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APPENDIX C

INTERNATIONAL PRICE INDEXES

General Note

This appendix contains tables showing international price indexes for SITC two-digit commodity divisions, three-digit groups, four-digit subgroups, and in some cases, five-digit items. The indexes are given in the tables for all the subgroups and groups in which the amount and quality of the data were sufficient for publication. The notes that follow the tables cover all the subgroups including those not shown.

On the two-digit and three-digit levels two versions of the international price indexes are given. For each country, the four-digit indexes are aggregated, using the trade weights, to three-digit and two-digit averages. In addition, for countries other than the United States, we show three-digit and two-digit indexes extrapolated from the U.S. international price index by the U.S. index of international price competitiveness relative to that country. The notation following each country name indicates whether the index was aggregated (A) or extrapolated (E). The two versions may differ for two reasons, as was mentioned in Chapter 4. The aggregation of price competitiveness indexes gives results different from the aggregation of price indexes even if the basic price data are identical. Secondly, the price competitiveness index sometimes includes additional or different price data based on place-to-place comparisons. The notes to the tables refer only to the aggregated indexes, since the extrapolated version in each case is derived as explained above.

Table C.1
International Price Indexes, Iron and Steel, 1953, 1957, 1961–64
(1962 = 100)

SITC Number	Commodity Group, Country, and Index Type[a]	1953	1957	1961	1962	1963	1964
67	Iron and steel						
	U.S. (A)	84	101	102	100	99	100
	U.K. (A)	97	110	103	100	97	105
	U.K. (E)	99	110	102	100	96	104
	EEC (A)	100	119	105	100	96	105
	EEC (E)	101	118	104	100	96	104
	Germany (A)	95	111	104	100	96	105
	Germany (E)	94	111	104	100	96	104
	Japan (A)	NA	NA	111	100	101	101
	Japan (E)	NA	NA	110	100	99	100
671	Pig iron, ferro-alloys; etc.						
	U.K. (A)	99	120	104	100	94	95
	EEC (A)	121	143	111	100	88	88
	Germany (A)	111	134	106	100	90	90
673	Bars, rods, angles, shapes, and sections						
	U.S. (A)	NA	98	101	100	98	99
	U.K. (A)	NA	108	106	100	98	110
	U.K. (E)	NA	103	102	100	94	104
	EEC (A)	98	124	110	100	97	108
	EEC (E)	NA	124	110	100	99	108
	Germany (A)	89	115	107	100	97	106
	Germany (E)	NA	115	107	100	97	107
	Japan (A)	NA	NA	NA	100	105	108
	Japan (E)	NA	NA	116	100	102	104
673.1	Wire rod						
	EEC	99	118	114	100	96	108
	Germany	99	118	116	100	97	108
673.2	Bars and rods (excl. wire rod)						
	U.S.	NA	99	102	100	95	98
	U.K.	NA	NA	109	100	102	NA
	EEC	97	123	112	100	100	109
	Germany	87	116	107	100	98	104
673.4 &	Angles, shapes, and sections						
673.5	U.S.	NA	98	101	100	100	103

(continued)

Table C.1 (continued)

SITC Number	Commodity Group, Country, and Index Type[a]	1953	1957	1961	1962	1963	1964
673.4 & 673.5	Angles, shapes, and sections (continued)						
	U.K.	NA	NA	103	100	96	108
	EEC	98	129	106	100	94	106
	Germany	NA	NA	104	100	97	108
674	Universals, plates, and sheets						
	U.S. (A)	88	102	101	100	101	102
	U.K. (A)	113	118	104	100	92	103
	U.K. (E)	116	121	105	100	93	106
	EEC (A)	108	125	103	100	94	104
	EEC (E)	106	122	101	100	94	102
	Germany (A)	97	112	102	100	94	103
	Germany (E)	97	112	102	100	92	101
	Japan (A)	NA	NA	111	100	99	101
	Japan (E)	NA	NA	112	100	97	99
674.1 & 674.2	---3mm. or more (excl. tinned)						
	U.S.	NA	104	103	100	100	104
	U.K.	NA	NA	106	100	95	110
	EEC	101	136	107	100	93	114
	Germany	99	132	110	100	92	114
674.3	---less than 3mm., uncoated						
	U.S.	NA	103	100	100	102	101
	U.K.	108	114	104	100	89	NA
	EEC	114	122	100	100	94	98
	Germany	97	105	99	100	94	98
674.7	---tinned						
	U.S.	91	101	101	100	100	100
	U.K.	NA	105	103	100	102	104
675	Hoop and strip						
	EEC (A)	93	106	105	100	99	104
	Germany (A)	94	108	107	100	99	105
676	Rails and track construction material						
	EEC (A)	88	107	100	100	99	98
	Germany (A)	90	109	101	100	98	97
676.1	Rails						
	EEC	88	107	100	100	99	98
	Germany	90	109	101	100	98	97

(continued)

Table C.1 (concluded)

SITC Number	Commodity Group, Country, and Index Type[a]	1953	1957	1961	1962	1963	1964
677	Iron and steel wire (excl. wire rod)						
	U.S. (A)	NA	NA	100	100	100	98
	U.K. (A)	NA	NA	99	100	101	107
	EEC (A)	87	117	106	100	99	106
	EEC (E)	NA	117	106	100	99	104
	Germany (A)	97	115	103	100	100	107
	Germany (E)	NA	115	103	100	100	107
	Japan (A)	NA	NA	107	100	98	99
	Japan (E)	NA	NA	107	100	98	99
678	Tubes, pipes, and fittings						
	U.S. (A)	88	105	103	100	98	98
	U.K. (A)	NA	103	99	100	102	102
	U.K. (E)	90	102	98	100	100	102
	EEC (A)	97	108	102	100	99	105
	EEC (E)	95	108	100	100	99	103
	Germany (A)	100	104	102	100	100	106
	Germany (E)	96	103	101	100	99	102
	Japan (A)	NA	NA	101	100	100	89
	Japan (E)	NA	NA	103	100	102	92
678.1	Tubes and pipes of cast iron						
	EEC	92	99	99	100	100	100
	Germany	92	99	99	100	100	100
678.2	Tubes and pipes (excl. cast iron), seamless						
	U.S.	73	95	102	100	97	101
	U.K.	NA	98	98	100	101	102
	EEC	NA	110	104	100	101	108
	Germany	NA	110	105	100	100	110
	Japan	NA	NA	101	100	101	97
678.3	Tubes and pipes (excl. cast iron), welded, etc.						
	U.S.	NA	108	101	100	99	97
	U.K.	NA	NA	99	100	100	100
	EEC	100	116	99	100	99	106
	Germany	106	107	103	100	100	104
678.5	Tube and pipe fittings						
	U.S.	NA	NA	118	100	97	95
	U.K.	NA	NA	100	100	108	NA
	EEC	NA	93	103	100	95	94
	Germany	NA	86	96	100	97	99
	Japan	NA	NA	NA	100	87	NA

Notes to Table C.1

Note: **SITC 67:** The aggregated indexes are weighted averages of the 3-digit SITC groups for which we had data: the seven 3-digit groups listed in the table, plus group 672 (ingots and other primary forms of iron and steel). No data were available for group 679 (iron and steel castings and forgings, unworked, n.e.s.), which accounts for only 1 per cent of the total weight of group 67. The coverage of 3-digit groups varies by country. The *U.S.* index excludes 676 for all years, and 677 for 1953. The *U.K.* index excludes 675 and 676 for all years and 677 for 1953. The *EEC* and *German* indexes include all groups 671 through 678. The *Japanese* index, which covers only the period 1961–64, includes 673–678 for that period.

The data for group 672 were considered insufficient for publication as separate indexes but were included in the total calculation for 67. They were based on a small number of observations from foreign sources, supplemented in the case of the United Kingdom by domestic price data. (See below for notes on other 3-digit groups.)

671: The aggregated index for each country includes data for four of the five subgroups in 671. Excluded is 671.3 (iron and steel powders, shot, and sponge) which represents less than 6 per cent of the weight of 671. The *U.K.* index is based on between 20 and 30 observations, most of which were from the *Metal Bulletin*. The *EEC* and *German* indexes are based on from 5 to 10 observations from five sources. For 671.5 (ferro-alloys other than ferromanganese) we used import unit values based on U.S. imports from Germany and France. For the EEC these two were averaged with weights of 4 for France and 1 for Germany, estimated from 1963 U.S. imports of 671.5 from the two countries. The *U.S.* index for group 671 was considered too weak to publish separately. It was based on about 5 observations from two sources, supplemented by domestic price data.

673: The aggregated index for each country is a weighted average of indexes for the three 4-digit subgroups listed in the table. Subgroup indexes not shown were not sufficiently reliable to publish separately, but were included in the calculation of the 3-digit aggregate index (see below).

673.1: The *EEC* index is based on about 15 to 20 observations from six sources, including the official statistics on German export prices. The data were aggregated from a 5-digit level, with 673.11 (wire rod of other than high carbon or alloy steel) weighted 83 per cent and 673.12 and 673.13 combined (high carbon or alloy steel) weighted 17 per cent. The *German* index is based on about a dozen observations from four sources, and was calculated like the EEC index. The *U.S.* data, solely from domestic prices, and the *U.K.* data, from only one buyer source, were not sufficient to use separately. *Japanese* data were limited to a few observations on 673.11 for 1961 to 1964. They were from three sources including the official export price index.

673.2: The *U.S.* index is based on 5 observations in the earliest period (not published separately) and from 7 to 18 observations from eight buyer sources for the other periods. The data were aggregated from a 5-digit level, with 673.21 (bars and rods of other than high carbon or alloy steel) weighted 76 per cent and 673.22 and 673.23 combined (high carbon or alloy steel) weighted 24 per cent. The *U.K.* published index, for 1961–63, is based on 5 or 6 observations for each period from three buyer sources. The information for 1953–61 and for 1963 and 1964 (not published separately) consisted of only 1 to 3 observations. All of the U.K. data pertain to subgroup 673.21. For the *EEC* and *Germany* also we had data only on 673.21. There were between 10 and 20 observations, 9 of which were export price series from the German official statistics. In addition there were three buyer sources of German data, and a few buyer observations for France and Belgium including the German official index of import prices from France for the 1960s. The *Japanese* data, not published as a separate index, consisted of

(continued)

Notes to Table C.1 (continued)

the official export price index for 1961–64 and one buyer observation for the 1964/1963 link.

673.4 and 673.5: The price relatives for these two 4-digit groups were combined by weighting the average for each group by the number of observations. The *U.S.* index is based on 10 to 20 observations from three buyer sources. No data were available for the 1957/1953 link. The *U.K.* index is based on 10 to 20 observations from five buyer sources for the 1960s. For the earlier years we had a smaller number of observations from only two sources, not sufficient to publish separately. The *EEC* index is based on data for Germany, France, and Belgium for the period 1957–62 and for Germany and Belgium only for the other periods. The number of observations was between 5 and 10 for each period. Data were from five buyer sources. The *German* index was based on 5 observations for the period 1961–64. The earlier data consisted of fewer observations and were not sufficient to publish separately. The official export statistics were given a relatively small weight, since they referred to an atypical item within the subgroup. The *Japanese* data, not published separately, consisted of an official export price series for 1961–64, and a few buyer observations for the 1962/1961 and 1964/1963 links.

674: The aggregated index for each country except Japan is a weighted average of indexes for the three 4-digit groups listed in the table. No data were available on 674.8 (plates and sheets less than 3 mm., coated, except tinned plates) for these countries. The *U.K.* index also excludes 674.1 and 674.2 for 1953, the *EEC* index excludes 674.7 for 1953, and the *German* index excludes all periods except 1964 for 674.7. The *Japanese* index includes all four 4-digit groups for 1961–64 only. The Japanese data for 674.8 consisted of an official export price series, and were not considered sufficient to publish as a separate index.

674.1 and 674.2: The *U.S.* data were limited to 674.1 (universals, plates, and sheets over 4.75 mm.) but were given the total weight of 674.1 and 674.2. They came from two large U.S. producers and four buyer sources, including three large U.S. companies. There were about 10 observations for each period except the 1957/1953 link. For this earliest period only 2 observations from one of the buyers were available, and the published index was therefore not extended back to 1953. The *U.K.* index includes data for both 4-digit groups, weighted by the number of observations. Most of the observations were for the larger items (674.1) except for the 1964/1963 link where the reverse was true. There were from 7 to 12 observations for each period in the 1960s, only 2 for 1961/1957 (not published), and none for 1957/1953. There were four sources, and most of the data was from buyers. The *EEC* index is a weighted average of the German index described below, an index for Belgium, an official German import price index from France for the 1960s, and scattered observations for Holland. There were 16 observations for the earliest period, and between 20 and 30 for the later ones. There were three buyer sources in addition to the official German export and import statistics. The *German* index is based on from 15 to 20 observations from the official export statistics, and two buyer sources.

674.3: The *U.S.* index is based on 6 to 13 observations for each period from 1957 to 1964. The 1957/1953 link was based on only 4 observations, not sufficient to publish separately. The data were aggregated from a 5-digit level, with 674.31 (other than high carbon or alloy steel) weighted 77 per cent and 674.32 and 674.33 combined (high carbon or alloy steel) weighted 23 per cent. The sources of data were three U.S. buyer firms. We also used BLS wholesale price data for the high carbon and alloy steel subgroup. For the *U.K.* index we had data only on 674.31. There were about 10 observations for each period from 1953 to 1963 from three buyer sources. Only 2 observations

from one source were available for the 1964/1963 link, which was therefore not included in the published index. The *EEC* index is a weighted average of indexes for Germany, France (1961 to 1963 only), Holland (1963/1962 link only) and Belgium; all available data pertained to 674.31. There were 13 observations in the early periods and 20 or more in the 1960s. The data on France came from one U.S. buyer and from German official import statistics; those for Holland and Belgium were from U.S. buyers. The *German* index is based on about 15 observations on 674.31 from German official export statistics and from three buyer sources. The *Japanese* data were not sufficient to publish as a separate index. They consisted of an official export series on 674.31, supplemented by buyer data from one source for 1964/1963; and one observation for each period from a U.S. buyer on 674.33.

674.7: The *U.S.* index is based on 14 observations for the earliest period and between 5 and 10 for the later periods. The data were from four buyer sources. The *U.K.* index is based on 7 to 15 observations from four buyer sources for all but the 1957/1953 link. For the earliest period, not included in the published index, we had 2 observations from one buyer source. The *EEC* and *German* indexes were not based on sufficient data to publish. The data consisted of scattered observations from two buyer sources on France, the Netherlands, Belgium, and Germany. There were no data for the 1957/1953 link. Data for *Japan* were also too weak for a published index. They consisted of an official series for the 1960s and a few observations from three buyer sources covering the same period.

675: The *U.S.* data were not sufficient to publish as a separate index. They consisted of less than 5 observations for each period, from four buyer sources. No data were available for the *U.K.* The *EEC* index is based on between 10 and 20 observations. The 1957/1953 and 1961/1957 links are based entirely on Germany. For the other periods we had data on Germany, France, and Belgium. Data on France were from official German import statistics. Those on Belgium were from a U.S. buyer. The data were aggregated from a 5-digit level with 675.01 (other than high carbon or alloy steel) weighted 75 per cent and 675.02 and 675.03 combined (high carbon or alloy steel) weighted 25 per cent. The *German* index is based on about a dozen observations for each period, including nine series from the official German export statistics, and data from two buyer sources. All German data pertained to 675.01.

676: All data for this group pertained to 676.1. The indexes for 676.1 (see below) were assigned to 676 as a whole since 676.1 accounts for two-thirds of the 3-digit group. The remainder is made up of 676.2 (sleepers and other railway track material of iron or steel), for which no data were available.

676.1: The *EEC* and *German* indexes are based primarily on five series from the German official export statistics. One additional source provided one observation for Germany for all periods and one for France for 1957–63. The French and German data were combined by weighting by the number of observations of each. *Japanese* data available but not published as a separate index consisted of an official price series on rails for 1961 to 1964.

677: The *U.S.* index for 1961–64 was based on about a dozen observations for each period from five U.S. buyers. The data were aggregated from a 5-digit level with 677.01 (other than high carbon or alloy steel) weighted 64 per cent, 677.02 (higher carbon steel) weighted 21 per cent, and 677.03 (alloy steel) weighted 15 per cent. Not included in the published index were 2 buyer observations on 677.01 for the 1961/1957 link. The *U.K.* index covers 677.01 only. It is based on 6 or 7 observations for the 1960s, and 5 for the unpublished 1961/1957 link. Data were from four buyer sources. The *EEC* and

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Notes to Table C.1 (continued)

German indexes for the 1960s were aggregated from a 5-digit level with 677.01 weighted 64 per cent and 677.02 and 677.03 combined weighted 36 per cent. The earlier years are based only on 677.01. The *EEC* index includes data on Germany, France, Italy, and Belgium for the 677.01 component, but only German data for the 677.02 and 677.03 component. For the *EEC* index there were about 30 observations for the 1960s and about 15 for earlier years. Data were from seven buyer sources in addition to the German official export statistics. The *German* index is based on over 20 observations for the 1960s and over 10 for the earlier years. German data were from the official export statistics and two buyer sources. The *Japanese* index, covering the 1960s only, is based on 5 or 6 observations for each period from the official export index and two buyer sources. Data covered 677.01, weighted 81 per cent, and 677.03, weighted 19 per cent.

678: The aggregated index for each country is a weighted average of the 4-digit groups for which we had data. In addition to the four 4-digit groups listed in the table, SITC 678 includes 678.4 (high-pressure hydroelectric conduits of steel), for which we had no data, but which accounts for only 2 per cent of the total 1963 OECD export weight of group 678. The coverage of 4-digit groups within 678 varies by country. The *U.S.* and *U.K.* indexes exclude 678.1; and the U.K., 678.3 before 1961. The *EEC* and *German* indexes include all four groups except 678.5 for 1953 for *Germany*. The *Japanese* data are limited to 678.2 for 1961–64 only, 678.3 for 1962–64 only, and 678.5 for 1962 and 1963 only.

678.1: The *EEC* and *German* indexes are taken from the nine price series in the official German export statistics.

678.2: This group was broken down into five categories of products with the following weights: oil country casing, 30 per cent; oil country tubing, 6 per cent; line pipe and standard pipe, 34 per cent; tubing other than for oil wells, not alloy, 20 per cent; tubing other than for oil wells, alloy, 10 per cent. (More detailed breakdowns of some categories were also made where differences in size or material appeared to be related to price movements. In these cases weights were assigned based on the best estimate of a product's relative importance in exports that could be made from the sample of observations.) The index for each country was then calculated as a weighted average of the average price relatives for each of the five categories. For the *U.S.* index a large volume of data was available from five U.S. oil companies and was supplemented by information from two other buyer sources. For the 1960s the index is based on over 50 observations, and for the earlier years, on between 20 and 30. The *U.K.* index also relies heavily on oil company data. There were five buyer sources in all. For the 1960s we had about 40 observations; for 1961/1957, only 7; and for 1957/1953 (not published), only 3. The *EEC* index is based on data for Germany, France, Belgium and Italy. Data for countries other than Germany were combined to form a separate index which was then averaged with the German index. Germany was given a weight of 70 per cent and other countries combined, 30 per cent. For the 1960s there were from 50 to 70 observations, for 1961/1957, 21 observations, and for 1957/1953 (not published), only 7. There were six buyer sources, primarily oil companies, in addition to the official German export statistics. The *German* index is based on about 30 observations for the 1960s, 12 for 1961/1957, and only 3 for 1957/1953 (not published). Data were from four buyer sources and from the official export statistics. The official statistics, based on 8 price series, were given a constant weight for all periods, derived from the ratio of the number of observations from this source to those from buyer sources in the period of maximum

observations. The *Japanese* index is based on from 10 to over 20 observations from 4 oil company sources.

678.3: The *U.S.* index is based on about 15 observations for the 1960s, 7 observations for 1961/1957 and 4 for 1957/1953 (not published). Data were from four buyer sources. The *U.K.* index, which covers only 1961–64, is based on about a dozen observations from two buyers. The *EEC* index includes data for Germany and France for all periods, and for Italy for 1964/1963 only. There were from 12 to 24 observations from four buyer sources and the official German export statistics. The *German* index is based on 11 price series from the official export statistics and a few additional observations, for the two earliest periods and the last period, from two buyer sources. There were some *Japanese* data for 1962–64, which were not published as a separate index. They consisted of less than 10 observations from two buyers.

678.5: The *U.S.* index is based on data from six buyer sources. There were close to 100 observations for each of the links 1962/1961 and 1963/1962 and 10 for 1964/1963. For the earlier periods we had less than 10 observations, and we did not consider them reliable enough to extend the published index to these years. The *U.K.* index is based on data from four buyer sources. There were close to 90 observations for the links 1962/1961 and 1963/1962. For the other periods there were fewer than 5 observations, so that the published index is limited to 1961–63. The *EEC* index includes data on Germany, a few observations on France and Italy, and a large number of observations on Continental Europe as a whole. The data were combined by assigning the German data the weight of German exports, and the average of all other observations the weight of EEC exports excluding Germany. There were from over 10 to almost 70 observations for each of the periods except the earliest one. The 1957/1953 link contained only 2 observations and was not included in the published index. The data were from four buyer sources and the official German export statistics. The *German* index is based on 9 price series from the official export statistics and 2 or 3 observations for the 1960s from two buyer sources. The 1961/1958 relatives from the official statistics were used for the 1961/1957 link. The *Japanese* index covers only 1962 and 1963. The 47 observations are all buyer data.

[a]A in parentheses after country name indicates aggregated index; E, extrapolated index. See General Note to this appendix for a fuller explanation.

Table C.2
International Price Indexes, Nonferrous Metals, 1953, 1957, 1961–64
(1962 = 100)

SITC Number	Commodity Group, Country, and Index Type[a]	1953	1957	1961	1962	1963	1964
68	Nonferrous metals						
	U.S. (A)	96	100	101	100	100	108
	U.K. (A)	95	101	101	100	102	115
	U.K. (E)	95	101	101	100	102	115
	EEC (A)	100	102	101	100	101	117
	EEC (E)	100	102	101	100	101	117
	Germany (A)	100	105	101	100	100	116
	Germany (E)	100	105	101	100	100	115
682	Copper						
	U.S. (A)	98	95	100	100	100	107
	U.K. (A)	98	94	99	100	100	112
	U.K. (E)	98	94	99	100	100	112
	EEC (A)	100	96	101	100	100	119
	EEC (E)	100	96	101	100	100	119
684	Aluminum						
	U.S. (A)	99	108	103	100	97	103
	U.K. (A)	98	111	105	100	100	107
	U.K. (E)	98	111	105	100	100	108
	EEC (A)	107	109	103	100	97	104
	EEC (E)	107	109	103	100	97	104
684.1	Aluminum and aluminum alloys, unwrought						
	U.S.	104	109	103	100	94	103
684.2	Aluminum and aluminum alloys, worked						
	U.S.	92	107	102	100	101	103

Note: **SITC 68:** The aggregated index for each country is a weighted average of indexes for eight of the nine 3-digit groups which make up SITC 68. The two 3-digit groups shown in the table are the most important ones in world trade and the ones for which the amount and quality of data were sufficient for us to publish separate indexes (for description of these indexes see below). Data were also available and included in the 68 index for 681 (silver, platinum and other metals of the platinum group), 683 (nickel), 685 (lead), 686 (zinc), 687 (tin) and 689 (miscellaneous nonferrous base metals employed in metallurgy). For a discussion of the data on these "other nonferrous metals," see Chapter 10. The one group omitted was 688 (uranium and thorium and their

alloys), which represents only 0.03 per cent of the weight of the total group. No data were available on SITC 68 for Japan.

682: As indicated in the text of Chapter 10, we had extensive data on producers' export prices of unwrought copper for the last few years of our study. For the earlier years, we had to rely on prices supplied by two very large purchasers in U.S. and European markets and by several smaller U.S. and foreign purchasers; these sources were also available for the later years. For worked copper, the sources were almost entirely buyers; the main exception was Germany, for which we had a number of index series of export prices. Counting the latter as a single source, we had a dozen sources of information on worked copper prices, only a minority from the United States.

As noted in the text, different price relationships seem to prevail for brass and copper. Trade statistics do not differentiate between copper and its alloys and we had to assume that about one-fourth of trade consisted of alloys because brass mills absorb one-third of copper refined in the United States and copper alloys take about one-fifth of U.K. copper (*Metal Statistics*, 1954–63, pp. 161 and 135). The method of handling premium-priced copper sales is given in the text; a similar technique was used for other years in which copper appeared to be available at prices other than those quoted by producers, although the discounts and premiums were much smaller than the 1964 premiums.

The indexes were computed separately for SITC groups 682.1 and 682.2. For worked copper at least, the more important 5-digit categories were weighted separately. These were bars, rods, shapes, and wire (682.21), 41 per cent of 682.2; plate, sheet, and strip (682.22), 23 per cent; and tubes and pipes (682.25), 26 per cent. For unwrought copper (682.1), since 96 per cent consisted of refined copper (682.12), no attempt was made to weight at the 5-digit level.

684: Information on aluminum prices comes from about a score of sources in addition to the various German exporters whose data contributed to the German price series. A little over half of the sources are American, and a large majority are purchasers. As noted in the text, our data include prices for a large fraction of U.S. exports.

Separate indexes were computed for SITC groups 684.1 (unwrought aluminum) and 684.2 (worked aluminum), and the figures in the table represent the combination of these two sets of indexes. Calculation of the EEC indexes was the same as for 682 (see above).

684.1 and 684.2: See 684.

[a]A in parentheses after country name indicates aggregated index; E, extrapolated index. See General Note to this appendix for fuller explanation.

Table C.3
International Price Indexes, Miscellaneous Metal Manufactures, n.e.s., 1953, 1957, 1961–64

SITC Number	Commodity Group, Country, and Index Type[a]	1953	1957	1961	1962	1963	1964
69	Manufactures of metal, n.e.s.						
	U.S. (A)	86	98	98	100	100	102
	U.K. (A)	84	95	96	100	100	103
	U.K. (E)	90	101	103	100	99	103
	EEC (A)	88	94	98	100	100	101
	EEC (E)	87	99	100	100	97	98
	Germany (A)	86	93	98	100	100	101
	Germany (E)	84	93	98	100	99	101
	Japan (A)	NA	NA	108	100	86	90
	Japan (E)	NA	NA	98	100	93	101
691	Finished structural parts and structures, n.e.s.						
	U.K. (A)	NA	NA	98	100	100	104
	Germany (A)	NA	NA	95	100	100	102
692	Metal containers for storage and transport						
	U.S. (A)	86	99	100	100	100	101
	U.K. (A)	NA	NA	96	100	99	100
	U.K. (E)	NA	109	98	100	95	92
	EEC (A)	102	108	98	100	100	102
	EEC (E)	110	108	99	100	98	100
	Germany (A)	NA	92	99	100	100	100
	Germany (E)	NA	92	100	100	97	98
692.1	Tanks, vats, etc., for storage or manufacturing						
	U.S.	NA	97	100	100	96	NA
692.2	Casks, drums, boxes, cans, etc., for transport						
	U.S.	79	99	99	100	102	104
	U.K.	NA	NA	97	100	101	101
	EEC	102	108	98	100	100	102
	Germany	NA	92	99	100	100	100
693	Wire products (excl. electric) and fencing grills						
	U.S. (A)	97	105	97	100	101	106
	U.K. (A)	NA	100	98	100	98	102
	U.K. (E)	NA	105	102	100	95	99
	EEC (A)	84	101	101	100	100	103
	EEC (E)	82	98	99	100	95	104
	Germany (A)	84	101	101	100	100	103
	Germany (E)	84	101	102	100	95	108

(continued)

Table C.3 (continued)

SITC Number	Commodity Group, Country, and Index Type[a]	1953	1957	1961	1962	1963	1964
693	Wire products (excl. electric) and fencing grills (continued)						
	Japan (A)	NA	NA	104	100	95	94
	Japan (E)	NA	NA	101	100	92	94
693.1	Wire cables, ropes, etc., not insulated						
	U.K.	NA	NA	100	100	NA	NA
693.2	Wire of iron or steel, of types used for fencing						
	U.S.	NA	NA	101	100	100	104
	EEC	NA	NA	107	100	99	102
693.3	Gauze, netting, grill, fencing, etc., of wire						
	U.S.	NA	NA	102	100	98	97
	EEC	89	98	101	100	NA	NA
	Germany	89	98	101	100	100	101
694	Nails, screws, nuts, bolts, etc., iron, steel, or copper						
	U.S. (A)	90	97	98	100	101	104
	U.K. (A)	NA	NA	99	100	99	100
	U.K. (E)	NA	NA	98	100	98	92
	EEC (A)	100	97	99	100	97	98
	EEC (E)	99	97	99	100	97	98
	Germany (A)	94	96	100	100	95	95
	Germany (E)	NA	95	100	100	95	96
694.1	Nails, tacks, staples, spikes, etc.						
	U.S.	NA	NA	102	100	101	100
	EEC	97	99	102	100	97	99
	Germany	96	97	101	100	100	101
694.2	Nuts, bolts, screws, rivets, washers, etc.						
	U.S.	NA	NA	96	100	100	106
	EEC	103	96	98	100	97	97
	Germany	NA	95	99	100	93	93
695	Tools for use in the hand or in machines						
	U.S. (A)	85	97	98	100	101	103
	U.K. (A)	NA	NA	98	100	99	101
	U.K. (E)	NA	NA	98	100	99	101
	EEC (A)	78	85	95	100	100	103
	EEC (E)	78	85	95	100	100	103
	Germany (A)	78	85	96	100	100	103
	Germany (E)	78	85	96	100	100	103
696	Cutlery						
	U.S. (A)	NA	NA	99	100	101	101
	U.K. (A)	NA	NA	96	100	102	108

(continued)

Table C.3 (concluded)

SITC Number	Commodity Group, Country, and Index Type[a]	1953	1957	1961	1962	1963	1964
696	Cutlery (continued)						
	U.K. (E)	NA	NA	96	100	102	108
	Germany (A)	104	110	102	100	101	104
	Germany (E)	NA	NA	102	100	101	104
	Japan (A)	115	92	97	100	110	122
	Japan (E)	NA	NA	97	100	110	122
697	Household equipment of base metals						
	Germany (A)	87	99	98	100	100	101
698	Manufactures of metal, n.e.s.						
	U.S. (A)	75	91	99	100	98	101
	U.K. (A)	82	89	94	100	99	104
	U.K. (E)	NA	NA	94	100	99	104
	EEC (A)	88	94	99	100	100	99
	EEC (E)	80	96	99	100	100	99
	Germany (A)	87	92	99	100	100	99
	Germany (E)	80	96	99	100	100	99

Note: *United States*: Indexes for all groups were combined to form the aggregated index for the division as a whole. The group indexes were averages of 4-digit subgroup and, in some cases, 5-digit item indexes. The number of observations for the division ranged from 80 to almost 200, mainly from buyers. The index for SITC 698 is derived almost entirely from data for subgroup 698.3.

United Kingdom: Indexes for all groups for 1961–64, and for all except SITC 694 before that, were combined to form the division aggregated index. The total number of observations ranged from about 40 to over 100, mainly from buyers.

EEC: The coverage of groups in the EEC aggregated index is the same as that in the German index, described below, and the German series weigh heavily in the total. However, the EEC observations, of which there are about 300 in each year, include a higher proportion of observations from buyers.

Germany: The division aggregated index is a combination of group indexes for all groups. Most of the observations, which ranged in number from 250 to more than 300, are from export price reports by exporters to the Federal Statistical Office, but there are, in addition, many reports from buyers analogous to those included in the U.S. and U.K. indexes.

Japan: The aggregated index was constructed from only 20 to 30 observations for each year in groups 693, 695, 696, and 698, which together accounted for 63 per cent of trade in division 69. For 1963 the index also includes data for group 697, representing another 9 per cent of trade in division 69. Most of the reports were from buyers, but a few observations from the Japanese export price index were also included. The extrapolated index for division 69 differs considerably from the aggregated version because the extrapolator (the index of competitiveness) did not include data for group 698.

[a]A in parentheses after country name indicates aggregated index; E, extrapolated index. See General Note to this appendix for fuller explanation.

Table C.4
International Price Indexes, Machinery Other than Electric, 1953, 1957, 1961–64
(1962 = 100)

SITC Number	Commodity Group, Country, and Index Type[a]	1953	1957	1961	1962	1963	1964
71	Machinery other than electric						
	U.S. (A)	81	92	99	100	101	102
	U.K. (A)	81	92	98	100	100	102
	U.K. (E)	80	92	98	100	101	103
	EEC (A)	81	88	97	100	100	102
	EEC (E)	80	88	97	100	100	102
	Germany (A)	80	87	97	100	101	102
	Germany (E)	80	87	97	100	101	102
711	Power generating machinery, other than electric						
	U.S. (A)	83	93	98	100	104	106
	U.K. (A)	86	93	98	100	101	106
	U.K. (E)	NA	93	98	100	101	106
	EEC (A)	NA	91	97	100	102	100
	Germany (A)	82	88	96	100	102	99
	Germany (E)	84	87	94	100	103	101
711.4	Aircraft engines (incl. jet propulsion engines)						
	U.S.	85	92	95	100	105	110
	U.K.	NA	91	100	100	100	104
711.5	Internal combustion engines (exc. for aircraft)						
	U.S.	80	94	100	100	103	104
	Germany	85	89	97	100	102	98
712	Agricultural machinery and implements						
	U.S. (A)	83	89	98	100	102	103
	U.K. (A)	84	92	98	100	102	102
	U.K. (E)	85	93	99	100	102	102
	EEC (A)	84	90	98	100	102	102
	EEC (E)	84	90	98	100	102	102
	Germany (A)	84	91	99	100	101	101
	Germany (E)	84	91	99	100	101	101
712.5	Tractors, other than road tractors						
	U.S.	84	91	98	100	102	102
	U.K.	86	95	99	100	101	102
	EEC	86	92	98	100	103	104
	Germany	88	94	100	100	102	103

(continued)

Table C.4 (continued)

SITC Number	Commodity Group, Country, and Index Type[a]	1953	1957	1961	1962	1963	1964
714	Office machines						
	U.S. (A)	92	100	103	100	96	92
	U.K. (A)	90	96	100	100	93	89
	U.K. (E)	90	97	100	100	93	89
	EEC (A)	107	98	100	100	94	89
	EEC (E)	108	98	100	100	94	89
	Germany (A)	106	97	100	100	94	89
	Germany (E)	106	97	100	100	94	89
714.1	Typewriters and check-writing machines						
	U.S.	NA	99	101	100	99	99
	EEC	NA	98	101	100	99	98
	Germany	NA	NA	102	100	99	97
714.2	Calculating, accounting machines, etc. (incl. electronic computers)						
	U.S.	93	99	102	100	95	90
	U.K.	95	100	100	100	90	85
	EEC	109	97	99	100	92	86
	Germany	107	95	99	100	92	87
714.9	Office machines, n.e.s. (excl. statistical machines)						
	U.S.	90	100	104	100	96	92
	EEC	105	99	100	100	93	89
	Germany	104	99	100	100	93	89
715	Metalworking machinery						
	U.S. (A)	82	91	99	100	100	104
	U.K. (A)	75	85	95	100	101	107
	U.K. (E)	74	86	94	100	102	107
	EEC (A)	75	85	98	100	100	103
	EEC (E)	71	82	98	100	100	103
	Germany (A)	78	87	99	100	102	106
	Germany (E)	75	86	99	100	102	106
715.1	Machine tools for working metals						
	U.S.	81	90	98	100	101	105
	U.K.	75	85	95	100	101	107
	EEC	71	82	98	100	100	103
	Germany	75	85	98	100	103	107

(continued)

Table C.4 (continued)

SITC Number	Commodity Group, Country, and Index Type[a]	1953	1957	1961	1962	1963	1964
	Metal-cutting machine tools						
	U.S.	81	89	97	100	101	105
	U.K.	74	84	94	100	101	106
	EEC	72	81	98	100	97	102
	Germany	77	86	98	100	102	106
	Metal-forming machine tools						
	U.S.	NA	NA	101	100	100	105
	EEC	NA	NA	97	100	106	102
	Germany	NA	NA	98	100	106	108
715.2	Metalworking machinery other than machine tools						
	U.S.	NA	NA	101	100	100	102
	EEC	88	94	100	100	100	104
	Germany	88	94	100	100	100	104
717	Textile and leather machinery						
	U.S. (A)	81	92	98	100	100	101
	U.K. (A)	80	90	98	100	102	104
	U.K. (E)	80	90	98	100	102	104
	EEC (A)	82	90	97	100	100	102
	EEC (E)	82	90	97	100	100	102
	Germany (A)	82	90	97	100	100	103
	Germany (E)	82	90	97	100	100	103
	Japan (A)	NA	NA	100	100	101	102
	Japan (E)	NA	NA	100	100	101	102
717.1	Textile machinery						
	U.S.	80	91	98	100	100	101
	EEC	81	88	97	100	100	102
	Germany	81	88	97	100	101	103
717.2	Machinery (excl. sewing) for hides, skins, or leather						
	U.S.	NA	86	100	100	101	102
	U.K.	NA	NA	NA	100	101	93
	EEC	76	88	97	100	100	102
	Germany	76	88	97	100	100	102
717.3	Sewing machines						
	U.S.	88	100	99	100	99	103

(continued)

Table C.4 (continued)

SITC Number	Commodity Group, Country, and Index Type[a]	1953	1957	1961	1962	1963	1964
717.3	Sewing machines (continued)						
	Germany	88	99	97	100	98	102
	Japan	NA	NA	99	100	101	105
718	Machines for special industries						
	U.S. (A)	NA	88	98	100	102	104
	U.K. (A)	NA	91	101	100	101	103
	U.K. (E)	NA	89	99	100	100	101
	Germany (A)	73	81	96	100	100	103
	Germany (E)	NA	82	95	100	101	104
718.2	Printing and bookbinding machinery						
	U.S.	72	84	96	100	103	104
	U.K.	72	87	99	100	103	106
	Germany	72	80	97	100	102	108
718.3	Food-processing machines (excl. domestic)						
	U.S.	69	85	93	100	101	101
	EEC	75	82	92	100	103	105
	Germany	75	83	93	100	100	103
718.4	Construction and mining machinery, n.e.s.						
	U.S.	NA	90	100	100	102	104
	U.K.	NA	90	100	100	101	103
	Germany	74	83	95	100	101	104
	Japan	NA	NA	100	100	100	100
718.5	Mineral crushing, sorting, etc., and glass working machinery						
	Germany	76	83	97	100	99	99
719	Machinery and appliances (nonelect.) and parts, n.e.s.						
	U.S. (A)	83	94	100	100	100	101
	U.K. (A)	81	94	98	100	101	102
	U.K. (E)	82	93	99	100	102	104
	EEC (A)	80	88	97	100	101	103
	EEC (E)	77	88	96	100	101	102
	Germany (A)	78	86	96	100	101	103
	Germany (E)	77	85	96	100	101	103
719.1	Heating and cooling equipment						
	U.S.	89	98	100	100	100	103
	U.K.	NA	NA	100	100	100	102
	EEC	87	96	99	100	101	101
	Germany	75	84	96	100	102	104

(continued)

Table C.4 (continued)

SITC Number	Commodity Group, Country, and Index Type[a]	1953	1957	1961	1962	1963	1964
719.2	Pumps and centrifuges						
	U.S.	84	95	100	100	102	102
	U.K.	80	98	98	100	101	100
	EEC	79	89	97	100	101	102
	Germany	79	86	97	100	101	101
719.21	Pumps for liquids						
	U.S.	78	93	101	100	102	103
	Germany	80	84	95	100	102	102
719.22	Pumps for gases						
	U.S.	NA	98	98	100	100	100
	Germany	80	91	97	100	100	100
719.23	Centrifuges, and filtering and purifying machinery						
	Germany	74	83	99	100	101	102
719.3	Mechanical handling equipment						
	U.S.	NA	91	100	100	101	103
	U.K.	NA	101	99	100	100	103
	EEC	76	86	95	100	100	102
	Germany	75	85	95	100	100	102
719.31	Lifting and loading machinery						
	U.S.	NA	91	101	100	101	103
	EEC	74	86	95	100	100	102
	Germany	73	84	95	100	100	101
719.32	Forklift and other industrial trucks						
	U.S.	NA	89	97	100	101	106
	EEC	87	89	96	100	101	102
	Germany	87	88	96	100	101	102
719.5	Powered tools, n.e.s.						
	U.S.	78	90	98	100	102	99
	U.K.	81	88	100	100	103	102
	Germany	74	81	92	100	100	107
719.52	Machine tools for working wood, plastics, etc.						
	Germany	66	75	93	100	102	106
719.53	Motorized hand tools, nonelectric						
	Germany	81	79	90	100	100	102
719.54	Parts and accessories of machine tools						
	Germany	77	88	93	100	100	113

(continued)

Table C.4 (concluded)

SITC Number	Commodity Group, Country, and Index Type[a]	1953	1957	1961	1962	1963	1964
719.6 &	Nonelect. mach. and appliances, n.e.s. (excl. domestic appliances)						
719.8	U.S.	84	91	98	100	102	102
	U.K.	NA	91	98	100	101	102
	EEC	76	84	96	100	103	108
	Germany	76	84	97	100	102	107
719.62,	Packaging, weighing, spraying machinery						
719.63, &	Germany	75	87	98	100	101	103
719.64							
719.61 &	Other nonelect. mach. (excl. rubber proc. mach.)						
719.8	Germany	76	81	96	100	104	111
719.7	Ball, roller, or needle-roller bearings						
	U.S.	81	100	99	100	102	102
	Germany	92	92	99	100	100	98
719.9	Parts and accessories of machinery, n.e.s.						
	U.S.	80	95	102	100	96	97
	U.K.	NA	NA	96	100	100	102
	EEC	83	93	99	100	99	100
	Germany	81	91	99	100	100	100
719.92	Taps, cocks, valves, and similar appliances, n.e.s.						
	U.S.	80	95	103	100	96	96
	U.K.	NA	NA	100	100	100	102
	EEC	90	94	100	100	98	100
	Germany	87	91	100	100	100	101
719.93	Transmission shafts and cranks, pulleys, etc.						
	U.S.	NA	NA	NA	100	98	100
	Germany	74	91	97	100	100	99

Note: **SITC 71:** The aggregated index for each country is based on separate indexes for all the component 3-digit groups.

711: The aggregated index for the *U.S.* includes data for subgroup 711.1 (steam generating boilers) in addition to the indexes shown for 711.4 and 711.5. The *U.K.* aggregated index includes some data on 711.1, 711.2 (boiler house plant), 711.3 (steam engines) except 1953, and 711.5, in addition to the index shown for 711.4. For *EEC* and *Germany* the composition of the aggregated indexes is 711.1 (except 1953 EEC), 711.3 (1962–64 only), 711.5, and 711.8 (engines n.e.s.). The 4-digit indexes included in the aggregate 711 index, but not shown in the table, were not considered reliable enough to publish separately. Generally they were based on fewer than 10 observations for any one period.

711.4: The main sources of data on complete engines were reports filed by U.S. airlines with the Civil Aeronautics Board (CAB). These list all engines, of both domestic and foreign manufacture, placed in service and the prices paid for them, including prices of engines purchased as part of aircraft. The comparability of these prices from year to year was checked by the use of other data from U.S. manufacturers of aircraft and engines and from airlines.

Since none of the aircraft engines was produced for more than a few years, the index for complete engines was first calculated as a set of linked Laspeyres indexes (each year was compared to the preceding year, with the earlier year's purchases as weights). This index represented prices as of the date of delivery, and the indexes were converted to a date-of-order basis by assuming a two-year lag, which seemed closest to the lag indicated by the data from selling and purchasing companies. These indexes covered the period through 1962 on a date-ordered basis, and they were extended to 1964 by the use of prices reported by companies to the NBER. The U.K. indexes were constructed in the same manner as those for the United States, with a few exceptions. The U.K. sample is much smaller, and the CAB information was supplemented by company data before 1962. For later years CAB data on engines on order, instead of engines delivered, were used in the U.K. index.

Parts price indexes, which cover only 1961–64 for the United States and 1962–64 for the United Kingdom, were derived from data supplied by U.S. companies engaged in purchasing and selling engines. Parts were given a weight in the index equal to that of engines, for reasons indicated in the text.

711.5: The indexes were weighted (wherever there were enough price data) in accordance with very rough estimates of the relative importance of different components of 711.5. These weights were as follows: marine diesels, 1; other diesels, 4; outboard motors, 1; other gasoline engines, 2; and parts, 8. The *U.S.* index is based on price relatives varying in number from 7 for the 1957/1953 link to around 30 for the most recent links. The data were supplied by a dozen respondents, half of whom were large producers; the others were purchasers, mainly foreign. The *German* index is based on 18 diesel and 9 gasoline engine series from the export price index.

712: The aggregated indexes represent a combination of subgroup indexes. For the *U.S.* about a score of observations were available for the subgroups other than 712.5 (tractors), which is shown separately. These data come from more sources than the tractor information and did not thin out as much in the earlier years. Only one observation was available for 712.9 (agricultural machinery and appliances, n.e.s.) and this was averaged in with wholesale price changes for 7 to 14 products as reported by the Bureau of Labor Statistics. The amount of information available for the *United Kingdom* in the other categories was about the same as for tractors, but virtually all of it related to 712.1 (cultivating machines) and 712.2 (harvesting, threshing, and sorting machines). As a result, we were unable to make indexes for 712.3 (dairy-farming equipment) and 712.9, and their weights (10.4 per cent) were prorated over the other subgroups. For each *EEC* subgroup index the German index was combined with the indexes for other countries according to the relative importance of each country's exports. No data for 712.9 were available. *German* official series dominate the subgroups other than tractors, since we had only 6 to 11 observations to average in with indexes based on more than 40 German series.

712.5: The tractor index is subdivided to take account of the different price movements of farm and construction-type tractors. The *U.S.* index is based on more than a score of observations for the 1960s and for as few as 7 for the earlier links. They were

(continued)

Notes to Table C.4 (continued)

obtained from eight sources, of which six were producers. A regression analysis based on a total of 56 observations for the six reference years was used to derive a price index for construction-type tractors (see appendix to Chapter 12). The *U.K.* index is based on 7 to 14 observations from five sources. The *EEC* index is based on 4 tractor observations for France and Italy, averaged with the German index. The *German* index is based mainly on the index produced from 8 series in the German export price index. The additional observations we had (1 for 1953 and 1957, 3 for the other years) were averaged in but did not result in significant changes.

714: The aggregated index for the *United States* includes data for all periods for the subgroups shown separately (714.1, 714.2, and 714.9), as well as some data, except for 1953, for subgroup 714.3 (statistical machines). U.S. data are mostly export prices reported by U.S. companies, with some cost data as described in the text, and some purchase prices reported by foreign buyers. There were more than 40 observations for every link in the index. The *U.K.* aggregated index includes some data on 714.1 (except 1953), 714.3 (1962–64 only), and 714.9, in addition to the index shown separately for 714.2. U.K. data are mostly export prices reported by firms producing in both the United States and the United Kingdom. There are also some purchase price and cost data. The number of observations for each period was 20 or more. The EEC index was used for electronic computers because no U.K. time-to-time data were available. For the *EEC* and *Germany* the composition of the aggregated indexes is 714.1 (except 1953 Germany), 714.2, 714.3 (1962–64 only), and 714.9.

The EEC index includes German data as described below and indexes for other countries mainly derived from export price, cost, and some purchase price data reported to the National Bureau by companies operating both in the United States and in Common Market countries. The number of observations ranged from about 20 for 1957/1953 to almost three times as many in the later years.

German data are mainly export prices reported to the Federal Statistical Office with the addition of some selling, purchase price, and cost data reported to the National Bureau. The number of observations ranged from about 20 in the early years to almost twice that number for 1963/1962 and 1964/1963. The U.K. index was used for subgroup 714.3 because there were no German time-to-time data. For all countries the data for 714.3 were limited to punched-card equipment.

714.1: The index for each country is a combination of separate indexes for electric typewriters (weighted 1), standard typewriters (weighted 1), and portable typewriters (weighted 4). The weights, which are approximate, were estimated from data on U.S. exports and imports and interviews with industry sources. A more elaborate calculation from U.S. import data, using the assumption that each country's total exports were divided among the three types in the same proportions as their exports to the United States, yielded similar proportions, with a slightly higher weight for portable typewriters.

714.2: The index for each country is a combination of equally weighted indexes for electronic computers and for other calculating and accounting machines (excluding punched-card equipment). The data on computers cover only the period since 1961. The index for other calculating and accounting machines is composed of adding machines (weighted 1), calculating machines (weighted 2), bookkeeping and accounting machines (weighted 2), cash registers (weighted 1), and other calculating devices (weighted .1).

714.9: The index for each country is a combination of indexes for 714.91 (duplicating and addressing machinery), with a weight of slightly over 1 (estimated from U.S. export data), and 714.92 (parts of office machines), with a weight of almost 4. The

index for the latter group was calculated by using for each type of machine part (such as typewriter parts, electronic computer parts, etc.), the index for the corresponding machine, with weights from U.S. exports.

715: The *U.S.* aggregated index for 1961–64 is a combination of subgroups 715.1 and 715.2, shown separately. For the earlier years it includes only 715.1. The *U.K.* aggregated index is based only on 715.1 for all years. The aggregated indexes for the *EEC* and *Germany* include both subgroups for all years.

715.1: Indexes for the 4-digit subgroup and two subdivisions thereof for the United States, the United Kingdom, and the EEC countries other than Germany were built up from subindexes for individual types of machine tools (see Table 12.24). There subindexes were weighted by the OECD export values given in that table.

U.S. data are a combination of prices supplied by both sellers and buyers of U.S. machine tools. The number of observations ranged from about 20 at the beginning to approximately 60 in most of the years. Buyer and seller data for each subgroup were compiled separately, and then combined, with equal weight given to each of the two.

The *U.K.* indexes were constructed from data supplied by buyers outside the United Kingdom and by U.K. sellers, who were mainly subsidiaries of U.S. machine tool manufacturers. The number of observations ranged approximately from 10 to 40. Buyer and seller data were compiled separately and then combined, with equal weight given to each.

The *German* and *EEC* indexes were extrapolated from the U.S. time-to-time index by the indexes of price competitiveness (see Appendix D). German and other EEC data on individual types of machine tools were mostly from buyers. Indexes of price competitiveness based primarily on buyer data for the United States and Germany (or the EEC) were therefore used to extrapolate from a U.S. price index which included seller as well as buyer data.

The official export price data for Germany give results that diverge widely from our other data. The direction of the difference is indicated by the following indexes calculated from official export price data (1962 = 100): *1953*, 63; *1957*, 78; *1961*, 94; *1962*, 100; *1963*, 101; *1964*, 104. The internal weighting for the official indexes of metal-cutting and metal-forming machinery is probably that of German exports rather than the OECD exports used elsewhere.

No index for 715.1 as a whole was constructed for *Japan*. However, a Japanese index for lathes is available from the *Export and Import Price Index Annual* of the Bank of Japan (see Table 12.24).

Because the number of observations in this group is fairly large it is possible to aggregate indexes for 715.1 solely from buyers' reports and solely from sellers' reports. Of course, each of these by itself is weaker than the combined index because the number of observations is reduced. The relationship between them, period by period, is as follows (buyers' price index as per cent of sellers' price index):

	1957/1953	1961/1957	1962/1961	1963/1962	1964/1963
U.S.	92	92	99	99	103
U.K.	103	98	97	101	99
EEC	86	94	96	100	98
Germany	87	92	95	101	97

715.2: All of the indexes are based on small samples of products, the U.S. data coming from buyers, mostly foreign, the German data mainly from sellers' reports used

(continued)

Notes to Table C.4 (continued)

in the official export price index, and the EEC index adding a few items from foreign buyers to the German data.

Since the U.S. index includes no data for SITC 715.23 we could compute a more complete version of the index by incorporating the wholesale price series for that subgroup. However, because the weight of SITC 715.22 is high, and because the index for 715.23 is not very different, the combined index would be the same as that shown.

717: The *U.S.* and *U.K.* aggregated indexes are each a combination of the three subgroups shown separately except that no data were available for the 1957/1953 link for the United States or the United Kingdom, nor for the 1962/1961 link for the United Kingdom. The *EEC* and *German* aggregated indexes cover all three subgroups for all periods. The aggregated index for *Japan* is based on only 717.1 and 717.3.

717.1: The indexes are weighted averages of separate indexes for four 5-digit groups, which accounted for all but 0.2 per cent of 1963 world trade in textile machinery: 717.11, spinning, extruding, etc., machines; 717.12, weaving, knitting, etc., machines; 717.13, machinery auxiliary to those in 717.12; 717.15, bleaching, washing, dressing, coating, printing, etc., machinery (excluding domestic washing machines). The number of *U.S.* price relatives available varied from less than a score for the 1957/1953 link to twice that number for the later years. More limited data were available for the other countries. The *EEC* index includes some observations for Italy and Belgium in addition to Germany.

717.2: We have data from several U.S. sources and 9 export price series for Germany. The data supplied by the U.S. firms, which include both producers and consumers of leather machinery, provide a fair amount of information on foreign prices as well. Thus we have time-to-time observations on 3 to 10 machines for France, Germany, and the United Kingdom, as well as on 13 U.S. machines. Except for the German time series data, however, we have no information in this category for the period prior to 1957, and the 1957 prices provide a reasonably adequate sample only for the United States.

717.3: The price information underlying the indexes came from more than a dozen sources, including several of the most important producers and several foreign purchasers. Each time-to-time link for the *United States* is based on 20 to 35 observations of price change obtained from these sources. The same respondents also provided some data about the movement of German export prices. The *EEC* and *German* indexes are derived in large part from German export price indexes based upon nine types of machines. (These data were not shown as a separate EEC index for 717.3 but were included in the calculation of the 3-digit EEC index.) The *Japanese* index is based in large measure upon official export price indexes for sewing machines.

718: The aggregated *U.S.* index is a combination of indexes for the four 4-digit groups shown separately. The *U.K.* aggregated index is based on subgroups 718.2, 718.4, and except for 1957, 718.5. The *German* aggregated index includes data for 718.1 (paper mill and pulp mill machinery, paper cutting and other machinery for the manufacture of paper articles), in addition to the four subgroups shown separately.

718.2: Each country's index is a combination of indexes for the three 5-digit subgroups. The *U.S.* indexes contain about 20 observations, mostly in the printing equipment area. Both sellers' and buyers' prices are included, but the latter predominate. The *U.K.* indexes are constructed from approximately 15 observations except in the last link when there were fewer than 10. Almost all were from buyers. The index for Germany was made up of 20 to 39 observations almost half of which were supplied by sellers of machinery. For printing machinery there were enough data to permit the computation

of separate indexes from buyers' prices and sellers' prices, and the two were fairly close. The largest difference was in 1957–61, when the prices reported by sellers rose by over 17 per cent and those reported by buyers, by only 13 per cent.

718.3: *U.S.* data are prices supplied by American manufacturers for 70 or more individual items of food-processing equipment including accessories. The data are disproportionately concentrated in the area of baking machinery and do not cover SITC 718.31 at all. A small amount of information is taken from reports by importers of U.S. equipment. The *EEC* index includes the German data plus scattered observations for other countries, mainly for foreign subsidiaries of the U.S. companies. *German* data consist of export prices for more than 20 items of bakery and confectionary machinery. No information is available for SITC 718.31 or for other parts of SITC 718.32.

718.4: *U.S.* data are a combination of prices supplied by U.S. sellers and buyers of machinery and prices extracted from bids for the supply of machinery to several different countries in Latin America and Asia. Each link included more than 10 observations, and company-supplied data matched the movement of bid prices well whenever they could be compared. *U.K.* indexes are mainly from purchase prices, most of which are for domestic sales within the United Kingdom. The earliest links contained only 3 observations but all the others included 7 or more. *German* indexes are mainly official export price data. More than 10 observations are included. This index is a combination of separate indexes for construction machinery and for mining machinery, each of which included some items not properly classified under SITC 718.4. *Japanese* indexes are a combination of official data and purchasers' prices. The coverage is very weak, and the index therefore of very doubtful quality. However, the two sources agree closely in every year.

718.5: *U.S.* and *U.K.* indexes are very weak, being based on only 3 or 4 observations in each period. Most of the data are from buyers and refer to small parts of mineral processing machinery. *German* indexes are mainly from official export price series and include more than 10 items. They form a fairly reliable index.

719: The aggregated indexes for all countries are combinations of indexes for the seven subgroups shown separately, which account for over 99 per cent of the world trade weight of 719. Some data were available for each subgroup for all periods except for the 1957/1953 link for 719.3 for the United States and the United Kingdom and 719.6 and 719.8 combined for the United Kingdom.

719.1: The indexes were built up by weighting the indexes for the 5-digit categories shown in the text. We had no data for gas generators, and it was assumed that this category could be represented by the aggregate of the others.

The indexes are based mainly on reports from about a score of firms, of which about a third are foreign. All but a few were purchasers. The number of price relatives for the *U.S.* indexes ranged from less than a dozen for the 1957/1953 link to more than 40 for the 1964/1963 link. The *German* indexes are based on 40–55 series, most of them from the official export price index. The *U.K.* links shown in the table are based on about a dozen price relatives, while the number of observations for the EEC countries other than Germany varied from a dozen to a score.

719.2: The *U.S.* indexes for SITC 719.21 are based on 10 or 12 observations for the first two links (1957/1953 and 1961/1957) and about three times as many for the last three. A larger number of observations––over 50 for the last three links––were available for SITC 719.22. For SITC 719.23, however, only around a half dozen observations were available for the last two links and none for the earlier ones. The data were

(continued)

Notes to Table C.4 (continued)

obtained from more than a score of respondents, about one-fourth of whom were producers.

The *German* index for each subcategory is based on around 20 observations, mainly (and in SITC 719.23, exclusively) from the official export indexes.

We did not have enough data to publish separate indexes for the subcategories for the United Kingdom and the EEC. The United Kingdom index for SITC 719.2 as a whole is based on about a score (fewer in the early links and more in the later ones) of observations. Somewhat fewer observations were available for the EEC countries other than Germany.

719.21, 719.22, and **719.23:** See 719.2.

719.3: Indexes for total materials handling equipment are combinations of the two subgroup indexes.

U.S. indexes are averages for between a little more than 10 items in the worst year to more than 35 in the best. More than half of the observations were from buyers. In several of the years there were enough observations to permit the computation of separate indexes from buyers' reports and sellers' reports in subgroup 719.32, and in both 1961–62 and 1963–64 prices reported by sellers rose more rapidly by a substantial margin. In 1962–63 it was the buyers' reports that showed a greater price rise, but the difference was small, and the cumulative figures for 1962–64 showed a large gap, sellers' reports pointing to a rise of almost 15 per cent and buyers' reports to one of less than 5 per cent. In the much more important 719.31 category the two types of sources reported very similar changes, much closer to the buyers' reports in 719.32 than to the sellers'.

The *U.K.* index is the weakest of those shown, because it includes only 5 to 10 observations for each year. The data were too meager to permit the calculation of separate indexes for 719.31 and 719.32. Most of the data were from buyers, but there were some from sellers, and they told essentially the same story.

The *German* data are almost all sellers' prices reported to official agencies, but they contain a few additional observations from other sellers' reports and from buyers. About 25 to 30 observations are included in each index link.

The *EEC* indexes are the German indexes, combined with a scattering of information from both buyers and sellers for the other countries.

719.31, and **719.32:** See 719.3.

719.5: *U.S.* indexes are composed of 10 to 15 observations, about evenly divided between buyers' and sellers' reports. U.S. data for SITC 719.54 are not included. The *German* indexes, based mainly on official price data for approximately 60 items, but also including a few buyers' prices, cover all four subgroups. The *U.K.* indexes, weakest of the three, are based on only 5 to 10 observations in each period and cover only subgroups 719.52 and 719.53.

719.52, 719.53, and **719.54:** See 719.5.

719.6 and **719.8:** To calculate these indexes the group was divided into five 5-digit items, 719.62–719.66, and two additional subgroups: rubber processing machinery, and all other nonelectrical machinery and appliances (SITC 719.61 plus 719.8, minus rubber processing machinery).

U.S. data consisted of about 20 or more observations for each pair of years except the first, scattered over almost all the items in the group. Buyers' data predominated somewhat.

U.K. indexes were derived from only about 10 observations in most years and even fewer in the last year. Almost all were from buyers.

The indexes for *Germany* were developed from 60 or more observations throughout, mainly official export price data but including a considerable number of buyers' prices too. The *EEC* indexes consist of the German indexes, heavily weighted, plus a few prices, mainly supplied by buyers, from other countries.

719.62, 719.63, and **719.64:** See 719.6 and 719.8.

719.61 and **719.8** excluding rubber processing machinery: See 719.6 and 719.8.

719.7: The *U.S.* index is based on numbers of observations ranging from more than a dozen for the first link (1957/1953) to nearly three dozen for the last (1964/1963). The price comparisons came from ten sources of which two were producers; three of the sources were foreign firms, and the rest were domestic, most of them with overseas operations.

The *German* index is based on 4 series from two private purchasers and 8 series in the German export price index.

719.9: *U.S.* indexes are a combination of indexes for the five 5-digit items. The number of items ranges from 10 to 20 in the beginning of the period to more than 120 for the last three links. Most of the data were supplied by U.S. firms that were purchasers, but several sellers were also represented, and their reports did not differ substantially from the buyers' observations. In item 719.92 the individual observations were not treated as independent. Instead, averages for firms were combined to arrive at a country average. Treating each report as an individual observation we would have calculated that the U.S. international price indexes for SITC 719.92 and the total for the subgroup were as follows (1962 = 100):

	1953	1957	1961	1962	1963	1964
SITC 719.9	83	98	102	100	93	92
SITC 719.92	84	99	103	100	91	86

The international price indexes for the *U.K.* are a combination of item indexes for SITC 719.92, 719.93, and 719.94, mainly from buyers' data supplied by the same companies that provided the U.S. data. Approximately 100 observations or more were available for each of the indexes published here. The corresponding alternative indexes, averaging individual observations, would have been as follows (1962=100):

	1961	1962	1963	1964
SITC 719.9	95	100	100	99
SITC 719.92	96	100	99	98

The *German* and *EEC* indexes, the latter dominated by the former, were based on 40 to 60 observations, a large proportion of which were sellers' prices collected for the official German export price index.

719.92 and **719.93:** See 719.9

[a]A in parentheses after country name indicates aggregated index; E, extrapolated index. See General Note to this appendix for fuller explanation.

Table C.5
International Price Indexes, Electrical Machinery, Apparatus, and Appliances, 1953, 1957, 1961–64
(1962 = 100)

SITC Number	Commodity Group, Country, and Index Type[a]	1953	1957	1961	1962	1963	1964
72	Electrical machinery, apparatus, and appliances						
	U.S. (A)	102	108	104	100	97	97
	U.K. (A)	94	102	102	100	101	100
	U.K. (E)	96	98	103	100	101	101
	EEC (A)	96	99	102	100	100	99
	EEC (E)	98	100	102	100	100	99
	Germany (A)	95	98	102	100	99	98
	Germany (E)	96	98	101	100	99	98
	Japan (A)	NA	119	107	100	95	100
	Japan (E)	NA	124	106	100	97	99
722	Electric power machinery and switchgear						
	U.S. (A)	NA	124	110	100	94	94
	U.K. (E)	NA	104	112	100	103	101
	EEC (E)	NA	107	105	100	99	99
	Germany (A)	NA	104	104	100	97	100
	Germany (E)	NA	102	104	100	97	100
	Japan (E)	NA	NA	106	100	96	106
722.1	Electric power machinery						
	U.S.	132	154	120	100	91	91
	U.K.	NA	116	110	100	100	92
	EEC	NA	125	111	100	98	99
	Germany	NA	117	108	100	96	100
722.2	Appar. for making, breaking, or protecting elect. circuits						
	U.S.	NA	NA	99	100	98	99
	EEC	88	90	100	100	99	99
	Germany	88	90	100	100	99	99
723	Equipment for distributing electricity						
	U.S. (A)	100	114	111	100	97	99
	U.K. (A)	81	91	99	100	100	102
	U.K. (E)	85	95	106	100	101	98
	EEC (A)	88	93	100	100	95	103
	EEC (E)	90	94	100	100	94	94

(continued)

Table C.5 (continued)

SITC Number	Commodity Group, Country, and Index Type[a]	1953	1957	1961	1962	1963	1964
723	Equipment for distributing electricity (continued)						
	Germany (A)	91	94	100	100	94	102
	Germany (E)	90	94	100	100	94	102
	Japan (E)	NA	NA	125	100	108	110
724	Telecommunications apparatus						
	U.S. (A)	NA	NA	101	100	95	96
	U.K. (E)	NA	NA	101	100	101	99
	EEC (A)	98	95	101	100	100	97
	EEC (E)	NA	NA	101	100	100	97
	Germany (A)	95	92	101	100	100	95
	Germany (E)	NA	NA	101	100	100	96
	Japan (E)	NA	NA	107	100	100	98
724.1 & 724.2	Television and radio broadcast receivers						
	U.S.	NA	NA	102	100	90	85
	EEC	125	113	103	100	96	94
	Germany	119	108	103	100	97	94
724.9	Telecommunications equipment, n.e.s.						
	U.S.	NA	NA	101	100	98	102
	U.K.	NA	90	100	100	106	107
	EEC	88	88	100	100	102	98
	Germany	86	86	100	100	102	95
725	.Domestic electrical equipment						
	U.S. (A)	NA	102	98	100	102	102
	U.K. (A)	NA	111	106	100	98	100
	U.K. (E)	NA	NA	NA	100	98	102
	EEC (A)	104	102	100	100	99	99
	EEC (E)	NA	102	100	100	99	100
	Germany (A)	102	100	100	100	99	99
	Germany (E)	NA	101	100	100	99	99
725.01	Domestic refrigerators, electrical						
	EEC	140	118	101	100	97	96
	Germany	132	114	100	100	96	96
725.03	Electromechanical domestic appliances, n.e.s.						
	EEC	94	94	100	100	101	104
	Germany	92	93	100	100	101	104
725.05	Electric space heating equipment, etc.						
	EEC	NA	91	99	100	100	101

(continued)

Table C.5 (concluded)

SITC Number	Commodity Group, Country, and Index Type[a]	1953	1957	1961	1962	1963	1964
725.05	Electric space heating equipment, etc. (continued)						
	Germany	NA	91	99	100	101	101
726 & 729	Other elect. mach. and apparatus (incl. med. and radiol.)						
	U.S. (A)	97	106	104	100	98	98
	U.K. (A)	78	94	99	100	102	104
	U.K. (E)	83	94	97	100	101	101
	EEC (A)	89	98	101	100	102	101
	EEC (E)	93	97	100	100	101	100
	Germany (A)	90	98	101	100	100	99
	Germany (E)	93	97	100	100	100	98
	Japan (A)	NA	NA	104	100	90	90
	Japan (E)	NA	NA	104	100	92	92
729.1	Batteries and accumulators						
	U.S.	NA	NA	103	100	100	101
	EEC	NA	NA	101	100	102	107
	Germany	94	100	101	100	102	106
729.2	Electric lamps						
	U.S.	NA	116	108	100	100	104
	EEC	97	105	102	100	111	115
729.4	Automotive electrical equipment						
	U.S.	NA	NA	NA	100	100	106
	Germany	98	96	100	100	99	100
729.5	Elect. measuring and controlling instruments						
	U.S.	78	97	100	100	102	103
	U.K.	NA	83	95	100	97	97
	Germany	83	92	106	100	99	98
729.6	Electromechanical hand tools						
	U.S.	72	87	96	100	100	99
729.9	Electrical machinery and apparatus, n.e.s.						
	U.S.	89	98	100	100	101	102
	EEC	80	89	99	100	104	104
	Germany	84	92	99	100	105	104

Note: **SITC 72:** The aggregated indexes are based on separate indexes for the five 3-digit groups or combinations shown separately. The Japanese index excludes SITC 722 for 1953 and 1957, and 723 for all periods. The U.K. index excludes 722 for 1953. Indexes for other countries include all 3-digit groups throughout.

722: The *U.S.* index for SITC 722.1 is based mainly on a regression analysis of power transformer prices described in the appendix to Chapter 13 and, for electric motors, on a small number of time series observations, less than 10 in each link. The index used, from Table 13.28, equation 12, is extrapolated back to 1953 by a domestic price index adjusted for quality change and combined with another regression-based index for generators, calculated from domestic prices. Both of these indexes are discussed in the appendix to Chapter 13. For SITC 722.2 the *U.S.* index is derived from time-to-time price data for about 20 observations supplied by both buyers and sellers of equipment, principally the former. The calculations were carried back to 1957 for a smaller number of observations but the index for that year is not shown because the number of reporters was too small. It was used, however, in calculating the aggregated index for group 722.

The *U.K.* index for SITC 722.1 was calculated by multiplying the U.S. international price index by the index of U.S. price competitiveness relative to the United Kingdom (Table D.5), which included a small number of time-to-time observations for electric motors. No U.K. data were available for 722.2; therefore no U.K. 722 aggregated index is shown.

The *EEC* indexes were calculated in the same way as the U.K. index.

The *German* index for SITC 722.1 was calculated in the same way as that for the U.K. That for 722.2 was calculated from more than 20 time series observations based on sellers' reports to the Federal Statistical Office. The electric motors component of the index of price competitiveness for SITC 722.1 was from the same source as the data for SITC 722.2, but with 10 or fewer observations throughout.

The *Japanese* aggregated indexes were too weak to show in the table because of the small numbers of observations and because the price competitiveness index, except in the 1963–64 link, does not include electric motors. The results of the calculation, using the U.S. international price index for all of SITC 722.1 for 1963–64 and the U.S. price index for generators only in 1961–63, were as follows (1962 = 100): *1961*, 130; *1962*, 100; *1963*, 85; *1964*, 110.

An alternative index can be calculated from the official Japanese export price data for transformers, generators, and electric motors, as reported in various issues of the *Export and Import Price Index Annual*, Statistics Department, Bank of Japan (1962 = 100): *1961*, 101; *1962*, 100; *1963*, 100; *1964*, 100. In most commodity groups these data are used as part of the time-to-time index, but they are not used here because the resulting index would not be compatible with the index of price competitiveness.

722.1 and 722.2: See 722.

723: *U.S.* indexes are based on data from both buyers and sellers, with the number of observations ranging from about 10 to over 30, including some company price indexes composed of many individual observations.

U.K. data are mostly from buyers and range from only about 5 observations in the first link to about 15–25 in the later ones.

German and *EEC* indexes in this group are based on fewer than 10 observations throughout, mostly from sellers' prices reported to the German Federal Statistical Office.

724: Aggregated indexes for telecommunications equipment are weighted averages of indexes for television and radio receivers and for other telecommunications equipment. The former are weighted averages of indexes for television receivers and for radio

(continued)

Notes to Table C.5 (continued)

receivers, the latter of which are themselves weighted averages for portable transistor and other radio receivers. The weights are from the trade data of Table 14.14. No aggregated index for 724.1 and 724.2 or for 724 as a whole is shown for those countries for which data were missing on either transistor or nontransistor radios, because the differences in price movements were so great as to make the international price indexes for the group unreliable if either one were omitted. The indexes for each type of radio cannot be published separately because they are either too weak or depend on too few sources of data.

U.S. indexes are composed of observations for between 10 and 20 items, from both buyers and sellers. *U.K.* indexes for SITC 724.9 cover about 5 to 15 items throughout, while *German* and *EEC* indexes contain 20–40 observations, mainly from sellers' reports to the Federal Statistical Office. The only Japanese index shown is from the *Export and Import Price Index Annual* of the Bank of Japan.

The *German* and therefore also *EEC* data have one serious defect. The official German export price data are for a combination of SITC 724.1 and 724.2 without any breakdown between the two subgroups or within SITC 724.2 for portable transistors as opposed to other radios. Even if these were properly weighted to represent German exports, the weights would not be in accord with the world trade weights we have used. The main consequence of the incorrect (for our purpose) weighting would be an understatement of the price decline in SITC 724.2 due to the fact that portable transistor radios were not important in German exports.

724.1, 724.2, and **724.9:** See 724.

725: *U.S.* data are from reports of overseas buyers and U.S. producers. They cover all five subgroups in the later years but only three at the beginning. The indexes are based on from 5 to over 20 observations.

U.K. aggregated indexes are very weak, being based on only about 5–10 observations throughout and containing no data for 725.03 at all.

German and *EEC* aggregated indexes are mainly from sellers' reports to the Federal Statistical Office but also include some data from buyers. They cover all five subgroups and are based on approximately 30–60 observations throughout.

725.01, 725.03, and **725.05:** See 725.

726 and **729:** The *U.S.* index is an aggregate of 4-digit subgroup indexes covering all subgroups except SITC 729.7 (electron and proton accelerators). There were from almost 100 to more than 150 observations, from both buyers and sellers, with the former predominating in most groups. Some data on unit values of domestic shipments, which were subdivided in very fine detail, were added in subgroup 729.3 (thermionic, etc., valves and tubes, photocells, transistors, etc.) to provide coverage of transistors and other semiconductors.

The *U.K.* aggregated index is a combination of indexes for all subgroups except SITC 729.7 and, for 1953–57, SITC 729.3. The number of observations ranged from about 15 to more than 40, chiefly from buyers both within and outside the United Kingdom. The number of observations exaggerates the quality of the indexes because several groups, including the most heavily weighted, are represented by fewer than 5 observations for some links.

The *German* aggregated index is a combination of indexes for all subgroups except SITC 729.3 and 729.7. The index for other EEC countries was used for the former

subgroup except in 1963–64 when some German prices were available. We had 60 to 80 observations, the greatest part from export price reports by sellers to the Federal Statistical Office but including some data from buyers as well.

The *EEC* aggregated index covers all subgroup indexes except SITC 729.7 and, for 1953–57, SITC 729.3. However, only German data were available for SITC 726 (electric apparatus for medical purposes and radiological apparatus), SITC 729.4 for 1953–62, SITC 729.5, and SITC 729.6. The number of observations ranged from about 85 to more than 100, almost all, other than the German data, being provided by buyers. The subgroup index for SITC 729.3 does not include any prices for semiconductors and is probably biased upward on that account.

For *Japan* no subgroup indexes could be calculated for SITC 726, 729.4, 729.6, or 729.7, and those that were computed for the remaining subgroups were weak. No subgroup index contained more than 5 observations, and the group as a whole was calculated from only 10 to 15 items, provided by both buyers and sellers. The subgroup index for SITC 729.3 does include semiconductors.

729.1, 729.2, 729.4, 729.5, 729.6, and **729.9:** See 726 and 729.

[a]A in parentheses after country name indicates aggregated index; E, extrapolated index. See General Note to this appendix for fuller explanation.

Table C.6
International Price Indexes, Transport Equipment, 1953, 1957, 1961–64
(1962 = 100)

SITC Number	Commodity Group, Country, and Index Type[a]	1953	1957	1961	1962	1963	1964
73	Transport equipment						
	U.S. (A)	89	94	96	100	99	100
	U.K. (A)	87	93	99	100	102	106
	U.K. (E)	87	94	100	100	102	107
	EEC (A)	95	98	96	100	100	100
	EEC (E)	94	98	97	100	101	102
	Germany (A)	92	95	95	100	100	99
	Germany (E)	90	95	96	100	101	101
731	Railway vehicles						
	U.S. (A)	83	96	102	100	101	102
	U.K. (E)	NA	NA	103	100	104	NA
	EEC (A)	76	84	95	100	101	103
	EEC (E)	74	83	95	100	101	103
	Germany (A)	76	84	96	100	101	102
	Germany (E)	74	82	95	100	101	103
731.1,	Railway locomotives						
731.2, &	U.S.	100	108	103	100	99	98
731.3	U.K.	NA	NA	106	100	98	NA
	Germany	74	83	94	100	101	103
732	Road motor vehicles						
	U.S. (A)	89	91	94	100	99	98
	U.K. (A)	92	94	99	100	101	105
	U.K. (E)	92	95	100	100	101	106
	EEC (A)	95	94	95	100	102	102
	EEC (E)	95	95	96	100	102	103
	Germany (A)	91	91	94	100	101	100
	Germany (E)	90	92	95	100	102	101
732.1 &	Passenger motor cars; and chassis with engine mounted						
732.6	U.S.	90	89	94	100	100	100
	U.K.	98	93	99	100	101	106
	EEC	102	100	95	100	102	102
	Germany	95	95	94	100	102	100
	France	109	110	95	100	103	108
	Italy	133	109	100	100	101	101
	Japan	NA	148	105	100	95	92

(continued)

Table C.6 (concluded)

SITC Number	Commodity Group Country, and Index Type[a]	1953	1957	1961	1962	1963	1964
732.2,	Buses, trucks, etc., and chassis with engines mounted						
732.3,	U.S.	86	92	93	100	97	93
732.4,	U.K.	81	95	98	100	100	102
732.5 &	EEC	81	84	94	100	101	102
732.7	Germany	81	84	94	100	100	100
734	Aircraft and parts						
	U.S. (A)	83	89	99	100	102	108
	U.K. (A)	NA	NA	NA	100	108	112
	U.K. (E)	NA	NA	NA	100	108	112
	France (A)	NA	76	93	100	102	104
	France (E)	NA	76	93	100	102	104
734.1	Aircraft, heavier than air						
	U.S.	80	86	95	100	103	104
	U.K.	NA	74	97	100	106	107
	France	NA	69	93	100	103	107
735	Ships and boats						
	U.S. (A)	98	116	101	100	96	97
	EEC (E)	111	130	99	100	91	90
	Germany (E)	108	124	95	100	93	92
	Japan (A)	112	140	99	100	86	87
	Japan (E)	112	140	99	100	86	87

Note: **SITC 73:** The *U.S.* aggregated index is a combination of separate indexes for the four 3-digit groups shown separately and SITC 733 (road vehicles other than motor vehicles). The *U.K.* aggregated index is based on the same five 3-digit groups except that data for SITC 731 are limited to 1961–63, and data for SITC 734 were not available for 1953. The *EEC* and *German* aggregated indexes are based on SITC 731, 732, 733, and 735 for all periods.

731: *U.S.* aggregated indexes for all railway vehicles are a combination of subgroup indexes for locomotives, for freight cars, and for railway vehicle parts. The locomotive price index is discussed below under 731.1, 731.2, and 731.3. The freight car price index, which was given a weight in the total to represent both freight and passenger cars, is derived from ICC and Association of American Railroads data on freight car purchases by U.S. railroads. This index was first compiled as a set of Laspeyres indexes for pairs of years, each year on the previous year as a base. This method was used because each type of freight car appeared in the list for only a short span of years, frequently only two or three. These indexes were then linked to form the longer spans from 1953 to 1957 and 1957 to 1961. The index for parts of railway vehicles is derived from export prices reported by both U.S. sellers and by foreign buyers. The number of observations is small and the index is therefore not shown separately.

(continued)

Notes to Table C.6 (continued)

German aggregated indexes for all railway vehicles are averages of separate subgroup indexes for locomotives and self-propelled cars (1954–64), for non-self-propelled freight and passenger cars (1958–64), and for railway vehicle parts (1955–64). The 1954 price level was taken to represent 1953. Approximately 15 to 20 observations, from both exporters and foreign purchasers, are included.

The *EEC* aggregated indexes include the German data, and a small number of French prices reported by purchasers.

731.1, 731.2, and 731.3: The *U.S.* locomotive price index is composed of two parts. The first, covering 1953–61, is derived from ICC data on U.S. railroads' purchases of diesel locomotives, subdivided by horsepower and type of use. This index, like that for freight cars, was computed for pairs of years and then linked. The second part of the index, covering 1961–64, is an average of export price movements for locomotives reported by U.S. manufactureres. The indexes from ICC and company data were each computed, and can be compared, for the whole period from 1953 through 1964, and they can be compared also with several other indexes. For a further discussion of these alternative index comparisons see the appendix to Chapter 14.

The *U.K.* index for locomotives is from the appendix to Chapter 14.

The *German* index for locomotives includes self-propelled cars (SITC 731.4). The 1954 price level was taken to represent 1953.

732: The aggregated indexes are based on the two subgroups shown separately, as well as on indexes for parts (SITC 732.8), and in the case of Germany and the EEC for motorcycles (SITC 732.9).

732.1 and 732.6: The indexes for passenger cars are based on regression analysis of domestic list prices (see Chapter 15). The index for the *EEC* was derived by combining indexes for Germany, France, and Italy with weights based on their 1963 exports.

732.2, 732.3, 732.4, 732.5, and 732.7: The indexes for commercial vehicles are based on regression analysis for trucks for the *United States* and the *United Kingdom*. The features of the regressions are summarized below:

	1957/1953	1961/1957	1962/1961	1963/1962	1964/1963
United States					
$\bar{R}^2$	.98	.95	.93	.95	.94
Dummies retained	*T*	*BD*	*WBD*	*T*	*T*
United Kingdom					
$\bar{R}^2$	.91	.92	.95	.94	.95
Dummies retained	*T*	*TB*	*TD*	*BD*	*WB*

In the above table T = time dummy, W = slope dummy for gross vehicle weight, B = slope dummy for wheelbase, D = slope dummy for displacement. The basic independent variables were gross vehicle weight, wheelbase, displacement, and dummies kept in common for both years (i.e., for cowl, diesel, and, in the case of the United Kingdom, forward control). The basic independent variables were consistently more than two times their standard errors except for wheelbase, which was greater than its standard error in all the U.K. equations but only in two out of the five U.S. equations. For the United States only the last two regressions (for 1963/1962 and 1964/1963) included trucks with diesel engines. U.S. regressions restricted to gas engine trucks compared with the regressions used as follows (the retained dummy in each one is T):

	Gas Only		Gas and Diesel	
	1963/1962	1964/1963	1963/1962	1964/1963
$\bar{R}^2$	.92	.90	.95	.94
Price relative	96	94	97	96

The numbers of observation were:

	1953	1957	1961	1962	1963	1964
United States	22	35	53	55	49	50
United Kingdom	17	82	82	104	85	92

Eight diesel engine trucks were included in these observations in 1962 and 7 in the last two years.

For a description of the EEC and German indexes, see appendix to Chapter 14.

734: The indexes for complete aircraft (734.1 below), accounting for slightly more than half the weight of the whole group, were combined with aircraft parts price indexes. Data on parts were mainly prices for spare parts rather than for major sections of an aircraft, and were reported by buyers and sellers, that is, by aircraft companies and airlines. More than 100 individual parts were included in the index. Most of the index was composed of price relatives weighted by value of sales, but this weighted index was combined with an unweighted index for other parts prices, to give the final result which was incorporated in the aggregated indexes.

734.1: Prices are for civilian airline transport aircraft, excluding all military aircraft, helicopters, and civilian aircraft of the type sold as private or company planes. The prices are intended to refer to date of order rather than date of delivery.

The *U.S.* data on airframes are taken mainly from reports by airlines to the Civil Aeronautics Board on CAB Schedule B-7. These list all airframes delivered and the price paid for each, and cover all aircraft delivered to airlines in the United States. The reported prices were checked by correspondence with purchasers and by comparison with independent reports by both manufacturers and purchasers of aircraft, to eliminate spurious price movements resulting from leasing transactions and changes in specifications.

The price indexes for U.S. airframes were calculated by computing indexes for pairs of adjacent years, using the first year of each pair as a base, and then linking them. Because these prices referred to date of delivery, we back-dated them by two years to approximate date of order. The average lead time was actually larger than this, closer to three years, but the long leads were almost entirely for domestic sales. Foreign buyers tended to enter the market at a later stage in the development of each plane, and we therefore assumed a shorter lead time.

The price index for airframes was combined with one for aircraft engines, which is described in the appendix to Chapter 12. The airframes were given 85 per cent of the weight and engines 15 per cent. These weights were derived from the CAB data for 1963, which showed, for all aircraft purchased in that year, the cost of the airframe and the cost of the engines. The combination of these two indexes produced an index for complete aircraft.

An independent price index for complete aircraft can be derived from data, supplied

(continued)

Notes to Table C.6 (concluded)

by one of the cooperating companies, giving prices by date of order charged for all the leading types of commercial jet aircraft. Indexes for three subgroups of aircraft were computed from these prices, weighting each aircraft equally, and the three subgroup indexes were then combined with equal weights. The resulting index was as follows: *1957*, 90; *1961*, 97; *1962*, 100; *1963*, 103; *1964*, 107. Despite differences in the type of index, the weighting of individual aircraft, the timing of price reports, and the coverage of aircraft sales, the two indexes do not differ greatly over the period as a whole. One shows a 20 per cent price increase and the other a 19 per cent increase.

The indexes the the *United Kingdom* and *France* for complete aircraft are order price indexes from prices reported by an American company. The source is the same as for the alternative U.S. price index reported above.

735: The *U.S.* aggregated index is a combination of a Maritime Administration "new ship selling price index" and of an index of tanker prices we constructed mainly on the basis of information obtained from three U.S. oil companies which contracted for more than fifty tankers in the years covered by our study. The Maritime Administration index reflects the prices paid for ships constructed in its ship replacement program. Under this program, ship lines received a construction subsidy equal to the difference between the domestic and foreign construction costs up to a maximum of 55 per cent of the domestic cost (50 per cent before 1960). The agency was therefore obliged to keep careful track of ship prices at home and abroad. However, since the replacement program was concerned with cargo liners, the index does not cover tanker and dry bulk vessel prices. These types of ships accounted for roughly half of world ship exports. Our own index for tanker prices is based partly on actual prices and partly on curves drawn by engineers in two companies to show (for internal use) the relationships between prices and deadweight tonnage at each of the several dates. The price per ton declined sharply as size increased, though not in the same degree in every country; in 1964, for example, the price per ton in the United States for a 65,000 ton tanker was around two-thirds of the per ton price for a tanker half as large, while in Japan the per ton price of the larger size was over three-quarters that of the smaller one. Since the average size of tankers built for export increased sharply (from 12,300 gross tons in 1953 to 27,300 in 1964, according to *Lloyds Register*), we treated each of seven sizes of tankers (ranging from 27,500 to 90,000 deadweight tons) as a different product and used the 1963 estimated purchase pattern as weights. Data for only the two smallest sizes were available for the 1957/1953 link and for all seven sizes only for the 1964/1963 link. It may be further noted that prices since 1957 have tended to decline more for large tankers than for small ones; thus the price increase shown by our tanker index would have been about 10 per cent higher had it been based only on the two smallest sizes.

The tanker and Maritime Administration indexes were averaged together to obtain the indexes in the table.

Since only scattered data relating directly to temporal price changes were available for *Germany* and the *EEC* as a whole, no aggregated indexes were constructed.

The *Japanese* aggregated indexes are based upon official tabulations. The 1957/1953 link is based on the price of Japanese ships built for Japanese owners in the successive shipbuilding programs of the Japanese government. For 1957, 1961, 1962, 1963, and 1964 (fiscal years, beginning in April) we obtained complete tabulations of the vessels built in Japan for foreign owners with the price and physical characteristics of each. The indexes for 1957 on were derived from regressions fitted by methods described in the appendix to Chapter 14.

[a]A in parentheses after country name indicates aggregated index; E, extrapolated index. See General Note to this appendix for fuller explanation.

Table C.7
International Price Indexes, Miscellaneous Manufactured Articles, 1953, 1957, 1961–64
(1962 = 100)

SITC Number	Commodity Group, Country, and Index Type[a]	1953	1957	1961	1962	1963	1964
861	Scientific, medical, etc., instruments and apparatus						
	U.K. (A)	76	92	100	100	100	106
	U.K. (E)	77	92	100	100	100	106
	Japan (A)	NA	NA	102	100	102	103
	Japan (E)	NA	NA	100	100	103	103
861.1,	Optical goods						
861.2, &	EEC	NA	93	100	100	102	104
861.3	Germany	NA	93	99	100	102	105
861.4,	Photographic and cinematographic apparatus and equipment, n.e.s.						
861.5, &	U.S.	NA	NA	100	100	100	NA
861.6	EEC	99	105	102	100	102	103
	Germany	100	107	103	100	102	104
861.7	Medical instruments, n.e.s.						
	U.S.	NA	NA	100	100	99	100
	EEC	78	84	94	100	101	101
	Germany	77	83	94	100	101	101
861.8	Meters and counters, nonelectric						
	EEC	NA	83	95	100	106	108
	Germany	NA	83	95	100	106	108
861.9	Measuring, controlling, and scientific instruments, n.e.s.						
	U.S.	86	93	98	100	102	104
	U.K.	NA	98	104	100	98	106
	EEC	85	92	98	100	100	102
	Germany	84	91	97	100	101	102
891	Musical instruments, recorders, etc., and parts and accessories						
	U.S. (A)	NA	96	97	100	100	103
	U.K. (A)	NA	NA	100	100	100	101
	U.K. (E)	NA	NA	100	100	100	101
	EEC (A)	78	87	93	100	104	108
	EEC (E)	NA	86	92	100	104	109
	Germany (A)	76	86	94	100	105	110
	Germany (E)	NA	84	93	100	105	111
	Japan (E)	NA	NA	100	100	99	101

(continued)

Table C.7 (concluded)

SITC Number	Commodity Group, Country, and Index Type[a]	1953	1957	1961	1962	1963	1964
891.1	Phonographs, tape recorders, etc.						
	U.S.	NA	NA	96	100	100	104
891.4	Pianos and other string musical instruments						
	U.S.	NA	NA	98	100	100	108
	EEC	79	89	98	100	105	107
	Germany	77	88	97	100	106	108
891.8	Musical instruments, n.e.s. (excl. records, tapes, etc.)						
	EEC	NA	88	95	100	99	104
	Germany	NA	86	96	100	99	101

Note: **SITC 861:** The *U.K.* aggregated index is based mainly on subgroup 861.9, which accounts for almost half the weight of the total 861 group (see 861.9 below). It also includes 861.7 for all periods, and some observations for each of the other subgroups for one or more periods. The *Japanese* aggregated index is based on between 10 and 20 observations from six different sources, covering each of the subgroups except 861.7.

861.1, 861.2, and **861.3:** The *EEC* index is based on the German index combined with few observations for France and Italy. The *German* index is based mainly on official export price indexes composed of 19 price series for 1957 to 1962 and 25 series for 1962 to 1964. In addition we had some buyer data on German prices.

861.4, 861.5, and **861.6:** The *U.S.* index is based on a small number of observations from 2 buyer and 2 seller sources. The *EEC* index is based on the German index combined with an official German import price index reflecting primarily French prices. The *German* index is based mainly on official export price indexes composed of 29 price series for 1957 to 1964; and 11 series for 1954–57, which were used for the 1957/1953 link. In addition we had scattered buyer data on German prices.

861.7: The *U.S.* index is based on from 8 to 13 observations from four buyer sources. The *EEC* index is based on the German index combined with some buyer data on French prices. The *German* index is based primarily on official export price indexes composed of 24 price series for 1954–62 and 29 series for 1962–64. The series in the later years include mechanotherapy appliances, while those for the earlier years do not. In addition we had some buyer data on German prices for the entire period.

861.8: The *EEC* and *German* indexes are based on official export price statistics for 12 series, combined with a small amount of buyer data on German prices for 1961–64. The official price index for 1958–61 was used for the 1961/1957 link.

861.9: The *U.S.* index was based on data from thirteen sources including both buyers and sellers. The number of observations varied from 12 in the first period to 50–60 in the later years. Individual indexes were constructed for the six 5-digit subgroups for which data were available, and these were then averaged with 1963 OECD export weights. The *U.K.* index also is a weighted average of individual indexes for 5-digit subgroups. Data were available on five or six subgroups for each period. About 20 to 30 observations were obtained from seven sources including both buyers and sellers.

The *EEC* index is a weighted average of seven individual 5-digit item indexes, all of which included German data, and three of which included a small amount of data from other EEC countries (France, Italy, Belgium, and the Netherlands). The *German* index was based mainly on official export price statistics for each of the seven subgroups, although data for the first link (1957/1953) were missing for two of these. We also had buyer and seller data from other sources for four of the subgroups. There were 30 to 50 observations in all for each period.

891: The aggregated index for each country is a weighted average of the 4-digit subgroups for which we had data. There are five subgroups in SITC 891. The two not listed in the table are 891.2 (phonograph records, recorded tapes, other recorded media, and prepared media for sound recording), and 891.9 (parts and accessories of musical instruments, other than strings). The *U.S.* index covers 891.4 and 891.9 for all years, 891.1 for all except the 1961/1957 link, 891.2 for 1962–64 only, and 891.8 for all years except 1953. The data for 891.2, 891.8, and 891.9 were not sufficient to publish separately, consisting of only a few observations for each group, all from one buyer source. The *U.K.* index covers 891.1 and 891.8 for all years, 891.2 for 1962–64 only, and 891.4 for 1961–64 only. The data for 4-digit groups were not sufficient to publish separately. In each group the number of observations was small. The sources included two foreign buyers and two U.S. manufacturers. The *EEC* index covers 891.4 and 891.9 for all years, 891.1 for 1963–64 only, 891.2 for 1962–64 only, and 891.8 for all years except 1953. The *German* index covers 891.4, 891.8, and 891.9 for all years, 891.1 for 1963–64 only, and 891.2 for 1962 and 1963 only. The EEC and German data on 891.1, 891.2, and 891.9 were not sufficient to publish separately. They consisted of a few buyer observations on Germany for each group, and a few on France for phonographs and records. The *Japanese* index covers 891.4 and 891.9 for all years, and 891.1 for 1961–64 only. The data for 4-digit groups were not sufficient to publish separately. They consisted of an export price index for tape recorders in the 1960s and a few observations from two buyer sources.

891.1: The *U.S.* index for the 1960s is based on 6 to 10 observations from two buyer sources and one U.S. manufacturer. For the earlier years we had only one observation, for the 1957/1953 link.

891.4: The *U.S.* index for the 1960s is based on about 10 observations from one buyer and one seller. For the earlier years the data were from only one source and not sufficient to publish separately. The *EEC* index is based on the German index combined with data on Italy and the Netherlands from one buyer and one seller. The number of observations was between 10 and 20 for each period. The *German* index is based on about 10 observations from the official export statistics and one buyer source.

891.8: The *EEC* index is based on 12 to 20 observations on accordions, saxophones, clarinets, flutes, and electric guitars from Germany, Italy, France, and the Netherlands. Data were from the official German export statistics and two buyer sources. The *German* index was based on accordions and similar instruments. There were 8 observations from the official export statistics and one buyer source.

[a]A in parentheses after country name indicates aggregated index; E, extrapolated index. See General Note to this appendix for fuller explanation.