



UNITED NATIONS
ECONOMIC
AND
SOCIAL COUNCIL



Distr.
GENERAL

E/CN.3/406/Add.1
17 July 1970

ORIGINAL: ENGLISH

STATISTICAL COMMISSION
Sixteenth session
Item 12 of the provisional agenda

DRAFT RECOMMENDATIONS FOR THE 1973 WORLD PROGRAMME
OF INDUSTRIAL STATISTICS

PART III. ORGANIZATION AND CONDUCT OF INDUSTRIAL CENSUSES

Report of the Secretary-General

Addendum

Summary of comments on document E/CN.3/406

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INTRODUCTION

1. This present paper consists of a summary of the comments received by the United Nations Statistical Office on the paper entitled "Draft recommendations for the 1973 World Programme of Industrial Statistics. Part III. Organization and conduct of industrial censuses" (E/CN.3/406).

2. The above-named document was distributed for comments to selected national statistical offices and international organizations. By the end of June 1970, answers had been received from the Economic Commission for Europe (ECE), the Food and Agriculture Organization of the United Nations (FAO), the General Agreement on Tariffs and Trade (GATT) and the International Atomic Energy Agency (IAEA). Comments were also received from the following countries: Australia, Barbados, Botswana, Bulgaria, Cameroon, Canada, Chile, China (Taiwan), Costa Rica, Cyprus, Czechoslovakia, Denmark, the Dominican Republic, Ecuador, El Salvador, Ethiopia, the Federal Republic of Germany, Finland, Greece, Guyana, Hungary, Iran, Iraq, Israel, Italy, Jamaica, Japan, Jordan, Lesotho, Malawi, Malaysia, Malta, New Zealand, Norway, Pakistan, Panama, Poland, the Republic of Korea, Saudi Arabia, South Africa, Southern Rhodesia, Swaziland, Sweden, Switzerland, Syria, Thailand, Trinidad and Tobago, Turkey, Uganda, the United Arab Republic, the United Kingdom, the United Republic of Tanzania, the United States of America, Uruguay and Yugoslavia.

3. Many of the comments received related to the problems concerning small establishments, industrial directories, sampling and pre-publication processing (especially, computer processing).

4. The following summary of the comments received is intended to provide a broad perspective of the views expressed on the draft recommendations. The headings used are the chapter headings of document ST/STAT/46 (attached to E/CN.3/406).

I. SUMMARY OF COMMENTS

A. Need for industrial census statistics

5. There was a proposal to add the following statement at the end of paragraph 26: "In some countries, the enterprise is the statistical unit rather than the establishment; in such instances, value added as a comparative

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measure of economic significance will be limited when distributed by geographic and industry detail. Some countries offset this to some extent by at least getting employment and payrolls on an establishment basis."

B. Major problems

6. A number of comments on the enumeration of small establishments indicated that it would be extremely costly and difficult (or almost impossible) to try to develop or maintain a directory of small establishments including cottage industries and household industries.

7. The second sentence of paragraph 38 implies that the compilation of an industrial directory is not a problem, but that obtaining data from the small establishments in the directory is the major difficulty. Since both aspects are problems in fact, a suggestion was made to revise this sentence as follows: "The difficulty ... be greatly reduced if a directory were to be compiled for establishments above a specific size and these establishments canvassed completely. The smaller establishments would then be represented by an area sample."

8. It was proposed to delete the phrase "for the industrial directory" from paragraph 41 (1).

9. It was suggested that some mention should be made of alternative approaches to handling the problem created by establishments unwilling or unable to report on the calendar year.

C. Advance planning for an industrial census

10. While there appeared to be general agreement in using the establishment as the statistical unit, it was noted that the experience of some countries demonstrated that there was no other way to collect financial statistical data than on an enterprise basis, especially in the case of multi-establishment enterprises.

11. Among the developing countries where the contribution of the industries in mixed activities to the economy as a whole is considerable, there was a request that further attention be given in the paper to more detailed discussion of the treatment of industrial establishments in mixed activities.

12. In relation to the use of advisory committees, it was felt important to note the role that industrial organizations such as manufacturers' associations can play in the determination of industry requirements in the more statistically developed countries.

13. It was suggested that the priority indication be omitted from the first sentence of paragraph 70, since there is the possibility of misinterpretation to the effect that the planning of classification systems is of minor importance.

14. It was pointed out that, in the second sentence of paragraph 70, the phrase "the design of classification systems ... will not attract wide government or public interest" is not universally true, particularly in regard to the classification systems for products.

15. Attention was drawn to paragraph 72, which implies that distinctions made in classification systems need not always be precise. One comment indicated that the classification systems used should be sufficiently detailed to accommodate international standards and the categories of the classification system should be precisely defined. One country has found that frequently it is desirable to conduct preliminary inquiries with a sample of respondents to ascertain whether data, particularly on products and materials, can be reported in the detail desired, and whether the descriptions used are clear and unambiguous.

16. It was pointed out, in respect of paragraph 73, that the provision of residual categories ("other" or "n.e.c.") would be necessary at appropriate points in commodity and industrial classifications in order to accommodate unforeseen units not otherwise provided for in the classifications.

17. On the use of samples, a suggestion was made concerning the desirability of providing a warning that a sample which supplies acceptably accurate data on such aspects as employment, power equipment, and total value of production of the establishments in a certain kind of activity group may give misleading data on the production of specific products if production is very much specialized.

18. As one of the approaches to sampling, it was suggested that a combination of list sampling and area sampling might be useful, particularly for developing countries. A list of the larger establishments can often be easily obtained, if not already available, and can be the basis of a list to be used for a sample or a census. An area sample may then be the only feasible way of obtaining estimates of non-listed establishments. The establishments picked up in the

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area sample are to be enumerated if they are not already represented in the list regardless of whether they were included in the list sample).

D. Collection of data

19. While there was no difference of views on the use of a population census for obtaining information concerning household industries, attention was paid to the point that the population census should be utilized only as a source of minimum data and classification information for rough estimates of the economic contribution of household industries.

20. In connexion with the sources of information for the directory, it was suggested that a recommendation be made to establish a registration system of business units, either enterprise or establishment, for both administrative and statistical purposes.

21. In the check-box query discussed in paragraph 126, the alternatives must be mutually exclusive and exhaustive. It was noted that a common way of ensuring an exhaustive list is to include an "all other" category.

22. With regard to paragraphs 137, 138 and 139, one country expressed the view that the enumeration of multi-establishment enterprises should be through the head office of the enterprise. This approach has the advantage of allowing the enterprise to be made responsible for co-ordinating completion of returns for its establishments and reconciling any conflicts in reporting of data among individual establishment returns.

23. There are a number of possible systems of collection control besides the one mentioned in paragraph 149. One of them would be the use of printed registers of establishments, in which space is provided for recording receipt of returns, dates of dispatch of reminder notices and the like. A very simple control system is possible if address plates are used. These can be held as a "register" and, as completed questionnaires are received, the address plates are removed and stored elsewhere. When it is decided to dispatch reminder notices, the address plates representing returns outstanding can be used directly to address the notices.

24. Another system involves having the computer record the receipt of returns by inserting the receipt date on a magnetic tape file (the "collection control file") containing the reference numbers of units in the collection. Addresses for

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units with returns outstanding are generated by matching this file against a "mailing address file" containing the reference number, name and address and information on all units in the collection.

E. Pre-publication processing

25. It was suggested that more emphasis should be laid on the planning of procedures for imputation for non-respondents and for "failed edit" respondents. In particular, the grouping of the survey units into imputation groups, which are considered to be fairly homogeneous with respect to the characteristics being measured and within which imputations are made for non-respondents on the basis of returns from respondents, is an important part of the planning for processing.

26. In relation to the last sentence of the second paragraph of "internal consistency checks" discussed in paragraph 164, it was considered undesirable to return the actual questionnaire to the respondent for correction. It was suggested that a special query be sent instead.

27. The last sentence of paragraph 164 implies that the scope rather than the tolerance of the check should be reduced. It should be made clear that the check should first be retested with a reduced range before being eliminated entirely.

28. With regard to computerized editing, it was considered useful to distinguish three stages of editing in a computer-processing environment:

(a) Pre-punching edit, concurrent with document coding, the purpose of which is to ensure that the document is acceptable for punching and also to catch gross errors which will require correspondence with the respondent or an enumerator's visit as early as possible in processing;

(b) Primary computer edit, usually performed as the punch cards are read onto tape and designed to catch obvious coding and punching errors (which can be resolved by comparing the machine-readable record with the original document) and gross errors in the record which will require correspondence with the respondent or an enumerator;

(c) Secondary computer edit, which begins once the records are at least formally acceptable for processing and in which the more sophisticated edits (such as internal consistency checks) will be made. The point of separating

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(c) from (b) is that these edits often require the computer examination of other records in the same "imputation group".

Consideration should be given to the possibility of "automatic correction" procedures at this stage of edit and to the computation of measures of the net effect of these "correction" procedures. A low net effect will indicate that there will be no need to return to the original documents to assess the "correctness" of the computer "correction".

29. In paragraph 165, the suggested solution to the fifth limitation was felt to be over-simplified; in practice, the production of a completely comprehensive set of test questionnaires is not feasible.

30. In connexion with paragraph 179, the opinion was expressed that punched cards are not particularly suitable for industrial censuses where there is access to a computer; paper tape is preferable because of the variability of record length and its free-field capacity. Also, the combination of computer processing with paper-tape input would relieve the system designer from constraints imposed on the input format by tabulation requirements mentioned in paragraphs 186 and 187.

31. For paragraph 193, the view was expressed that more important characteristics of electronic computers are their abilities to store and follow a predetermined programme and to take alternative courses of action.

32. It was felt that the discussion on programming (paragraphs 195 and 196) has been over-simplified and could mislead the reader as to the intensive and extensive systems design that may be involved before programming is undertaken. The need for mutual education (that is to say, the programmer has to be aware of the statistician's problems and vice-versa) and clear communication, which is the biggest problem in computerization, should be emphasized.

33. In one country, automation of surveys has been undertaken by projects teams composed of people with various skills such as programmers, systems analysts, sampling experts and subject-matter specialists; the best progress has been made when the subject-matter officer has some basic knowledge of systems design, programming and sampling. In this connexion, a comment was made to the effect that the content of foot-note 7 in chapter VI was not acceptable.

F. Publication

34. The problem of confidentiality may be more than direct disclosure by releasing, for example, the statistics of less than three establishments or those of a dominant establishment(s). It was suggested that discussion be included on how far, for example, the agency will take into account common ownership of establishments and on the problem of residual disclosure between tables or between publications.

35. It was pointed out that paragraph 208 should be revised to make it consistent with paragraphs 13-35, ST/STAT/44/Rev.1 (attached to E/CN.3/404/Rev.1).

36. The handling of geographical detail would be left to the countries. As one of the approaches to this, the following method was presented: establishments are given a standard area code (the codes represent small geographical areas and are mutually exclusive and exhaustive) by using these codes, data for these areas can be aggregated into an area of whatever size is desired or aggregated by type of area.

II. PROPOSALS FOR FUTURE WORK

37. The Statistical Commission may wish to request the Secretary-General:

(a) To revise document E/CN.3/406 along the lines indicated in this paper, taking into account the views expressed by the Commission at its sixteenth session;

(b) To issue the revision of the document as part of the recommendations for the 1973 World Programme of Industrial Statistics.
