquiry:**

☐ Complete enumeration
☐ Sample survey (Please answer below)

Type of sampling frame:
☐ Area
☐ List

Source(s) of sampling frame:
☐ Register
☐ Population/housing census
☐ Special listing activity

Sampling procedure:
☐ Single-stage
☐ Multi-stage
☐ Cluster
Stratification criteria:_____

_____

_____

INQUIRY NO. 3 (Continued)

METHODS OF ENUMERATION

Subset #3 (Describe):_____

a. **Inquiry carried out by:**

- ☐ Mail
- ☐ Field enumerators
- ☐ Telephone
- ☐ Other (Specify):_____

b. **Type of inquiry:**

- ☐ Complete enumeration
- ☐ Sample survey (Please answer below)

Type of sampling frame:
- ☐ Area
- ☐ List

Source(s) of sampling frame:
- ☐ Register
- ☐ Population/housing census
- ☐ Special listing activity

Sampling procedure:
- ☐ Single-stage
- ☐ Multi-stage
- ☐ Cluster

Stratification criteria:_____

_____

_____

Subset #4 (Describe):_____

a. **Inquiry carried out by:**

- ☐ Mail
- ☐ Field enumerators
- ☐ Telephone
- ☐ Other (Specify):_____

b. **Type of inquiry:**

- ☐ Complete enumeration
- ☐ Sample survey (Please answer below)

Type of sampling frame:
- ☐ Area
- ☐ List

Source(s) of sampling frame:
- ☐ Register
- ☐ Population/housing census
- ☐ Special listing activity

Sampling procedure:
- ☐ Single-stage
- ☐ Multi-stage
- ☐ Cluster

Stratification criteria:_____

_____

_____

COUNTRY_____

Section B

DESCRIPTION OF INDIVIDUAL INQUIRIES

INQUIRY NO. 4 (as listed in Section A) NAME OF INQUIRY_____

1. STATISTICAL UNITS COVERED BY THIS INQUIRY (DEFINITION OF THE STATISTICAL UNIVERSE)

☐ All units covered----------> Go on to Question 2

☐ Only selected units covered----------> Answer Part a below

a. Please indicate all criteria used to define the units covered; where requested, indicate also the category used within each criterion.

☐ Number of persons engaged (Specify)---> ☐ 5 or more engaged
☐ 10 or more engaged
☐ 20 or more engaged
☐ 50 or more engaged
☐ Other (Specify):_____

☐ Location (Specify)----------> ☐ Rural areas only
☐ Urban areas only
☐ Other (Specify):_____

☐ Licenced/registered units (Please describe the basis on which licencing or registration is required):____

_____

☐ Other criteria (Please describe in detail):_____

_____

2. METHODS OF ENUMERATION

If survey method for this inquiry is the same for all units covered, please answer questions only in the first column below. If method differs for subsets of units, use a separate column for each subset. See back of page for additional columns, if needed.

ALL UNITS
OR Subset #1 (Describe):_____

a. Inquiry carried out by:

☐ Mail
☐ Field enumerators
☐ Telephone
☐ Other (Specify):_____

b. Type of inquiry:

☐ Complete enumeration
☐ Sample survey (Please answer below)

Type of sampling frame:
☐ Area
☐ List

Source(s) of sampling frame:
☐ Register
☐ Population/housing census
☐ Special listing activity

Sampling procedure:
☐ Single-stage
☐ Multi-stage
☐ Cluster
Stratification criteria:_____

_____

_____

Subset #2 (Describe):_____

a. Inquiry carried out by:

☐ Mail
☐ Field enumerators
☐ Telephone
☐ Other (Specify):_____

b. Type of inquiry:

☐ Complete enumeration
☐ Sample survey (Please answer below)

Type of sampling frame:
☐ Area
☐ List

Source(s) of sampling frame:
☐ Register
☐ Population/housing census
☐ Special listing activity

Sampling procedure:
☐ Single-stage
☐ Multi-stage
☐ Cluster
Stratification criteria:_____

_____

_____

INQUIRY NO. 4 (Continued)

METHODS OF ENUMERATION

Subset #3 (Describe):_____

a. Inquiry carried out by:

- ☐ Mail
- ☐ Field enumerators
- ☐ Telephone
- ☐ Other (Specify):_____

b. Type of inquiry:

- ☐ Complete enumeration
- ☐ Sample survey (Please answer below)

Type of sampling frame:
- ☐ Area
- ☐ List

Source(s) of sampling frame:
- ☐ Register
- ☐ Population/housing census
- ☐ Special listing activity

Sampling procedure:
- ☐ Single-stage
- ☐ Multi-stage
- ☐ Cluster

Stratification criteria:_____

_____

_____

Subset #4 (Describe):_____

a. Inquiry carried out by:

- ☐ Mail
- ☐ Field enumerators
- ☐ Telephone
- ☐ Other (Specify):_____

b. Type of inquiry:

- ☐ Complete enumeration
- ☐ Sample survey (Please answer below)

Type of sampling frame:
- ☐ Area
- ☐ List

Source(s) of sampling frame:
- ☐ Register
- ☐ Population/housing census
- ☐ Special listing activity

Sampling procedure:
- ☐ Single-stage
- ☐ Multi-stage
- ☐ Cluster

Stratification criteria:_____

_____

_____

COUNTRY_____

Section B

DESCRIPTION OF INDIVIDUAL INQUIRIES

INQUIRY NO. 5 (as listed in Section A) NAME OF INQUIRY_____

1. STATISTICAL UNITS COVERED BY THIS INQUIRY (DEFINITION OF THE STATISTICAL UNIVERSE)

☐ All units covered----------> Go on to Question 2

☐ Only selected units covered----------> Answer Part a below

a. Please indicate all criteria used to define the units covered; where requested, indicate also the category used within each criterion.

☐ Number of persons engaged (Specify)---> ☐ 5 or more engaged
☐ 10 or more engaged
☐ 20 or more engaged
☐ 50 or more engaged
☐ Other (Specify):_____

☐ Location (Specify)----------> ☐ Rural areas only
☐ Urban areas only
☐ Other (Specify):_____

☐ Licenced/registered units (Please describe the basis on which licencing or registration is required):___

_____

☐ Other criteria (Please describe in detail):_____

_____

2. METHODS OF ENUMERATION

If survey method for this inquiry is the same for all units covered, please answer questions only in the first column below. If method differs for subsets of units, use a separate column for each subset. See back of page for additional columns, if needed.

ALL UNITS
OR Subset #1 (Describe):_____

a. Inquiry carried out by:

☐ Mail
☐ Field enumerators
☐ Telephone
☐ Other (Specify):_____

b. Type of inquiry:

☐ Complete enumeration
☐ Sample survey (Please answer below)

Type of sampling frame:
☐ Area
☐ List

Source(s) of sampling frame:
☐ Register
☐ Population/housing census
☐ Special listing activity

Sampling procedure:
☐ Single-stage
☐ Multi-stage
☐ Cluster
Stratification criteria:_____

_____

_____

Subset #2 (Describe):_____

a. Inquiry carried out by:

☐ Mail
☐ Field enumerators
☐ Telephone
☐ Other (Specify):_____

b. Type of inquiry:

☐ Complete enumeration
☐ Sample survey (Please answer below)

Type of sampling frame:
☐ Area
☐ List

Source(s) of sampling frame:
☐ Register
☐ Population/housing census
☐ Special listing activity

Sampling procedure:
☐ Single-stage
☐ Multi-stage
☐ Cluster
Stratification criteria:_____

_____

_____ _____

INQUIRY NO. 5 (Continued)

METHODS OF ENUMERATION

Subset #3 (Describe):_____

a. Inquiry carried out by:

- ☐ Mail
- ☐ Field enumerators
- ☐ Telephone
- ☐ Other (Specify):_____

b. Type of inquiry:

- ☐ Complete enumeration
- ☐ Sample survey (Please answer below)

Type of sampling frame:
- ☐ Area
- ☐ List

Source(s) of sampling frame:
- ☐ Register
- ☐ Population/housing census
- ☐ Special listing activity

Sampling procedure:
- ☐ Single-stage
- ☐ Multi-stage
- ☐ Cluster

Stratification criteria:_____

_____

_____

Subset #4 (Describe):_____

a. Inquiry carried out by:

- ☐ Mail
- ☐ Field enumerators
- ☐ Telephone
- ☐ Other (Specify):_____

b. Type of inquiry:

- ☐ Complete enumeration
- ☐ Sample survey (Please answer below)

Type of sampling frame:
- ☐ Area
- ☐ List

Source(s) of sampling frame:
- ☐ Register
- ☐ Population/housing census
- ☐ Special listing activity

Sampling procedure:
- ☐ Single-stage
- ☐ Multi-stage
- ☐ Cluster

Stratification criteria:_____

_____

_____

COUNTRY_____

Section B

DESCRIPTION OF INDIVIDUAL INQUIRIES

INQUIRY NO.___ (as listed in Section A) NAME OF INQUIRY_____

1. STATISTICAL UNITS COVERED BY THIS INQUIRY (DEFINITION OF THE STATISTICAL UNIVERSE)

☐ All units covered----------> Go on to Question 2

☐ Only selected units covered----------> Answer Part a below

a. Please indicate all criteria used to define the units covered; where requested, indicate also the category used within each criterion.

☐ Number of persons engaged (Specify)---> ☐ 5 or more engaged
☐ 10 or more engaged
☐ 20 or more engaged
☐ 50 or more engaged
☐ Other (Specify):_____

☐ Location (Specify)----------> ☐ Rural areas only
☐ Urban areas only
☐ Other (Specify):_____

☐ Licenced/registered units (Please describe the basis on which licencing or registration is required):___

_____

☐ Other criteria (Please describe in detail):_____

_____

2. METHODS OF ENUMERATION

If survey method for this inquiry is the same for all units covered, please answer questions only in the first column below. If method differs for subsets of units, use a separate column for each subset. See back of page for additional columns, if needed.

ALL UNITS
OR Subset #1 (Describe):_____

a. Inquiry carried out by:

☐ Mail
☐ Field enumerators
☐ Telephone
☐ Other (Specify):_____

b. Type of inquiry:

☐ Complete enumeration
☐ Sample survey (Please answer below)

Type of sampling frame:
☐ Area
☐ List

Source(s) of sampling frame:
☐ Register
☐ Population/housing census
☐ Special listing activity

Sampling procedure:
☐ Single-stage
☐ Multi-stage
☐ Cluster
Stratification criteria:_____

_____

_____

Subset #2 (Describe):_____

a. Inquiry carried out by:

☐ Mail
☐ Field enumerators
☐ Telephone
☐ Other (Specify):_____

b. Type of inquiry:

☐ Complete enumeration
☐ Sample survey (Please answer below)

Type of sampling frame:
☐ Area
☐ List

Source(s) of sampling frame:
☐ Register
☐ Population/housing census
☐ Special listing activity

Sampling procedure:
☐ Single-stage
☐ Multi-stage
☐ Cluster
Stratification criteria:_____

_____

_____

METHODS OF ENUMERATION

Subset #3 (Describe):_____

a. Inquiry carried out by:

- ☐ Mail
- ☐ Field enumerators
- ☐ Telephone
- ☐ Other (Specify):_____

b. Type of inquiry:

- ☐ Complete enumeration
- ☐ Sample survey (Please answer below)

Type of sampling frame:
- ☐ Area
- ☐ List

Source(s) of sampling frame:
- ☐ Register
- ☐ Population/housing census
- ☐ Special listing activity

Sampling procedure:
- ☐ Single-stage
- ☐ Multi-stage
- ☐ Cluster

Stratification criteria:_____

_____

_____

Subset #4 (Describe):_____

a. Inquiry carried out by:

- ☐ Mail
- ☐ Field enumerators
- ☐ Telephone
- ☐ Other (Specify):_____

b. Type of inquiry:

- ☐ Complete enumeration
- ☐ Sample survey (Please answer below)

Type of sampling frame:
- ☐ Area
- ☐ List

Source(s) of sampling frame:
- ☐ Register
- ☐ Population/housing census
- ☐ Special listing activity

Sampling procedure:
- ☐ Single-stage
- ☐ Multi-stage
- ☐ Cluster

Stratification criteria:_____

_____

_____

COUNTRY_____

Section C

PUBLISHED SOURCE(S) OF STATISTICAL RESULTS OF INQUIRIES LISTED IN SECTION A

INQUIRY NO. 1 (as listed in Section A) NAME OF INQUIRY_____

Title of publication_____

_____

Government office issuing the publication_____

For latest available issue: Year(s) covered_____ Publication date_____

For periodicals, indicate frequency_____

INQUIRY NO. 2 (as listed in Section A) NAME OF INQUIRY_____

Title of publication_____

_____

Government office issuing the publication_____

For latest available issue: Year(s) covered_____ Publication date_____

For periodicals, indicate frequency_____

INQUIRY NO. 3 (as listed in Section A) NAME OF INQUIRY_____

Title of publication_____

_____

Government office issuing the publication_____

For latest available issue: Year(s) covered_____ Publication date_____

For periodicals, indicate frequency_____

INQUIRY NO. 4 (as listed in Section A) NAME OF INQUIRY_____

Title of publication_____

_____

Government office issuing the publication_____

For latest available issue: Year(s) covered_____ Publication date_____

For periodicals, indicate frequency_____

INQUIRY NO. 5 (as listed in Section A) NAME OF INQUIRY_____

Title of publication_____

_____

Government office issuing the publication_____

For latest available issue: Year(s) covered_____ Publication date_____

For periodicals, indicate frequency_____

COUNTRY_____

Section C (continued)

PUBLISHED SOURCE(S) OF STATISTICAL RESULTS OF INQUIRIES LISTED IN SECTION A

INQUIRY NO.___ (as listed in Section A) NAME OF INQUIRY_____

Title of publication_____

_____

Government office issuing the publication_____

For latest available issue: Year(s) covered_____ Publication date_____

For periodicals, indicate frequency_____

INQUIRY NO.___ (as listed in Section A) NAME OF INQUIRY_____

Title of publication_____

_____

Government office issuing the publication_____

For latest available issue: Year(s) covered_____ Publication date_____

For periodicals, indicate frequency_____

INQUIRY NO.___ (as listed in Section A) NAME OF INQUIRY_____

Title of publication_____

_____

Government office issuing the publication_____

For latest available issue: Year(s) covered_____ Publication date_____

For periodicals, indicate frequency_____

INQUIRY NO.___ (as listed in Section A) NAME OF INQUIRY_____

Title of publication_____ _____

_____

Government office issuing the publication_____

For latest available issue: Year(s) covered_____ Publication date_____

For periodicals, indicate frequency_____

INQUIRY NO.___ (as listed in Section A) NAME OF INQUIRY_____

Title of publication_____

_____

Government office issuing the publication_____

For latest available issue: Year(s) covered_____ Publication date_____

For periodicals, indicate frequency_____

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