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## APPENDICES

## APPENDIX I

### SECTION I

#### THE CONSTRUCTION OF INDEX NUMBERS OF PHYSICAL VOLUME OF PRODUCTION, 1901-1913

The index numbers of physical output given in Chapter I are based, in the first instance, upon annual data relating to the production of raw materials and of manufactured goods in the United States. Descriptions of the individual series employed are given in Appendix V. These series, reduced to relatives on the year 1909 as base, have been weighted by value of product, for raw materials, and by 'value added', for manufactured goods, weights being based on 1909 values. (These weights have been modified in a few cases, as is explained below.) Arithmetic means of these weighted relatives provide the unadjusted annual group index numbers. The base of the index numbers has been shifted to 1901 for purposes of presentation.

The commodities included in the major groups are shown in the table on the two following pages.

The weights given to the raw non-ferrous metals (copper, lead, gold, etc.) are not the values of the *refined* products in 1909, but estimates of the value of the ore before smelting and refining. These estimates have been made by subtracting from the values of the refined products the values added in the process of smelting and refining, as given by the Census of Manufactures. A similar estimate has been made for cement. All crops have been weighted by the full value of product. Raw animal products have been weighted by value of product less estimated values of the feed used in their production. This adjustment approximates what may be called 'value added' in the production of animal products, and avoids the duplication involved in counting the feed crops twice.

In general, imputed weights have not been used in combining the series representing processed goods. In a few instances, however, where given series adequately represent further processing operations, weights have been revised to increase the degree of representativeness of the sample. Thus mill consumption of cotton has been taken to represent simple cotton manufactures, and has been weighted by the total 'value added' in these industries. A similar procedure has been followed in securing the weights for the series relating to the production of other textile products and to the output of iron and steel. On the other hand,

COMMODITIES USED IN CONSTRUCTION OF ANNUAL  
INDEX NUMBERS OF PRODUCTION, 1901-1913

Commodity	Products of American farms	Products other than those of American farms	Foods	Non-foods	Articles of human consumption	Articles of capital equipment	Non-durable goods	Semi-durable goods	Durable goods
<i>Raw Materials</i>									
Iron ore .....	...	x	...	x	...	x	...	...	x
Zinc .....	...	x	...	x	...	x	...	...	x
Lead .....	...	x	...	x	...	x	...	...	x
Copper .....	...	x	...	x	...	x	...	...	x
Gold .....	...	x	...	x	x	...	...	...	x
Silver .....	...	x	...	x	x	...	...	...	x
Anthracite coal..	...	x	...	x	x	...	x	...	...
Bituminous coal..	...	x	...	x	x	...	x	...	...
Crude petroleum..	...	x	...	x	x	...	x	...	...
Natural gas .....	...	x	...	x	x	...	x	...	...
Cement, total ...	...	x	...	x	...	x	...	...	x
Barley .....	x	...	x	...	x	...	x	...	...
Oats .....	x	...	x	...	x	...	x	...	...
Corn .....	x	...	x	...	x	...	x	...	...
Wheat .....	x	...	x	...	x	...	x	...	...
Hay .....	x	...	x	x	x	...	x	...	...
Potatoes .....	x	...	x	...	x	...	x	...	...
Cotton .....	x	...	...	x	x	...	...	x	...
Tobacco .....	x	...	x	...	x	...	x	...	...
Flaxseed .....	x	...	...	x	x	x	...	x	...
Apples .....	x	...	x	...	x	...	x	...	...
Sugar, domestic..	x	...	x	...	x	...	x	...	...
Cottonseed .....	x	...	x	...	x	...	x	...	...
Cattle, total									
slaughter .....	x	...	x	...	x	...	x	...	...
Sheep, total									
slaughter .....	x	...	x	...	x	...	x	...	...
Swine, total									
slaughter .....	x	...	x	...	x	...	x	...	...
Egg receipts ...	x	...	x	...	x	...	x	...	...
Wool .....	x	...	...	x	x	...	...	x	...
<i>Processed Goods</i>									
Flour, wheat ...	x	...	x	...	x	...	x	...	...
Sugar, total									
supply .....	x	x	x	...	x	...	x	...	...
Cattle receipts ..	x	...	x	...	x	...	x	...	...
Sheep receipts ..	x	...	x	...	x	...	x	...	...
Hog receipts ...	x	...	x	...	x	...	x	...	...
Pig iron .....	...	x	...	x	...	x	...	...	x
Steel ingots and castings .....	...	x	...	x	...	x	...	...	x
Steel rails .....	...	x	...	x	...	x	...	...	x
Copper consumption .....	...	x	...	x	...	x	...	...	x
Lead consumption	...	x	...	x	...	x	...	...	x

COMMODITIES USED IN CONSTRUCTION OF ANNUAL  
INDEX NUMBERS OF PRODUCTION, 1901-1913—Continued

Commodity	Products of American farms	Products other than those of American farms	Foods	Non-foods	Articles of human consumption	Articles of capital equipment	Non-durable goods	Semi-durable goods	Durable goods
<i>Processed Goods—cont.</i>									
Zinc consumption	...	x	...	x	...	x	...	...	x
Gold used in manufactures and arts .....	...	x	...	x	x	...	...	...	x
Silver used in manufactures and arts .....	...	x	...	x	x	...	...	...	x
Cotton, mill consumption .....	x	...	...	x	x	...	...	x	...
Wool consumption	x	x	...	x	x	...	...	x	...
Silk imports, raw .....	...	x	...	x	x	...	...	x	...
Cigars .....	x	...	x	...	x	...	x	...	...
Tobacco and snuff	x	...	x	...	x	...	x	...	...
Cigarettes .....	x	...	x	...	x	...	x	...	...
Lime .....	...	x	...	x	x	...	...	...	x
Common brick sold	...	x	...	x	x	x	...	...	x
Cement, total ..	...	x	...	x	...	x	...	...	x
Cottonseed consumption .....	x	...	x	...	x	...	x	...	...
Coke, total .....	...	x	...	x	...	x	x	...	...
Zinc and lead pigments .....	...	x	...	x	x	x	...	x	...
Railroad passenger cars .....	...	x	...	x	...	x	...	...	x
Railroad freight cars .....	...	x	...	x	...	x	...	...	x
Vessels built ...	...	x	...	x	...	x	...	...	x
Motor vehicles..	...	x	...	x	x	...	...	...	x
Fermented liquors	x	...	x	...	x	...	x	...	...
Distilled spirits.	x	...	x	...	x	...	x	...	...

certain series have been reduced in weight because of the exceptionally high coverage of the statistical records (as for series relating to the production of liquors, spirits and tobacco products) or because the industry showed an exceptionally high rate of growth and its inclusion, fully weighted, would have distorted the index (as in the case of automobiles). These series have been given weights based upon the relation of 'value added' in the industries they represent to the 'value added' in all manufacturing industries.

In several cases, series have been included in both groups of a classification. Thus, refined sugar is placed in the group 'products of American farms' with a weight equal to one-fifth of its total weight and in the group 'products other than those of American farms' with

a weight of four-fifths, this division corresponding approximately to the amounts of sugar refined from the raw product raised in the United States and from raw sugar imported. Hay fed to work-animals has been considered a non-food, and hay fed to meat and dairy stock has been treated as a food, the same series appearing in both groups with appropriate weights. Since flaxseed is used in the making of paints, it is included in both 'articles for capital equipment' and 'articles for human consumption'. Bituminous coal and natural gas have also been placed in both these groups, because they are used in industries manufacturing capital equipment and consumption goods.

Index numbers for all commodities and for groups, derived by combining the original series, are given below. For raw materials the index numbers cover the years 1901-1914. Indexes for all manufactured groups include entries for the year 1899, to permit later correction by the use of census materials.

Index numbers measuring production changes in the various classifications of raw materials are identical with the indexes given in the text of Chapter I. The above preliminary index numbers for manufactured goods differ from those in Chapter I. Correction is necessary because of the inadequate coverage of the measurements derived from directly available statistics of manufacturing output. The mode of correction is explained below.

In combining the elementary group index numbers to secure measurements for broader groups, additional weighing factors are introduced. Here it is necessary to use 'imputed' weights, i.e., weights based not upon the values of the goods actually included in the enumeration

## ANNUAL INDEX NUMBERS OF PRODUCTION (UNCORRECTED)

1901=100

Year	All raw materials	All processed goods	All commodities
1899		88	
1901	100	100	100
1902	119	111	115
1903	115	113	114
1904	124	106	115
1905	127	127	127
1906	135	137	136
1907	126	140	133
1908	130	116	123
1909	131	139	135
1910	137	146	142
1911	134	139	136
1912	151	158	155
1913	139	167	153
1914	149	155	152

## ANNUAL INDEX NUMBERS OF PRODUCTION (UNCORRECTED)—Continued

1901 = 100

Year	Products of American farms		Products other than those of American farms		All products of American farms	All other products
	Raw	Processed	Raw	Processed		
1899		92		84		
1901	100	100	100	100	100	100
1902	121	107	104	116	117	114
1903	114	111	118	114	113	115
1904	125	108	120	104	120	107
1905	126	118	137	137	123	137
1906	134	122	143	154	130	152
1907	121	125	159	157	122	158
1908	128	119	146	112	125	118
1909	127	126	164	154	126	155
1910	131	126	176	168	130	170
1911	128	128	174	151	128	154
1912	146	134	187	184	142	185
1913	130	140	198	196	133	196
1914	143	142	186	170	142	173

  

Year	Foods		Non-foods		All foods	All non-foods
	Raw	Processed	Raw	Processed		
1899		89		88		
1901	100	100	100	100	100	100
1902	124	104	110	115	119	113
1903	116	107	112	116	114	115
1904	122	106	128	106	118	113
1905	128	112	125	135	125	132
1906	134	117	136	148	130	144
1907	122	119	135	151	121	146
1908	125	119	141	114	124	122
1909	131	117	133	151	128	146
1910	135	120	142	160	131	155
1911	125	130	154	144	126	147
1912	148	130	157	173	144	168
1913	129	135	160	184	130	177
1914	141	135	164	166	139	166

## ANNUAL INDEX NUMBERS OF PRODUCTION (UNCORRECTED)—Continued

1901 = 100

Year	Articles of human consumption		Articles of capital equipment		All articles of human consumption	All articles of capital equipment
	Raw	Processed	Raw	Processed		
1899		92		82		
1901	100	100	100	100	100	100
1902	119	111	115	113	116	113
1903	114	114	120	110	114	111
1904	124	111	119	97	119	100
1905	126	124	141	133	125	134
1906	134	126	152	158	130	157
1907	124	129	163	160	126	161
1908	129	122	143	104	126	110
1909	129	137	170	143	133	147
1910	134	137	181	163	135	166
1911	132	138	173	140	135	145
1912	148	148	198	176	148	179
1913	135	157	207	184	145	188
1914	146	162	182	143	153	149

  

Year	Non-durable goods		Semi-durable goods		Durable goods		All non-durable goods	All semi-durable goods	All durable goods
	Raw	Processed	Raw	Processed	Raw	Processed			
1899		89		96		82			
1901	100	100	100	100	100	100	100	100	100
1902	121	105	112	118	110	113	116	115	113
1903	117	107	103	123	110	110	114	115	110
1904	123	106	137	116	114	99	117	125	100
1905	130	113	111	137	134	133	124	126	133
1906	134	119	136	135	144	157	129	135	156
1907	127	121	115	139	146	159	125	129	158
1908	129	119	135	123	134	107	126	128	110
1909	135	119	104	156	160	147	130	135	149
1910	139	122	118	148	167	168	134	135	168
1911	129	131	157	136	158	148	130	145	149
1912	152	132	140	152	176	187	146	147	186
1913	136	137	142	161	182	199	137	153	198
1914	145	135	160	169	166	164	142	166	164

of commodities of a given type, but upon the aggregate value of production of the entire class of goods of this type. Thus the group 'raw American farm products' was weighted by the value of *all* raw products of American farms, and combined with the group 'processed American farm products', weighted by the value added in the fabrication of all American farm products, to give the group 'products of American farms, raw and processed'. The weights imputed to the various groups are as follows.

(In units of \$10,000,000)

	<i>Weight</i>		<i>Weight</i>
Total production .....	1617	Total raw materials.....	764
Raw materials .....	764	Farm .....	647
Processed goods .....	853	Mineral .....	117
Products of American farms... 918		Products other than those of American farms .....	699
Raw .....	647	Raw .....	117
Processed .....	271	Processed .....	582
Articles of human consumption. 1297		Articles of capital equipment... 320	
Raw .....	710	Raw .....	54
Processed .....	587	Processed .....	266
Foods .....	618	Non-foods .....	999
Raw .....	484	Raw .....	280
Processed .....	134	Processed .....	719
Non-durable goods .....	892	Semi-durable goods .....	297
Raw .....	629	Raw .....	94
Processed .....	263	Processed .....	203
Durable goods .....	428		
Raw .....	41		
Processed .....	387		

Data appearing in the text (p. 40) indicate that the growth of production among manufacturing industries for which statistics of physical volume are not available was more rapid during pre-war years than was the increase in the output of goods for which quantity statistics are published. As regards manufacturing production, index numbers constructed directly from data of quantities produced appear definitely to understate the true rate of growth. Correction is necessary.

The first step in the correction was the modification of group index numbers constructed from census materials, stepping these up in the manner described on pages 39-43 to secure closer approximations to the changes in physical output occurring among all manufacturing industries falling in the given classes. The index numbers thus secured for 1899,

1904, 1909 and 1914 were taken as fixed points. Entries for inter-censal years were secured by arithmetic interpolation based on the annual index numbers of production for the corresponding commodity groups. Because of the greater stability of the corrected index numbers (stability due to wider coverage) the amplitude of the annual fluctuations was reduced somewhat in securing the final interpolated values.<sup>1</sup>

The index numbers thus secured were accepted as final estimates for groups represented by fairly large samples of manufactured goods and showing relatively stable production trends. Such groups included products of American farms, consumption goods, foods, non-durable and semi-durable goods. Index numbers for other groups were secured by subtracting the corrected complementary group index numbers from the corrected all commodities index.<sup>2</sup> For example, index numbers for processed non-foods were secured by subtracting properly weighted

<sup>1</sup> The following table will make the procedure clearer.

ILLUSTRATION OF METHOD OF INTERPOLATION IN DERIVING INDEX NUMBERS OF MANUFACTURING PRODUCTION FOR INTER-CENSAL YEARS

(1) Year	(2) Unadjusted annual index 1899=100	(3) Corrected census index 1899=100	(4) Adjustment factor (ratio of census index to annual average)	(5) Annual adjustment factor (straight- line inter- polation)	(6) Provisional inter-censal estimate (2) × (5)	(7) Final production estimates	
						1899 =100	1901 =100
1899	100.0	100.0	1.0000	1.0000	100.0	100	—
1901	113.3			1.0342	117.2	117	100
1902	126.2			1.0514	132.7	131	112
1903	127.6			1.0685	136.3	135	115
1904	120.3	130.6	1.0856	1.0856	130.6	131	112
1905	144.0			1.0775	155.2	153	131
1906	155.8			1.0694	166.6	163	139
1907	158.8			1.0612	168.5	166	142
1908	131.1			1.0531	138.1	144	123
1909	157.9	165.0	1.0450	1.0450	165.0	165	141
1910	165.7			1.0569	175.1	173	148
1911	157.2			1.0688	168.0	169	144
1912	179.1			1.0807	193.6	192	164
1913	189.1			1.0926	206.7	202	173
1914	176.0	194.4	1.1045	1.1045	194.4	194	166

The advantage of this method of interpolation lies in the fact that the inter-censal estimates are tied at both ends to the census averages. Unless this is done, discrepancies in the trends of the two series may give rise to an unknown bias in the interpolated values. In some cases the procedure followed has resulted in the inter-censal estimates failing to preserve the direction of the movement shown by the annual index numbers. Wherever this has been true an additional adjustment has been made.

The entries in column (7) are the final estimates after reduction in the amplitude of the swings in the annual averages.

<sup>2</sup> This procedure avoids the direct use of small, inadequate samples in the 'stepping up' process described in the text. The assumptions underlying that method are stronger when applied to all commodities and to the more homogeneous groups. The method employed insures consistent averages throughout.

index numbers for processed foods from the corrected index of aggregate manufacturing production. By similar processes, index numbers of physical production for processed commodities not originating on American farms, for processed articles intended for use in capital equipment, and for processed durable goods were secured. In some cases further minor corrections were made in reconciling these derived index numbers with those secured directly.

DATA RELATING TO DEGREE OF COVERAGE OF INDEX NUMBERS OF PRODUCTION, BY GROUPS <sup>a</sup>

(Actual data in units of \$10,000,000)

	Total	Products of American farms	Products other than those of American farms	Articles of human consumption	Articles of capital equipment	Foods	Non-foods	Non-durable goods	Semi-durable goods	Durable goods
<i>Manufactured goods</i>										
Total 'value added' reported in Census of Manufactures, 1909 ..	853	271	582	587	266	134	719	263	203	387
'Value added' by industries represented in annual index numbers <i>b</i> ..	213	100	113	136	77	62	151	65	63	85
Percentage coverage of annual index numbers	25	37	19	23	29	46	21	25	31	22
'Value added' by industries represented in index numbers based on census data <i>c</i> .....	255	81	174	178	77	43	212	73	74	108
Percentage coverage of census index numbers	30	30	30	30	29	32	29	28	36	28
<i>Raw materials</i>										
Total value of raw materials, 1909 (farm and mineral products) <sup>d</sup> ...	764	647	117	710	54	484	280	629	94	41
Value of commodities represented in index numbers .....	679	566	113	626	53	450	229	563	77	39
Percentage coverage of index numbers	89	87	97	88	98	93	82	90	82	95

<sup>a</sup> The estimates of the aggregate value of production for the various groups are subject to error, particularly those relating to goods destined for human consumption and for use as capital equipment. The latter grouping includes products utilized in the production of capital equipment, such as bituminous coal (50 per cent of the value of bituminous coal mined in 1909 has been included in the estimate of the aggregate value of raw products destined for capital equipment). For this reason this group may not be considered a sub-classification of all durable goods.

<sup>b</sup> These entries are the weights used in the construction of the annual index numbers. Some degree of imputation is involved. In certain cases this tends to increase the aggregate 'value added', in others to reduce it.

<sup>c</sup> The index numbers given in the text are averages into which three industries (lumber, petroleum and motor vehicles) enter with reduced weights. The full 'value added' of these industries is included in this table.

<sup>d</sup> Value of farm products (less the value of crops fed to livestock) plus value of raw mineral products.

In securing final group index numbers for the major classes covering both raw and processed goods, the indexes for manufactured goods derived by the above procedure were combined with corresponding index numbers of raw material production, weights being imputed on the basis of 1909 values. This final process yields the index numbers given in Chapter I.

No correction of the original index numbers of raw material production was attempted. The degree of coverage of the available annual data was much greater for such materials, about 89 per cent of the value of all raw materials being represented in the series used.

The degree of coverage of the various samples is shown by the entries in the table on page 568.

## SECTION 2

### THE CONSTRUCTION OF INDEX NUMBERS OF PHYSICAL VOLUME OF PRODUCTION, 1922-1929

#### *General Index Numbers of Physical Output*

The general index numbers of physical output for the post-war period, as given in Chapter VI, have been constructed in a manner similar to that described in the first section of this appendix. However, new annual index numbers of the output of raw agricultural products and of manufactured goods were not computed; instead, the index of the volume of net agricultural production as constructed by the Bureau of Agricultural Economics<sup>1</sup> and the Federal Reserve Board index of manufacturing production<sup>2</sup> were used. In constructing the new index of raw mineral production and in combining the various groups, use was made of arithmetic means of weighted relatives on the average of 1923 and 1925 as base, weights being computed from values for these years.

Descriptions of the series and details as to methods of weighting and averaging used in the index of agricultural production and in the index of manufactures are given in the references cited. A new index of the output of raw minerals was constructed in order to cover this field of production more adequately than is possible with the monthly indexes published.<sup>3</sup> As in the pre-war index, weights are based on the estimated value of the *raw* minerals, before any processing.

The classification of the various series entering into the three an-

<sup>1</sup> *Yearbook of Agriculture, 1931*, p. 974.

<sup>2</sup> *Federal Reserve Bulletin*, February, 1927, pp. 100-103.

<sup>3</sup> The following commodities were used: Iron ore, copper, lead, zinc, gold, silver, bituminous coal, anthracite coal, petroleum, natural gas, sand, crushed stone and cement materials.

nual indexes of the production of agricultural products, minerals, and manufactured goods was similar to that described above for the pre-war indexes, and need not be repeated. The uncorrected annual index numbers of general production, with 1922 as base, follow.

ANNUAL INDEX NUMBERS OF PRODUCTION (UNCORRECTED)

Year	Volume of net agricultural production (Bureau of Agricultural Economics)	Production of raw minerals (National Bureau of Economic Research)	Production of all raw materials	Production of manufactured goods (Federal Reserve Board)	Total production
1922	100	100	100	100	100
1923	105	137	112	116	115
1924	110	130	115	108	111
1925	110	133	115	121	120
1926	116	144	122	124	124
1927	110	147	119	122	121
1928	116	146	122	129	127
1929	114	159	124	137	133

The following imputed weights (averages of 1923 and 1925 values) were used in combining the groups:

(In units of \$10,000,000)

Total production .....	4,217	Total raw materials.....	1,586
Raw materials .....	1,586	Farm .....	1,165
Processed goods .....	2,631	Mineral .....	421
Products of American farms..	1,830	Products other than those of American farms .....	2,387
Raw .....	1,165	Raw .....	421
Processed .....	665	Processed .....	1,966

Correction of the annual indexes of manufacturing production by indexes constructed from data in the Census of Manufactures was made in the same fashion as for the pre-war indexes.

#### *Index Numbers of Physical Output of Finished Products*

The various commodities entering into the index numbers of production of finished goods are listed in Chapter VI. As is there explained, the output of certain of these products is represented by the values rather than the quantities produced, adjustment for price changes being made where possible. Because of the general character of price changes during this period the use of value series tends to under-

estimate, rather than to over-estimate, the rate of growth of the physical volume of production.

The index numbers are weighted arithmetic means of relatives on the averages for the years 1923, 1925 and 1927 as base, with weights determined by the average value of output for these years. (Since only finished goods are included in these index numbers, the full values of the finished products are taken as weights.) In combining averages for the sub-groups imputed weights, based upon estimates of the aggregate values of the output of all goods falling into the particular classification, have been employed. No attempt was made to adjust these index numbers to the revised measurements of physical output of manufactured goods, as was done with the index numbers described in the preceding sections of this appendix.

Because of the inclusion of certain raw products requiring no further fabrication, such as vegetables and fruits, and because of the omission of all semi-finished commodities, such as pig iron, steel, copper, cement and other building materials, the present index numbers of the output of finished goods are not comparable with index numbers of the usual type, measuring the production of manufactured goods.

## APPENDIX II

CLASSIFICATIONS OF COMMODITIES ENTERING INTO THE INDEX NUMBERS OF WHOLESALE PRICES CONSTRUCTED BY THE NATIONAL BUREAU OF ECONOMIC RESEARCH <sup>a</sup>

(The entries define the numbers of price quotations on the various commodities included in the several classifications for the year 1926. The commodities are those for which wholesale price quotations are currently published by the U. S. Bureau of Labor Statistics.)

Commodity	Prod-ucts origi-nating on Ameri-can farms	Prod-ucts other than those origi-nating on Ameri-can farms	Foods	Non-foods	Prod-ucers' goods	Con-sumers' goods	Goods enter-ing into capital equip-ment	Arti-cles of human con-sump-tion	Pro-ducers' goods des-tined for human con-sump-tion <sup>b</sup>	Farm prod-ucts	Animal prod-ucts	Forest prod-ucts	Mineral prod-ucts
All commodities .....	235	257	167	325	292	200	160	332	132	124	131	55	171
Raw materials .....	83	59	71	71	108	34	35	107	73	47	47	4	44
Aluminum .....		1		1	1		1						1
Antimony .....		1		1	1								1
Apples, fresh .....	3		3			3		3		3			3
Bananas .....		1	1			1		1		1			1
Barley .....	1		1		1			1		1			1
Beans .....	1		1			1		1		1			1
Coal:													
Anthracite .....		7		7		7		7					7
Bituminous .....		10		10		10	10						10
Cocoa beans .....		1						1		1			



## APPENDIX II—Continued

Commodity	Prod- ucts origi- nating on Ameri- can farms	Prod- ucts other than those origi- nating on Ameri- can farms	Foods	Non- foods	Prod- ucers' goods	Con- sumers' goods	Goods enter- ing into capital equip- ment	Arti- cles of human con- sump- tion	Pro- ducers' goods des- tined for human con- sump- tion	Farm crops	Animal prod- ucts	Forest prod- ucts	Mineral prod- ucts
<i>Raw materials—cont.</i>													
Oranges .....	1		1			1		1		1			
Peanuts .....	1		1			1		1		1			
Pepper .....		1	1			1		1		1			
Petroleum, crude ...		3		3			1	3	3				3
Phosphate rock ....		1		1		1				5			1
Potatoes .....	5		5	1		1	1	5					
Quicksilver .....		1		1		1							1
Rubber .....		2		2		2		2	2			2	
Rye .....	1		1			1		1	1	1			
Sand .....		1		1		1							1
Seeds:													
Alfalfa and Timothy	2		2			2		2	2	2			
Clover .....	1		1			1		1	1	1			
Flaxseed .....	1		1			1		1	1	1			
Silk, raw .....		3		3		3		3	3		3		
Steel, scrap .....		1		1		1		1					1
Stone, crushed .....		1		1		1		1					1
Sugar, raw .....	1		1			1		1	1	1			



## APPENDIX II—Continued

Commodity	Prod-ucts origi-nating on Ameri-can farms	Prod-ucts other than those origi-nating on Ameri-can farms	Foods	Non-foods	Pro-ducers' goods	Con-sumers' goods	Goods enter-ing into capital equip-ment	Arti-cles of human con-sump-tion	Pro-ducers' goods des-tined for human con-sump-tion	Farm crops	Animal prod-ucts	Forest prod-ucts	Mineral prod-ucts
<i>Manufactured goods—</i>													
cont.													
Campbor .....		1		1	1			1	1			1	
Carpets .....	3			3		3		3			3		
Castor oil .....	1		1		4	1		1	4	1			
Cattle feed .....	4		4	4	4		4	4	4	4			4
Cement .....		4			4			2			2		
Cheese .....	2		2		4			2	4				4
Coal tar colors.....		4		4	4			4					4
Coke .....		5		5	5		5		4				5
Copper:													
Sheet .....		1		1	1		1						1
Wire .....		1		1	1		1						1
Corn meal .....													
Cotton goods:	2		2			2		2					
Blankets .....	1			1		1		1		2			
Denims .....	1			1		1		1					1
Drillings .....	1			1		1		1					1
Duck .....	1			1		1		1					1



## APPENDIX II—Continued

Commodity	Prod-ucts origi-nating on Ameri-can farms	Prod-ucts other than those origi-nating on Ameri-can farms	Foods	Non-foods	Pro-ducers' goods	Con-sumers' goods	Goods enter-ing into capital equip-ment	Arti-cles of human con-sump-tion	Pro-ducers' goods des-tined for human con-sump-tion	Farm crops	Animal prod-ucts	Forest prod-ucts	Minera prod-ucts
<i>Manufactured goods—</i>													
cont.													
Gas, manufactured . . . . .		1		1		1		1					1
Glass . . . . .		4		4			4						4
Gloves . . . . .	1			1		1		1			1		
Glucose . . . . .	1		1					1	1	1			
Glycerine . . . . .	1			1				1	1				
Harness . . . . .				1				1			1		
Hollow tile . . . . .		1		1				1					1
Iron and steel:													
Bar iron . . . . .		2		2		2	2						2
Bars . . . . .		1		1		1	1						1
Nails, wire . . . . .		1		1		1	1						1
Pipe . . . . .		2		2		2	2						2
Steel billets . . . . .		1		1		1	1						1
Steel bars . . . . .		1		1		1	1						1
Steel plates . . . . .		1		1		1	1						1
Steel rails . . . . .		2		2		2	2						2
Steel sheets . . . . .		2		2		2	2						2



## APPENDIX II—Continued

Commodity	Prod- ucts origi- nating on Ameri- can farms	Prod- ucts other than those origi- nating on Ameri- can farms	Foods	Non- foods	Pro- duc- ers' goods	Con- sum- ers' goods	Goods enter- ing into capital equip- ment	Arti- cles of human con- sump- tion	Pro- duc- ers' goods des- tined for human con- sump- tion	Farm prod- ucts	Animal prod- ucts	Forest prod- ucts	Mineral prod- ucts
<i>Manufactured goods—</i>													
cont.													
Lumber:													
Cypress .....	1	1	1	1	1	1	1					1	
Douglas fir .....	5	5	5	5	5	5	5					5	
Gum sap .....	1	1	1	1	1	1	1					1	
Hemlock .....	2	2	2	2	2	2	2					2	
Maple .....	2	2	2	2	2	2	2					2	
Oak .....	2	2	2	2	2	2	2					2	
Pine .....	9	9	9	9	9	9	9					9	
Poplar .....	1	1	1	1	1	1	1					1	
Spruce .....	2	2	2	2	2	2	2					2	
Lath .....	2	2	2	2	2	2	2					2	
Shingles .....	2	2	2	2	2	2	2					2	
Meat:													
Beef, cured .....	2	2	2			2		2					
Beef, fresh .....	9	9	9			9		9					
Lamb .....	1	1	1			1		1					
Mutton .....	1	1	1			1		1					
Pork, cured .....	5	5	5			5		5					
Pork, fresh .....	6	6	6			6		6					



## APPENDIX II—Continued

Commodity	Prod- ucts origi- nating on Ameri- can farms	Prod- ucts other than those origi- nating on Ameri- can farms	Foods	Non- foods	Pro- ducers' goods	Con- sumers' goods	Goods enter- ing into capital equip- ment	Arti- cles of human con- sump- tion	Pro- ducers' goods des- tined for human con- sump- tion	Farm crops	Animal prod- ucts	Forest prod- ucts	Mineral prod- ucts
<i>Manufactured goods—</i>													
cont.													
Silver .....		1		1	1		1						1
Slate .....		1		1	1		1						1
Soap, laundry .....	2			2		2		2					
Soda:													
Ash .....		1		1	1			1	1				1
Bicarbonate .....		1		1	1			1	1				1
Caustic .....		1		1	1			1	1				1
Silicate .....		1		1	1			1	1				1
Starch, laundry .....	1			1		1		1		1			
Stoves .....		3		3		3		3					3
Sugar .....	1			1		1		1		1			
Tableware:													
Dinner sets .....		2		2		2		2					2
Pitchers, glass ...		1		1		1		1					1
Tallow .....	1			1		1		1					
Tea .....		1		1		1		1					
Tobacco .....	2			2		2		2					



## APPENDIX III

INDEX NUMBERS <sup>a</sup> OF WHOLESALE PRICES BY GROUPS  
1891-1902, 1902-1913, 1913-1931

Year	All commodities	Raw materials	Manufactured goods	Products originating on American farms			Products other than those originating on American farms		
				Total	Raw	Processed	Total	Raw	Processed
1891	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1892	95.0	92.6	95.7	94.7	90.0	96.0	95.3	95.1	95.3
1893	94.1	90.9	95.0	95.3	88.8	97.3	92.7	93.1	92.6
1894	85.1	80.9	86.4	85.8	78.5	87.9	84.4	83.3	84.7
1895	83.5	79.3	84.7	82.5	75.3	84.6	84.5	83.4	84.9
1896	80.1	72.5	82.5	76.0	62.1	80.4	84.7	84.1	84.9
1897	79.8	76.5	80.7	77.8	70.2	80.0	81.9	83.1	81.5
1898	83.1	83.1	83.1	81.7	79.8	82.2	84.6	86.3	84.1
1899	90.4	93.2	89.7	84.5	82.6	85.1	97.1	104.7	94.9
1900	98.1	99.2	97.7	91.9	88.3	92.9	105.0	110.8	103.2
1901	96.3	99.0	95.5	91.7	93.4	91.3	101.3	104.6	100.3
1902	100.2	107.1	98.3	96.8	100.9	95.7	103.8	113.3	101.1
1902	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1903	100.6	100.3	100.7	98.5	94.8	99.5	102.8	105.7	102.0
1904	99.7	98.8	100.0	100.1	100.6	99.9	99.3	97.2	100.0
1905	102.3	100.8	102.8	101.4	98.7	102.1	103.4	102.9	103.6
1906	107.8	104.1	108.8	106.5	98.0	108.7	109.2	110.3	108.9
1907	113.3	110.4	114.2	113.2	105.2	115.4	113.5	115.7	112.8
1908	105.7	101.6	106.9	109.3	104.6	110.6	101.9	98.8	102.8
1909	108.2	107.8	108.3	114.3	114.8	114.2	101.9	101.5	102.0
1910	112.5	110.5	113.0	119.2	118.0	119.6	105.6	103.7	106.1
1911	108.9	111.1	108.3	115.1	117.5	114.4	102.7	105.3	101.9
1912	112.6	118.7	110.9	118.6	127.2	116.5	106.4	111.1	105.1
1913	112.7	112.0	112.9	116.7	112.8	117.7	108.5	111.3	107.7
1913	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1914	98.2	98.7	97.8	101.2	102.4	100.5	94.8	92.7	95.5
1915	102.8	104.2	102.0	104.2	106.9	102.7	101.1	99.9	101.6
1916	129.1	127.9	129.4	123.3	125.4	122.0	135.3	132.1	136.3
1917	171.2	174.4	169.4	175.8	182.0	172.2	166.4	162.9	167.1
1918	195.7	188.9	198.4	208.8	206.3	210.1	183.4	164.7	189.3
1919	203.4	196.1	206.1	223.8	221.9	224.9	184.6	161.4	192.1
1920	227.9	202.2	239.5	230.7	212.5	241.9	224.8	186.6	237.5
1921	150.6	125.0	162.7	143.4	124.1	155.9	157.7	126.4	168.2
1922	148.3	133.2	154.8	145.8	136.9	151.4	150.2	127.4	157.5
1923	156.4	141.5	163.0	151.9	143.5	157.0	160.6	138.6	167.9
1924	153.5	140.5	159.2	153.4	146.3	157.8	153.5	132.7	160.2
1925	159.7	152.9	162.4	165.4	159.4	169.0	154.2	143.9	157.4
1926	153.4	143.7	157.5	154.3	144.1	160.5	152.2	142.9	155.0
1927	148.5	140.1	152.0	153.2	144.5	158.7	143.8	134.0	146.8
1928	150.3	144.0	153.1	160.3	155.8	163.1	141.6	128.6	145.6
1929	148.3	140.7	151.5	155.9	150.4	159.2	141.4	127.7	145.7
1930	132.2	118.0	138.4	134.9	121.5	142.9	129.5	113.0	134.9
1931	109.7	92.5	117.5	105.6	89.8	115.6	113.2	96.3	118.9

<sup>a</sup> See bottom of opposite page.

## INDEX NUMBERS OF WHOLESALE PRICES

Year	Producers' goods			Consumers' goods			Consumers' goods, processed	
	Total	Raw	Pro-cessed	Total	Raw	Pro-cessed	Foods	Non-foods
1891	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1892	95.0	92.7	96.2	95.0	91.9	95.3	93.4	96.7
1893	92.7	89.6	94.4	95.5	95.8	95.4	96.3	94.8
1894	83.2	79.2	85.4	87.1	87.1	87.1	86.6	87.5
1895	82.6	79.1	84.6	84.4	80.1	84.9	85.0	84.8
1896	80.3	73.5	84.1	80.0	69.2	81.3	77.6	84.1
1897	79.5	76.6	81.1	80.0	76.3	80.5	79.6	81.1
1898	84.0	84.3	83.8	82.3	79.2	82.6	85.8	80.5
1899	95.8	97.3	95.1	85.2	80.5	85.7	88.4	83.8
1900	103.5	103.3	103.6	92.6	85.9	93.5	94.8	92.5
1901	99.7	100.4	99.3	92.8	94.3	92.7	95.5	90.7
1902	104.9	110.4	102.0	95.5	96.1	95.5	100.2	92.3
1902	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1903	100.4	99.4	100.9	100.7	103.4	100.4	95.3	103.8
1904	97.3	96.1	98.0	102.2	108.9	101.5	95.0	105.8
1905	101.6	100.0	102.4	103.1	103.8	103.0	98.1	106.3
1906	107.6	103.8	109.5	108.0	105.1	108.3	101.1	113.0
1907	113.7	113.1	113.9	113.0	101.9	114.3	105.5	120.2
1908	102.5	100.8	103.3	109.1	104.3	109.6	105.8	112.1
1909	106.0	108.2	104.9	110.5	106.5	110.9	108.2	112.6
1910	111.1	112.0	110.7	113.8	105.3	114.8	112.9	116.0
1911	106.1	109.9	104.3	111.9	115.4	111.5	110.3	112.3
1912	109.5	116.0	106.5	115.8	128.4	114.5	115.1	114.1
1913	109.7	111.7	108.7	115.9	113.1	116.1	114.7	117.1
1913	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1914	96.3	97.8	95.4	100.8	101.8	100.5	102.0	99.0
1915	104.4	107.6	102.3	100.5	94.2	101.8	104.0	99.3
1916	138.6	128.9	144.9	116.4	115.5	116.5	116.0	117.2
1917	180.1	179.5	180.2	158.6	156.9	158.8	163.7	153.1
1918	198.8	193.9	201.8	190.6	172.0	194.7	195.1	194.1
1919	200.1	195.3	203.1	207.7	197.4	209.9	206.6	213.4
1920	227.2	201.1	245.0	228.3	203.9	233.5	207.4	267.4
1921	143.0	117.7	161.0	162.5	152.1	164.7	146.9	187.2
1922	143.9	127.3	154.8	154.8	153.9	154.8	140.2	173.1
1923	155.4	137.2	167.6	158.1	156.9	158.2	139.0	183.4
1924	150.0	134.5	160.4	158.9	162.1	158.0	141.0	179.7
1925	152.9	144.4	158.5	169.9	184.2	167.1	157.7	178.3
1926	146.2	135.0	153.6	164.5	176.1	162.1	153.4	172.4
1927	141.4	132.8	147.0	159.4	167.1	157.7	150.6	166.2
1928	143.1	136.8	147.3	161.5	169.7	159.8	152.8	168.3
1929	140.8	131.4	146.9	160.2	174.8	157.2	149.8	165.9
1930	123.5	108.5	133.6	145.9	154.2	144.1	134.4	155.9
1931	102.5	84.8	114.9	121.1	122.7	120.6	107.5	136.9

a Computed by the National Bureau of Economic Research from data collected by the United States Bureau of Labor Statistics. These are geometric averages of relative prices, unweighted, except that prices of important commodities have been represented by more than one series (see Appendix II). See p. 589 for a statement giving the number of price series included in each commodity group.

## INDEX NUMBERS OF WHOLESALE PRICES

Year	Goods entering into capital equipment			Articles of human consumption			Producers' goods destined for human consumption		
	Total	Raw	Processed	Total	Raw	Processed	Total	Foods	Non-foods
1891	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1892	95.4	95.1	95.4	94.8	91.7	95.8	94.5	90.4	97.6
1893	91.3	87.6	92.3	95.2	92.2	96.2	94.7	93.5	95.5
1894	82.8	77.8	84.1	86.1	82.0	87.4	83.7	83.1	84.2
1895	82.8	78.2	84.0	83.8	79.7	85.1	82.5	76.0	87.6
1896	83.3	77.9	84.7	78.9	70.7	81.6	76.4	66.6	84.6
1897	79.2	76.9	79.8	80.0	76.4	81.2	80.0	71.1	87.3
1898	81.8	77.9	82.8	83.7	85.0	83.3	87.0	80.0	92.5
1899	99.5	106.6	97.7	86.9	88.8	86.3	91.0	82.6	97.8
1900	107.3	113.3	105.8	94.4	94.5	94.4	98.7	89.5	106.1
1901	102.1	104.2	101.5	94.0	97.1	93.0	96.5	93.7	98.7
1902	107.4	121.5	104.0	97.3	102.3	95.9	101.5	101.3	101.7
1902	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1903	101.6	103.0	101.3	100.1	99.3	100.4	98.7	93.0	103.4
1904	95.5	87.1	97.6	101.5	103.5	101.0	100.1	95.6	103.7
1905	102.7	95.2	104.5	102.2	102.9	102.0	100.1	95.1	104.1
1906	112.2	107.7	113.3	105.9	102.8	106.9	101.4	95.3	106.4
1907	117.3	113.4	118.3	111.7	109.4	112.4	108.7	107.7	109.4
1908	101.8	91.3	104.5	107.4	105.6	107.9	103.5	104.3	102.8
1909	102.6	91.3	105.5	110.6	114.5	109.5	111.0	113.1	109.4
1910	108.4	92.7	112.6	114.2	117.7	113.2	115.1	120.5	111.0
1911	103.0	94.3	105.2	111.5	117.9	109.7	110.6	118.1	105.1
1912	106.0	99.6	107.6	115.5	126.5	112.4	114.7	126.4	106.3
1913	108.0	100.6	109.9	114.7	116.4	114.2	112.1	115.3	109.7
1913	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1914	93.2	93.1	93.2	100.2	100.2	100.2	99.6	103.3	97.0
1915	100.6	110.3	98.3	103.6	102.6	104.0	108.2	110.4	106.6
1916	135.8	144.6	133.4	126.4	123.6	127.7	141.5	124.8	154.2
1917	175.9	186.1	172.1	169.3	170.7	168.3	185.2	172.2	194.7
1918	189.6	184.7	190.5	198.8	190.2	202.9	210.4	196.7	220.2
1919	190.9	161.5	199.8	209.4	207.9	209.9	211.9	218.3	207.4
1920	237.2	199.6	248.7	224.1	202.6	235.3	218.6	205.1	228.1
1921	165.5	135.5	174.9	144.4	121.8	156.9	122.9	117.2	126.7
1922	158.7	137.3	165.1	143.9	131.8	150.0	130.3	122.0	136.3
1923	174.3	148.5	181.9	149.0	139.1	154.0	138.2	127.9	145.7
1924	164.2	137.6	172.4	149.2	141.4	152.9	137.4	134.0	139.7
1925	163.9	142.5	170.2	158.0	156.2	158.9	143.6	144.6	142.8
1926	161.8	143.1	167.2	149.9	143.7	152.9	132.1	135.5	129.7
1927	154.2	137.5	159.0	146.2	140.8	148.6	129.9	137.1	125.0
1928	152.8	133.3	158.4	149.8	147.4	150.8	135.1	146.3	127.6
1929	154.0	133.9	160.0	146.0	142.7	147.7	128.8	140.8	121.1
1930	141.4	123.3	146.7	128.3	115.9	134.6	107.1	115.9	101.6
1931	125.9	110.6	130.3	102.8	87.1	111.3	81.6	86.2	78.6

## INDEX NUMBERS OF WHOLESALE PRICES

Year	Farm crops			Animal products			Forest products		
	Total	Raw	Proc- essed	Total	Raw	Proc- essed	Total	Raw	Proc- essed
1891	100.0	100.0	100.0	100.0	100.0	100.0	100.0		100.0
1892	91.8	85.6	93.8	99.4	99.9	99.3	96.4		97.1
1893	90.9	84.4	93.0	102.5	101.1	103.1	94.5		94.7
1894	84.2	80.0	85.5	87.8	81.0	90.6	87.9		88.1
1895	80.9	72.1	83.8	85.2	83.9	85.6	88.1		87.9
1896	75.1	58.8	81.0	78.1	75.6	79.0	87.2		86.6
1897	76.0	64.8	79.8	81.8	84.0	81.0	84.9		84.0
1898	79.4	75.0	80.9	87.6	91.2	86.3	85.6		84.3
1899	81.9	76.9	83.5	92.2	98.4	90.0	94.8		93.5
1900	90.4	84.3	92.4	98.7	103.0	97.1	107.0		106.3
1901	90.3	91.3	90.0	96.8	98.0	96.4	100.8		100.6
1902	92.4	93.7	92.0	105.4	108.9	104.1	106.4		107.1
1902	100.0	100.0	100.0	100.0	100.0	100.0	100.0		100.0
1903	99.0	98.2	99.3	97.8	94.8	98.8	106.7		105.9
1904	103.4	106.6	102.5	94.9	93.8	95.3	109.9		108.3
1905	100.9	100.5	101.0	102.2	101.6	102.4	114.0		111.8
1906	104.4	98.2	106.3	109.1	105.5	110.3	123.4		121.6
1907	113.6	108.4	115.2	112.4	110.1	113.2	130.0		129.2
1908	108.1	106.3	108.7	107.3	101.5	109.4	119.0		119.0
1909	109.6	112.3	108.8	115.8	112.8	116.8	122.9		119.9
1910	114.8	117.3	114.0	119.8	115.1	121.5	131.9		127.7
1911	118.1	136.3	113.2	108.4	101.4	110.8	129.6		128.6
1912	119.1	143.2	112.7	117.2	113.6	118.4	129.3		128.6
1913	113.8	117.5	112.7	121.5	117.4	122.9	128.9		129.8
1913	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1914	101.1	101.7	100.9	100.0	100.5	99.5	95.4	85.1	96.4
1915	103.8	105.3	103.2	102.0	104.7	100.2	92.9	78.5	94.3
1916	122.9	127.2	120.6	121.2	122.1	120.5	112.3	107.8	112.8
1917	178.6	182.2	176.5	165.2	169.7	162.2	137.8	128.9	138.6
1918	211.2	197.7	220.6	197.7	199.6	196.3	156.2	102.9	163.2
1919	224.2	224.0	224.3	216.6	210.5	220.1	188.8	94.4	202.3
1920	237.5	225.0	245.8	213.1	188.7	229.7	267.2	124.5	288.2
1921	140.4	128.7	148.0	138.7	113.1	157.5	154.1	59.2	168.8
1922	142.1	135.5	146.4	142.9	131.3	150.5	156.2	52.8	172.9
1923	148.3	142.0	152.6	148.6	139.1	155.5	175.5	72.9	191.0
1924	154.3	152.4	155.6	145.9	135.7	153.1	156.5	60.2	171.1
1925	164.9	169.9	162.0	158.9	145.9	167.9	159.7	100.6	168.0
1926	152.0	154.6	150.6	150.6	133.3	162.3	152.0	83.2	161.6
1927	147.0	149.9	145.2	151.7	135.9	162.3	142.2	70.4	152.5
1928	149.5	153.9	147.1	161.0	150.5	168.2	137.8	53.4	150.6
1929	145.6	151.2	142.3	155.7	142.3	164.8	136.3	51.6	149.1
1930	126.4	125.0	127.3	132.1	110.0	147.4	120.2	39.1	133.1
1931	98.6	92.9	102.4	103.2	80.3	119.8	99.8	27.2	112.3

## INDEX NUMBERS OF WHOLESALE PRICES

Year	Mineral products			Foods			Non-foods		
	Total	Raw	Proc- essed	Total	Raw	Proc- essed	Total	Raw	Proc- essed
1891	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1892	95.3	94.8	95.4	91.4	89.1	92.7	96.6	95.7	96.7
1893	91.9	90.4	92.4	94.7	90.6	97.0	93.8	91.3	94.3
1894	83.3	81.4	84.0	85.1	81.8	86.9	85.1	80.1	86.2
1895	83.3	82.6	83.5	81.3	76.3	84.1	84.4	82.0	84.9
1896	84.5	84.3	84.5	71.6	62.5	77.0	84.2	82.7	84.5
1897	80.6	82.0	80.1	75.2	69.1	78.8	81.8	83.8	81.4
1898	83.1	84.0	82.8	82.2	79.3	83.8	83.5	86.6	82.9
1899	97.6	105.7	94.8	84.9	81.8	86.6	93.0	104.7	90.7
1900	103.7	111.1	101.1	91.3	87.7	93.3	101.2	110.5	99.3
1901	101.4	107.1	99.3	93.9	94.1	93.8	97.3	103.5	96.1
1902	104.4	120.8	98.9	98.9	100.0	98.4	100.7	113.7	98.2
1902	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1903	101.9	105.2	100.7	95.1	93.8	95.7	103.0	106.4	102.3
1904	95.5	93.4	96.2	96.5	99.7	94.9	101.1	98.1	101.7
1905	99.9	97.6	100.7	97.4	97.7	97.2	104.5	103.6	104.7
1906	105.6	106.1	105.5	99.4	95.9	101.3	111.5	111.9	111.4
1907	109.0	110.9	108.4	105.4	104.0	106.0	116.8	116.4	116.9
1908	97.5	96.5	97.9	104.8	102.7	106.0	106.0	100.6	107.1
1909	97.3	97.0	97.5	109.3	111.7	108.1	107.7	104.5	108.3
1910	99.1	96.6	100.0	114.1	117.3	112.5	111.8	104.7	113.2
1911	93.2	96.1	92.2	113.5	122.4	109.1	107.1	101.9	108.1
1912	97.4	101.5	96.0	120.6	134.4	114.0	109.3	106.4	109.9
1913	99.9	103.5	98.7	114.5	115.7	113.8	112.0	108.8	112.6
1913	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1914	94.8	93.7	95.1	102.4	103.1	102.0	95.8	93.9	96.2
1915	105.3	105.5	105.2	104.2	104.3	104.2	101.9	104.0	101.3
1916	148.0	139.7	150.5	119.0	122.0	116.8	135.1	135.1	135.1
1917	181.7	177.0	183.0	166.5	168.3	165.4	173.7	180.8	171.3
1918	195.6	179.0	201.3	192.7	188.8	195.9	197.5	188.9	199.7
1919	184.0	165.2	190.5	209.9	210.9	209.4	199.8	180.8	205.3
1920	223.0	203.7	229.5	206.4	204.7	207.9	240.6	198.7	253.5
1921	168.7	148.1	175.9	135.9	126.7	143.9	159.1	122.8	171.0
1922	155.8	146.7	158.7	134.8	129.9	138.9	156.0	136.5	161.7
1923	164.3	154.5	167.5	136.3	133.0	139.0	168.4	149.9	173.7
1924	158.6	147.2	162.6	140.4	139.8	141.0	161.1	140.7	167.1
1925	156.9	151.1	158.7	156.4	157.1	156.1	161.4	148.1	165.2
1926	156.7	153.1	157.7	149.5	147.5	151.3	155.5	139.3	160.3
1927	148.7	145.2	149.8	147.2	145.4	149.0	149.1	134.3	153.4
1928	147.3	141.5	149.2	152.2	153.1	151.7	149.6	134.7	153.8
1929	149.1	142.4	151.1	149.8	152.7	148.0	147.7	128.8	153.4
1930	140.1	133.4	142.3	129.7	126.4	132.4	133.6	109.7	141.0
1931	126.8	121.3	128.5	100.3	94.7	105.0	114.8	90.0	122.9

There are some variations in the numbers of price series included in the several commodity groups represented in the above table. Disregarding minor changes from year to year, the following summary indicates the size of the sample on which each group index number is based, in each of four major periods:

Commodity group	Number of price series included			
	1891-1902	1902-1913	1913-1926	1926-1931
All commodities .....	217	227	466	492
Raw materials .....	49	49	136	142
Manufactured goods .....	168	178	330	350
Products originating on American farms				
Total .....	111	118	226	235
Raw .....	24	24	83	83
Processed .....	87	94	143	152
Products other than those originating on American farms				
Total .....	106	109	240	257
Raw .....	25	25	53	59
Processed .....	81	84	187	198
Producers' goods				
Total .....	111	115	284	292
Raw .....	38	38	105	108
Processed .....	73	77	179	184
Consumers' goods				
Total .....	106	112	182	200
Raw .....	11	11	31	34
Processed .....	95	101	151	166
Foods .....	39	39	80	86
Non-foods .....	56	62	71	80
Goods entering into capital equipment				
Total .....	64	67	152	160
Raw .....	13	13	32	35
Processed .....	51	54	120	125
Articles of human consumption				
Total .....	153	160	314	332
Raw .....	36	36	104	107
Processed .....	117	124	210	225
Producers' goods destined for human consumption				
Total .....	47	48	132	132
Foods .....	20	21	54	54
Non-foods .....	27	27	78	78

Commodity group	Number of price series included			
	1891-1902	1902-1913	1913-1926	1926-1931
Farm crops				
Total .....	72	74	124	124
Raw .....	17	17	47	47
Processed .....	55	57	77	77
Animal products				
Total .....	47	52	122	131
Raw .....	13	13	47	47
Processed .....	34	39	75	84
Forest products				
Total .....	22	22	53	55
Raw .....	—	—	4	4
Processed .....	21	21	49	51
Mineral products				
Total .....	67	70	158	171
Raw .....	18	18	38	44
Processed .....	49	52	120	127
Foods				
Total .....	66	67	161	167
Raw .....	23	23	71	71
Processed .....	43	44	90	96
Non-foods				
Total .....	151	160	305	325
Raw .....	26	26	65	71
Processed .....	125	134	240	254

## APPENDIX IV

### SECTION I

#### LIST OF COMMODITIES INCLUDED IN INDEX NUMBERS OF PHYSICAL VOLUME OF MANUFACTURING PRODUCTION, 1899-1914

Based on Census of Manufactures

##### *Butter, Cheese, and Condensed Milk*

Butter  
Cheese <sup>1</sup>  
Condensed and evaporated milk  
Casein dried from skimmed milk  
Cream sold  
Skimmed milk sold

##### *Canning and Preserving: Fruits and Vegetables; Pickles, Preserves and Sauces*

Canned vegetables and soups <sup>2</sup>  
Canned fruits <sup>2</sup>  
Dried fruits <sup>1</sup>

##### *Flour-mill and Gristmill Products*

Wheat flour  
Rye flour and rye graham  
Corn meal and corn flour  
Buckwheat flour  
Bran and middlings, feed and offal  
Hominy and grits  
Barley meal

##### *Ice, Manufactured*

Ice

##### *Slaughtering and Meat Packing*

Fresh meat:  
Beef  
Veal  
Mutton and lamb  
Pork  
Edible offal and all other fresh meat  
Cured meat:  
Beef, pickled and other cured  
Pork, pickled and other cured  
Sausage and sausage casings

##### *Slaughtering and Meat-Packing—cont.*

Lard, oils, and fats:  
Lard, and lard compounds and sub-  
stitutes <sup>1</sup>  
Oleo oil  
Other oils <sup>3</sup>  
Cattle hides and calfskins  
Wool  
Fertilizers and fertilizer materials <sup>1</sup>

##### *Rice, Cleaning and Polishing*

Clean rice  
Polish  
Bran

##### *Sugar, Beet*

Sugar, beet  
Molasses

##### *Carpets and Rugs, other than Rag*

Axminster and Moquette  
Wilton and tapestry velvet  
Brussels  
Tapestry Brussels  
Ingrain carpet  
Ingrain art squares  
Smyrna rugs  
Other rugs <sup>4</sup>

##### *Cordage and Twine*

Rope and binder twine, exclusive of  
cotton rope (1899 and 1914 only)  
Rope, cable, and cordage:  
Manila hemp (1909 and 1914 only)  
Sisal and Henequen (1909 and 1914  
only)  
Cotton (1899, 1909 and 1914 only)

*Cordage and Twine*Rope, cable, and cordage—*cont.*

Jute and all other (1909 and 1914 only)

Twine, binder:

All or chiefly manila hemp (1909 and 1914 only)

All other<sup>1</sup> (1909 and 1914 only)

Twine, other than binder (1899, 1909 and 1914 only):

Cotton

Jute

Hemp

Flax

Other, including mixed<sup>1</sup>*Cotton Goods*

Woven goods:

Unbleached and bleached sheetings, shirtings and muslins

Ducks

Ginghams

Fancy weaves

Napped fabrics

Velvets, corduroys, plushes, etc.<sup>4</sup>

Bags and bagging

Mosquito netting and similar fabrics<sup>4</sup>

Tapestries

Other woven goods<sup>4</sup>

Yarns manufactured for sale

Thread

Twine

Cotton waste

*Hats, Fur-Felt*

Finished hats

Fur-felt hat bodies and hats in the rough

*Hats, Wool-Felt*

Finished hats

Wool-felt hat bodies and hats in the rough

*Jute and Linen Goods* (1899, 1909 and 1914 only)

Yarns for sale

Linen thread

Linen fabrics

Bags and bagging

Jute carpets and rugs

*Hosiery and Knit Goods*

Hosiery

*Hosiery and Knit Goods—cont.*

Shirts and drawers

Combination suits

Cardigan jackets, sweaters, etc.<sup>5</sup>

Shawls

Hoods, scarfs, etc.<sup>5</sup>

Gloves and mittens

Leggings

Boot and shoe linings

Jersey cloth and stockinette

Astrakhan and similar fabrics<sup>4</sup>

Yarns for sale

*Silk Goods*

Broad silks

Velvets

Plushes

Upholstery and tapestries<sup>6</sup>

Machine twist

Sewing and embroidery, fringe and floss silks<sup>1</sup>Organzine, and tram, for sale<sup>1</sup>

Spun silk, for sale

*Woolen and Worsted Goods*

All-wool woven goods:

Wool cloths, woolen overcoatings, dress-goods, etc.<sup>4</sup>Worsted coatings, overcoatings, dress-goods, etc.<sup>4</sup>

Flannels for underwear

Blankets

All other<sup>4</sup>

Union, or cotton mixed, woven goods

Flannels for underwear

Unions, tweeds, etc.<sup>4</sup>

Blankets

All other<sup>4</sup>

Cotton warp woven goods

Wool fillings, overcoatings, dress-goods, etc.<sup>4</sup>Worsted fillings, cassimeres, dress-goods, etc.<sup>4</sup>Linings, Italian cloths, and lastings<sup>4</sup>

Horse blankets

Carriage robes

All others<sup>4</sup>Upholstery goods and sundries—woolens, worsted and mohair<sup>4</sup>

Yarns for sale:

Woolen

Worsted

*Woolen and Worsted Goods*

- Yarns for sale—cont.
- Woolen, union or merino
- Worsted, union or merino
- All other <sup>1</sup>
- Worsted tops and slubbing
- Noils
- Waste

*Lumber and Timber Products*

- Lumber, softwoods and hardwoods <sup>7</sup>

*Turpentine and Rosin*

- Turpentine
- Rosin

*Paper and Wood Pulp*

- Newsprint
- Hanging papers
- Book paper
- Cover paper
- Fine paper
- Wrapping paper
- Boards, cardboard, etc.<sup>1</sup>
- Tissue paper
- Blotting paper
- Building papers
- All other paper <sup>1</sup>
- Wood pulp for sale <sup>1</sup>

*Explosives*

- Dynamite
- Nitroglycerin for sale
- Blasting and black gunpowder
- Other explosives <sup>1</sup>

*Fertilizers*

- Fertilizers complete and ammoniated
- Superphosphates, including concentrated phosphates, for sale
- Other fertilizers <sup>1</sup>

*Paint and Varnish*

- Colors (pigments) for sale <sup>1</sup>
- Paints in paste form <sup>1</sup>
- Mixed paints, ready for use <sup>3</sup>
- Water paints and kalsomines, dry or in paste <sup>1</sup>
- Varnishes and Japans <sup>3</sup>
- Fillers:
  - Liquid
  - Putty

*Salt*

- Salt
- Bromine
- Calcium chloride (1909 and 1914 only)

*Wood Distillation, not including Turpentine and Rosin*

- Wood alcohol:
  - Crude, for sale
  - Refined, for sale
- Acetate of lime, for sale
- Charcoal
- Turpentine (1904, 1909, and 1914 only)
- Tar, for sale (1909 and 1914 only)

*Coke, not including Gas-House Coke*

- Coke
- Gas
- Tar
- Ammonia and sulphate

*Gas, Manufactured, Illuminating and Heating*

- Gas for sale
- Coke for sale (except 1899)
- Tar for sale (except 1899)
- Ammonia liquors (1909 and 1914 only)

*Petroleum, Refining*

- Naphthas and lighter products (including gasoline)
- Illuminating oils
- Fuel oils
- Lubricating oils
- Residuum or tar, including liquid asphaltic road oils
- Greases
- Paraffin wax

*Boots and Shoes, other than Rubber (1899, 1904 and 1914 only)*

- Boots and shoes <sup>5</sup>
- Slippers
- Other footwear

*Gloves and Mittens, Leather*

- Gloves, mittens and gauntlets <sup>5</sup>

*Iron and Steel: Blast Furnaces*

- Pig iron, including spiegeleisen, ferroalloys, etc.<sup>1</sup>

*Iron and Steel: Steel Works and Rolling Mills*

- Unrolled steel (for sale or for transfer to other works of same company)
- Ingots
- Direct steel castings

*Iron and Steel: Steel Works and Rolling Mills—cont.*

- Partly finished rolled products (for sale or for transfer to other works of same company)
- Blooms, billets, slabs, bars, etc.<sup>1</sup>
- Muck and scrap bar
- Finished rolled products and forgings
- Rails (open-hearth and Bessemer)
- Structural shapes (not including plates used for making girders)
- Bars, spike and chain rods, bolt and nut rods, horseshoe bars and strips<sup>1</sup>
- Wire rods
- Plates or sheets, not elsewhere specified
- Black plates (or sheets) for tinning
- Skelp, flue, pipes, hoops, bands, and cotton ties
- Nail and tack plate
- Axles, rolled or forged
- Armor plates, gun forgings and ordnance
- Finished products, not elsewhere specified<sup>1</sup>

<sup>1</sup> Combined on basis of weight.<sup>2</sup> Combined on basis of number of cases.<sup>3</sup> Combined on basis of number of gallons.<sup>4</sup> Combined on basis of area.<sup>5</sup> Combined on basis of number.<sup>6</sup> Combined on basis of length.<sup>7</sup> Combined on basis of length, board measure.*Automobiles, including Bodies and Parts*

- Automobiles, all (1899 and 1914 only)
- Touring cars, roadsters, runabouts, closed cars, and all other passenger cars (1904, 1909 and 1914 only)
- Government, municipal, etc., cars (1904, 1909 and 1914 only)
- Business vehicles (merchandise) (1904, 1909 and 1914 only)
- Delivery wagons
- Trucks
- All other

*Motorcycles, Bicycles, and Parts*

- Motorcycles
- Bicycles

*Musical Instruments: Organs*

- Pipe organs
- Reed organs

*Musical Instruments: Pianos*

- Upright pianos
- Grand pianos

## SECTION 2

## LIST OF COMMODITIES INCLUDED IN INDEX NUMBERS OF PHYSICAL VOLUME OF MANUFACTURING PRODUCTION, 1914-1929

Based on Census of Manufactures

*Butter and Cheese*

- Butter, creamery
- Cheese, all kinds<sup>1</sup>
- Casein, dried (1914-1927 only)
- Whey butter (1927-1929 only)

*Canning and Preserving: Fish, Crabs, Shrimps, Oysters, and Clams*

- Canned fish, oysters, etc.<sup>2</sup>
- Cured fish (smoked, dried, salted and pickled, and boneless)<sup>1</sup>

*Canning and Preserving: Fruits and Vegetables; Pickles, Jellies, Preserves, and Sauces*

- Canned vegetables and soups <sup>3</sup>
- Canned fruits <sup>3</sup>
- Dried fruits <sup>1</sup>

*Chocolate and Cocoa Products (1923-1929 only)*

- Chocolate (except coatings):
  - Unsweetened
  - Sweet
  - Milk
- Chocolate coatings
- Cocoa, powdered:
  - In cans of 1 lb. or less
  - In cans of more than 1 lb.
  - In barrels and drums
- Cocoa butter

*Condensed and Evaporated Milk*

- Condensed and evaporated milk and buttermilk <sup>1</sup> (1914-1927 only)
- Condensed milk (1927-1929 only)
- Evaporated milk (1927-1929 only)
- Buttermilk, condensed and evaporated (1927-1929 only)
- Powdered whole milk, cream, and skim milk; and dried and powdered buttermilk <sup>1</sup> (1914-1927 only)
- Powdered milk, cream and skim milk (1927-1929 only)
- Dried and powdered buttermilk (1927-1929 only)
- Ice-cream mix (1927-1929 only)
- Sterilized milk (canned) (1927-1929 only)
- Sugar of milk (crude) (1927-1929 only)
- Dried casein (1927-1929 only)

*Corn Syrup, Corn Oil, and Starch (1923-1929 only)*

- Corn syrup and mixtures of corn syrup and other syrups <sup>1</sup> (1923-1927 only)
- Corn syrup, unmixed (1927-1929 only)
- Mixtures of corn and other syrups (1927-1929 only)
- Corn sugar

*Corn Syrup, Corn Oil, and Starch (1923-1929 only)—cont.*

- Corn oil, crude and refined <sup>1</sup> (1923-1927 only)
- Corn oil, crude (1927-1929 only)
- Corn oil, refined (1927-1929 only)
- Starch, total
- Corn-oil cake and meal
- Stock feed

*Flour and Other Grain-Mill Products*

- Wheat flour
- Rye flour
- Corn meal and corn flour
- Buckwheat flour
- Bran and middlings, feed and offal (1914-1927 only)
- Feed, screenings, etc. (1927-1929 only)
- Bran and middlings (1927-1929 only)

*Ice, Manufactured*

- Ice

*Slaughtering and Meat Packing, Wholesale*

- Fresh meat:
  - Beef
  - Veal
  - Mutton and lamb
  - Pork
  - Other fresh meat and edible offal
- Cured meat (pickled and other cured):
  - Beef
  - Pork, smoked and not smoked, and cooked hams
- Canned meat and canned sausage
- Sausage (not canned), meat puddings, headcheese, scrapple, etc., and sausage casings
- Lard
- Hides, skins and pelts:
  - Cattle hides
  - Calfskins
- Wool

*Rice Cleaning and Polishing*

- Clean rice
- Polish
- Bran

*Sugar, Beet*

- Sugar, beet
- Molasses

- Sugar, Cane, not including Products of Refineries*  
 Sugar  
 Molasses, other than blackstrap  
 Syrup
- Sugar Refining, Cane*  
 Refined sugar, total (1914-1927 only)  
 Refined sugar, hard (1927-1929 only)  
 Refined sugar, soft and brown (1927-1929 only)  
 Syrup, edible (1927-1929 only)  
 Blackstrap and non-edible syrup (1927-1929 only)  
 Refiners' syrup and blackstrap (1914-1927 only)
- Asphalted-Felt-Base Floor Coverings (1923-1929 only)*  
 Piece goods <sup>4</sup>  
 Rugs <sup>4</sup>
- Carpets and Rugs, Wool, other than Rag*  
 Carpets  
 Axminster  
 Wilton  
 Brussels  
 Tapestry Brussels  
 Tapestry velvet  
 Ingrain  
 Other <sup>4</sup>  
 Rugs made of sewed strips  
 Axminster  
 Wilton  
 Other <sup>4</sup>  
 Rugs woven whole  
 Axminster  
 Wilton  
 Tapestry velvet  
 Tapestry Brussels  
 Smyrna  
 Chenille  
 Wool and paper fiber  
 Other <sup>4</sup>
- Cordage and Twine*  
 Rope, cable and cordage  
 Manila hemp  
 Henequen  
 Sisal  
 Cotton (1919-1927 only)  
 Other  
 Twine  
 Binder
- Cordage and Twine*  
 Twine—cont.  
 Other than binder (1921, 1927 only)  
 Cotton (except 1921)  
 Flax (except 1921-1925)  
 Hemp (except 1921-1925)  
 Jute (except 1921-1925)  
 All other (except 1921)
- Cotton Goods*  
 Sheetings  
 Print cloth, voiles, cheese cloth, nainsooks, etc.<sup>4</sup> (1914, 1927 only)  
 Print cloth (except 1914)  
 Voiles (except 1914 and 1919)  
 Tobacco, cheese, butter, bandage cloth (except 1914)  
 Lawns, nainsooks, etc. (except 1914)  
 Duck, tire, ounce, and numbered (1914, 1927 only)  
 Tire cord and other fabrics (except 1914)  
 Numbered duck (except 1914)  
 Tire duck (except 1914)  
 Ounce duck (except 1914)  
 Napped fabrics  
 Blankets (except 1914)  
 Twills and sateens  
 Denims and ticks <sup>4</sup> (1914, 1927 only)  
 Denims (except 1914)  
 Ticks (except 1914)  
 Plushes, velvets, corduroys <sup>4</sup> (1914, 1927 only)  
 Plushes, velvets, velveteens (except 1914)  
 Corduroys (except 1914)  
 Drills  
 Towels, towelings, washcloths, etc. (except 1914)  
 Gingham  
 Bedspreads (except 1914)  
 Cottonades, cotton worsted (except 1914)  
 Cotton table damask (except 1914)  
 Sheet and pillow cases (except 1914)  
 Osnaburgs (except 1914 and 1919)  
 Pillow tubing  
 Mosquito netting and tarlatan  
 Cotton tapestries  
 Shirts <sup>4</sup> (1914, 1927 only)  
 Entirely cotton (except 1914)

*Cotton Goods*Shirtings—*cont.*

Silk and rayon striped (except 1914 and 1925)

Silk striped (1925, 1927 only)

Rayon striped (1925, 1927 only)

## Other woven goods

Cotton yarns, for sale

Thread

Twine

Cotton waste for sale

Batting, wadding, and mattress felts (except 1914)

Cotton card laps, roping, sliver, and rovings (except 1914)

*Felt Goods, Wool or Hair (1923-1927 only)*

## Felt cloths

Trimming and lining felts, polishing felts, etc.<sup>1</sup>*Hats, Fur-Felt*

Finished hats (1914-1927 only)

Made complete in plant (1927-1929 only)

Finished from purchased bodies (1927-1929 only)

Fur-felt hat bodies and hats in the rough (1914-1927 only)

Hat bodies, for sale as such (1927-1929 only)

*Hats, Wool-Felt*

Wool-felt hats (1914-1927)

Finished hats (1927-1929)

Wool-felt hat bodies and hats in the rough (1914-1927)

Hat bodies, for sale as such (1927-1929 only)

*Jute and Linen Goods*

Yarns for sale (principally jute yarns)

Linen thread

Linen woven goods

Jute bagging for baling cotton

"Other woven goods"

*Knit Goods*Hosiery (except infants' and athletic and golf hose)<sup>5</sup>Shirts and drawers<sup>6</sup>

Union suits

Sweaters, sweater coats, jerseys, etc.

*Knit Goods—cont.*

## Bathing suits

Scarfs and shawls

Headwear (except infants')

Gloves, all types

Cotton yarns for sale (except 1929)

Cotton waste for sale (except 1929)

*Lace Goods, Cotton*

Nottingham lace curtains

Nottingham lace-curtain nets

*Linoleum and Asphalted-Felt-Base Floor Coverings (1914-1923, 1927 only)*

Linoleum, total (1914 only)

Linoleum (1919-1923)

Floor coverings (1919-1923)

*Linoleum (1923-1929 only)*

Linoleum piece goods:

Plain

Printed

Inlaid

Cork carpet

Linoleum, rugs

*Oilcloth*

Oilcloth, enameled

Oilcloth, table, wall, and shelf (1914-1927)

Table and shelf (1927-1929 only)

Wall (1927-1929 only)

*Silk Manufactures*

Broad silks:

All-silk

Silk-mixed

Velvets

Plushes

Upholstery goods and tapestries

Threads and yarns for sale:

Organzine

Tram

Crepe twist (except 1914)

Spun silk

Machine twist

Sewing silk, embroidery, fringe, floss, etc.

*Woolen Goods*

Woven goods, total (1927-1929 only)

Suitings

All wool woolen (1914-1927)

All wool worsted (1914-1927)

*Woolen Goods*

## Woven Goods

Suitings—*cont.*

Wool and cotton mixed (1914-1927)

All other (1914-1927)

Domett flannels (1914-1927)

Blankets cotton-mixed (1914-1927)

Satinets and linseys (1914-1923, 1927 only)

Upholstery materials (1923-1927)

All other woven goods (1914-1927)

## Yarns for sale:

All wool (1914, 1919, 1927 only)

All wool woolen (except 1914-1919)

All wool worsted (except 1914-1919)

Wool and cotton mixed

Mohair and similar yarns

Noils and wool waste

*Wool Shoddy*

Recovered wool fiber (including carbonized rags)

*Worsted Goods*

Woven goods (total) (1927-1929 only)

## Suitings

All wool woolen (1914-1927)

All wool worsted (1914-1927)

Wool and cotton mixed (1914-1927)

All other (1914-1927)

Upholstery materials (1923-1927 only)

Other woven goods (1914-1927)

## Yarns for sale

All wool woolen

All wool worsted

Wool and cotton mixed (1914-1927 only)

All other

Tops and slubbing

Noils and wool waste

*Lumber and Timber Products*

Softwoods

Hardwoods

*Turpentine and Rosin*

Turpentine

Rosin

*Paper and Wood Pulp*

Newsprint, standard

Hanging papers

Poster, novel, news-tablet, lining, etc.<sup>1</sup>

Book paper (except body stock for coated paper)

Cover paper

Writing paper (fine)

Wrapping paper

Boards

Tissue paper

Absorbent paper

Building papers

All other paper<sup>1</sup>

Wood pulp, for sale (except 1929)

*Bone Black, Carbon Black, and Lampblack (except 1914)*

Carbon black

Bone black

Lampblack

*Explosives*

Dynamite

Permissible explosives

Nitroglycerin (not consumed where produced)

Blasting powder

Gunpowder

Smokeless powder (except 1914 and 1919)

Fuse powder (except 1914 and 1919)

All other explosives<sup>1</sup>*Fertilizers*

Fertilizers, complete, and ammoniated Superphosphates, including concentrated phosphates, for sale

Fish scrap

Potash superphosphates, bone meal, and other fertilizers<sup>1</sup> (1914-1927 only)

Potash superphosphates (1927-1929 only)

Bone meal (1927-1929 only)

Other fertilizers (1927-1929 only)

Sulphuric acid, for sale (except 1929)

*Oil, Cake, and Meal, Cottonseed*

Oil

Cake and meal

Hulls

Linters

- Oil, Cake, and Meal, Linseed (1923-1929 only)*  
 Oil  
 Cake and meal
- Paints and Varnishes*  
 Pigments (colors), for sale<sup>1</sup>  
 Paints in paste form  
 Mixed paints, ready for use  
 Water paints and kalsomines, dry and in paste form  
 Varnishes, japans and lacquers (including enamels)<sup>7</sup>  
 Fillers (except 1927-1929)  
 Liquid  
 Paste and dry<sup>1</sup>  
 Varnish stains (1927-1929 only)  
 Stains, other than varnish stains (1927-1929)  
 Putty  
 Bleached shellac
- Salt*  
 Salt  
 Bromine  
 Calcium chloride
- Soap*  
 Hard soaps, including granulated and powdered soap (1914-1927 only)  
 Hard soaps (1927-1929 only)  
 Toilet  
 Foot  
 Soap chips  
 Laundry white  
 Laundry yellow  
 Other hard soaps<sup>1</sup>  
 Granulated and powdered soap (1927-1929 only)  
 Soap powders (including cleansing and washing powders) (1927-1929 only)  
 Liquid soap (1927-1929 only)  
 Soft soap  
 Paste soap (1927-1929 only)  
 Special soap articles and soap base, for sale<sup>1</sup> (1927-1929 only)
- Tanning Materials, Natural Dyestuffs, Mordants and Assistants, and Sizes (1923-1929 only)*  
 Tanning materials (extracts: chestnut, oak, sumac, hemlock, quebracho)<sup>1</sup>
- Tanning Materials, etc.—cont.*  
 Natural dyestuffs<sup>1</sup>  
 Mordants<sup>1</sup> (except 1929)  
 Assistants<sup>1</sup>  
 Sizes<sup>1</sup>
- Wood Distillation and Charcoal Manufacture*  
 Methanol, crude, for sale  
 Methanol, refined  
 Acetate of lime  
 Rosin, wood  
 Charcoal, for sale  
 Tar, for sale  
 Turpentine, wood
- Coke, not including Gas-House Coke*  
 Coke, including screenings for sale<sup>1</sup>  
 Gas, for sale  
 Tar, for sale  
 Ammonia, NH<sub>3</sub> equivalent of all forms
- Gas, Manufactured, Illuminating and Heating*  
 Gas, for sale  
 Tar, for sale  
 Ammonium sulphate  
 Coke, and screenings and breeze, for sale
- Petroleum Refining*  
 Light products of distillation:  
 Gasoline  
 Naphtha and other light products of distillation<sup>7</sup>  
 Illuminating oils  
 Fuel oils, total  
 Liquid asphaltic road oils  
 Residuum or tar  
 Greases, total  
 Paraffin wax  
 Asphalt, other than liquid  
 Coke, petroleum  
 Acid oil (1927-1929 only)
- Rubber Products*  
 Tires and inner tubes:  
 Pneumatic  
 Automobile: casings  
 Automobile: inner tubes  
 Motorcycle and bicycle: casings and tubes  
 Solid and cushion—motor vehicle (except 1914)

*Rubber Products—cont.*

- Rubberized fabrics (1927-1929)
  - Automobile and carriage (1919-1927)
  - All other (1919-1927)
- Reclaimed rubber, for sale as such (except 1914)
- Rubber heels, for sale as such (except 1914)
- Rubber soles, including composition or fiber, for sale as such (except 1914)
- Rubber boots (except 1914)
- Rubber shoes (1914, 1927 only)
- Rubber shoes and overshoes (except 1914)
- Canvas rubber-soled shoes (except 1914)

*Cement*

- Portland cement
- Natural and puzzolan cement

*Clay Products (other than pottery) and Nonclay Refractories*

- Common brick
- Vitrified brick or block
- Face brick
- Ornamental, enameled and hollow brick (except 1914)
- Terra cotta (except 1914-1919)
- Hollow building tile (except 1914)
- Roofing tile (except 1914)
- Tile—floor, ceramic mosaic, enameled, glazed ceramic mosaic, faience, and wall (except 1914)
- Drain tile (except 1914)
- Sewer pipe (except 1914)
- Brick, fire and high alumina
- Silica brick (except 1914)

*Lime*

- Quicklime
- Hydrated lime

*Sand-Lime Brick*

- Sand-lime brick

*Cast-Iron Pipe*

- Gas and water pipe and fittings (1927-1929 only)
  - Bell and spigot (1914-1927)
  - Fittings (1914-1927)
  - Flanged (1914-1927)
  - Culvert (1914-1927)
- Soil and plumbers' pipe and fittings

*Firearms (1923-1929 only)*

- Pistols and revolvers
- Rifles
- Shotguns

*Iron and Steel: Blast Furnaces*

- Pig iron

*Iron and Steel: Steel Works and Rolling Mills*

- Unrolled steel (for sale or for transfer to other works of same company)
    - Ingots
    - Direct steel castings
  - Semi-finished rolled products (for sale or for transfer to other works of same company)
    - Blooms, billets and slabs, rolled blooms, charcoal blooms, etc.<sup>1</sup>
    - Sheet and tin plate bars
    - Muck and scrap bar
  - Finished rolled products and forgings
    - Rails, including rerolled and renewed
    - Rail joints and fastenings, tie-plates, etc.
    - Structural shapes (not assembled or fabricated)
    - Concrete reinforcing bars (including twisted bars)
    - Steel bars
    - Iron bars (merchant, etc.)
    - Wire rods
    - Bolt, nut, spike and chain rods, etc.
    - Plates and sheets, total
    - Skelp
    - Cotton ties, hoops, bands, and strips
    - Axles, rolled or forged
    - Car and locomotive wheels, rolled or forged (except 1914)
    - Armor plate and ordnance
    - Finished products, not elsewhere specified
  - Scrap iron and steel (not consumed in producing works)
- Wire, Drawn from Purchased Bars and Rods (except 1929)*
- Iron and steel wire, plain and galvanized
  - Copper and brass wire
  - Wire products; iron and steel:
    - Nails and spikes

- Wire, Drawn from Purchased Bars and Rods (except 1929)*  
 Wire products; iron and steel—cont.  
 Barbed wire, plain and coated  
 Rope, cable and strand  
 Woven-wire fence and poultry netting, plain and coated  
 Other fabricated iron and steel wire products
- Carriages, Wagons, Sleighs, and Sleds (1923-1929 only)*  
 Wagons  
 Carriages, buggies and sulkies  
 Sleighs and sleds (including bobsleds)  
 Public conveyances and ambulances, and lunch wagons
- Cars, Steam and Electric Railroad, Not Built in Railroad Repair Shops*  
 Steam railroad cars:  
 Passenger day coaches  
 Baggage and express (except 1914 and 1919)  
 Chair, parlor, dining and buffet, mail and sleeping (except 1914 and 1919)  
 All other types of passenger service  
 Freight service cars (1914-1927)  
 Box (1927-1929 only)  
 Caboose (1927-1929 only)  
 Flat (1927-1929 only)  
 Gondola (1927-1929 only)  
 Hopper (1927-1929 only)  
 Refrigerator (1927-1929 only)  
 Stock (1927-1929 only)  
 Tank (1927-1929 only)  
 All other (1927-1929 only)
- Electric railroad cars:  
 Passenger  
 Freight (1921-1927 only)  
 All other types
- Motor Vehicles, including Bodies and Parts*  
 Open touring cars, roadsters and runabouts, closed, and all other passenger cars  
 Public conveyances—busses and taxicabs  
 Government (federal, state, county and municipal) cars  
 Light commercial (less than 1 ton)  
 Trucks (1 ton and over)  
 Hearses and undertakers' wagons  
 Passenger chassis, not including bus chassis  
 Commercial chassis, including bus chassis  
 Trailers
- Motorcycles, Bicycles, and Parts*  
 Motorcycles  
 Bicycles
- Buttons (1923-1929 only)*  
 Buttons, subdivided, in 1929, into:  
 Pearl or shell, fresh water, other than shoe  
 Pearl or shell, ocean, other than shoe  
 Vegetable—ivory  
 Metal  
 Pyroxylin  
 All other
- Musical Instruments: Pianos*  
 Upright pianos  
 Upright, player pianos  
 Grand pianos  
 Automatic and electric pianos
- Musical Instruments: Organs*  
 Pipe organs  
 Reed organs

<sup>1</sup> Combined on basis of weight.

<sup>2</sup> Combined on basis of number of 'standard cases'.

<sup>3</sup> Combined on basis of number of cases.

<sup>4</sup> Combined on basis of area.

<sup>5</sup> Combined on basis of number.

<sup>6</sup> Combined on basis of number of pieces.

<sup>7</sup> Combined on basis of volume.

Note: In some cases quantity data for separate products were not available for all census years 1914 to 1929, and aggregate quantities for a group of products were used instead. Thus, 'condensed milk', 'evaporated milk', and 'buttermilk, condensed and evaporated', are listed as separate commodities for 1927 and 1929 only; for the years from 1914 to 1927 only one figure could be used, corresponding to the 'commodity' 'condensed and evaporated milk and buttermilk'.

## APPENDIX V

### DESCRIPTIONS AND SOURCES OF ANNUAL PRODUCTION SERIES

(These series are those included in the annual index numbers of production, and those analyzed in the determination of rates of growth and indexes of instability. Descriptions of other series, and their sources, are given in the text where they first appear.)

*Y.-Agr.* = *Yearbook of Agriculture* (annual), published by the U. S. Department of Agriculture.

*F.R.B.* = *Federal Reserve Bulletin* (monthly), published by the Federal Reserve Board.

*M.R.* = *Mineral Resources of the United States* (annual), published by the Bureau of Mines, U. S. Department of Commerce, in two parts (Part I, Metals; Part II, Non-metals).

Series	Nature of data	Immediate source	Compiling agency or primary source
<i>Materials</i>			
Apples .....	Total production	<i>Y.-Agr.</i>	Bureau of Agr. Economics
Barley .....	Do.	Do.	Do.
Cement, total ....	1901-13: production of total Portland, total Puzzolan and one-half natural cement	<i>M.R., II</i>	Bur. of Mines
	1922-29: total production	<i>F.R.B.</i>	Do.
Coal, anthracite ..	1901-13: Pennsylvania mine production	<i>M.R., II</i>	Do.
	1922-29: mine production	<i>F.R.B.</i>	Do.
Coal, bituminous .	1901-13: mine production	<i>M.R., II</i>	Do.
	1922-29: mine production	<i>F.R.B.</i>	Do.
Copper .....	Mine production	<i>M.R., I</i>	Do.
Corn .....	Total production	<i>Y.-Agr.</i>	Bur. of Agr. Economics
Cotton .....	Do.	Do.	Do.

## APPENDIX V—Continued

Series	Nature of data	Immediate source	Compiling agency or primary source
<i>Materials—cont.</i>			
Cottonseed .....	Estimated from production of lint, by States, adjusting for net weight, and assuming 65 pounds of cottonseed for each 35 net pounds of lint	<i>Y.-Agr.</i>	Bur. of Agr. Economics
Eggs .....	Receipts at seven leading markets	<i>Y.-Agr.</i>	Do.
Flaxseed .....	Total production	Do.	Do.
Gold .....	Refinery production	<i>Annual Report of the Director of the Mint</i>	Director of the Mint
Hay .....	Production of tame hay	<i>Y.-Agr.</i>	Bur. of Agr. Economics
Lead .....	Production of crude lead from domestic ores	<i>M.R., I</i>	Bur. of Mines
Livestock:			
Cattle and calves	Total slaughter	<i>Statistics of Meat Production, 1900-1930 (mimeographed)</i>	Bur. of Animal Industry
Cattle .....	Do.	Do.	Do.
Calves .....	Do.	Do.	Do.
Sheep and lambs	Do.	Do.	Do.
Swine .....	Do.	Do.	Do.
Milk .....	Total production	<i>Y.-Agr.</i>	Bur. of Agr. Economics
Natural gas .....	Produced and delivered to consumers	1901-05: estimated by F. G. Tryon 1906-29: <i>M.R., II</i>	Bur. of Mines
Oats .....	Total production	<i>Y.-Agr.</i>	Do. Bur. of Agr. Economics
Oranges .....	Production in California, Florida, Texas, Arizona, Alabama, Mississippi, Louisiana	Do.	Do.
Peaches .....	Total production	Do.	Do.
Petroleum .....	Total crude production	<i>M.R., II</i>	Bur. of Mines
Potatoes .....	Total production	<i>Y.-Agr.</i>	Bur. of Agr. Economics
Poultry products	Chickens and eggs, estimates of production for sale and for consumption in the farm house	Do.	Do.

## APPENDIX V—Continued

Series	Nature of data	Immediate source	Compiling agency or primary source
<i>Materials—cont.</i>			
Rice .....	Total production, rough	<i>Y.-Agr.</i>	Bur. of Agr. Econ.
Rye .....	Total production	Do.	Do.
Sand and gravel..	Sold or used by producers	<i>M.R., II</i>	Bur. of Mines
Silver .....	Refinery production	<i>Annual Report of the Director of the Mint</i>	Director of the Mint
Stone .....	Crushed stone sold or used by producers	<i>M.R., II</i>	Bur. of Mines
Sugar .....	Total cane and beet sugar production, continental U. S.	<i>Y.-Agr.</i>	Bur. of Agr. Economics
Tobacco .....	Unmanufactured, total production	Do.	Do.
Wheat .....	Total production	Do.	Do.
Wool .....	Total production of fleece and pulled wool	Do.	Do.
Zinc .....	Slab-zinc production from domestic ores	1901-13: <i>M.R., I</i> 1922-29: <i>F.R.B.</i>	Bur. of Mines American Zinc Institute
<i>Processes of fabrication</i>			
Cement, total ....	1901-13: production of total Portland, total Puzzolan and one-half natural cement 1922-29: total production	<i>M.R., II</i> <i>F.R.B.</i>	Bur. of Mines Do.
Cigarettes .....	Number on which taxes were paid	<i>Annual Report of Commissioner of Internal Revenue</i>	Bur. of Internal Revenue
Cigars .....	Do.	Do.	Do.
Coke .....	Total production	<i>M.R., II</i>	Bur. of Mines
Common brick ...	Sold by producers	Do.	Do.
Copper .....	Consumption	<i>F.R.B.</i>	American Bur. of Metal Statistics
	1922-29: blister copper production	Do.	Do.
Cotton .....	Mill consumption of raw cotton	Do.	1901-03: Latham Alexander Co. 1903-29: Bur. of the Census
Cottonseed .....	Used in manufacture	<i>Review of Econ. Statistics, Nov., 1920</i>	Bur. of the Census

## APPENDIX V—Continued

Series	Nature of data	Immediate source	Compiling agency or primary source
<i>Processes of fabrication—cont.</i>			
Distilled spirits ..	Total production, fiscal year	<i>Statistical Abstract</i>	Bur. of Internal Revenue
Fermented liquors	Do.	Do.	Do.
Flour, wheat ....	Total production	1901-13: <i>Wheat Studies, Vol. IV</i> , Food Research Institute 1922-29: <i>F.R.B.</i>	Holbrook Working  <i>Russell's Commercial News</i>
Glass, plate .....	Do.	<i>Survey of Current Business</i>	Plate Glass Mfrs. of America
Gold .....	Used in manufacture	<i>Statistical Abstract</i>	Director of the Mint
Lead .....	Available for consumption	Do.	Bur. of Mines
	Production of crude lead from domestic ores	<i>F.R.B.</i>	Do.
Leather products			
Boots and shoes	Total production	Do.	Bur. of the Census
Leather, sole ..	Do.	Do.	Do.
Leather, upper .	Do.	Do.	Do.
Lime .....	Burned and sold	<i>M.R., II</i>	Bur. of Mines
Lumber .....	Sum of production of Douglas fir, northern hemlock, redwood, southern pine, North Carolina pine, California white pine and northern pine	<i>Survey of Current Business</i>	Reports of lumber associations
Flooring .....	Oak and maple flooring production	<i>F.R.B.</i>	Maple and Oak Flooring Mfrs. Assns.
Motor vehicles ...	Production of cars and trucks	1901-13: <i>Automobile Facts and Figures</i> 1922-29: <i>F.R.B.</i>	National Automobile Chamber of Commerce Do.
Paper and pulp			
Book paper ....	Total production	<i>F.R.B.</i>	Federal Trade Commission, Am. Pulp and Paper Mfrs. Assn.
Fine paper ....	Do.	Do.	Do.
Newsprint ....	Do.	Do.	Do.
	Total consumption	Do.	Do.

## APPENDIX V—Continued

Series	Nature of data	Immediate source	Compiling agency or primary source
<i>Processes of fabrication—cont.</i>			
Wood pulp . . . .	Mechanical - pulp production	<i>F.R.B.</i>	Fed. Trade Com.
	Chemical-pulp production	Do.	Am. Pulp and Paper Mfrs. Assn.
<b>Petroleum products</b>			
Fuel oil . . . . .	Total production	<i>F.R.B.</i>	Bur. of Mines
Gasoline . . . . .	Do.	Do.	Do.
Kerosene . . . . .	Do.	Do.	Do.
Lubricating oil .	Do.	Do.	Do.
Pig iron . . . . .	Do.	<i>M.R., I</i> <i>F.R.B.</i>	Do. <i>Iron Age</i>
<b>Railroad cars</b>			
Freight cars . . .	Total number completed, steam railways	<i>Review of Econ. Statistics, Nov., 1920</i>	<i>Railway Age</i>
Locomotives . . .	Total number completed, steam and electric railways	<i>F.R.B.</i>	Bur. of the Census
Passenger cars .	Total number completed for steam railways	<i>Review of Econ. Statistics, Nov., 1920</i>	<i>Railway Age</i>
<b>Silk . . . . .</b>			
	Raw imports	<i>Statistical Abstract</i>	Bur. of Foreign and Domestic Commerce
	Deliveries of raw silk to mills	<i>F.R.B.</i>	Silk Assn. of America
	Percentage of looms active	Do.	Do.
<b>Slaughtering and meat packing</b>			
Calves . . . . .	1922-29: Federal inspected slaughter	<i>F.R.B.</i>	Bur. of Animal Industry
Cattle . . . . .	Do.	Do.	Do.
Cattle and calves	1901-13: Receipts at nine markets	<i>Y.-Agr.</i>	Bur. of Agr. Economics
Hogs . . . . .	1901-13: Do.	Do.	Do.
	1922-29: Federal inspected slaughter	<i>F.R.B.</i>	Bur. of Animal Industry
Sheep . . . . .	1901-13: Receipts at nine markets	<i>Y.-Agr.</i>	Bur. of Agr. Economics
	1922-29: Federal inspected slaughter	<i>F.R.B.</i>	Bur. of Animal Industry
<b>Steel . . . . .</b>			
	Ingots and castings	<i>M.R., I</i>	Amer. Iron and Steel Institute
	Rails	<i>Statistical Abstract</i>	Do.

## APPENDIX V—Continued

Series	Nature of data	Immediate source	Compiling agency or primary source
<i>Processes of fabrication—cont.</i> Sugar .....	U. S. production plus imports, crop years	<i>Y.-Agr.</i>	Bur. of Agr. Economics and Bur. of Foreign and Domestic Commerce
	Meltings of raw cane sugar	<i>F.R.B.</i>	<i>Willet and Grey's Journal and Statistical Sugar Trade Journal</i>
Tin .....	Deliveries from port warehouses	Do.	<i>N. Y. Metal Exchange</i>
Tires			
Inner tubes ....	Inner-tube production	Do.	Rubber Assn. of America
Pneumatic ....	Pneumatic-tire production	Do.	Do.
Tobacco and snuff	Amount on which taxes were paid	<i>Annual Report of Commissioner of Internal Revenue</i>	Bur. of Internal Revenue
Vessels built ....	Number completed	<i>F.R.B.</i>	Bur. of Navigation
Wool .....	Apparent consumption	1901-13: <i>Review of Econ. Statistics</i> , Nov., 1920	Natl. Assn. of Wool Mfrs.
	Mill consumption of raw wool	1922-29: <i>F.R.B.</i>	Bur. of the Census
	Percentage of loom and spindle hours active	Do.	Do.
	Percentage of carpet and rug loom hours active	Do.	Do.
Zinc .....	Apparent consumption	<i>M.R., I</i>	Bur. of Mines
	Slab-zinc production	<i>F.R.B.</i>	Amer. Zinc Institute
Zinc and lead pigments .....	Amount sold by domestic manufacturers in the U. S.	<i>M.R., I</i>	Bur. of Mines

