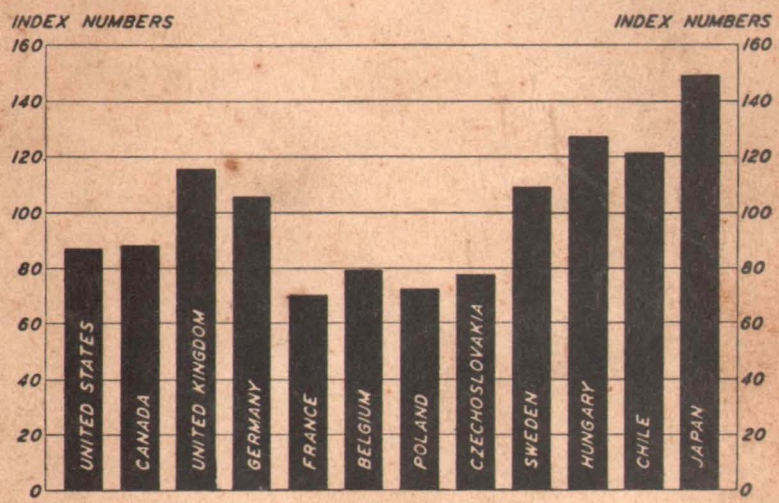


# THE RECOVERY PROBLEM IN THE UNITED STATES



INDUSTRIAL PRODUCTION 1936  
(1929 = 100)

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# The Recovery Problem in the United States

THIS comprehensive investigation brings into focus and appraises the primary factors upon which constructive business expansion now depends. While the analysis is centered upon the situation in the United States, the American recovery problem is considered in its world setting and in the light of the economic changes which have occurred in recent years.

The character and scope of the analysis may be indicated by some of the concrete questions which are considered:

How does the degree of recovery attained in the United States compare with that in other countries?

What are the distinguishing characteristics of the current recovery movement?

What governmental methods have been used to promote recovery in other countries?

Has the recovery program of the United States Government helped or hindered?

What has been the actual trend of productive efficiency since 1929?

What changes have occurred in the relations of wages, profits, and prices, and how have they affected real incomes?

What are the production requirements for restoring former standards of living and how much employment would be entailed?

What is the exact situation with respect to federal, state, and local debt?

What is involved in balancing the budget, and is fiscal inflation inevitable?

How important is the expansion of foreign trade to American recovery?

What factors in the labor and industrial situation threaten stable recovery?

The volume is concluded with a discussion of the readjustments and modifications of policy required for further economic improvement along broad and sound lines.

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**THE RECOVERY PROBLEM IN THE  
UNITED STATES**

THE RECOVERY PROBLEM  
IN  
THE UNITED STATES

WASHINGTON, D.C.  
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1936

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## PREFACE

This volume is not designed as a presentation of any general theory of cyclical movements. It does not even pretend to assess the causes of the particular depression which began in 1929 nor to suggest means for preventing the recurrence of depressions in the future. Such contribution to cyclical theory as it may contain is merely an incidental by-product of a general analysis focussed strictly upon the problems of recovery in the United States at the present juncture.

To provide adequate background and foundation, it has been deemed essential to review the great economic changes which have occurred in recent years. In Part I, entitled "The Sweep of World Events," an attempt is made to make clear the international setting of the dislocation which has occurred in the United States. The second division of the analysis, "Readjustments in the United States," is a more detailed study of the course of depression and recovery to date as related to major aspects of American economic life. In the final section, "Readjustments Required for Recovery," an effort is made to integrate the analysis as a whole and to indicate the primary requirements for stimulating and safeguarding further progress.

Because of its comprehensive character, the carrying out of the project has necessarily required the collaboration of numerous specialists. Harold G. Moulton planned and co-ordinated the analysis as a whole and collaborated in the writing of Chapters VIII, XI, and XII. He is primarily responsible for Parts I and III, except for Chapter XIX. Maurice Leven is responsible



for Chapters VI, VII, IX, and X. Leo Pasvolsky collaborated on Chapters I, II, and V and contributed Chapters XV, XVI, and XIX. Charles O. Hardy is the author of Chapters XIII and XIV. Malcolm Merriam assembled the data and collaborated in the writing of Chapters XII and XVIII. George Terborgh is responsible for the bulk of the material in Chapter VIII, but, as a result of a new commitment, was unable to participate fully in the final writing of the chapter. Hugo Bezdek, Jr. acted as general assistant and collaborated in Chapters II, III, IV, V, and XI. Kathryn R. Wright collaborated in the preparation of Mr. Leven's chapters. Sheldon B. Akers assisted in the statistical work, and Louise H. Bebb in the preparation of the charts. Dr. Nonny Wright, of Geneva, Switzerland, rendered valuable assistance in the assembling of the foreign material, especially that presented in Appendix B.

The comprehensive factual foundation of this inquiry was greatly facilitated by the availability of a wide range of economic data currently gathered by the agencies of the federal government. The international comparisons presented in this volume were largely made possible by the exhaustive statistical and analytical studies issued by the Financial and Economic Sections of the League of Nations Secretariat.

The study has been conducted under a special grant of funds from the Maurice and Laura Falk Foundation of Pittsburgh.

EDWIN G. NOURSE  
*Director*

Institute of Economics  
December 1936

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## APPENDIXES



# APPENDIX A

## STATISTICS RELATING TO WORLD, TRENDS

The material in this appendix is supplementary to the first four chapters. Data presented in the first six tables are from new world indexes recently compiled and published by the League of Nations to replace old League indexes. Tables 1-4 give sub-series used in the computation of the League's new composite world index of primary production, and Table 5 gives 12 of the 81 individual items used in the calculation of the same index. Table 6 presents one of the League's new indexes of industrial production—manufacturing only.

The new composite world index of primary production and its component series are aggregative in type and weighted by world prices in 1930. They are described in detail in Appendix I of the League's *World Production and Prices, 1935-36*. The new world indexes of industrial production are calculated as weighted arithmetic averages of the 23 national indexes (described briefly under Table 8 below), some necessary adjustments having been made to make the sub-series comparable. The weights used are based on value added by manufacture during 1925-29 as shown by the industrial censuses or other relevant information for the countries included. For a fuller description, see pages 21-22 and Appendix II of the League's *World Production and Prices, 1935-36*.

### 1. INDEXES OF PRODUCTION OF CRUDE FOODSTUFFS, BY CONTINENTS, 1925-35<sup>a</sup> (1925-29=100)

Continental Group	1925	1926	1927	1928	1929	1930	1931	1932	1933	1934	1935 <sup>b</sup>
Europe—											
incl. USSR.....	96	95	100	104	106	108	104	104	106	107	109
excl. USSR.....	97	92	99	105	107	106	109	112	114	115	115
USSR.....	92	102	102	101	102	111	90	81	86	86	92
North America.....	95	99	101	104	100	102	103	100	101	105	90
Latin America.....	97	98	101	105	99	102	101	100	106	105	101
Africa.....	98	94	100	102	108	106	106	116	111	118	122
Asia, excl. USSR <sup>c</sup> .....	98	98	100	102	102	104	105	105	108	101	101
Oceania.....	95	99	98	105	103	115	118	130	130	131	133
World total—											
incl. USSR.....	96	97	100	104	103	106	104	104	106	106	104
excl. USSR <sup>d</sup> .....	97	96	100	104	103	105	106	107	109	109	106

<sup>a</sup> League of Nations, *World Production and Prices, 1935-36*, p. 15.

<sup>b</sup> Provisional.

<sup>c</sup> Excluding China with the exception of Manchuria.

<sup>d</sup> Furnished by the League of Nations.

2. INDEXES OF PRODUCTION OF RAW MATERIALS,  
BY CONTINENTS, 1925-35<sup>a</sup>  
(1925-29=100)

Continental Group	1925	1926	1927	1928	1929	1930	1931	1932	1933	1934	1935 <sup>b</sup>
Europe—											
incl. USSR.....	88	85	104	106	116	107	98	89	96	109	119
excl. USSR.....	90	85	105	105	115	102	90	80	87	97	103
USSR.....	75	87	100	113	126	144	157	155	166	197	232
North America.....	93	101	96	101	109	94	82	63	72	74	83
Latin America.....	91	92	94	108	116	107	93	79	87	107	110
Africa.....	95	95	93	105	112	111	96	90	112	113	122
Asia, excl. USSR.....	92	94	100	105	109	111	98	100	111	117	120
Oceania.....	94	101	101	103	102	97	98	104	103	106	103
World total—											
incl. USSR.....	91	94	99	104	112	102	91	79	88	95	103
excl. USSR <sup>c</sup> .....	92	94	99	103	111	100	88	76	84	91	97

<sup>a</sup> League of Nations, *World Production and Prices, 1935-36*, p. 18.   <sup>b</sup> Provisional.  
<sup>c</sup> Furnished by the League of Nations.

3. INDEXES OF PRODUCTION OF AGRICULTURAL RAW MATERIALS,  
BY CONTINENTS, 1925-35<sup>a</sup>  
(1925-29=100)

Continental Group	1925	1926	1927	1928	1929	1930	1931	1932	1933	1934	1935 <sup>b</sup>
Europe—											
incl. USSR.....	93	91	102	101	114	101	108	96	99	101	112
excl. USSR.....	95	92	106	93	115	87	91	84	89	92	98
USSR.....	92	89	97	110	113	119	128	112	111	112	128
North America.....	104	115	87	96	98	94	113	88	88	68	76
Latin America.....	97	101	101	100	101	103	104	93	112	130	123
Africa.....	97	96	90	104	112	109	96	98	116	109	117
Asia, excl. USSR.....	96	95	101	106	103	107	90	94	103	101	98
Oceania.....	91	101	98	106	103	101	109	114	109	110	104
World total—											
incl. USSR.....	98	101	96	102	104	102	102	94	100	95	98
excl. USSR <sup>c</sup> .....	98	102	96	101	103	100	100	93	99	94	95

<sup>a</sup> League of Nations, *World Production and Prices, 1935-36*, p. 17.   <sup>b</sup> Provisional.  
<sup>c</sup> Furnished by the League of Nations.

4. INDEXES OF PRODUCTION OF NON-AGRICULTURAL RAW MATERIALS,  
BY CONTINENTS, 1925-35<sup>a</sup>  
(1925-29=100)

Continental Group	1925	1926	1927	1928	1929	1930	1931	1932	1933	1934	1935 <sup>b</sup>
Europe—											
incl. USSR.....	88	84	105	107	117	108	96	88	96	110	120
excl. USSR.....	90	84	105	106	115	104	89	80	87	97	104
USSR.....	61	84	102	115	137	166	183	193	215	271	323
North America.....	91	99	97	102	111	95	76	59	69	75	84
Latin America.....	87	87	90	113	123	108	88	71	75	95	104
Africa.....	90	93	98	106	113	116	98	87	100	124	133
Asia, excl. USSR.....	86	92	98	105	118	117	110	108	122	143	154
Oceania.....	99	99	106	98	98	89	74	81	89	97	109 <sup>d</sup>
World total—											
incl. USSR.....	89	92	100	104	114	102	87	75	84	95	104
excl. USSR <sup>d</sup> .....	90	92	100	104	113	100	84	71	80	90	98

<sup>a</sup> League of Nations, *World Production and Prices, 1935-36*, p. 17.   <sup>b</sup> Provisional.  
<sup>c</sup> In the chart on p. 61 this entry is given as 103, which was the preliminary figure furnished by the League prior to the publication of *World Production and Prices, 1935-36*.  
<sup>d</sup> Furnished by the League of Nations.

5. INDEXES OF WORLD PRODUCTION OF SELECTED RAW MATERIALS, 1925-35<sup>a</sup>  
(1925-29 average = 100)

Products	1925	1926	1927	1928	1929	1930	1931	1932	1933	1934	1935 <sup>b</sup>
Cotton.....	105	106	90	100	99	98	103	90	99	89	97
Raw silk.....	87	93	99	108	113	110	107	97	100	103	92
Wool.....	92	98	100	104	106	102	102	102	99	99	99
Crude rubber.....	80	95	93	100	131	125	121	107	129	154	132
Mechanical wood pulp	88	96	98	104	114	112	103	96	103	118	...
Coal.....	95	95	103	100	107	98	87	77	81	88	91
Petroleum.....	86	88	101	106	119	113	109	104	114	120	130
Sulphur.....	84	98	105	101	112	114	97	71	89	91	91
Pig iron <sup>b</sup> .....	95	92	107	99	107	92	65	44	50	68	80
Copper.....	89	91	94	106	120	100	87	57	65	80	...
Potash.....	94	83	96	109	118	110	76	65	80	101	...
Natural phosphates...	89	97	103	103	107	125	89	76	88	101	109

<sup>a</sup> League of Nations, *World Production and Prices, 1935-36*, pp. 125-26.

<sup>b</sup> Partly based on estimates; subject to revision.

6. INDEXES OF MANUFACTURING ACTIVITY, BY CONTINENTS, 1925-35<sup>a</sup>  
(1925-29 average = 100)

Continental Group	1925	1926	1927	1928	1929	1930	1931	1932	1933	1934	1935 <sup>b</sup>
Europe, excl. USSR...	90	89	103	107	111	102	90	78	85	94	100
North America.....	95	98	96	102	108	87	73	58	69	72	83
World, incl. USSR...	91	93	99	105	111	98	88	77	86	94	106.

<sup>a</sup> League of Nations, *World Production and Prices, 1935-36*, p. 23.

<sup>b</sup> Provisional.

7. INDEXES OF VOLUME OF WORLD TRADE, BY GROUPS  
OF COMMODITIES, 1930-35<sup>a</sup>  
(1929 = 100)

Year	Total	Foodstuffs <sup>b</sup>	Raw Materials <sup>b</sup>	Manufactured Articles <sup>b</sup>
1930.....	93	...	...	...
1931.....	86	...	...	...
1932.....	75	91	82	58
1933.....	76	85	88	60
1934.....	79	84	90	66
1935.....	82	86	94	69

<sup>a</sup> League of Nations, *Review of World Trade, 1935*, p. 15.

Not given separately prior to 1932.

## 8. NATIONAL INDEXES OF INDUSTRIAL PRODUCTION

Indexes of industrial production are compiled by methods which vary considerably from country to country. The choice of the industries covered and their grouping and weighting are determined not only by the economic structure of each country, but also by the availability or lack of regular data on production in the various industries. The diversity of manufactured products and the absence of comprehensive production statistics render impossible in almost all countries an exact measurement of the fluctuations in the physical output of industry.

ANNUAL INDEXES OF INDUSTRIAL PRODUCTION IN SELECTED COUNTRIES  
1930-35<sup>a</sup>  
(1929=100)

Country	1930	1931	1932	1933	1934	1935
Germany.....	85.9	67.6	53.3	60.7	79.8	94.0 <sup>b</sup>
United States...	80.7	68.1	53.8	63.9	66.4	75.6
Poland.....	82.0	69.5	53.9	55.6	63.0	66.4
Canada.....	84.8	71.0	58.1	60.3	73.5	81.3
Czechoslovakia..	89.2	80.7	63.5	60.2	66.5	69.9
Netherlands....	91.4	79.0	62.3	69.1	69.8	66.3
Austria.....	84.9	74.3	64.3	65.4	72.2	79.6
Italy.....	91.9	77.6	66.9	73.7	80.9	...
France.....	100.4	88.9	68.8	76.7	71.0	67.4
Belgium.....	88.8	81.1	69.1	71.4	72.3 <sup>c</sup>	80.6
Hungary.....	93.8	87.4	76.9	83.9	97.5	110.9
Chile.....	100.9	77.9	87.0	95.8	105.1	120.1
Estonia.....	98.7	90.8	78.3	81.9	96.4	106.4
Norway.....	101.0	78.3	92.7	93.8	97.7	105.1
Sweden.....	96.4	84.5	79.1	81.8	100.0	<sup>d</sup>
Finland.....	90.8	80.0	83.3	95.8	116.7	125.0
United Kingdom.	92.3	83.8	83.5	88.2	98.8	105.7
Spain.....	98.6	93.2	88.4	84.4	85.5	86.9
Rumania.....	96.9	102.1	88.5	102.6	123.9	...
Denmark.....	108.0	100.0	91.0	105.0	117.0	121.0
Japan.....	94.8	91.6	97.8	113.2	128.7	141.8
Greece.....	103.4	107.0	100.9	109.8	125.2	140.7
USSR.....	130.5	160.9	182.9	198.1	238.2	288.2

<sup>a</sup> League of Nations, *Monthly Bulletin of Statistics*, August 1936, p. 347.

<sup>b</sup> Since March 1935 including the Saar.

<sup>c</sup> February to July—labor dispute in the wool industry.

<sup>d</sup> Suspended pending recast of the index.

The indexes vary widely in scope. Some cover almost the entire range of national industry; others are limited to important industries or branches of industry which are considered to be representative. Some are based mainly on returns of actual

quantities produced; others on values produced, corrected by a price index to show quantity changes. Some make extensive use of indirect gauges of activity such as hours worked, imports of raw materials, orders filed, etc. These indirect measurements may be influenced by changes in working efficiency, the seasonal character of orders and shipments, the importance of stocks, the trend of prices, etc. Some are adjusted for seasonal variations and others are not. The majority of the indexes shown should thus be regarded as merely furnishing a rough measure of changes in industrial activity.

We present below the essential facts with reference to the character of the production indexes for the countries included in the discussion in the latter part of Chapter III. As given in the accompanying table these indexes have been recomputed by the League of Nations from their original bases to a 1929 base, a form which was essential for the purposes of our discussion. In nearly all cases the descriptions given below are those furnished by the agencies responsible for the indexes, and in all cases the original base period is given.

#### Austria

*Compiler:* Österreichisches Institut für Konjunkturforschung, Vienna.

*Base period:* 1923-31.

*Scope:* Based on ten series relating to consumption of electric current and to production of coal, lignite, iron ore, pig iron, steel, cotton yarns, wood pulp, paper, and alcohol. Shows accurately the movements of production in only the most important industries, but is believed to reflect rather closely the trend of total industrial production.

*Method:* A simple arithmetic average of the ten component series, each of which is adjusted for seasonal fluctuations.

*Source:* League of Nations, *Statistical Yearbook*, 1935-36, p. 183.

#### Belgium

*Compiler:* Institut des Sciences économiques, Louvain.

*Base period:* 1923-25.

*Scope:* Based on ten series, the majority of which are computed from direct production data which relate in most cases to a part only of the industries concerned. The annual index, which was used in constructing the index shown on page 550, is fairly comprehensive although it omits such important industries as construction and chemicals. The monthly index is much less comprehensive than the annual, completely omitting five of the series and giving only one component of a sixth. The differences between the annual and the monthly indexes are within reasonable limits, however.

*Method:* A weighted average of the component series. The weights, based mainly on capital invested and its yield and the number of workers employed, are: coal and related industries 20; iron and steel 27; textiles 24; glass 7; paper 2; foodstuffs 9; quarries, cement, etc. 5; non-ferrous metals 4; tobacco 1; matches 1.

For the most part the series are based on production for a standard month of 25 days, but seasonal variations are not eliminated.

*Source:* *Bulletin de l'Institut des Sciences économiques* (Louvain), August 1931, pp. 367-412; November 1931, pp. 3-26; League of Nations, *Statistical Yearbook*, 1935-36, p. 185.

#### Canada

*Compiler:* Dominion Bureau of Statistics.

*Base year:* 1926.

*Scope:* Includes 32 series relating to manufacturing, 9 series relating to mineral production, one construction series, and one electric power series, and is sufficiently comprehensive to indicate accurately the trend of industrial production.

*Method:* Aggregative type of index, quantitative data being multiplied by average prices during 1926. Series for which only value data are compiled are converted to a volume basis by means of appropriate indexes of prices and costs. The industrial group is given a weighting of 67.5 in the general index, distributed as follows: foodstuffs 23.5; tobacco 2.7; pneumatic tire casings 2.9; crude rubber imports 1.4; boots and shoes 2.7; textiles 2.0; wood and paper 15.7; iron and steel 12.4; coke 0.9; petroleum imports 3.3. The remaining weights are: mineral production 11.1; construction 15.8; electric power 5.6.

Adjusted for seasonal variations.

*Source:* Supplements to the following issues of the *Monthly Review of Business Statistics* issued by the Dominion Bureau of Statistics: November 1932, pp. 1-3; May 1934, pp. 1-2; June 1935, pp. I-II.

#### Chile

*Compiler:* Dirección General de Estadística, Santiago.

*Base period:* 1927-29.

*Scope:* Covers 24 industries including among others clothing, woolen yarn, footwear, paper, paperboards, malt, liquor, sugar, tobacco, and gas and electric power. These industries are divided into two groups: (1) manufacturing and (2) light and power. Almost the entire production of the industries included is represented, but since important industries are omitted the index covers only a relatively small portion of total industrial production.

*Method:* Aggregative type of index, quantitative data being multiplied by average wholesale prices during the base period.

Seasonal fluctuations and inequalities in the length of months are eliminated.

*Source:* Dirección General de Estadística (Santiago), *Estadística*

*Chilena*, March 1931, pp. 75-77; August-September 1931, pp. 222-23; October 1931, pp. 254-55; December 1935, p. 487.

## Czechoslovakia

*Compiler*: Dr. Karel Maiwald.

*Base year*: 1929.

*Scope*: Covers 14 series which include 44 main industries. In the cases of mining and metallurgy direct monthly production data are available. The other component series are based on indirect measures of the physical volume of production, such as consumption of raw materials and auxiliary supplies; employment statistics; and export (or export and railway transport) statistics for industries exporting more than 80 per cent of their total production.

*Method*: An arithmetic average of the component series, weighted on the basis of estimates of the relative importance of each industry in terms of the number of workers employed, the horse-power of machinery installed, and estimates of the value of manufacturing production and of value added by manufacture. The weights are as follows: mining 11; metallurgy 23; glass 3; porcelain 2; stone and clay other than porcelain 5; chemicals 5; wood 8; paper 3; printing 2; textiles 21; leather 2; clothing 8; foodstuffs 5; electricity 2.

The group series are similarly constructed from the individual series upon which they are based.

The index is not adjusted for seasonal fluctuations, but incidental influences in the constituent series are smoothed.

*Source*: *Obzor Narodohospodarsky*, No. 6, 1934.

## Denmark

*Compiler*: Statistiske Departement, Copenhagen.

*Base year*: Annual index, 1927. Monthly index, 1931.

*Scope*: Both annual and monthly indexes cover eight representative series. For the most part the annual index (used in constructing the index shown on page 550) is based on volume of production data but in several cases value figures, corrected by price data to show quantity changes, are used. The monthly index is based in part on volume of production, and in part on consumption of raw materials, hours worked, and wages.

*Method*: Aggregative type of index. The weights are based on value added by manufacture in 1926, as follows: foodstuffs 37.3; textiles 6.7; clothing 2.0; leather 3.3; wood 3.5; quarries, tiles, and glass 10.2; metals 27.8; chemicals 9.2. A method is provided for linking the monthly figures with the annual index.

The monthly index is corrected for inequalities in the length of months. Some series, such as those relating to the textile, confectionery, and building industries, are adjusted for seasonal variations.

*Source*: Statistiske Departement (Copenhagen), "Produktionsstatistik, 1928," *Statistiske Meddelelser*, Apr. 3, 1929 and *Statistiske Efterretninger*, No. 22, June 25, 1934, pp. 121-22.

## Estonia

*Compiler:* Estonian Institute of Economic Research, Tallinn.

*Base period:* 1927-31.

*Scope:* Includes twelve series which cover large-scale industries and handicrafts. These series in turn cover 28 individual series, 15 of which are based upon direct volume of production data and 13 (including the important textile, engineering, leather, and clothing industries) upon the number of man-hours worked. Practically all large-scale production (concerns employing 20 or more workers) is represented, but medium and small-size establishments, which employ about two-thirds of all persons engaged in industry, are not included. Hence the index reflects closely changes in the volume of large-scale production only and merely indicates the trend of total industrial production.

*Method:* Both the group indexes and the general index are arithmetic averages of the component series, weighted by net value of production during 1928-31, as follows: mines and quarries 5.4; mineral working 4.8; engineering 13.6; chemicals 3.6; leather 2.4; textiles 22.6; wood-working 7.9; paper 13.1; polygraphics 4.1; foodstuffs and beverages 16.6; clothing and drygoods 1.9; electric power 4.0.

No adjustments are made for seasonal fluctuations and inequalities in the length of months.

*Source:* *Konjunktuur* (monthly review of the Estonian Institute of Economic Research, Tallinn), No. 15 (2), 1936, pp. 137-38, 165.

## Finland

*Compiler:* Nordiska Föreningsbanken (Pohjoismaiden Yhdyspankki).

*Base year:* 1926.

*Scope:* Based on ten series which include from 60 to 65 per cent of total industrial production (about 90 per cent of total output for exports and 40 per cent of total output for home consumption). Monthly and quarterly indexes are computed: the monthly index was used in constructing the general index shown on page 550. For the export industries volume of production data are used; for the home industries, value figures adjusted by wholesale price indexes to show changes in quantity.

*Method:* An arithmetic average of the component series, weighted by the value of production in 1926. The weights are as follows: sawn wood 28.8, cellulose, 9.0, newsprint paper 4.5, mechanical pulpwood 1.35, plywood 1.35, or a total of 45.0 for export industries; metal work and machinery 13.2, stone and earthen ware 4.4, textiles 11.6, leather and footwear 4.9, foodstuffs and beverages 20.9, or a total of 55.0 for home market industries.

Monthly and quarterly indexes are adjusted for seasonal variation.

*Source:* *Unitas*, quarterly review of Nordiska Föreningsbanken.

## France, including Alsace and Lorraine

*Compiler:* Statistique Générale de la France, Paris.

*Base year:* 1913.

*Scope:* Includes 18 series which directly or indirectly represent ap-



proximately one-half of total industrial production. Fourteen of these appear in the general monthly index as parts of four group series—engineering, metallurgy, textiles, and mining. The metallurgy and mining series, as well as the cotton and the wool series, are based on direct production data. All others are based on indirect measurements of production.

*Method:* Arithmetic average of component series, weighted by the approximate proportion of all industrial workers employed by the industry in the base year. The weights are as follows: mining (5 series) 4.0; textiles (3 series) 12.0; metallurgy (3 series) 3.0; engineering (3 series) 17.0; building 8.5; paper 1.0; leather 4.0; rubber 0.5. The component indexes are also arithmetic averages weighted in the same way.

The series for metallurgy, cotton, and wool-weaving are adjusted for inequalities in months; those for rubber, building, leather paper, motor vehicles, silk and wool, for seasonal variations. The mining series is adjusted for both.

*Source:* *Bulletin de la Statistique Générale de la France*, October 1924, pp. 71-109; April 1926, pp. 297-328.

### Germany

*Compiler:* Institut für Konjunkturforschung, Berlin.

*Base year:* 1928.

*Scope:* Both the annual and the quarterly index include 69 series which represent approximately two-thirds of net industrial production. Three of these (foodstuffs, tobacco, and beverages) are excluded from the monthly index because of their violent seasonal fluctuations, but the margin between this index and the others is extremely small. Series relating to steel, metal goods, lumber, electricity, and optical goods are omitted for lack of data, but these goods are taken account of in the weighting of their respective group indexes. Since March 1935 production in the Saar Territory has been included, but it has not been added to production data for the base year. In the index the 69 series are divided into four main groups according to sensitiveness in registering cyclical changes. The index is outstanding for its comprehensiveness and elaborate method of construction and is a reliable indicator of the course of industrial production.

*Method:* A weighted arithmetic average. The weighting of the individual series is based on the number of workers employed and the total horse-power installed in each industry, corrected by the net value of output. These weights have been revised on the basis of the provisional results of the 1933 census of industrial establishments. The weighting of the four main groups is based on the net total output of all industries falling within each group during 1927-29. That is, each group is given the weight which it would command if it actually included all industrial branches pertaining to it. The weights are: investment goods (27 series) 40; sundry producers' goods (15 series) 20; consumers' goods with elastic demand (14 series) 25; consumers' goods with inelastic demand (13 series) 15.

Inequalities in the length of months are eliminated. The annual and the quarterly index are published both with and without seasonal fluctuations, but the monthly index is not adjusted for them.

*Source:* Institut für Konjunkturforschung (Berlin), *Vierteljahrshefte zur Konjunkturforschung*, 1930, No. 4, Pt. A, pp. 37-41; 1933, No. 4, Pt. A, pp. 263-64; and *Wochenbericht des Instituts für Konjunkturforschung*, June 19, 1935, pp. 97-100.

#### Greece

*Compiler:* Conseil Supérieur Économique, Athens.

*Base year:* 1928.

*Scope:* Described by the compiler as being based on actual production of 57 manufactured goods and as covering nearly all industrial production. Since 1933 a monthly index has also been compiled.

*Method:* Arithmetic average of component series, which are weighted by value of production in base year. The weights for the more important groups are: textiles 26.3; foodstuffs 23.3; tobacco 3.4; chemicals 12.8; leather 15.3; metallurgy 1.2; engineering 1.4; building 6.3; paper 1.5; clothing 1.6; electricity 6.9.

The monthly index is adjusted for seasonal variations.

*Source:* Banque de Grèce, *Bulletin Mensuel*, Supplement of December 1934, pp. 1-10; March 1936, pp. 137-38.

#### Hungary

*Compiler:* Ungarisches Institut für Wirtschaftsforschung, Budapest.

*Base year:* 1927.

*Scope:* The general index covers 19 series based on quantities and reflects fairly closely the trend of the country's total industrial production.

*Method:* An arithmetic average, weighted by value of production of component industries in the following 19 series: workmen employed in manufacturing; consumption of coal and coke by industry; consumption of motor power; production of raw steel; consumption of raw steel; imports of the six most important raw metals; consumption of cast iron; consumption of bricks; consumption of cement; consumption of lime; production of table glass; consumption of iron girders; production of cotton goods; production of woollen goods; production of silk goods; production of artificial silk (rayon) goods; production of jute goods; production of paper; production of beer.

Seasonal variations are eliminated.

*Source:* League of Nations, *Monthly Bulletin of Statistics*, December 1933, pp. 481-82.

#### Italy

*Compiler:* Ministero della Corporazioni, Rome.

*Base year:* 1928.

*Scope:* Comprises 32 individual series, combined into 6 groups, and reflects fairly well the trend of industrial production. The series relating to metals, paper, gas, electricity, and textiles (spinning and weaving of flax, hemp, and jute, and silk-weaving excepted) represent quantities

produced, while all the others represent indirect measures such as activity of machines, workers employed, building permits, etc.

*Method:* This monthly index is a weighted geometric average of the group indexes, which in turn are weighted geometric averages of their individual series. The weights for the individual series are based on the number of persons employed according to the census of 1927; for the group series additional weights are used, based upon estimates of the value added by manufacture. The group weights are as follows: textiles 37; metallurgy 3.1; engineering 32.9; paper 3; construction 19; electricity and gas 5.

The index is not corrected for seasonal fluctuations but inequalities in the length of months are removed.

*Source:* *Numeri Indici Mensili della Produzione industriale in Italia*, July 1935, pp. 209-10; *Economia*, October 1934, pp. 361-64; and Istituto Centrale di Statistica (Rome), *Compendio Statistico Italiano*, Vol. XIII, Chap. XXI. For a description of an annual index, see League of Nations, *Statistical Yearbook*, 1935-36, p. 189.

### Japan

*Compiler:* Ministry of Commerce and Industry, Tokyo.

*Base period:* 1931-33.

*Scope:* Includes 31 series, of which 25 represent manufacturing and 6 mining or extractive industries. With the exception of electricity, which is based on consumption of electric power, the series are all based on actual production data. In some cases the whole industry is covered by the series, and in most cases all of the principal companies are included. Since 1930 the index has been comprehensive in scope and a good indicator of the total volume of industrial production. For the years 1927-29, however, it has been linked to a less representative index and indicates changes in production for only a few important industries.

*Method:* Arithmetic weighted average of the component series. For mining the weights are derived from the total value of output, and for manufacturing from the net value added by manufacture during the base period. In some cases this net value has been estimated according to capital invested, profits, and other indirect indications. The weights are: mining (12.3) broken down into coal 8.4, petroleum 0.5, copper 2.3, gold 0.7, silver 0.2, sulphur 0.2; and manufacturing (87.7) broken down into pig iron 2.3, steel 5.0, machinery 15.2, cotton yarns 6.8, woolen yarns 1.1, raw silk 9.1, spun silk yarns 0.7, cotton tissues 8.0, silk tissues 6.4, woolen tissues 2.9, rayon tissues 1.8, rayon yarns 1.8, sulphate of ammonia 1.4, nitro-lime 0.5, superphosphate of lime 0.7, bleaching powder 0.2, soda ash 0.5, caustic soda 0.2, cement 2.9, glass (plate and sheet) 0.7, paper 4.1, wheat flour 0.7, refined sugar 2.9, electricity 8.9, gas 2.9.

No adjustment is made for inequalities of length of month or seasonal variations.

*Source:* League of Nations, *Monthly Bulletin of Statistics*, August 1935, pp. 338-39.

## Netherlands

*Compiler:* Centraal Bureau voor de Statistiek, The Hague.

*Base period:* 1922-25.

*Scope:* Covers eight series representing imports of raw materials in excess of those exported or used in the manufacture of exports. It reflects only roughly the trend of industrial activity of the country.

*Method:* Arithmetic average of the component series, which are weighted by estimated value added by manufacture. The weights are: pig iron, iron, and structural steel output of blast furnaces 41.6; wood 4.2; raw cotton and cotton yarns 20.6; raw wool and woolen yarns 8.3; tallow, oil seeds, and whale oil 12.5; cocoa beans 4.2; hides and skins 4.2; wood for paper manufacture, wood pulp 4.2.

*Source:* Centraal Bureau voor de Statistiek (The Hague), "Nederlandsche Conjunctuurlignen le kwartaal, 1928," supplement to the quarterly *Economische en Sociale Kroniek*; *De Nederlandsche Conjunctuur*, September 1931, p. 14. See also League of Nations, *Statistical Yearbook*, 1935-36, p. 191, and H. W. Methorst and J. Tinbergen, "Les Recherches Relatives a la Conjuncture au Bureau Central de Statistique des Pays-Bas," *Revue de l'Institut International de Statistique* (The Hague), April 1934, pp. 37-55. For description of a new and more comprehensive index, see Centraal Bureau voor de Statistiek, *Maandschrift*, Apr. 30, 1934, pp. 479-505.

## Norway

*Compiler:* Statistiske Centralbyrå, Oslo.

*Base year:* 1927.

*Scope:* Includes 13 series representing main groups of industries. They are based on quantitative production returns, except in the cases of iron and metal and of printing, for which the number of hours worked (corrected for increase in productivity) is employed. The annual index gives a fairly complete picture of the fluctuations of total industrial production, while the monthly index reflects only the trend of production in key industries.

*Method:* A weighted geometric average of the individual series, which are of the aggregative type, quantity being multiplied by prices in 1927. The weights, which represent value added by manufacture in 1927, are as follows: mining and smelting 3.7; earth and quarries 4.2; iron and metals 14.7; chemicals 7.4; oils and fats 3.0; gas 1.0; wood 5.1; paper 15.2; leather and rubber 1.6; textiles 5.7; clothing 4.9; foodstuffs 29.0; printing 4.5.

There is also a monthly index with the base period January-June 1933. It is an arithmetic average of its component series. These series are constructed from production returns and, in a few instances, from the number of hours worked, the consumption of raw materials, etc. They are weighted in accordance with value added by manufacture in 1932 and cover the most important industries only.

*Source:* *Statistiske Meddelelser* (Oslo), Nos. 1 and 2, 1934.

## Poland

*Compiler:* Institute of Research on General Business Movements and Price Formation, Warsaw.

*Base year:* 1928.

*Scope:* Includes 17 series of which 4 relate to mining, 2 to metallurgy, and 11 to manufactures. The mining and metallurgy data are direct production figures but the basic data for the finishing industries cover hours worked in establishments which employ at least 20 workers.

*Method:* An arithmetic average of the component series, each of which is weighted by the proportion of all workers which it employed in the base year (in the case of the finishing industries, the proportion of working hours). The weights are: mining 18.0; metallurgy 8.2; manufactures 73.8.

Adjustment is made for inequalities in the length of months and for normal seasonal fluctuations.

*Source:* Central Statistical Office (Warsaw), *Konjunktura Gospodarcza w Polsce, 1924-27*; *Konjunktura Gospodarcza, 1929*, No. 4; *Travaux de l'Institut des Recherches sur le Mouvement général des Affaires et sur la Formation des Prix*, Vol. II, No. 2, 1933.

## Rumania

*Compiler:* Institutul Românesc de Conjunctură, Bucharest.

*Base year:* 1927.

*Scope:* Includes 18 series which are divided into four main groups: manufacturing industries, extractive industries, monopoly industries, electricity. The index portrays with a fair degree of reliability the trend and changes in the volume of total industrial production.

*Method:* Arithmetic average of the 18 series, which are weighted by average value of production during 1927-31. The weights are: manufacturing industries (73.2)—food 20.3, chemicals 14.3, textiles 11.0, metals 10.9, wood 5.8, hides, skins, and leather 4.7, paper and printing 3.3, building materials 1.9, plate glass and ceramics 0.8, electro-technical products 0.2; extractive industries (13.7)—petroleum 9.0, coal 3.3, natural gas 0.6, various metals 0.5, quarries 0.3; monopoly industries (8.2)—tobacco 7.3, salt 0.9; electricity 4.9.

There is no adjustment for inequalities in the length of months or seasonal variations.

*Source:* Institutul Românesc de Conjunctură (Bucharest), *Buletin Trimestrial*, No. 34, 1933.

## Spain

*Compiler:* Banco de España.

*Base year:* 1928.

*Scope:* Represents 15 branches of industry, namely, pig iron, steel, copper, silver metal, lead, zinc, superphosphates, cement, coal, electricity, gasoline, lubricating oils, cotton, wool, and tobacco.

*Method:* Constructed by the aggregative method, quantities being multiplied by prices. The component series are said to be weighted in accordance with the value of production, but weights are not available.

*Source:* League of Nations, *Monthly Bulletin of Statistics*, July 1935, p. 290.

#### Sweden

*Compiler:* Sveriges Industriförbund, Stockholm.

*Base period:* 1925-30.

*Scope:* Includes 14 series which represent industrial establishments which employ 35.6 per cent of all industrial workers in the industries included in the index. It shows accurately the course of production in the key industries and roughly indicates changes in the total volume of production. It is less inclusive than the annual Kommerkollegium index, to which it has been linked.

*Method:* An arithmetic average of the component series, which are weighted by the relative number of workers employed in 1930, corrected, where necessary, by relative values of production. The weights are: mining 2.6; iron and steel 7.7; metallurgy 2.6; engineering 20.5; wood pulp 6.4; sawn wood 9.0; earth 5.1; stones 2.6; chemicals 2.6; paper 5.1; textiles 14.1; leather 5.1; household goods 11.6; foodstuffs and beverages 5.1.

Adjusted for seasonal variations.

*Source:* K. G. Nilson, "Den Industrielle Produktionens Volym i Sverige Åren, 1913-23," *Kommersiella Meddelanden*, Feb. 28, 1925; *Industriförbundets Meddelanden*, No. 2, 1933; *Sweden Yearbook*, 1936, p. 40.

#### Union of Soviet Socialist Republics

*Compiler:* Central Board of National Economic Accounting of the Gosplan, Moscow.

*Base year:* 1928.

*Scope:* Includes 27 series covering large-scale industries only. Such industries include all enterprises which are equipped with motive power and employ 16 or more workers, and all industries without motive power which employ 30 or more workers. They represent from 85 to 89 per cent of total industrial production. The index reflects the trend rather than actual volume of production.

*Method:* Aggregative type of index, the aggregate value of production being calculated at October 1926-September 1927 prices. The weights assigned to the component series are: electricity 1.1; coal 2.2; crude petroleum extraction 1.8; petroleum refining 2.3; iron ore 0.2; basic chemical production 0.5; dye-stuffs 0.3; rubber 1.1; chemical treatment of wood 0.2; glass and porcelain 0.8; metallurgy (ferrous metals) 1.3; engineering 12.6; coke ovens 0.5; woodwork 3.0; paper 1.0; printing 0.9; cotton 16.2; linen 1.2; wool 3.2; silk 0.4; fats and soap 1.7; foodstuffs 21.8; timber felling (not yet published); building materials 1.5; cement 0.4; matches 0.1.

*Sources:* Central Board of National Economic Accounting of the

Gosplan (Moscow), *The USSR in Figures, 1934*, pp. 32-35; *The USSR in Figures, 1935*, pp. 110-11; *Planovoie Khoziaistvo*, January-December 1934; Central Direction of Statistics of Public Economy of the State Plan, *Plan*, No. 21, 1935; League of Nations, *Statistical Yearbook, 1935-36*, pp. 180-81.

#### United Kingdom

*Compiler:* Board of Trade, London.

*Base year:* 1930.

*Scope:* Comprises two main industrial series, mining and manufacturing, with the latter subdivided into nine series. The grouping follows that of the 1930 census of production as closely as possible. Data relating to the production of paper, pianos, and cement and to the consumption of rubber, although not set up as separate series, are taken account of in the weighting of the appropriate groups. About 90 per cent of the production of the component groups (30 per cent in the case of building), and over 70 per cent of total mining and manufacturing activity are directly or indirectly represented in the index. It is therefore a reliable indicator of the trend of production and also of month-to-month changes in the volume of production. The index is characterized by its comprehensiveness and elaborate methods of construction. Of the branches of industry not covered the most important are clothing (other than boots and shoes) and public utility services (other than gas and electricity).

*Method:* Weighted arithmetic average of component group indexes, which in turn are weighted averages of the single branches of industry within each group. The weights, which are based on value added in production or manufacture in 1930, are as follows: mining (13.7); manufactures (86.3)—iron and steel and their products 9.0, non-ferrous metals 1.2, engineering and shipbuilding 23.3, textiles 12.6, chemical and allied trades 3.5, leather and boots and shoes 3.4, food and drink and tobacco 16.3, gas and electricity 7.2, building materials and building 4.2. (In addition to the manufactures listed above, paper, pianos, and rubber are included in the index.)

There is no adjustment for seasonal variations or inequalities in the length of months.

*Source:* *Board of Trade Journal*, July 26, 1928, pp. 104, 107; Feb. 21, 1929, pp. 253-54; Mar. 28, 1935, pp. 515-17; May 21, 1936, pp. 723-24. League of Nations, *Statistical Yearbook, 1935-36*, p. 192.

#### United States of America

*Compiler:* Federal Reserve Board, Washington, D.C.

*Base period:* 1923-25.

*Scope:* Made up of two component indexes, manufactures and minerals, which comprise 54 individual industrial series. Changes in about 35 of the industries covered are measured by direct production data, and in the others by indirect data. The index represents directly and indirectly nearly 80 per cent of total production and is therefore one of the most

comprehensive of its kind. It is distinguished by elaborate methods of construction. The base period is fairly recent, but the component series have been computed and combined in such a way as to allow, so far as possible, for changes in the relative importance of industries during recent years.

*Method:* The index is of the aggregative type, physical quantity figures being multiplied by price data. The weight for each manufacturing industry is a composite of the unit value added by manufacture in a given industry and a factor representing the importance of that industry and of certain related industries not directly represented in the index. For mining, average prices in the base period are used for weighting. The weights assigned to the main groups of industries are: iron and steel 20.64; textiles 18.38; food products 9.05; paper and printing 10.00; lumber and allied products 8.29; transportation and equipment 5.96; leather and its manufactures 3.62; stone and glass 2.30; metals other than iron and steel 1.62; chemicals and allied products 3.18; rubber products 1.59; tobacco 1.02; total manufacturing 85.85; minerals 14.15.

Inequalities in the length of months are eliminated and adjustments for seasonal fluctuations are made.

*Source:* *Federal Reserve Bulletin*, February 1927, pp. 100-03; March 1927, pp. 170-75; March 1932, pp. 194-96; September 1933, pp. 584-87.

## 9. TREND OF UNEMPLOYMENT IN SELECTED COUNTRIES

Unemployment data are still so fragmentary and incomplete in character as to make it impossible to present a comparable and accurate picture of employment conditions in the different countries. The International Labor Office, however, has for some years published figures on unemployment for a selected group of countries. In some of these countries the data are presented in terms of the actual number of unemployed, in others as a percentage of the eligible workers unemployed, and in still others in terms of the number of applications for work. The percentage of eligible workers unemployed naturally reflects increases or decreases in the growth of the population. In the following table we give the data as published by the International Labor Office:



UNEMPLOYMENT IN SELECTED COUNTRIES, 1925-35

Year	United States (Unemployed, in thousands)	Great Britain and Northern Ireland (Percentage of workers unemployed)	France (Number of applications for work)	Belgium (Percentage of workers unemployed)	Germany and Saar Territory (Number of unemployed)	Japan (Persons wholly unemployed, 1929=100)
1925....	...	11.5	11,167	6.0	647,848	...
1926....	...	12.6	11,705	4.2	2,016,753	...
1927....	...	9.7	47,289	5.7	1,256,871	...
1928....	2,034	10.8	15,275	4.4	1,356,871	...
1929....	1,813	10.4	10,052	4.3	1,898,547	100
1930....	4,921	16.0	13,859	11.5	3,084,866	133
1931....	8,634	21.3	75,215	27.8	4,540,667	153
1932....	12,803	22.1	308,096	39.7	5,616,932	170
1933....	13,176	19.9	307,844	34.2	4,843,177	140
1934....	11,382	16.8	376,320	36.2	2,752,850	125
1935....	11,446	15.5	465,796	30.7	2,147,008	118

Year	Italy (Number of unemployed)	Sweden (Percentage of workers unemployed)	Canada (Percentage of workers unemployed)	Australia (Percentage of workers unemployed)	Czechoslovakia (Number of applicants for work)	Denmark (Percentage of workers unemployed)
1925....	119,486	11.0	7.0	8.9	49,369	14.7
1926....	125,839	12.2	5.1	7.1	67,851	20.7
1927....	375,538	12.0	.49	7.0	52,869	22.5
1928....	362,879	10.6	4.5	10.8	38,636	18.5
1929....	316,941	10.7	5.7	11.1	41,630	14.5
1930....	448,845	12.2	11.1	19.3	105,442	13.7
1931....	763,175	17.2	16.8	27.4	291,332	17.9
1932....	1,039,910	22.8	22.0	29.0	554,059	31.7
1933....	1,052,839	23.7	22.3	25.1	738,267	28.8
1934....	995,723	18.9	18.2	20.5	676,994	22.1
1935....	791,281	16.2	15.4	16.5	686,269	19.8

Year	Estonia (Number of unemployed)	Finland (Number of unemployed)	Latvia (Number of applications for work)	Netherlands (Percentage of workers unemployed)	New Zealand (Number of unemployed)	Norway (Number of unemployed)
1925....	2,399	29531	2,721	9.5	386	14,928
1926....	2,178	1,956	2,794	8.7	1,158	23,467
1927....	2,957	1,868	3,131	9.0	1,930	23,889
1928....	2,629	1,735	4,700	6.8	2,143	21,759
1929....	3,181	3,906	5,617	7.1	2,895	18,089
1930....	3,089	7,993	4,851	9.7	5,003	19,353
1931....	3,542	11,522	8,709	18.1	41,430	27,479
1932....	7,121	17,581	14,587	29.5	51,549	32,705
1933....	8,207	17,139	8,156	31.0	46,971	35,591
1934....	2,970	10,011	4,972	32.1	39,235	35,121
1935....	1,779	7,163	4,825	36.3	38,469	35,261

10. MONTHLY INDEXES OF INDUSTRIAL PRODUCTION FOR SELECTED COUNTRIES, JANUARY 1931-JUNE 1936  
(1929=100)

Year and Month	Canada	United States	Chile	Japan	Germany	Belgium	France	Poland	Sweden <sup>b</sup>	Czechoslovakia	Hungary	United Kingdom
1931:												
Jan.....	75.6	70.6	80.3	87.7	65.5	80.9	95.0	74	74.5	77		
Feb.....	78.0	72.3	81.2	86.5	65.5	77.9	95.0	73	80.9	75		
Mar.....	79.5	73.1	88.0	85.1	69.3	80.9	94.3	72	83.6	76	68.6	84.8
Apr.....	73.2	73.9	96.6	88.1	73.7	80.1	93.6	71	88.2	80		
May.....	73.2	73.1	84.6	91.8	73.1	74.3	92.1	72	81.8	81		
June.....	66.1	69.7	84.6	89.9	74.3	77.2	90.0	72	80.9	78	68.6	82.1
July.....	70.9	68.9	82.1	94.8	73.1	78.7	87.9	72	86.4	78		
Aug.....	68.5	65.5	64.1	92.6	69.1	78.7	86.4	70	86.4	81		
Sept.....	71.7	63.9	65.8	93.0	67.5	77.2	85.0	69	85.5	82	68.6	79.5
Oct.....	66.9	61.3	66.7	92.8	63.3	77.9	83.6	66	85.5	82		
Nov.....	67.7	61.3	69.2	91.6	62.0	75.7	81.4	63	88.2	79		
Dec.....	63.0	62.2	67.5	91.3	57.8	69.1	79.3	58	91.8	73	62.7	86.6
1932:												
Jan.....	63.0	60.5	65.0	85.9	51.9	71.3	75.0	52	88.2	65		
Feb.....	63.8	58.0	72.6	89.5	52.4	67.6	71.4	52	86.4	60		
Mar.....	60.6	56.3	85.5	96.7	53.0	66.9	70.0	53	90.9	58	82.4	84.8
Apr.....	53.5	52.9	85.5	93.6	53.3	66.9	67.9	55	79.1	56		
May.....	59.1	50.4	85.5	95.7	54.8	65.4	67.1	55	82.7	56		
June.....	60.6	49.6	84.6	93.0	53.3	62.5	66.4	54	72.7	55	66.7	83.9
July.....	58.3	48.7	88.0	95.6	51.0	48.5	65.7	54	67.3	54		
Aug.....	58.3	50.4	90.6	95.2	50.3	50.7	66.4	55	73.6	55		
Sept.....	56.7	55.5	89.7	97.9	53.3	64.7	67.1	53	77.3	57	68.6	77.7
Oct.....	55.1	56.3	99.1	101.4	56.0	66.9	67.9	56	75.5	58		
Nov.....	56.7	54.6	103.4	106.4	57.6	70.6	69.3	57	77.3	56		
Dec.....	53.5	55.5	92.3	111.8	55.2	69.9	70.0	49	79.1	54	75.5	84.8
1933:												
Jan.....	48.8	54.6	96.6	105.2	52.2	69.1	71.4	47	79.1	59		
Feb.....	48.0	52.9	100.9	103.2	53.7	66.9	73.6	51	80.9	57		
Mar.....	49.6	49.6	98.3	116.6	57.1	69.1	75.0	46	80.9	56	73.5	84.8
Apr.....	51.2	55.5	94.9	113.5	57.9	67.6	76.4	53	76.4	58		
May.....	57.5	65.5	95.7	117.2	58.9	72.1	77.9	55	79.1	60		
June.....	63.0	76.5	94.9	107.6	60.3	68.4	79.3	58	77.3	60	78.4	86.6
July.....	65.4	84.0	88.0	113.9	60.5	66.2	80.0	58	79.1	58		

Aug.....	70.9	76.5	99.1	115.8	62.3	64.0	79.3	57	82.7	61		
Sept.....	70.9	70.6	94.9	114.2	64.7	65.4	78.6	59	81.8	61	83.3	86.6
Oct.....	68.5	63.9	95.7	121.1	67.1	66.2	77.1	59	84.5	65		
Nov.....	66.1	60.5	95.7	122.4	68.3	71.3	76.4	61	90.9	65		
Dec.....	66.9	63.0	90.6	124.5	68.1	69.9	75.7	61	91.8	62	89.2	93.7
1934:												
Jan.....	66.9	65.5	92.3	118.6	70.3	71.3	75.7	59	93.6	59		
Feb.....	66.1	68.1	98.3	116.2	74.3	66.9	75.0	61	94.5	61		
Mar.....	72.4	70.6	100.0	125.8	79.7	68.4	74.3	62	97.3	66	89.2	98.2
Apr.....	71.7	71.4	101.7	126.0	78.6	67.6	73.6	65	100.0	70		
May.....	78.7	72.3	100.9	126.2	80.4	66.2	72.1	64	100.9	71		
June.....	74.8	69.7	100.0	128.0	80.4	65.4	70.7	62	101.8	69	95.1	98.2
July.....	75.6	63.9	102.6	130.6	81.6	65.4	70.0	61	97.3	67		
Aug.....	78.7	61.3	106.8	124.4	80.7	65.4	69.3	62	101.8	68		
Sept.....	77.2	59.7	106.8	136.9	84.1	66.2	67.9	63	101.8	69	90.2	94.6
Oct.....	75.6	61.3	116.2	137.5	83.9	68.4	67.1	64	100.9	67		
Nov.....	76.4	62.2	118.8	145.4	83.9	69.9	67.1	67	103.6	66		
Dec.....	71.7	71.4	112.8		83.5	68.4	66.5	65	103.6	65	103.9	103.6
1935:												
Jan.....	76.8	76.5	109.4	131.6	84.2	66.9	66.7	64	105.5	65		
Feb.....	79.4	74.8	117.9	130.9	85.1	65.6	66.7	65	106.4	65		
Mar.....	73.2	74.0	115.9	142.7	91.1	66.9	66.7	67	109.1	65	106.1	105.4
Apr.....	76.7	72.3	118.5	143.0	93.8	71.8	66.7	67	107.3	66		
May.....	81.9	71.4	119.6	143.1	95.5	72.8	66.0	65	109.1	68		
June.....	78.3	72.3	123.8	137.2	92.8	70.0	66.7	68		68	103.2	103.8
July.....	81.6	72.3	117.3	141.7	94.7	69.6	66.7	66		67		
Aug.....	86.6	74.0	117.4	139.9	95.5	70.8	66.7	67		68		
Sept.....	80.5	74.8	121.5	141.0	102.4	73.3	67.4	68		73	114.0	103.2
Oct.....	85.9	79.8	129.9	148.8	101.1	77.8	68.1	67		75		
Nov.....	89.1	82.4	129.2	147.8	100.1	81.7	68.1	68		79		
Dec.....	85.4	87.4	120.8	152.8	96.5	78.8	68.8	69		80	120.5	112.2
1936:												
Jan.....	84.0	82.4	107.8	135.3	95.7	80.3	69.5	68		75		
Feb.....	82.3	79.0	124.6	139.8	96.2	80.6	71.0	69		74		
Mar.....	81.7	78.2	125.1	150.5	99.6	80.6	72.4	68		75	127.0	114.7
Apr.....	85.7	84.0	126.8	148.0	103.1	79.1	73.4	72		78		
May.....	86.8	84.9	122.2	149.3	105.2		73.1	71		77		
June.....	87.6	86.6	121.3	...			70.3	72				

<sup>a</sup> League of Nations, *Statistical Yearbook* for the years since 1931; and *Monthly Bulletin of Statistics*, August 1936.

<sup>b</sup> Suspended pending recast of index.

## THE RECOVERY PROBLEM

II. MONTHLY INDEXES OF WHOLESALE PRICES AT  
(Monthly average)

Period	Argen- tine	Aus- tralia	Bel- gium	Canada	Czecho- slovakia	France	Ger- many
1929:							
Mar.....	102.1	99.4	101.6	100.7	104.2	104.7	102.2
June.....	99.0	99.4	100.0	97.3	99.8	100.8	98.5
Sept.....	100.0	103.0	99.2	102.0	96.9	96.9	100.7
Dec.....	97.9	97.6	96.8	100.7	93.3	95.3	97.8
1930:							
Mar.....	99.1	91.4	91.0	96.0	90.7	89.0	92.1
June.....	96.2	91.9	88.1	91.7	89.7	86.1	90.7
Sept.....	94.2	85.0	83.7	85.9	84.9	88.7	89.5
Dec.....	90.3	77.6	79.8	81.3	82.5	86.3	85.9
1931:							
Mar.....	90.3	80.8	77.6	77.9	82.8	85.9	83.0
June.....	89.8	79.0	75.4	75.1	83.9	82.6	81.9
Sept.....	90.1	77.2	70.2	72.9	78.3	75.4	79.2
Dec.....	97.0	79.0	67.3	73.6	76.6	70.5	75.6
1932:							
Mar.....	95.5	79.8	64.4	72.2	75.4	70.8	72.7
June.....	93.4	77.1	60.4	69.5	73.4	67.8	70.1
Sept.....	91.7	79.9	62.6	68.9	74.6	65.9	69.3
Dec.....	88.7	75.8	61.3	66.9	72.4	65.9	67.3
1933:							
Mar.....	87.9	73.9	59.2	67.3	70.9	62.2	66.4
June.....	88.5	79.8	59.6	70.6	73.6	64.3	67.7
Sept.....	87.6	82.1	58.3	72.1	72.1	63.3	69.2
Dec.....	96.7	79.7	56.9	72.2	70.9	64.9	70.1
1934:							
Mar.....	100.2	80.9	56.2	75.3	72.6	62.8	69.9
June.....	102.0	81.1	55.5	75.4	76.5	60.4	70.8
Sept.....	104.4	82.8	55.2	75.3	75.3	58.2	73.2
Dec.....	102.3	80.9	55.0	74.5	76.0	54.9	73.6
1935:							
Mar.....	100.7	79.9	54.5	75.3	76.3	53.4	73.4
June.....	99.7	81.3	65.2	74.8	79.1	52.6	73.8
Sept.....	100.2	82.9	65.8	75.6	77.0	53.0	74.6
Dec.....	102.4	81.0	68.0	75.9	77.9	56.5	75.4
1936:							
Mar.....	101.9	82.4	67.9	75.7	77.0	60.0	75.5
June.....	101.2	84.5	67.0	75.6	76.6	60.3	75.8

\* League of Nations, *Statistical Yearbook* for the years since 1932; and

QUARTERLY INTERVALS, MARCH 1929-JUNE 1936<sup>a</sup>  
for 1929 = 100)

India	Japan	Nether-lands Indies	Nor-way	Poland	Sweden	Union of S. Africa	United Kingdom	United States
101.4	103.0	101.4	101.3	103.1	102.9	100.9	102.2	100.7
97.9	101.2	100.7	98.0	99.0	99.3	99.1	99.3	99.3
101.4	98.8	100.0	100.7	97.9	100.0	97.4	99.3	100.7
95.0	93.4	97.3	98.7	95.8	95.7	92.2	97.1	97.8
88.7	89.1	93.9	94.0	91.1	89.3	92.5	91.3	94.6
82.3	82.4	90.5	91.9	88.6	87.9	89.7	88.4	91.1
78.7	78.0	87.2	91.3	87.0	85.0	85.9	84.9	88.6
70.9	73.2	85.1	87.2	83.1	83.6	85.7	80.5	83.5
70.9	72.0	75.0	83.2	79.7	80.7	88.0	78.1	79.8
66.0	68.6	70.3	80.5	79.4	78.6	85.4	75.8	75.7
64.5	68.0	66.9	78.5	74.9	76.4	84.6	73.7	74.7
69.5	68.7	64.2	81.9	72.9	79.3	85.0	78.1	72.0
66.7	72.1	61.5	81.9	70.5	77.9	81.4	76.8	69.3
61.0	66.6	56.8	80.5	70.2	77.1	76.8	72.8	67.1
64.5	76.2	55.4	82.6	65.5	78.6	74.9	75.2	68.5
62.4	84.0	52.7	82.6	62.0	77.1	75.3	74.3	65.7
58.2	80.7	48.7	81.2	62.1	75.0	77.6	72.4	63.2
63.1	81.7	48.7	81.2	62.4	75.7	82.1	75.5	68.2
62.4	83.0	46.6	82.6	60.3	77.9	86.0	76.9	74.3
63.1	79.8	45.3	81.9	59.8	78.6	91.4	76.7	74.3
62.4	80.5	45.9	81.9	59.5	80.0	89.7	77.2	77.3
63.8	79.4	45.3	82.6	57.9	81.4	84.4	77.0	78.3
63.1	81.5	45.3	84.6	57.1	81.4	85.0	77.4	81.4
62.4	82.4	45.3	83.9	55.5	82.1	82.3	76.9	80.7
61.7	83.5	43.9	84.6	54.1	82.1	80.0	76.1	83.2
64.5	82.0	43.9	84.6	54.6	82.9	81.9	77.4	83.7
63.1	85.9	43.9	85.9	56.3	82.1	82.8	78.5	84.7
66.0	87.3	43.9	87.9	54.7	84.3	85.8	80.0	84.9
64.5	86.8	43.2	88.6	54.1	84.3	86.0	80.3	83.5
63.8	88.1	...	88.6	56.0	84.3	83.1	81.1	83.1

## 12. NATIONAL INDEXES OF PRODUCTION OF INVESTMENT AND CONSUMPTION GOODS, 1930-35\*

(Average for 1929=100)

Country	1930	1931	1932	1933	1934	1935
<b>Belgium:</b>						
Producer inv. goods....	88.8	79.4	66.2	68.1	77.3	80.5
Building only.....	87.3	93.4	93.2	92.6	77.0	99.5
Current cons. goods....	84.2	75.4	68.1	66.0	57.6	74.1
<b>Canada:</b>						
Producer inv. goods....	68.5	39.5	25.7	31.6	50.3	65.4
Automobiles only.....	58.2	30.1	23.5	26.0	43.2	70.0
Building only.....	79.0	55.6	26.3	17.3	21.8	29.7
Current cons. goods....	95.5	94.6	87.6	93.4	101.8	102.3
<b>Czechoslovakia:</b>						
Producer inv. goods....	85.2	70.6	42.5	43.0	49.0	58.3
Building only.....	65.5	75.0	87.6	62.4	50.3	35.5
Current cons. goods....	92.0	87.1	74.6	70.1	79.8	79.7
<b>Finland:</b>						
Producer inv. goods....	82.4	69.1	67.4	78.5	100.8	106.1
Building only.....	59.8	113.4	36.0	44.8	102.0	120.8
Current cons. goods....	98.5	89.9	96.8	110.8	126.5	139.8
<b>France:</b>						
Producer inv. goods....	99.8	84.9	59.4	68.4	62.0	60.7
Automobiles only.....	97.4	83.0	65.1	71.1	69.0	61.3
Building only.....	111.4	111.6	81.3	74.0	66.7	55.7
Current cons. goods....	95.7	87.6	71.6	85.8	79.9	76.3
<b>Germany:</b>						
Producer inv. goods....	78.8	51.5	33.7	41.7	68.6	95.3
Automobiles only.....	72.4	51.3	31.4	65.5	104.9	149.4
Building only.....	88.0	55.7	37.6	46.2	76.0	100.1
Current cons. goods....	94.3	88.0	77.7	82.5	92.0	92.6
<b>Italy:</b>						
Producer inv. goods....	95.8	86.8	72.4	76.6	74.3	...
Automobiles only.....	81.8	64.5	69.9	76.0	78.0	...
Building only.....	87.3	52.8	45.1	53.1	88.6	...
Current cons. goods....	91.7	83.1	72.2	80.9	80.6	...
<b>Netherlands:</b>						
Producer inv. goods....	86.6	62.9	45.9	55.2	55.8	47.2
Building only.....	110.6	103.3	71.5	117.1	100.1	80.0
Current cons. goods....	96.3	98.5	83.0	85.9	86.1	89.6
<b>Norway:</b>						
Producer inv. goods....	106.3	75.0	88.3	93.2	98.1	105.3
Building only.....	105.4	108.6	154.8	105.6	145.0	165.8
Current cons. goods....	96.0	81.9	97.4	94.8	97.4	105.1
<b>Poland:</b>						
Producer inv. goods....	81.1	60.5	43.2	49.6	58.9	65.6
Building only.....	67.3	39.2	21.5	18.1	23.9	26.8
Current cons. goods....	85.6	76.8	65.5	65.1	72.5	76.1
<b>Sweden:</b>						
Producer inv. goods....	98.4	89.8	80.2	84.4	112.9	...
Building only.....	107.4	85.9	76.8	47.9	102.5	126.7
Current cons. goods....	100.8	100.1	98.6	105.3	118.1	...
<b>United Kingdom:</b>						
Producer inv. goods....	91.7	73.3	69.6	77.7	93.1	103.1
Automobiles only.....	94.6	87.8	103.0	123.3	145.8	178.5
Building only.....	105.7	91.5	105.9	140.8	157.2	177.2
Current cons. goods....	92.0	91.3	94.7	98.9	107.9	114.2
<b>United States:</b>						
Producer inv. goods....	74.3	48.9	28.0	42.4	45.6	61.8
Automobiles only.....	63.0	44.4	25.9	35.6	51.1	71.1
Building only.....	59.3	49.1	19.0	18.8	16.6	35.0
Current cons. goods....	86.8	85.2	75.9	84.2	83.4	87.6

\* League of Nations, *World Production and Prices, 1935-36*, pp. 52-53. Of the countries listed by the League, we have included only those which show at least three classes of commodities. These are sub-indexes of the League's national indexes, briefly described under Table 8 of this appendix.

## APPENDIX B

### RECOVERY LEGISLATION IN FOURTEEN SELECTED COUNTRIES

We present in this appendix a thumb-nail picture of the scope and varied character of government legislation during the course of the depression in fourteen representative countries.<sup>1</sup>

1. *England.* Measures taken by the British government for the purpose of alleviating the depression and promoting recovery were of varied character. Money, credit, and fiscal policies were emphasized as of far-reaching general importance; but at the same time efforts were also made to protect and foster domestic industry, to stimulate agriculture and foreign trade, and to provide employment and promote recovery by means of subsidies, especially of the housing industry.

#### Money and Credit

Loans of 130 million pounds secured in Paris and New York to check exchange crisis (August 1931).

Gold standard abandoned (September 1931).

Exchange Equalization Fund created to control sterling rates (March 1932).

Equalization Fund increased 2 million pounds (May 1933);  
Fund used to prevent fall in sterling (July 1933).

Decision reached by governments of British Empire to bring about mutually stable exchange rates (July 1933).

Fifteen million pounds lent to Canada (July 1933).

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<sup>1</sup> Because of the enormous mass of legislation and other measures adopted, the task of selection has presented great difficulties. No doubt special students in the various countries will find much to criticize or regret; and actual errors may well have crept in. Nevertheless, it is believed such a survey affords a useful illustration of the range and character of governmental measures designed to alleviate the depression and promote recovery.

### The Budget

Commission formed to cut state expenses (February 1931).

Expenditures reduced: unemployment relief, 10 per cent; salaries of civil servants, 10 per cent; road building, 8 million pounds; army and navy, 5 million pounds (September 1931).

Income, beer, tobacco, petrol, and entertainment taxes increased (September 1931).

Five per cent war loan of 2.1 billion pounds converted to 3.5 per cent basis (June 1932).

Short-term indebtedness consolidated by means of conversion loan (March 1933).

Various taxes decreased (1934-35).

### Labor and Unemployment

Contribution of 90,227,852 pounds to housing program made by government (1929-36); 11,925,426 pounds to March 1933 by local governments.

New Unemployment Law established (June 1934).

Transitional payment abolished and Unemployment Assistance Board created (June 1934).

Unemployment insurance increased from 26 to 52 weeks, and compulsory age reduced from 16 to 14 years (June 1934).

Two commissions appointed to improve social and economic conditions in depressed areas; fund, partly governmental, created to further the work (November 1934).

### Agriculture

Through Agricultural Marketing Act a majority of producers permitted to regulate marketing; decisions binding on minority (1932).

Wheat Quota Law passed guaranteeing producers minimum price (April 1932).

Marketing schemes adopted for hops, milk, pigs and bacon, and potatoes (1932-33).

Marketing boards for various products established under Agricultural Marketing Act; empowered to regulate supplies of imports and domestic products; provided with funds (July 1933); given increased financial powers (December 1933).

Importation of eggs limited by Ministry of Agriculture (March 1933).



Minimum price for two years guaranteed milk producers by government (April 1934).

Beet-sugar subsidy extended (July 1935).

#### Industry

Cheap loan made to and money invested in shipping company to help build the S.S. *Queen Mary* (July 1934).

Bill passed making it possible to cease operating 10 million looms, or 25 per cent of capacity (July 1934).

Two million pounds subsidy granted for ships in operation; 10 million pounds appropriated for modernizing and building ships—conditional upon destruction of two old tons for every modernized or new ton (December 1934).

Company created to finance railway construction through bond issue of 27 million pounds, with capital and interest guaranteed by the government (December 1934).

#### Foreign Trade

The "Abnormal Importations Customs Act" enacted (November 1931).

Levying of duties up to 100 per cent authorized where imports exceeded the normal level (November 1931).

Duties on a wide variety of products increased (March 1931-March 1932).

Ottawa Agreement Act with Dominion of Canada adopted (November 1932).

Agreement reached with Polish coal mine owners relating to exports and prices (December 1934).

Trade agreements to expand exports consummated with 16 countries (1933-35).

Iron and steel duties increased (April 1935).

Agreement reached by British Iron and Steel Federation and International Iron and Steel Cartel on import quotas to England (April 1935).

2. *France.* The measures passed by the government of France cover a wide range of economic activity, especially in the later years. Particularly noteworthy are the continuous efforts to prevent fiscal disorganization; the attempts to reduce costs and stabilize industry; and the

various measures designed to relieve agricultural distress.

#### Money and Credit

Gold standard maintained without depreciation until September 1936.

Loan of 4,570 million francs to colonies (February 1931).

Clearing system established for regulating French claims and debts with countries having exchange control (February 1932).

Discount rates adjusted by Bank of France to meet changing conditions (1931-35).

#### The Budget

State loan of 85 billion francs (one-third of total debt) converted at lower interest (September 1932).

Military budget reduced 1.5 billion francs (1932-33).

Income tax increased (1932-33).

Algeria given loan of 3.3 billion francs to enable it to repay loan of 1.4 billions to French government (1932-33).

Ten billion franc loan voted to cover deficit of three preceding years (January 1933); issued in course of year.

New 10 billion franc deficit loan authorized (December 1933).

Government administration reorganized by 14 decrees; number, salaries, pensions of civil employees reduced (April 1934).

Luxury tax abolished and income tax decreased; general turnover tax established (June 1934).

Supplementary work and over-time for civil servants prohibited (1935).

By decree disbursements of states, municipalities, etc. reduced 10 per cent, involving cuts in salaries, pensions, and interest (July 1935).

Taxes increased on high incomes, armament profits, and security transfers (July 1935).

#### Labor and Unemployment

Government voted 100 million francs for purposes of relief (February 1931).

Government granted 3.5 billion francs for employment of French workers only, on public works—electrification, water supply, schools, museums, libraries, hospitals (November 1931).

State's share of municipal unemployment dole increased (January 1932).

Plan adopted for increasing public works, involving 1,000 million franc contribution from government and 2,725 million franc government guaranteed loan by railways for improvement purposes (June 1934).

Supplementary work and over-time among civil servants eliminated; encouragement given to spreading of work in private industry (1935).

By decree rents reduced 10 per cent, with owners compensated by 10 per cent reduction in mortgage interest (1935).

By decree municipalities required to use funds secured through economies effected (see above) for public works, especially waterworks, hospitals, granaries (July 1935).

Public works program accelerated; six-year program to be carried out in four (August 1935).

### Agriculture

Importation of various commodities restricted in aid of French agriculture (1932-33).

Minimum price established on wheat (August 1, 1933).

Minimum wheat price abolished and measures taken to get rid of surplus (December 1934).

Production controls established on wheat and wine (December 1934).

Transport rates reduced on wine and cider (December 1934).

Law involving reduction in vineyards passed to relieve the viticultural crisis (July 1935).

Agreement to finance wheat crop reached by Bank and government (October 1935).

Department of Agricultural Co-operatives favored (1935).

Power of local authorities to fix maximum meat prices extended (1935).

### Industry

Formation of cartels made compulsory in any industry in which the majority desired it (February 1932).

Railways and shipping companies reorganized with state control increased; 14-year subvention of 50 to 150 million francs guaranteed to shipping (July 1933).

Price decreases on gas and electricity, fertilizers, and coal decreed by government (July 1935).

#### Foreign Trade

Quota system to ration imports initiated (September 1931).

Licensing imports to offset exchange controls authorized (December 1931).

Special import tax levied on all goods (March 1932).

One hundred additional commodities subjected to import quotas (January 1934).

Law passed increasing import duties on finished and semi-finished goods (March 1934).

General change in commercial policy made, involving modification of quota system and negotiation for export advantages (July 1934).

3. *Belgium*. Governmental policy here involves two distinct stages—a comparatively passive one until 1934 and then an active program of far-reaching ramifications involving devaluation of the currency, banking and credit reorganization, and a program of public works.

#### Money and Credit

Gold standard maintained until 1935.

Control over all foreign exchange operations established by government (March 1935).

Currency devalued 28 per cent; then reattached to gold on new fixed parity (April 1935).

Steps taken by government to prevent collapse of credit system: reduction of discount rate; mortgage moratorium; reduction of cost of credit to industry; establishment of National Industrial Bank to take over long-term bank credits; reorganization of commercial banking and investment banking systems; and provision for "controlled management" of companies threatened with insolvency (1934).

Loan of 1.5 billion francs at 4 per cent obtained from Holland bankers (December 1934).

New commercial banking law passed (July 1935).

By decree mortgage office regulating mortgage loans created (January 1936).

Office created to centralize all interventions of the state in credit institutions (April 1936).

### The Budget

Systematic efforts made to prevent budget disorganization by: administrative economies, salary reductions, and increase of direct and indirect taxes (1932-35).

Moderate tax reductions made (May 1935).

State bonds to the amount of 25 billion francs converted at one-third reduction in interest rates (May 1935).

Salaries of public employees increased 5 per cent (September 1935).

### Labor and Unemployment

By decree special commissions empowered to determine wage rates for allocating unemployment benefit and to provide "means" test (July 1932).

Local unemployment funds replaced by national agencies for employment and payment of dole (October 1934).

By decree tenants of certain small dwellings empowered to claim reduction of rent to pre-war level (November 1934).

Decision to stimulate public works made by government and subsidies authorized if persons entitled to unemployment pay were employed (December 1934).

Office created to fight depression and unemployment through stimulation of public works (April 1935).

Three and a half billion francs appropriated for public works program, 1936-38 (August 1935).

### Agriculture

Valorization scheme to raise price of wheat established (September 1932).

Import of foreign flours and soft wheat prohibited (September 1932).

Law passed providing for temporary reduction of farm rents (August 1933).

### Foreign Trade

Government authorized to establish quota system (June 1931).

License system extended to many imports (1931-34).

Trade agreements reached with 17 countries (1932-36).

4. *Germany.* The relation of the state to economic activity in Germany has traditionally been closer than in Anglo-Saxon countries. This fact, together with extraordinary economic difficulties and political transformations, has resulted in a more varied and extensive program of recovery than is to be found in most countries. The range of government influence over and participation in economic activity was greatly increased after the advent of the present government.

#### Money and Credit

Gold standard maintained, nominally, throughout depression.

Foreign exchange regulations introduced under control of Reichsbank (July 1931).

Payment of short-term foreign bank credits postponed by standstill agreement (September 1931).

Acceptance and Guarantee Bank founded with capital supplied by government and eleven large banks, for prevention of bank runs (July 1931).

Banking Board of Control and a Commission of Banking created (September 1931).

Distressed banks rehabilitated, and banking system placed under strict governmental control (February 1932).

Acceptance and Guarantee Bank allowed to give credit to financial institutions (March 1932).

Industrie Finanzierung Institut created to put liquid funds at disposal of banking institutions. (September 1933).

Amortization Institut created to relieve banks of frozen debts (September 1933).

Transfer moratorium declared (July 1933).

Reichsbank allowed to use bonds as collateral to follow more forceful policy in influencing money market (October 1933).

Supervisory Committee created for all banking and credit institutions except Reichsbank and Golddiskont Bank (December 1934).

Price Commissioner appointed to control commodity prices (December 1934).

### The Budget

Systematic effort made to control budget by reducing salaries, pensions, and other outlays and by increasing both direct and indirect taxation (1930-31).

Poll and intoxicants' tax increased by communal governments (October 1931).

Assistance in meeting floating debt of states and communes agreed to by Reich (October 1931).

Eight billion reichsmark 6 per cent government bonds converted to 4.5 per cent (January 1935).

Loans and Treasury bonds to the amount of two milliard marks converted from 6 to 4.5 per cent (February 1935).

Consolidation of debt started and new Reich loan issued for first time since 1929 (March 1935).

### General Measures to Promote Recovery

To help export markets comprehensive program instituted for reduction in production costs, involving reductions of: wages by not more than 15 per cent; salaries of civil workers; interest rates on outstanding issues by about 25 per cent; cartel prices 10 per cent and more; railway tariffs, public utility rates, etc.; rents on pre-war buildings by 10 per cent. Efforts made to reduce retail prices. (December 1931.)

To encourage employers to renew fixed capital tax immunity on new machinery granted (June 1933).

To encourage industrial expansion, postponements of turnover, income, and land taxes amounting to 40 per cent granted to everyone in exchange for tax vouchers payable 1934-39; even larger postponements granted railways (September 1933).

Subsidies granted to individuals to rehabilitate houses (1933).

Employers given premium of 100 reichsmarks quarterly for each new worker employed (September 1933).

Extensive government public works program begun; financed by Public Works Company, created 1930 (1932).

Outlays for military program greatly increased (1934-36).

### Labor and Unemployment

Unemployment Board created to direct voluntary service on land and transport improvement, forests, etc. (June 1931).

All persons under 25 permitted to enroll in voluntary service (June 1932).

Voluntary contributing fund created to foster national employment (June 1933).

Marriage loan created to raise marriage and birth rates and give vacated jobs to men (June 1933).

Workers' right to choose place and kind of work restricted (May 1934).

Prohibition of "outside" workers, in districts with heavy unemployment, permitted (May 1934).

Number of persons for obligatory work service raised by 100,000 (July 1934).

Persons under 25 required to be replaced by older workers (August 1934).

Farm workers prohibited from migrating (February 1935).

Employment in military service increased (1934-35).

### Agriculture

Subsidies given to agriculturalists during crisis (1930-31).

Interest on distressed mortgages reduced by emergency decree (December 1931).

Cut in mortgage rates decreed (September 1932).

Burden on agriculture greatly relieved by decrease in Reichsbank discount rate (September 1932).

Severe quota policy introduced regulating import of agricultural products (1932).

"Reich Nourishment Order" established to increase production of food products which Germany lacked: minimum prices for bread grain fixed; Minister empowered to regulate production, sale, prices, and profits (September 1933).

Producers prohibited from offering for sale butter, cheese, and eggs unless first offered to Reich center market; prices fixed by "Reich Nourishment Order" (December 1933).

Moratorium declared on farm foreclosures (1933).

Export of corn, wheat, flour, and oatmeal banned by government (June 1934).

Minister of Agriculture given right to apportion sales of wheat and rye producers, thus regulating mill activity and commercial transactions (July 1934).

Wheat and rye prices raised (July 1934).

Agricultural price increases prohibited by Minister of Agriculture; maximum for meat, potatoes, cheese fixed; and in-



crease in price of beef and pork to March 1935 level ordered (August 1935).

Central bureau for trade in cereals created (October 1935).

### Foreign Trade

Import price of textile raw materials, metals, hides and skins controlled (March 1934).

Control extended to finished goods and additional raw materials (July 1934).

Twenty-five "Ueberwachungstellen" authorized to act as foreign exchange control offices to ensure that imports corresponded to foreign currency available at any time (September 1934).

Fund created for favoring exportation of German industrial products (June 1935).

Various bilateral trade agreements consummated (1934-35).

Economic dictatorship with undefined powers of control established (1934-36).

5. *Sweden.* The measures passed by the Swedish government were less numerous and less varied in character than those of most European countries. This may perhaps be attributed to the fact that the depression itself was somewhat less acute and recovery began relatively early. Government policies were concerned chiefly with financial measures and the provision of relief for labor and agriculture, especially the latter.

### Money and Credit

Gold standard abandoned. Intent to maintain internal buying power of the krona announced by Minister of Finance (September 1931).

Foreign reserves accumulated and credit restrictions gradually eased (October 1931 and following).

Intent to increase wholesale prices moderately, within the limits of an unchanged cost of living, announced by government (March 1932).

During Kreuger crisis 200 million krona loan to Skandinaviska Bank made by government (May 1932).

Savings banks induced by Riksbank to lower rates (June 1933).

Krona stabilized at 1,940 kronor to the pound sterling; much foreign exchange purchased by Riksbank (July 1933).

New commercial banking law passed with rigid restrictions against speculative loans (1935).

Statute set up to provide long and intermediate term credits for companies unable to float bond issues; 5 million kronor provided by government and 3 millions by banks (1935).

### The Budget

Budget balanced by taking 165 million kronor from reserves of alcoholic drink account (1932-33).

Funds borrowed by government to be used for non-self liquidating public works in aid of recovery (1933-35).

Death duties increased (1933-35).

Surtax levied on large properties and incomes (1934-35).

Public works provided for out of current revenues (1935-36).

Income tax reduced (1936-37).

### Labor and Unemployment

Under law of 1915, public works authorized to provide employment (1930-33).

Some money relief provided both by national and local governments (1930-33).

Wage rate for relief workers made equal to that of regular common labor (1933).

Principal public work projects postponed by strikes (1933); intensified activity in following year.

Unemployment insurance law passed (May 1934).

Old-age pensions increased (June 1935).

### Agriculture

Millers required to increase percentage of Swedish wheat and rye used in milling flour (June 1930).

Subsidy established for beet-sugar producers (1930 and 1931).

Grain corporation established and given monopoly on grain imports; agreement made to purchase all grain at fixed prices (April 1931).

Monopoly control established over sugar industry; designed to equalize the retail price of sugar and guarantee a minimum price for sugar beets (February 1932).

Fees levied on milk production to support the butter market (June 1932, July 1933).

State Milk Board given import monopoly on milk and dairy products (February 1933).

Tariff duties increased on potatoes (November 1932), oil cake, and fodder (June 1933, May 1934, April 1935); proceeds of duties on oil cake and fodder divided 90 per cent for milk regulation fund, 10 per cent for assisting egg production.

State monopoly established for the manufacture of potato flour (June 1933); price of potato flour fixed (September 1934).

Minimum wholesale price for butter fixed (July 1933).

By royal proclamation, duties levied on import of grain and fodder, and licenses required for import (December 1933).

Slaughtering Board given funds to subsidize pig exports (January-September 1934).

Subsidy granted to provide for refrigeration of domestic pork (October 1934).

#### Foreign Trade

Agreement made between Riksbank and Swedish Bankers' Association for informal control of exchange to limit imports (November 1931).

Credit restrictions on imports lifted (August 1932).

Commercial agreements made with nine countries (1933).

Trade agreement reached with United States (May 1935).  
(See also trade restrictions under Agriculture.)

6. *Norway.* The measures passed by the Norwegian government relate to all of the major classifications, but primary emphasis has been placed upon money and credit and fiscal policies.

### Money and Credit

Gold standard abandoned, following example of England (September 1931).

Decree issued postponing provisions of bankruptcy law as they related to the important private banking institutions (December 1931).

Agreement made by Bank of Norway to support credit of important private banks (March 1932).

Law established creating guaranty fund for savings banks (June 1932).

Series of reductions in discount rates made by Central Bank (1931-32).

### The Budget

Cigarette, tobacco, and alcohol taxes increased (1931-32).

Turnover tax of 2 per cent established; customs duties and income taxes increased (1932-33).

Wages of civil workers reduced; customs duties and rates on government railways increased (1933-34).

Numerous public loan conversions carried out (1934).

Small appropriations made for crisis relief (1933-34).

Seventy-three million kroner earmarked for crisis relief (January 1935).

Additional turnover tax of 1 per cent levied (July 1935).

Tax of 25 per cent levied on interest paid to bank depositors (January 1936).

### Labor and Unemployment

Under government arbitration, hours and wages reduced in collective contracts (September 1931).

Recommendation that adjustments in hours of work be handled separately by each industry made by government committee (November 1933).

Agreements reached to prolong existing collective contracts to 1940 (last half of 1935).

### Agriculture

Government loan fund established to aid farmers and fishermen (June 1932).

Food imports limited; tax on margarine levied (1933-34).

Additional loan funds provided for agriculture; department established to aid in converting farm mortgages (1934).

Funds provided to subsidize reductions in price of butter to important public agencies (August 1935).

#### Industry

Agreement made by whale fishers to limit oil production (June 1932).

Building of tankers restricted by government regulations (January 1935).

Law passed giving King right to limit whale companies' implements and production (June 1935).

Area and duration of fishing period fixed by royal decree (June 1935).

#### Foreign Trade

Voluntary agreements made by Norwegian banking institutions to ration exports of foreign currencies (September 1931).

Customs duties increased (first half of 1932).

State guaranty of export credits extended to new commodities and additional countries (November 1933).

Import of certain goods provisionally prohibited by government and others licensed (June 1934).

Agreement reached with foreign whale fishing companies with reference to control of oil production (autumn 1934).

Agreement reached with Sweden and Finland to divide exports of paper pulp (April 1935).

7. *Finland.* A decline in building activity brought on depression in Finland in the third quarter of 1928. Hence as early as 1929 relief measures became necessary. During the depression as a whole the legislation has related primarily to the budget and agricultural relief.

#### Money and Credit

Insurance companies permitted to carry depreciated bonds at cost price (February 1931).

Gold exchange standard abolished and currency restrictions of 1922 reintroduced (October 1931).

Discount rate increased to 9 per cent by Central Bank (October 1931).

After severe depreciation, mark stabilized at 18 per cent above sterling par (1931-32).

Discount rate progressively reduced by Central Bank (1933).

### The Budget

Eight million marks authorized for unemployment and 8 millions for relief (1929).

Fifteen million marks appropriated for unemployment and 5 millions for roads and bridge building (1930).

Outlays for relief work and particularly for large-scale road construction increased (1932).

Tax imposed on beer (May 1931).

Alcohol company created for production and trade in light drinks (December 1931).

Tax rates on beer increased (December 1931).

Customs duties increased on large group of consumption goods (1932).

Salaries and wages of government employees reduced by 5-10 per cent (December 1932).

Many public loan conversions carried out and short-term debt repaid (1934-35).

### Agriculture

Bonds of Agricultural Mortgage Society up to 400 million marks guaranteed by state; and, similarly, the foreign loans of Industrial Mortgage Bank (May 1929).

Two million marks set aside for purchase and improvement of agricultural properties (May 1929).

Export credits to 75 per cent of value of exports guaranteed by state (May 1929).

Customs duties increased on most agricultural products (December 1929).

Twenty million marks earmarked for purchase and improvement of agricultural properties (January 1930).

Loans of a joint stock company guaranteed by government to reduce interest rates to peasants (January 1931).

Bonds of a joint stock company guaranteed and a share of its capital contributed by the government (October 1931).

Laws passed to bring about further reductions in mortgage interest rates (March 1932).

Subsidy granted to small holders for expanding beet acreage (October 1932).

Export bounty established on butter and cheese (December 1932).

Export bounties on butter, eggs, cheese, and pork increased; imports of pork, butter, etc., prohibited (1934).

#### Foreign Trade

Quota policies established (1931-32).

Coal treaty concluded with England (November 1933).

Trade treaty negotiated with Germany (April 1934).

Imports of coal and coke restricted to expand markets for forest products (1934).

(See also Customs duties *under* Agriculture.)

8. *Denmark.* The government of Denmark resorted to extreme measures in the control of production and trade, the regulation of prices, and the alleviation of the burden of farm indebtedness.

#### Money and Credit

Export of gold prohibited (September 1931).

Gold standard abandoned; Bank required to act in agreement with Minister of Commerce and give profits arising from non-redemption in gold to the state (September 1931).

Discount rate reduced by National Bank—a link in policy to reduce general level of interest (November 1932).

New currency law passed (December 1932).

Currency Expert Committee created to help control the carrying out of currency regulations (December 1932).

Crisis Fund created to improve liquidity conditions, encourage normal lending, and lower interest rates (January 1933).

Maximum interest rate set at 3.5 per cent on 3-month deposits and 3 per cent on those of shorter notice (January 1933).

Co-operative Credit societies permitted to convert mortgage loans at lower rates of interest (January 1933).

Exportation of certain types of securities prohibited (December 1934).

National Bank changed from self-supporting joint stock company into the National Bank of Denmark (April 1936).

### The Budget

An extra quarter's income tax imposed (June 1932).

Certain customs duties increased provisionally (June 1932).

A 30 million krone 5 per cent loan converted to 4.5 per cent (November 1932).

### Labor and Unemployment

Wages in excess of 1.10 kroner subjected to reductions (April 1931).

Eleven million kroner decreed for extraordinary unemployment relief (October 1931).

Additional holidays given (1932).

Wages of slaughter-house workers reduced 3 per cent (May 1932).

Provisional state advance to municipalities to help unemployment provided by law (June 1932); continued in 1933.

Relief to members of Unemployment Insurance Fund extended; 80 per cent of expenses incurred covered by the state (June 1932).

Thirty million kroner to be used for loans for new buildings and 10 millions for land improvement rendered available by government (January 1933).

Distribution of beef to unemployed ordered by law; advances to aid municipalities made by state and continued through 1934-35 (January 1933).

Compulsory arbitration law passed (April 1933).

Law passed ordering strikers to resume work at once and giving organizations five days to settle disputes (May 1935).

Six million kroner appropriated to distribute pork to needy (April 1936).

### Agriculture

Through "Accord Law" 20 million kroner placed at disposal of farm owners to help them in securing reductions of mortgage debt to a level with tax value of land plus inventory and herds (1931).

By decree 30 million kroner given agriculturalists to help them pay rent and taxes (October 1931).



Temporary postponement of payment of mortgage debts granted (1932-33).

Three-year moratorium given under Moratorium Law for debts exceeding value limit prescribed in Accord Law (January 1933).

Minister of Agriculture given control over production, refining, importing, or exporting of sugar and potatoes; prices fixed by law (January 1933).

Pig production regulated (April 1933).

Tax levied on cattle slaughtered for consumption in order to obtain funds with which to purchase and destroy inferior cattle (January 1933).

Eleven million kroner provided for purpose of splitting up big farms (January 1933).

Taxes on agricultural real estate reduced 20 million kroner (January 1933).

New taxes levied on import of corn, flour, grain, and other foodstuffs to bring up home market prices; proceeds to be distributed among agricultural properties (August 1935).

One hundred million kroner placed by state in fund for loans to owners of agricultural properties (April 1936).

### Foreign Trade

Quota system agreed upon for 1932 (November 1931).

All imports put under control; office created to issue licenses (January 1932).

Agreement made with England to limit export of pigs (January 1932).

Imports of butter, milk, and margarine prohibited (November 1933).

More commodities put on quota list (December 1933).

Currency Board created to help work out proposals for quotas for each country (December 1934).

9. *Poland.* A very extensive recovery program was inaugurated, with special emphasis placed upon the control of industry and the reduction of costs. Extensive public loans were also made with a view to providing work relief for the unemployed.

## Money and Credit

Deflationary policy pursued by central bank in order to prevent exchange depreciation (1931).

Specie payments suspended by several of the important private banks (1931).

Straight gold standard substituted for foreign exchange standard (August 1932).

Validity of gold clause with respect to debts abroad declared subject to law of country where contracted (July 1934).

Control of gold transfer and foreign currency transfer established (April 1936).

## The Budget

Government expenditures systematically reduced by salary cuts, dismissals, and curtailment of social services (1931-33).

Circulation of subsidiary coins increased, the government profiting from the seigniorage (August 1932).

Program for conversion of short-term debts elaborated by autonomous administrations (1933).

Bonds to the amount of 100 million zlotys issued for financing public works (January 1934).

Discount rates lowered by Bank of Poland (June 1934).

Agreement made by joint stock banks to reduce interest rates (June 1934).

Customs duties increased on many goods (October 1934).

Bonds to the amount of 150 million zlotys issued for roads, water supplies, agricultural reform, port improvement, and electrification (April 10, 1935).

Bond issue of 70 million zlotys authorized to finance railway program (April 22, 1935).

Taxes of from 7 to 25 per cent levied on salaries of civil servants (November 1935).

Rent and tax on dwellings of one or two rooms reduced 21 per cent (November 1935).

Debts of the autonomous administration and agriculture reduced (November 1935).

Credit of 20 million zlotys furnished by Bank of Poland for construction of roads, providing four months' employment for 40,000 workers (1935).

### Agriculture

Moratorium established to reduce debts of rural properties, with enforcement power vested in arbitration commissions (August 1932).

Acceptance banks created for purpose of converting agricultural debts (1933).

Moratorium extended for three years (September 1935).

Credit for establishment of silos and granaries created by government (1936).

### Industry

Financially distressed industries relieved by a compulsory general bankruptcy law (1933).

Individual industries "stabilized" by forcing establishment of syndicates or cartels—petroleum, dye, cement, woolen spinning, iron and steel (1932-35).

Taxes on consumption reduced (1934).

Automobile industry placed under commission control (July 1935).

"Inflexible prices" reduced by negotiation or decree; reductions made in tariffs on petroleum, mineral oils, coal, transportation, electricity, postal services (1934-35).

Minister of Commerce empowered to dissolve cartels which raised prices; 44 dissolved (November 1935).

Price commissioner appointed to study measures for enforcing price reductions (December 1935).

### Foreign Trade

New customs tariff imposed, increasing duties on imports (August 1932).

Imports from countries banning Polish goods prohibited by decree (August 1934)

Imports licensed under quota (October 1934).

Import restrictions extended (July 1935).

Import of certain luxuries prohibited (October 1935).

Various bilateral trade and compensation agreements concluded (1934-35).

10. *Italy.* In view of the centralized control of the Italian government over economic affairs in general, it is

not surprising to find during the depression many new laws and decrees relating to all phases of economic life. Of particular interest are those directed toward the control of industrial activity, prices, and wages. In the following brief summary, measures taken in connection with the Abyssinian war are not included.

### Money and Credit

Gold standard maintained without devaluation until October 1936.

Restrictive policy in granting of credits relaxed and discount rate reduced (April 1930).

Exchange regulations introduced for payment of imports (May 1932).

Life of Liquidation Institute of 1926 extended to 1940 (May 1932).

By decree maximum rate of interest for loans and mortgages fixed at 5 per cent (September 1932).

Two decrees to curb flight of capital made (May 1934).

By decree interest on all mortgage loans of real estate credit establishments reduced to 4 per cent (September 1934).

Strict control established over foreign exchange (December 1934).

### The Budget

Wages and salaries of civil servants reduced by decree 8 and 12 per cent respectively (November 1930).

Most customs duties increased 15 per cent (September 1931).

Wages and salaries of civil workers cut 6 to 20 per cent (April 1934).

Wages and salaries of government employees again reduced (July 1934).

Dividends, interest, coupons, bonuses, etc., taxed 10 per cent (August 1935).

### Labor and Unemployment

Provision of 800 million lire for road building made by government and Autonomie Institute (August 1931).

Loan of 1,200 million lire for state railway electrification made by Credit Consortium (June-July 1933).

Work week reduced to 40 hours, and over-time prohibited (September 1933).

Agreement made between government and farmers assuring for one year a definite number of days of work to a fixed number of workers (October 1933).

Large landed proprietors invited, under penalty of expropriation, to divide land into medium-size holdings upon which necessary buildings might be constructed (December 1934).

Use of machinery during next harvest banned by Inter-Syndical Committee of Bologna (January 1935).

### Industry

Seven corporations formed by government to give directive aid to major industries, but not empowered to deal with concrete problems (1930).

State consumption organizations competing with private retailers created (November 1930).

Stock exchange placed under control of Finance Minister (August 1932).

Issue of industrial loans without government authorization prohibited by decree (December 1932).

Institute for Industrial Reorganization formed for gradual elimination of unsound industry and rebuilding of private industries with government financial aid (January 1933).

Corporations established for control of iron and steel, silk, and cotton industries (May 1933).

Twenty-two additional corporations for control of major industries established by government (May 1934).

Number of pages in daily papers limited by government decree (June 1935).

### Wage and Price Control

Minister of Corporations authorized to fix prices of certain commodities (November 1930).

Wages of industrial workers reduced 8 per cent and rents lowered 10 per cent by decree (November 1930).

Retail prices of foodstuffs reduced 10 per cent for civil servants and state pensioners (April 1934).

Wages of industrial workers cut 10 per cent (July 1934).

"Indemnities of directors" of industrial companies reduced 40 per cent (July 1934).

Commission formed for the purpose of controlling export prices (November 1934).

Variable dividends distributed by commercial and industrial companies limited by decree (August 1935).

#### Foreign Trade

Duties increased on phosphates, nitrates, and building materials (January 1932).

Importation of copper alloys prohibited without special authorization (November 1934).

License system extended to many products (1934-35).

Exporters and importers required to obtain permit to use barter system (March 1935).

Bilateral trade agreements instituted (1934-35).

Monopoly created for foreign purchases of coal, copper, lead, and nickel (July 1935).

*II. Austria.* Because of the extraordinarily acute financial difficulties resulting from the panic of 1931, Austrian relief measures center largely upon money and credit, fiscal and foreign exchange problems. Much of the reconstruction was carried out in co-operation with the League of Nations.

#### Money, Credit, and Exchange

Law passed to reorganize Kreditanstalt in co-operation with National Bank and Rothschilds (May 14, 1931).

Liabilities of Kreditanstalt guaranteed by government under certain conditions (May 31, 1931).

Foreign exchange regulations approved (January 1932).

Transfers of maturities due abroad suspended (June 1932).

Entire portfolio of Kreditanstalt bills taken over by government from National Bank (November 1932).

To provide basis for external loan, statement made by League Protocol that Austria planned to return as soon as possible to stable money and exchange (December 1932).

Agreement reached with foreign creditors for reconstruction of Kreditanstalt, under joint ownership of foreign creditors and government (January 1933).

Trust Company established to assist banks in reconstructing capital (March 1933).

Agreement reached with foreign creditors of Anstalt to postpone debt payments for two years; other "standstill" agreements renewed (May 1933).

International loan procured (August 1933).

Gold standard definitely abandoned (1933).

Domestic lottery loan floated (November 1933).

Gold value of schilling reduced and foreign exchange regulations abolished by government (April 1934).

Agreement made by League Control Committee to extend guaranty on 1923 loan from 1943 to 1959 (September 1934).

Domestic lottery loan floated (May 1935).

#### Other Important Measures

"Extraordinary" measures in aid of agriculture authorized by federal law (July 16, 1930).

Imports of 73 articles forbidden (April 1932).

12. *New Zealand.* New Zealand's recovery policies have related largely to money and credit and public finance, with relief to agriculture also assuming an important place.

#### Money and Credit

Currency depreciated in relation to gold (April 1930)

Gold standard suspended (September 1931).

Exchange accruing from exports pooled; set aside for government use in meeting external debts, with balance only available for imports (September 1931; terminated June 1932).

Currency depreciated compared with sterling, giving protection to local industry (January 1933).

A Reserve Bank established; domestic interest rates shortly reduced (August 1933).

Announcement made that on January 1, 1936 government would take control of money and credit (December 1935).

#### The Budget

Salaries and wages of public employees reduced (April 1931).

National Expenditures Adjustment Commission appointed to effect government economies (early 1932).

Wages of public employees again reduced (early 1932).

Sales tax levied on wide range of products (early 1933).

Taxes increased further and additional economies in expenditures effected (early 1933).

Internal public debt "voluntarily" converted; taxed if not converted (early 1933).

#### Labor and Unemployment

To aid the unemployed, tax levied on wages, salaries, and other incomes (1931).

Foregoing tax increased (1932).

With budget balanced, this tax reduced (1934).

Public works program of 5 million pounds proposed by Governor General (September 1935).

Forty-hour week established for government employees and workers on public enterprises.

#### Agriculture

Mortgagors' Relief Act passed to relieve debtors (1931).

Commission established to promote conciliation between mortgagors and mortgagees (1931).

Expenditures Act passed to effect reductions in mortgage interest rates, rents, and other fixed charges (1932).

Executive Commission of Agriculture established (1934).

Decision made by dairy industry to organize on Denmark co-operative plan (1935).

Proposal made by government to guarantee export price of important agricultural products (1936).

#### Foreign Trade

Tariff Commission established; moderate but widespread reductions in tariffs on British goods made (1933).

Importation of tax-free mutton into Great Britain arranged for (1933).

13. *Australia.* The measures passed by the Australian government have been of wide and varied character. Efforts have, however, in the main been directed toward balancing the budget, reducing costs of production, af-



fording relief to the unemployed, and protecting domestic industry through bounties and tariffs. The several states within the Commonwealth have also passed a great deal of legislation pertaining to public works, unemployment relief, control of industry, agriculture, and so forth. These are not included in the present summary.

### Money and Credit

Gold standard suspended (December 1929).

Commonwealth Bank given control of gold and gold shipments (1930).

Loans for financing deficits placed under control of Loan Council (1931).

Reserves against note issue by Bank reduced from 25 to 15 per cent in order to use gold reserve to meet short-term debts in London (June 1931).

Amendment provided that reserves could be held in "English" sterling or gold (May 1932).

Public works required to be financed out of public loans and not by Treasury bills (1932).

### The Budget

Sales tax of 2.5 per cent authorized (1930).

Increased postal rates authorized (1930).

Heavy additional taxation provided (1930).

Conversion loan issued for 9.5 million pounds (1930).

Premiers' Plan adopted (June 1931):

(1) Reduction of 20 per cent in salaries, wages, and pensions of civil workers;

(2) Conversion of internal debts on basis of 22.5 per cent reduction of interest;

(3) Increased taxation, both Commonwealth and state;

(4) Reduced bank and savings bank interest rates on deposits and loans;

(5) Relief in respect of private mortgages.

Various New South Wales revenues appropriated to the service of the Commonwealth by the Financial Agreement Enforcement Act (1932).

Financial Agreements Act made Commonwealth responsible for interest payments on state debts, and affirmed complete liability for principal of state debts; Commonwealth empowered to sue states for money owed (1932).

Numerous public loans converted (1932-33).

Gradual reductions of taxes and advances of wages of civil workers made possible by improved budget (1933-35).

### Unemployment

Basic wage rate reduced 10 per cent (1930).

Relief funds for states provided by special levies on wages of employed (1930-32).

States given one million pound government grant for relief purposes (1930).

Three million pounds provided for relief, 1.2 millions by states and 1.8 millions by government (April 1932).

Money for public works provided to states by Loan Council and Central Bank (1933).

### Foreign Trade

Bounty on galvanized iron sheets and wine increased, and bounty on flax imposed (1930).

Trade agreement concluded with Canada (July 1931).

Numerous duties increased (1931-32).

Customs Tariff enacted to provide for allowances for exchange from fixed duties in "protective" items of the tariff (December 1933).

Regulation of internal and external trade in various commodities provided for in numerous acts (December 1933).

Many duties reduced (December 1934).

Bilateral trade agreements concluded with Belgium and Sweden (1935).

14. *Japan.* Among the measures passed by the Japanese government special emphasis has been placed upon the expansion of credit, industry, and foreign trade. Military outlays have played an important part in stimulating industrial activity and providing employment.

### Money and Credit

Gold embargo imposed (December 1931).

Law passed to prevent flight of capital, giving Finance Minister power to control transactions in foreign currencies (1932).

Law passed raising limits for issue of convertible bank notes from 120 to 1,000 million yen (1932).

Law for the prevention of speculative exchange transactions (May 1933).

Law passed governing purchase of gold by the Bank of Japan to encourage production of gold in Japanese territory and to increase the gold holdings of the Bank (April 1934).

### The Budget

Reductions in rate of sugar consumption, textile consumption, and business profits taxes (1931).

Considerable sums voted for emergency relief, for public works and other undertakings designed to provide unemployment, and for aid to local authorities in financing primary schools (September 1932).

Decision reached to rely upon bond issues instead of increased taxation for needed federal revenues. Treasury obligations sold direct to Bank of Japan (1932).

Military expenditures greatly increased (1931-36).

### Agriculture and Industry

Substantial appropriations made for relief of agriculture and fisheries (1931).

Funds provided for the stabilization of the prices of rice and silk (1931).

Law passed for the control of staple industries (1931).

Industrial guild law amendments passed to extend the scope and increase the capital funds of industrial guilds (1932).

Numerous laws passed for control of various industries such as rice, silk textiles, iron and steel, petroleum, etc. (1933-34).

### Foreign Trade

Reduction or abolition of protective duties on articles which no longer need protection enforced (May 1930).

Rebate allowed on railway freight on goods destined for export (April 1930).

Government authorized to lend funds at low interest to small traders and manufacturers in order to promote export trade (April 1930).

Import duty on artificial silk reduced (April 1931).

“Specific” duties raised by 35 per cent (June 1932).

Duties raised on numerous commodities (June 1932).

Several new duties imposed; some duties raised (1933-34).

License required for manufacture of aquatic products for export (May 1934).

Government allowed to alter import duties or restrict or prohibit imports if necessary (May 1934).

Trade agreements reached with various nations (1930-34).

## APPENDIX C

### DATA RELATING TO EMPLOYMENT, PRODUCTION, AND WAGES

The following tables and notes are to supplement Chapters VI, VII, IX, and X. For the most part the tables are self-explanatory. In a few cases, however, methodology is briefly explained in accompanying text. It should be evident from the nature of the material that the figures are by no means final. They are for the most part rough approximations and should not be used apart from the qualifications incorporated in footnotes and text. The material of this appendix is presented under five headings: the labor force; current estimates of employment and unemployment; equivalent full-time employment and unemployment; production and productivity; and wages.

#### I. THE LABOR FORCE

This section contains Tables 1 to 7, inclusive. Special comment is necessary only with respect to Table 5, which shows estimates of the new workers who have become employable for the first time since 1929. The estimates in this table are composed of two parts: first, the estimated annual replacements required to maintain the complex of gainful workers as it was at the time of the last decennial census in April 1930; and second, the additions to the labor force on account of population growth.

The annual replacements are based on the number in the highest frequency age as shown by the Census of Occupations of 1930. It has been assumed that as the workers in this age group are moved on annually to successive age groups until their ranks are depleted by death, disease, and retirement, the full number in this age of highest frequency has to be replaced each year from the lower ages and hence from new recruits. This method of computing replacements does not take account of the workers entering gainful occupations at later ages than the age of highest frequency, nor does it account for the losses below the age of highest frequency. The error due to the first

*(Please turn to p. 607.)*

1. AGE AND SEX DISTRIBUTION OF GAINFUL WORKERS IN THE UNITED STATES, 1930

I. By Industry\*  
(In thousands)

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Industry and Occupation	Males and Females				Males				Females			
	Total	Under 18 Years	18 to 65 Years	65 Years and Over	Total	Under 18 Years	18 to 65 Years	65 Years and Over	Total	Under 18 Years	18 to 65 Years	65 Years and Over
ALL INDUSTRIES . . . . .	48,830	2,146	44,479	2,205	38,078	1,425	34,714	1,939	10,752	721	9,765	266
AGRICULTURE <sup>b</sup> . . . . .	10,484	976	8,677	831	9,570	776	8,018	776	914	200	659	55
Unpaid family workers on farms	1,660	750	893	17	1,185	575	600	10	475	175	293	7
ALL INDUSTRIES, EXCLUSIVE OF AGRICULTURE . . . . .	38,346	1,170	35,802	1,374	28,508	649	26,696	1,155	9,838	521	9,106	211
Forestry and fishing . . . . .	269	7	250	12	267	7	248	12	2	—	2	—
Extraction of minerals . . . . .	1,156	20	1,107	29	1,149	20	1,100	29	7	—	7	—
Manufacturing and mechanical industries, exclusive of building . . . . .	11,767	468	10,956	343	9,390	251	8,832	307	2,377	217	2,124	36
Building . . . . .	2,575	26	2,414	135	2,550	25	2,390	135	25	1	24	—
Transportation and communication . . . . .	4,438	78	4,240	120	3,998	56	3,824	118	440	22	416	2
Trade . . . . .	7,530	259	7,001	270	5,815	176	5,386	253	1,715	83	1,615	17
Public service <sup>c</sup> . . . . .	1,050	7	989	54	928	6	870	52	122	1	119	2
Professional service . . . . .	2,966	22	2,822	122	1,335	9	1,228	98	1,631	13	1,594	24
Recreation and amusement . . . . .	443	19	410	14	313	15	287	11	130	4	123	3
Domestic and personal service . . . . .	4,814	208	4,408	198	1,661	43	1,545	73	3,153	165	2,863	125
Not specified industries and services . . . . .	1,338	56	1,205	77	1,102	41	986	75	236	15	219	2

II. By Occupation<sup>d</sup>  
(In thousands)

ALL OCCUPATIONS.....	48,830	2,146	44,479	2,205	38,078	1,425	34,714	1,939	10,752	721	9,765	266
SELF-EMPLOYED.....	9,641	2	8,737	902	8,956	2	8,123	831	685	—	614	71
Farmers.....	6,012	—	5,339	673	5,749	—	5,121	628	263	—	218	45
Professional.....	514	—	476	38	453	—	418	35	61	—	58	3
Others.....	3,115	2	2,922	191	2,754	2	2,584	168	361	—	338	23
SALARIED EMPLOYEES.....	12,185	318	11,540	327	7,397	167	6,965	265	4,788	151	4,575	62
Professional.....	2,432	8	2,367	57	1,045	3	1,003	39	1,387	5	1,364	18
Executive.....	806	—	762	44	766	—	723	43	40	—	39	1
Foremen and lower managerial.....	1,141	—	1,076	65	851	—	814	37	290	—	262	28
Other salaried.....	7,806	310	7,335	161	4,735	164	4,425	146	3,071	146	2,910	15
WAGE EARNERS.....	25,344	1,076	23,309	959	20,540	681	19,026	833	4,804	395	4,283	126
Skilled.....	5,432	12	5,185	235	5,393	11	5,148	234	39	1	37	1
Semi-skilled.....	7,523	406	6,911	206	5,397	209	5,028	160	2,126	197	1,883	46
Unskilled, total.....	12,389	658	11,213	518	9,750	461	8,850	439	2,639	197	2,363	79
Farm.....	2,733	225	2,374	134	2,562	201	2,232	129	171	24	142	5
Non-farm.....	9,656	394	8,886	376	7,188	224	6,662	302	2,468	170	2,224	74
UNPAID FAMILY WORKERS ON FARMS.....	1,660	750	893	17	1,185	575	600	10	475	175	293	7

<sup>a</sup> "Gainful Workers by Industry and Occupation," *Fifteenth Census of the United States: 1930*, pp. 6-9.

<sup>b</sup> Includes unpaid family workers on farms.

<sup>c</sup> The Census classification "Public Service" includes only a portion of the individuals employed by governments; for instance, school teachers are included under "Professional Service."

<sup>d</sup> Compiled from "General Report on Occupations," *Fifteenth Census of the United States: 1930, Population*, Vol. V.

2. OCCUPATIONAL AND INDUSTRIAL DISTRIBUTION OF GAINFUL WORKERS IN THE UNITED STATES, 1930\*

I. Male Workers

(In thousands)

Occupation	All Industries	Agriculture	All Industries Exclusive of Agriculture											
			Total	Forestry and Fishing	Extraction of Minerals	Manufacturing and Mechanical Industries		Transportation and Communication	Trade	Public Service <sup>b</sup>	Professional Service	Recreation and Amusement	Domestic and Personal Service	Not Specified Industries and Service
						Building	All Other							
ALL OCCUPATIONS...	38,078	9,570	28,508	267	1,149	2,550	9,390	3,998	5,815	928	1,335	313	1,661	1,102
SELF-EMPLOYED...	8,956	5,749	3,207	6	15	154	204	98	2,016	—	453	48	211	2
Non-professional	8,503	5,749	2,754	6	15	154	204	98	2,016	—	—	48	211	2
Professional.....	453	—	453	—	—	—	—	—	—	—	453	—	—	—
SALARIED EMPLOYEES.....	7,397	74	7,323	18	84	85	1,643	1,145	2,862	408	681	170	95	132
Professional.....	1,045	—	1,045	1	10	21	166	51	14	43	584	144	—	11
Executive.....	766	—	766	1	15	19	283	96	224	119	—	2	—	7
Foremen and lower managerial	851	66	785	12	34	21	289	293	33	39	22	10	28	4
Other salaried...	4,735	8	4,727	4	25	24	905	705	2,591	207	75	14	67	110
WAGE EARNERS....	20,540	2,562	17,978	243	1,050	2,311	7,543	2,755	937	520	201	95	1,355	968
Skilled.....	5,393	—	5,393	5	100	1,817	2,463	716	81	112	15	8	21	55
Semi-skilled.....	5,397	—	5,397	7	22	67	3,437	798	214	219	12	4	417	200
Unskilled, total..	9,750	2,562	7,188	231	928	427	1,643	1,241	642	189	174	83	917	713
Farm.....	2,562	2,562	—	—	—	—	—	—	—	—	—	—	—	—
Non-farm.....	7,188	—	7,188	231	928	427	1,643	1,241	642	189	174	83	917	713
UNPAID FAMILY WORKERS ON FARMS	1,185	1,185	—	—	—	—	—	—	—	—	—	—	—	—



II. Female Workers  
(In thousands)

ALL OCCUPATIONS..	10,752	914	9,838	2	7	25	2,377	440	1,715	122	1,631	130	3,153	236
SELF-EMPLOYED...	685	263	422	—	—	—	46	1	127	—	61	1	186	—
Non-profes-														
sional.....	624	263	361	—	—	—	46	1	127	—	—	1	186	—
Professional.....	61	—	61	—	—	—	—	—	—	—	61	—	—	—
SALARIED EMPLOY-														
EES.....	4,788	5	4,783	1	7	23	579	427	1,532	116	1,506	119	280	193
Professional.....	1,387	—	1,387	—	—	—	13	—	2	4	1,267	100	—	1
Executive.....	40	—	40	—	—	—	10	3	15	11	—	—	—	1
Foremen and														
lower manage-														
rial.....	290	1	289	—	—	—	28	4	6	5	22	2	221	1
Other salaried...	3,071	4	3,067	1	7	23	528	420	1,509	96	217	17	59	190
WAGE EARNERS...	4,804	171	4,633	1	—	2	1,752	12	56	6	64	10	2,687	43
Skilled.....	39	—	39	—	—	2	37	—	—	—	—	—	—	—
Semi-skilled.....	2,126	—	2,126	—	—	—	1,656	3	10	1	1	1	424	30
Unskilled, total..	2,639	171	2,468	1	—	—	59	9	46	5	63	9	2,263	13
Farm.....	171	171	—	—	—	—	—	—	—	—	—	—	—	—
Non-farm.....	2,468	—	2,468	1	—	—	59	9	46	5	63	9	2,263	13
UNPAID FAMILY														
WORKERS ON FARMS	475	475	—	—	—	—	—	—	—	—	—	—	—	—

\* Compiled from "Gainful Workers by Industry and Occupation," *Fifteenth Census of the United States: 1930.*

<sup>b</sup> The Census classification "Public Service" includes only a portion of the individuals employed by governments; for instance, school teachers are included under "Professional Service."

### 3. POPULATION AND GAINFUL WORKERS IN THE UNITED STATES, 1929-36 (In millions)

Year	Population		Gainful Workers <sup>a</sup>		Increase in Number of Gainful Workers Since Jan. 1, 1930		
	Total <sup>a</sup>	15-64 Years Inclusive <sup>b</sup>	Total	Exclusive of Unpaid Family Workers on Farms in April 1930	Total	Males <sup>d</sup>	Females <sup>d</sup>
1929—July 1....	121.8	79.3	48.4	46.7			
1930—Jan. 1....	122.5	79.8	48.7	47.0			
July 1....	123.1	80.3	49.0	47.3	0.3	0.23	0.07
1931—July 1....	124.1	81.3	49.6	47.9	0.9	0.7	0.2
1932—July 1....	125.0	82.4	50.2	48.5	1.5	1.2	0.3
1933—July 1....	125.8	83.4	50.8	49.1	2.1	1.6	0.5
1934—July 1....	126.6	84.5	51.4	49.7	2.7	2.1	0.6
1935—July 1....	127.5	85.5	52.1	50.4	3.4	2.6	0.8
1936—July 1....	128.4	86.6	52.7	51.0	4.0	3.1	0.9

<sup>a</sup> Estimates for July 1, 1930 to July 1, 1935 are from a release of the Bureau of the Census, *Estimated Population of the United States as of July 1, 1935*, Feb. 12, 1936. Estimates for other dates have been extrapolated from census figures. (In using the 1930 census data Thompson and Whelpton, in the study cited in note <sup>b</sup> have increased the 1930 census figures by an allowance of 4 per cent for under-estimation by the census of children under five years of age. This allowance has not been incorporated in the series presented here.)

<sup>b</sup> Based on Warren Thompson and P. K. Whelpton, *Estimates of Future Population by States* (National Resources Board, December 1934), p. 3.

<sup>c</sup> The gainful workers exclusive of unpaid family workers on farms have been estimated from the population 15-64 years of age by means of the ratio existing between these groups at the census date, April 1930.

It is impossible to estimate the number of unpaid family workers on farms as distinct from paid workers. The number fluctuates according to season and also according to business conditions outside of agriculture. In projecting the estimates of the total gainful workers beyond 1930 it was thought more accurate to leave out the unpaid family workers. However, in order to make the estimates for subsequent years more or less comparable with the aggregate reported by the census for 1930, the number of unpaid family workers as of April of that year (1.7 millions) was added as a constant to the estimates for the subsequent years. The actual number of unpaid family workers on farms during the several years was, of course, not constant. It appears from the Census of Agriculture that in 1935, for instance, the number of unpaid family workers was considerably above that reported for 1930. But the difference was drawn largely from the aggregate charged to non-agricultural occupations.

<sup>d</sup> The increases have been distributed between the sexes on the basis of the ratio existing between male and female gainful workers at the time of the census in 1930.

### 4. POPULATION, BY AGE GROUPS, APRIL 1930 AND 1935

Age in Years	Total Population <sup>a</sup> (In millions)		Change between 1930 and 1935	
	1930	1935	In millions	As a Percentage
0-4.....	11.91 <sup>b</sup>	10.83	-1.08	-9.6
5-14.....	24.64	24.21	-0.43	-1.7
15-39.....	50.62	52.45	+1.83	+3.6
40-64.....	29.42	32.82	+3.40	+11.5
65 and over.....	6.64	7.49	+0.85	+12.8
All ages.....	123.23 <sup>b</sup>	127.80	+4.57	+3.7

<sup>a</sup> Warren Thompson and P. K. Whelpton, *Estimates of Future Population by States* (National Resources Board, December 1934), United States Summary Table, p. 3.

<sup>b</sup> This is the census figure plus an "allowance of 4 per cent for under-enumeration by the census of children under five years of age."

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### 5. CUMULATED NUMBER OF PERSONS WHO UNDER NORMAL CONDITIONS WOULD HAVE SOUGHT EMPLOYMENT FOR THE FIRST TIME BETWEEN JAN. 1, 1930 AND JULY 1, 1930-36<sup>a</sup> (In thousands)

Industry and Sex	1930	1931	1932	1933	1934	1935	1936
<b>All Industries and Services:</b>				•			
<b>MALES.....</b>	<b>755</b>	<b>2,275</b>	<b>3,825</b>	<b>5,275</b>	<b>6,825</b>	<b>8,375</b>	<b>9,925</b>
Replacements to maintain 1930 number and composition.....	525	1,575	2,625	3,675	4,725	5,775	6,825
Additions on account of population growth <sup>b</sup> .....	230	700	1,200	1,600	2,100	2,600	3,100
<b>FEMALES.....</b>	<b>335</b>	<b>995</b>	<b>1,625</b>	<b>2,355</b>	<b>2,985</b>	<b>3,715</b>	<b>4,345</b>
Replacements to maintain 1930 number and composition.....	265	795	1,325	1,855	2,385	2,915	3,445
Additions on account of population growth <sup>b</sup> .....	70	200	300	500	600	800	900
<b>MALES AND FEMALES.....</b>	<b>1,090</b>	<b>3,270</b>	<b>5,450</b>	<b>7,630</b>	<b>9,810</b>	<b>12,090</b>	<b>14,270</b>
Replacements to maintain 1930 number and composition.....	790	2,370	3,950	5,530	7,110	8,690	10,270
Additions on account of population growth <sup>b</sup> .....	300	900	1,500	2,100	2,700	3,400	4,000
<b>Industries and Services, Exclusive of Agriculture:</b>							
<b>MALES.....</b>	<b>630</b>	<b>1,900</b>	<b>3,200</b>	<b>4,400</b>	<b>5,700</b>	<b>7,000</b>	<b>8,300</b>
Replacements to maintain 1930 number and composition.....	400	1,200	2,000	2,800	3,600	4,400	5,200
Additions on account of population growth <sup>b</sup> .....	230	700	1,200	1,600	2,100	2,600	3,100
<b>FEMALES.....</b>	<b>320</b>	<b>950</b>	<b>1,550</b>	<b>2,250</b>	<b>2,850</b>	<b>3,550</b>	<b>4,150</b>
Replacements to maintain 1930 number and composition.....	250	750	1,250	1,750	2,250	2,750	3,250
Additions on account of population growth <sup>b</sup> .....	70	200	300	500	600	800	900
<b>MALES AND FEMALES.....</b>	<b>950</b>	<b>2,850</b>	<b>4,750</b>	<b>6,650</b>	<b>8,550</b>	<b>10,550</b>	<b>12,450</b>
Replacements to maintain 1930 number and composition.....	650	1,950	3,250	4,550	5,850	7,150	8,450
Additions on account of population growth <sup>b</sup> .....	300	900	1,500	2,100	2,700	3,400	4,000
<b>Agriculture:</b>							
<b>MALES.....</b>	<b>125</b>	<b>375</b>	<b>625</b>	<b>875</b>	<b>1,125</b>	<b>1,375</b>	<b>1,625</b>
Replacements to maintain 1930 number and composition.....	125	375	625	875	1,125	1,375	1,625
Additions on account of population growth.....	—	—	—	—	—	—	—
<b>FEMALES.....</b>	<b>15</b>	<b>45</b>	<b>75</b>	<b>105</b>	<b>135</b>	<b>165</b>	<b>195</b>
Replacements to maintain 1930 number and composition.....	15	45	75	105	135	165	195
Additions on account of population growth.....	—	—	—	—	—	—	—
<b>MALES AND FEMALES.....</b>	<b>140</b>	<b>420</b>	<b>700</b>	<b>980</b>	<b>1,260</b>	<b>1,540</b>	<b>1,820</b>
Replacements to maintain 1930 number and composition.....	140	420	700	980	1,260	1,540	1,820
Additions on account of population growth.....	—	—	—	—	—	—	—

<sup>a</sup> These estimates of replacements and additions are net figures; they do not include entrants who have since dropped out. For method, see pp. 599,607-08.

<sup>b</sup> See Table 3, p. 604.

## 6. UNEMPLOYMENT AMONG MALE GAINFUL WORKERS IN THE UNITED STATES BY AGE GROUPS, APRIL 1930

Age in Years	Number of Male Gainful Workers (In thousands)				Number of Un- employed Males <sup>a</sup> (In thousands)		Ratio of Unem- ployed to Urban Employees	
	Total <sup>b</sup>	Agri- culture <sup>c</sup>	Entre- preneurs Exclu- sive of Farmers <sup>d</sup>	Urban Empley- ees <sup>e</sup>	Class A	Classes A and B	Class A	Classes A and B
10-14.....	273	224	—	49	1	2	2.0	4.1
15-19.....	2,752	1,080	26	1,646	192	242	11.7	14.7
20-24.....	4,800	1,157	180	3,463	332	424	9.6	12.2
25-29.....	4,714	902	341	3,471	244	323	7.0	9.3
30-34.....	4,454	826	431	3,197	204	274	6.4	8.6
35-39.....	4,572	896	466	3,210	211	284	6.6	8.8
40-44.....	4,036	849	459	2,728	198	264	7.2	9.7
45-49.....	3,569	845	407	2,317	188	248	8.1	10.7
50-54.....	2,996	802	354	1,840	163	211	8.9	11.5
55-59.....	2,257	662	266	1,329	129	165	9.7	12.4
60-64.....	1,685	539	193	953	97	123	10.2	12.9
65-69.....	1,073	386	115	572	62	78	10.8	13.6
70 and over..	866	389	91	386	37	47	9.6	12.2
Unknown.....	31	5	—	26	1	1	—	—
<b>Total.....</b>	<b>38,078</b>	<b>9,562</b>	<b>3,329</b>	<b>25,187</b>	<b>2,059</b>	<b>2,686</b>	<b>8.2</b>	<b>10.7</b>

<sup>a</sup> *Fifteenth Census of the United States: 1930, Unemployment*, Vol. 1, p. 13. Class A includes "persons out of a job, able to work, and looking for a job"; Class B includes "persons having jobs but on lay-off without pay, excluding those sick or voluntarily idle."

<sup>b</sup> *Abstract of the Fifteenth Census of the United States*, p. 472.

<sup>c</sup> The same, p. 336. The difference between the total for this distribution and the 9,570,000 shown in Table 2 on p. 602 is due to "other salaried workers" in agriculture who are not included in this distribution.

<sup>d</sup> Compiled from "General Report on Occupations," *Fifteenth Census of the United States: 1930, Population*, Vol. V.

<sup>e</sup> Total gainful workers minus gainful workers in agriculture.

## 7. PERCENTAGE OF EMPLOYABLE WORKERS UNEMPLOYED IN MASSACHUSETTS AND DETROIT, BY AGE GROUPS, 1934 AND 1935

Age in Years	Massachusetts <sup>a</sup> (Jan. 2, 1934)				Detroit, Michigan <sup>b</sup> (Jan. 14, 1935) Males
	Entire State		Boston Only		
	Males	Females	Males	Females	
15.....	62.4	59.7	67.4	76.2	—
16.....	66.1	60.9	73.1	77.5	—
17.....	61.5	51.3	71.3	68.2	—
18.....	56.3	45.7	64.7	57.4	—
19.....	50.2	40.0	57.4	50.7	—
20.....	43.5	32.4	49.6	41.0	—
21-24.....	33.7	21.2	39.9	25.6	—
25-29.....	25.0	13.9	30.9	16.5	11.5
30-34.....	21.0	13.7	26.8	16.1	10.4
35-39.....	20.7	15.9	26.0	19.4	11.3
40-44.....	20.9	16.7	26.6	20.1	13.4
45-49.....	22.8	19.0	28.7	23.3	16.9
50-54.....	24.1	19.9	29.2	23.2	21.6
55-59.....	26.3	21.9	31.0	25.6	28.6
60-64.....	28.4	20.7	32.6	24.4	34.0
65-69.....	31.2	21.0	35.5	25.8	36.1
70 and over.....	26.3	14.3	34.6	17.1	

<sup>a</sup> Massachusetts Department of Labor and Industries "Report of the Census of Unemployment in Massachusetts as of Jan. 2, 1934," *Labor Bulletin No. 171*, pp. 14 and 91.

<sup>b</sup> William Haber and Paul L. Stanchfield, *Unemployment Relief and Economic Security—A Survey of Michigan's Relief and Unemployment Problem* (Lansing, Mich., 1936), p. 155.

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consideration is not significant for the current years, since there have been practically no accretions to the labor force through immigration, and it is only in the professions that individuals enter active life at an age which is higher than our class of reference. The ages of highest frequency used in the computation and the frequencies thereof are:

### All occupations:

Males .....	Approximately 22 years	1.05 millions
Females .....	Approximately 19 years	0.53 millions

### All occupations, exclusive of agriculture:

Males .....	Approximately 28-29 years	0.80 millions
Females .....	Approximately 21 years	0.50 millions

Thus it is estimated that the annual replacements required in order to maintain the full quota of gainful workers as it was in April 1930 amounted to approximately 1.58 million individuals for all occupations and 1.3 millions for all occupations outside of agriculture.

In our computations the number of individuals required to maintain the 1930 aggregate of gainful workers in agriculture is estimated by accepting the difference between all occupations and non-agricultural occupations. When the estimates are carried out directly, the replacements for agriculture appear to be somewhat higher. This difference is more marked for females than males; for females the total accretion between January 1930 and July 1936 when computed directly amounts to 221,000 whereas the number obtained by subtraction is only 195,000; for males the two estimates are 1,716,000 and 1,625,000 respectively. These discrepancies are accounted for by the fact that in agriculture the age of highest frequency is lower than in other occupations and that the turnover, particularly of females, is much higher than elsewhere. In this connection it should be pointed out that among the gainfully employed in agriculture a considerable number are unpaid workers on home farms, not all of whom remain for any length of time in agriculture. Some enter other occupations and a majority of the females marry. Hence among the agricultural replacements there is a considerable portion of individuals who normally remain in this occupation only a short time.

The additions to the labor force because of growth in popula-

tion were estimated by multiplying the mid-year estimates of the population 15-64 years of age by the ratio of gainful workers to the population of these ages. These additions were subdivided into males and females on the basis of the sex distribution of gainful workers in April 1930. It was assumed that the entire addition due to population growth accrued to the non-agricultural labor force since agriculture is a contracting rather than an expanding industry.<sup>1</sup> This assumption is not invalidated by the fact that in reality during the depression there has been an increase in the number of workers on farms. As explained on page 146, this city-to-farm movement is considered only temporary.

It should be observed that in all of these calculations we have assumed the proportions existing in 1930 to have been unchanged. This assumption is, of course, not strictly tenable; during the past six years there has been, in fact, a considerable change in the age and sex composition of the persons whom the Census would classify as gainful workers.<sup>2</sup> The changes, however, do not invalidate the general significance of our estimates.

## II. CURRENT ESTIMATES OF EMPLOYMENT AND UNEMPLOYMENT

Table 8 presents the estimates of employment and unemployment compiled by the American Federation of Labor, the President's Committee on Economic Security, and the National Industrial Conference Board.<sup>3</sup> As stated on page 131, the methods used by the three agencies differ only in detail. The procedure in each case was substantially as follows: (1) to establish the employment situation as it existed in April 1930 when the first federal Census of Unemployment was taken; (2) to project estimates of employment in the several branches of industry on the basis of indexes of the United States Bureau of Labor Statistics, the Interstate Commerce Commission, and miscel-

<sup>1</sup> For more detailed explanation, see pp. 146-47 and Table 10, p. 621.

<sup>2</sup> Owing to increased longevity, the age composition of the entire population is undergoing changes. During the depression fewer of the older workers have been able to "retire," and there has also been a tendency for persons who under ordinary conditions would be in "non-gainful" activities to seek remunerative work.

<sup>3</sup> The present discussion and all subsequent references to the unemployment estimates of the National Industrial Conference Board pertain to the series made available prior to the Board's revision of Nov. 13, 1936.

laneous employment surveys; (3) to project estimates of total gainful workers reported in the Census of Occupations in 1930 in accordance with a population factor; and (4) to subtract the number employed from the total number of gainful workers—the residual representing the number of gainful workers unemployed.

The major differences among the several estimates arise from two sources. In the first place there is some difference of opinion as to the accuracy of the unemployment census for 1930. The National Industrial Conference Board has accepted this census as being substantially correct, while the American Federation of Labor and the President's Committee on Economic Security have made some upward adjustments for the understatement of unemployment in April 1930. This difference in the estimate for the base month is carried through the subsequent years. The second source of difference hinges on the fact, already mentioned, that a marked change has been taking place in the age composition of the population of the United States. On account of a decrease in the birth rate and an increase in longevity, the proportion of adults in the population has been increasing. The estimates of the total number of gainful workers will therefore depend upon whether the number is varied in accordance with the total population or with the population of specified ages. In fact, the principal difference between the estimates of the American Federation of Labor and those of the President's Committee on Economic Security is explained by the fact that the former has used the adult population (that is, persons 15 years of age and over), while the latter has used the total population as the basis for estimating total gainful workers. Since the unemployment figure is a residual derived by deducting the number employed from the total number of gainful workers, the results vary according to the method selected for estimating the gainful workers.

From what has just been said it can be seen that the totals of the unemployed include not only those who have lost their jobs since 1929 and those unemployed in 1929, but also the increment in the number of workers seeking employment. It should also be clear that the terms "employed" and "unemployed" are used rather broadly. There is no attempt to define degree of employment or unemployment. The employed category includes

persons self-employed and "unpaid family workers on farms" as well as hired employees, and the unemployed (in some of the estimates, at least) include those who are temporarily idle from choice or through disability<sup>4</sup> as well as those who are able to work and are seeking work. In 1930, according to census data, roughly 1.3 per cent<sup>5</sup> of the gainful workers were not employable in the strict sense. Furthermore, as previously indicated, the unemployed contain a fair percentage of aged persons and of minors.

Another qualification of the unemployment figures is that the total number of employed in the later years of the depression includes a large number of individuals who have left the cities to enter agriculture as an escape from the depression. These individuals, though technically employed, are in many respects part of the non-agricultural labor force and to that extent they may still be considered as unemployed. This question is treated in the discussion on pages 146-47.

<sup>4</sup>In the estimates prepared by both the National Industrial Conference Board and the American Federation of Labor, adjustments have been made to exclude those of the unemployed who were not seeking work.

The National Industrial Conference Board series purports to trace unemployment among those who are able to work and looking for work; it excludes those who are employed and also those who are unemployed but not in a position to be employed. Thus its annual estimates of total gainful workers include a constant of 619,000 persons who are not distributed among either the employed or unemployed. The 619,000 represent those included in Classes C through F of the Census of Unemployment for 1930 whom the Board considers outside the problem of employment and unemployment because they were not at work for reasons of personal disability or were not seeking work. (In the revised estimates of the Board, published in November 1936, the "unemployables" were apparently thrown into the unemployed group.)

The American Federation of Labor series of unemployed includes some who are unemployed but who presumably are not looking for work at the time. In establishing its base the Federation deducted from the number of gainful workers reported by the Census of Occupations for April 1930 all those classified by the Census of Unemployment as "persons out of a job and unable to work" (Class C) and half of those classified as "persons out of a job and not looking for work" (Class E). This represented a total deduction of approximately 217,000.

The unemployment figures of the President's Committee on Economic Security include all the gainful workers who are not working, whether or not they are able or willing to work at the time.

<sup>5</sup>Exclusive of farmers and unpaid family workers on farms the percentage is 1.5.



A recent survey conducted by the *New York Sun*, which compares average employment in 1929 and in 1935 for a sample of identical establishments, casts some doubt on the accuracy of the employment estimates discussed in the foregoing paragraphs. According to the replies obtained by the *New York Sun* the number employed in major industrial groups in 1935, expressed as percentages of 1929, were as follows: mechanical and manufacturing industries (exclusive of construction), 93.6; trade, 108.0; extraction of minerals, 72.8; transportation and communication, 70.3. The corresponding percentages underlying the estimates of the President's Committee on Economic Security, which, as said before, are in the aggregate essentially the same as those of the American Federation of Labor and the National Industrial Conference Board, are 78.9, 87.9, 65.5, and 67.2 respectively.

When the two sets of percentages are applied to the same estimates of employment for 1929,<sup>6</sup> we find that according to the *New York Sun* survey employment in the major industrial groups mentioned above decreased from 21,840,000<sup>7</sup> to 20,550,000, while according to the estimates of the President's Committee the decline was to 17,380,000. The *Sun* survey therefore indicates that in the industries covered the number unemployed was about 3 millions less than is shown by the other estimates.

If the ratio of employment in 1935 to that in 1929 for the *New York Sun* sample were extended to all industries,<sup>8</sup> including those not covered by the survey, the discrepancy in the employment estimates would be raised to 5 millions. Thus instead

<sup>6</sup> Estimates of the President's Committee on Economic Security are here used.

<sup>7</sup> The *Sun* claims that its sample is applicable to a total of 27,968,000 persons in 1929. Two and one-half millions, however, are in construction and the *Sun* itself feels that its sample for construction "must be accepted with reservations." (It shows that employment in building construction in 1935 was 60.5 per cent of 1929, which is improbable in view of existing data relative to volume of construction.) It is safer to disregard the *Sun's* construction figures. Another cause of the *Sun's* overstatement of the number of persons to which its sample is applicable is that whereas the reports from the different establishments refer to numbers employed, the calculation of the raised aggregate refers to *employables*. There was considerable difference between the two concepts even in 1929.

<sup>8</sup> Exclusive of unpaid family workers on farms.

## 8. ESTIMATES OF EMPLOYMENT AND UNEMPLOYMENT (In millions)

Year and Month	Number of Gainful Workers			Number of Employed			Number of Unemployed		
	American Federation of Labor <sup>a</sup>	President's Committee on Economic Security <sup>b</sup>	National Industrial Conference Board <sup>c</sup>	American Federation of Labor <sup>a,d</sup>	President's Committee on Economic Security <sup>b,d</sup>	National Industrial Conference Board <sup>c</sup>	American Federation of Labor <sup>a</sup>	President's Committee on Economic Security <sup>b</sup>	National Industrial Conference Board <sup>c</sup>
1929:									
Jan.....	47.7	48.4	...	44.7	45.8	...	3.0	2.6	...
Feb.....	47.8	48.4	...	44.7	45.5	...	3.1	2.9	...
Mar.....	47.9	48.5	...	45.3	45.6	...	2.6	2.9	...
Apr.....	47.9	48.5	...	45.9	46.3	...	2.0	2.2	...
May.....	48.0	48.5	...	46.2	46.7	...	1.8	1.8	...
June.....	48.0	48.5	...	46.6	47.0	...	1.4	1.5	...
July.....	48.1	48.5	...	46.9	47.5	...	1.2	1.0	...
Aug.....	48.1	48.6	...	47.1	48.0	...	1.0	0.6	...
Sept.....	48.2	48.6	...	47.6	47.7	...	0.6	0.9	...
Oct.....	48.3	48.7	...	47.4	48.2	...	0.9	0.5	...
Nov.....	48.3	48.7	...	46.4	46.8	...	1.9	1.9	...
Dec.....	48.4	48.7	...	45.8	45.9	...	2.6	2.8	...
Average..	48.1	48.6	...	46.2	46.8	...	1.9	1.8	...
1930:									
Jan.....	48.4	48.7	...	44.5	44.7	...	3.9	4.0	...
Feb.....	48.5	48.8	...	44.2	44.4	...	4.3	4.4	...
Mar.....	48.5	48.8	...	44.2	44.2	...	4.3	4.6	...
Apr.....	48.6	48.8	...	44.6	44.4	...	4.0	4.4	3.2
May.....	48.7	48.9	...	44.9	44.6	...	3.8	4.3	3.2
June.....	48.7	48.9	...	44.8	44.7	...	3.9	4.2	3.7
July.....	48.8	48.9	...	44.3	44.7	...	4.5	4.2	4.4
Aug.....	48.8	48.9	...	43.9	44.1	...	4.9	4.8	4.8
Sept.....	48.9	48.9	...	43.9	43.9	...	5.0	5.0	4.6
Oct.....	48.9	49.0	...	43.4	43.5	...	5.5	5.5	4.8
Nov.....	49.0	49.0	...	42.7	42.5	...	6.3	6.5	5.5
Dec.....	49.1	49.1	...	42.2	42.1	...	6.9	7.0	5.8
Average..	48.8	48.9	49.0 <sup>e</sup>	44.0	44.0	43.9	4.8	4.9	4.5 <sup>f</sup>
1931:									
Jan.....	49.1	49.1	...	40.9	41.0	...	8.2	8.1	6.8
Feb.....	49.2	49.1	...	40.9	40.8	...	8.3	8.3	7.0
Mar.....	49.2	49.2	...	41.1	40.9	...	8.1	8.3	7.0
Apr.....	49.3	49.2	...	41.5	41.1	...	7.8	8.1	6.8
May.....	49.3	49.2	...	41.5	41.2	...	7.8	8.0	7.0
June.....	49.4	49.2	...	41.5	41.2	...	7.9	8.0	7.3
July.....	49.5	49.2	...	41.1	41.3	...	8.4	7.9	7.9
Aug.....	49.5	49.2	...	40.7	40.8	...	8.8	8.4	8.2
Sept.....	49.6	49.3	...	40.7	40.6	...	8.9	8.7	8.3
Oct.....	49.6	49.3	...	40.1	40.2	...	9.5	9.1	8.6
Nov.....	49.7	49.3	...	39.3	39.4	...	10.4	9.9	9.1
Dec.....	49.7	49.4	...	38.8	38.8	...	10.9	10.6	9.3
Average..	49.4	49.2	49.3 <sup>e</sup>	40.7	40.6	40.9	8.7	8.6	7.8
1932:									
Jan.....	49.8	49.4	...	37.9	37.9	...	11.9	11.5	10.2
Feb.....	49.8	49.4	...	37.6	37.6	...	12.2	11.8	10.3
Mar.....	49.9	49.5	...	37.5	37.3	...	12.4	12.2	10.5
Apr.....	49.9	49.5	...	37.4	37.1	...	12.5	12.4	11.0
May.....	50.0	49.5	...	37.0	36.7	...	13.0	12.8	11.3
June.....	50.0	49.5	...	36.6	36.4	...	13.4	13.1	11.8
July.....	50.1	49.5	...	36.3	36.1	...	13.8	13.4	12.4
Aug.....	50.1	49.6	...	36.2	36.0	...	13.9	13.6	12.5
Sept.....	50.2	49.6	...	36.7	36.5	...	13.5	13.1	12.1
Oct.....	50.2	49.6	...	36.8	36.8	...	13.4	12.8	11.9
Nov.....	50.3	49.7	...	36.4	36.5	...	13.9	13.2	12.2
Dec.....	50.3	49.7	...	36.1	36.1	...	14.2	13.6	12.3
Average..	50.1	49.6	49.7 <sup>e</sup>	36.9	36.8	37.5	13.2	12.8	11.5

<sup>a</sup> *American Federationist*, January 1936, Vol. XLIII, No. 1, pp. 64-72, and September 1936, p. 981; press release of American Federation of Labor, July 3, 1936.

<sup>b</sup> Robert R. Nathan, "Estimates of Unemployment in the United States, 1929-35," *International Labour Review*, January 1936, Vol. XXXIII, No. 1, pp. 49-73. The series have been continued by means of the indexes described by Mr. Nathan.

<sup>c</sup> National Industrial Conference Board, Inc., *Memorandum, Unemployment Estimates*, Apr. 29, 1936 (mimeographed). The series begins with April 1930. (The figures have since been revised. See *Conference Board Bulletin*, Nov. 13, 1936.)

<sup>d</sup> It should be noted that the figures in these series, for 1934 and 1935 at least, understate the actual employment within the definitions used on account of an under-estimate of the number of gainful workers in agriculture. Each series presumes that a "gainful worker" on the farm is an employed person. The under-estimates are disclosed by the Census of Agriculture for 1935, the results of which were not available

IN THE UNITED STATES BY MONTHS, 1929-36  
(In millions)

Year and Month	Number of Gainful Workers			Number of Employed			Number of Unemployed		
	American Federation of Labor <sup>a</sup>	President's Committee on Economic Security <sup>b</sup>	National Industrial Conference Board <sup>c</sup>	American Federation of Labor <sup>a,d</sup>	President's Committee on Economic Security <sup>b,d</sup>	National Industrial Conference Board <sup>c</sup>	American Federation of Labor <sup>a</sup>	President's Committee on Economic Security <sup>b</sup>	National Industrial Conference Board <sup>c</sup>
1933:									
Jan.....	50.4	49.7	...	35.2	35.2	...	15.2	14.5	13.0
Feb.....	50.4	49.8	...	35.1	35.2	...	15.3	14.6	13.0
Mar.....	50.5	49.8	...	34.8	34.7	...	15.7	15.1	13.5
Apr.....	50.5	49.8	...	35.4	35.1	...	15.1	14.7	13.2
May.....	50.6	49.8	...	36.0	35.5	...	14.6	14.3	12.9
June.....	50.6	49.8	...	36.8	36.3	...	13.8	13.5	12.2
July.....	50.7	49.9	...	37.2	37.1	...	13.5	12.8	11.8
Aug.....	50.8	49.9	...	38.1	37.8	...	12.7	12.1	11.0
Sept.....	50.8	49.9	...	38.9	38.5	...	11.9	11.4	10.2
Oct.....	50.9	50.0	...	39.0	38.8	...	11.9	11.2	10.1
Nov.....	50.9	50.0	...	38.5	38.3	...	12.4	11.7	10.6
Dec.....	51.0	50.0	...	38.2	38.0	...	12.8	12.0	10.5
Average..	50.7	49.9	50.0 <sup>e</sup>	37.0	36.7	37.5	13.7	13.2	11.9
1934:									
Jan.....	51.0	50.1	...	37.6	37.5	...	13.4	12.6	10.8
Feb.....	51.1	50.1	...	38.1	38.0	...	13.0	12.1	10.1
Mar.....	51.1	50.1	...	38.7	38.5	...	12.4	11.6	9.7
Apr.....	51.2	50.2	...	39.2	39.0	...	12.0	11.2	9.6
May.....	51.2	50.2	...	39.5	39.3	...	11.7	10.9	9.4
June.....	51.3	50.2	...	39.6	39.5	...	11.7	10.7	9.5
July.....	51.3	50.3	...	39.1	39.3	...	12.2	11.0	10.1
Aug.....	51.4	50.3	...	39.0	38.9	...	12.4	11.4	10.3
Sept.....	51.4	50.3	...	39.0	38.4	...	12.4	11.9	10.4
Oct.....	51.5	50.3	...	39.3	38.7	...	12.2	11.6	10.1
Nov.....	51.5	50.3	...	38.9	38.3	...	12.6	12.0	10.3
Dec.....	51.6	50.4	...	39.2	38.3	...	12.4	12.1	10.0
Average..	51.3	50.2	50.3 <sup>e</sup>	38.9	38.6	39.7	12.4	11.6	10.0
1935:									
Jan.....	51.6	50.4	...	38.5	37.8	...	13.1	12.6	10.4
Feb.....	51.7	50.5	...	38.9	38.1	...	12.8	12.4	10.2
Mar.....	51.7	50.5	...	39.1	38.3	...	12.6	12.2	10.0
Apr.....	51.8	50.5	...	39.4	38.7	...	12.4	11.8	9.9
May.....	51.8	50.5	...	39.4	38.9	...	12.4	11.6	9.9
June.....	51.9	50.5	...	39.5	39.1	...	12.4	11.4	10.0
July.....	51.9	50.6	...	39.4	39.2	...	12.5	11.4	10.2
Aug.....	52.0	50.6	...	39.8	39.5	...	12.2	11.1	9.9
Sept.....	52.0	50.6	...	40.2	39.7	...	11.8	10.9	9.5
Oct.....	52.0	50.6	...	40.6	40.0	...	11.4	10.6	9.3
Nov.....	52.1	50.6	...	40.6	39.9	...	11.5	10.7	9.3
Dec.....	52.1	50.6	...	40.7	40.0	...	11.4	10.6	9.1
Average..	51.9	50.5	50.7 <sup>e</sup>	39.6	39.1	40.3	12.3	11.4	9.8
1936:									
Jan.....	52.2	50.7	...	39.6	39.0	...	12.6	11.7	9.8
Feb.....	52.2	50.7	...	39.7	39.3	...	12.5	11.4	9.8
Mar.....	52.3	50.7	...	40.1	39.6	...	12.2	11.1	9.6
Apr.....	52.3	50.8	g	40.8	40.5	g	11.5	10.3	g
May.....	52.4	50.8	...	41.1	40.7	...	11.3	10.1	...
June.....	52.4	50.8	...	41.3	40.9	...	11.1	9.9	...
July.....	...	50.8	...	...	41.2	...	11.2	9.6	...
Aug.....	...	50.9	...	...	41.5	...	10.8	9.4	...
Sept.....	...	50.9	...	...	41.9	...	...	9.0	...
Oct.....	...	...	...	...	...	...	...	...	...
Nov.....	...	...	...	...	...	...	...	...	...
Dec.....	...	...	...	...	...	...	...	...	...
Average..	...	...	...	...	...	...	...	...	...

at the time the estimates were prepared. From the Census it appears that at the beginning of 1935 there were about 2 million more "workers" on farms than are included in these estimates. See pp. 138-39.

The National Industrial Conference Board made no attempt to estimate changes in agricultural employment but assumed the number working on farms remained constant. (A different assumption has apparently been made in the estimates of Nov. 13, 1936. See note c.)

<sup>e</sup> Includes 619,000 persons falling in Classes C to F of the Census of Unemployment for 1930. These individuals, who were not working at the time of the Census because of personal disability or were not seeking work, have not been distributed among the employed or unemployed since the National Industrial Conference Board has considered them outside the problem of employment and unemployment. (Apparently this is no longer true in the revised estimates of November 1936. See note 3, p. 608.)

<sup>f</sup> Average for nine months.

<sup>g</sup> Series has not been continued beyond March 1936.

of a total unemployment in 1935 of 12.5 millions, the *Sun* survey would point to a total of only 7.5 millions.

However, the ratios published by the *New York Sun* cannot be accepted as conclusive. Such judgment as may be formed from the inadequate classification of the published summary indicates that some types of establishments are disproportionately represented and that an entirely different result might be obtained if the weighting of the different groups were made according to their actual importance with respect to employment in 1929. For instance, according to the Census in 1929, chain stores had about 20 per cent of all the full-time employees in retail trade. Yet in the *Sun* sample chain stores account for at least 64 per cent of the employees in retail outlets.<sup>9</sup> Chain stores have suffered less during the depression than other retail establishments: between 1929 and 1933 the number of full-time employees in all retail outlets decreased about 30 per cent, but in chain stores it decreased only 13 per cent. The significance of the discrepancy in weighting is indicated by the fact that the *Sun* sample shows employment in chain stores as 19.0 per cent higher in 1935 than in 1929 while in department stores it was 2.6 per cent lower.

Until the data collected by the *New York Sun* are analyzed in greater detail with a view to assigning proper weights to the several component parts, it is impossible to judge whether the survey actually invalidates the estimates made by other agencies on the basis of the information collected by the United States Bureau of Labor Statistics.

One defect of the Bureau of Labor Statistics indexes of employment cannot, however, be overlooked. Because of the method of collecting the data these indexes cannot incorporate currently employment by new enterprises, and hence in a period of rising activity they do not fully register the increase in employment. This defect is recognized by the Bureau of Labor Statistics as well as by those using the indexes in estimating total employment. However, there is no basis for determining the magnitude of the error involved. This bias is opposite to that existing in the *New York Sun* survey. The *Sun* sample is based on firms existing at the time of the survey and does not reflect the reduction in employment of firms which have gone out of business during the de-

<sup>9</sup> In the *Sun* classification wholesale trade is not classified separately. But out of a total of 711,000 employees in retail and wholesale establishments, 454,000 employees were reported by chain stores for 1929.

pression, while it includes new firms which have entered business during the upturn.

### III. EQUIVALENT FULL-TIME EMPLOYMENT

Tables 9 to 16 inclusive, presented in this section, deal with the estimates of employment and unemployment on a full-time equivalent basis. The need for distinguishing full-time equivalent employment from the ordinary measures referring to mere counts of workers without regard to actual time worked is indicated on page 142.

*Employees in all industries.* In estimating the equivalent full-time number of wage earners and salaried workers use was made of existing data on aggregate wages and salaries and average full-time earnings. The work of the Department of Commerce in connection with its estimates of national income was relied upon in practically all the estimates. However, the categories used in the Department of Commerce estimates have not been followed in each case. Manufacturing, for instance, consists of a somewhat different industrial component in our figures than in the Department's figures.

The number of equivalent full-time employees was obtained by dividing total wages and salaries by annual estimates of average full-time earnings of employees. Separate averages have been computed for the several industries. In five of them, namely, manufacturing, construction, mining, steam railways, and agriculture, it was possible to compute separate averages for wage earners and salaried workers, but for the other industries, which were chiefly service industries, such a segregation could not be made because the distinction between wage earners and salaried workers in these industries is ordinarily not clearly drawn. The averages for the different groups were weighted in accordance with the approximate number in the respective groups. On the whole, our results correspond very closely with those published by the Department of Commerce since in most instances the same figures were used and refinements with respect to the concept of full time have been possible in the cases of only a few industries. In manufacturing, for instance, the Department of Commerce accepts the average number on payrolls as the equivalent full-time employees in the case of wage earners as well as salaried workers. In our estimates for manufacturing, however, the average full-time earnings of wage earners have been computed on the basis of average hourly earnings and a standard

number of hours per year. In other words, in the Department of Commerce figures the number of hours representing full-time employment changes from year to year, while in our estimates an attempt has been made to keep the number of hours stationary, at the level established in 1929. Thus in our estimates for manufacturing, full-time work was considered to be about 2,400 hours in 1932 as well as in 1929 although the average wage earner on the payrolls was employed on a considerably lower hour basis in the later year.

*The self-employed in agriculture.* The estimates of the full-time equivalent of the self-employed in agriculture are shown in Table 10 on page 621. These figures represent only rough estimates based primarily on a conceptual classification of the farm operators in 1929 and on the assumption that, because there has been no increase in demand for or production of farm products, no farmers added since 1929 are engaged in commercial farming. Thus the number of full-time self-employed commercial farmers is kept constant at 4.9 millions. When the non-commercial farmers are included, the total is estimated to have increased from 5.4 millions in 1929 to 5.9 millions in 1935.

The steps involved in estimating the full-time equivalent number of farmers in 1929 are as follows:

Total number of farms as reported by the Census of Agriculture <sup>10</sup> .....	6,289,000
Number operated by managers <sup>10</sup> .....	56,000
Number operated by owners or tenants .....	6,233,000
Equivalent full-time workers represented by the days worked by farmers for pay off their own farms <sup>11</sup> ..	628,000
Estimated equivalent full-time workers represented by <i>self-employment</i> of farmers at other occupations <sup>12</sup> .....	221,000
Total man-years at other occupations .....	849,000
Corrected estimate of number of farmers .....	5,384,000

<sup>10</sup> *Fifteenth Census of the United States: 1930, Agriculture, Vol. IV, p. 146.*

<sup>11</sup> The volume of days of other occupations of farm operators (*Agriculture, Vol. IV, pp. 430-31*) divided by 300. The outside occupations of farm managers have been excluded.

<sup>12</sup> The difference between the enumeration of the Census of Agriculture and that of the Census of Occupations. This would seem to be conservative in view of the number of farmers who operate country stores, gasoline stations, etc. There are no figures of the actual number of such operators.

Subtracting from the above result 498,000 farmers reported as self-sufficing, we find that the full-time equivalent of "commercial" farmers may be set at approximately 4,886,000.

The situation revealed by the foregoing analysis is fully confirmed by the available data on the value of products sold from the farm. Dr. O. E. Baker has estimated on the basis of the Census of Agriculture that, in 1929, 15.3 per cent of the farmers (comprising nearly one million of the units reported) accounted for less than one per cent of the total value of farm products sold. The sale from one-half of the farms—representing some 3 millions of the so-called farmers—constituted less than 12 per cent of the total.

The increase of 523,700 farms between 1930 and 1935 was accompanied by an increase in the number of days given by farm operators to non-agricultural occupations. In 1929 farm operators worked 189 million days for pay away from their farms, but in 1934, despite the decrease in employment possibilities, the volume of such work rose to 202 million days.<sup>13</sup> The explanation lies, of course, in the fact that a large proportion of the new operators were "part-time" farmers with non-agricultural employment connections.

It is impossible to determine the exact relationship of these new farmers to the farm industry, but for our immediate purposes it will be convenient to consider the entire increment as "self-sufficing" farmers, although, as has been suggested, many would more correctly fall into the class of *part-time* farmers.<sup>14</sup> This places the number of "self-sufficing" or "subsistence" farmers at the beginning of 1935 at something more than one million,<sup>15</sup> in addition to the estimate of 4,886,000 commercial farmers.

In agriculture it is difficult to treat the self-employed apart from the supplementary farm labor consisting of unpaid family workers and hired laborers. In many respects the three groups are interchangeable. For example, it is reasonable to believe

<sup>13</sup> U. S. Census of Agriculture: 1935, *Part-Time Farmers* (rotoprint release), p. 2.

<sup>14</sup> Incidentally, in our calculations the category of part-time farmer is eliminated, the time devoted by farmers to non-agricultural pursuits being reduced to an equivalent full-time basis and then subtracted from the total number of farm operators.

<sup>15</sup> See Table 10, p. 621.

that the women reported as farm operators for the most part devote their time to household duties while the actual operations on their farms are carried on by other members of the family (reported as unpaid family workers) or by hired help. Likewise, during the depression there has been an increase in the number of operators and unpaid family workers with an attendant decrease in the number of wage earners in agriculture.

It is not possible to make a precise evaluation of the volume of work and the productive contribution of unpaid family workers on farms. The only data available concern their number as of a specified date. Because the volume of work varies greatly with the season, the number as of a given date is a poor index of the average for the year. The reduction of the unpaid family workers to a full-time basis must therefore be made in a rather arbitrary manner in the light of qualitative considerations connected with the age and sex distribution of these workers as reported by the Census. We have already seen that about 475,000 of the 1.7 million unpaid family workers reported in the 1930 Census were females. It is believed that these may be definitely excluded from the count of *producers* in the narrow sense of the word since it may be assumed that their work consisted chiefly of household functions in their own homes which are not ordinarily included in the computation of production and income. Their assistance on the farm proper was merely incidental and could not have been of much consequence. The 575,000 boys under 18 years of age and the 10,000 men over 65 who were included in this group undoubtedly contributed a very considerable amount of work to the farm business. Yet in view of the uneven distribution of farm work throughout the year and in view of the long periods of idleness—in some parts of the country at least—on the part of adults as well as children, it would perhaps not be too inaccurate to offset the idle time of the full-time workers by the part-time work of the minors and the aged. This leaves 600,000 males between the ages of 18 and 64 who may rightly be considered as full-time workers. However, as has already been pointed out, there were 263,000 female operators whom we considered as merely nominal farmers. On the assumption that adult males reported as unpaid family workers conducted the actual operation on these farms, 263,000 of the 600,000 may be shifted to the self-employed



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group in order to offset the inclusion of female operators. The net addition to the equivalent full-time labor force on account of the unpaid family workers is therefore reduced to 337,000.

The number of full-time wage earners in agriculture has been calculated for the different years on the basis of the estimated annual wages in agriculture and the average full-time compensation of agricultural laborers.<sup>16</sup> The number of full-time wage earners by this calculation was 2.0 millions in 1929 and 1.5 millions in 1935.<sup>17</sup>

Co-ordinate with the reasoning followed in the case of the self-employed in agriculture, it is assumed that there has been no change during the depression in the number of supplementary workers, that is, wage earners and unpaid family workers, on commercial farms. This assumption, like the other, is ultra-conservative since the decrease in demand for and the production of agricultural products has not necessitated keeping so large a personnel in the industry as in 1929.<sup>18</sup> On the basis of this assumption it is possible to reason that the decrease in full-time wage earners during the depression has been made up by an equivalent number of unpaid family workers. Furthermore, it may be assumed that the unpaid workers over and above the quota required to replace the wage earners are not engaged in additional production. Such chores as they perform merely represent relief from the work for the regular workers. Thus it is estimated in the table on page 621 that the full-time equivalent workers represented by the unpaid family workers increased from 337,000 in 1929 to 873,000 in 1935.

<sup>16</sup> This method is used by the Department of Commerce in connection with the income estimates.

<sup>17</sup> The 1935 Census of Agriculture gives the total number of hired help on farms as 1,646,000 as of Jan. 1, 1935. *U. S. Census of Agriculture: 1935, Farm Labor* (rotoprint release), p. 2.

<sup>18</sup> The index of physical volume of output in agriculture computed by the National Bureau of Economic Research and converted to a 1929 base is as follows: 1929, 100.0; 1930, 100.0; 1931, 105.9; 1932, 98.9; 1933, 96.0; 1934, 91.0. National Bureau of Economic Research, "Income Originating in Nine Basic Industries, 1919-34," *Bulletin* 59, p. 24.

9. EQUIVALENT FULL-TIME EMPLOYMENT OF "EMPLOYEES" IN ALL INDUSTRIES, 1929-35<sup>a</sup>

Year	Department of Commerce Estimates (Changing hour content per wage earner) <sup>b</sup>		Adjusted Estimates (1929 hours per wage earner kept constant) <sup>c</sup>	
	In Thousands of Employees	As a Percentage of 1929	In Thousands of Employees	As a Percentage of 1929
1929....	34,485	100.0	34,341	100.0
1930....	32,373	93.9	31,649	92.2
1931....	28,943	83.9	27,724	80.7
1932....	25,308	73.4	23,914	69.6
1933....	25,358	73.5	23,683	69.0
1934....	27,325	79.2	25,173	73.3
1935....	28,094	81.5	26,175	76.2

<sup>a</sup> Exclusive of work relief.

<sup>b</sup> Robert R. Nathan, "Expansion in the National Income Continued in 1935," *Survey of Current Business*, July 1936. These estimates take no account of the violent changes in average hours of work which have taken place during the depression. They present the average number on payrolls for each year irrespective of length of working day. In a few industries adjustments have been made for part-time employees.

<sup>c</sup> Based on figures from U. S. Department of Commerce, *National Income in the United States, 1929-35*, 1936. Except for wage earners in the principal non-service industries—manufacturing, mining, construction, and transportation—the Department of Commerce data, as given, have been incorporated in the present estimates. For the wage earners mentioned, however, the average hours of work in 1929 (provided they did not exceed 2,400 hours) have been retained as full-time in all the subsequent years. The equivalent numbers have been obtained by dividing the aggregate payrolls for the wage earners in question by the current average annual earnings for a working year of the 1929 number of hours. The maximum hours considered normal in 1929 was 2,400; that is, 48 hours per week for 50 weeks. In railroad transportation the average worked in 1929 was more than 2,400 hours. Hence the adjustment made in the number of wage earners in that industry in 1929 gave a higher number than reported by the Interstate Commerce Commission.

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### 10. EQUIVALENT FULL-TIME EMPLOYMENT IN AGRICULTURE, 1929-35 (In terms of thousands of workers)

Year <sup>a</sup>	Grand Total	Self-Employed			Unpaid Family Workers <sup>d</sup>	Wage Earners <sup>d,†</sup>
		Total	Commer- cial Farmers <sup>b</sup>	Non-com- mercial Farmers <sup>c</sup>		
1929.....	7,727	5,366	4,886	480	337 <sup>e</sup>	2,024
1930.....	7,757	5,396	4,886	510	468	1,893
1931.....	7,817	5,456	4,886	570	592	1,769
1932.....	8,167	5,806	4,886	920	839	1,522
1933.....	8,247	5,886	4,886	1,000	806	1,555
1934.....	8,267	5,906	4,886	1,020	889	1,472
1935.....	8,272	5,911	4,886	1,025	873	1,488

<sup>a</sup> Average for the year or as of July 1.

<sup>b</sup> Owners and tenants exclusive of self-sufficing farmers, and corrected for time given to other occupations. It is assumed that since there was no increase in demand for agricultural products and no increase in production, there was no increase in the volume of time given to commercial farming. See pp. 616-19.

<sup>c</sup> Includes self-sufficing and, subsequent to 1930, some part-time farmers who gave time to other employment. The increase between 1930 and 1935 has been distributed in accordance with the Department of Agriculture estimates of growth in farm population.

<sup>d</sup> It is assumed that no additional labor was required in agriculture during the depression. Hence the combined total of unpaid family workers and wage earners is kept stationary, the decrease in wage earners being compensated by additions to the unpaid family workers. The actual number of unpaid family workers increased much more during the depression than is here indicated, but not the work.

<sup>e</sup> This is the number of males in the ages 18-64 reported in the Census of Occupations with a deduction to allow for female farm operators. See p. 618.

<sup>†</sup> Estimated by the Department of Commerce on the basis of total farm wages and average full-time annual pay of farm labor without board.

**11. EQUIVALENT FULL-TIME EMPLOYMENT OF "COMMERCIALLY SELF-EMPLOYED" IN ALL INDUSTRIES, 1929-35**

(In terms of thousands of workers)

Year	Total	Agriculture <sup>a</sup>	Other Industries <sup>b</sup>
1929.....	8,813	4,886	3,927
1930.....	8,795	4,886	3,909
1931.....	8,777	4,886	3,891
1932.....	8,717	4,886	3,831
1933.....	8,767	4,886	3,881
1934.....	8,864	4,886	3,978
1935.....	8,897	4,886	4,011

<sup>a</sup> See Table 10, p. 621.

<sup>b</sup> U. S. Department of Commerce, *National Income in the United States, 1929-35, 1936.*

**12. EQUIVALENT FULL-TIME EMPLOYMENT OF "ALL WORKERS" IN ALL INDUSTRIES, 1929-35<sup>a</sup>**

(In terms of thousands of workers)

Year	Total		Self-Employed		Others	
	Including Self-Sufficing Farmers	Commercial Activities Only	Commercial <sup>b</sup>	Non-Commercial <sup>c</sup>	Employees <sup>d</sup>	Unpaid Family Workers on Farms <sup>e</sup>
1929.....	43,971	43,491	8,813	480	34,341	337
1930.....	41,422	40,912	8,795	510	31,649	468
1931.....	37,663	37,093	8,777	570	27,724	592
1932.....	34,390	33,470	8,717	920	23,914	839
1933.....	34,256	33,256	8,767	1,000	23,683	806
1934.....	35,946	34,926	8,864	1,020	25,173	889
1935.....	35,970	35,945	8,897	1,025	26,175	873

<sup>a</sup> Exclusive of work relief.

<sup>c</sup> Agriculture only. See Table 10, p. 621.

<sup>d</sup> See Table 9, p. 620.

<sup>b</sup> See Table 11 above.

<sup>e</sup> See Table 10, p. 621.

<sup>a</sup> These alternative estimates are based on the fact that the employment indexes of the Bureau of Labor Statistics, which enter into the original calculations, are subject to a downward bias. In the absence of the final data of the 1935 Census enumerations this bias cannot be fully evaluated. Preliminary checks, however, indicate that in 1935 the error in our figures resulting from the bias was perhaps as high as 400,000 workers on a full-time basis (500,000 corrected for reduction in hours between 1929 and 1935). Since the Bureau of Labor Statistics indexes have already been corrected in accordance with the Census of 1933, the error in our estimate for 1934 may be placed as roughly one-half of that in 1935, or about 200,000. By 1936 the bias may have raised the error to 500,000.

<sup>1</sup> Preliminary. See note g above.

**13. VOLUME OF UNEMPLOYMENT ON EQUIVALENT FULL-TIME BASIS, 1929-36**  
**Exclusive of Non-Commercial Activities<sup>a</sup>**  
**(In terms of millions of workers)**

Year	Gainful Workers <sup>b</sup>		Full-Time Equivalent Employment in Commercial Activities <sup>c</sup>	Approximations of Unemployment <sup>d</sup>
	Gross Estimates <sup>e</sup>	Adjusted for Overstatement in Agriculture <sup>d</sup>		
1929....	48.4	46.6	43.5	3.1
1930....	49.0	47.2	40.9	6.3
1931....	49.6	47.8	37.1	10.7
1932....	50.2	48.4	33.5	14.9
1933....	50.8	49.0	33.2	15.8
1934....	51.4	49.6	34.9-35.1 <sup>h</sup>	14.7-14.5 <sup>h</sup>
1935....	52.1	50.3	35.9-36.3 <sup>h</sup>	14.4-14.0 <sup>h</sup>
1936....	52.7	50.9	37.9-38.4 <sup>h</sup>	13.0 <sup>i</sup> -12.5 <sup>h</sup>

<sup>a</sup> Excludes subsistence farming and work relief. If individuals in these activities were counted as employed, the estimates of unemployment in the last four years would be greatly reduced. (In September 1936 about 3.4 million people were on work relief.)

For wage earners in manufacturing, transportation, mining, and construction the full-time equivalent in the several years is based on a constant number of hours of work per year—the number which approximately obtained in 1929. If the computations for these industries were made on a progressively reduced working year, the estimates of full-time equivalent employment in the years following 1929 would be higher.

<sup>b</sup> As of middle of year.

<sup>c</sup> See Table 3, p. 604.

<sup>d</sup> Gross estimates less 1.8 million workers in agriculture as follows: self-sufficing farmers, 498,000; female farm operators, 263,000; female unpaid family workers on farms, 475,000; and male unpaid family workers under 18 and over 65 years of age, 585,000. It is assumed that these workers' included in the 1930 Census of Occupations and carried in the annual gross estimates are not available for employment in the commercial sense. (See pp. 617-18.)

<sup>e</sup> See Table 12, p. 622. Since correction for part-time and short hours could be made only for a portion of the personnel, these figures fail to indicate the full extent of the decline in employment. The error is progressively reduced as we move up from the low point of the depression. On the other hand, actual recovery has been more rapid than here indicated, since the expansion in average hours which has taken place for salaried workers, entrepreneurs, and some wage earners is not here accounted for.

<sup>f</sup> Difference between preceding two columns.

<sup>g</sup> Preliminary estimate based on current estimates of employment (American Federation of Labor and President's Committee on Economic Security) for first six months of 1935 and 1936 and corrected for increase in average hours of work per week for wage earners in the industries for which such corrections have been made for other years. Employment in all industries in the first eight months of 1936 appears to have been about 4 per cent higher than in the same period of 1935, and on the basis of the Bureau of Labor Statistics figures it is estimated that the average hours per week worked by employed wage earners in the first eight months of 1936 was approximately 6 per cent higher than in 1935.

*(See opposite page for continuation of footnotes.)*

14. ESTIMATED NUMBER OF EQUIVALENT FULL-TIME WORKERS IN MANUFACTURING INDUSTRIES, 1919-35<sup>a</sup>

(In thousands)

Year	Equivalent Full-Time Wage Earners <sup>b</sup>	Salaried Workers <sup>c</sup>	Entrepreneurs and Firm Members <sup>d</sup>	All Workers
1919.....	9,348	1,438	180	10,966
1920.....	9,104	1,451	176	10,731
1921.....	6,398	1,146	173	7,717
1922.....	7,814	1,262	160	9,236
1923.....	8,958	1,355	148	10,461
1924.....	8,024	1,256	140	9,420
1925.....	8,430	1,341	133	9,904
1926.....	8,598	1,365	133	10,096
1927.....	8,300	1,450	133	9,883
1928.....	8,305	1,450	133	9,888
1929.....	8,692	1,567	133	10,392
1930.....	7,067	1,560	117	8,744
1931.....	5,618	1,386	103	7,107
1932.....	4,390	1,179	67	5,636
1933.....	4,732	1,113	73	5,918
1934.....	5,115	1,201	85	6,401
1935.....	5,604	1,240	94	6,938

<sup>a</sup> Industries covered by the Census of Manufactures.

<sup>b</sup> Total annual payrolls divided by estimated average full-time earnings on a 2,400-hour per year basis. See Table 22, p. 632.

<sup>c</sup> Includes employees in central administrative offices. Data for the census years 1919 through 1929 are from the Census of Manufactures with minor adjustments to make the series comparable throughout the period; data for the intercensal years in this period have been interpolated by means of the Bureau of Labor Statistics index of employment in manufacturing. Beginning with 1930 the data are based on annual estimates of salaried employees shown in U. S. Department of Commerce, *National Income in the United States, 1929-35, 1936.*

<sup>d</sup> Data for the census years 1919 through 1929 are from the Census of Manufactures, and those for the intercensal years in this period have been estimated from census data by means of arithmetic straight-line interpolation. Beginning with 1930 the data are based on the annual estimates of the Department of Commerce.

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### 15. ESTIMATES OF WAGE EARNERS IN MANUFACTURING INDUSTRIES, ON THREE BASES, 1919-36<sup>a</sup>

Year	Equivalent Full-Time <sup>b</sup>		Average Number on Payrolls <sup>c</sup>		Wage Earners Attached <sup>d</sup>	
	In Thousands	As Percent- age of 1929	In Thousands	As Percent- age of 1929	In Thousands	As Percent- age of 1929
1919.....	9,348	107.5	9,000	101.8	9,709	104.1
1920.....	9,104	104.7	9,081	102.7	9,670	103.7
1921.....	6,398	73.6	6,947	78.6	9,631	103.3
1922.....	7,814	89.9	7,649	86.5	9,592	102.8
1923.....	8,958	103.1	8,778	99.3	9,554	102.4
1924.....	8,024	92.3	8,137	92.0	9,516	102.0
1925.....	8,430	97.0	8,394	95.0	9,478	101.6
1926.....	8,598	98.9	8,545	96.7	9,440	101.2
1927.....	8,300	95.5	8,358	94.6	9,402	100.8
1928.....	8,305	95.5	8,358	94.6	9,364	100.4
1929.....	8,692	100.0	8,839	100.0	9,327	100.0
1930.....	7,067	81.3	7,716	87.3	9,289	99.6
1931.....	5,618	64.6	6,523	73.8	9,252	99.2
1932.....	4,390	50.5	5,401	61.1	9,215	98.8
1933.....	4,732	54.4	6,071	68.7	9,178	98.4
1934 <sup>e</sup> .....	5,115	58.8	6,934	78.4	9,141	98.0
1935 <sup>e</sup> .....	5,604	64.5	7,230	81.8	9,105	97.6
1936 <sup>e</sup> .....	6,320 <sup>f</sup>	72.7 <sup>f</sup>	7,630 <sup>f</sup>	86.3 <sup>f</sup>	9,068	97.2

<sup>a</sup> Industries covered by the Census of Manufactures.

<sup>b</sup> Total annual payrolls divided by estimated average full-time earnings on a 2,400-hour per year basis. See Table 22, p. 632.

<sup>c</sup> Data for census years are from the Census of Manufactures with minor adjustments to make the series comparable throughout the entire period; data for intercensal years have been interpolated by means of the Bureau of Labor Statistics index of employment in manufacturing.

<sup>d</sup> For 1919 and 1929 the number on the payrolls in the month of highest employment as reported in the Census of Manufactures, was assumed to represent the number of effectives "attached" to manufacturing. Estimates of effectives for other years were computed from logarithmic straight-line based on 1919 and 1929. These estimates have been raised by 1.5 per cent to allow for the "non-effectives" reported in the Census of Unemployment for 1930 under Classes C through F, that is, persons not working on account of disability or temporary voluntary idleness. (The estimate of 1.5 per cent represents the ratio of the total for Classes C through F to all gainful workers except farmers and unpaid family workers on farms.)

The estimates are rather rough, and since they are based on the acceptance of the highest employment months in 1919 and 1929 as determinants they are arbitrary. They are subject to question because the highest employment in the two years just mentioned came in different months, December and September respectively. Some refinement in the data might be introduced by correcting the figures in accordance with the seasonal index for the two months in question: the ratio of the number of wage earners in the highest months to the average for the year was 1.06 in 1919 and 1.04 in 1929. If it were assumed that the allowance for slack as between the highest month and the average for the year should be 6 per cent in 1929 as it was in 1919, the estimate of the number attached in 1929 would be about 9,535,000 instead of 9,327,000. This would give a somewhat different slope, but the difference would not be material.

<sup>e</sup> Subject to revision; Census of Manufactures data for 1935 not yet available.

<sup>f</sup> This is a rough estimate based on data for first eight months of year.

16. THE UNEMPLOYMENT SITUATION IN 1936<sup>a</sup>

Item	Millions of Workers
Unemployment in 1929.....	3.1 <sup>b</sup>
Decrease in employment, 1929-36.....	5.1 <sup>c</sup>
Increase in labor force, 1929-36.....	4.3 <sup>d</sup>
Gross unemployment in 1936.....	12.5 <sup>e</sup>
Voluntary and disability unemployment.....	0.7 <sup>f</sup>
"Normal" idleness occasioned by securing initial employment and changing jobs.....	1.0 <sup>g</sup>
Allowance for reduction in working hours of industrial wage earners.....	1.3 <sup>h</sup>
Total allowances and corrections for 1936.....	3.0 <sup>i</sup>
Net unemployment requiring absorption on a full-time basis.....	9.5 <sup>j</sup>

<sup>a</sup> These figures, which are in terms of "full-time equivalents," differ from the unadjusted estimates of the American Federation of Labor and other agencies (see p. 135). As in the unadjusted estimates, however, the increase in the number of subsistence farmers (some 500,000), the rise in the number of "unpaid family workers" on farms (between one and 2 millions), and the number on federal work relief (about 3.4 millions) are not counted among the employed and hence are included in the estimates of unemployment.

<sup>b</sup> See Table 13, p. 623.

<sup>c</sup> This is based on a preliminary estimate for 1936 which includes a 4 per cent increase over 1935 in the number employed and a 6 per cent increase in average working hours for industrial wage earners. (See note g, Table 13, p. 623.) The general reliability and meaning of this figure may be indicated by the following rough computation. The probable national income in 1936 is generally given as approximately 60 billion dollars, which is the same as about 70 billions in 1929 dollars, or about 14 per cent below the income of 1929. The full-time equivalent of 1929 employment in "regular" activities approximated 43.5 million workers. Fourteen per cent of this number constitutes 6 million persons.

<sup>d</sup> See Table 3, p. 604. Based on growth of population only; does not allow for possible change during the depression in the proportion of adults seeking employment.

<sup>e</sup> See Table 13, p. 623. The estimate there given is 13.0-12.5 millions.

<sup>f</sup> On the basis of the 1930 Census voluntary and disability unemployment are estimated as about 1.3 to 1.5 per cent of the gainful workers, or approximately 700,000. This is perhaps low. U. S. Public Health Service studies for industrial workers indicate that time lost through illness alone averages between 2 and 3 per cent.

<sup>g</sup> This is a rough estimate based on conditions in 1929.

<sup>h</sup> This is a rough estimate in accord with the assumption that the decreased hours for industrial workers brought about by the influence of the NRA will for the most part persist within the next few years. The figure implies a reduction of hours of about 14 per cent from the 1929 average.



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This allowance is several times as great as the "normal" reduction indicated by the predepression trend and almost as great as that shown by the actual hours now obtaining for industrial workers on payrolls. (From the data compiled by the National Industrial Conference Board it appears that the 1936 average of actual hours of work for industrial workers is about 82 per cent of that in 1929.) Exactly what the hours of actual work will be in the near future cannot, of course, be forecast. The average has increased considerably since the bottom of the depression, and it is not unlikely that with further recovery it will expand even more. The allowance made for purposes of the present calculation imputes a weekly average for manufacturing of about 41 to 42 hours as compared with about 48 to 49 hours per week in 1929. (To attain these averages of actual hours of work the "standard" or nominal hours per week must be from two to three hours higher.) In recent months the actual average for manufacturing has been between 39 and 40 hours. The correction for hours is made only for the selected industries for which, in our original computation of full-time equivalents, the 1929 hours have been taken as a constant for each of the subsequent years. See note *f* below.

<sup>1</sup> This is the total of the foregoing three items and perhaps approximates the true situation more closely than the individual estimates composing it. At best, however, the analysis—particularly that concerning working hours—must rest largely on conjecture.

<sup>2</sup> This rough figure is subject to the qualifications indicated in the foregoing footnotes. It assumes that the shift of gainful workers to agriculture is only temporary, as is also the provision of employment through work relief. From some points of view the standard of full-time employment exacted by this estimate may perhaps be considered too high. It requires somewhat more complete employment (if no offset is made for the imputed reduction in working hours) than was experienced in 1929. The estimate would be reduced by something more than one million if the attainment of the 1929 employment situation were taken as the aim. In part this difference is due to under-employment in seasonal industries. The extent to which this is offset by our allowance for reduction in hours and changing jobs cannot be indicated.

## IV. PRODUCTION AND PRODUCTIVITY

### 17. INDEXES OF PHYSICAL VOLUME OF OUTPUT IN EIGHT INDUSTRIES, 1919-34<sup>a</sup> (1929=100)

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Year	Composite Index for Eight Industries <sup>b</sup>	Agriculture	Mining	Electric Light and Power and Gas	Manufacturing <sup>c</sup>	Construction	Steam Railroad Transportation	Street Railways	Telephone
1919.....	71.1	86.1	63.2	43.5	67.1	59.3	91.8	103.8	50.9
1920.....	75.0	90.1	70.9	47.2	71.1	53.9	100.8	108.2	54.0
1921.....	63.1	82.1	58.8	44.8	55.7	63.2	76.5	101.4	57.9
1922.....	74.6	91.0	62.0	50.7	69.8	81.2	81.8	106.7	64.1
1923.....	83.6	94.0	84.8	59.6	79.2	84.9	97.0	109.0	69.2
1924.....	81.4	96.0	81.0	62.7	75.2	86.8	91.4	106.6	73.0
1925.....	87.2	96.0	82.9	69.1	83.2	94.6	96.1	105.5	77.6
1926.....	91.5	101.0	89.8	78.1	87.2	95.7	101.6	106.0	82.9
1927.....	91.6	98.0	91.8	84.9	87.2	100.1	97.8	103.7	87.1
1928.....	96.9	103.0	91.8	91.3	93.9	107.8	97.5	101.0	92.6
1929.....	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1930.....	88.2	100.0	88.6	98.2	84.5	83.3	85.7	89.2	98.3
1931.....	78.4	105.9	75.3	94.6	72.5	62.9	69.3	80.8	94.3
1932.....	62.6	98.9	62.0	84.7	55.7	32.0	52.6	68.8	84.5
1933.....	65.7	96.0	67.1	85.5	62.4	27.7	55.1	64.6	78.6
1934.....	68.7	91.0	72.7	91.2	67.1	30.9	59.7	68.1	81.1

<sup>a</sup> Simon Kuznets, "Income Originating in Nine Basic Industries," *National Bureau of Economic Research Bulletin* 59, p. 24.

<sup>b</sup> The composite index has been computed by weighting the indexes for the eight industries by the income produced in these industries in 1929, which is shown on pp. 22-23 of *Bulletin* 59.

<sup>c</sup> This is a later revision of the National Bureau index than that reproduced in column 2 of Table 18 following.

18. TRENDS OF PRODUCTION, PRODUCTIVITY, AND NUMBER OF PRODUCERS IN THE UNITED STATES, 1909-35  
(1929=100)

Year	Physical Volume of Production		Productivity			Number of Producers	
	All Industries and Services <sup>a</sup>	Manufacturing Only <sup>b</sup>	All Industries and Services		Manufacturing Only (Per full-time worker) <sup>e</sup>	All Industries and Services <sup>f</sup>	Manufacturing Only <sup>g</sup>
			Per Capita <sup>c</sup>	Per Gainful Worker <sup>d</sup>			
1909.....	60.5	44.0	81.4	71.5	...	73.2	...
1910.....	61.4	46.2	81.0	74.1	...	75.1	...
1911.....	63.4	45.1	82.3	75.8	...	76.4	...
1912.....	66.0	51.3	84.4	78.1	...	77.5	...
1913.....	68.7	53.9	86.0	79.8	...	79.2	...
1914.....	66.8	51.8	82.2	76.6	...	80.8	...
1915.....	71.1	61.6	86.0	81.5	...	81.2	...
1916.....	76.3	74.1	91.1	86.4	...	82.6	...
1917.....	69.9	74.6	82.2	78.0	...	84.2	...
1918.....	67.4	74.6	78.4	73.7	...	86.4	...
1919.....	69.9	65.8	81.0	77.0	63.6	86.2	102.7
1920.....	64.4	69.9	73.6	71.7	68.8	85.9	102.4
1921.....	66.9	55.4	74.9	73.3	75.0	87.6	102.2
1922.....	77.5	69.4	85.6	83.7	78.5	89.2	101.9
1923.....	85.4	77.7	92.7	91.1	78.6	90.9	101.6
1924.....	87.3	73.6	93.0	91.8	83.0	92.7	101.3
1925.....	91.9	81.9	96.6	95.4	87.3	94.3	101.1
1926.....	94.3	87.0	97.6	96.8	89.7	95.8	100.8
1927.....	95.6	87.0	97.6	97.2	91.7	97.3	100.5
1928.....	97.3	93.8	98.4	98.1	98.6	98.7	100.3
1929.....	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1930.....	89.4	85.5	88.4	88.8	100.5	101.3	99.7
1931.....	79.2	73.0	77.7	78.0	106.0	102.6	99.5
1932.....	66.8	56.0	65.1	65.4	102.8	103.9	99.2
1933.....	71.6	62.7	69.4	69.6	109.7	105.2	98.9
1934.....	74.6	66.8	71.8	71.9	108.9	106.5	98.7
1935 <sup>h</sup> .....	77.4	77.7	74.0	74.1	117.4	107.9	98.4
Annual percentage rate of growth	2.53 <sup>i,j</sup>	3.99 <sup>i,k</sup>	1.03 <sup>i,l</sup>	1.58 <sup>i,m</sup>	3.49 <sup>n</sup>	1.48 <sup>o</sup>	-0.25 <sup>n</sup>

<sup>a</sup> Based on total income from current production deflated by a composite price index representing value of goods and services produced. (See *America's Capacity to Consume*, p. 149.)

<sup>b</sup> Compiled by National Bureau of Economic Research. Revised figures (as of February 1936) for 1914-34 furnished by Charles A. Bliss of the Bureau; these were linked to index for earlier years appearing in Frederick C. Mills, *Economic Tendencies*, p. 567. A subsequent revision of this index for 1919-34 was published in *National Bureau of Economic Research Bulletin 59*, and is used in Tables 17 and 20. (See also footnote *e* below.) No attempt has been made to incorporate the revision published in *Bulletin 59* in this column because of the uncertainty as to whether it would correspond with the figures back of 1919.

<sup>c</sup> Same as column 1 on per capita basis.

<sup>d</sup> Same as column 1 on basis of the total number of gainful workers (exclusive of unpaid family workers on farms) corrected for trend since 1909 in the standard hours of work per week.

<sup>e</sup> Index of physical volume of production divided by index of full-time equivalent workers. See Table 20, p. 631. A later revision of the National Bureau index of physical volume of production was used in this computation than is shown in column 2.

<sup>f</sup> Based on estimated number of gainful workers in all industries, exclusive of unpaid family workers on farms.

<sup>g</sup> Based on estimate of the number "attached," including wage earners, salaried workers, entrepreneurs, and firm members.

<sup>h</sup> Preliminary; subject to revision.

<sup>i</sup> Estimated on basis of 1909-15 and 1923-29. Other years have been omitted because of disturbances in production and prices caused by the war and the depression.

<sup>j,k,l,m</sup> A logarithmic straight line fitted to all the points 1909-29 has a slope of:  $j - 1.0246$  instead of 1.0253 as shown here;  $k - 1.0369$  instead of 1.0399;  $l - 1.0095$  instead of 1.0103;  $m - 1.0151$  instead of 1.0158.

<sup>n</sup> From logarithmic straight line fitted to data for 1919-34 inclusive. Because of its preliminary nature, the 1935 estimate was not included in the computation of the trend.

<sup>o</sup> This is an average for 1909-34 (estimated along logarithmic straight line) and is somewhat higher than the trend indicated by the most recent years. At present the rate of growth in the number of gainful workers is approximately 1.1 per cent per annum.

19. DEVIATIONS OF INDEXES OF PRODUCTION AND PRODUCTIVITY FROM TRENDS, 1929-35\*

Index	1929	1930	1931	1932	1933	1934	1935	1936
<b>PHYSICAL VOLUME OF PRODUCTION, ALL INDUSTRIES AND SERVICES:</b>								
As computed.....	100.0	89.4	79.2	66.8	71.6	74.6	77.4	...
Fitted trend.....	100.0	102.5	105.1	107.8	110.5	113.3	116.2	119.1
<i>Percentage deviation from trend</i>	—	-12.8	-24.7	-38.0	-35.2	-34.2	-33.4	...
<b>PHYSICAL VOLUME OF PRODUCTION, MANUFACTURING ONLY:</b>								
As computed.....	100.0	85.5	73.0	56.0	62.7	66.8	78.4	...
Fitted trend.....	97.8	101.7	105.8	110.0	114.4	118.9	123.7	128.6
<i>Percentage deviation from trend</i>	+2.2	-15.9	-31.0	-49.1	-45.2	-43.8	-36.6	...
<b>PRODUCTION, ALL INDUSTRIES AND SERVICES (PER CAPITA):</b>								
As computed.....	100.0	88.4	77.7	65.1	69.4	71.8	74.0	...
Fitted trend.....	100.0	101.0	102.1	103.1	104.2	105.3	106.3	107.4
<i>Percentage deviation from trend</i>	—	-12.5	-23.9	-36.9	-33.4	-31.8	-30.4	...
<b>PRODUCTION, ALL INDUSTRIES AND SERVICES (PER GAINFUL WORKER):</b>								
As computed.....	100.0	88.8	78.0	65.4	69.6	71.9	74.1	...
Fitted trend.....	100.2	101.8	103.4	105.0	106.7	108.4	110.1	111.8
<i>Percentage deviation from trend</i>	-0.2	-12.8	-24.6	-37.7	-34.8	-33.7	-32.7	...
<b>PRODUCTIVITY, MANUFACTURING ONLY (PER FULL-TIME WORKER):</b>								
As computed.....	100.0	100.5	106.0	102.8	109.7	108.9	117.4	...
Fitted trend.....	97.0	100.4	103.9	107.5	111.3	115.2	119.2	123.4
<i>Percentage deviation from trend</i>	+3.1	+0.1	+2.0	-4.4	-1.5	-5.5	-1.6	...

\* See Table 18, p. 629.

**20. PRODUCTIVITY IN MANUFACTURING INDUSTRIES, 1919-35**  
(1929=100)

Year	Index of Physical Volume of Production <sup>a</sup>	Index of Equivalent Full-Time Workers		Index of Productivity			
		Wage Earners Only <sup>b</sup>	All Workers <sup>c</sup>	Wage Earners Only		All Workers	
				As Computed <sup>d</sup>	Fitted Trend <sup>e</sup>	As Computed <sup>d</sup>	Fitted Trend <sup>e</sup>
1919.....	67.1	107.5	105.5	62.4	67.4	63.6	71.0
1920.....	71.1	104.7	103.3	67.9	70.1	68.8	73.5
1921.....	55.7	73.6	74.3	75.7	72.9	75.0	76.1
1922.....	69.8	89.9	88.9	77.6	75.8	78.5	78.8
1923.....	79.2	103.1	100.7	76.8	78.9	78.6	81.5
1924.....	75.2	92.3	90.6	81.5	82.1	83.0	84.3
1925.....	83.2	97.0	95.3	85.8	85.4	87.3	87.2
1926.....	87.2	98.9	97.2	88.2	88.8	89.7	90.2
1927.....	87.2	95.5	95.1	91.3	92.4	91.7	93.3
1928.....	93.9	95.5	95.2	98.3	96.1	98.6	96.6
1929.....	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1930.....	84.5	81.3	84.1	103.9	104.0	100.5	103.5
1931.....	72.5	64.6	68.4	112.2	108.2	106.0	107.1
1932.....	55.7	50.5	54.2	110.3	112.6	102.8	110.8
1933.....	62.4	54.4	56.9	114.7	117.1	109.7	114.7
1934.....	67.1	58.8	61.6	114.1	121.8	108.9	118.7
1935 <sup>f</sup> .....	78.4	64.5	66.8	121.5	126.8	117.4	122.8

<sup>a</sup> Simon Kuznets, "Income Originating in Nine Basic Industries," *National Bureau of Economic Research Bulletin* 59, p. 24.

<sup>b</sup> Index of man-hours obtained by dividing total annual wages by average hourly earnings in manufacturing.

<sup>c</sup> Includes salaried workers, entrepreneurs, and firm members, as well as wage earners. See Table 14, p. 624.

<sup>d</sup> Index of physical volume of production divided by indexes of full-time equivalent workers.

<sup>e</sup> Least-squares line (fitted to logarithms of data for 1919-34 inclusive) moved up so that 1929 would equal 100.

<sup>f</sup> Preliminary; subject to revision.

**21. MAN-HOUR PRODUCTIVITY IN MANUFACTURING INDUSTRIES, 1919-35<sup>a</sup>**

Year	Index of Productivity		
	As Computed	Fitted Trend	Percentage Deviation from Trend
1919.....	62.4	66.7	-6.5
1920.....	67.9	69.4	-2.2
1921.....	75.7	72.2	+4.8
1922.....	77.6	75.1	+3.3
1923.....	76.8	78.2	-1.8
1924.....	81.5	81.3	+0.2
1925.....	85.8	84.6	+1.5
1926.....	88.2	88.0	+0.2
1927.....	91.3	91.6	-0.4
1928.....	98.3	95.0	+3.5
1929.....	100.0	99.1	+0.9
1930.....	103.9	103.1	+0.7
1931.....	112.2	107.3	+4.5
1932.....	110.3	111.6	-1.2
1933.....	114.7	116.1	-1.2
1934.....	114.1	120.8	-5.5
1935.....	121.5	125.7	-3.4

<sup>a</sup> Wage earners only. See Table 20 above.

## V. WAGES

22. EARNINGS OF WAGE EARNERS IN MANUFACTURING INDUSTRIES, 1919-36<sup>a</sup>

Year	Annual Payrolls (In millions of dollars) <sup>b</sup>	Average Hourly Earnings (In cents) <sup>c</sup>	Average Yearly Earnings					
			Per Equivalent Full-Time Wage Earner		Per Wage Earner on Payroll		Per Wage Earner Attached	
			In Dollars <sup>d</sup>	As Percentage of 1929	In Dollars <sup>e</sup>	As Percentage of 1929	In Dollars <sup>f</sup>	As Percentage of 1929
1919.....	10,414	46.4	1,114	83.3	1,157	88.0	1,073	86.1
1920.....	12,518	57.3	1,375	102.8	1,378	104.8	1,294	103.9
1921.....	8,202	53.4	1,282	95.9	1,181	89.8	852	68.3
1922.....	8,752	46.6	1,120	83.8	1,144	87.0	912	73.2
1923.....	11,009	51.2	1,229	91.9	1,254	95.4	1,152	92.5
1924.....	10,238	53.2	1,276	95.4	1,258	95.7	1,076	86.3
1925.....	10,740	53.1	1,274	95.3	1,279	97.3	1,133	90.9
1926.....	11,083	53.7	1,289	96.4	1,297	98.6	1,174	94.2
1927.....	10,856	54.5	1,308	97.8	1,299	98.8	1,155	92.6
1928.....	10,921	54.8	1,315	98.4	1,307	99.4	1,166	93.6
1929.....	11,621	55.7	1,337	100.0	1,315	100.0	1,246	100.0
1930.....	9,448	55.7	1,337	100.0	1,224	93.1	1,017	81.6
1931.....	7,186	53.3	1,279	95.7	1,102	83.8	777	62.4
1932.....	4,908	46.6	1,118	83.6	909	69.1	533	42.8
1933.....	5,271	46.4	1,114	83.3	868	66.0	574	46.1
1934 <sup>g</sup> .....	6,726	54.8	1,315	98.4	970	73.8	736	59.1
1935 <sup>g</sup> .....	7,638	56.8	1,363	101.9	1,056	80.3	839	67.3
1936 <sup>g</sup> .....	8,680 <sup>h</sup>	57.2 <sup>h</sup>	1,373 <sup>h</sup>	102.6 <sup>h</sup>	1,138 <sup>h</sup>	86.8 <sup>h</sup>	957 <sup>h</sup>	76.8 <sup>h</sup>

<sup>a</sup> Industries covered by the Census of Manufactures.

<sup>b</sup> Data for census years are from the Census of Manufactures with minor adjustments to make the series comparable throughout the entire period; data for intercensal years have been interpolated by means of the Bureau of Labor Statistics index of payrolls in manufacturing.

<sup>c</sup> Beginning in 1932 the annual averages are weighted averages (number on payrolls used as weights) of the monthly figures published by the Bureau of Labor Statistics; prior to 1932 the basic data are the National Industrial Conference Board averages which have been adjusted to correspond with those of the Bureau of Labor Statistics.

<sup>d</sup> On basis of 2,400 hours per year.

<sup>e</sup> Annual payrolls divided by the average of the number of wage earners at the middle of each month as reported in the Census of Manufactures.

<sup>f</sup> Annual payrolls divided by the estimated number of workers attached to manufacturing industries. See Table 15, p. 625.

<sup>g</sup> Subject to revision; Census of Manufactures data for 1935 are not yet available.

<sup>h</sup> This is a rough estimate based on data for the first eight months of year.

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### 23. AVERAGE "REAL" EARNINGS OF WAGE EARNERS IN MANUFACTURING INDUSTRIES, 1919-36<sup>a</sup>

Year	Index of Cost of Living <sup>b</sup> (1929 = 100)	Average Yearly Earnings (In terms of 1929 purchasing power)					
		Per Equivalent Full-Time Worker		Per Wage Earner on Payroll		Per Wage Earner Attached	
		In Dollars <sup>c</sup>	As Percentage of 1929	In Dollars <sup>c</sup>	As Percentage of 1929	In Dollars <sup>c</sup>	As Percentage of 1929
1919.....	106.6	1,045	78.2	1,085	82.5	1,006	80.8
1920.....	121.9	1,128	84.4	1,130	85.9	1,062	85.2
1921.....	106.4	1,205	90.1	1,110	84.4	801	64.2
1922.....	98.8	1,133	84.7	1,158	88.1	923	74.1
1923.....	100.0	1,229	91.9	1,254	95.4	1,152	92.5
1924.....	100.3	1,272	95.1	1,254	95.4	1,073	86.1
1925.....	102.2	1,247	93.3	1,251	95.1	1,109	88.9
1926.....	102.9	1,253	93.7	1,260	95.8	1,141	91.5
1927.....	101.4	1,290	96.5	1,281	97.4	1,139	91.4
1928.....	100.0	1,315	98.4	1,307	99.4	1,166	93.6
1929.....	100.0	1,337	100.0	1,315	100.0	1,246	100.0
1930.....	97.4	1,372	102.6	1,256	95.5	1,044	83.8
1931.....	88.7	1,442	107.8	1,242	94.4	876	70.2
1932.....	80.5	1,389	103.9	1,129	85.9	662	53.1
1933.....	76.8	1,451	108.5	1,130	85.9	747	60.0
1934 <sup>d</sup> .....	80.0	1,644	123.0	1,212	92.2	920	73.8
1935.....	80.8	1,687	126.2	1,307	99.4	1,038	83.3
1936.....	81.8 <sup>e</sup>	1,678 <sup>e</sup>	125.5 <sup>e</sup>	1,391 <sup>e</sup>	105.8 <sup>e</sup>	1,170 <sup>e</sup>	93.9 <sup>e</sup>

<sup>a</sup> Industries covered by the Census of Manufactures.

<sup>b</sup> Based on index of the Bureau of Labor Statistics. See Harold G. Moulton, *Income and Economic Progress*, pp. 183-85.

<sup>c</sup> Average earnings shown in Table 22 divided by index of cost of living.

<sup>d</sup> Subject to revision; Census of Manufactures data for 1935 not yet available.

<sup>e</sup> This is a rough estimate based on data for first eight months of year.

**24. WAGES AND SALARIES COMPARED WITH NATIONAL INCOME, 1929-35**  
(Dollar items are in millions)

Year	Income Paid Out <sup>a</sup>	Income Produced <sup>a</sup>	Difference between Income Produced and Paid Out	Wages and Salaries		
				Amount <sup>a</sup>	As Percentage of Income Paid Out	As Percentage of Income Produced
1929.....	\$78,362	\$81,034	\$2,402	\$50,550	64.3	62.4
1930.....	72,932	67,917	-5,015	46,208	63.4	68.0
1931.....	61,704	53,584	-8,120	38,675	62.7	72.2
1932.....	48,362	39,545	-8,817	29,821	61.7	75.4
1933.....	44,321	41,123	-3,198	27,828	62.8	67.7
1934.....	48,785	47,008	-1,776	31,240	64.1	66.4
1935.....	52,274	51,646	- 628	33,739	64.5	65.3

<sup>a</sup> Robert R. Nathan, "Expansion in the National Income Continued in 1935," *Survey of Current Business*, July 1936. Work-relief payments are excluded.

**25. WAGES AND PROFITS IN MANUFACTURING INDUSTRIES, 1922-33**

Year	Total Wages, All Manufacturing Industries <sup>a</sup>		Estimated Profits before Taxes, All Manufacturing Corporations <sup>b</sup>	
	In Millions of Dollars	As Percentage of 1929	In Millions of Dollars	As Percentage of 1929
1922.....	8,752	75.3	2,832	58.3
1923.....	11,009	94.7	3,784	77.8
1924.....	10,238	88.1	2,978	61.3
1925.....	10,740	92.4	3,973	81.7
1926.....	11,083	95.4	4,041	83.1
1927.....	10,856	93.4	3,405	70.0
1928.....	10,921	94.0	4,280	88.0
1929.....	11,621	100.0	4,861	100.0
1930.....	9,448	81.3	1,530	31.5
1931.....	7,186	61.8	-501	-10.3
1932.....	4,908	42.2	-1,388	-28.5
1933.....	5,271	45.3	384	7.9

<sup>a</sup> See Table 22, p. 632.

<sup>b</sup> "Compiled net profits," as reported in *Statistics of Income*, corrected for inter-corporate dividends.

piled by the Bureau of Agricultural Economics, U. S. Department of Agriculture. The figures here given are different from the composites published by the Department of Agriculture in that the prices of food, feed, and seed have been excluded. In combining the remaining indexes, weights roughly representing farm consumption have been used as follows: clothing, 5; operating expenses, 2; furniture and furnishings, 1; building materials for house, 1; farm machinery, 4; fertilizer, 1; building materials for other than house, 2; equipment and supplies, 2. To use weights purporting to represent general rather than farm consumption would be misleading. The composite is only suggestive of the movement of retail prices in general.

<sup>c</sup> Data not available.



**26. QUARTERLY INDEXES OF AVERAGE HOURLY EARNINGS IN MANUFACTURING AND OF WHOLESALE AND RETAIL PRICES OF FINISHED MANUFACTURED PRODUCTS, 1920-36**  
(1929 = 100)

Year and Month <sup>a</sup>	Average Hourly Earnings <sup>b</sup>	Wholesale Prices of Finished Products <sup>c</sup>	Retail Prices of Finished Products <sup>d</sup>	Year and Month <sup>a</sup>	Average Hourly Earnings <sup>b</sup>	Wholesale Prices of Finished Products <sup>c</sup>	Retail Prices of Finished Products <sup>d</sup>
1920—March.....	•	161.1	•	1929—March....	99.6	100.3	100.5
June.....	•	165.8	•	June.....	100.1	100.5	100.2
Sept.....	102.9	161.0	•	Sept.....	100.5	100.5	100.0
Dec.....	103.0	133.8	•	Dec.....	100.3	98.1	100.1
Annual average..	103.0	158.5	133.4	Annual average..	100.0	100.0	100.0
1921—March.....	96.2	116.5	•	1930—March....	100.3	96.2	99.0
June.....	90.8	106.5	•	June.....	100.0	93.5	97.3
Sept.....	85.9	103.6	•	Sept.....	100.1	91.4	95.5
Dec.....	83.2	100.7	•	Dec.....	98.2	87.6	94.0
Annual average..	89.1	109.3	104.2	Annual average..	100.0	93.1	96.5
1922—March.....	•	99.0	•	1931—March....	97.8	84.2	90.9
June.....	•	103.1	•	June.....	96.2	80.4	87.7
Sept.....	82.7	103.6	•	Sept.....	95.4	80.3	85.4
Dec.....	85.4	105.4	•	Dec.....	91.3	77.5	83.4
Annual average..	84.0	102.1	98.7	Annual average..	95.9	81.5	86.9
1923—March.....	86.2	108.3	99.9	1932—March....	86.9	75.6	80.0
June.....	92.2	105.5	101.1	June.....	84.4	74.0	77.4
Sept.....	93.8	104.0	99.9	Sept.....	79.3	74.5	75.4
Dec.....	95.2	101.8	99.5	Dec.....	77.7	72.4	74.3
Annual average..	91.8	105.0	100.0	Annual average..	83.6	74.4	76.8
1924—March.....	95.2	102.9	101.1	1933—March....	78.1	69.5	71.3
June.....	95.4	100.0	100.6	June.....	75.0	73.0	71.4
Sept.....	95.4	101.0	100.3	Sept.....	92.2	79.1	79.6
Dec.....	95.5	104.7	100.3	Dec.....	94.4	79.1	81.2
Annual average..	95.4	101.9	100.6	Annual average..	83.3	74.6	75.9
1925—March.....	95.0	106.7	102.2	1934—March....	95.3	81.7	83.1
June.....	95.6	106.3	102.1	June.....	98.5	82.7	83.4
Sept.....	94.9	106.1	101.7	Sept.....	100.3	84.7	83.0
Dec.....	95.2	107.4	102.1	Dec.....	100.5	84.1	83.0
Annual average..	95.2	106.5	102.0	Annual average..	98.3	82.8	83.0
1926—March.....	95.2	106.2	102.1	1935—March....	102.0	86.4	82.3
June.....	96.4	106.7	102.4	June.....	103.2	86.9	82.3
Sept.....	96.7	105.6	101.7	Sept.....	101.0	87.9	82.4
Dec.....	97.2	104.0	101.3	Dec.....	102.6	87.9	82.4
Annual average..	96.4	105.8	102.0	Annual average..	101.9	87.0	82.5
1927—March.....	97.2	100.6	101.0	1936—March....	102.6	86.0	81.9
June.....	97.9	99.7	100.6	June.....	103.2	85.4	81.8
Sept.....	98.1	100.2	100.9	Sept.....	102.2	87.1	82.2
Dec.....	98.0	100.8	100.6	Dec.....	•	•	•
Annual average..	97.8	100.5	100.7	Annual average..	•	•	•
1928—March.....	97.4	99.9	101.2				
June.....	98.1	101.2	100.5				
Sept.....	98.4	104.0	101.1				
Dec.....	98.9	100.7	101.1				
Annual average..	98.2	101.5	101.0				

<sup>a</sup> The series for average hourly earnings is not strictly comparable with the other two series prior to 1929 since the indexes are based on quarterly averages rather than on an average for the month indicated. However, beginning in 1929 this series also represents earnings in the months specified.

<sup>b</sup> Indexes for 1920-31, inclusive, are based on average hourly earnings of wage earners in manufacturing industries as computed by the National Industrial Conference Board; beginning in 1932 they are based on averages computed by the Bureau of Labor Statistics.

<sup>c</sup> Index of the Bureau of Labor Statistics.

<sup>d</sup> Prices of manufactured goods, exclusive of food, bought by farmers, based on indexes com-

*(See opposite page for continuation of footnotes)*

**27. ANNUAL INDEXES OF WAGES, PRICES, AND PRODUCTIVITY IN MANUFACTURING INDUSTRIES, 1919-36**  
(1929=100)

Year	Average Hourly Earnings <sup>a</sup>		Wholesale Prices <sup>b</sup>		Productivity <sup>c</sup>
	In Current Money	In Terms of Physical Product <sup>d</sup>	All Manufacturing <sup>e</sup>	Finished Products	
1919.....	83.3	60.3	140.6	138.2	62.4
1920.....	102.8	64.9	176.1	158.5	67.9
1921.....	95.9	87.7	114.5	109.3	75.7
1922.....	83.8	82.0	111.8	102.1	77.6
1923.....	91.9	87.5	113.9	105.0	76.8
1924.....	95.4	93.6	108.8	101.9	81.5
1925.....	95.3	89.4	112.0	106.5	85.8
1926.....	96.4	91.1	109.2	105.8	88.2
1927.....	97.8	97.3	102.6	100.5	91.3
1928.....	98.4	96.9	101.4	101.5	98.3
1929.....	100.0	100.0	100.0	100.0	100.0
1930.....	100.0	107.4	93.0	93.1	103.9
1931.....	95.7	117.4	81.9	81.5	112.2
1932.....	83.6	112.4	76.6	74.4	110.3
1933.....	83.3	111.7	77.7	74.6	114.7
1934.....	98.4	118.8	85.6	82.8	114.1
1935.....	101.9	117.2	85.0	87.0	121.5
1936.....	102.6 <sup>f</sup>	118.8 <sup>f</sup>	86.3 <sup>f</sup>	86.4 <sup>f</sup>	

<sup>a</sup> See Table 22, p. 632.

<sup>b</sup> Indexes of the Bureau of Labor Statistics.

<sup>c</sup> Based on wage earners only. See Table 20, p. 631.

<sup>d</sup> Adjusted by means of wholesale price index of finished products. This index comes nearest to representing the product added by manufacturing. The result is, of course, rough since the price index reflects also cost of raw materials, transportation, etc.

<sup>e</sup> All commodities other than farm products and foods.

<sup>f</sup> This is a rough estimate based on data for the first eight months of the year.

**28. INDEX OF AVERAGE HOURLY EARNINGS IN MANUFACTURING INDUSTRIES IN TERMS OF PHYSICAL PRODUCT, 1919-35<sup>a</sup>**

Year	As Computed	Fitted Trend	Percentage Deviation from Trend
1919.....	60.3	71.3	-15.4
1920.....	64.9	73.8	-12.1
1921.....	87.7	76.5	+14.6
1922.....	82.0	79.3	+ 3.4
1923.....	87.5	82.1	+ 6.6
1924.....	93.6	85.1	+10.0
1925.....	89.4	88.2	+ 1.4
1926.....	91.1	91.3	- 0.2
1927.....	97.3	94.6	+ 2.8
1928.....	96.9	98.0	- 1.1
1929.....	100.0	101.6	- 1.6
1930.....	107.4	105.2	+ 2.1
1931.....	117.4	109.0	+ 7.7
1932.....	112.4	113.0	- 0.5
1933.....	111.7	117.0	- 4.5
1934.....	118.8	121.2	- 2.0
1935.....	117.2	125.6	- 6.7

<sup>a</sup> See Table 27 above. Average hourly earnings in manufacturing industries are adjusted by index of wholesale prices of finished products. See note *d*, Table 27.

29. INDEXES OF HOURLY WAGES IN SELECTED INDUSTRIES, 1930-36<sup>a</sup>  
(1929=100)

Industry	1930	1931	1932	1933	1934	1935	1936 <sup>b</sup>
Manufacturing <sup>c</sup> .....	100.0	95.7	83.6	83.3	98.4	101.9	102.8
Mining <sup>d</sup> .....	97.0	92.9	85.4	84.5	103.7	108.9	111.5
Steam railways <sup>e</sup> .....	101.7	103.2	95.2	95.2	96.4	104.3	106.6
Production and distribution of electricity <sup>f</sup> .....	103.2	103.8	102.7	103.5	114.4	117.8	117.2
Building construction <sup>g</sup> .....	103.9	104.7	93.3	88.8	89.1	91.6	90.4
Road building: common labor <sup>h</sup> .....	100.0	92.3	82.0	89.7	105.1	105.1	101.3
Average exclusive of farm wages <sup>i</sup> .....	99.8	96.9	83.7	83.1	95.3	99.5	99.9
Farm wages <sup>j</sup> .....	90.8	71.4	54.1	49.9	55.4	60.0	64.3
Average, including farm wages <sup>k</sup> .....	98.4	92.0	77.9	76.6	88.0	92.8	93.8

<sup>a</sup> The series are for the most part average earnings. Exceptions are the figures for building construction (for 1929-33), road building, and agriculture, for which only rates are available. The movement of actual earnings is, of course, somewhat different from the movement of rates, but it is impossible to evaluate the difference. The discrepancy is perhaps less serious in road building and farm wages than in building construction.

<sup>b</sup> Rough estimates based on data for first part of year. <sup>c</sup> See Table 22, p. 632.

<sup>d</sup> Based on Bureau of Labor Statistics (see *Trend of Employment*) average hourly earnings for anthracite and bituminous coal mining, metalliferous mining, quarrying and non-metallic mining, and crude petroleum producing.

<sup>e</sup> Based on average hourly earnings compiled by the National Industrial Conference Board (see *Wages, Hours, and Employment in the United States, 1914-36*) from data collected by the Interstate Commerce Commission from Class I railroads.

<sup>f</sup> See source cited in note *e* above. Based on average hourly earnings.

<sup>g</sup> Based on National Industrial Conference Board hourly rates for 1929-34 and on Bureau of Labor Statistics hourly earnings from 1934 to date.

<sup>h</sup> Based on rates compiled by the Bureau of Public Roads, U. S. Department of Agriculture (see *Survey of Current Business*).

<sup>i</sup> Weighted average of above, including indexes of hourly earnings for laundries and cleaning and dyeing. Weights based on estimated number of man-hours worked each year.

<sup>j</sup> Based on rates compiled by the Bureau of Agricultural Economics, (see *Survey of Current Business*).

<sup>k</sup> Weighted average. Estimated full-time equivalent number of wage earners employed used as weights.

## APPENDIX D

### DATA RELATING TO DURABLE GOODS

The data in this appendix supplement Chapter VIII.

#### I. VALUE OF DURABLE GOODS PRODUCTION

On page 181 of the text there is presented a chart showing the relative importance of the various types of durable production goods. The basic figures are given herewith.

##### 1. RELATIVE IMPORTANCE OF DURABLE GOODS PRODUCTION, 1919-33<sup>a</sup> (In millions of 1929 dollars)

Year	All Com- modities	Durable	Non- Durable	Con- sumers' Durable	Pro- ducers' Durable	Public and Semi- Public
1919.....	46,287	19,736	26,551	7,909	10,305	1,522
1920.....	43,911	18,713	25,198	6,499	10,656	1,558
1921.....	45,040	17,157	27,883	7,156	8,036	1,965
1922.....	51,412	22,059	29,353	9,666	9,801	2,592
1923.....	56,524	25,654	30,870	11,928	11,553	2,173
1924.....	58,267	26,464	31,803	12,766	11,136	2,562
1925.....	62,156	29,491	32,665	14,363	12,060	3,068
1926.....	64,194	30,857	33,337	14,789	12,931	3,137
1927.....	65,032	30,174	34,858	13,991	12,657	3,526
1928.....	65,476	30,775	34,701	13,933	13,106	3,736
1929.....	68,705	31,906	36,799	13,430	14,771	3,705
1930.....	62,144	26,859	35,285	10,227	12,625	4,007
1931.....	54,172	21,102	33,070	8,271	9,045	3,786
1932.....	46,043	14,545	31,498	5,719	5,817	3,009
1933.....	44,133	12,940	31,193	5,516	5,359	2,065

<sup>a</sup> All the data underlying these series, except in so far as they relate to construction expenditures, have been taken from the *National Bureau of Economic Research Bulletin 52*. Our own estimates for construction have been used throughout. Their derivation involved the compilation of estimates for about a dozen separate types of construction and their conversion into 1929 dollars by as many different deflators. These operations were too numerous and varied to justify a detailed description here.

## II. RESIDENTIAL CONSTRUCTION

The figures underlying the chart on page 185 are given in Table 2 below.

2. TRENDS IN THE HOUSING INDUSTRY, 1919-36  
(Non-farm only)

Year	Thousands of Family Units Standing on Dec. 31	Thousands of Family Units Occupied Dec. 31	Potential Occupancy	Percentage Vacant	Thousands of Units Erected During Year <sup>a</sup>
1919.....	18,110	17,480		3.5	
1920.....	18,290	17,990		1.6	213
1921.....	18,700	18,330		2.0	446
1922.....	19,340	19,020		1.7	705
1923.....	20,130	19,810		1.6	846
1924.....	20,950	20,390		2.7	872
1925.....	21,810	20,970		3.9	951
1926.....	22,570	21,620		4.2	845
1927.....	23,260	22,130		4.9	781
1928.....	23,900	22,590		5.5	736
1929.....	24,300	23,090		5.0	472
1930.....	24,510	23,180	23,510	5.4	260
1931.....	24,670	23,040	23,930	6.4	200
1932.....	24,710	22,740	24,350	8.0	80
1933.....	24,760	22,860	24,770	7.7	70
1934.....	24,780	23,350	25,190	5.8	60
1935.....	24,900	23,750	25,610	4.6	150
1936.....	25,150	24,400	26,030	3.0	300

<sup>a</sup> Data which became available after this table went to press indicate that the estimates for 1925, 1926, and 1936 should be reduced by 30,000-50,000, while those for 1920 and 1929 should be increased by a similar amount.

*Number of family units standing.* The first step in deriving this series was to estimate the volume of vacant units at the end of 1919, when it begins. After careful consideration, this was put at about 3.5 per cent of all non-farm dwellings then available. This made it possible to compute the total number of dwellings from the Census figures for occupied dwellings. Having thus obtained a base figure for 1919, subsequent figures were derived by adding each year the estimated number of units constructed and subtracting the estimated number demolished.

*Number of dwelling units occupied.* To obtain actual, as contrasted with potential occupancy, estimates for the number of non-farm families normally occupying separate quarters were adjusted to allow for deviations of the marriage rate from its trend line,<sup>1</sup> and for estimated depression "doubling up." There is, admittedly, no satisfactory measure for the latter. The various real property inventories and surveys made in recent years as white-collar relief projects fail to distinguish clearly between doubling-up attributable to the depression and the very considerable amount of doubling that is normal in prosperity. The estimates reflected in the chart are little more than guesses which appear to the author to harmonize best with the various bits of indirect evidence available.

*Number of family units constructed.* For 257 cities covered since 1921 by the building permit data of the Bureau of Labor Statistics, the number of family units erected was taken as the number for which permits were issued, minus an allowance of 2 per cent for non-execution of permits. (Data for 1920 and 1936 are estimated.) For the non-farm area outside of the 257 cities, an estimate for the decade 1920-30 was first obtained by assuming that the number of new units erected bore the same relation to the increase in the number of families that prevailed in a group of smaller cities included in the 257 (82 cities with a population of 25,000-50,000). This estimated total for the decade as a whole was then distributed among the ten years in accordance with the distribution of the decade's construction shown by these 82 cities. For years since 1929, construction in the non-farm area outside the 257 cities has been estimated by other methods, too varied to detail here.

As to the volume of demolitions since 1919, only the most fragmentary evidence is available. Without undertaking to review it here, suffice it to say that the total for the decade 1920-30 was taken as 700,000 family units. This was distributed by years in accordance with the distribution of the decade total of commercial and public construction. Experience has shown that the great bulk of residential demolitions result from the

<sup>1</sup>The dissolution of families by death proceeds with little disturbance from business depressions, whereas the formation of new families by marriage is responsive in considerable measure to them. Hence the one-sided adjustment.

conversion of the site to commercial or public purposes; hence the use of these types of construction to gauge their trend. For years since 1929 demolitions have been estimated at 40,000-50,000 a year.

*Percentage of vacancies.* This was computed by comparing the figures for the number of family units standing with those for actual occupancy.

*Potential occupancy.* This is the occupancy which would theoretically exist (1) if the marriage rate were normal; (2) if there were no depression doubling up; and (3) if the number of farm families had remained at the 1920-30 level instead of being greatly increased by an exodus of urban population resulting from depression influences.

### III. COMPUTATION OF POTENTIAL HOUSING REQUIREMENTS

On page 187 of the text residential construction requirements for the five-year period 1937-41 were estimated at the following number of units:

For accumulated deficiency, 1929-36 .....	2,000,000
For increase in number of urban families, 1937-41 .....	2,000,000
For replacements of demolished housing, 1937-41 .....	500,000

These estimates were derived by the following method:

In the first place, in making these computations we assumed that the volume of vacancies at the beginning of 1930 might be regarded as normal. This does not seem over-liberal in view of the fact that the total number of units standing will be considerably higher in 1941, and that the percentage of vacant units will be correspondingly reduced. It must be noted also that, in view of the protracted duration of many of these vacancies during the depression and the effect of prolonged vacancies on maintenance, it is probable that many of these structures will become more or less permanently untenable.

In computing accumulated deficiency in 1936 we estimated the demolitions at between 40,000 and 50,000 units a year (as compared with 70,000 in the pre-depression period). The construction of new units since 1929 amounted to about 1,100,000—giving a net increase of from 800,000 to 850,000.

In estimating the requirements resulting from the growth

of population during the period (1929-36), we assumed that the reduction in the marriage rate was but a temporary factor, that the doubling up in houses would be discontinued with a return of prosperity, and also that the shift of urban families to farms is not a permanent factor. In other words, we simply computed the increase in housing requirements as determined by the normal increase in non-farm population and families. As a practical matter the undoubling of families, the increase in the marriage rate, and the return of farm families to the cities would be spread over a period of years. It seemed simpler, however, to take account of these factors in the figures for 1936 rather than to include them in the estimates of requirements over the next five years.

The growth in the number of families from 1937 to 1941 has been computed on the basis of the forecasts of population by Thompson and Whelpton. The increase in the number of families would be expected to run from 400,000 to 450,000 annually; and we assume that practically all of these would reside in urban centers. This would give an increase in the number of urban families of at least 2 million between 1937 and 1941. We estimate the demolitions to run at a somewhat higher rate than in the pre-depression period, because of the increased average age of dwellings and the decreased rate of demolitions during the depression period.

#### IV. PASSENGER AUTOMOBILES

The data underlying the chart on page 189 of the text are given in Table 3 on the following page. The following statements indicate sources of data and methods employed.

*Gasoline consumption.* Estimates of gasoline consumption by passenger cars were prepared by H. A. Breakey of the Federal Bureau of Mines.

*Cars in use.* The figures for registrations of passenger automobiles compiled by the federal Bureau of Public Roads do not give the number of cars in use at any given time, since they cumulate all registrations occurring within a twelve-month period. For various reasons into which we need not enter here, no very satisfactory method of estimating the number of cars in use is possible without additional information not now available.



A rough approximation may be made for January 1 by subtracting from the total registrations for the succeeding year those of new cars sold and registered during that year. By averag-

3. PRODUCTION, CONSUMPTION, AND SUPPLY OF  
AUTOMOBILES, 1925-1935

Year	Gasoline Consumption by Passenger Automobiles (In thousands of barrels)	Average Cars in Use during the Year (In thousands)	New Car Sales at Retail (In thousands)	Increase in Cars in Use Jan. 1-Jan. 1 (In thousands)	Apparent Scrapage during the Year (In thousands)
1925.....	155	15,106	3,198	1,479	1,719
1926.....	181	16,666	3,457	1,641	1,816
1927.....	206	17,800	2,792	625	2,167
1928.....	227	18,596	3,321	969	2,352
1929.....	257	19,721	4,073	1,281	2,791
1930.....	270	20,398	2,745	62	2,683
1931.....	277	20,123	1,986	-601	2,587
1932.....	257	19,500	1,137	-646	1,783
1933.....	259	19,439	1,541	523	1,018
1934.....	280	19,774	1,941	148	1,793
1935.....	295	...	2,808	...	...
1936.....	...	...	3,500*	...	...

\* Estimated from data for eight months.

ing the estimates thus derived for the beginning and end of each year a figure may be derived for the average number of cars in use during the year. Estimates so derived are subject to considerable error, but are nevertheless a better indication of the number of cars in use than the gross registration figures as published. They are used here simply for want of anything better. The data have been adjusted to include passenger cars not subject to registration and to exclude buses.

*New car sales at retail.* New car registrations as compiled by the R. L. Polk Company, adjusted for estimated under-tabulation.

*Increase in cars in use.* The estimate for cars in use on each January 1, derived as described above, was subtracted from the estimate for the succeeding January 1 to give the increase (or decrease) during the year.

*Apparent scrapping.* New car sales minus the increase during the year in cars in use. There is probably some overstatement of scrapping on the down-swing, and a corresponding understatement on the recovery, owing to the fact that a considerable but unknown number of cars were withdrawn from registration as conditions worsened and subsequently re-registered when they improved.

#### V. STEAM RAILROADS

The data underlying the chart on page 199 are given in Tables 4-6, which indicate the railroad plant and equipment situation during 1921-36.

#### 4. ROAD AND EQUIPMENT BUILT, 1921-35<sup>a</sup> (1929=100)

Year	Locomotives <sup>b</sup>	Freight Cars	Passenger Cars	Miles of Road Constructed
1921.....	116	49	102	49
1922.....	135	81	54	47
1923.....	370	214	120	66
1924.....	187	138	172	95
1925.....	101	129	188	89
1926.....	167	108	174	131
1927.....	103	77	142	122
1928.....	60	49	108	141
1929.....	100	100	100	100
1930.....	105	91	101	69
1931.....	20	16	16	75
1932.....	11	4	3	48
1933.....	6	3	1	18
1934.....	10	31	21	5
1935.....	20	8	16	7

<sup>a</sup> Data compiled by the *Railway Age*, except for road built, for which the source is the Interstate Commerce Commission.

<sup>b</sup> Original figures include production for Canadian market before 1929. These have been adjusted by subtracting average of Canadian orders for the preceding year and the current year.

DURABLE GOODS DATA

5. AMOUNT OF EQUIPMENT OWNED AND MAXIMUM PERCENTAGE OPERATED, 1921-36

Amount of Equipment Owned, Dec. 31 <sup>a</sup> (1929 = 100)				Maximum Percentage of Equipment Active <sup>b</sup>		
Year	Loco- motives	Freight Cars	Passenger Cars	Freight Cars	Freight Loco- motives	Passenger Loco- motives
1921.....	113	102	106	...	...	...
1922.....	112	101	106	...	...	...
1923.....	113	102	106	91	...	...
1924.....	113	104	107	87	81	85
1925.....	111	104	106	88	83	85
1926.....	109	103	106	90	85	85
1927.....	107	102	104	88	82	86
1928.....	103	101	102	90	84	83
1929.....	100	100	100	89	85	82
1930.....	98	100	100	78	80	83
1931.....	96	97	97	67	68	77
1932.....	93	94	94	62	62	71
1933.....	88	89	89	66	65	69
1934.....	84	85	84	68	64	70
1935.....	81	80	79	74	68	74
1936.....	79	77	75	81	74	79

<sup>a</sup> Data through 1935 compiled by the Interstate Commerce Commission. They cover all roads in the United States. The figure for 1936 is estimated on the basis of data for the first eight months of the year compiled by the Association of American Railroads.

<sup>b</sup> Active equipment is computed by subtracting from the total number of units reported "on line" those reported as unserviceable ("bad order" freight cars, and locomotives "awaiting classified repairs") plus those reported as "surplus" (in the case of locomotives those "stored, serviceable"). Since the various items have been reported with differing frequency, ranging from weekly to monthly, it is likely that the maximum utilization of equipment during each year was slightly higher than it happened to be on the reporting dates showing the highest ratios of use.

## 6. MAINTENANCE OF ROAD AND EQUIPMENT, 1921-36

Year	Man-hours of Equipment Maintenance per 1,000 Car-miles Run <sup>a</sup>	Man-hours of Road Maintenance per 1,000 Car-miles Run	Percentage of Locomotives Awaiting Classified Repairs <sup>b</sup>	Percentage of Freight Cars in Bad Order <sup>b</sup>
1921.....	...	...	...	13.9
1922.....	49	36	...	13.3
1923.....	52	35	...	8.0
1924.....	46	33	9.4	8.2
1925.....	43	32	9.0	7.9
1926.....	40	32	8.5	6.7
1927.....	38	32	7.8	6.1
1928.....	35	30	7.7	6.4
1929.....	34	31	7.4	6.1
1930.....	32	28	8.4	6.4
1931.....	30	24	11.3	8.0
1932.....	29	22	16.1	11.2
1933.....	27	20	21.4	14.3
1934.....	28	21	22.5	15.2
1935.....	28	21	22.6	15.2
1936.....	...	...	21.0	14.6

<sup>a</sup> Both series are computed from data published by the Interstate Commerce Commission.

<sup>b</sup> Annual averages computed from data of the Association of American Railroads. Figures for 1936 are for the first eight months of the year. In the case of locomotives only units needing major or "classified" repairs are included.

## VI. PUBLIC UTILITIES

The data underlying the chart on page 207 are given in Table 7 below.

7. PUBLIC UTILITY CONSTRUCTION AND MAINTENANCE  
EXPENDITURES, 1919-36  
(In millions of dollars)

Year	Electric Power <sup>a</sup>	Telephones <sup>b</sup>	Transit <sup>c</sup>	Gas <sup>d</sup>
1919.....	300	205	...	...
1920.....	380	290	...	...
1921.....	400	320	...	...
1922.....	540	365	...	...
1923.....	895	435	...	...
1924.....	1,000	505	419	...
1925.....	950	516	436	...
1926.....	875	550	373	...
1927.....	903	554	352	...
1928.....	867	628	343	...
1929.....	964	818	357	290
1930.....	1,036	824	339	280
1931.....	696	600	311	210
1932.....	375	422	207	130
1933.....	219	345	179	90
1934.....	237	365	226	105
1935.....	285	380	271	110
1936.....	425 <sup>e</sup>	447 <sup>e</sup>	280 <sup>e</sup>	...

<sup>a</sup> For construction expenditures during 1921-35 we have used the estimates of the Edison Electrical Institute, as given in *Statistical Bulletin No. 3*, June 1936, p. 8. For 1919 and 1920 the Institute supplied estimates by letter. We have estimated 1936 on the basis of the gain over 1935 shown by the *Electrical World* forecast, in the issue of Jan. 4, 1936. Maintenance expenditures for the years 1923-32 are taken from data compiled by the Federal Employment Stabilization Board and published in Gayer's *Public Works in Prosperity and Depression*, p. 60. For other years we have made approximations.

<sup>b</sup> Estimates for the industry were supplied by the American Telephone and Telegraph Company.

<sup>c</sup> Data taken from various issues of the *Transit Journal*. For the years 1924 to 1926 inclusive we have estimated expenditures for maintenance labor.

<sup>d</sup> Estimates are based on data in *Bulletin 21* of the American Gas Association. We have supplied estimates for maintenance expenditures in the natural gas industry.

<sup>e</sup> Preliminary estimate.

## VII. INDUSTRIAL ENTERPRISES

The data underlying the chart on page 219 are given in Table 8 below.

8. CAPITAL AND MAINTENANCE EXPENDITURES IN INDUSTRIAL LINES, 1919-36  
(In millions of dollars)

Year	Total	Construction <sup>a</sup>	Machinery and Equipment <sup>b</sup>
1919.....	7,597	1,184	6,413
1920.....	8,233	1,311	6,922
1921.....	4,867	629	4,238
1922.....	5,254	1,012	4,242
1923.....	6,404	977	5,427
1924.....	6,210	968	5,242
1925.....	6,807	1,338	5,469
1926.....	7,355	1,545	5,810
1927.....	7,147	1,443	5,704
1928.....	7,622	1,542	6,080
1929.....	8,480	1,660	6,820
1930.....	6,439	983	5,456
1931.....	4,184	485	3,699
1932.....	2,578	192	2,386
1933.....	2,563	263	2,300
1934.....	...	312	...
1935.....	...	322	...
1936.....	...	505 <sup>c</sup>	...

<sup>a</sup> Estimates through 1935 by Mr. Lowell Chawner of the Construction Division of the Bureau of Foreign and Domestic Commerce. The estimate for 1936 is based on data for the first eight months of the year.

<sup>b</sup> From the estimates for the output of producers' machinery and equipment of all kinds, prepared by the National Bureau of Economic Research and published in *Bulletin 52*, we have subtracted estimates for agricultural machinery, railroad rolling stock, and equipment for public utilities. The result approximates machinery and equipment used by industrial enterprises. All of the figures used are preliminary, and will be altered by revisions now under way.

<sup>c</sup> Estimated from first eight months.

## VIII. PUBLIC CONSTRUCTION AND MAINTENANCE

The data underlying the chart on page 227 are given in Table 9 below.

9. EXPENDITURES FOR PUBLIC CONSTRUCTION AND MAINTENANCE,  
1923-34

(In millions of dollars)

Year	Total	Roads and Streets <sup>a</sup>	All Other <sup>b</sup>
1923.....	2,240	1,110	1,130
1924.....	2,625	1,320	1,305
1925.....	2,915	1,435	1,480
1926.....	2,875	1,455	1,420
1927.....	3,225	1,640	1,585
1928.....	3,415	1,810	1,605
1929.....	3,435	1,820	1,615
1930.....	3,570	2,100	1,470
1931.....	3,020	1,765	1,255
1932.....	2,020	1,325	695
1933.....	1,750	1,070	680
1934.....	2,165	1,215	950

<sup>a</sup> For rural roads, the estimates for 1923-32 inclusive are from the Bureau of Public Roads. For 1933 and 1934, the Bureau's estimates for state highways were supplemented by our own estimates for local rural roads. Estimates for city roads and streets were prepared by us on the basis of data in *Financial Statistics of Cities*.

<sup>b</sup> For the period 1923-32 the estimates are by Arthur Gayer (*Public Works in Prosperity and Depression*, p. 248). For 1933 and 1934 these estimates were extrapolated on the basis of data compiled by the F. W. Dodge Corporation.

10. DURABLE GOODS REQUIREMENTS, 1937-41, COMPARED  
WITH PRODUCTION IN 1936<sup>a</sup>  
(In billions of 1936 dollars)

Class of Goods	Deficiency at End of 1936	Regular Require- ments, 1937-41	Total Require- ments, 1937-41	Production in 1936
Residences (non-farm) . . . .	9.0 <sup>b</sup>	11.3 <sup>b</sup>	20.3	1.3
Passenger automobiles . . . .	2.2 <sup>c</sup>	12.8 <sup>c</sup>	15.0	2.6
Other consumers' durable goods . . . . .	1.0 <sup>d</sup>	29.0	30.0	4.5
Steam railroads . . . . .	2.3 <sup>e</sup>	10.0	12.3	1.5
Public utilities . . . . .	1	11.0 <sup>f</sup>	11.0	1.3
Industrial enterprises . . . .	11.0 <sup>b</sup>	40.0	51.0	6.0
Agriculture . . . . .	1.5	5.0	6.5	0.8
Public and semi-public con- struction . . . . .	...	17.5	17.5	3.0
<b>Total . . . . .</b>	<b>27.0</b>	<b>136.6</b>	<b>163.6</b>	<b>21.0</b>

<sup>a</sup> Estimates compiled from statements in the text of Chap. VIII and this appendix. No claim of precision is made for any of the figures. The aggregates, however, are believed to be correct enough to give a fair picture of the production situation in durable goods. "Requirements" are those necessary to restore roughly the pre-depression standards of living.

<sup>b</sup> Computed at \$4,500 per unit of housing.

<sup>c</sup> Computed at \$750 per unit.

<sup>d</sup> Based on deficiency in residences. Equipment for one million new households at \$1,000 each would give this amount.

<sup>e</sup> Computed at \$2,200 per freight car, \$30,000 per passenger car, and \$100,000 per locomotive.

<sup>f</sup> Included in following column.

<sup>g</sup> Including 1936 deficiency.

<sup>h</sup> Includes allowance of one billion dollars for commercial and industrial buildings.



**APPENDIX E**  
**DATA RELATING TO PRICES**

1. INDEX NUMBERS OF WHOLESALE PRICES OF RAW  
OF THE COST OF LIVING AND OF  
(1929)

Year and Month	Raw Materials <sup>a</sup>	Semi-Finished Goods <sup>a</sup>	Finished Goods <sup>a</sup>	Cost of Living <sup>b</sup>	Prices Received by Farmers <sup>c</sup>	Prices Paid by Farmers for Home Maintenance <sup>d</sup>	Prices Paid by Farmers for Goods Used in Production <sup>d</sup>
<b>1929:</b>							
Jan.....	101.3	100.7	100.2	99.9	100.7		
Feb.....	100.6	100.7	99.8	99.9	99.3		
Mar.....	101.5	102.3	100.3	99.3	100.0	100.6	101.4
Apr.....	99.5	101.0	100.5	99.1	98.6		
May.....	97.7	99.0	100.1	98.9	97.3		
June.....	99.1	98.4	100.5	99.2	97.3	100.0	100.0
July.....	101.6	99.5	101.2	100.0	100.7		
Aug.....	101.7	99.6	100.7	100.7	104.1		
Sept.....	101.4	100.6	100.5	100.8	102.7	100.6	100.0
Oct.....	99.6	100.9	99.7	101.0	102.1		
Nov.....	97.2	99.1	98.3	100.9	99.3		
Dec.....	97.4	98.0	98.1	100.1	100.7	99.4	99.3
<b>1930:</b>							
Jan.....	96.4	96.1	97.5	99.3	99.3		
Feb.....	93.3	95.2	96.8	98.5	95.9		
Mar.....	91.6	93.8	96.2	97.8	92.5	98.1	96.6
Apr.....	92.1	91.7	96.0	97.9	93.2		
May.....	90.1	88.5	95.3	97.2	91.8		
June.....	87.1	87.0	93.5	96.5	89.7	96.2	96.6
July.....	83.2	85.0	91.6	95.2	82.2		
Aug.....	83.9	83.8	91.2	94.7	80.8		
Sept.....	84.2	82.7	91.4	95.4	82.2	92.4	96.6
Oct.....	81.9	81.8	90.4	94.8	77.4		
Nov.....	78.8	81.0	89.0	93.9	75.3		
Dec.....	76.1	80.0	87.6	92.6	71.2	88.6	91.8
<b>1931:</b>							
Jan.....	74.6	78.5	86.2	91.1	69.2		
Feb.....	72.4	77.7	85.0	89.6	65.1		
Mar.....	71.3	77.6	84.2	89.1	66.4	84.8	87.8
Apr.....	70.1	76.1	82.9	88.2	66.4		
May.....	68.2	74.3	81.4	86.9	63.0		
June.....	66.4	73.8	80.4	85.9	58.9	81.6	85.0
July.....	65.9	73.8	80.5	85.9	58.9		
Aug.....	65.7	72.7	80.8	85.9	56.2		
Sept.....	64.3	71.0	80.3	85.6	54.8	78.5	79.6
Oct.....	63.1	69.4	79.5	84.9	52.7		
Nov.....	63.6	69.1	79.2	83.9	54.1		
Dec.....	61.7	67.8	77.6	83.1	51.4	74.7	78.9
<b>1932:</b>							
Jan.....	59.8	67.2	76.3	81.4	48.6		
Feb.....	58.4	65.9	75.6	80.1	46.6		
Mar.....	57.5	64.7	75.7	79.6	47.3	71.5	76.2
Apr.....	56.9	63.5	75.2	78.8	45.9		
May.....	55.3	61.9	74.4	77.9	43.2		
June.....	54.6	61.3	74.1	77.2	39.7	68.4	74.1
July.....	56.1	59.1	74.6	77.0	43.2		
Aug.....	57.1	61.7	74.8	76.8	44.5		
Sept.....	57.6	64.6	74.5	76.6	45.2	67.1	71.4
Oct.....	56.0	64.6	73.7	76.1	43.8		
Nov.....	55.6	62.7	73.3	75.6	42.5		
Dec.....	53.4	61.4	72.4	75.1	43.2	65.2	70.7

MATERIALS, SEMI-FINISHED AND FINISHED GOODS, AND  
 PRICES RECEIVED AND PAID BY FARMERS, 1929-JUNE 1936  
 =100)

Year and Month	Raw Materials <sup>a</sup>	Semi-Finished Goods <sup>a</sup>	Finished Goods <sup>a</sup>	Cost of Living <sup>b</sup>	Prices Received by Farmers <sup>c</sup>	Prices Paid by Farmers for Home Maintenance <sup>d</sup>	Prices Paid by Farmers for Goods Used in Production <sup>d</sup>
1933:							
Jan.....	51.5	60.6	70.6	73.7	41.1		
Feb.....	49.6	60.0	69.5	72.1	37.7		
Mar.....	50.7	60.6	69.5	71.8	37.7	62.7	68.7
Apr.....	51.3	61.0	69.5	71.5	39.7		
May.....	55.1	65.3	71.1	72.1	46.6		
June.....	57.6	69.5	73.0	72.8	48.6	64.6	70.7
July.....	63.4	73.6	76.4	75.2	56.8		
Aug.....	62.2	76.4	77.7	76.9	54.1		
Sept.....	63.3	77.6	79.2	77.9	54.8	74.1	77.6
Oct.....	63.4	77.5	79.8	78.0	53.4		
Nov.....	64.0	76.0	79.6	77.8	54.8		
Dec.....	63.5	77.0	79.2	77.3	53.4	74.1	77.6
1934:							
Jan.....	65.7	76.6	80.4	77.5	52.7		
Feb.....	67.7	79.7	81.5	78.3	56.8		
Mar.....	67.6	79.1	81.7	78.5	57.5	76.6	81.0
Apr.....	66.8	78.7	81.6	78.4	56.2		
May.....	66.8	78.5	82.3	78.6	56.2		
June.....	69.0	77.6	82.8	78.8	58.9	77.2	82.3
July.....	70.1	77.4	82.8	79.1	59.6		
Aug.....	73.4	77.3	83.8	79.6	65.8		
Sept.....	75.8	76.5	84.8	81.0	70.5	77.8	87.8
Oct.....	73.9	76.1	83.8	80.9	69.9		
Nov.....	74.1	75.7	83.9	80.8	69.2		
Dec.....	75.0	75.6	84.1	80.8	69.2	77.2	89.1
1935:							
Jan.....	78.5	75.8	85.5	81.6	73.3		
Feb.....	79.4	76.4	86.2	82.4	76.0		
Mar.....	78.6	76.5	86.4	82.4	74.0	78.5	89.1
Apr.....	79.5	77.0	87.1	83.2	76.0		
May.....	79.6	78.3	87.2	82.9	74.0		
June.....	78.4	78.7	87.0	82.7	71.2	78.5	88.4
July.....	77.7	77.5	86.8	82.6	69.9		
Aug.....	79.1	78.0	87.8	83.0	72.6		
Sept.....	79.3	79.2	87.9	83.5	73.3	78.5	83.0
Oct.....	79.1	81.3	87.5	83.9	74.7		
Nov.....	79.2	81.2	87.5	84.3	74.0		
Dec.....	79.7	80.1	87.9	84.8	75.3	78.5	81.0
1936:							
Jan.....	80.1	79.7	87.2	84.8	74.7		
Feb.....	81.1	79.4	87.0	84.4	74.7		
Mar.....	79.4	79.2	86.0	84.1	71.2	77.2	79.6
Apr.....	79.0	79.3	86.3	84.3	71.9		
May.....	77.7	78.9	85.2	84.6	70.5		
June.....	79.6	78.7	85.4	86.0	73.3	76.6	81.6

<sup>a</sup> Assembled from monthly issues of *Wholesale Prices*, Bureau of Labor Statistics, and converted from a 1926 to a 1929 base.

<sup>b</sup> Assembled from various bulletins of the National Industrial Conference Board.

<sup>c</sup> U. S. Department of Agriculture, *Index of Prices Received by Farmers 1910 to 1934 and Crops and Markets* for December 1935 and October 1936. The index has been converted from a 1910-14 to a 1929 base.

<sup>d</sup> U. S. Department of Agriculture, *Index Numbers of Prices Paid by Farmers 1910-1934, and Crops and Markets* for December 1935 and October 1936. The index has been converted from a 1910-14 to a 1929 base.

2. INDEXES OF WHOLESALE PRICES OF MAJOR  
(1929

Year and Month	All Commodities	Farm Products	Foods	Hides and Leather	Textiles	Fuel and Lighting	Metals and Metal Products	Building Material	Chemicals and Drugs	House Furnishing Goods	Miscellaneous
1929:											
Jan.....	100.6	101.0	99.0	103.9	102.3	101.4	99.6	100.1	101.5	99.6	100.1
Feb.....	100.1	100.5	98.2	99.8	102.1	99.9	100.1	100.5	101.6	99.5	100.1
Mar.....	100.8	102.2	98.4	99.2	102.2	98.9	101.8	101.4	101.2	99.5	99.8
Apr.....	100.2	100.0	98.1	98.8	101.3	98.7	101.8	100.9	100.5	99.7	99.2
May.....	99.4	97.4	98.1	97.8	100.3	99.4	100.7	100.1	99.9	99.7	99.3
June.....	99.9	98.5	99.2	98.9	99.7	101.8	100.7	99.8	99.2	100.3	99.8
July.....	101.3	102.6	103.0	100.0	99.1	100.4	100.5	99.7	99.1	100.0	100.2
Aug.....	101.0	102.5	103.6	100.4	99.3	99.0	100.0	99.8	99.4	100.0	100.2
Sept.....	100.8	101.6	103.4	101.4	99.3	99.6	99.8	100.4	99.5	100.0	100.6
Oct.....	99.8	99.1	101.5	101.1	99.0	100.1	99.3	100.5	99.8	100.4	100.7
Nov.....	98.1	96.4	99.0	99.3	98.0	100.2	98.2	99.0	99.6	100.3	99.8
Dec.....	97.9	97.1	98.8	98.4	97.1	100.1	98.0	99.0	99.3	100.4	99.5
1930:											
Jan.....	97.1	96.3	97.4	96.3	96.5	98.4	96.7	98.9	98.7	99.5	98.4
Feb.....	95.9	93.4	95.9	95.2	95.6	97.5	96.4	98.5	98.0	99.3	98.3
Mar.....	94.6	90.3	94.4	94.6	93.8	95.7	96.1	98.4	97.0	99.2	97.9
Apr.....	94.4	91.3	95.0	94.1	92.9	95.8	94.8	98.0	96.8	99.2	98.0
May.....	93.2	88.7	92.3	94.0	92.3	96.7	93.0	96.9	95.8	99.2	97.3
June.....	91.1	84.7	90.9	93.9	90.3	95.1	91.4	94.2	94.9	99.1	94.9
July.....	88.6	79.2	86.9	92.4	88.2	94.0	90.3	92.8	93.7	98.7	92.7
Aug.....	88.5	80.9	87.7	90.7	86.3	93.9	89.2	91.9	93.3	98.5	92.1
Sept.....	88.6	81.3	89.6	90.9	84.3	95.2	88.6	91.3	92.6	97.9	91.0
Oct.....	87.1	78.6	88.9	88.5	82.6	93.5	87.5	90.5	92.0	97.7	90.4
Nov.....	85.3	75.6	86.3	86.3	82.1	90.7	87.4	89.6	91.3	97.0	89.7
Dec.....	83.5	71.7	82.5	83.8	81.5	89.2	87.5	88.9	90.9	94.2	89.0
1931:											
Jan.....	82.1	69.7	80.8	81.3	78.9	88.3	86.5	87.8	89.7	93.6	87.4
Feb.....	80.6	66.8	78.1	79.7	78.4	87.3	86.1	86.5	88.4	93.4	86.6
Mar.....	79.7	67.3	77.7	80.3	77.4	82.3	86.0	86.5	88.0	93.3	87.2
Apr.....	78.5	66.8	76.4	80.2	75.4	78.8	85.3	85.4	86.3	93.2	86.6
May.....	76.8	64.0	73.9	80.3	74.6	78.7	84.6	83.9	85.5	92.0	85.4
June.....	75.7	62.3	73.4	80.7	73.7	75.8	84.0	83.1	84.3	91.6	84.4
July.....	75.6	61.9	74.1	81.9	73.6	75.8	83.9	81.9	83.8	90.9	84.4
Aug.....	75.7	60.5	74.7	81.3	72.5	80.1	83.5	81.3	81.6	90.0	82.7
Sept.....	74.7	57.7	73.8	77.9	71.3	81.2	83.5	80.7	81.0	87.7	82.6
Oct.....	73.8	56.1	73.4	75.6	69.7	81.7	82.4	79.8	80.3	85.9	80.6
Nov.....	73.7	56.0	71.1	74.8	68.8	83.6	82.2	79.9	80.8	85.8	83.2
Dec.....	72.0	53.1	69.2	73.1	67.3	82.3	81.8	79.4	80.8	83.2	80.9
1932:											
Jan.....	70.6	50.3	64.8	72.7	65.9	81.8	81.4	78.4	80.4	82.4	79.4
Feb.....	69.6	48.2	62.6	71.8	65.8	82.3	80.5	76.9	80.1	82.2	78.3
Mar.....	69.3	47.9	62.4	70.9	64.2	81.8	80.4	76.7	79.9	81.8	78.3
Apr.....	68.7	46.9	61.1	68.7	62.1	84.6	79.9	76.0	79.0	80.9	78.3
May.....	67.6	44.4	59.4	66.5	60.1	85.2	79.7	74.9	78.1	79.3	78.0
June.....	67.1	43.6	58.9	64.9	58.3	86.3	79.5	74.2	77.6	79.2	77.7
July.....	67.7	45.7	61.0	62.9	57.0	87.1	78.8	73.1	77.5	78.5	77.8
Aug.....	68.4	46.8	61.9	63.9	58.3	86.9	79.7	73.0	77.8	78.0	78.2
Sept.....	68.5	46.8	61.9	66.2	61.5	85.3	79.7	73.9	77.4	78.1	78.3
Oct.....	67.6	44.7	60.6	66.7	60.8	85.7	79.9	74.1	77.2	78.1	77.6
Nov.....	67.1	44.5	60.7	65.4	59.6	86.0	79.2	74.1	76.9	78.1	77.1
Dec.....	65.7	42.0	58.4	63.8	58.6	83.5	79.0	74.2	76.8	78.0	76.8

PRICE DATA

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GROUPS OF COMMODITIES, 1929-JUNE 1936<sup>a</sup>  
=100)

Year and Month	All Commodities	Farm Products	Foods	Hides and Leather	Textiles	Fuel and Lighting	Metals and Metal Products	Building Material	Chemicals and Drugs	House Furnishing Goods	Miscellaneous
1933:											
Jan.....	64.0	40.6	55.9	63.2	57.4	79.5	77.8	73.5	76.0	77.3	74.1
Feb.....	62.7	39.0	53.8	62.3	56.6	76.6	77.0	73.2	75.7	76.7	71.7
Mar.....	63.2	40.8	54.7	62.4	56.7	75.8	76.8	73.7	75.6	76.6	71.3
Apr.....	63.4	42.4	56.2	63.6	57.3	74.1	76.5	73.6	75.8	75.8	70.0
May.....	65.8	47.9	59.5	70.5	61.8	72.8	77.3	74.8	77.7	76.0	71.3
June.....	68.2	50.7	61.3	75.5	68.0	74.1	78.9	78.3	78.2	77.8	73.6
July.....	72.3	57.3	65.6	79.1	75.2	78.7	80.2	83.3	77.7	79.3	77.5
Aug.....	72.9	54.9	64.9	84.1	82.5	78.9	80.8	85.2	77.6	82.3	79.2
Sept.....	74.3	54.3	65.0	84.6	85.1	84.8	81.7	86.7	77.2	84.1	78.8
Oct.....	74.7	53.1	64.3	81.6	85.3	88.7	82.6	87.9	77.2	86.1	79.1
Nov.....	74.6	54.0	64.4	80.8	85.0	88.6	82.3	89.0	77.9	85.9	79.3
Dec.....	74.3	52.9	62.6	81.8	84.5	88.5	83.1	89.7	78.2	85.9	79.5
1934:											
Jan.....	75.8	56.0	64.4	82.0	84.6	88.1	85.1	90.5	79.0	85.7	81.7
Feb.....	77.2	58.4	66.8	82.1	85.1	87.2	86.6	90.8	80.1	85.9	82.9
Mar.....	77.3	58.4	67.4	81.3	84.6	86.0	86.7	90.6	80.4	86.3	83.9
Apr.....	76.9	56.8	66.3	81.5	83.3	86.4	87.5	90.9	80.1	86.5	84.1
May.....	77.3	56.8	67.2	80.6	81.4	87.3	88.7	91.5	80.0	87.0	84.5
June.....	78.3	60.3	69.9	79.8	80.4	87.7	87.3	92.0	80.3	87.0	85.0
July.....	78.5	61.5	70.7	79.1	79.1	89.0	86.4	91.2	80.0	86.5	84.6
Aug.....	80.2	66.5	74.0	76.8	78.3	89.9	86.3	89.9	80.4	86.7	85.0
Sept.....	81.4	70.0	76.2	77.1	78.7	89.9	86.2	89.7	81.2	86.7	85.0
Oct.....	80.3	67.3	74.9	76.8	77.8	89.9	85.9	89.3	81.8	86.6	84.4
Nov.....	80.3	67.5	75.2	77.2	77.1	89.6	85.8	89.1	81.6	86.2	85.5
Dec.....	80.7	68.6	75.4	78.0	77.4	88.8	85.5	89.2	82.6	86.1	86.0
1935:											
Jan.....	82.7	74.0	80.0	79.0	77.8	87.8	85.4	89.0	84.2	86.1	85.6
Feb.....	83.4	75.4	82.8	78.8	77.5	87.3	85.4	89.1	85.4	85.6	84.9
Mar.....	83.3	74.6	82.0	78.3	76.8	88.0	85.3	89.0	86.5	85.6	83.8
Apr.....	84.1	76.6	84.6	79.1	76.5	87.7	85.5	88.7	86.0	85.6	83.2
May.....	84.2	76.8	84.2	80.9	76.8	88.1	86.2	88.9	86.2	85.5	83.2
June.....	83.7	74.6	82.9	81.5	77.5	89.4	86.5	89.4	85.7	85.4	82.8
July.....	83.3	73.5	82.2	81.9	77.6	90.0	86.0	89.3	83.5	85.3	82.0
Aug.....	84.5	75.6	85.0	82.1	78.4	89.3	86.2	89.5	83.4	85.4	81.5
Sept.....	84.7	75.7	86.2	83.3	79.4	88.0	86.2	90.0	85.1	85.4	81.2
Oct.....	84.5	74.5	85.1	85.8	80.6	88.4	86.1	90.3	86.1	85.5	81.7
Nov.....	84.6	73.9	85.2	87.1	81.2	89.8	86.5	89.9	86.2	85.9	81.6
Dec.....	84.9	74.6	85.8	87.4	81.0	89.9	86.4	89.6	85.6	85.9	81.7
1936:											
Jan.....	84.6	74.5	83.6	89.0	79.3	90.5	86.3	89.8	85.5	86.3	82.1
Feb.....	84.6	75.8	83.3	88.1	78.5	91.7	86.3	89.6	85.0	86.4	82.4
Mar.....	83.5	72.9	80.2	87.0	78.3	91.8	86.2	89.4	84.2	86.3	82.7
Apr.....	83.6	73.3	80.3	86.7	77.7	92.0	86.2	89.8	83.3	86.4	83.1
May.....	82.5	71.7	78.1	86.2	77.2	91.6	85.9	89.9	82.5	86.4	83.8
June.....	83.1	74.5	80.0	86.0	77.0	91.7	85.8	89.9	82.8	86.3	84.4

<sup>a</sup> Assembled from monthly issues of *Wholesale Prices*, Bureau of Labor Statistics, and converted from a 1926 to a 1929 base.

### 3. INDEXES OF WHOLESALE PRICES OF SELECTED (1929)

Year and Month	Lumber	Fertilizer Materials	Petrol Products	Boots and Shoes	Furniture	Iron and Steel	Non-Ferrous Metal	Cotton Goods	Woolens and Worsted	Paper and Pulp
1929:										
Jan.....	99.3	102.7	100.8	100.4	99.4	99.6	95.4	101.6	103.5	100.0
Feb.....	101.3	102.8	96.6	100.3	99.3	99.8	99.4	101.0	103.4	100.0
Mar.....	102.8	102.8	96.1	100.3	99.3	100.1	110.6	101.8	103.2	100.0
Apr.....	101.5	102.7	99.7	100.3	99.3	100.7	106.7	100.6	102.7	100.0
May.....	100.4	102.2	101.7	99.9	99.3	100.7	99.4	99.7	101.0	100.4
June.....	100.2	100.5	107.4	99.8	100.5	100.6	99.4	99.0	100.0	100.3
July.....	99.5	98.5	102.8	99.8	100.5	100.4	99.6	99.4	99.3	100.0
Aug.....	99.7	98.3	98.6	99.8	100.5	100.2	99.4	99.4	98.3	100.0
Sept.....	101.2	97.6	98.5	99.8	100.5	100.1	99.2	99.6	98.2	100.0
Oct.....	101.9	97.8	99.3	99.8	100.5	99.6	98.6	99.7	98.2	99.8
Nov.....	97.9	97.6	99.4	99.8	100.4	99.1	97.1	98.6	97.7	99.8
Dec.....	98.0	97.2	98.0	99.8	100.4	98.8	96.3	97.4	96.5	99.2
1930:										
Jan.....	98.4	97.5	94.4	97.6	99.8	96.9	95.5	95.9	96.1	99.1
Feb.....	97.5	97.2	92.1	97.6	99.8	96.3	95.2	93.9	95.4	98.8
Mar.....	97.2	95.8	89.3	97.6	99.6	96.3	93.9	91.4	92.9	98.7
Apr.....	97.3	95.7	92.0	97.6	99.6	95.7	86.6	90.7	91.4	97.9
May.....	95.5	93.9	93.3	97.5	99.6	94.9	77.6	90.1	90.6	97.4
June.....	91.3	92.6	89.2	96.9	99.6	93.8	75.2	88.3	90.3	97.2
July.....	89.1	91.5	85.6	96.8	98.8	93.2	71.1	84.9	89.7	96.1
Aug.....	87.1	90.4	85.4	94.6	98.8	92.7	70.2	82.1	88.1	96.1
Sept.....	86.5	90.2	87.0	94.5	98.4	92.3	69.0	79.6	86.0	95.7
Oct.....	85.1	90.8	83.3	94.3	98.3	91.8	65.7	77.9	84.9	95.7
Nov.....	85.5	89.1	74.8	94.3	98.1	91.5	66.5	78.4	84.6	95.2
Dec.....	83.4	88.4	71.7	91.9	97.4	91.3	67.6	76.5	83.7	94.5
1931:										
Jan.....	81.4	88.4	70.7	89.4	96.9	90.1	65.5	74.4	83.5	94.0
Feb.....	78.9	88.1	70.5	89.3	96.8	90.2	64.5	74.0	83.2	93.5
Mar.....	79.6	87.7	58.6	89.2	96.7	90.0	65.3	73.3	81.3	92.9
Apr.....	78.3	87.5	52.5	89.2	96.7	88.6	63.6	72.3	78.1	92.4
May.....	74.0	87.4	50.4	89.2	95.2	88.3	59.7	70.0	77.6	91.7
June.....	73.0	86.6	43.1	89.0	94.5	88.0	57.7	68.4	77.0	90.8
July.....	71.6	85.5	42.5	88.0	93.8	87.1	57.9	67.6	76.3	90.7
Aug.....	71.3	80.8	52.6	88.0	93.3	86.8	56.6	64.8	76.3	90.7
Sept.....	71.3	80.6	54.6	88.0	89.1	86.7	55.6	62.2	74.4	90.8
Oct.....	69.5	76.2	55.0	87.6	86.7	86.1	51.7	60.4	73.2	90.6
Nov.....	70.3	76.1	59.6	87.0	86.6	85.9	51.6	58.8	72.7	90.9
Dec.....	70.1	76.1	55.5	83.9	84.8	85.4	50.7	57.1	72.4	90.9
1932:										
Jan.....	69.9	75.9	54.4	83.5	83.7	84.2	52.2	56.5	71.7	87.7
Feb.....	67.1	75.8	54.1	83.3	83.7	83.6	49.7	57.1	71.5	86.3
Mar.....	65.6	74.5	55.8	83.3	83.3	84.0	47.6	56.9	71.0	86.4
Apr.....	64.0	76.1	63.8	83.2	81.5	84.4	46.5	55.8	67.6	86.4
May.....	63.4	75.4	66.2	83.2	78.0	84.3	45.5	53.5	66.0	86.1
June.....	61.4	73.8	67.6	82.3	77.9	84.1	44.8	51.6	62.3	85.7
July.....	60.7	72.5	69.7	79.4	76.8	81.3	44.3	50.6	60.7	85.7
Aug.....	59.2	72.1	68.6	79.4	76.4	82.9	45.7	53.2	60.5	85.8
Sept.....	60.0	69.1	65.5	79.4	76.5	84.0	48.6	58.6	64.2	84.9
Oct.....	60.3	68.8	66.5	79.6	76.6	84.7	47.8	56.9	64.0	82.6
Nov.....	60.3	68.9	67.6	79.2	76.5	83.7	46.3	54.3	62.6	82.6
Dec.....	60.2	68.5	63.1	78.8	76.5	83.0	45.5	52.3	61.4	82.1

PRICE DATA

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SUB-GROUPS OF COMMODITIES, 1929-JUNE 1936\*

=100)

Year and Month	Lumber	Fertilizer Materials	Petrol Products	Boots and Shoes	Furniture	Iron and Steel	Non-Ferrous Metal	Cotton Goods	Woolens and Worsted	Paper and Pulp
<b>1933:</b>										
Jan.....	59.6	67.6	54.3	78.4	76.1	82.7	43.7	50.7	60.5	81.0
Feb.....	60.1	66.8	48.1	78.4	75.7	81.5	43.5	49.7	60.2	81.1
Mar.....	61.6	67.2	46.4	78.3	75.6	80.5	45.1	50.6	60.2	81.2
Apr.....	61.7	68.3	45.6	78.3	75.3	79.8	46.4	51.3	60.3	79.4
May.....	63.5	72.5	43.8	78.6	75.4	79.2	53.3	58.6	69.6	79.5
June.....	71.9	73.8	48.2	80.4	77.3	80.3	59.6	67.9	77.9	82.7
July.....	80.9	74.5	57.9	83.1	78.5	81.9	63.7	81.2	81.9	87.9
Aug.....	84.6	74.9	57.4	90.4	80.8	82.8	64.3	94.6	89.4	91.1
Sept.....	87.4	72.3	69.6	93.0	82.5	84.6	64.6	92.4	93.7	92.5
Oct.....	89.8	73.4	73.9	93.0	84.0	86.8	63.1	89.9	95.7	92.7
Nov.....	92.2	73.6	72.4	93.1	83.6	85.9	64.1	87.0	95.6	92.8
Dec.....	93.8	73.9	72.4	92.8	83.5	88.1	62.8	86.5	95.5	92.8
<b>1934:</b>										
Jan.....	93.2	74.3	71.7	92.7	82.9	88.1	62.3	87.6	95.5	93.4
Feb.....	93.1	75.1	70.5	92.6	83.4	90.9	62.0	89.7	95.5	93.0
Mar.....	92.1	75.5	68.3	92.7	84.0	90.9	62.5	90.2	95.1	93.0
Apr.....	93.0	74.6	69.3	92.7	84.1	92.0	64.1	89.3	92.9	94.0
May.....	91.6	72.1	71.1	92.7	84.3	95.0	64.2	87.3	91.7	94.2
June.....	92.0	73.7	71.0	92.6	83.2	93.4	64.6	87.0	91.5	93.9
July.....	90.9	73.4	71.9	92.2	82.6	91.4	64.8	86.1	91.4	92.7
Aug.....	87.2	70.4	72.4	92.1	83.1	91.3	64.9	89.4	89.4	92.7
Sept.....	87.7	72.1	71.9	92.1	82.9	91.2	64.5	88.9	88.3	92.7
Oct.....	87.4	71.3	70.7	91.9	83.2	90.8	64.2	87.7	84.8	92.7
Nov.....	86.6	70.1	70.8	91.5	82.5	90.6	63.8	85.4	83.9	92.4
Dec.....	86.6	70.9	69.8	91.4	82.3	90.2	63.6	85.3	83.8	91.7
<b>1935:</b>										
Jan.....	85.2	72.2	68.4	91.3	82.3	90.3	63.7	85.1	83.6	91.7
Feb.....	85.8	71.9	68.3	91.4	81.3	90.7	63.3	84.3	83.4	91.0
Mar.....	85.2	72.0	69.8	91.4	81.4	90.6	63.2	83.4	82.8	90.7
Apr.....	85.2	71.7	71.5	91.4	81.2	90.6	64.3	82.8	82.8	90.4
May.....	85.1	71.6	73.2	91.4	81.2	91.3	65.2	83.7	83.2	90.0
June.....	87.0	71.3	74.6	91.5	81.2	91.8	65.1	83.5	85.6	89.7
July.....	87.1	71.3	74.2	92.0	80.8	91.7	62.3	83.0	86.5	89.7
Aug.....	87.4	72.5	73.5	92.5	81.1	91.8	63.1	83.5	86.5	89.7
Sept.....	87.5	73.0	71.0	92.5	80.9	91.5	64.7	84.2	87.1	89.7
Oct.....	87.4	73.0	70.3	92.9	80.9	91.6	66.8	85.5	89.6	89.7
Nov.....	87.2	73.3	73.6	93.7	81.2	91.7	67.2	86.8	91.4	89.3
Dec.....	86.9	70.0	74.1	94.2	81.2	91.6	66.5	87.0	91.7	89.1
<b>1936:</b>										
Jan.....	87.6	69.9	76.3	94.5	82.0	91.8	65.7	81.4	92.2	89.8
Feb.....	87.7	70.0	78.1	94.5	82.0	91.6	65.7	79.0	93.8	89.9
Mar.....	88.1	70.4	78.5	94.4	82.0	90.9	65.9	78.0	94.9	90.3
Apr.....	88.7	70.1	81.2	94.3	82.1	90.9	66.4	77.1	93.1	90.6
May.....	88.5	70.2	81.6	94.3	82.0	90.9	66.6	76.4	93.1	90.6
June.....	87.5	69.5	80.9	93.8	81.6	90.9	66.0	76.3	93.5	90.7

\* Assembled from monthly issues of *Wholesale Prices*, Bureau of Labor Statistics, and converted from a 1926 to a 1929 base.

## APPENDIX F

### PUBLIC FINANCE SUPPLEMENT

The following pages contain supporting data and explanatory material bearing on Chapters XII and XVIII.

#### I. LOW AND HIGH POINTS OF FEDERAL INDEBTEDNESS, 1917-36

The fluctuations in the federal debt showing the lowest and highest points in the post-war period are revealed in Table 1.

##### 1. FLUCTUATIONS IN UNITED STATES PUBLIC DEBT, 1917-36<sup>a</sup> (In millions of dollars)

Item	Mar. 31, 1917 (Last pre-war)	Aug. 31, 1919 (Post-war high)	Dec. 31, 1930 (Post-war low)	June 30, 1936 (Present)
Gross debt.....	1,282	26,597	16,026	33,779
Net balance, general fund...	74	1,118	307	2,682
Net debt....	1,208	25,479	15,719	31,097

<sup>a</sup> *Preliminary Statement of the Public Debt, June 30, 1936.*

#### II. THE DECREASE IN THE FEDERAL DEBT, 1920-30

The reduction of the debt of the national government was accomplished chiefly by three means: (1) the regularly prescribed sinking fund; (2) the application of all excess ordinary revenues; and (3) special receipts, particularly on account of the war debts. The following table shows by sources the amount of funds made available for debt retirement during the fiscal years 1920-30 inclusive.<sup>1</sup>

Sinking fund .....	\$3,187,486,300
Foreign government obligations .....	1,488,720,450
Other special receipts .....	230,425,944
Surplus of receipts .....	3,476,729,405
Decrease of general fund balance .....	913,382,020
	\$9,296,726,119

<sup>1</sup> Assembled from *Annual Report of the Secretary of the Treasury, 1930, p. 27.*



III. SPECIAL-PURPOSE INTEREST BEARING DEBTS

As has been indicated in the text, a considerable volume of public indebtedness involves other than purely fiscal considerations. The following table lists all of these special forms of debts and the accounts outstanding as of June 30, 1930 and June 30, 1936:

2. SPECIAL-PURPOSE INTEREST BEARING PUBLIC DEBT, 1930 AND 1936\*

Form of Debt	1930	1936
<b>BONDS:</b>		
2.5 per cent Postal Savings bonds....	\$ 19,224,720	\$ 120,881,020
United States Savings bonds.....	—	316,124,814
3 per cent Adjusted Service bonds..	—	944,516,650
2 per cent Consols and Panama Canal bonds.....	674,625,630	—
<b>NOTES:</b>		
4 per cent Retirement Funds series.	134,971,000	280,433,000
2 per cent Postal Savings System series.....	—	100,000,000
2 per cent Fed. Deposit Ins. Corp. series.....	—	100,000,000
4 per cent Adjusted Service Certif. Fund series.....	629,200,000	—
<b>CERTIFICATES:</b>		
2.5 per cent Unemployment Trust Fund series.....	—	18,909,000
4 per cent Adjusted Service Certificate Fund series.....	—	126,800,000
<b>Total.....</b>	<b>\$1,458,021,350</b>	<b>\$2,007,664,484</b>

\* 1930 data from *Annual Report of the Secretary of the Treasury*, 1930 p.551; 1936 data from *Preliminary Statement of the Public Debt*, June 30, 1936

Postal Savings bonds were designed for the small investor as an added facility to the deposit accommodation of the Postal Savings System and they have occupied a minor place in the public debt since 1910. Under pressure of recent emergency financing, the postal issues have been supplanted by the United States Savings bonds and they will gradually disappear from the debt within the next twenty years. United States Savings bonds are also a form of "small savings" debt, but, unlike the earlier postal issues, they are sold at a discount in lieu of interest, the principal amount being payable in not less than ten or more than twenty years. They are also redeemable before maturity at the option of the owner.

The issue of Adjusted Service bonds is a by-product of the method selected by the government in paying off a well-known special obligation, the Adjusted Service certificates. These certificates were actually obligations of the United States established in 1924 and with maturity twenty years from that date, but the maturity value was not immediately included as a part of the public debt. If this simplified method had been used, the Treasury would have only had to convert the certificates into some other form of debt as they were redeemed in cash. A more complicated device based on actuarial principles was selected to accomplish the same purpose. The issue of Adjusted Service Certificate Fund notes of 629 million dollars, which appears only in the 1930 tabulation, represents this means taken *progressively* to recognize the obligation which at maturity would have been about 3,500 million dollars.

A decision to pay the bonus in full immediately after June 15, 1936 precluded the continuation of this procedure and the Adjusted Service bonds consequently recognize the current nature of the obligation. Some of these bonds will be held to maturity as investments, but a large percentage of the holders have availed themselves of the privilege of immediate encashment.<sup>2</sup> The Treasury had to provide sufficient funds to meet this expenditure by borrowing in anticipation of later replenishing its depleted cash balance. Consequently, the effect of the bonus transaction will be an increase in some form of interest bearing debt, roughly comparable to the amount of Adjusted Service bonds redeemed, over and above whatever amount of the issue will remain outstanding to maturity in 1945, and with an additional amount of special obligations to compensate government trust funds for cancelled veterans' loans.<sup>3</sup>

Various trust funds administered by the Treasury are limited in their investments to United States securities. As the circumstances determine, special issues, such as the Retirement Funds

<sup>2</sup> Of these bonds \$1,668,752,150 were issued on or shortly after June 15, 1936. By June 30, \$724,235,500 had been redeemed for cash (*Daily Treasury Statement*, June 30, 1936). On Aug. 31, 1936 only 545 millions remained outstanding (*Preliminary Statement of the Public Debt*, Aug. 31, 1936).

<sup>3</sup> Legislation in 1931 authorized holders of Adjusted Service certificates to borrow up to 50 per cent of their maturity value. As a consequence, the

notes, are designed to fulfill their investment requirements. Treasury notes issued directly to the Postal Savings System and the Federal Deposit Insurance Corporation also represent a part of the government security investments of these agencies, the bulk of their investments being in regular public issues.

The Unemployment Trust Fund series of certificates represents the utilization of the more direct of two methods open for investment in government securities of this reserve established under the recent Social Security Act. An enormous reserve for old-age annuities may also be accumulated as a feature of the security program and it may be similarly invested in special obligations or public issues which comply with certain yield conditions. In any projection of the future of the debt, or of the fiscal situation as a whole, consideration of these reserves and the methods used for their investment is of paramount importance. On the basis of tentative actuarial schedules it is believed that the Old-Age Reserve Account will accumulate to about 48 billion dollars by 1980. The Unemployment Trust Fund will be a revolving fund reaching proportions of from one to 2 billions. These funds are to be formed from surplus receipts of special premium taxes levied by the federal government. The method of investment, whether in special issues or by purchase of publicly held debt, is of fundamental importance.

We have mentioned in the text that a large proportion of the pre-war bonds were used to secure national bank note circulation.<sup>4</sup> These securities, which are shown as the 2 per cent

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special Adjusted Service Certificate Fund notes had to be redeemed by the Treasury, which borrowed publicly to provide the cash. The principal amount of these loans from the Adjusted Service Certificate Fund therefore operates as a deduction from the amount of *new* bonus financing for immediate payment in full. Similar loans were also made from the Government Life Insurance Fund, which presumably will be compensated by replacement with special government obligations inasmuch as 560 million dollars are being set aside for this purpose in the estimated expenditures for 1937 (*President's Budget Statement*, Sept. 1, 1936).

<sup>4</sup>As an emergency measure, this category of special-purpose debts was enlarged by a provision of the Federal Home Loan Bank Act of July 22, 1932 which attached the circulation privilege to all bonds of the United States bearing interest at a rate not in excess of  $3\frac{3}{8}$  per cent, for a three-year period. These additional bonds amounted to about 3 billions, but

Consols and Panama Canal bonds in the 1930 tabulation, were called for redemption in 1935 and have disappeared from the debt.<sup>5</sup> Carrying out the intention of the original Federal Reserve Act, the currency system has also been simplified by the elimination of national bank notes as a medium of circulation.<sup>6</sup>

#### IV. THE OPERATION OF THE SINKING FUND

As indicated in the text on page 294, the operation of the statutory sinking fund requirement has been continued during the depression notwithstanding the existence of enormous deficits. The cumulative sinking fund was established in the fiscal year 1921. To this fund is made an annual appropriation, or *initial credit*, of 2.5 per cent of a fixed base amount of debt, and a *secondary credit* representing the amount of interest which would otherwise have been paid on the debt retired during the fund's operation.

In the fiscal years 1931-35, inclusive, a total of 2,248 millions of debt was retired by statutory provision, the greater part resulting from the operation of the sinking fund. The way in which this serves to reduce interest charges may be indicated by reference to the operation for the fiscal year 1935.

In that year initial and secondary credits were 296 millions and 198 millions respectively, to which may be added an unexpended balance from the previous year of 79 millions. All of the 593 millions of debt thus retired consisted of bonds of the First and Fourth Liberty Loans, bearing interest at from  $3\frac{1}{2}$  to  $4\frac{1}{4}$  per cent. These bonds had been called for redemp-

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their usefulness was restricted by the existing limitation of the national bank note issue to the amount of the banks' paid-in capital, which was about 1.5 billions. The banks actually availed themselves of only a modest proportion of this margin above their old circulation on 2 per cent bonds.

<sup>5</sup>The bonds were not retired by refunding, or use of the Treasury working balance, but by the release of gold certificates from the fund resulting from the devaluation of the gold dollar.

<sup>6</sup>As the banks have deposited money with the Treasury for retirement of their notes, following the redemption of the 2 per cent bonds, these notes have temporarily become obligations of the United States until collected and cancelled. This has caused a momentary rise in the non-interest bearing debt.

tion and consequently no funds were lost on payments of premiums. The funds used by the sinking fund came from other Treasury borrowings, but at substantially reduced rates, probably at rates less than those secured in the regular refunding operations of these war loans.

Appropriations will continue to be made to the sinking fund; but the savings of interest in the near future do not appear so great since there are no impending bond maturities and outstanding issues which would have to be purchased at substantial premiums. In the fiscal year 1936, only 403 millions of debt were actually retired, although the appropriation to the fund must have exceeded 500 millions.

3. FEDERAL EXPENDITURES, CLASSIFIED ACCORDING TO  
FUNCTION, 1915, 1919, AND 1925<sup>a</sup>  
(In millions of dollars)

Type of Function	1915	1919	1925
<b>GENERAL:</b>			
Legislative, executive, and judicial.....	14	15	22
General administration.....	38	97	94
<b>Total.....</b>	<b>52</b>	<b>112</b>	<b>116</b>
<b>MILITARY:</b>			
National defense.....	260	11,239	570
Military pensions.....	176	324	627
Miscellaneous.....		164	42 <sup>b</sup>
<b>Total.....</b>	<b>436</b>	<b>11,727</b>	<b>1,155</b>
<b>CIVIL:</b>			
Indian affairs.....	13	12	13
Public domain.....	11	11	26
Commerce and industry.....	3	7	15
Agriculture.....	15	16	28
Marine transportation.....	17	1,898	72
Land transportation.....	4	355	13
Public health and education.....	10	18	27
Public works.....	99	72	200
All other.....	58	137	135
<b>Total.....</b>	<b>221</b>	<b>2,526</b>	<b>529</b>
<b>NON-FUNCTIONAL (EXCLUSIVE OF DEBT RETIREMENT).<sup>c</sup></b>			
Loans to foreign governments.....	—	3,478	—
Other investments.....	—	401 <sup>d</sup>	—
Public debt interest.....	23	616	882
Trust funds, refunds, losses, etc.....	29	92	364 <sup>e</sup>
<b>Total (warrant basis).....</b>	<b>761</b>	<b>18,952</b>	<b>3,046</b>
Adj. to cash.....	-1	-429	+ 18
<b>Total.....</b>	<b>760</b>	<b>18,523</b>	<b>3,064</b>

<sup>a</sup> Figures assembled from *The Budget*, 1926 and 1927.

<sup>b</sup> Credit.

<sup>c</sup> The term non-functional distinguishes certain expenditures which have either deferred or recoverable characteristics and are therefore not readily allocable to the cost of purely current functional services. Debt service in the form of interest is non-functional only in the sense that it represents the deferred cost of previous functional activities which were covered by borrowing. Debt retirement is excluded from the figures as being associated with Treasury surpluses rather than budgeted costs.

<sup>d</sup> Includes capital stock war emergency corporations (305 millions) and purchases of Federal Farm Loan bonds (96 millions).

<sup>e</sup> Includes refunds of customs and internal revenue (170 millions) and payment to Adjusted Service Certificate Fund (99 millions). *The Budget*, 1927, Statement No. 1.

4. AGGREGATE FEDERAL DEBT, 1915-36<sup>a</sup>  
(In millions of dollars)

Year Ending June 30	Interest Bearing	Matured	Non-Interest Bearing <sup>b</sup>	Total Gross Debt
1915.....	970	2	220	1,191
1916.....	972	1	252	1,225
1917.....	2,713	14	249	2,976
1918.....	11,986	20	238	12,244
1919.....	25,234	11	236	25,482
1920.....	24,061	7	230	24,298
1921.....	23,737	11	228	23,976
1922.....	22,711	25	228	22,964
1923.....	22,008	98	244	22,350
1924.....	20,982	30	239	21,251
1925.....	20,211	30	275	20,516
1926.....	19,384	13	246	19,643
1927.....	18,251	15	245	18,510
1928.....	17,318	45	241	17,604
1929.....	16,639	51	242	16,931
1930.....	15,922	32	232	16,185
1931.....	16,520	52	230	16,801
1932.....	19,161	60	266	19,487
1933.....	22,158	66	315	22,539
1934.....	26,480	54	518	27,053
1935.....	27,645	231	825	28,701
1936.....	32,989	169	620	33,779

<sup>a</sup> *Annual Report of the Secretary of the Treasury*, 1935, Table 19, p. 378; 1936 figures from *Preliminary Statement of the Public Debt*, June 30, 1936.

<sup>b</sup> Includes old demand notes; United States notes (less gold reserve); postal currency and fractional currency (less amount estimated to have been destroyed); and deposits held by the Treasury for the retirement of the Federal Reserve Bank notes and national bank notes. Does not include gold, silver, or currency certificates, or Treasury notes of 1890 for redemption of which an exact equivalent of the respective kinds of money or bullion was held in the Treasury.

5. INTEREST BEARING FEDERAL DEBT, 1930-36<sup>a</sup>  
(In millions of dollars)

Year Ending June 30	Long- Term Bonds	Inter- mediate Term Notes	Short-Term Certi- ficates	Short-Term Bills	Total
1930.....	12,111	2,390	1,264	156	15,922
1931.....	13,531	621	1,924	445	16,520
1932.....	14,250	1,465	2,831	616	19,161
1933.....	14,223	4,780	2,200	954	22,158
1934.....	16,510	6,932	1,635	1,404	26,480
1935.....	14,936	10,501	156	2,053	27,645
1936.....	18,628	11,861	146	2,354	32,989

<sup>a</sup> Issues of *Statement of the Public Debt* and of the *Federal Reserve Bulletin*.

6. MATURITIES OF THE INTEREST BEARING FEDERAL DEBT OUTSTANDING  
IN 1932 AND 1936  
(In millions of dollars)

Maturity (Calendar year)	Debt Outstanding, June 30, 1932 <sup>a</sup>				Maturity (Calendar year)	Debt Outstanding, June 30, 1936 <sup>a</sup>			
	Short Term Issues	1 to 5 Year Notes	Long- Term Bonds	Cumula- tive Total		Short- Term Issues	Inter- mediate Term Notes	Long- Term Bonds	Cumula- tive Total
1932 <sup>b</sup> .....	1,889	600	600 <sup>c</sup>	3,089					
1933.....	1,452			4,541					
1934.....		244		4,785					
1935.....		417		5,202					
1936.....			49	5,251	1936 <sup>b</sup> ...	1,753	890	2,643	
					1937.....	601	1,749	4,993	
1938.....			6,294	11,545	1938.....		1,946	6,939	
					1939.....		2,761	9,700	
					1940.....		2,854	12,554	
					1941.....		1,181	14,569	
1943.....			898	12,443	1943.....		898	15,467	
					1945.....		1,401	16,868	
					1946.....		1,519	18,387	
1947.....		2,416		14,859	1947.....		1,697	20,084	
					1948.....		1,036	21,120	
1949.....			821	15,680	1949.....		819	21,939	
					1951.....		1,223	23,162	
1952.....			759	16,439	1952.....		1,250	24,412	
					1954.....		2,663	27,075	
1954.....			1,037	17,476	1955.....		756	27,831	
1955.....			800	18,276	1956.....		489	28,320	
1956.....			489	18,765					
					1960.....		2,611	30,931	
1961.....			50	18,815	1961.....		50	30,989	
Special issues...	105 <sup>d</sup>	204 <sup>e</sup>	36 <sup>f</sup>	19,161	Special issues...	146 <sup>i</sup>	480 <sup>j</sup>	1,382 <sup>k</sup>	
Total....	3,446	1,465	14,250		Total....	2,500	11,861	18,628	

<sup>a</sup> From *Annual Report of the Secretary of the Treasury, 1932, Table 22, p. 409.*

<sup>b</sup> Maturities from June 30 to end of year 1932.

<sup>c</sup> Consols, maturity after July 1, 1932.

<sup>d</sup> Adjusted Service Certificate Fund.

<sup>e</sup> Retirement Fund notes.

<sup>f</sup> Postal Savings bonds (3d to 49th series).

<sup>g</sup> From *Preliminary Statement of the Public Debt, June 30, 1936.*

<sup>h</sup> Maturities from June 30 to end of year 1936.

<sup>i</sup> Adjusted Service Certificate Fund and Unemployment Trust Fund.

<sup>j</sup> Retirement funds and special issues to Postal Savings System and FDIC.

<sup>k</sup> Postal Savings, United States Savings, and Adjusted Service bonds.



## 7. INTEREST CHARGES AND RATE OF INTEREST ON THE FEDERAL DEBT, 1915-36\*

(Dollar items are in millions)

Year Ending June 30	Interest Bearing Debt	Computed Annual Interest Charge	Actual Interest Charge	Computed Interest Rate
1915.....	\$ 970	\$ 23	\$ 23	2.371
1916.....	972	23	23	2.376
1917.....	2,713	84	25	3.120
1918.....	11,986	469	190	3.910
1919.....	25,234	1,054	619	4.178
1920.....	24,061	1,017	1,020	4.225
1921.....	23,737	1,030	999	4.339
1922.....	22,711	963	991	4.240
1923.....	22,008	927	1,056 <sup>b</sup>	4.214
1924.....	20,982	877	941	4.180
1925.....	20,211	830	882	4.105
1926.....	19,384	793	832	4.093
1927.....	18,251	723	787	3.960
1928.....	17,318	671	732	3.877
1929.....	16,639	657	678	3.946
1930.....	15,922	606	659	3.807
1931.....	16,520	589	612	3.566
1932.....	19,161	672	599	3.505
1933.....	22,157	742	689	3.350
1934.....	26,480	842	757	3.181
1935.....	27,583 <sup>c</sup>	749	821	2.715
1936.....	32,989	845	749	2.562

\* Computed interest and interest rates for 1915-35 are from *Annual Report of the Secretary of the Treasury*, 1935, Table 32, p. 401; for 1936 they are preliminary Treasury figures. Actual interest data are from the same, Table 4, p. 322, and from *Daily Treasury Statement*, June 30, 1936.

<sup>b</sup> War Savings securities retirements to the amount of 97.5 million dollars were charged to *interest* in this year.

<sup>c</sup> Exclusive of United States Savings bonds.

8. RECEIPTS AND EXPENDITURES OF THE FEDERAL GOVERNMENT, 1915-36<sup>a</sup>  
(In millions of dollars)

Year Ending June 30	Receipts	Expenditures
1915.....	698	761
1916.....	783	734
1917.....	1,124	1,978
1918.....	3,665	12,697
1919.....	5,152	18,514
1920.....	6,695	6,403
1921.....	5,625	5,116
1922.....	4,109	3,373
1923.....	4,007	3,295
1924.....	4,012	3,049
1925.....	3,780	3,063
1926.....	3,963	3,098
1927.....	4,129	2,974
1928.....	4,042	3,103
1929.....	4,033	3,299
1930.....	4,178	3,440
1931.....	3,317	3,780
1932.....	2,121	4,862
1933.....	2,238	4,845
1934.....	3,278 <sup>b</sup>	6,884 <sup>c</sup>
1935.....	4,030 <sup>d</sup>	6,539 <sup>e</sup>
1936.....	4,374	8,781

<sup>a</sup> Data for 1915-35 are from *Annual Report of the Secretary of the Treasury*, 1935, Table 4, p. 322 (general, special, emergency, and trust accounts combined); for 1936 they are preliminary Treasury figures. Postal revenues and expenditures, with the exception of surpluses or deficits, are excluded, as are debt retirements chargeable against ordinary receipts.

<sup>b</sup> Exclusive of a 2,811 million dollar increment from devaluation of gold dollar.

<sup>c</sup> Exclusive of 2 billion dollars chargeable against increment on gold stabilization fund).

<sup>d</sup> Exclusive of a 1,738 thousand dollar increment from devaluation and 140 millions silver seigniorage.

<sup>e</sup> Exclusive of 113 million dollars chargeable against increment on gold.

<sup>f</sup> Excludes non-military expenditures.

<sup>g</sup> Includes payments to Adjusted Service Certificate Fund, and bonus in 1936.

<sup>h</sup> Includes sinking fund and other retirements from ordinary receipts.

<sup>i</sup> Includes AAA expenditures and other items shown in the table on p. 305.

<sup>j</sup> Excludes 125 million dollars in capital stock of Federal Land Banks (shown under civil expenditures).

<sup>k</sup> Legislative and executive only.

9. GENERAL BUDGET SUMMARY, 1930-36<sup>a</sup>  
(In millions of dollars)

General and Special Accounts	1930	1931	1932	1933	1934	1935	1936
<b>RECEIPTS:</b>							
Revenues—							
Internal revenue.	3,039	2,430	1,561	1,604	2,641	3,278	3,513
Customs.....	587	379	328	251	313	343	387
Miscellaneous....	282	293	95	184	153	169	216
Total revenue..	3,908	3,102	1,984	2,039	3,107	3,790	4,116
Realization on assets <sup>b</sup>	140	88	22	41	9	10	—
Total receipts..	4,048	3,190	2,006	2,080	3,116	3,800	4,116
<b>EXPENDITURES:</b>							
Legislative, executive, and judiciary	39	41	45	38	32	36	22 <sup>b</sup>
Civil departments and agencies, etc..	1,005	1,276	1,535	1,076	574	499	720
National defense <sup>c</sup> ...	699	699	708	668	480	534	765
Veterans' pensions and benefits <sup>d</sup> .....	754	933	985	863	556	606	2,350
Debt charges—							
Interest.....	659	612	599	689	757	821	749
Retirements <sup>e</sup> .....	554	440	413	462	360	573	403
Recovery and relief <sup>f</sup> .			768 <sup>g</sup>	1,277	4,283	4,262	3,827
Refunds and miscellaneous.....	152	91	101	70	63	45	44
Total expenditures	3,862	4,092	5,154	5,143	7,105	7,376	8,880
Less debt retirement.....	554	440	413	462	360	573	403
Total.....	3,308	3,652	4,741	4,681	6,745	6,803	8,477
DEFICIT.....	+740	462	2,735	2,601	3,629	3,002	4,361

<sup>a</sup> Prepared from issues of *The Budget*, the *Daily Treasury Statement*, *Annual Report of the Secretary of the Treasury*, and other official statements.

<sup>b</sup> Separation for 1936 is not available. Does not include RFC or other special Recovery and Relief account net repayments which in Treasury practice are deducted from current expenditures (for amount and character of repayments see table, p. 305). Whether repayments are included in receipts or deducted from expenditures does not affect the amount of the deficit, but the method now followed reduces the totals of both receipts and expenditures. A more adequate portrayal of loan and investment liquidation would show these repayments as receipts. If, however, the proceeds of liquidation are again turned into other loans or investments (and thus it is not a final realization) the present method has points of merit. There is, of course, greater flexibility and variation in the management of federal government investments, which are not specifically balance sheet assets, than would be possible in private practice.

(See opposite page for notes c through h.)

10. FEDERAL RECEIPTS, CLASSIFIED BY SOURCES, 1930-36<sup>a</sup>  
(In millions of dollars)

General and Special Accounts	1930	1931	1932	1933	1934	1935	1936
<b>Internal revenue:</b>							
Income tax.....	2,411	1,860	1,057	746	818	1,099	1,427
Miscellaneous internal revenue—							
Estates.....	65	48	47	30	104	140	219
Gifts.....	—	—	—	5	9	72	160
Capital stock and excess profits...	—	—	—	—	83	98	109
Alcoholic beverages.....	12	11	9	43	259	411	506
Tobacco.....	450	444	401	403	425	459	501
Stamp taxes.....	78	47	32	57	67	43	69
Manufacturers' excises.....	—	—	—	235	381	342	383
Sundry.....	23	20	15	85	156	109	88
Adjustment to daily Treas. stmt.	—	—	—	—	-14	-17	-26
Total misc. internal revenue.....	628	570	504	858	1,470	1,657	2,009
Processing taxes <sup>b</sup> .	—	—	—	—	353	522	77
Total internal revenue.....	3,039	2,430	1,561	1,604	2,641	3,278	3,513.
Customs.....	587	379	328	251	313	343	387
Miscellaneous revenues <sup>b</sup> .....	282	293	95	184	153	169	216
Total revenues... ..	3,908	3,102	1,984	2,039	3,107	3,790	4,116
Realization on assets	140	88	22	41	9	10	—
Total receipts... ..	4,048	3,190	2,006	2,080	3,116	3,800	4,116

<sup>a</sup> Prepared from issues of *The Budget*, the *Annual Report of the Secretary of the Treasury*, and other official statements.

<sup>b</sup> Includes interest, fines, fees, sales of services, etc.

PUBLIC FINANCE SUPPLEMENT

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11. OUTSTANDING PUBLIC DEBTS, 1915-35\*  
(In millions of dollars)

Year Ending June 30	United States Government <sup>b</sup>	States, Counties, Cities, etc. <sup>c</sup>	Total
1915.....	970	4,644	5,614
1916.....	972	5,049	6,021
1917.....	2,713	5,371	8,084
1918.....	11,986	5,622	17,608
1919.....	25,234	5,951	31,185
1920.....	24,061	6,645	30,706
1921.....	23,737	7,268	31,005
1922.....	22,711	8,415	31,126
1923.....	22,008	9,015	31,023
1924.....	20,982	9,921	30,903
1925.....	20,211	10,975	31,186
1926.....	19,384	11,672	31,056
1927.....	18,251	12,610	30,861
1928.....	17,318	13,452	30,770
1929.....	16,639	14,358	30,997
1930.....	15,922	15,888	31,810
1931.....	16,520	17,458	33,978
1932.....	19,161	17,829	36,990
1933.....	22,158	17,098	39,256
1934.....	26,480	16,924	43,404
1935.....	27,645	17,234	44,879

\* Prepared from *Annual Report of the Secretary of the Treasury, 1935*, Tables 43 and 44, pp. 424-25. Figures represent the estimated amount of securities, outstanding interest on which is wholly or partially exempt from federal income tax. The data are therefore very inclusive as virtually all governmental debts are so exempt either wholly or in part.

<sup>b</sup> Actual interest bearing debt as of June 30.

<sup>c</sup> Net of amounts held in sinking funds. For the years 1934 and 1935 debts of drainage, levee, and irrigation districts compromised through the RFC are not included. Loans of the RFC to such districts outstanding on June 30, 1935 were \$27,596,000.

12. CLASSIFIED UNITED STATES GOVERNMENT SECURITIES AND OTHER LOANS  
AND INVESTMENTS OF ALL MEMBER BANKS OF THE FEDERAL  
RESERVE SYSTEM<sup>a</sup>

(In millions of dollars)

Securities and Investments	1930	1931	1932	1933	1934	1935	1936
UNITED STATES GOVERNMENT SECURITIES . . . .	4,125	5,319	6,540	7,254	9,906	10,501	11,721
Certificates and bills . . . .	369	679	795	927	1,030	1,192	1,266
Treasury notes . . . . .	485	441	1,649	1,916	4,217	5,403	5,161
Bonds . . . . .	3,271	4,199	4,096	4,411	4,659	3,905	5,295
OTHER LOANS AND INVESTMENTS . . . . .	30,735	25,257	20,930	17,965	18,245	19,484	20,537
Loans . . . . .	23,870	19,261	15,204	12,883	12,028	12,175	12,541
Investments <sup>b</sup> . . . . .	6,864	5,996	5,726	5,132	6,216	7,309	7,995
TOTAL . . . . .	34,860	30,575	27,469	25,220	28,150	29,985	32,592

<sup>a</sup> Member bank *Call Report* for December of the years 1930-35 and June 1936.

<sup>b</sup> Including investments fully guaranteed by the United States government as reported on the following dates: Dec. 31, 1934, 989 millions; Dec. 31, 1935, 1,768 millions; June 30, 1936, 1,950 millions.

## APPENDIX G

### SUPPLEMENTARY MATERIAL RELATING TO PRIVATE DEBTS AND INTEREST PAYMENTS

The data for the different types of institutions whose assets and liabilities are listed in Chapter XIII differ widely with regard to the availability and accuracy of information concerning them. In some cases it has been necessary to make estimates on a somewhat arbitrary basis.<sup>1</sup> Sections I-VII of this appendix present the sources and methods of computation used.

In Section VIII we give the supplementary data called for in Chapter XIV under the discussion of the burden of interest payments.

#### I. NON-FINANCIAL CORPORATION DEBTS

*Railroads. Statistics of Railways*, published annually by the Interstate Commerce Commission (Statements 1-A, 42, 43, 55-A, 55-B, 55-E, 55-F). Switching and terminal companies and their subsidiaries are not included because they are classified with other utilities in *Statistics of Income*. Long-term debt data are for Classes I, II, and III railways, their non-operating subsidiaries, and all proprietary companies. Short-term debt includes all current liabilities and tax liability of Class I roads and their non-operating subsidiaries, and the unpaid matured funded debt of proprietary companies. Data are not available for Classes II and III.

*Other public utilities.* Figures for 1929 have been obtained by subtracting railroad data from totals for transportation and other utilities shown in *Statistics of Income*. Data for 1933

<sup>1</sup> In using data from balance sheets published in *Statistics of Income* no adjustment has been made for corporations which failed to submit balance sheets. The resulting understatement probably averages about 2 per cent.

are taken from a breakdown of income tax data for that year, furnished by the Bureau of Internal Revenue.

*Corporations other than railroads and public utilities. Statistics of Income.*

## II. HOLDERS OF RAILWAY SECURITIES

*Railroads other than issuing corporation. Statistics of Railways, Statement No. 22.* Data include bonds of affiliated and non-affiliated companies held for investment; miscellaneous securities of other railway companies; bonds held in sinking, insurance, and other funds (minus bonds of respondent companies); and bonds controlled through non-reporting subsidiaries.

*National banks.* Figures for 1929 and 1933 are from annual reports of the Comptroller of the Currency. Items shown are averages of adjacent June 30 figures. For 1934-35, year-end figures from *Call Report No. 4* of the Federal Deposit Insurance Corporation.

*All insured banks.* Federal Deposit Insurance Corporation, *Call Report No. 4.*

*United States Treasury.* Loans authorized by the Transportation Act of 1920, as reported in issues of *Statement of the Public Debt of the United States.*

*Life insurance companies.* Estimated from reported holdings of companies having about 92 per cent of total assets of United States life insurance companies. Data are from *Spectator Yearbook*, except those for 1935, which are from the *Annual Report of the Life Insurance Presidents.*

*Railroad Credit Corporation:* Annual reports of the Corporation published in the *Commercial and Financial Chronicle.*

*Reconstruction Finance Corporation and Public Works Administration.* *Daily Treasury Statement*, Jan. 31, 1936 (statement of assets and liabilities of governmental corporations and credit agencies of the United States).

"*Other.*" This is a balancing item obtained by subtracting the total of all items from the total long-term railway debt. The figures are not precise because a small proportion of the securities reported by the agencies listed may be classified as short term, and also because some securities of switching and terminal companies are probably included in the reported hold-



ings of financial institutions. These are not included in our total of long-term railroad debt.

### III. FUNDED DEBT OF SPECIFIED TYPES OF PUBLIC UTILITIES

*Manufactured gas companies.* American Gas Association, *Annual Statistics of Manufactured Gas Industry*. The data cover companies distributing manufactured gas in the years shown; hence they do not check with data shown in *Statistical Bulletin No. 17*, which are for identical companies distributing manufactured gas throughout a six-year period.

*Switching and terminal companies.* Total long-term debt as reported in *Statistics of Railways*.

*Electric light and power companies and electric railway companies.* *Census of Electrical Industries*.

*Telephone, telegraph, and interstate pipeline companies, and express companies.* Telephone and telegraph data for 1934 are from the *Annual Report of the Federal Communications Commission*. Other items are from *Statistics of Railways*. (Data for 1935 were furnished in advance of publication by the Bureau of Statistics of the Interstate Commerce Commission.)

*Holding companies.* Estimated for this study from data in *Moody's Investment Manual*.

### IV. CONDITION OF FINANCIAL INSTITUTIONS

*National banks.* Annual reports of the Federal Reserve Board and the Comptroller of the Currency; also, for 1934 and 1935, Federal Deposit Insurance Corporation, *Call Report No. 4*. Long-term assets consist of mortgage loans, United States government securities (except Treasury bills and certificates), and other bonds. Short-term and demand assets consist of bank balances, cash and cash items, loans and discounts other than mortgage loans, customers' liability on account of acceptances, acceptances of other banks sold with endorsement, securities borrowed, and short-term government securities. Long-term liabilities consist of preferred stock and mortgages outstanding. Figure for 1935 is preferred stock as of November 1 (*Federal Reserve Bulletin*, January 1936). Short-term and demand liabilities consist of deposits, bills payable, rediscounts, acceptances (including those of other banks for account of reporting banks),

securities borrowed, accrued interest, and "other" liabilities. Mortgage loans, which are not shown separately for December 31 except for 1934 and 1935, have been estimated for 1929 on the basis of the percentage of loans secured by mortgages on June 30, 1929 and June 30, 1930, and for 1933 on the basis of the percentage of June 30, 1934. Likewise the proportions of short-term United States securities and of bonds among the total investments have been estimated for 1929 and 1933 on the basis of ratios computed from adjacent June 30 data.

*State banks.* Data for 1929 and 1933 are drawn from annual reports of the Comptroller of the Currency; for 1934-35 from annual reports of the Federal Deposit Insurance Corporation, with an allowance for uninsured banks, based on the reported volume of deposits of such banks. Long-term obligations include preferred stock and capital notes and debentures, also a small amount of bonded debt and mortgages reported by the Federal Deposit Insurance Corporation. For 1933 the long-term debt is computed on the basis of the Reconstruction Finance Corporation's investment in preferred stock and capital notes and loans secured by preferred stock, plus bonded debt and mortgages reported by the Commissioner of Internal Revenue. The long-term debt for 1935 has been estimated as follows: preferred stock and capital notes outstanding November 1 (*Federal Reserve Bulletin*, January 1936) plus Reconstruction Finance Corporation's investment in non-member banks, plus bonded debt and mortgages shown in the call report of the Federal Deposit Insurance Corporation cited above.

*Mutual savings banks.* Deposits, loans, and investments are as reported in annual reports of the Federal Reserve Board; loans have been prorated between long- and short-term on the basis of data for adjacent June 30 dates shown in the reports of the Comptroller of the Currency.

*Federal Reserve Banks.* Annual reports of the Federal Reserve Board.

*Postal savings.* Annual reports of the Postmaster General reprinted in annual reports of the Comptroller of the Currency. Data for 1935 were furnished by the Post Office Department.

*Building and loan associations.* Long-term assets consist of mortgages owned, as reported by the Building and Loan League

(data reprinted in annual reports of the Comptroller of the Currency), plus an allowance for United States bonds owned. The latter is an estimate based on the ratio of bonds owned to total assets reported in 1929 by states which held about 22 per cent of the total assets of building and loan associations. As the bonds make up less than 2 per cent of the total assets, the error due to this item is very small. For 1935 the data are preliminary figures for mortgages furnished by the Secretary of the United States Building and Loan League. Short-term assets for 1934 are based on data obtained from the Federal Home Loan Bank Board. Short-term assets for other years have been estimated on the basis of the ratio of short-term to total assets for 1934.

*Life insurance companies.* Data from *Spectator Yearbook*, except for 1935. For 1935 computed from the tabulation in the report of the Association of Life Insurance Presidents. Details not shown there have been estimated by stepping up the 1934 data by 7 per cent, except long-term assets, which have been stepped up by 4 per cent. These ratios were arrived at by comparison of the items which are reported for both years.

*Veterans' Administration.* Annual reports of the Veterans' Administration. Figure for 1935 was furnished in advance of publication by the Veterans' Administration.

*Joint Stock Land Banks.* Annual reports of the Federal Farm Loan Board and the Farm Credit Administration.

*Federal Deposit Insurance Corporation.* Annual reports of the Corporation.

*Railroad Credit Corporation:* Annual reports published in the *Commercial and Financial Chronicle*.

*All other financial institutions.* The figures for 1933 are from a breakdown of income tax data made available through the courtesy of the Statistical Division of the Bureau of Internal Revenue. Figures shown for short-term and demand assets consist of cash plus notes and accounts receivable. A similar breakdown is not available for 1929, though certain items not shown in *Statistics of Income* for 1930, 1931, and 1932 are shown in Senate Document No. 124, 73 Congress, 2 session (*National Income, 1929-32*). Data for 1929 have been estimated as follows: long-term debt is 97.8 per cent of total long-term debt for the entire financial group of corporations as

reported in *Statistics of Income*, this being the percentage for 1930 as shown in Senate Document No. 124, page 236. Short-term and demand liabilities are similarly computed from total notes and accounts payable of financial corporations as reported in *Statistics of Income* for 1929, the ratio applied (96.2 per cent) being drawn from the 1935 data because not available for any earlier date.

Long-term creditor assets are taken at the same figure for 1929 as 1933 on the basis of the change in total investments of financial corporations, as shown in *Statistics of Income*, compared with the changes in investments of banks, life insurance companies, and Joint Stock Land Banks, as shown in the various sources of information cited above. As the change in investments of these institutions seems substantially to account for the entire change in the group, no better basis of estimate suggested itself than to carry back the 1933 figure unchanged.<sup>2</sup> Short-term and demand assets have been estimated for 1929, for lack of a better basis, on the assumption that they bore the same relation to short-term and demand liabilities in 1929 as in 1933. It is impossible to make an estimate on the basis of the proportion of short and demand assets of "other financial" to total financial, because of the change in the character of bank lending and investment operations which took place between 1929 and 1933, and upset the previous ratios of assets within the group.

#### V. FORMS OF INDIVIDUAL DEBTS

*Home mortgages.* Rough estimate based on various studies for nearby dates. Compare text, pp. 338-39.

*Farm mortgages.* Estimates of the Bureau of Agricultural Economics, with a deduction for bonded debt and mortgages of agricultural corporations, as reported in *Statistics of Income*.

*Bank loans.* Total reported loans of banks other than those secured by real estate and inter-bank loans (from annual reports

<sup>2</sup> There is a considerable margin of error in this figure, as there is in all figures obtained by subtracting data obtained from other sources from the Bureau of Internal Revenue figures for larger groups. For example, for 1933 the amount of tax-exempt securities reported for banks in the banking reports, plus the amount shown for life insurance companies in the *Spectator Yearbook*, is greater than the amount shown for the entire financial group in *Statistics of Income*.

of the Comptroller of the Currency), minus estimated notes payable of corporations to banks. The latter item has been estimated from notes and accounts payable as reported in *Statistics of Income*, on the assumption that the ratio of notes payable to accounts payable was the same in later years as in 1927, the last year for which the items were reported separately, with an allowance of one-eighth for notes payable to others than banks. The figure is too high, as no allowance has been made for loans to governmental units and to philanthropic and educational institutions which do not report to the Bureau of Internal Revenue.

*Brokers' borrowings from non-bankers.* Loans for account of "others" as reported by New York City member banks, plus borrowings from private banks, brokers, foreign agencies, et cetera, as reported by members of the New York Stock Exchange, plus customers' credit balances estimated at three-eighths brokers' borrowings as reported by New York Stock Exchange. Ratio based on 1935-36 data; published in *Federal Reserve Bulletin*, September 1936, pages 693, 725.

*Brokers' loans to customers.* These were assumed to be 50 per cent greater than the total borrowings of brokers as reported by the New York Stock Exchange. Ratio based on 1935-36 data, cited in preceding paragraph.

*Debts to retailers.* From break-up of income tax reports of trading corporations for 1933 furnished us by the Bureau of Internal Revenue, we estimated total receivables from retail trade 2,112 million dollars; from wholesale trade, 1,833 millions. One-half of "wholesale and retail" and one-half of "all other" were put in each category; all "commission" was counted as wholesale. Gross sales of corporations were apportioned in the same way and the ratio of receivables to gross sales for retail trade was computed as 16.6 per cent. This percentage was applied to total retail sales for 1933 reported in the *Census of American Business*. For 1929 we stepped down the ratio in the proportion of 14.9 to 17.4, the receivables-sales ratio for all trade being 14.9 per cent in 1929 and 17.4 per cent in 1933, giving 14.2 as the estimated ratio of receivables to retail trade for 1929. This ratio was applied to 49,115 million dollars, the figure for total retail trade shown in the *Census of Retail Distribution* for 1929.

*Non-corporate debts to wholesalers.* To get year-end debt to wholesalers for 1933 we multiplied the gross wholesale sales, 32,152 million dollars, by 0.175, the ratio of incorporated wholesalers' receivables to sales, computed in the same manner as the retail ratio discussed above. The result was multiplied by 0.022 to get sales to home consumers, 0.81 to get sales to retailers and industries, and 0.168 to get sales to other wholesalers (percentages from the *Census of Wholesale Distribution*, Volume 1, page 63). To eliminate corporation debt we multiplied by 0.492 for retail and industrial business and 0.674 for wholesalers. The ratio used for wholesalers was based on the ratio of corporation sales, as reported in *Statistics of Income*, to all wholesale sales, as reported to the Census Bureau; that used for retailers and industrials likewise was based on the ratio of retail corporation sales to all retail sales (assuming for lack of better standard that the proportion of unincorporated industrial companies' purchases to all industrials' purchases from wholesalers was the same as the ratio of unincorporated retailers' sales to all retailers' sales). The same method was used for 1929, using the distribution between home consumers, retailers, industrials, and wholesalers, as of 1933 for lack of 1929 data.

*Debts to small loan companies.* The estimate for 1929 is taken from Louis N. Robinson and Rolf Nugent, *Regulation of the Small Loan Business*, 1935, page 169. The figure for 1933 is from Franklin W. Ryan, "Short-term Loans in the United States during 1932 and 1933," *Journal of Business*, Volume VII, 1934, page 267.

*Debts to life insurance companies.* Policy and premium loans, from the *Spectator Yearbook*.

*Debts to government life insurance.* Policy and premium loans, from reports of the Veterans' Bureau.

*Miscellaneous items.* The figure for 1933 is taken from the article by Ryan cited above under "Debts to small loan companies." The figure for 1929 is based on an article by the same author, "Family Finance in the United States," *Journal of Business*, Volume III, 1930, page 404. In the latter reference, estimates are given only for the annual volume of business; the figure for the amount outstanding is computed on the assumption that the ratio of loans outstanding at the end of the year to annual volume of business was the same as in 1933.

No attempt has been made to estimate the debt of individuals to other individuals outside the categories indicated in the table. Debt to building and loan associations is omitted on the theory that this represents merely the shareholders' use of their own money; possibly debt to life insurance companies should be omitted for the same reason.

#### VI. HOLDERS OF OUTSTANDING FARM MORTGAGES

*Banks.* Data for Federal Reserve member banks are from annual reports of the Federal Reserve Board. We cannot present similarly detailed tables for all banks, but incomplete data indicate a reduction similar to that which occurred in the case of national banks. Federal Deposit Insurance Corporation reports show 499 millions held by all insured banks at the end of 1934, and 488 millions at the end of 1935. The Comptroller of the Currency's totals indicate a large increase in holdings of state banks from 1933 to 1934, but this is due entirely to the fact that the totals for 1934 represent all states, while those for 1933 represent only about half the states. All states which report for both years show decreases, except New Mexico.

*Life insurance companies.* Estimated on the basis of reports of companies holding 91.9 to 92.1 per cent of total assets of life insurance companies of the United States. Data are from the *Spectator Yearbook*.

*Joint Stock Land Banks and Federal Farm Loan system.* Annual reports of the Federal Farm Loan Board and the Farm Credit Administration.

*Farm mortgages outstanding.* Data for 1929 and 1933 are as estimated by the Bureau of Agricultural Economics. The figure for 1934 is from a release issued by the Farm Credit Administration dated March 5, 1936. The 1935 figure is a preliminary estimate also furnished by the Farm Credit Administration.

#### VII. FINANCIAL CONDITION OF GOVERNMENTAL AND QUASI-GOVERNMENTAL AGENCIES

*United States Government.* All data are from issues of *Statement of the Public Debt of the United States* and *Daily Treasury Statement*. Long-term debt includes all interest bearing debt except certificates of indebtedness and Treasury bills. Short-

term debt consists of Treasury certificates and bills; matured debt on which interest has ceased, and obligations which bear no interest, such as United States notes (less gold reserve), and national bank notes and Federal Reserve Bank notes assumed by the United States; silver dollar liabilities; Treasury checks outstanding; and deposit liabilities, except those of the Post Office Department. Long-term assets include all securities listed in the public debt statement except foreign obligations and capital stock of governmental corporations, excluding amount due the United States from Central Branch of the Union Pacific Railroad, which is excluded by the Treasury from the total of securities owned. Short-term assets include all asset items in the general fund except gold.

*Federal trust funds.* Amounts shown are averages of amounts shown for adjacent June 30 dates. They include investments of the District of Columbia Teachers' Retirement Fund, Civil Service Retirement Fund, Canal Zone Retirement Fund, Adjusted Service Certificate Fund, United States Government Life Insurance Fund, and the Alien Property Trust Fund. Some other very small trust funds are omitted.

*United States territories and possessions.* Items shown are averages of adjacent June 30 figures shown in estimates of tax-exempt securities outstanding, in annual reports of the Secretary of the Treasury.

*State and local governments.* Long-term debt data are from Treasury estimates of tax-exempt securities outstanding. They include amounts held by United States government or by governmental lending agencies. Short-term debt consists of short-term funded debt as estimated by the Treasury, without allowance for warrants or other current indebtedness.

*Long-term assets.* The figure is a very rough estimate based on data for trust funds of states and cities for 1931-32 in the *Decennial Census of the Financial Statistics of States and Cities*. As we have no basis for an estimate of the direction in which this item has been changing, we have used the same figure throughout. Short-term assets consist of deposits of public funds in all banks, as shown in reports of the Comptroller of the Currency (average of figures for June 30 before and after date indicated).



*Reconstruction Finance Corporation.* Quarterly reports of the Corporation.

*Farm lending agencies, except Resettlement Administration.* There are numerous minor discrepancies between the figures given for these agencies in different official sources, and in some cases we have not been able to reconcile them. Data shown are from the *Annual Report of the Federal Farm Loan Board* for 1929 and the *Annual Report of the Farm Credit Administration* for 1933, 1934, and 1935 except emergency crop and drought loans for 1929 and 1933, Regional Agricultural Credit Corporation loans for 1933, and Agricultural Marketing Act Revolving Fund for 1929 and 1933, which are from the *Statistical Abstract of the United States*, 1935, page 253. Obligations matured and unpaid by borrowers have been counted as short-term assets, no account being taken of reserves for bad debts. United States government obligations are counted as long-term assets. Securities sold under repurchase agreements counted as assets and the liability to repurchase counted as short-term debt. Cash balances with the United States Treasury are not included as assets. Bonds of the Federal Land Banks owned by the Federal Farm Mortgage Corporation are included among the liabilities of the Banks and the assets of the Corporation. The duplication on account of this item amounts to 579 million dollars in 1934, and 755 million dollars in 1935.

*Resettlement Administration. Statement of the Public Debt of the United States*, December 31, 1935.

*Home lending agencies.* Annual reports of the Federal Home Loan Bank Board and the Federal Housing Administration.

*Public Works Administration and Shipping Board. Statement of the Public Debt of the United States.*

### VIII. EXAMPLES OF THE BURDEN OF INTEREST PAYMENTS

COMPILED RECEIPTS OR GROSS SALES OF SELECTED CORPORATIONS,  
 COMPARED WITH INTEREST PAYMENTS, 1929-35\*  
 (In millions of dollars)

Year	Utility Corporations (25)		Manufacturing Corporations (17)		Trading Corporations (16)	
	Revenue	Interest	Revenue	Interest	Revenue	Interest
1929.....	2,829	226	2,624	38	1,252	6
1930.....	2,772	234	2,054	26	1,251	8
1931.....	2,482	247	1,323	27	1,192	8
1932.....	2,180	239	706	25	1,018	8
1933.....	2,062	249	952	24	1,022	7
1934.....	2,162	252	1,140	23	1,148	7
1935.....	2,283	241	1,431	24	1,239	6

\* Data are from annual reports published in the *Commercial and Financial Chronicle* and in *Moody's* and *Poor's Manuals*. For discussion of sampling, see p. 370.

## APPENDIX H

### DATA ON INTERNATIONAL TRADE AND FINANCE

#### 1. UNITED STATES EXPORTS AND IMPORTS OF GOLD AND SILVER, 1926-35<sup>a</sup> (In millions of dollars)

Year	Gold		Silver	
	Exports	Imports	Exports	Imports
1926.....	115.7	213.5	92.26	69.60
1927.....	201.5	207.5	75.63	55.07
1928.....	560.8	168.9	87.38	68.12
1929.....	116.6	291.6	83.41	63.94
1930.....	116.0	396.1	54.16	42.76
1931.....	466.8	612.1	26.49	28.66
1932.....	809.5	363.3	13.85	19.65
1933.....	366.7	193.2	19.04	60.22
1934.....	52.8	1,186.7	16.55	102.73
1935.....	2.0	1,741.0	18.80	354.53

<sup>a</sup> Bureau of Foreign and Domestic Commerce, *Monthly Summary of Foreign Commerce of the United States*, December 1935, p. 3, and June 1936, p. 3.

## THE RECOVERY PROBLEM

2. TOTAL VALUE OF UNITED STATES EXPORTS AND IMPORTS, 1921-35<sup>a</sup>  
(Dollar items are in millions)

Year	Total Exports	Total Imports	Excess of Exports over Imports	Imports as a Percentage of Exports
1921-25 (av.) . . .	\$4,397	\$3,450	\$ 947	78.5
1926 . . . . .	4,809	4,431	378	92.1
1927 . . . . .	4,866	4,185	681	86.0
1928 . . . . .	5,128	4,091	1,037	79.8
1929 . . . . .	5,241	4,400	841	83.9
1930 . . . . .	3,843	3,061	782	79.6
1931 . . . . .	2,424	2,091	334	86.2
1932 . . . . .	1,611	1,322	289	82.1
1933 . . . . .	1,675	1,450	225	86.5
1934 . . . . .	2,133	1,655	478	77.6
1935 . . . . .	2,283	2,047	236	89.7

<sup>a</sup> As reported in the official statistics of exports and imports.

3. UNITED STATES EXPORTS AND IMPORTS, BY ECONOMIC CLASSES, 1921-35<sup>a</sup>  
(As percentages of the total value for each year)

Year	Exports					Imports				
	Crude Materials	Crude Foodstuffs	Manufactured Foodstuffs	Semi-Manufactures	Finished Manufactures	Crude Materials	Crude Foodstuffs	Manufactured Foodstuffs	Semi-Manufactures	Finished Manufactures
1921-25 (av.) . . .	27.5	9.7	13.9	12.5	36.3	37.4	11.1	13.0	17.7	20.9
1926 . . . . .	26.8	7.1	10.7	13.9	41.5	40.5	12.2	9.4	18.1	19.8
1927 . . . . .	25.1	8.8	9.7	14.7	41.6	38.3	12.1	10.8	17.9	21.0
1928 . . . . .	25.7	5.9	9.3	14.2	44.9	35.8	13.4	9.9	18.6	22.2
1929 . . . . .	22.2	5.2	9.4	14.1	49.1	35.4	12.2	9.6	20.2	22.6
1930 . . . . .	21.9	4.7	9.6	13.6	50.2	32.7	13.1	9.6	19.9	24.7
1931 . . . . .	23.8	5.3	10.4	13.4	47.1	30.7	14.6	10.6	17.8	26.3
1932 . . . . .	32.6	5.7	9.7	12.4	39.6	27.1	17.6	13.2	16.4	25.8
1933 . . . . .	35.9	2.9	9.4	14.4	37.4	29.3	15.0	13.4	20.3	22.1
1934 . . . . .	31.1	2.8	8.0	16.3	41.8	28.2	15.5	16.1	18.8	21.4
1935 . . . . .	30.5	2.6	7.0	15.6	44.3	28.6	15.8	15.6	20.1	19.9

<sup>a</sup> Data from *Statistical Abstract of the United States, 1935*.

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### 4. DISTRIBUTION OF UNITED STATES EXPORTS AND IMPORTS, BY CONTINENTS, 1921-35\*

(As percentages of total value for each year)

#### I. Exports

Year	Europe	North America	Asia	South America	Africa	Oceania
1921-25 (av.)...	52.7	24.4	11.3	6.8	1.6	3.2
1926.....	48.0	24.4	11.7	9.2	2.1	4.4
1927.....	47.6	25.7	11.5	9.0	2.2	4.0
1928.....	46.3	25.8	12.8	9.4	2.3	3.5
1929.....	44.7	26.6	12.3	10.3	2.5	3.6
1930.....	47.8	26.6	11.7	8.8	2.4	2.8
1931.....	48.9	24.4	15.9	6.6	2.5	1.7
1932.....	48.7	22.7	18.1	6.0	2.2	2.3
1933.....	50.7	20.3	17.4	6.8	2.6	2.1
1934.....	44.5	22.7	18.8	7.6	3.6	2.7
1935.....	45.1	23.2	16.6	7.6	4.2	3.2

#### II. Imports

1921-25 (av.)...	30.4	26.4	27.3	12.2	2.1	1.6
1926.....	29.0	22.9	31.6	12.8	2.2	1.5
1927.....	30.5	23.6	30.0	12.4	2.2	1.3
1928.....	30.5	23.5	28.6	13.9	2.2	1.3
1929.....	30.3	22.3	29.1	14.5	2.5	1.3
1930.....	29.7	24.8	28.0	14.2	2.2	1.1
1931.....	30.6	24.8	27.4	14.7	1.6	0.9
1932.....	29.4	27.1	27.4	15.2	1.8	0.6
1933.....	31.9	22.0	29.4	14.0	1.9	0.9
1934.....	29.6	24.1	29.6	13.8	2.0	0.9
1935.....	29.3	24.1	29.5	13.7	2.0	1.3

\* Data from *Foreign Trade of the United States*, for 1935 and preceding years.

4. INDEXES OF CHANGES IN QUANTITY, UNIT  
IMPORTS, BY ECO-  
(1929

## I. Exports

Year	Total			Raw Materials		
	Quantity Index	Unit Value Index	Value Index	Quantity Index	Unit Value Index	Value Index
1921-25 (av.)..	73.5	113.8	84.3	87.6	119.7	104.7
1926.....	87.1	105.7	91.3	118.6	92.1	110.5
1927.....	93.9	98.9	92.2	115.0	90.8	104.7
1928.....	97.0	101.1	98.3	109.7	102.6	114.0
1929.....	100.0	100.0	100.0	100.0	100.0	100.0
1930.....	82.6	89.7	73.9	93.8	77.6	73.3
1931.....	67.4	69.0	46.1	94.7	52.6	50.0
1932.....	52.3	58.6	30.4	101.8	44.7	45.3
1933.....	52.3	62.1	32.2	100.0	51.3	52.3
1934.....	56.1	72.4	40.9	83.2	68.4	57.0
1935.....	59.1	74.7	43.5	85.8	69.7	60.5
	Raw Foodstuffs			Manufactured Foodstuffs		
1921-25 (av.)..	143.6	109.0	154.8	120.7	103.1	123.8
1926.....	111.7	111.2	123.8	93.1	111.5	103.6
1927.....	139.4	111.2	154.8	93.1	103.1	95.2
1928.....	104.3	104.5	108.3	96.6	100.0	96.4
1929.....	100.0	100.0	100.0	100.0	100.0	100.0
1930.....	73.4	89.9	65.5	81.6	91.7	75.0
1931.....	75.5	61.8	46.4	71.3	70.8	51.2
1932.....	62.8	52.8	33.3	57.5	54.2	31.0
1933.....	34.0	51.7	17.9	56.3	57.3	32.1
1934.....	36.2	60.7	21.4	54.0	61.6	34.5
1935.....	35.1	62.9	21.4	42.5	75.0	32.1
	Semi-Manufactures			Finished Products		
1921-25 (av.)..	73.9	100.0	73.9	52.3	120.2	61.9
1926.....	89.1	101.0	89.9	68.4	113.5	77.4
1927.....	101.7	95.0	95.8	76.4	102.2	78.1
1928.....	104.2	94.0	98.3	88.5	101.1	89.0
1929.....	100.0	100.0	100.0	100.0	100.0	100.0
1930.....	81.5	87.0	70.6	78.7	95.5	74.8
1931.....	61.3	71.0	43.7	57.5	76.4	43.9
1932.....	46.2	58.0	26.9	35.1	69.7	24.5
1933.....	53.8	60.0	32.8	36.8	66.3	24.5
1934.....	68.1	69.0	47.1	48.3	71.9	34.8
1935.....	69.7	68.0	47.9	53.4	73.0	39.4

\* Basic data from *Summary of United States Trade with World, 1935*, p. 14.

INTERNATIONAL TRADE AND FINANCE 689

VALUE, AND TOTAL VALUE OF EXPORTS AND  
NOMIC CLASSES<sup>a</sup>

(=100)

II. Imports

Year	Total			Raw Materials		
	Quantity Index	Unit Value Index	Value Index	Quantity Index	Unit Value Index	Value Index
1921-25 (av.)..	71.8	108.0	78.8	72.2	112.5	83.0
1926.....	85.5	117.2	100.9	82.0	140.0	115.1
1927.....	86.3	109.2	95.6	87.2	117.5	102.8
1928.....	87.8	105.7	93.8	87.2	107.5	94.3
1929.....	100.0	100.0	100.0	100.0	100.0	100.0
1930.....	84.7	81.6	69.9	81.2	78.8	64.2
1931.....	74.8	63.2	47.8	76.7	53.8	41.5
1932.....	60.3	49.4	30.1	60.9	37.5	22.6
1933.....	65.6	49.4	32.7	68.4	38.8	26.4
1934.....	65.6	57.5	38.1	62.4	46.2	29.2
1935.....	80.9	57.5	46.9	75.2	50.0	36.8
	Raw Foodstuffs			Manufactured Foodstuffs		
1921-25 (av.)..	87.5	80.5	70.6	71.5	149.2	105.8
1926.....	95.5	105.3	100.0	89.1	109.5	97.7
1927.....	95.5	98.2	93.7	81.0	130.2	105.8
1928.....	96.4	106.2	102.4	81.8	115.9	95.3
1929.....	100.0	100.0	100.0	100.0	100.0	100.0
1930.....	100.9	73.5	74.6	83.2	82.5	68.6
1931.....	97.3	57.5	56.3	70.8	73.0	52.3
1932.....	88.4	48.7	42.9	67.2	60.3	40.7
1933.....	89.3	44.2	39.7	74.5	63.5	47.7
1934.....	92.9	50.4	47.6	91.2	71.4	65.1
1935.....	125.0	47.8	60.3	100.0	77.8	79.1
	Semi-Manufactures			Finished Products		
1921-25 (av.)..	68.5	100.0	68.8	66.0	109.9	72.1
1926.....	88.1	103.1	90.4	80.9	108.8	88.4
1927.....	82.7	102.0	84.8	85.1	104.4	88.4
1928.....	89.0	96.9	85.6	83.7	109.9	90.7
1929.....	100.0	100.0	100.0	100.0	100.0	100.0
1930.....	80.3	85.7	68.8	85.8	89.0	76.0
1931.....	62.2	68.4	41.6	73.0	75.8	55.0
1932.....	44.9	54.1	24.8	56.0	61.5	34.1
1933.....	57.5	58.2	32.8	56.0	58.2	32.6
1934.....	51.2	68.4	35.2	58.2	61.5	35.7
1935.....	68.5	68.4	46.4	68.8	60.4	41.1

6. VALUE OF UNITED STATES EXPORTS AND IMPORTS, BY CONTINENTS AND LEADING COUNTRIES, 1926-35\*  
(In millions of dollars)

Continent and Country	Exports (including re-exports)						General Imports					
	1926-30 Average	1931	1932	1933	1934	1935	1926-30 Average	1931	1932	1933	1934	1935
Total.....	4,777.3	2,424.3	1,611.0	1,675.0	2,132.8	2,281.8	4,033.5	2,090.6	1,322.8	1,449.6	1,655.1	2,047.3
Europe <sup>b</sup> .....	2,237.7	1,187.1	784.5	850.0	949.9	1,028.2	1,211.5	640.7	389.6	463.0	489.6	599.0
North America:												
Northern North America.....	829.9	403.7	245.7	214.8	308.0	329.5	479.7	277.1	181.4	190.7	238.5	292.9
Southern North America.....	403.2	187.1	119.2	126.0	178.0	201.7	460.5	239.9	157.1	127.1	160.7	201.6
South America.....	447.9	158.7	96.6	114.0	161.7	174.3	545.8	307.2	200.9	202.3	229.0	281.5
Asia <sup>b</sup> .....	571.9	386.1	292.3	292.0	401.2	377.9	1,191.7	573.7	361.8	425.1	489.4	604.4
Oceania.....	177.2	41.6	36.8	35.1	57.1	73.8	53.1	19.1	7.7	13.2	14.6	26.5
Africa.....	109.6	60.0	36.0	42.9	76.8	96.2	91.2	32.9	24.2	28.3	33.3	41.4
EUROPE												
Belgium.....	105.6	59.4	40.3	43.3	50.0	58.2	70.1	34.2	21.9	23.2	26.2	39.8
Czechoslovakia.....	5.4	3.8	1.9	1.6	2.7	3.2	34.5	23.2	13.0	14.7	17.6	21.4
Denmark.....	49.6	29.7	12.0	11.6	14.5	12.5	4.3	1.9	1.3	1.8	1.9	3.3
Finland.....	14.9	4.9	2.8	3.5	6.0	6.1	9.9	10.0	8.2	8.9	9.0	12.2
France.....	244.6	121.8	111.6	121.7	115.8	116.9	152.8	79.2	44.7	49.7	61.0	58.3
Germany.....	400.4	166.1	133.7	140.0	108.7	91.7	210.6	127.0	73.6	78.2	68.8	77.7
Greece.....	13.7	7.6	7.8	2.8	4.7	6.6	18.1	11.0	7.6	6.0	8.3	10.0
Irish Free State.....	13.9	6.4	4.5	4.1	7.2	7.3	2.8	2.3	0.4	0.5	0.7	0.6
Italy.....	141.1	54.8	49.1	61.2	64.6	72.5	101.9	62.7	42.4	38.6	35.7	38.7
Netherlands.....	131.9	65.6	45.3	48.7	51.0	48.5	81.5	35.0	22.4	31.0	28.4	40.7
Norway.....	22.7	12.2	6.9	7.1	11.2	13.6	21.7	16.9	10.4	13.2	16.9	16.5
Poland and Danzig.....	10.9	4.6	7.1	15.1	18.9	24.5	4.1	2.0	1.3	2.7	5.6	9.8
Portugal.....	12.5	5.7	4.6	5.8	8.0	10.8	5.5	3.5	2.8	3.4	4.1	3.6
Spain.....	73.6	34.0	26.7	30.8	38.0	41.3	34.4	16.6	11.4	13.7	18.9	19.9
Sweden.....	49.3	32.2	17.5	18.6	33.1	38.2	47.3	34.3	24.5	31.0	33.9	41.2
Switzerland.....	10.9	9.7	7.3	7.5	8.4	7.6	42.1	23.1	12.5	14.6	15.2	16.3
United Kingdom.....	837.2	456.0	288.3	311.7	382.7	433.4	325.9	135.5	74.6	111.2	115.4	155.3
USSR.....	77.7	103.7	12.6	9.0	15.0	24.7	17.6	13.2	9.7	12.1	12.3	17.8
NORTH AMERICA												
Canada.....	819.5	396.4	241.4	210.7	302.4	323.2	469.2	266.3	174.1	185.4	231.7	286.2
Newfoundland Labrador.....	10.1	7.2	4.2	3.9	5.3	6.1	10.0	10.4	7.1	4.8	5.2	6.3
Mexico.....	122.0	52.4	31.9	37.5	55.1	65.6	125.9	47.6	37.4	30.7	36.5	42.3
Central America.....	78.5	46.7	30.5	31.5	37.8	38.6	43.6	31.0	24.5	22.6	23.9	29.2
Honduras.....	9.6	6.0	4.5	5.0	6.0	5.6	11.1	11.9	9.0	7.0	7.8	6.3
Panama.....	35.4	23.6	15.6	15.9	18.3	20.8	5.5	4.6	3.5	3.4	4.2	5.1
Haiti.....	10.1	4.9	4.0	3.6	3.4	3.3	1.4	0.8	0.6	0.8	1.2	1.2
Cuba.....	133.2	47.0	28.8	25.1	45.3	60.2	207.9	90.1	58.3	58.5	78.9	104.6
Dominican Republic.....	14.7	6.0	4.6	5.5	5.8	4.5	8.9	5.1	3.4	3.3	3.8	5.0



Continent and Country	Exports (including re-exports)						General Imports					
	1926-30 Average	1931	1932	1933	1934	1935	1926-30 Average	1931	1932	1933	1934	1935
Jamaica.....	8.5	5.6	2.8	2.6	3.8	4.0	8.4	6.3	3.2	1.2	1.8	2.1
Netherland West Indies.....	14.6	9.6	6.5	10.3	13.4	14.4	50.3	50.8	24.2	6.5	8.9	12.5
Other West Indies and Bermuda.....	31.5	19.9	14.2	13.5	16.8	14.5	15.4	9.1	6.1	4.2	6.9	5.8
SOUTH AMERICA												
Argentina.....	165.2	52.7	31.1	36.9	42.7	49.3	94.8	36.0	15.8	33.8	29.5	65.4
Brazil.....	89.4	28.6	28.6	29.7	40.4	43.6	199.5	110.2	82.1	82.6	91.5	99.7
Chile.....	45.9	21.5	3.6	5.3	12.0	14.9	75.1	40.0	12.3	11.5	22.9	24.1
Colombia.....	46.1	16.1	10.7	14.6	21.9	21.6	94.7	75.5	60.8	47.6	47.1	50.4
Ecuador.....	5.5	2.9	1.8	1.6	2.3	2.8	5.7	3.6	2.4	1.9	3.1	3.3
Peru.....	23.9	7.9	4.0	5.0	9.9	12.2	22.8	9.0	3.7	5.5	6.2	7.5
Uruguay.....	24.8	9.5	3.2	3.6	6.1	6.2	14.4	3.9	2.1	3.8	4.7	6.9
Venezuela.....	38.1	15.6	10.2	13.1	19.3	18.6	35.8	26.8	20.3	13.5	22.1	21.4
ASIA												
Turkey.....	3.1	1.7	1.5	1.3	2.7	4.5	11.5	8.1	5.4	8.2	7.2	7.8
Other countries of Western Asia.....	7.5	4.8	5.5	7.4	12.1	13.9	19.4	11.1	6.3	8.3	8.4	10.7
British India.....	53.5	46.7	25.0	19.9	27.4	31.5	136.9	58.5	33.2	43.8	55.1	64.4
British Malaya.....	12.6	4.7	2.5	2.4	4.2	4.5	249.8	83.1	34.8	60.0	105.5	129.2
Ceylon.....	2.6	1.3	0.7	0.8	1.3	1.3	36.1	10.9	5.9	7.0	11.6	11.4
China.....	109.0	97.9	56.2	51.9	68.7	38.2	140.5	66.8	26.2	37.8	43.9	64.2
Hong Kong.....	18.0	14.4	9.7	8.6	9.0	9.1	12.1	5.8	4.3	3.9	5.3	9.0
Kwantung.....	7.5	2.2	1.2	2.7	3.9	4.2	3.4	1.2	0.9	1.3	1.6	5.3
Japan.....	246.0	155.7	134.9	143.4	210.5	203.3	379.6	206.3	134.0	128.4	119.3	152.9
Netherland India.....	33.9	15.3	7.8	6.9	10.1	10.9	87.5	34.2	29.8	33.1	42.4	50.4
Philippine Islands.....	73.7	48.9	45.0	44.8	47.1	52.6	114.1	87.1	80.9	93.0	87.8	96.8
OCEANIA												
Australia.....	139.1	27.2	26.8	26.3	43.2	57.1	33.1	12.5	4.6	7.7	8.5	14.7
New Zealand.....	35.8	13.5	9.3	8.2	13.0	15.6	16.6	4.4	2.2	4.8	5.6	10.4
AFRICA												
Algeria and Tunisia.....	8.3	4.5	2.7	2.2	2.6	2.5	4.2	1.8	1.2	1.3	1.8	3.0
British South Africa.....	53.1	28.6	16.0	22.4	46.3	53.6	10.9	4.5	2.4	4.1	3.2	4.0
British West Africa.....	11.8	5.1	3.8	3.4	3.8	5.4	23.2	12.5	8.9	9.3	9.2	13.9
Egypt.....	11.1	5.3	2.7	3.8	6.9	10.5	30.1	4.0	4.8	6.1	9.0	8.9
Portuguese Africa.....	6.9	5.3	2.7	3.1	5.4	5.9	4.4	2.5	1.4	2.1	2.7	1.8

<sup>a</sup> Data from *Summary of United States Trade with World, 1935*, pp. 26-27.

<sup>b</sup> Russia in Asia is included in Europe.

**7. THE BALANCE OF INTERNATIONAL PAYMENTS OF THE UNITED STATES, 1926-35<sup>a</sup>**  
(In millions of dollars)

Item	1926	1927	1928	1929	1930	1931	1932	1933	1934	1935
<b>COMMODITY AND SERVICE ITEMS</b>										
Merchandise trade (as reported):										
Exports (credit).....	4,809	4,865	5,128	5,241	3,843	2,424	1,612	1,675	2,133	2,283
Imports (debit).....	4,431	4,184	4,091	4,400	3,061	2,090	1,323	1,450	1,655	2,047
Balance.....	+378	+681	+1,037	+841	+782	+334	+289	+225	+478	+236
Shipping and freight services:										
By Americans to foreigners (credit) ..	127	140	147	206	155	117	73	49	61	63
By foreigners to Americans (debit)....	188	206	227	272	251	189	118	65	96	99
Balance.....	- 61	- 66	- 80	- 66	- 96	- 72	- 45	- 16	- 35	- 36
Tourist expenditures:										
By foreigners in U.S. (credit).....	142	153	163	183	160	112	71	71	86	117
By Americans abroad (debit).....	640	681	715	821	762	568	446	292	331	409
Balance.....	-498	-528	-552	-638	-602	-456	-375	-221	-245	-292
Immigrant remittances, charity, etc.:										
By foreigners to U.S. (credit).....	35	35	25	24	33	10	6	3	5	5
By Americans to foreigners (debit)....	299	290	301	289	248	212	169	135	136	120
Balance.....	-264	-255	-276	-265	-215	-202	-163	-132	-131	-115
Interest and dividends:										
Paid by foreigners to U.S. investors (credit).....	735	800	893	979	916	662	461	487	493	521
Paid to foreigners investing in U.S. (debit).....	268	281	359	414	300	126	68	103	126	146
Balance.....	+467	+519	+534	+565	+616	+536	+393	+384	+367	+375
War-debt receipts.....	+195	+206	+207	+207	+241	+113	+99	+ 20	+ 1	-

Item	1926	1927	1928	1929	1930	1931	1932	1933	1934	1935
<b>Government transactions:</b>										
Expenses and remittances by foreign governments in U.S. (credit).....	46	57	53	60	46	34	31	32	31	28
Expenses and remittances by U.S. government abroad (debit).....	89	86	110	152	127	134	101	85	68	83
Balance.....	- 43	- 29	- 57	- 92	- 81	-100	- 70	- 53	- 37	- 55
<b>Miscellaneous commodity and service items (net).....</b>										
Balance on commodity and service account.....	+156	+507	+725	+447	+629	+160	+131	+215	+461	+208
<b>GOLD AND CURRENCY MOVEMENTS</b>										
Net gold movements.....	- 72	+154	+272	-120	-278	+176	- 11	+173	-1,217	-1,739
Net silver movements.....	- 40	- 55	- 40	- 15	+ 20	- 10	- 80	- 90	- 86	-336
Net currency movements.....	- 40	- 55	- 40	- 15	+ 20	- 10	- 80	- 90	- 26	- 1
Balance, gold, silver, and currency movements.....	-112	+ 99	+232	-135	-258	+166	- 91	+ 83	-1,329	-2,076
<b>CAPITAL MOVEMENTS</b>										
<b>Private long-term capital movement:</b>										
Credit.....	1,326	1,609	2,591	2,328	2,161	1,520	862	1,505	1,160	2,009
Debit.....	1,928	2,332	3,253	2,464	2,428	1,301	645	1,456	958	1,547
Balance.....	-602	-723	-662	-137	-267	+219	+217	+ 49	+202	+462
Government capital account.....	-350	+900	-188	- 80	-485	-709	-409	-385	+184	+1,075
Net short-term capital movement.....	-252	+177	-850	-217	-752	-490	-192	-336	+386	+1,537
Balance on capital account.....	+208	-782	-107	- 95	+381	+164	+152	+ 38	+482	+331
Residual item.....										

\* Data from *The Balance of International Payments of the United States in 1935*, pp. 82-83.

8. EXCHANGE RATES OF SELECTED CURRENCIES,  
(Percentages of old parities, based on average of

Year and Month	United Kingdom	Belgium	France	Japan	Canada	Argentine	Australia	Sweden
1929:								
Jan.....	99.7	100.0	99.7	91.3	99.8	99.3	99.0	99.8
Feb.....	99.7	99.9	99.7	90.7	99.6	99.3	99.0	99.7
Mar.....	99.7	99.9	99.7	89.3	99.4	99.0	99.0	99.7
Apr.....	99.7	99.9	99.7	89.5	99.2	99.0	99.0	99.7
May.....	99.7	99.9	99.7	89.6	99.3	99.0	99.0	99.7
June.....	99.6	99.9	99.7	88.0	99.2	98.8	98.9	99.9
July.....	99.7	99.9	100.0	91.4	99.5	98.8	98.9	100.0
Aug.....	99.6	100.0	99.7	93.7	99.4	98.9	98.6	100.0
Sept.....	99.6	100.0	99.7	94.8	99.2	98.8	98.4	99.9
Oct.....	100.1	100.4	100.3	95.8	98.8	98.5	98.7	100.2
Nov.....	100.2	100.6	100.5	97.8	98.4	97.3	98.7	100.3
Dec.....	100.3	100.7	100.5	98.2	99.1	96.4	98.7	100.6
1930:								
Jan.....	100.0	100.3	100.3	98.5	98.9	94.7	98.1	100.2
Feb.....	99.9	100.2	100.0	98.6	99.2	89.7	97.4	100.1
Mar.....	99.9	100.3	99.7	99.0	99.8	88.8	95.9	100.2
Apr.....	99.9	100.4	100.0	99.0	100.0	91.9	94.0	100.3
May.....	99.9	100.4	100.0	99.1	99.8	90.4	94.0	100.1
June.....	99.8	100.4	100.0	99.1	100.0	87.6	93.9	100.2
July.....	100.0	100.6	100.3	99.0	100.1	85.0	94.1	100.3
Aug.....	100.1	100.6	100.3	99.1	100.1	85.5	94.2	100.3
Sept.....	99.9	100.4	100.3	99.1	100.1	84.8	94.0	100.3
Oct.....	99.8	100.3	100.0	99.5	100.1	80.9	92.4	100.2
Nov.....	99.8	100.3	100.3	99.5	100.1	81.0	91.8	100.1
Dec.....	99.8	100.4	100.3	99.5	99.9	78.3	91.8	100.1
1931:								
Jan.....	99.8	100.3	100.0	99.2	99.8	72.2	83.1	99.9
Feb.....	99.8	100.3	100.0	99.1	100.0	74.6	76.6	99.9
Mar.....	99.8	100.2	99.7	99.0	100.0	80.9	76.6	99.9
Apr.....	99.9	100.0	99.7	99.0	100.0	79.2	76.7	99.9
May.....	99.9	100.1	99.7	99.1	99.9	73.3	76.7	100.0
June.....	100.0	100.1	100.0	99.0	99.7	72.8	76.8	100.0
July.....	99.8	100.4	100.0	99.0	99.7	72.4	76.6	99.9
Aug.....	99.8	100.3	100.0	99.0	99.7	66.9	76.6	99.8
Sept.....	93.1	100.1	100.3	99.0	96.2	61.9	71.5	97.3
Oct.....	79.9	100.6	100.5	98.8	89.1	53.9	61.4	86.2
Nov.....	76.4	100.1	100.0	98.9	89.0	61.0	58.7	77.4
Dec.....	69.3	100.0	100.0	87.2	82.7	60.7	55.2	69.8
1932:								
Jan.....	70.5	100.1	100.3	72.2	85.1	60.4	56.3	71.6
Feb.....	71.0	100.3	100.5	68.8	87.3	60.3	56.7	72.0
Mar.....	74.8	100.3	100.3	64.5	89.4	60.4	59.7	74.1
Apr.....	77.1	100.7	100.5	65.8	89.9	60.3	61.5	71.2
May.....	75.5	100.9	100.8	64.1	88.4	60.4	60.3	69.9
June.....	74.9	100.3	100.5	60.8	86.7	60.7	59.8	69.8
July.....	72.9	99.8	100.0	55.1	87.1	60.7	58.2	68.0
Aug.....	71.4	99.8	100.0	49.1	87.6	60.7	57.0	66.6
Sept.....	71.3	99.7	100.0	47.4	90.3	60.7	57.0	66.5
Oct.....	69.8	99.9	100.3	46.3	91.2	60.7	55.7	65.4
Nov.....	67.3	99.8	100.0	41.4	87.3	60.7	53.7	65.0
Dec.....	67.4	99.6	99.5	41.6	86.6	60.7	53.8	66.8

IN TERMS OF UNITED STATES DOLLAR<sup>a</sup>  
noon buying rates for cable transfers in New York.)

Year and Month	United Kingdom	Belgium	France	Japan	Canada	Argentine	Australia	Sweden
1933:								
Jan.....	69.1	99.7	99.5	41.6	87.5	60.7	54.9	68.3
Feb.....	70.3	100.4	100.0	41.7	83.5	60.7	55.9	68.2
Mar.....	70.5	100.6	100.5	42.6	83.5	60.4	56.0	67.9
Apr.....	73.5	104.5	104.6	44.3	84.7	62.7	58.5	70.2
May.....	80.8	117.1	117.1	48.1	87.6	70.4	64.3	75.5
June.....	85.0	122.7	122.4	51.7	89.9	73.7	67.6	79.4
July.....	95.5	139.9	139.3	57.7	94.5	83.7	75.9	89.5
Aug.....	92.5	137.8	137.0	54.0	94.3	82.3	73.6	86.7
Sept.....	95.9	148.9	147.2	54.7	96.5	89.2	76.3	89.7
Oct.....	95.9	149.1	148.5	55.7	97.6	89.3	76.3	89.8
Nov.....	105.8	160.6	159.9	60.9	101.2	95.4	84.2	99.1
Dec.....	105.1	156.3	156.1	61.7	100.6	34.5	83.7	98.5
1934:								
Jan.....	103.8	158.6	158.4	60.4	99.5	34.7	82.7	97.2
Feb.....	103.4	164.7	164.8	59.7	99.2	34.8	82.4	96.9
Mar.....	104.7	167.6	167.9	60.2	99.8	35.2	83.4	98.0
Apr.....	105.9	168.6	168.9	60.8	100.2	35.6	84.4	99.1
May.....	104.9	168.4	168.6	60.6	100.2	35.3	83.7	98.2
June.....	103.7	168.1	168.4	60.0	100.8	34.9	82.7	97.1
July.....	103.6	168.1	168.1	59.9	101.2	34.8	82.5	97.0
Aug.....	104.1	170.6	169.9	60.2	102.4	35.0	82.9	97.5
Sept.....	102.6	170.7	170.2	59.7	102.9	34.5	81.5	96.1
Oct.....	101.5	168.8	168.9	57.5	102.1	34.2	80.4	95.1
Nov.....	102.5	167.8	168.1	58.3	102.5	34.5	81.3	96.0
Dec.....	101.6	168.3	168.4	57.8	101.3	34.2	80.6	95.2
1935:								
Jan.....	100.5	167.8	167.9	57.1	100.2	33.8	79.7	94.1
Feb.....	100.1	167.8	168.1	57.0	99.9	33.6	79.4	93.8
Mar.....	98.1	163.7	168.9	56.1	99.1	34.0	77.8	91.9
Apr.....	99.4	121.9	168.4	56.9	99.5	33.4	78.8	93.0
May.....	100.4	121.9	168.1	57.6	99.9	33.7	79.6	94.0
June.....	101.4	121.9	168.6	58.2	99.9	34.1	80.4	94.9
July.....	101.9	121.7	168.9	58.5	99.8	34.2	80.8	95.4
Aug.....	102.1	121.5	169.1	58.8	99.8	34.3	81.1	95.6
Sept.....	101.3	121.3	168.1	58.1	99.3	34.1	80.4	94.9
Oct.....	100.8	121.2	168.1	57.5	98.6	33.9	80.1	94.4
Nov.....	101.2	121.5	168.1	57.5	98.9	34.0	80.3	94.7
Dec.....	101.3	121.3	168.4	57.7	99.0	34.0	80.4	94.8
1936:								
Jan.....	102.0	121.9	169.1	58.2	99.9	34.3	81.1	95.5
Feb.....	102.8	122.6	170.4	58.4	100.1	34.5	81.8	96.2
Mar.....	102.1	122.2	169.1	58.1	99.8	34.3	81.4	95.6
Apr.....	101.6	121.7	168.4	57.9	99.5	34.2	80.9	95.1
May.....	102.1	121.9	168.1	58.3	99.8	34.3	81.4	95.6
June.....	103.1	121.7	168.1	59.0	99.7	34.6	82.2	96.6
July.....	103.2	121.6	168.9	58.8	99.9	34.7	82.2	96.6
Aug.....	103.3	121.3	168.1	59.0	100.0	34.7	82.3	96.7
Sept.....	103.5	121.5	166.1	59.0	100.0	34.8	82.4	96.9
Oct.....	100.7	121.2	119.1	57.4	100.0	33.9	80.2	94.2
Nov.....	100.4	121.7	118.6	57.3	100.1	33.8	80.0	94.0

<sup>a</sup> Basic data from issues of the *Federal Reserve Bulletin*.

9. FOREIGN EXCHANGE HOLDINGS AND GOLD STOCKS<sup>a</sup>  
(In millions of dollars;

Country	Foreign Exchange Holdings								
	1930	1931				1932			
	December	March	June	September	December	March	June	September	December
Albania.....	3.9	4.1	3.9	3.5	2.9	3.5	3.5	3.5	3.6
Austria.....	100.7	91.5	62.5	28.4	17.9	8.5	6.0	5.6	7.6
Belgium.....	134.9	127.0	121.6	—	—	—	—	—	—
Bulgaria.....	5.8	4.2	3.7	2.1	1.9	1.5	1.5	1.2	0.9
Czechoslovakia	72.5	65.2	56.9	34.9	31.5	23.2	31.1	32.6	30.5
Danzig.....	8.9	7.1	6.6	5.0	5.0	6.0	3.1	5.0	2.7
Denmark.....	26.8	20.8	15.4	9.8	4.6	2.5	3.5	14.7	5.9
Estonia.....	6.4	6.2	6.2	5.4	4.2	3.9	2.3	1.9	1.3
Finland.....	23.5	23.9	21.6	16.2	10.2	18.1	12.7	11.0	18.7
France.....	1,025.5	1,029.6	1,025.9	889.5	807.1	486.8	237.7	184.8	175.6
Germany.....	182.1	44.8	71.4	33.0	41.1	33.8	30.9	31.6	27.2
Great Britain.	—	—	—	—	—	—	—	—	—
Greece.....	32.4	29.3	25.5	24.1	13.7	2.9	4.2	4.8	12.8
Hungary.....	11.8	4.4	1.7	1.2	4.1	2.1	1.9	1.9	2.4
Italy.....	227.7	215.7	206.5	154.6	114.2	80.7	72.9	73.7	68.7
Latvia.....	6.9	6.0	4.2	4.2	2.5	2.7	2.3	2.3	2.3
Lithuania.....	8.7	7.1	6.8	5.4	3.3	2.5	1.9	1.5	1.6
Netherlands..	99.2	87.6	91.8	88.0	32.8	34.0	27.6	28.7	28.5
Norway.....	10.8	9.8	5.8	3.3	3.3	3.3	1.2	5.0	8.3
Poland.....	46.3	42.8	39.2	28.0	23.9	21.6	17.8	15.4	15.4
Portugal.....	9.3	9.3	7.3	20.8	21.0	20.6	18.3	18.5	—
Rumania.....	10.4	7.9	13.7	9.5	1.9	1.9	1.0	3.3	3.3
Spain.....	—	23.2	20.5	49.2	54.2	53.8	56.3	55.8	55.0
Sweden.....	104.6	80.8	78.9	8.7	13.1	30.1	35.7	47.7	57.3
Switzerland..	67.7	63.1	81.0	67.3	20.1	20.6	11.2	11.8	16.8
Yugoslavia...	23.2	16.8	16.4	9.6	7.5	4.8	5.4	6.2	3.7
Total, Europe	2,250.0	2,028.2	1,995.0	1,501.7	1,242.0	869.4	590.0	568.5	550.1
United States	36.7	1.7	12.0	57.5	42.1	37.4	34.3	33.6	32.5
Japan.....	—	—	—	—	—	—	—	—	—
Total.....	2,286.7	2,029.9	2,007.0	1,559.2	1,284.1	906.8	624.3	602.1	582.6

<sup>a</sup> As reported by the central banks of the countries indicated.

<sup>b</sup> Less than \$50,000.

# INTERNATIONAL TRADE AND FINANCE 697

OF PRINCIPAL CENTRAL BANKS, 1930-32  
(conversion at par of exchange)

Monetary Gold Stocks								
1930	1931				1932			
December	March	June	September	December	March	June	September	December
0.4	0.4	0.4	0.6	1.0	1.0	1.2	1.2	1.1
30.1	30.1	30.1	26.6	26.6	25.3	21.0	21.0	21.0
190.8	200.1	199.5	346.5	354.4	349.6	356.8	359.1	360.9
10.4	10.6	10.8	11.0	11.0	11.0	11.0	11.0	11.0
45.7	45.7	45.5	45.1	48.8	48.6	48.6	49.0	50.6
b	b	b	3.1	4.2	4.2	7.5	4.2	4.1
46.1	46.1	46.1	44.0	38.6	38.8	35.9	35.7	35.6
1.7	1.7	1.7	1.7	1.7	1.9	3.1	3.1	4.0
7.5	7.5	7.5	7.5	7.7	7.7	7.7	7.7	7.7
2,098.5	2,198.4	2,210.6	2,325.0	2,682.9	3,010.2	3,216.4	3,239.2	3,257.0
527.7	553.4	338.4	309.9	234.4	209.3	198.2	189.7	192.0
718.3	698.9	792.6	656.0	587.5	587.9	662.6	678.4	586.9
6.6	6.6	6.4	6.4	11.2	9.3	0.8	7.1	18.0
28.4	22.0	19.5	18.3	17.8	17.6	17.0	17.0	17.0
278.8	279.6	282.5	286.5	296.0	296.2	298.3	304.7	307.3
1.7	1.7	1.7	1.7	3.3	3.5	4.1	4.1	6.9
3.9	3.9	3.9	3.9	5.0	5.0	5.0	4.8	4.9
171.3	179.2	199.9	282.3	356.6	353.5	394.0	415.8	415.2
39.2	39.2	39.2	39.0	41.5	41.7	40.1	38.2	38.6
63.1	62.9	63.7	63.7	67.3	64.3	54.4	54.8	56.3
9.3	9.3	9.3	7.7	8.9	12.5	12.7	12.5	23.8
55.6	52.3	52.9	53.4	57.9	56.5	56.3	56.7	57.0
433.7	466.9	468.1	439.3	433.6	434.1	435.1	435.5	435.9
64.4	64.3	63.9	53.3	55.2	55.2	55.2	55.2	55.2
137.6	124.1	162.1	327.8	452.8	470.6	502.8	508.8	476.8
19.1	19.1	27.2	29.1	31.1	31.1	31.1	31.1	31.0
4,989.9	5,124.0	5,083.5	5,389.4	5,837.0	6,146.6	6,476.9	5,545.6	6,475.8
4,592.7	4,696.9	4,955.9	4,740.9	4,459.8	4,390.0	3,919.0	4,086.8	4,513.0
411.8	415.4	424.3	407.7	234.0	214.2	213.8	213.8	261.7
9,994.4	10,236.3	10,463.7	10,538.0	10,530.8	10,750.8	10,609.7	10,846.2	11,250.5

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