

This PDF is a selection from an out-of-print volume from the National Bureau of Economic Research

Volume Title: Price and Quantity Trends in the Foreign Trade of the United States

Volume Author/Editor: Robert E. Lipsey

Volume Publisher: Princeton University Press

Volume ISBN: 0-870-14154-6

Volume URL: <http://www.nber.org/books/lips63-1>

Publication Date: 1963

Chapter Title: Appendix D: Construction of Quarterly Interpolating Series for U.S. Department of Commerce Annual Import Price Indexes

Chapter Author: Robert E. Lipsey

Chapter URL: <http://www.nber.org/chapters/c1896>

Chapter pages in book: (p. 365 - 377)

Appendix D

Construction of Quarterly Interpolating Series for U.S. Department of Commerce Annual Import Price Indexes

THE indexes described here were computed to fill a gap in the quarterly import indexes between the end of the National Bureau's indexes in 1923 and the beginning of the official Department of Commerce indexes in 1929. On the export side, the gap is bridged adequately by Cowden's indexes, which are available monthly from 1923 through 1930.¹ For imports, the only series available were the annual Department of Commerce indexes and an inadequate monthly volume index published by the American Tariff League. We accepted the annual Commerce series and constructed quarterly series from them by interpolation. The interpolating series were quarterly and annual indexes constructed in such a way that the annual indexes closely matched the Commerce series.

The Commerce series are Fisher "ideal" price indexes, but, unlike ours, are constructed with constantly changing bases, the index for each year using the previous year as a base. The interpolating indexes we prepared are of the same type as the Commerce indexes, but we attempted to roughly duplicate the annual movements of the Commerce series with a smaller number of commodities. The two sets of annual indexes are shown in Table D-1.

The year-to-year changes in the two sets of indexes are very similar. Of thirty comparisons, twenty-five show either no difference or a difference of only one percentage point; only one discrepancy is as high as 4 per cent.

Because of the similarity of the two series we considered it safe to use a fairly crude method of interpolation. Each quarterly interpolating index was multiplied by the ratio, for that year, of the Commerce index to the annual interpolating index. The interpolated Commerce price indexes derived in this way, with 1923 equal to 100, are given in Table D-2.

We did not, in most cases, make any attempt to improve on the Commerce indexes. The published export and import values were used² without the introduction of outside price data which might have improved the coverage or representativeness of the indexes. All the series were examined, however, by comparing them with price data or by making country breakdowns.

¹ Dudley J. Cowden, *Measures of Exports of the United States*, New York, 1931.

² From U.S. Department of Commerce, *Monthly Summary of Foreign Commerce of the United States*, various issues, 1924 to 1930.

TABLE D-1
 PRICE INDEXES: DEPARTMENT OF COMMERCE AND NBER INTERPOLATING SERIES, ANNUAL DATA
 (each year on previous year base)

	Crude Foodstuffs		Manufactured Foodstuffs		Crude Materials		Semi-manufactures		Manufactured Products	
	Comm.	NBER	Comm.	NBER	Comm.	NBER	Comm.	NBER	Comm.	NBER
1924	120	119	90	90	97	96	96	97	97	97
1925	122	125	69	68	123	127	104	103	108	108
1926	99	98	93	92	99	99	100	100	95	97
1927	93	93	119	122	84	82	99	98	96	96
1928	108	108	89	88	91	90	95	94	105	106
1929	94	93	86	85	93	92	103	103	91	90

SOURCE: For Commerce series see *Foreign Trade of the United States 1936-1949*.

APPENDIX D

TABLE D-2

QUARTERLY PRICE INDEXES FOR U.S. IMPORTS
(1923 = 100)

		Crude Food- stuffs	Manufactured Foodstuffs	Crude Materials	Semi- manufactures	Manufactured Products
1924	I	103	103	103	97	94
	II	119	94	99	98	95
	III	119	74	95	94	99
	IV	141	83	96	95	102
1925	I	155	66	104	100	104
	II	145	70	120	101	105
	III	142	61	119	99	106
	IV	143	55	135	101	106
1926	I	147	56	139	100	105
	II	149	58	122	101	101
	III	146	57	104	99	98
	IV	140	62	106	100	96
1927	I	141	71	102	101	94
	II	134	71	100	100	96
	III	133	67	100	98	96
	IV	134	65	95	97	99
1928	I	143	63	100	96	99
	II	148	66	94	94	100
	III	150	60	90	93	103
	IV	143	54	81	93	103
1929	I	142	52	85	95	101
	II	144	54	86	100	94
	III	138	53	83	97	88
	IV	128	54	83	96	87

Tables D-3 to D-7 show the list of commodities included in our interpolating indexes, the extent to which they cover the commodities in the Commerce indexes, and the extent to which they cover all of the commodities in each economic class. Notes to these tables indicate differences in composition between the Commerce indexes and ours and describe peculiarities and inadequacies in the individual commodity data.

TABLE D-3
 VALUE OF COMMODITIES IN NBER INTERPOLATING INDEXES, CRUDE FOODSTUFFS
 (in thousands of dollars)

	1923	1924	1925	1926	1927	1928	1929
A. NBER covered items							
Wheat	19,229	15,590	19,343	19,553	15,344	22,040	16,219
Bananas	19,739	22,074	29,693	31,684	34,269	35,381	36,048
Cocoa or cacao beans	33,807	29,425	38,246	42,749	56,816	47,205	49,493
Coffee from Brazil	116,086	158,007	184,793	199,663	164,773	189,839	178,356
Coffee from Colombia	37,325	49,255	54,915	74,279	65,585	69,592	78,811
Coffee from Venezuela	8,569	12,844	13,364	12,829	9,621	12,190	13,799
Coffee from Mexico	6,177	5,070	7,049	7,206	6,162	10,193	7,858
Tea from UK	5,482	7,384	9,334	8,173	8,267	8,534	8,162
Tea from British East Indies	7,947	8,466	9,249	9,143	8,680	9,015	8,739
Tea from Japan	9,172	6,202	6,456	6,898	5,890	5,250	5,152
B. Total of covered commodities	263,533	314,317	372,442	412,177	375,407	409,239	402,637
C. Total of items in Commerce							
index	279,865	328,276	399,882	445,139	412,316	440,469	432,506
D. Total crude foodstuffs	363,032	424,873	494,800	539,818	504,686	549,891	538,560
B. as % of C.	94.2	95.7	93.1	92.6	91.0	92.9	93.1
B. as % of D.	72.6	74.0	75.3	76.4	74.4	74.4	74.8

APPENDIX D

NOTES TO TABLE D-3

Commerce indexes include the following additional items:

1924-29: cream, fresh; milk, fresh; fresh water fish and eels; halibut, fresh or frozen; lobsters, not canned; beans, dried; potatoes, white or Irish; turnips; onions; grapes; coconuts in the shell; walnuts, not shelled; cloves, unground; pepper, unground, white.

1925-1929: smelts, fresh or frozen; tuna fish, fresh or frozen; tomatoes, natural state.

1926-1929: chestnuts.

Commerce excludes coffee from Venezuela and Mexico.

As indicated, the NBER indexes divide tea by country instead of using total tea as Commerce does. This was done because of large and persistent differences among teas imported from the three countries, apparently due to differences in grade or type of tea and possibly to differences in transport cost.

Unit values for bananas, which are used in both Commerce and NBER indexes, do not inspire much confidence. They remained quite stable from 1925 through 1929 while the BLS price series for bananas of a specific size and country of origin, at New York, fell by more than a quarter. Furthermore, the import unit values differ among themselves in both level and movement. There are several plausible explanations for these differences. A letter from the BLS suggests that changes in the unit value reflect changes in the average size of bunches of bananas, since prices are in terms of dollars per bunch. A letter from the Commerce Dept. points out this possibility and the additional fact that bananas imported from foreign branches or subsidiaries of American firms have often "been declared at arbitrarily fixed prices for a good many years."

Despite large differences in the levels of unit values, by country of origin, the total unit value gives a fairly good representation of the individual country unit value series.

TABLE D-4
 VALUE OF COMMODITIES IN NBER INTERPOLATING INDEXES, MANUFACTURED FOODSTUFFS
 (in thousands of dollars)

	1923	1924	1925	1926	1927	1928	1929
A. NBER covered items							
Canned and preserved meats	1,295	1,697	1,189	2,743	4,311	6,644	11,433
Canned meats		959	8,576	10,348	12,176	12,833	10,130
Cheese from Italy	10,427	8,906	5,571	5,218	5,938	5,963	6,051
Cheese from Switzerland	5,687	4,809	1,548	1,349	1,414	1,758	1,934
Cheese from France	1,588	1,400	3,451	4,500	5,235	5,139	5,521
Sardines	2,581	4,490	3,112	3,770	3,784	5,042	5,112
Crabmeat	2,299	1,493	4,076	4,082	5,306	5,198	9,005
Canned tomatoes	1,716	2,320	15,656	13,901	17,577	14,951	16,408
Olive oil	12,218	12,585	246,008	232,530	258,158	207,026	209,277
Sugar (cane)	380,090	363,513	6,342	7,709	6,470	5,869	6,437
Almonds, shelled	5,613	5,855	6,636	5,688	6,454	4,210	4,944
Walnuts, shelled	4,219	4,868	6,109	4,429	5,104	8,019	7,398
Wheat by-products	2,989	4,968					
B. Total of covered commodities	430,722	416,904	308,274	296,267	331,927	282,652	293,650
		416,166					
C. Total of items in Commerce index	445,002	434,921	330,624	320,036	358,930	309,638	322,226
D. Total manufactured foods	530,208	521,600	433,246	417,817	450,849	405,815	423,622
B. as % of C.	96.8	95.9	93.2	92.6	92.5	91.3	91.1
B. as % of D.	81.2	79.9	71.2	70.9	73.6	69.7	69.3

APPENDIX D

NOTES TO TABLE D-4

Commerce indexes include the following additional items:

1924-29: beef, fresh; veal, fresh (beef and veal combined, 1924-25); butter; lobsters, canned; currants; dates; coconut meat, desiccated or prepared, free; coconut meat, desiccated or prepared, dutiable.

1925-29: egg yolk, dried; egg albumen, dried; tomato paste.

1929: pork hams; pork shoulders; bacon; herring, pickled or salted.

As indicated, NBER indexes separate cheese by country, whereas Commerce has a total cheese series.

Commerce separates wheat by-products into those of "direct importation" and those "withdrawn from bonded mills" for 1926-29; it uses the combined series only for 1924-25.

Commerce separates olive oil into "packages less than 40 lbs." and "packages 40 lbs. or over;" it separates free cane sugar from dutiable. We did not follow Commerce on this last breakdown because it is an artificial distinction created by the tariff act rather than one based on differences in the type or grade of commodity. The shift brought about by the tariff differential from lower priced (in country of origin) Cuban sugar to higher priced (in country of origin) Philippine sugar represented a rise in the price paid by the United States rather than a change in taste.

TABLE D-5
 VALUE OF COMMODITIES IN NBER INTERPOLATING INDEXES, CRUDE MATERIALS
 (in thousands of dollars)

	1923	1924	1925	1926	1927	1928	1929
A. NBER covered items							
Cattle hides, wet salted (over 25 lbs.)	39,895	22,240	23,353	19,863	37,085	57,456	39,819
Goat and kid skins, dry or dry-salted	32,845	18,444	31,103	35,643	32,058	37,050	42,878
Sheep and lamb skins	17,587	16,039	23,459	18,791	16,148	20,791	21,905
Coney and rabbit furs				24,403	26,314	20,270	19,611
Rubber, crude or milk of	185,060	174,231	429,705	505,818	339,859	244,855	240,966
Copra	13,477	12,857	18,081	23,513	20,641	22,778	24,195
Flaxseed	48,957	30,038	39,688	41,383	38,059	31,245	46,549
Tobacco leaf for cigar wrappers	18,134	15,100	15,077	14,747	12,438	13,630	15,750
Cigar leaf (filler), unstemmed	11,544	11,315	8,067	7,266	6,460	5,765	5,010
Cigar leaf (filler), stemmed	12,609	14,911	14,244	15,395	13,719	13,996	13,883
Cigarette leaf	13,773	33,134	33,281	22,519	41,207	20,614	18,072
Cotton, long staple	17,163	23,201	20,500	18,582	19,624	14,178	17,687
Cotton, short staple	32,280	25,396	32,275	27,657	26,044	28,620	35,646
Jute	10,235	7,235	11,997	13,968	11,319	8,773	8,058
Sisal and henequen	10,923	16,274	23,329	21,762	18,219	19,533	21,088
Manila or abaca	13,785	14,345	18,195	18,282	13,138	9,588	13,496
Carpet wool, dutiable: On the skin or in the grease and washed and scoured	23,820	30,555				22,807	27,476
On the skin or in the grease only		24,011	29,795	16,119	22,402		
Carpet wool, free: On the skin or in the grease and washed and scoured	2,484	3,619	4,688	3,400	2,217	3,097	4,424
On the skin or in the grease only		2,574					
Clothing wool: On the skin or in the grease and washed and scoured	11,406	8,129	8,376	5,163	5,657	7,450	6,453
On the skin or in the grease only		5,104					
Combing wool: On the skin or in the grease and washed and scoured	89,181	48,393					
On the skin or in the grease only		44,900	79,132	64,798	37,451	30,814	31,266
Raw silk from Japan	275,874	285,923	317,753	328,903	334,160	318,124	356,122
Raw silk from China	83,395	26,131	54,339	50,118	49,775	45,949	61,597

Crude petroleum from:						
Venezuela		1,585	6,870	14,946	21,275	32,609
Colombia		4,740	7,264	13,559	17,210	18,490
Netherlands W. Indies		64,646	9,690	14,229	27,370	12,165
Mexico		75,407	46,778	30,442	19,400	11,388
All countries	53,882	73,842	13,452	10,757	11,589	15,358
Copper ore	11,735	12,807				
B. Total of covered commodities	1,030,044	924,159				
		910,052	1,325,421			
		1,320,985	1,350,480			
C. Total items in Commerce index	1,139,743	1,051,584	1,502,487	1,207,927	1,094,167	1,161,961
D. Total crude materials	1,407,000	1,258,000	1,370,541	1,370,541	1,257,495	1,351,774
B. as % of C.	90.4	87.9	88.2	87.1	88.1	87.0
B. as % of D.	73.2	73.5	75.9	75.3	75.5	74.6

Commerce includes the following additional items:

1924-29: Cattle hides, dry or dry-salted; kip skins, wet-salted; calf skins, wet-salted; horse, colt, and ass hides, wet-salted; bones, hoofs, and horns, unmanufactured; mother of pearl; chicle, crude; gum arabic or senegal; cinchona bark or other from which quinine may be extracted; pyrethrum flowers; licorice root; castor beans; sugar beet seed; bulbs, hyacinth; vegetable ivory; flax, unmanufactured, hatched; flax, unmanufactured, all other; hemp, unmanufactured; kapok;istle or tampico; logs of fir, spruce, or western hemlock; cork wood or bark, unmanufactured; pulpwood, rough; pulpwood, peeled; rags for paper stock; anthracite coal; bituminous coal; china clay or kaolin; pyrites or sulphide of iron; iron ore; manganese ore (duttiable); chrome ore or chromite; aluminum bauxite, crude; copper concentrates; lead ore and matte; lead bullion and base bullion; nickel ore and matte; Kaimite; manure salts. 1925-29: guano. 1927-29: platinum grains, nuggets, sponge, and scrap. 1928-29: furs, beaver. 1929: furs, fitch; furs, kolinski; furs, weasel; carnauba wax.

NBER index includes only carpet, clothing, and combing wool on the skin or in the grease, 1925-29, while Commerce combines these with corresponding wools washed and scoured. In 1924, both series use the combinations. The NBER index separates carpet wool, free, from carpet wool, dutiable, throughout.

NBER uses raw silk from China and raw silk from Japan as separate commodities. Commerce uses total raw silk.

Instead of the division by country for crude petroleum, Commerce uses total crude petroleum throughout as does NBER for 1924-25. The total petroleum series was separated by country of origin, because the unit values moved very differently from changes in domestic petroleum prices and from several of the country import unit value series. It seemed possible that these differences could be caused by shifts among the sources of petroleum, since there were some substantial differences in the level of unit values that were at least partly due to differences in specific gravity.

TABLE D-6
 VALUE OF COMMODITIES IN NBER INTERPOLATING INDEXES, SEMIMANUFACTURES
 (in thousands of dollars)

	1923	1924	1925	1926	1927	1928	1929
A. NBER covered items							
Bristles, sorted, bunched, or prepared	10,444	8,515	8,233	7,680	6,969	6,576	8,327
Shellac	22,955	13,139	10,164	10,515	10,395	10,210	12,789
Chinese wood oil or nut oil (tung oil)	13,397	11,092	11,386	9,148	11,810	13,419	14,972
Coconut oil, free	13,009	17,288	19,650	22,088	22,900	23,061	29,552
Palm oil	9,339	7,002	11,040	10,112	11,040	11,067	17,500
Rayon yarns, threads, or filaments	6,738	2,295	8,171	9,051	13,664	10,902	12,147
Sawed boards, planks, and deals—softwood	57,011	48,333	50,431	48,776	43,180	35,409	36,520
Wood pulp, mechanically ground	9,297	7,190	8,517	8,278	5,962	5,443	6,246
Chemical wood pulp:							
sulphite, unbleached	26,548	30,082	31,542	37,032	34,263	32,587	35,329
sulphite, bleached	22,246	21,006	22,528	23,678	24,225	23,368	25,339
sulphate (kraft pulp) unbleached	15,229	15,915	18,257	21,193	20,684	21,171	20,519
Diamonds, cut but not set	52,020	47,268	49,621	51,362	40,736	42,396	42,010
Pig iron	9,005	3,741	7,951	7,709	2,254	2,232	2,398
Ferromanganese and other manganese alloys	8,605	4,055	6,533	4,138	3,405	—	—
Aluminum metal, scrap, and alloys	8,518	6,307	10,180	17,108	15,316	7,736	8,973
Unrefined copper	56,564	59,462	48,870	56,101	51,954	67,595	104,306
Refined copper	19,120	18,556	13,831	23,336	13,105	12,634	23,757
Nickel, manufactures of	5,564	5,136	—	—	—	—	—
Nickel, alloys in pigs, ingots, and other forms	—	4,950	6,541	7,857	7,721	12,346	16,448
Tin in bars, blocks, and pigs	61,092	68,953	95,121	104,793	100,865	86,983	91,839
Dead or creosote oil	10,071	13,464	10,973	11,720	15,437	13,928	10,119
Sodium nitrate	41,956	47,169	52,531	42,781	30,132	36,991	34,913
B. Total of covered commodities	478,728	455,968	502,071	534,456	486,017	476,054	554,003
C. Total items in Commerce index	501,049	487,603	548,686	582,543	541,524	550,449	634,532
D. Total semimanufactures	720,729	655,887	768,947	804,333	749,801	762,832	885,051
B. as % of C	95.5	93.5	91.5	91.7	89.7	86.5	87.3
B. as % of D	66.4	69.5	65.3	66.4	64.8	62.4	62.6

APPENDIX D

NOTES TO TABLE D-6

Commerce includes the following additional items:

1924-29: potassium carbonate; potassium hydroxide (caustic potash); sodium cyanide; lithopone and zinc pigments, including zinc oxide and leaded zinc; ammonium sulphate; calcium cyanide; bone ash, dust, and meal; chloride of potash, crude; potassium sulphate, crude; sole leather; calf and kip upper leather; goat and kid leather; cod oil and cod-liver oil (combined, 1924-28 and separately for 1929); casein or lactarene; camphor, crude; quebracho extract; cotton yarns, bleached, dyed, etc.; wool noils; poles, telegraph, telephone, etc.; sawed boards and lumber, hardwood; cork waste and shavings; marble, onyx, and breccia, in blocks; cement, hydraulic; steel ingots; tinplate, terneplate and taggers' tin; antimony, liquidated, regulus; coal tar colors, dyes, etc.; arsenious or white arsenic; tartaric acid; argols and wine lees.

1925-29: potassium chlorate and perchlorate; olive oil, sulphured or foots.

1926-29: iodine, crude.

1927-29: calf and kip lining leather; glycerin, crude; ferromanganese and other manganese alloys.

1928-29: platinum ingots, bars, etc.

1929: perilla oil; asbestos, mill fiber; asbestos, stucco and other.

Commerce excludes the following items: bristles, sorted, bunched, or prepared; coconut oil, free; and rayon yarns, threads, or filaments.

TABLE D-7
 VALUE OF COMMODITIES IN NBER INTERPOLATING INDEXES, MANUFACTURED PRODUCTS
 (in thousands of dollars)

	1923	1924	1925	1926	1927	1928	1929
A. NBER covered items							
Women's and children's gloves in leather	6,772	6,389	7,352	8,764	10,367	10,982	16,432
Cigars and cheroots, free	5,543	4,692	5,133	5,047	4,142	4,190	3,341
Cigars and cheroots, dutiable	3,716	3,383	4,331	3,309	3,742	3,350	3,111
Cotton knit gloves	4,034	4,247	5,488	6,514	6,544	8,230	5,809
Burlaps	66,971	59,396	85,028	82,238	67,249	80,087	77,377
Flax, hemp, and ramie, plain woven fabrics less than 9½ oz. per sq. yd.	6,344	9,769	6,618	3,925	4,942	4,842	5,671
Other woven fabrics, flax chief value	10,161	15,372	11,578	9,764	9,411	7,523	7,390
Woolens weighing over 4 oz. per sq. yd.		17,140	17,353	16,766	16,992	14,169	13,977
Woolens and worsteds over 4 oz. per sq. yd.	19,155	18,778					
Carpets, rugs, oriental, axminster, etc.:							
from Persia	4,371	4,585	6,059	7,356	6,845	8,275	7,906
from China	3,264	4,578	5,410	5,485	4,042	2,960	2,983
Laths	9,332	10,152	10,608	9,748	7,250	6,322	3,562
Shingles	9,812	9,328	9,992	8,907	6,693	7,657	6,850
Standard newsprint	98,021	101,297	103,717	123,982	131,489	139,433	144,493
Gasoline and naphtha	14,859	13,135	15,978	24,553	22,773	31,516	43,335
B. Total of covered commodities	262,355	265,101	294,645	316,358	302,481	329,536	342,237
C. Total items in Commerce index	325,445	337,151	368,816	394,986	385,871	408,641	442,701
D. Total finished manufactures	771,299	749,346	794,316	876,628	878,597	906,173	993,508
B. as % of C	80.6	78.6	79.9	80.1	78.4	80.6	77.3
B. as % of D	34.0	35.4	37.1	36.1	38.4	36.4	34.4

APPENDIX D

NOTES TO TABLE D-7

Commerce includes the following additional items:

1924-29: footwear with textile uppers, from Czechoslovakia; footwear with textile uppers, from Japan; camphor, refined, and camphor, synthetic (combined, 1924; separate, 1925-29); citronella and lemon grass oil; cotton sewing thread; cotton cloth, bleached; cotton cloth, printed, dyed, colored, etc.; jute bags or sacks; flax fabrics, 4 to 12 oz. per square yard; handkerchiefs, linen, not embroidered or of lace; handkerchiefs, of lace or embroidered; binding twine; wool hosiery; silk bolting cloths; silk pile fabrics; Kraft wrapping paper (combined with "all other wrapping paper" in 1924); pulp board in rolls; cigarette paper, books, etc.; plate glass; flat wire and steel strip n.e.s.; nails (nails and screws after 1925); electric lamps other than carbon; quinine sulphate; firecrackers; soap, castile; golf balls; other balls for games; watches and watch movements; tooth brushes.

1924-26: table damask and manufactures.

1925-29: geranium oil; worsted fabrics over 4 oz. per square yard; tracing cloths; menthol; soap, toilet.

1927-29: china and porcelain table and kitchen ware, domestic and household, from Germany; same, from Japan; earthenware crockery, and stoneware, table, toilet, and kitchen ware, domestic and household, from U.K.; same, from Japan; barbed wire; glycerine, refined.

Commerce excludes: cigars and cheroots, free; cigars and cheroots, dutiable.

The NBER index separated carpets and rugs from Persia and China because the increase in unit value of total carpets and rugs seemed to arise from a shift in type from Chinese and other lower priced rugs to the more expensive Persian rugs.

Cotton cloth was omitted from the NBER interpolating index because the import unit values, even those for imports from the U.K. alone, moved so differently from both U.S. and U.K. prices, and because there were such large differences among the import unit value changes for the various countries of origin.

Silk fabrics, broad, except pile fabrics were not used in the NBER index because the steep decline in their unit values would have caused the index to fall steadily relative to the Commerce index. On the other hand, gasoline, naphtha, etc. were added to the NBER index, despite great disparities in the unit value movements of the country-of-origin components, and between the total and the components, in order to give the interpolating series a shape closer to that of the Commerce index.

We omitted watches and watch movements from the NBER index because our study of the earlier data showed that quality changes were often the predominant causes of the unit value changes in the total group.

It is clear that the index for this group is the least satisfactory of the five. The coverage is low, never rising above 40 per cent, and more than half of the coverage is provided by two items, burlap and newsprint, which could be considered semimanufactures, and were in fact removed from the manufactured group in the Federal Reserve Bank study, *The Pattern of United States Import Trade Since 1923*, by John H. Adler, Eugene R. Schlesinger, and Evelyn Van Westerborg.