



UNITED NATIONS
ECONOMIC
AND
SOCIAL COUNCIL



Distr.
GENERAL

E/CN.3/312
13 January 1965

ORIGINAL: ENGLISH

STATISTICAL COMMISSION
Thirteenth session
Item 4 (a) of the provisional agenda

PROGRESS REPORT ON THE INTERNATIONAL TRADE STATISTICS CENTRE

(Report by the Secretary-General)

1. At its twelfth session, the Commission adopted the following resolution (11(XII)):

"CENTRALIZATION OF EXTERNAL TRADE STATISTICS

"The Statistical Commission,

"Aware of the need to rationalize the collection and dissemination of statistics of international trade,

"Noting that advances in the technique of electronic computation would not only permit speedier and more efficient processing of international data, but would give access to the full range of the data to a degree not previously possible,

"Recalling the request made at its eleventh session that the Secretary-General 'experiment with the use of high-speed, large-memory, stored-programme computing machines in facilitating the rapid processing, verifying and printing of the data',

"Noting the experience acquired by the Statistical Office in the large-scale processing of statistical data by computer,

"Noting the report of the Expert Group on the International Compilation of External Trade Statistics,

"Requests the Secretary-General:

"1. To establish a centre, attached to the United Nations Statistical Office, for the collection and publication of international data on external trade, and to arrange for the processing of the data by electronic computer;

"2. To provide Member States, specialized agencies and other organizations, at their request, with statistical information resulting from the work of the centre in the form of publications, tabulations, punched cards or magnetic tape, it being understood that special operations would be undertaken at the expense of the requester in response to any request;

"3. To consult with the specialized agencies and other organizations interested in international trade statistics, including the regional economic commissions, in order to eliminate as far as possible duplication of requests to national offices by these organizations for full trade statistics, and to ensure that the centre may be able to meet appropriate requests by these organizations for international trade data."

The Economic and Social Council, in its resolution 883(XXXIV), endorsed the programme of work proposed by the Commission. The additional funds necessary to carry out the expansion of the work which had been envisaged were made available at the beginning of 1963 and Governments began supplying trade-by-commodity-by-country data to the International Trade Statistics Centre at the Statistical Office of the United Nations in respect of the year 1962. Annex I to this paper sets forth the present status of reporting by Governments. Most of the data are supplied in the form of punched cards or magnetic tape, and the Centre is now processing them by computer at the rate of 600,000 cards per month. The Centre, with the co-operation of regional organizations, is arranging for the regular supply of data for additional countries.

2. As indicated in Annex I, most countries are reporting their trade data in essentially the full commodity detail of the SITC, Revised,^{1/} that is, at the 5-digit level of the classification and distinguishing countries of origin and destination also at that level. Value in dollars and, where available, quantity in metric units are stored by the Centre on magnetic tape for the imports, exports and, where separately available, re-exports of each reporting country in each commodity from or to each of its trading partner countries.^{2/} The tape also

1/ United Nations. Standard International Trade Classification, Revised. Statistical Papers, Series M, No. 34, available in English, French and Spanish. Commodity Indexes to the Standard International Trade Classification, Revised. Statistical Papers, Series M, No. 38, Vols. I and II; available in English; French and Spanish in preparation.

2/ Countries or territories of very minor importance are grouped together in residual categories.

contains data at the 4-, 3-, 2- and 1-digit levels of the classification and total trade, distinguishing countries of origin and destination at each level. Countries began reporting in this degree of detail with the annual figures for 1962 and have been asked to report for each cumulative quarter, beginning with January-June 1963 data (and including January-March data for 1965 and subsequent years, but not for 1963 or 1964). Prior to annual 1962, data are available for the principal trading countries at the 3-digit level of the SITC, Revised, going back, in varying degrees of completeness, to 1951.

3. The "data bank" thus built up on magnetic tape is available to Governments, international organizations and others. Selected data can be supplied in the form of tabulations, punched cards or magnetic tape in a wide range of formats. The Centre is prepared to use the computer to make aggregates and rearrangements of the data in its "bank". A charge must, however, be made for the cost of special services of this sort.

4. As was foreseen by the Commission, it is not possible for the Centre to envisage regular publication of the large volume of data being collected and accumulated. The data at any level of detail and in any required arrangement are nevertheless accessible to all users, subject only to the payment of the extra cost involved. The Statistical Office is anxious to enter into arrangements with other international organizations or with Governments by which a maximum can be made available in printed form. The resources of the Statistical Office currently permit the following programme for distributing the figures but it can, of course, be adjusted to meet the needs of others who may wish to co-operate in publication.

A. Quarterly data at, essentially, the 4-, 3- and 1-digit and total trade levels are published in Commodity Trade Statistics for each reporting country in commodity-by-partner-country order as they become available. Certain regional aggregates of partner countries are regularly shown. Commodity aggregates, other than the SITC aggregates mentioned above, are not shown at present nor are individual transactions of value less than \$100,000 separately printed, though they enter all appropriate aggregates. The publication requires at present more than 2,500 pages per quarter, and the number of pages will increase as reporting becomes more complete. The number of copies in which this publication is printed is sufficient to meet the demand.

/...

B. Because the United Nations does not have the resources itself to arrange for publication, the Statistical Office has arranged with a commercial publisher (Walker and Company, in New York) to publish data at the SITC item (5-digit code) level for 1963 in commodity-by-reporting-country-by-partner-country order for twenty-two reporting countries (United States, Canada, Belgium-Luxembourg, France, Federal Republic of Germany, Italy, Netherlands, United Kingdom, Denmark, Norway, Sweden, Austria, Portugal, Switzerland, Iceland, Ireland, Greece, Turkey, Spain, Finland, Australia, Japan). In addition, sub-group (4-digit), division (2-digit), section (1-digit) and total trade data are shown. Individual entries valued at less than \$50,000 are omitted to save space, but none the less the publication consists of about 1,700 pages. The material is divided among four volumes as follows:

- Vol. I. Food, beverages, tobacco, raw materials, fats and oils (SITC 0, 1, 2, 3, 4)
- II. Fuels, chemicals (SITC 3, 5)
- III. Manufactured goods, n.e.s. (SITC 6,8)
- IV. Machinery, transport equipment, miscellaneous transactions (SITC 7, 9)

C. If the publication described at B above is successful, Walker and Company plans to issue a supplementary volume in commodity order for 1963 covering reporting countries other than the twenty-two already included. Furthermore, it would publish another rearrangement of the data, that into partner-country-by-commodity-by-reporting-country order, which is designed to bring together the trade, as reported by their principal trading partners which do report, of countries which either do not report to the Centre or report very late. Computer tabulations of this sort for the years 1962 and 1963 have been made by the Centre, but it has not yet been possible to give them wide distribution.

5. Commodity Trade Statistics tabulations (A of paragraph 4) contain data for selected partner-country aggregates, as well as for individual partner countries. The tabulations described at B show only the basic country figures together with commodity totals for each reporting country. This restriction is essential to keep the pages to a manageable number.

6. If the Statistical Office with the co-operation of Walker and Company can solve the problem of publishing most of the commodity detail available at the Centre, Governments and international agencies may wish to take the responsibility for publishing regional aggregates and commodity aggregates, other than those

implicit in the SITC itself, which can be made by computer. Annex II lists the partner country aggregates now shown in Commodity Trade Statistics. It has already been suggested that "Sterling Africa" should be added to the list. The only reporting-country aggregates regularly compiled are those, for each partner country, in the tables in partner country order described at the end of paragraph 4 above. Non-SITC commodity aggregates are not yet regularly compiled.

7. It has been suggested that the Centre use the computer to provide trade data according to broad economic classes such as:

Food	Capital equipment	Consumer durables
Industrial supplies	Consumer non-durables	Others, N.E.S.

A possible scheme for defining these classes in terms of the SITC, Revised, is contained in Annex III.

8. Some technical details of the operation of the Centre may be of interest. Upon receiving its mandate to create the Centre, the Statistical Office was aware that the most expensive and time-consuming part of performing a specific task by computer is writing the required computer programme and making it work the first time and that, since it was expected to receive data from many sources in a variety of forms and to produce results in many formats, it could not afford to reprogramme every time the specifications of input or output underwent a change. The Office has therefore written and is using the following generalized programmes:

A. Conversion programme. Accepts data in any form on IBM cards or tape, the specific input format being indicated to the computer by control cards. By means of tables provided on punched cards, converts commodity code to the SITC, country code to the United Nations standard, quantities to metric units, values to US dollars. Writes error messages whenever a data item contains unforeseen material.

B. Checking programme. Makes any or all of the following checks and/or aggregates as determined by control cards: adds partner-country data within a commodity and records the sum or checks the sum against a reported total; adds n-digit data for each partner country and for the commodity total and records the sum or checks the sum against data reported at the (n-1)-digit level; compares current data in any desired detail with previous data reported by the same country; checks partner-country unit values against the unit value for the commodity total.

C. Choosing and aggregation programme. Selects and/or aggregates data according to arbitrary combinations of the identifying codes. The making of control cards for this step has been greatly shortened by the use of a number of conventions.

D. Printing programme. Provides a tape which, when run on a tabulator, such as the IBM 1401, will display the data in any one of a large class of tabular formats; will also print the titles of tables, column and stub headings. The tables in Commodity Trade Statistics and in World Energy Supplies provide a few examples of the variety of output which can be obtained without reprogramming.

9. These programmes are basic to the work of the Centre on commodity trade statistics. They will, however, also apply to any data which are identified by four codes each (e.g. period, reporting country, commodity (11 digits), partner country). Further to exploit data of this general type, the following additional programmes are either in use or in active preparation:

A. Analytic programme. Selects logical records by means of their codes and combines the data magnitudes they contain according to algebraic or analytic formulas specified in sub-routines.

B. Index number programme. Calculates Laspeyres, Paasche and Fisher indexes, with "commodity" and "country" analysis, imputing, where coverage is incomplete, as indicated by the way in which the input data are coded. Output gives the index numbers and the weight and percentage coverage of each index figure.

C. Commodity balance sheet programme. As directed by the commodity code, calculates any one of the following six magnitudes from the other five: production, imports, exports, bunkers, net additions to stock, consumption. Also compares consumption of raw material (e.g. tin ore in metal content) with production of resulting products (e.g. tin and tin content of compounds obtained directly from the ore). The use of this technique has already disclosed discrepancies which have led Governments to amplify or revise their official data.

D. Estimation programme. Estimates sets of data for a current period when data for the previous period are known. Takes account of current period data known exactly or approximately and of relations known or presumed to exist among the data. Produces estimates for the current period as nearly proportional to the previous period data as is consistent with the facts known about the current period.

10. It is expected that the availability of these generalized programmes will facilitate the application by the Statistical Office of computer methods to fields of interest other than external trade and energy statistics, to which they are already being applied.

11. It should be noted that the use of these generalized programmes requires a large computer of scientific type; machines of so-called "statistical" or "business" type are ill-adapted to programming of this degree of generality.

12. Data for a given country are usually available at the Centre in standard form (values in US dollars, quantities in metric units, commodities according to the SITC, countries in the standard United Nations arrangement) within two weeks of their receipt from Governments. The first time a country reports, the time may be longer, particularly if the commodities are not classified exactly according to the SITC or contain other irregularities (such as secret countries or commodities, which complicate the preparation of the control cards for the country). Tape containing standardized data, and suitable for running on an IBM 1401 computer, can be rented by participating Governments from the Centre. Details of the data available are given in Annex I.

13. Currently the Centre rents time on an IBM 709⁴ computer owned commercially and uses, each month, about forty hours on the main computer to process the approximately 600,000 flows of commodity trade reported. It is expected that in the course of 1965, an IBM 704⁴ computer located at United Nations Headquarters and operated by the Statistical Office will do the work together with United Nations and UNICEF accounts, as well as special work for Governments, international organizations and others, against reimbursement of the cost, based on data on the tapes of the Centre. The work foreseen for 1965, including that done for others and the first steps towards expansion of computer use to Statistical Office work now being done by hand, can be accommodated in one shift. It is probable that, by the time the workload exceeds one shift, the IBM 360 will be available. It will thus be possible either to organize another shift, on the 704⁴ or on a small IBM 360 installation, or to continue one shift operation by means of a larger IBM 360 system, whichever is more economical.

ANNEX I

Reporting to the International Trade Statistics Centre (by 94 countries)^{1/}
 (as of end-1964)

KEY

- A Reported essentially at the item (5-digit) level of the SITC, Revised
 B " sub-group (4-digit) "
 C " group (3-digit) "
 D Reported according to the original SITC
 E Reported according to national commodity code
- I Reports on magnetic tape
 II Reports on punched cards
 III Reports by tabulation only

Note: In the case of a number of countries, secret categories of goods somewhat affect reporting, particularly at the item and sub-group levels.

Reporting Country	Current Reporting	Remarks
Afghanistan	A II	A for imports; exports: some items sub-groups, groups, divisions, sections
Argentina	A II	
Australia	A III	
Austria	A II	
Belgium-Luxembourg	A II	Quarterly, B II
Brazil	E II	Converted to A
Brunei	D II	Converted to A
Burma	D II	Converted to A
Cambodia	E II	Converted to A
Cameroon	II	C for imports; exports: sections and principal items

^{1/} Some of the data for African, Asian and American countries associated with the European Economic Community are being supplied by the Statistical Office of the European Communities. The assistance of the secretariat of the Economic Commission for Asia and the Far East is also acknowledged in putting on punched cards or magnetic tape the data for a number of the countries of its region.

Reporting Country	Current Reporting	Remarks
Canada	B I imports B II exports	
Central African Republic	II	C for imports; exports: sections and principal items
Ceylon	D II	Converted to B
Chad	II	C for imports; exports: sections and principal items
Chile	E II	Converted to A
China (Taiwan)	E II	Converted to B
Colombia	D II	Converted to B
Comoro Islands	II	C for imports; exports: sections and principal items
Congo (Brazzaville)	II	C for imports; exports: sections and principal items
Congo (Democratic Republic of)	II	C for imports; exports: sections and principal items
Dahomey	II	C for imports; exports: sections and principal items
Denmark	A II	
Ecuador	E II	Converted to A
Ethiopia	II	C for imports and re-exports; A for exports
Finland	A I	
France	A I	
French Guiana	II	C for imports; exports: sections and principal items
French Polynesia	II	C for imports; exports: sections and principal items
French Somaliland	II	C for imports; exports: sections and principal items
Gabon	II	C for imports; exports: sections and principal items
Germany, Federal Republic of	A I	
Ghana	A II	

Reporting Country	Current Reporting	Remarks
Greece	A II	
Guadeloupe	II	C for imports; exports: sections and principal items
Honduras	D II	Converted to A
Hong Kong	D II	Converted to A
Iceland	A III	Expect principal items and perhaps cards as well
India	D II	Converted to B
Indonesia	E II exports	Converted to A
Iran	E II	Converted to A
Iraq	E III	Converted to A
Ireland	E II	Converted to A
Israel	A II	
Italy	A I	
Ivory Coast	II	C for imports; exports: sections and principal items
Jamaica	D II	Converted to B
Japan	I	A for imports; B for exports
Kenya	A III	
Korea, Republic of	A II	Converted to B
Laos	E II	Converted to B
Libya	A II	
Madagascar	II	C for imports; exports: sections and principal items
Malaysia:		
Malaya	A II	
Sabah	D II	Converted to B
Sarawak	D II	Converted to A in 1963
Singapore	A III	
Mali	II	C for imports; exports: sections and principal items
Martinique	II	C for imports; exports: sections and principal items

Reporting Country	Current Reporting	Remarks
Mauritania	II	C for imports; exports: sections and principal items
Mexico	E II	Converted to A
Netherlands	A II	
Netherlands Antilles	D II	Converted to B
New Caledonia	II	C for imports; exports: sections and principal items
New Zealand	A II	Data for calendar years now being compiled
Niger	II	C for imports; exports: sections and principal items
Nigeria	A II	
Norway	A II	
Pakistan	B II	
Panama	D I imports D III exports	Converted to A
Peru	A II	
Philippines	D II	Converted to A
Portugal	A II	
Réunion	II	C for imports; exports: sections and principal items
St. Pierre and Miquelon	II	C for imports; exports: sections and principal items
Senegal	II	C for imports; exports: sections and principal items
Somalia	II	C for imports; exports: sections and principal items
Spain	A II	
Sudan	A II	
Surinam	II	C for imports; exports: sections and principal items
Sweden	A I	
Switzerland	A II	A II expected year 1963
Thailand	D I	Converted to A

Reporting Country	Current Reporting	Remarks
Togo	II	C for imports; exports: sections and principal items
Trinidad and Tobago	D III	Converted to C
Tunisia	A II	
Turkey	A III	
Uganda	A III	
United Kingdom	A I	1962: B
United Republic of Tanzania	A III	
United States	A I	
Upper Volta	II	C for imports; exports: sections and principal items
Venezuela	D II imports	Converted to A
Viet-Nam, Republic of	E II	Converted to B
Western Samoa	II	C for imports; exports: sections and principal items
Yugoslavia	A I	

ANNEX II

Partner country groupings shown in
Commodity Trade Statistics

Economic Class I:	United States, Canada, Western Europe, Australia, New Zealand, South Africa, Japan
Economic Class II:	World less Economic Classes I and III
Economic Class III:	Eastern Europe, China (mainland) X
Africa:	Continental Africa, Madagascar, Réunion
Sterling Area	
Latin America:	Twenty Latin American Republics
Western Europe:	Common Market, European Free Trade Association, Other Europe
Common Market:	Belgium, France, Germany (Federal Republic), Italy, Luxembourg, Netherlands
European Free Trade Association:	Austria, Denmark, Norway, Portugal, Sweden, Switzerland, United Kingdom
Other Europe:	Iceland, Ireland, Finland, Greece, Spain, Turkey, Yugoslavia
Eastern Europe:	Albania, Bulgaria, Czechoslovakia, Eastern Germany, Hungary, Poland, Romania, Union of Soviet Socialist Republics
Middle East:	Middle East in Asia, plus Libya, United Arab Republic, Sudan, Ethiopia, Somalia, French Somaliland, Cyprus
Australia, New Zealand, South Africa	
Other Africa:	Africa, excluding South Africa, and countries listed under Middle East, but including Madagascar, Réunion
China (mainland) X:	China (mainland), Mongolia, North Korea, North Viet-Nam
Other Asia:	Asia, excluding Middle East, China (mainland) X and Japan
Other countries n.e.s.	Caribbean, Pacific territories

ANNEX III

Suggestion for the analysis of trade into broad economic classes

1. FOOD AND OTHER GOODS FOR DIRECT CONSUMPTION

SITC 0 (food and live animals), 11 (beverages), 22 (oil-seeds, oil nuts and oil kernels), 421 (fixed vegetable oils, soft), 431.2 (hydrogenated oils and fats)

2. INDUSTRIAL SUPPLIES

- a. Crude materials SITC 2 (crude materials inedible, except fuels) excluding 22 (see 1 above)
- b. Mineral fuels, lubricants and related materials SITC 3
- c. Industrial chemicals SITC 5 (chemicals) excluding 553 (see 4 d), 554.1 (see 4 d), 571.3 (see 4 d), 571.4 (see 4 d)
- d. Metals SITC 67 (iron and steel), 68 (non-ferrous metals)
- e. Wood and cork supplies SITC 63 (wood and cork manufactures, excluding furniture)
- f. Paper SITC 64 (paper, paperboard and manufactures thereof)
- g. Textiles SITC 651 (textile yarn and thread), 652 (cotton fabrics, woven, not including narrow or special fabrics), 653 (textile fabrics woven, not including narrow or special fabrics, other than cotton fabrics), 655 (special textile fabrics and related products) excluding 655.7 (see 4 a)
- h. Other industrial supplies SITC 121 (tobacco, unmanufactured), 4 (animal and vegetable oils and fats), 61 (leather, leather manufactures n.e.s. and dressed fur skins), 62 (rubber manufactures n.e.s.), 66 (non-metallic mineral manufactures n.e.s.), 69 (manufactures of metal n.e.s.), 862 (photographic and cinematographic supplies) excluding 421 (see 1), 431.2 (see 1), 629.1 (see 3 c iv), 665.2 (see 5 a), 695 (see 3 d), 696-7 (see 5 a), 698.5 (see 5 h), 698.9 (see 5 h)

3. CAPITAL EQUIPMENT

- a. Non-electric machinery and tools SITC 71
 1. Power-generating SITC 711 (power-generating machinery, other than electric)

/...

- ii. Agricultural SITC 712 (agricultural machinery and implements)
 - iii. Office SITC 714 (office machines)
 - iv. Metalworking SITC 715 (metalworking machinery)
 - v. Textile and leather SITC 717 (textile and leather machinery)
 - vi. Other capital equipment SITC 718 (machines for special industries), 719 (machinery and appliances, other than electrical, and machine parts n.e.s.), 861 (scientific, medical, optical, measuring and controlling instruments and apparatus)
- b. Electric machinery
- i. Power SITC 722 (electric power machinery and switchgear)
 - ii. Other electric machinery SITC 72 (electrical machinery, apparatus and appliances) excluding 722 (see 3 b i), 724.1-2 (see 5 b), 725 (see 5 c), 729.2 (see 5 h)
- c. Transport equipment
- i. Lorries and buses SITC 732 (road motor vehicles), 733.3 (trailers and other vehicles, not motorized, and their parts) excluding 732.1 (see 5 d), 732.9 (see 5 e)
 - ii. Aircraft SITC 734
 - iii. Ships and railway rolling stock SITC 731 (railway vehicles), 735 (ships and boats)
 - iv. Tyres and tubes SITC 629.1 (rubber tyres and tubes for vehicles and aircraft; adjusted, if possible, to exclude those for passenger motor vehicles, motorcycles and bicycles)
- d. Other capital equipment SITC 695 (tools for use in the hand or in machines, 861 (scientific, medical, optical, measuring and controlling instruments and apparatus)
4. CONSUMER NON-DURABLE GOODS
- a. Textiles SITC 654 (tulle, lace, embroidery, ribbons, trimmings and other small wares), 655.7 (hat bodies), 656 (made-up articles, wholly or chiefly of textile materials, n.e.s.), 657 (floor coverings, tapestries, etc.), 84 (clothing, except fur clothing)
 - b. Tobacco manufactures SITC 122

- c. Printed matter SITC 892
 - d. Other consumer non-durable goods SITC 553 (perfumery and cosmetics, dentifrices and other toilet preparations, except soaps), 554.1 (soaps), 571.3 (pyrotechnical articles), 571.4 (hunting and sporting ammunition), 83 (travel goods, handbags and similar articles), 85 (footwear), 895 (office and stationery supplies, n.e.s.)
5. CONSUMER DURABLE GOODS
- a. Household equipment SITC 665.2 (glass tableware and other articles of glass for household, hotel and restaurant use), 666 (pottery), 696 (cutlery), 697 (household equipment of base metals)
 - b. Wireless and television broadcast receivers SITC 724.1 (television broadcast receivers, whether or not combined with gramophone or radio), 724.2 (radio broadcast receivers, whether or not combined with gramophone)
 - c. Domestic electrical equipment SITC 725
 - d. Passenger cars SITC 732.1 (passenger motor cars, other than buses or special vehicles, whether or not assembled)
 - e. Other consumer transport equipment SITC 629.1 (rubber tyres and tubes for vehicles and aircraft; adjusted, if possible, to include only those for passenger motor vehicles, motorcycles and bicycles), 732.9 (motorcycles, motorized cycles and their parts), 733.1 (bicycles and other cycles, not motorized, and their parts), 733.4 (invalid carriages fitted with means of mechanical propulsion)
 - f. Watches and clocks SITC 864
 - g. Toys and musical instruments SITC 891 (musical instruments, sound recorders and reproducers and parts and accessories therefor), 894 (perambulators, toys, games and sporting goods)
 - h. Other consumer durable goods SITC 698.5 (pins and needles of iron or steel and base metal fittings of a kind commonly used for articles of apparel, travel goods, etc.), 698.9 (articles of base metal, n.e.s.), 729.2 (electric lamps), 81 (sanitary, plumbing, heating and lighting fixtures and fittings), 82 (furniture), 893 (articles of artificial plastic materials, n.e.s.), 896 (works of art, collectors' pieces and antiques), 897 (jewellery and goldsmiths' and silversmiths' wares)

/...

6. GOODS NOT CLASSIFIED ELSEWHERE

SITC 863 (developed cinematic film), 899 (manufactured articles n.e.s.),
9 (commodities and transactions not classified according to kind)

Note: As the United States has significant imports of non-durable plastic wares and of pleasure boats, it may be necessary in the case of flows to the United States to estimate the division of SITC 893 between 5 h and 4 d and of SITC 735 between 3 c iii and 5 e.
