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THE INTERNATIONAL COMPILATION OF EXTERNAL
TRADE STATISTICS BY COMPUTER
(Statement of Financial Implications submitted
by the Secretary-General)

1. The Statistical Commission at its eleventh session recommended that the United Nations Statistical Office "experiment with the use of high-speed, large-memory, stored-programme computing machines in facilitating the rapid processing, verifying and printing of the data" on international trade analysed by countries and commodities (Res. 6 (XI), para. 6 - E/3375).
2. Pursuant to this recommendation the Statistical Office has for a year been using electronic computers on a limited basis for processing the trade data of some 36 countries in each of the 177 commodities of the United Nations Standard International Trade Classification, Revised (SITC, Revised). This information converted into standard units, arranged so that data for each commodity are grouped together, and covering about 80 per cent of world trade is published in Commodity Trade Statistics, a publication of some 800 pages of tabular matter issued quarterly. The figures published in Commodity Trade Statistics are used by governments, international agencies and private firms and individuals as a source of data for the study of economic and tariff questions. The necessity of extracting figures by hand from this publication has, however, greatly limited the use which can be made of the voluminous data.
3. The experience gained by the Statistical Office in the use of electronic computers for the compilation of commodity trade statistics appeared to point the way to the removal of this difficulty and, at the same time, to reduce the burden under which governments now find themselves supplying detailed trade data simultaneously to a number of international agencies of which they are members. Accordingly the Secretary-General convened a meeting of Experts in Rome from 26 February to 2 March 1962 to advise him, preparatory to the 12th session of the

Statistical Commission on: (i) the extent to which the use of electronic computers would make possible an improvement in the availability of external trade statistics for analysis of commodity-by-country trade, increase their timeliness and efficiency; and (ii) the organizational arrangements which would best draw the maximum benefit, if the use of computers was considered advantageous.

4. Having reviewed the current situation of the supply and demand for international trade statistics, the Experts feel that:

- (i) there was substantial need for a new effort towards the rationalization of the collection, processing, and publication of statistics on external trade by commodity-by-country at the international level;
- (ii) steps should be taken towards such rationalization through the provision of an international servicing and computational centre for processing and making available the data;
- (iii) the centre should be attached to the Statistical Office of the United Nations.

5. The report of the Experts has been circulated to the Statistical Commission as Annex II to E/CN.3/300. The purpose of this paper is to present financial estimates for implementing during 1963, and in a limited manner, the recommendations of the Experts for establishing a central service for processing and making available data on commodity trade statistics. These estimates assume that:

- (a) the centre would receive quarterly trade by commodity-by-country statistics from each government on the basis of the 1,312 commodity items of the SITC, Revised;
- (b) the centre would utilize an electronic computer to convert the data into United States dollars and metric units of quantity, to identify them by standard commodity and country codes, to verify their accuracy and to store the data on magnetic tape;
- (c) the centre would be reimbursed for costs of any special tapes, cards or print-outs requested by governments or international organizations;
- (d) the centre would make arrangements for the processing and publication in limited quantities, of data by country, as they are received and perhaps for an annual publication. The detailed publication arrangements required to be discussed and agreed with the other participants, in order both to avoid duplication of effort and to keep costs to a reasonable level.

6. On the basis of the foregoing assumptions, expenditures will arise under three headings: (i) staff in the United Nations Statistical Office, (ii) rental of machine time for processing data and programming, and (iii) publication of the data.

7. In so far as staff is concerned, it is anticipated that it will be possible to meet the major portion of the requirements in 1963, from within the authorized level of the present establishment. Provision needs to be made only for a statistical clerk (G-4 level) for the twelve months of 1963 = (\$6,000). In addition a provision for travel will be necessary: \$2,000, in 1962 and \$4,000 in 1963.

8. As regards programming and processing of data, it will be necessary to incur expenditures on programming in the last months of 1962 in order to be in a position to make a start with processing data without any delays in the beginning of 1963. It is estimated that the 1962 requirements will be \$32,000 for machine-time for preparing and testing computer-programmes. The machine costs for 1963 will be \$180,000 as shown below:

(i) computer (machine) time costs \$135,000

The estimate is based on a requirement of some 20 hours per month of 7090-time and 30 hours per month of 1401-time, and on the current standard rates for the use of these IBM machines. Mainly because of the increased detail in which data would be processed by the computer, the number of items processed would rise from about 300,000 at the present time, to nearly 1 million in 1963. This work will be performed by outside contract.

(ii) costs of converting data in the form suitable for use on the computer. This work will also be performed by outside contract, and would involve punching of cards from tabulations or other printed sources as submitted by reporting countries. \$36,000

(iii) related supplies, e.g. tabulating paper, magnetic tapes, punch cards, etc. 9,000
\$180,000

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Printing

9. As already indicated the details of the publications programme and the way in which the participants will share in its costs have yet to be discussed and agreed with them. However, it is clear that the annual amount of \$26,000 currently available for the publication of quarterly Commodity Trade Statistics will require to be increased. For the purposes of this paper, it is assumed that this increase would be of the order of 50 per cent. Consequently, an amount of \$39,000 is proposed for this purpose.

10. In summary, the costs for implementing the recommendations of the experts, will for 1962-1963 be the following:

	<u>1962</u>	<u>1963</u>
(i) (a) staff costs [one post of statistical clerk	-	6,000
(b) staff travel	2,000	4,000
(ii) machine time (programming and processing costs)	32,000	180,000
(iii) printing	-	39,000
	<u>\$34,000</u>	<u>\$229,000</u>

The estimate of \$229,000 as shown above for 1963 represents the total annual foreseeable cost of the project. Credits which would in any event be requested in the 1963 initial budget estimates to maintain the present programme in this field would amount to \$116,000 (\$90,000 for machine tabulation costs and \$26,000 for printing). The additional requirement which would arise should the new expanded project be approved would be, therefore, \$113,000.
