

# GENERAL AGREEMENT ON TARIFFS AND TRADE

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Committee on Trade and Development

## IMPORT DUTIES ON COPPER AND COPPER PRODUCTS

### A Preliminary Study by the Secretariat

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### INTRODUCTION

1. At their twenty-fourth session, in November 1967, the CONTRACTING PARTIES agreed that studies should be undertaken, inter alia, with a view to identifying the products for which serious tariff problems persist for developing countries after the Kennedy Round, particularly those relating to tariffs which disproportionately protect processed products as compared with primary products. (Point C(K) of the work programme adopted at the twenty-fourth session.) Most of the basic data required for these studies will become available in the course of the preparation for the analysis of the tariff situation as it will exist after the Kennedy Round concessions have been fully implemented (point A(b) of the work programme). However, to the extent permitted by the availability of data, the secretariat has tried independently to analyze the situation in respect of individual products or groups of products of export interest to developing countries.
2. The present paper deals with one of the product groups to which special reference was made at the last meeting of the Committee and at the twenty-fourth session, namely copper products. The product group has been selected, as will be seen from the succeeding paragraphs, in view of its importance in the export trade of certain developing countries and because of the increasing interest of developing countries in exporting copper in semi-manufactured and manufactured form, which makes an examination of the escalation of tariffs in importing countries in relation to the degree of processing of these products a matter relevant to future trade. The study is, however, essentially illustrative in character and is intended to enable the Committee to consider the usefulness of this kind of analysis and whether it might be extended to other sectors of importance in the trade of developing countries.
3. Copper is one of the products in which developing countries have a major interest as exporters, accounting for 54 per cent of the world's copper exports in 1960 and 56 per cent in 1965. There has also been in the last decade, a marked tendency for developing countries to export the output of their copper mines in more and more highly-processed forms. As may be seen from Table 1 the share of refined copper and semi-manufactured copper in total copper exports of developing countries increased considerably at the expense of concentrates and unrefined copper between 1960 and 1965. In particular the share of semi-manufactured copper exports from developing countries, which was negligible in 1960, reached a significant level in 1965 - nearly 4 per cent of total copper exports of developing countries (see Table 1) and nearly 17 per cent in the world exports of semi-manufactured copper (see Table 2).

Table 1

PROPORTION OF COPPER EXPORTS AT DIFFERENT STAGES  
OF PROCESSING, IN TERMS OF COPPER CONTENT

		Ore, concentrates and mattes	Unrefined copper	Refined copper	Semi- manufactures	Total
World <sup>1</sup>	1960	8.9%	24.6%	57.3%	9.2%	100%
	1965	8.1%	22.0%	57.1%	12.8%	100%
Developed countries	1960	7.5%	3.6%	69.5%	19.4%	100%
	1965	7.6%	4.3%	63.7%	24.4%	100%
Developing countries	1960	10.1%	42.0%	47.2%	0.7%	100%
	1965	8.4%	35.6%	52.2%	3.8%	100%

<sup>1</sup>Excluding centrally-planned economies.

Table 2

COPPER EXPORTS BY SOURCES

Unit: '000 tons

	Ore, concentrates and mattes (metal content)		Unrefined copper		Refined copper		Semi-manu- factured copper	
	1960	1965	1960	1965	1960	1965	1960	1965
World exports <sup>1</sup>	280 100%	280 100%	777 100%	765 100%	1,812 100%	1,984 100%	290 100%	444 100%
Developed countries	107 38.2%	115 41%	52 6.7%	66 8.7%	997 55%	962 48.5%	277.5 95.7%	369 83.1%
Developing countries	173 61.8%	165 59%	725 93.3%	699 91.3%	815 45%	1,022 51.5%	12.5 4.3%	75 16.9%
Zambia	-	-	19.4%	19.7%	21.9%	26.3%	-	-
Chile	8%	6.4%	34.7%	35.3%	11.6%	10.7%	1.4%	13.2%
Congo D.R.	-	-	15.6%	8.3%	9.6%	11%	-	-
Peru	7%	7.8%	14.4%	15.2%	1.3%	1.6%	-	-
Philippines	14.7%	22.2%	-	-	-	-	-	-
Mexico	-	-	3.6%	1%	0.3%	-	-	-
Cyprus	12.6%	7.3%	0.3%	0.6%	-	-	-	-
Uganda	-	-	1.9%	2.3%	-	-	-	-
Turkey	-	-	2.3%	2.6%	-	-	-	-
S.W.Africa	7.6%	3.1%	-	3.9%	-	-	-	-
Yugoslavia	-	-	-	-	-	-	0.8%	2.3%
Israel	-	-	0.4%	1.6%	-	-	-	-

<sup>1</sup>Excluding centrally-planned economies.

Source: The Commonwealth Economic Committee, Non-ferrous Metals.

4. As may be seen from Table 2 developing countries which are major or significant suppliers of copper and copper products, in the order of the magnitude of trade are:

- Copper concentrates and mattes: the Philippines, Peru, Cyprus and Chile;
- Unrefined copper: Chile, Zambia, Peru and the Democratic Republic of the Congo;
- Refined copper: Zambia, the Democratic Republic of the Congo and Chile;
- Semi-manufactured copper: Chile and Yugoslavia.

Table 2, however, covers products up to the semi-manufactured stage only. As regards manufactures of copper, the most important exporter among non-industrialized countries would seem to be Yugoslavia; imports of insulated copper wire and cables into the EEC and the United States from Yugoslavia amounted to 6.3 thousand tons in 1966.

5. The present paper is a preliminary study of the rates and effective incidence of duties imposed on copper and copper products in the main importing countries, namely the EEC, the United States, the United Kingdom, Japan and Sweden. The term "effective incidence" as used in this paper refers to the protective effect of tariff rates graduated with the degree of processing. It is known that, when a higher rate of duty is payable on a processed product than on the material from which it is made, the differential between the two duty rates will protect the processing industry in the importing country. As the tariffs of all the countries studied differentiate, in varying degree, between wrought and unwrought copper, an index of the height of such protection has been calculated for each of them.

6. Theoretical presumption would be that, *ceteris paribus*, the higher the degree of such protection, the lower the proportion of imported copper semi-manufactures and manufactures in (a) total imports and (b) domestic consumption of copper and copper products. Accordingly, these ratios were compared between countries.

7. For the calculation of effective incidence a formula was used which is by now familiar in economic literature. It can be briefly explained as follows: If the commodity in question and its components are traded internationally, their values in any producing country will be influenced by the relevant import duties. Using  $P_1$  and  $P_2$  for the world market values (including transport cost) of the raw material and the second-stage product, and  $t_1, t_2$  for the respective tariff rates, the value added in processing in any country can be expressed as:

$$V = P_2 \cdot (1 + t_2) - P_1 \cdot (1 + t_1)$$

The effective protection afforded to the particular processing operation, called X, can be measured by the excess, which it makes possible, of the value added in the protected market over the corresponding external value. It can thus be obtained by the following formula:

$$X = \frac{P_2 \cdot (1 + t_2) - P_1 \cdot (1 + t_1)}{P_2 - P_1} - 1.00$$

## PART I: COPPER TARIFF STRUCTURE IN FIVE MAJOR MARKETS

### A. European Economic Community

8. Depending for practically all of their copper requirements on overseas supply, the EEC countries admit free of duty, imports of copper ranging from ore to refined copper and master alloys (Stage I). The bulk of their copper imports are in the form of metal, a greater part being refined rather than unrefined copper (see Table 3). Unrefined copper imports were mostly into Belgium from the Democratic Republic of the Congo and into the Federal Republic of Germany from Zambia, Chile and Peru. Refined copper came from the United States, Zambia, Chile and the Democratic Republic of the Congo while Belgium was an important supplier in intra-EEC trade.

9. Duties at different rates are maintained on copper products (Stage II). A duty of 8 per cent remains after the Kennedy Round on certain important trade items such as bars, rods, wires, plates, tubes and pipes (Stage II(1)), and duties of 4.5-7.5 per cent on more processed but less important items like tube and pipe fittings, containers, nails and bolts and nuts (Stage II(2)). Hence, negative duty differentials exist between Stage II(1) and Stage II(2). On insulated electric wires and cables, the EEC has a duty of 8 per cent, which is at the same level as the duty on copper rods and wires (Stage II(1)) from which they are processed. Yugoslavia, Chile and Mexico were among the significant suppliers of manufactures (Stage II(1)) to the EEC market. Imports of manufactures in Stage II(2) from developing countries are still insignificant. It may be noted that a greater part of the imports of copper manufactures into the EEC countries is accounted for by intra-EEC trade.

### B. Japan

10. Table 4 below shows how in the post-Kennedy Round tariff of Japan duty rates applying to copper and copper products vary in relation to the stages of processing.

11. Raw materials such as ores and copper mattes enjoy duty-free treatment. Within the category of unwrought copper and alloys, unrefined copper is subject to a duty of 8.5 per cent, refined copper and brass and bronze attract duty at ¥ 24 per kg., or 10 per cent in ad valorem incidence on the basis of 1964 import data, and master alloys carry a duty of 5 per cent. The duties on the first two sub-divisions are at present totally suspended in view of the current high world market prices.

12. Among copper manufactures, those mainly for use in electrical engineering and construction industries attract a duty of 15 per cent and other less important copper products generally a rate of 10 per cent.

Table 3

STRUCTURE OF EEC TARIFF ON COPPER AND COPPER PRODUCTS

	Post-KR duty	Share of each stage in total imports of copper and copper products in value in 1966		
		Intra-EEC trade and imports from the associated States	Imports from n.f.n. sources	From less- developed (n.f.n.) countries
<u>Stage I</u>				
(1) Ores and concentrates (BTN 2601C; SITC 28311)	Free	0.2	3.8	6.7
(2) Copper mattes (BTN 7401A; SITC 28312)	Free	0.1	0.3	0.3
(3) Unwrought copper, unrefined (BTN 7401C; SITC 68211)	Free	31.4	22.9	24.8
(4) Unwrought copper, refined (BTN 7401D; SITC 68212)	Free	40.3	63.5	65.1
(5) Master alloys (BTN 7402; SITC 68213)	Free	0.1	0.1	0.0
<u>Stage II</u>				
(1) Bars, rods, sections, wires, plates, sheets, strip, foils, tubes and pipes (BTN 7403, 7404, 7405, 7407, 7410, 7411; SITC 682.21, 22, 23, 25, 693.12, 32)	8%	17.7	6.6	2.6
(2) Tube and pipe fittings, con- tainers, expanded metal, chain, nails, bolts and nuts etc. (BTN 7408, 7409, 7412-15, 7417-19; SITC 68226, 69212, 69342, 69881, 69412, 69422, 69712, 69722, 69892)	6.5-7.5; 4.5%	3.1	1.0	0.1
(3) Insulated electric wire, cable etc. of copper (BTN ex 8523; SITC 723.1)	11%	7.1 <sup>1</sup>	1.8	0.4
Total		100.0 (\$853 m.)	100.0 (\$1,035 m.)	100.0 (\$528 m.)

<sup>1</sup> Including those of other than copper.

Table 4

STRUCTURE OF JAPANESE TARIFF ON COPPER AND COPPER PRODUCTS

	Post-KR duty	Tem- porary duty	Share of each stage in total imports of copper and products in value in 1966	
			World	From less-developed countries
<u>Stage I</u> Raw materials:				
(1) Ores and concentrates (BTN ex 2601; SITC 283.110)	Free	-	42.8	43.5
(2) Copper mattes, cement copper and native copper (BTN 7401-1; SITC 283.120)	Free	-	16.2	9.8
<u>Stage II</u> Unwrought copper and alloys:				
(1) Unwrought copper, unrefined (BTN 7401-2(1); SITC 682.111, 112 and ex 113, ex 7401-2(2), ex 682.120)	8.5%	Free	1.9	2.5
(2) (1) Unwrought copper, unalloyed, refined (BTN ex 7401-2(2); SITC ex 682.120)	¥ 24/kg.	Free	34.1	43.9
(11) Brass or bronze (BTN ex 7401-2(2); SITC 682.131)	¥ 24/kg.	Free	3.9	0.3
(3) Master alloys (BTN 7402; SITC 682.149)	5% <sup>1</sup>	-	-	-
<u>Stage III</u> Copper manufactures:				
(1) Copper bars, rods, sections, wires, plates, sheets, strip, foils, tubes and pipes, etc. (BTN 7403, 7404, 7405, 7406, 7407, 7410; SITC 682.211-269, 693.120)	15% <sup>2</sup>	-	(\$10,000)	(\$3,500)
(2) Other copper products including tube and pipe fittings, containers, nails, domestic articles (BTN 7408, 7409, 7411-19)	10% 7.5%	-	(\$1,000)	-
(3) Insulated electric wire, cable, etc., of copper (BTN ex 8523)	15%	-	1.1	(12,000)
Total			100.0 (\$397 m.)	100.0 (\$205 m.)

1

A duty of 15 per cent is applicable to master alloy of beryllium copper, but this product has not been exported from developing countries.

<sup>2</sup>A duty of 20 per cent is applicable to products of beryllium copper alloy and alloyed tubes and pipes but these products have not yet been exported from developing countries.

13. Refined copper, bronze and brass are subject to a specific duty of ¥ 24 per kg. The ad valorem incidence of the specific duty - ¥ 24 per kg. - is approximately 10 per cent on the basis of import data for 1964, the base year used in the Kennedy Round negotiations. This rate decreases to the level of 6-7 per cent (which is even below the ad valorem duty of 8.5 per cent on unrefined copper) on the basis of 1966-67 data reflecting increased copper import prices in these years.

14. In April 1963 when copper imports were liberalized, a flexible tariff quota system was introduced as a temporary measure which provided for duty-free import up to the quota limit. The rise in world market price has since led to the total suspension of the duty on these items. According to the Temporary Customs Measure Law, which covers the period of April 1968-March 1969, the temporary rate on unrefined copper will be "zero" and those on refined copper and brass and bronze will continue to be "zero" unless import price should fall below a price to be determined by the Government within the range of ¥ 320 to ¥ 360 per kg. A temporary duty will be levied on products imported at prices lower than the determined price, at a rate equivalent to the difference. The temporary duty on refined copper would not exceed the concession rate of duty (¥ 24 per kg., when the Kennedy Round concessions are fully implemented in 1972, which will be equivalent to 8 per cent ad valorem at the import price of ¥ 300 per kg., and 10 per cent ad valorem at the price of ¥ 240 per kg.).

15. Domestic copper mines in Japan supplied 25 per cent of the total domestic copper consumption in 1965 (this percentage has since been further reduced). An overwhelmingly large part of Japanese copper imports is either in the form of concentrates and mattes or in the form of refined copper. Unlike the United States, imports into Japan of unrefined copper are relatively small and unstable. Wire rods for electrical purposes were the only item among copper manufactures imported from developing countries in significant quantities in 1964-66. These imports, mostly from Chile, amounted to \$7.7 million (7,669 tons) in 1965 but decreased to \$3.4 million (2,002 tons) in 1966.

16. The effective incidence of the duty rates on refined copper vary according to raw materials input used in the calculation. Copper mattes are one stage more processed than concentrates and the value added in refined copper having mattes as inputs is smaller than that having concentrates as inputs. This means that the effective rates on refined copper with copper mattes as input should be higher than those with concentrates as input. Since at the present time the duty on copper is totally suspended on account of the sharp increase in the world market price, no duty differentials exist currently between refined copper and its raw materials and the matter is therefore only of academic importance.



17. Japanese copper products industry uses domestic as well as imported copper. Copper manufactures at different stages of production intended for these markets generally carry a duty of 15 per cent.

18. The more highly-processed products (Stage III(2)) have for their input either refined copper (Stage II(2)) or semi-processed products (Stage III(1)). The Stage III(2) products generally carry a duty of 10 per cent, which is equal to the incidence of the post-Kennedy Round rate on refined copper. Thus no duty differentials exist between these products. However, as the duty on refined copper is suspended as at present, a nominal duty of 10 per cent would mean a higher level of effective protection. Duty differentials between Stage III(1) which carry a duty of 15 per cent and Stage III(2) which carry generally a duty of 10 per cent are negative.

#### C. United Kingdom

19. As in the case of the EEC, the United Kingdom depends for practically all of its copper requirements on overseas supply, and admits copper imports ranging from ores to refined copper free of duty from both preferential and most-favoured-nation sources, (the United Kingdom, however, maintains a most-favoured-nation duty of 5 per cent on copper alloy). Practically all copper imports are in the form of metal, of which nearly 90 per cent is in refined form. Some unrefined copper also comes from Chile, Zambia and Peru. Nearly half of the imports of refined copper comes from Zambia and 9 per cent from Chile (1966 statistics). Other suppliers include the Democratic Republic of Congo and Peru.

20. Duties are maintained on copper products (Stage II) imported from most-favoured-nation sources. A duty of 8 per cent remains after the Kennedy Round on bars, rods, sections, wires, plates, sheets and foils (Stage II(1)) and also on insulated electric wires and cables (Stage II(3)) and a duty of 10 per cent on most other generally more processed products including tubes, pipes and fittings, wire products and domestic articles of copper (Stage II(2)).

21. Effective duties on Stage II(2) products with Stage II(1) products as input would be moderate, the nominal difference between these stages being only 2 per cent ad valorem.

Table 5STRUCTURE OF UNITED KINGDOM TARIFF ON COPPER AND COPPER PRODUCTS

	M.f.n. duty rates	Commonwealth and EFTA	Share of each stage in total imports of copper and copper products in 1966 from:		
			World	Developing countries	Zambia
<u>Stage I</u>					
(1) Ores and concentrates (BTN ex 2601)	Free	Free	-	-	-
(2) Copper mattes (BTN ex 7401)	Free	Free	-	-	-
(3) Unalloyed copper, unrefined (BTN ex 7401)	Free	Free	7.0	12.5	2.5
(4) Unalloyed copper, refined (BTN ex 7401)	Free	Free	89.0	87.5	97.5
(5) Alloys of copper and master alloys (BTN 7402)	5%	Free	-	-	-
<u>Stage II</u>					
(1) Bars, rods, sections, wires, plates, sheets and foil (BTN 7403, 7404, 7405)	8% <sup>1</sup>	Free	1.3	-	-
(2) Tubes and pipes and fittings therefor, wire products, domestic articles etc. (BTN 7406-7419 (except ex 7415))	10% <sup>1</sup>	Free	1.6	-	-
(3) Screws for wood (BTN ex 7415)	6%	Free	0.1	-	-
(4) Insulated electric wire, cable, etc. of copper (BTN ex 8523)	8%	Free	1.0 <sup>2</sup>	-	-
Total			100.0 (\$630 m.)	100.0 (\$320 m.)	100.0 (\$210 m.)

<sup>1</sup>Post-Kennedy Round rates on products of beryllium alloys under items 7404, 7405, 7407 and 7408 are 15 per cent and that under item 7403 is 10 per cent. However, products of beryllium copper alloys have not been exported from developing countries.

<sup>2</sup>Including those of other than copper.

D. United States

22. Table 6 shows the United States duties on copper and copper products at different stages of processing. All United States duties in this section are specific duties or mixed duties. The comments in this section are expressed in terms of the ad valorem incidence of the duties worked out on the basis of import prices in 1964-66.

23. For copper ore there is a duty-free tariff quota of 15,000 tons in copper content. Imports of ores in excess of this quota are subject to post-Kennedy Round concession duties of 2-3 per cent. The same level of duties of 2-3 per cent applies not only to cement copper and precipitate copper but other unrefined copper as well as to refined copper. Imports of products in Stage I are exempt from the duties when smelted or refined in the United States and the products of smelting or refining exported; in 1964, 98 per cent of the imports of dutiable ores and cement copper and 71 per cent of the imports of unrefined copper benefited from this exemption. The duties were totally suspended beginning February 1966 on account of the current high price of copper.

24. Post-Kennedy Round concession duties equivalent to 3-7 per cent ad valorem on the basis of 1964 data and 2-4 per cent on the basis of 1966 data are applicable to "Stage II" products as listed in Table 6. Applicable to manufactures in "Stage III" are generally mixed duties comprising ad valorem duties of 6-12 per cent plus specific duties equivalent to 1-2 per cent. The combined incidence of the mixed duties is generally of the order of 7-13 per cent. Insulated electric conductors without fittings, of copper, are subject to an ad valorem rate of 8.5 per cent.

Table 6

STRUCTURE OF UNITED STATES TARIFF ON COPPER AND COPPER PRODUCTS

	Ad valorem incidence of post-KR duty <sup>2</sup> on the basis of prices in		Temporary duty	Share of each stage in total imports of copper and copper products in 1966 from:	
	1964	1966		World	Developing countries
<u>Stage I</u>					
Materials:					
(1) Ores					
(i) A quota of 15,000 tons in copper content (602.25)	Free	Free	-	0.6	1.1
(ii) Outside the quota (602.30)	2.7 <sup>3</sup>	2.5 <sup>3</sup>	Free	0.5	0.6
(2) Cement, copper, copper precipitate (612.02)	2.1 <sup>3</sup>	1.7 <sup>3</sup>	Free	0.2	0.1
(3) Black, blister and anode copper (612.03)	2.6 <sup>3</sup>	2.1 <sup>3</sup>	Free	50.7	81.5
(4) Unwrought copper (612.06)	2.1-2.7 <sup>3</sup>	1.8 <sup>3</sup>	Free	21.3	11.8
Total of Stage I				73.3	95.1

Table 6 (cont'd)

	Ad valorem incidence of post-KR duty <sup>2</sup> on the basis of prices in		Temporary duty	Share of each stage in total imports of copper and copper products in 1966 from:	
	1964	1966		World	Developing countries
<u>Stage II</u> Relatively low-processed manufactures:					
(1) Bars and sheets, not cut, pressed or stamped to non-rectangular shape, not clad <sup>1</sup> (612.31, 39, 44)	3.6-4.3	2.4-3.0	-	5.6	0.3
(2) Rods <sup>1</sup> (612.60, 62, 64)	3.8-5.4	2.6-3.4	-	3.4	0.9
(3) Pipes and tubes and blanks therefor, seamless <sup>1</sup> (613.02, 10)	3.2-5.1	2.3-3.6	-	10.0	0.7
Total of Stage II				19.0	1.9
<u>Stage III</u> Relatively high-processed manufactures:					
(1) Bars, plates and sheets, cut, pressed or stamped to non-rectangular shape (612.50, 52)	8.8-12.4	8.6-12.2	-	-	-
(2) Wire, other than nickel silver (612.72)	7.7	7.4	-	1.2	0.3
(3) Pipe and tube fittings (613.15, 18)	8.4-12	8.8-12	-	0.2	0.3
(4) Insulated electric con- ductors without fittings, of copper (688.04)	8.5	8.5	-	5.6	2.4
(5) Other copper manu- factures (26 TSUS items)	7-16	7-16	-	0.7	-
Total of Stage III				7.7	3.0
Total				100.0 (\$681 m.)	100.0 (\$340 m.)

<sup>1</sup>Excluding those of cupro-nickel and nickel silver.

<sup>2</sup>The rates of the United States on copper and copper products consisted of two kinds of rates, referred to as rate A and rate B. Rate A applies when the market price of copper is 24 cents or more per pound. Rate B, generally higher by 20 per cent than rate A, applies when the price falls below 24 cents per pound. Rate A is shown throughout in this table, rate B not being applicable.

<sup>3</sup>Imports for re-export after smelting or refinement in the United States are exempt from duty.

25. Unlike the other markets under study, the United States depends for the major part of its requirements on domestic copper supply. In fact the United States is the world's largest mine producer of copper, accounting for nearly 30 per cent of the world output. Imports of refined and unrefined copper represented in 1966 15 per cent of total domestic consumption. Seventy-two per cent (in 1966) of the imports are in the form of metal, largely unrefined copper. The bulk of the United States imports of copper is from Chile and Peru; Mexico, Uganda and Kenya are among the other important suppliers. The United States imports of ores and cement copper have diminished to a small fraction of total copper imports in recent years. The share of imports of copper products into the United States, in particular those of semi-manufactures, in total imports of copper and copper products has been much higher than in any of the other markets under study. Chile and Yugoslavia are among the significant suppliers of copper manufactures to the United States.

26. The bound duties equivalent to 2-3 per cent on refined copper (Stage I(4)), are at present suspended. Even if they had not been suspended these duties would have limited relevance in the estimation of effective incidence on further processed products since the United States depends mainly on domestic supply of the metal and the domestic price is not always aligned to the world market price. The price of electrolytic copper had been about equal on the London Metal Exchange and on the United States market until 1963. As a result of the sharper increase in the price on the London Metal Exchange the difference has grown.

#### E. Sweden

27. Table 7 below shows the most-favoured-nation rates of the post-Kennedy Round tariff of Sweden applying to copper products at various stages of processing. Copper ores, mattes, copper scrap and unwrought copper whether refined or not, are imported duty free. The table also shows the composition, by value, of Sweden's import of copper ores, metal and manufactures in 1966.

28. Sweden grants no protection to the more basic form of copper though it has a sizeable copper mining and smelting industry. In 1966, the domestic output of ores, in terms of its copper content, accounted for roughly one fifth of domestic consumption of unrefined copper and for about 10 per cent of total domestic copper consumption.

29. Sweden is a significant importer of both refined and unrefined copper metal. The main supplying countries are Chile, Zambia and Belgium-Luxemburg. In the 1960's, the ratio of refined to unrefined copper in total imports of the metal has shown a steady increase.

30. It will be noticed that, while the peak rates on copper semi-manufactures and manufactures for imports from non-EFTA countries are 5 per cent, the bulk of such imports enters under rates of 3 and 4 per cent.

Table 7

STRUCTURE OF SWEDISH TARIFF ON COPPER AND COPPER PRODUCTS

	M.f.n. duty rates	EFTA	Share of each stage in total imports of copper and copper products, by value, in 1966
<u>Stage I</u>			
(1) Copper ores and concentrates (BTN 26.01)	Free	Free	12.8
(2) Copper matte; unwrought copper (refined or not); copper waste and scrap (BTN 74.01)	Free	Free	53.1
of which: matte	Free	Free	1.5
refined	Free	Free	2.0
unrefined	Free	Free	46.1
waste and scrap	Free	Free	3.5
(3) Master alloys (BTN 74.02)	Free	Free	0.2
<u>Stage II</u>			
(1) Wrought bars, rods etc.; wire (BTN 74.03)	3%	Free	14.3
(2) Wrought plates, sheets and strip (BTN 74.04)	3%	Free	6.7
(3) Copper foil (BTN 74.05)	3%	Free	0.5
(4) Copper powders and flakes (BTN 74.06)			0.2
Bronzing powders and flakes	5%	Free	
Other	Free	Free	
(5) Tubes and blanks; hollow bars (BTN 74.07)	3%	Free	7.2
(6) Tubes and pipe fittings (BTN 74.08)	4%	Free	1.3
(7) Tanks, etc. (BTN 74.09)	4%	Free	-
(8) Wires and cables (BTN 74.10)	3%	Free	0.4
(9) Gauze netting etc. (BTN 74.11)	4%	Free	0.9
(10) Expanded metal of copper (BTN 74.12)	4%	Free	0.0
(11) Chains and parts of copper (BTN 74.13)	4%	Free	0.0
(12) Nails, tacks etc. (BTN 74.14)	4%	Free	0.0
(13) Bolts and nuts of copper (BTN 74.15)	4%	Free	0.6
(14) Springs of copper (BTN 74.16)	4%	Free	0.0
(15) Cooking and heating apparatus (BTN 74.17)	4%	Free	0.1
(16) Other domestic articles (BTN 74.18)	4%	Free	0.5
(17) Other articles of copper (BTN 74.19)	-	-	1.2
Ordinary pins and safety pins	5%	Free	
Other	4%	Free	
Total			100.0 (\$155 million)

## PART II: AN ANALYSIS OF THE EFFECTIVE INCIDENCE OF THE DUTIES

31. In the preceding sections an account is given of the duty rates of five major markets on raw materials for copper production, on copper and on copper products. It has been shown that significant differentials exist both between the tariff rates on raw materials (ores, mattes, unrefined copper, etc.) and refined copper and between refined copper and copper products (semi-manufactures and manufactures). The following paragraphs summarize the main features of the tariff differentials, supplemented where possible by estimates of the effective incidences of the duties on the processed and manufactured items.

32. At present imports of copper ores, mattes, blister and refined but unwrought copper are admitted duty-free into all the markets studied: in the EEC, the United Kingdom and Sweden by virtue of ordinary tariff provision, and in the United States and Japan by virtue of a temporary duty suspension on account of the prevailing high level of international prices. In all of these countries therefore the degree of protection granted to the manufacturing of products from copper exceeds the rate of duty on corresponding imports.

33. Table 8 shows the effective incidences of the nominal rates of duties on four broad representative groups of copper products in the five markets covered by the study, calculated on the basis of estimated<sup>1</sup> material input coefficients with refined copper as the principal material input.

34. On the basis of these calculations Sweden and the United States appear to be granting a generally moderate degree of protection to their copper processing industries. In the case of the United States, however, it has to be borne in mind that the effective incidences, have been calculated from the lower rates of the United States tariff under which the bulk of imported copper products actually enters. The United States tariff provides for higher duties to be imposed on more highly-processed copper products. The effective incidences of

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<sup>1</sup>Two parallel methods of estimation were employed: (a) a comparison of differentials between unit values of refined copper and specific copper products traded among the main exporting and importing countries; (b) direct calculation on the basis of manufacturing census data for the United States and Japan. The resulting estimates compare well with similar coefficients used in other studies, such as the "Report on the Supply and Export of Certain Semi-Manufactures of Copper and Copper-Based Alloys" by the Monopolies and Restrictive Practices Commission (United Kingdom, 1955), the pilot study prepared by the GATT secretariat for Committee III in 1963 (COM.III/104) and the 1967 UNCTAD paper on the structure of protection in the industrial countries prepared by Professor B. Balassa (TD/B/C.2/36).

Table 8  
APPROXIMATE ESTIMATES OF EFFECTIVE INCIDENCE OF DUTIES ON COPPER PRODUCTS<sup>1</sup>  
(% ad valorem)

Input co-efficient	Sample products	EEC		Japan		United Kingdom (m.f.n.)		United States		Sweden	
		Nominal rate	Effective incidence	Nominal rate	Effective incidence	Nominal rate	Effective incidence	Nominal rate	Effective incidence	Nominal rate	Effective incidence
0.6	Tubes and pipes	8	20	15	22.5 (37)	10	25	4 (12)	10 <sup>2</sup>	3	7.5
0.7	Plates and sheets	8	27	15	27 (50)	8	27	4 (12)	13.5 <sup>2</sup>	3	10
0.8	Wire	8	40	15	35 (75)	8	40	7.5	37.5 <sup>2</sup>	3	15
0.9	Bars, rods, angles and sections	8	80	15	60 (150)	8	80	4 (12)	40 <sup>2</sup>	3	30

<sup>1</sup>On the basis of zero duty on refined copper as material input for the EEC, the United Kingdom and the United States and on the basis of 10 per cent duty for Japan. Effective incidences for Japan calculated on the basis of the present temporary zero duty on refined copper are shown within parentheses. For the United States the use of zero duty on copper is considered justified because (a) the nominal duties of 2-3 per cent are not being applied, (b) apart from the duty suspension, a considerable proportion of copper imports into the United States has been exempt from duty, and (c) input is largely met from domestic sources of supply. Effective incidence of the peak rates of the United States tariff, applying to more highly-processed products, could not be calculated for lack of reliable data on input coefficients. For the United States the nominal rates shown are those at the lower end of a wide range of rates, applying to the bulk of actual imports. Rates at the higher end are shown within parentheses.

<sup>2</sup>See paragraph 34 of the paper.

Source: See relevant tables in Part I above for details.



such duties could not be calculated as there is even less reliable information on input coefficients and value added in the processing of these particular products. The nominal rates applied to copper manufactures by the EEC and the United Kingdom being, for the most part, identical, also the effective protection of domestic processing is roughly equivalent. If the nominal, now temporarily suspended, duties on inputs (ores, mattes and unwrought metals) of the Japanese tariff are taken into account, the protection of Japanese processing industries will not differ greatly from that granted by the EEC and the United Kingdom; on the other hand, effective incidences calculated on the basis of the temporary suspension of duties on inputs will be considerably higher in Japan than in the other countries studied.

35. It follows from the theory and formula applied, that in all the countries included in this study, effective incidence protection appears to rise from the more to the less elaborate copper products. It should be noted, however, that input coefficients applied in Table 9 to individual categories of copper products represent broad averages only and that, consequently, there may be considerable variation in the degree of protection enjoyed by specific products within each category. For this reason, it was not thought useful to relate the percentage of imports in each category to the degree of protection and to national consumption of copper products.

36. While also not conclusive, it is interesting for a study of the effects of tariff graduation to compare the proportion which semi-manufactures and manufactures of copper represent in total imports of copper ores, metal and products into each country. On the basis of 1966 statistics, these proportions appear to be systematically, and inversely, related to the levels of effective tariff incidence shown in Table 8. In terms of import values, 34 per cent of Sweden's copper imports were in the form of processed products, the share declining to 26.7 per cent in the case of the United States, 9.4 per cent in third country imports into the EEC (i.e. excluding intra-Community trade), 4.0 per cent in the case of the United Kingdom and 1.1 per cent in Japan.

37. The relationship between the structure of the tariff and the structure of copper imports should not be over-emphasized, however, since the tariff is only one among many factors influencing the composition of imports. The history and structure of each national copper-working industry, the natural endowments in ores, and the pattern of demand for copper semi-manufactures and manufactures (reflecting both consumer preferences and the structure of the whole manufacturing sector of the national economy) can be expected to have a degree of influence on the composition of imports comparable to that exerted by the tariff. The share of semi-manufactures and manufactures in total copper imports of the United States, for example, can be said to be high also because the country is the largest producer of refined copper. In order to put the issue of effective incidence of tariff rates into proper perspective, another calculation was made relating the volume of imports of copper semi-manufactures and manufactures to the apparent national consumption of refined copper and copper scrap, which can

be taken to be broadly indicative of the scope of the corresponding national production, in 1966. On this basis, Sweden is by far the most import-intensive country, with imports of copper products corresponding, by volume, to one quarter of comparable domestic production. For the United States, the relation was about 4 per cent, for the EEC and Japan about 3 per cent, and for the United Kingdom only 1 per cent.

38. It appears then, that there is a general, though not strictly systematic relation between the level of effective tariff incidence, the composition of imports, and the import-intensity of national production in this particular sector. To come to more detailed conclusions, it will be necessary to await the structural developments that will take place as the Kennedy Round tariff reductions come into effect.