THE INSTITUTE OF ECONOMICS
INVESTIGATIONS IN AGRICULTURAL ECONOMICS

INDUSTRIAL PROSPERITY AND THE FARMER

THE MACMILLAN COMPANY
NEW YORK · BOSTON · CHICAGO · DALLAS
ATLANTA · SAN FRANCISCO

MACMILLAN & CO., LIMITED
LONDON · BOMBAY · CALCUTTA
MELBOURNE

THE MACMILLAN CO. OF CANADA, LTD.
TORONTO

THE INSTITUTE OF ECONOMICS

The Carnegie Corporation of New York in establishing the Institute of Economics declared: "The Carnegie Corporation, in committing to the Trustees the administration of the endowment, over which the Corporation will have no control whatsoever, has in mind a single purpose—namely, that the Institute shall be conducted with the sole object of ascertaining the facts about current economic problems and of interpreting these facts for the people of the United States in the most simple and understandable form. The Institute shall be administered by its Trustees without regard to the special interests of any group in the body politic, whether political, social, or economic." In order that the Council and Staff of the Institute may enjoy the freedom which is conceded as essential to scientific progress, the Trustees of the Institute have adopted the following resolution: "The primary function of the trustees is not to express their views upon the scientific investigations conducted by the Institute, but only to make it possible for such scientific work to be done under the most favorable auspices."

PUBLICATIONS OF
THE INSTITUTE OF ECONOMICS

INVESTIGATIONS IN INTERNATIONAL ECONOMIC RECONSTRUCTION

- GERMANY'S CAPACITY TO PAY (1923)*
- RUSSIAN DEBTS AND RUSSIAN RECONSTRUCTION (1924)*
- THE REPARATION PLAN (1924)*
- THE FRENCH DEBT PROBLEM (1925)
- WORLD WAR DEBT SETTLEMENTS (1926)
- ITALY'S INTERNATIONAL ECONOMIC POSITION (1926)
- AMERICAN LOANS TO GERMANY (1927)

INVESTIGATIONS IN INTERNATIONAL COMMERCIAL POLICIES

- MAKING THE TARIFF IN THE UNITED STATES (1924)*
- SUGAR IN RELATION TO THE TARIFF (1924)*
- THE TARIFF ON WOOL (1926)
- THE CATTLE INDUSTRY AND THE TARIFF (1926)

INVESTIGATIONS IN AGRICULTURAL ECONOMICS

- AMERICAN AGRICULTURE AND THE EUROPEAN MARKET (1924)*
- THE FEDERAL INTERMEDIATE CREDIT SYSTEM (1926)
- FINANCING THE LIVESTOCK INDUSTRY (1926)
- INDUSTRIAL PROSPERITY AND THE FARMER (1927)
- THE LEGAL STATUS OF AGRICULTURAL CO-OPERATION (1927)

INVESTIGATIONS IN INDUSTRY AND LABOR

- MINERS' WAGES AND THE COST OF COAL (1924)*
- THE CASE OF BITUMINOUS COAL (1925)
- THE COAL MINERS' STRUGGLE FOR INDUSTRIAL STATUS (1926)
- WORKERS' HEALTH AND SAFETY: A STATISTICAL PROGRAM (1927)
- THE BRITISH COAL DILEMMA (1927)

INVESTIGATIONS IN FINANCE

- INTEREST RATES AND STOCK SPECULATION (1925)
- TAX-EXEMPT SECURITIES AND THE SURTAX (1926)

* Published by the McGraw-Hill Book Company

INDUSTRIAL PROSPERITY AND THE FARMER

BY

RUSSELL C. ENGBERG

WITH THE AID OF THE COUNCIL AND STAFF
OF THE INSTITUTE OF ECONOMICS

New York
THE MACMILLAN COMPANY
1928

Set up and electrotyped.
Published August, 1927.

Printed in the United States of America by
J. J. LITTLE AND IVES COMPANY, NEW YORK

DIRECTOR'S PREFACE

It has been rather generally assumed that the farmer marches along with other business men and that his fortunes rise and fall with the general tide of prosperity and depression. Recent conditions in the United States have, however, pretty conclusively shown that it is possible for industry to be exceptionally prosperous while agriculture remains in general depression. Is it also possible that we may some day have a period of farm prosperity while industry is in the doldrums? Are these two great divisions of our economic life closely interwoven, or are they governed by essentially independent streams of economic influence? This analysis seeks to answer one-half of the question, namely, whether the general business cycle exerts an important direct influence upon agriculture. It does not attempt to answer the other half, whether general business fluctuations are, as has frequently been suggested, superinduced by antecedent changes in agricultural conditions.

In this volume Mr. Engberg, who possesses a thorough knowledge of the technical phases of farm organization and management, has assembled the data necessary to test, both analytically and statistically, the effects of industrial changes upon agriculture. He examines the effects of industrial prosperity and depression upon the demand for and price of farm products, and upon the farm-

er's operating costs. The analysis establishes certain definite conclusions with reference to a phase of agricultural organization and farm management which has heretofore been merely a subject of speculation.

HAROLD G. MOULTON,
Director.

Institute of Economics,
June, 1927.

AUTHOR'S ACKNOWLEDGMENTS

The author wishes to acknowledge the assistance received from members of the Council of the Institute of Economics, especially Edwin G. Nourse, under whose general supervision the investigation was made, and Charles O. Hardy, whose many suggestions and criticisms and careful editing have vastly improved the entire manuscript. Other members of the staff gave valuable aid in various ways. Sheldon B. Akers devoted a great deal of time to the statistical details. Max Sasuly assisted in setting up some of the correlation tables. Ralph P. Ward prepared the numerous charts which appear in the book.

Acknowledgment is also due to Mordecai Ezekiel and L. H. Bean of the Bureau of Agricultural Economics, United States Department of Agriculture, for time generously given in reading and criticising the manuscript, and to Sewall Wright for suggestions in regard to certain of the statistical problems.

CONTENTS

CHAPTER VI

CHAPTER VII

CHAPTER VIII

CHAPTER IX

APPENDIX A

CORRELATIONS: AGRICULTURAL PRICES, VOLUME OF PRODUCTION, BUSINESS ACTIVITY

THIS appendix contains some details as to methods and results of multiple correlation studies of the prices of five representative farm products. The objective in view when the studies were planned was to obtain some quantitative criteria of the relative influence of the fluctuations of domestic industrial activity and of the size of the current crop upon the annual prices of these commodities. No effort was made to account completely by statistical methods for all the variations in these prices. The amount of labor involved in such a comprehensive analysis probably would have made it necessary to reduce very considerably the number of products treated and thereby increased the hazards in drawing conclusions. Briefly, the method of attack laid down at the beginning was as follows: to select first a statistical series available in monthly or quarterly form back to 1880, if possible, which would serve as a general measure of the fluctuations of the phenomena associated with business cycles; and second, to secure production data for representative farm commodities and price quotations related to that volume of output. The next step was to correlate the three variables for each commodity in a manner permitting conclusions as to the relative degree of association of the dependent variable, price, with each of the two

independent variables. Several details of that procedure require explanation before the resulting correlation coefficients, which are given below, can be interpreted.

Several specifications were laid down for the index of business cycles. It should reflect changes in the purchasing power of industrial employees because that is one channel of influence of business cycles on the prices of farm products. It should reflect changes in manufacturing activity, since that may affect the manufacturers' demand for certain products. It should be available in monthly or quarterly form, so that various lags of prices after business could be tested. The raw data, moreover, should be accessible so that the series could be expressed in whatever form seemed best for the problem at hand. Finally, the index should be available for a long enough period, say back to 1880, to offer a reasonably large sample of observations.

Of the series published at the time this study was begun, pig iron production seemed to meet these requirements most satisfactorily. Data on industrial pay rolls available since the war have fluctuated in the same direction and at about the same time with pig iron production, though the variations of the latter have been considerably wider. As for its reflection of industrial activity, Edmund E. Day found that when correlated with his annual index of manufacturing at large, a coefficient of +.97 was secured, and concluded that pig iron production gave "an amazingly accurate picture of the year-to-year fluctuations of physical production in manufacturing.[1] Its fluctuations, moreover, have been closely related to those of statistical series representing other

[1] "An Index of the Physical Volume of Production," *Review of Economic Statistics*, 1920, Vol. II, p. 367.

phases of business cycles, such as commodity prices (Bradstreet's index), imports, banks clearings in and outside New York, business failures, and interest rates.[2] Monthly data on pig iron production are available back to 1884 and quarterly figures to 1877.

Bank clearings outside New York were considered as a possible measure and had many points in their favor. Since, however, they are probably weighted fairly heavily with agricultural transactions, pig iron production was thought to be a better measure of non-agricultural business activity. The business curve of the American Telephone and Telegraph Company also was a possibility. The fact that it is a composite of several series was in its favor, but its availability only in the refined form—as monthly percentage deviations from "normal" —was a disadvantage.

The same sources of the raw data on pig iron production were employed as those used by the Harvard Committee on Economic Research in constructing their monthly index of pig iron production.[3] Only four years

[2] Harvard Committee on Economic Research, "Indices of Business Conditions," *Review of Economic Statistics*, 1919, Vol. I, pp. 184-187.

[3] See "Money Rates and Pig Iron Production 1877-1924," *Review of Economic Statistics*, 1925, Vol. VII, p. 44. These sources included quarterly estimates made by the Committee for the period 1877 to 1883 based on the weekly capacity of furnaces in blast on the first day of each quarter; the data prepared by Margaret G. Myers, "Monthly Production of Pig Iron, 1884-1902," *Journal of the American Statistical Association*, June, 1922, Vol. 18, p. 249; and for the period 1903-1914 from the *Iron Age*, reprinted by the Committee in "Indices of Business Conditions," *Review of Economic Statistics*, 1919, Vol. 1, p. 66. The use of the more satisfactory series for the period 1884-1902 published by Holbrook Working in "Monthly Pig Iron Production, 1884-1902: An Analysis of a Problem in Correlation," *Journal of the American Statistical Association*, 1924, Vol. 19, pp. 381-86, would have made no significant difference in the results.

of the quarterly figures, 1880 to 1883 inclusive, were used. For those years data for the intervening months were interpolated.

The next step was to select the method of correlation. Linearity of relationship was assumed. It was decided to correlate the series with seven different assumptions as to the time relationship of changes in pig iron production and the agricultural price. It was believed that the maximum degree of relationship was likely to fall within this range of a year and a half. These lags were so chosen that in five or six of the seven comparisons the pig iron series preceded the price quotations and in one or two it followed. The distribution varied somewhat with different commodities. The fact that in each case the correlations of price and pig iron production first increased with successive quarters and then declined indicates that the maximum degree of relationship was probably found for all commodities.

Two methods of expressing the variables were tried for the first commodity worked with, namely, cotton. In the first the data were reduced to percentage deviations from the secular trends of the price and production of cotton and of the quarterly totals of pig iron production. For the second computation there were used the percentage changes from the preceding year of the price and production of cotton and of the annual production of pig iron for years ending with December 31, March 31, June 30, and September 30. In each case seven different lags (or leads) of the pig iron data were used in comparison with the other two variables.

The second method was adopted for the other commodities. Not only did it give better results in that it

accounted more completely for the changes in the price of cotton, but it had other advantages as well. The use of percentage changes simplified the computation and assured greater comparability of treatment for all commodities than would be secured by computing a separate secular trend for each series. The changes in the annual production of pig iron, moreover, probably gave a more representative picture of the changes in the business situation than did the changes in the production in corresponding quarters.

The results of the correlations for the seven commodities are given in the tables on pages 276-277. The seven positions of the pig iron data with respect to the price are indicated by showing the midpoint of the years used. Thus, the earliest one in each case is October 1. This means that the percentage change over the previous year of the amount of pig iron produced in the year ending on each March 31 (the midpoint of which is October 1) is correlated with the percentage changes of crop production and price the following fall. Similarly the changes in pig iron production for years ending on six successive quarterly dates are correlated with the same crop data.

The following subscripts are used for the coefficients:

w = price
s = supply, or size of the crop
i = pig iron production

CORRELATION: PRICE AND PRODUCTION OF SELECTED COMMODITIES WITH PIG IRON PRODUCTION *

Iron Output for Year Ending	Coefficients				
	rwi	rws	R	rwi.s	rws.i
POTATOES:[1]					
Mar. 31.....	— .009	— .857	.858	— .077	— .858
June 30.....	— .008	— .857	.860	+ .125	— .860
Sept. 30.....	— .109	— .865	.866	+ .057	— .864
Dec. 31.....	— .011	— .865	.870	+ .178	— .870
Mar. 31.....	— .041	— .864	.870	+ .197	— .869
June 30.....	— .106	— .864	.865	+ .096	— .864
Sept. 30.....	— .102	— .864	.864	— .034	— .863
HOGS:[2]					
Mar. 31.....	— .014	— .736	.745	— .173	— .745
June 30.....	+ .104	— .736	.749	— .208	— .746
Sept. 30.....	+ .163	— .747	.755	— .166	— .748
Dec. 31.....	+ .292	— .747	.749	+ .065	— .721
Mar. 31.....	+ .337	— .747	.765	+ .248	— .730
June 30.....	+ .284	— .747	.783	+ .349	— .760
Sept. 30.....	+ .210	— .747	.763	+ .228	— .750
CORN:[3]					
Mar. 31.....	— .061	— .698	.699	+ .067	— .698
June 30.....	— .207	— .698	.698	— .011	— .681
Sept. 30.....	— .193	— .720	.720	+ .005	— .707
Dec. 31.....	— .043	— .720	.720	+ .034	— .719
Mar. 31.....	+ .030	— .709	.713	+ .102	— .712
June 30.....	+ .099	— .709	.723	+ .199	— .719
Sept. 30.....	+ .157	— .709	.728	+ .235	— .720

* Subscripts.
w = price.
s = production of agricultural commodity.
i = pig iron production.

[1] POTATOES: Period: 1881-1913. Production: Total annual production in the United States. *Yearbook*, 1923, p. 759. Price: Farm price on December 1. *ibid.*

[2] HOGS: Period: 1881-1913. Production: Total weight of hogs packed by Western packers during the four winter months, November to February, inclusive. Data from Sewall Wright, *Corn and Hog Correlations*, Bulletin No. 1300. U. S. Department of Agriculture, Jan., 1925, p. 11. Price: Average price per 100 pounds live weight of Western winter pack, *ibid.*

[3] CORN: Period: 1881-1913. Production: Annual production in the United States, *Yearbook*, 1923, p. 662. Prices: December price at Chicago. *Agricultural Prices*, Henry A. Wallace, pp. 118-119.

Iron Output for Year Ending	Coefficients				
	rwi	rws	R	rwi.s	rws.i
OATS:[4]					
Dec. 31.....	+ .058	— .762	.772	— .191	— .771
Mar. 31.....	— .075	— .762	.777	— .231	— .775
June 30.....	— .154	— .762	.775	— .220	— .769
Sept. 30.....	— .147	— .750	.752	— .076	— .746
Dec. 31.....	— .053	— .750	.758	+ .159	— .757
Mar. 31.....	— .058	— .747	.770	+ .286	— .770
June 30.....	— .111	— .747	.774	+ .308	— .771
COTTON:[5]					
Mar. 31.....	+ .114	— .802	.811	+ .202	— .808
June 30.....	+ .476	— .802	.828	+ .349	— .771
Sept. 30.....	+ .692	— .779	.837	+ .489	— .652
Dec. 31.....	+ .664	— .779	.831	+ .462	— .668
Mar. 31.....	+ .447	— .779	.801	+ .299	— .743
June 30.....	+ .114	— .779	.784	+ .143	— .781
Sept. 30.....	— .227	— .779	.779	+ .030	— .765
WHEAT:[6]					
Dec. 31.....	— .071	— .656	.660	— .099	— .658
Mar. 31.....	— .120	— .656	.661	— .108	— .657
June 30.....	— .079	— .656	.664	+ .137	— .661
Sept. 30.....	— .044	— .656	.692	+ .292	— .691
Dec. 31.....	— .036	— .656	.690	+ .283	— .689
Mar. 31.....	+ .037	— .656	.689	+ .280	— .689
June 30.....	+ .051	— .656	.670	+ .181	— .669
APPLES:[7]					
Mar. 31.....	— .179	— .800	.815	— .263	— .808
June 30.....	— .076	— .800	.814	— .249	— .812
Sept. 30.....	+ .020	— .800	.806	— .173	— .806
Dec. 31.....	+ .120	— .800	.800	— .057	— .797
Mar. 31.....	+ .036	— .800	.801	+ .058	— .800
June 30.....	— .118	— .800	.804	+ .137	— .801
Sept. 30.....	— .170	— .800	.803	+ .118	— .796

[4] OATS: Period, 1881-1913. Production: Annual production in the United States, *Yearbook*, 1923, pp. 679-680. Prices: September price at Chicago. *Agricultural Prices*, Henry A. Wallace, pp. 121-122.

[5] COTTON: Period: 1881-1913. Production: Production in the United States of 500-pound bales. Data from Bureau of Census, *Cotton Production and Distribution, Season of 1924-25*, Bulletin 158, pp. 49-50. Price of cotton: December price of spot middling upland cotton in New York. Data for 1880 to 1889 from *Report*

of the Senate Committee on Agriculture and Forestry, 1895, Vol. II, pp. 377-404; for 1890 to 1913 from the Bureau of Agricultural Economics, U. S. Department of Agriculture. The figures from 1900 to 1923 are published in the *Yearbook* for 1923, p. 809.

[8] WHEAT: Period: 1892-1914. Production: Annual world production in Northern Hemisphere, plus carryover on July 1. Obtained by deducting from the total world output the reported production in the Southern Hemisphere. World production and carryover data from Killough, Hugh B. *What Makes the Price of Oats*, Bulletin No. 1351, U. S. Department of Agriculture, Sept., 1925, p. 36. Production in Southern Hemisphere from *Yearbook* 1924, p. 569. Price: Average Chicago price of wheat during July, August, September and October, the months when the bulk of the crops in the Northern Hemisphere come on the market. Data obtained from the Bureau of Agricultural Economics through the courtesy of E. M. Daggitt.

[9] APPLES: Period: 1890-1913. Production: Annual crop in the United States, *Yearbook*, 1924, p. 664. Price: Average of New York wholesale prices on October 15, January 1, and March 1, of each year, *ibid.*, p. 673.

APPENDIX B

RESULTS OF STATISTICAL STUDIES OF THE RELATIONSHIP BETWEEN THE SUPPLY AND PRICE OF FARM PRODUCTS

CORN

Wright, Sewall, *Corn and Hog Correlations*, U. S. Department of Agriculture, Bulletin No. 1300, January, 1925, p. 16:

Correlated trend deviations of production and December 1 price, 1871–1913; $r = -.80$. Also correlated yield per acre with December 1 price, same period; $r = -.77$.

Moore, Henry Ludwell, *Generating Economic Cycles*, 1923, p. 23:

Correlated trend deviations of yield per acre and December farm price, 1880–1914; $r = -.78$.

Moore, Henry Ludwell, *Economic Cycles: Their Law and Cause*, 1914, p. 95:

Correlated relative change in production and December 1 price, 1866–1911; $r = -.789$. Also changes in yield per acre and price, same period; $r = -.815$.

Persons, W. M., "The Correlation of Economic Statistics," *Publications of the American Statistical Association*, December, 1910, Vol. 92, p. 314:

Correlated first differences of production and December farm price in United States, 1866–1906; r = —.833. Also percentage changes, same period; r = —.794.

Wallace, H. A., "The Factors That Make Corn Prices," *Wallace's Farmer*, August 21, 1925:

Multiple correlation study of prices using size of crop, oats prices, business conditions, wheat prices, and number of hogs slaughtered. Correlation coefficients not given. "The dominating force making corn prices is the size of crop." The net relationship of these two variables expressed as follows:

Size of Corn Crop	Corn prices at Chicago during winter
25 per cent below normal	32 per cent above normal
20 per cent below normal	24 per cent above normal
15 per cent below normal	16 per cent above normal
10 per cent below normal	8 per cent above normal
5 per cent below normal	1 per cent above normal
5 per cent above normal	7 per cent below normal
10 per cent above normal	10 per cent below normal
15 per cent above normal	12 per cent below normal

OATS

Moore, Henry Ludwell, *Economic Cycles: Their Law and Cause*, 1914, p. 95:

Correlated relative change in production and December 1 price, 1866–1911; r = —.722. Also changes in yield per acre and price, same period; r = —.718.

Killough, Hugh B., *What Makes the Price of Oats?*

U. S. Department of Agriculture, Bulletin No. 1351, September, 1925:

Correlated trend ratios of United States production and Chicago price, 1881–1913, r = —.82. Multiple correlation of percentage changes over preceding years of: (1) Chicago price of oats; (2) index of prices of farm products; and (3) United States production plus carry-over of oats, 1896–1915, 1921, 1922. Coefficient of multiple correlation = .86.

HAY

Moore, Henry Ludwell, *Economic Cycles: Their Law and Cause*, 1914, p. 95:

Correlated relative changes in production and December 1 price, 1866–1911; r = —.715. Also changes in yield per acre and price, same period; r = —.656.

POTATOES

Moore, Henry Ludwell, *Economic Cycles: Their Law and Cause*, 1914, p. 95:

Correlated relative changes in production and December 1 price, 1866–1911; r = —.856. Also changes in yield per acre and price, same period; r = —.873.

Moore, Henry Ludwell, "Elasticity of Demand and Flexibility of Prices," *Journal of the American Statistical Association*, March, 1922, Vol. 18, p. 14:

Correlated trend ratios of production and December farm price in the United States, 1881–1913; r = —.84.

Working, Holbrook, *Factors Affecting the Price of Minnesota Potatoes*, Minnesota Agricultural Experiment Station, Technical Bulletin No. 29, October, 1925, p. 13:

Multiple correlation study of five factors. Net effect of variations in supply on price expressed as follows:

When production is above normal (per cent)	Price will probably be below normal (per cent)
20	29
10	17
0	0
below normal	**above normal**
10	26
20	70

WATERMELONS

Hedden, W. P., *Measuring the Melon Market,* A preliminary report, Bureau of Agricultural Economics, U. S. Department of Agriculture, August, 1914, p. 8:

Correlated trend deviations of number of cars on track in New York, N. Y., and price per car; $r = -.88 \pm .02$.

COTTON

Moore, Henry Ludwell, *Forecasting the Yield and the Price of Cotton,* 1917:

Correlated ratios to progressive averages of annual production of cotton and the price, 1890–1913; $r = -.706$. Also percentage change of production and price, same period; $r = .819$.

WHEAT

Killough, Hugh B., *What Makes the Price of Oats?* U. S. Department of Agriculture, Bulletin No. 1351, September, 1925:

Correlated trend ratios of Chicago price of wheat and United States production, 1891–1913; r = —.32; same price with world production; r = —.71; same price with world production plus carry-over; r = —.80. Multiple correlation of trend ratios of: (1) Chicago price, (2) world production plus carry-over, and (3) world production of rye; r = .86.

Bosland, C. C., "Forecasting the Price of Wheat," *Journal of the American Statistical Association,* June, 1926, Vol. 21, pp. 149–61:

Correlated world production plus carry-over and Chicago price (deflated), 1896–1920. The maximum correlation of —.74 was obtained by using the first differences of the percentage deviations from trend for the pre-war years only.

CABBAGE

Misner, E. A., *Rainfall and the Production and Price of Cabbage, Potatoes, Apples, and Cannery Peas,* Mimeographed circular, Department of Agricultural Economics and Farm Management, Cornell University:

Correlated inches of rainfall and November price of cabbage, 1894–1923; r = —.572.

HOGS

Wright, Sewall, *Corn and Hog Correlations,* U. S. Department of Agriculture Bulletin No. 1300, January, 1925, pp. 40–41:

Correlated trend deviations of hogs packed and corresponding prices. Coefficient for summer pack, —.63; for winter pack, —.68.

ALL CROPS

Committee on Economic Research, Harvard University, "Production, Prices and Aggregate Values of Crops," *Review of Economic Statistics,* Preliminary Volume III, 1921, pp. 34–6:

Indexes consisting of the weighted geometric means of the production and December 1 prices of the 12 leading farm crops in the United States from 1879 to 1920 were constructed. The correlation between the first differences of these indexes of aggregate production and unit prices for the period 1879 to 1914 was —.82. When corrected for secular trend this correlation between the corrected figures was —.79; and between the first differences of the corrected figures the correlation was —.88.

INDEX

Institute of Economics Series

THE FRENCH DEBT PROBLEM
By Harold G. Moulton and Cleona Lewis

GERMANY'S CAPACITY TO PAY
By Harold G. Moulton and C. E. McGuire

AMERICAN AGRICULTURE AND THE EUROPEAN MARKET
By Edwin G. Nourse

MAKING THE TARIFF IN THE UNITED STATES
By Thomas Walker Page

SUGAR IN RELATION TO THE TARIFF
By Philip G. Wright

THE TARIFF ON WOOL
By Mark A. Smith

THE CATTLE INDUSTRY AND THE TARIFF
By Lynn Ramsay Edminster

THE FEDERAL INTERMEDIATE CREDIT SYSTEM
By Claude L. Benner

THE REPARATION PLAN
By Harold G. Moulton

THE RUHR-LORRAINE INDUSTRIAL PROBLEM
By Guy Greer

RUSSIAN DEBTS AND RUSSIAN RECONSTRUCTION
By Leo Pasvolsky and Harold G. Moulton

THE CASE OF BITUMINOUS COAL
By Walton H. Hamilton and Helen R. Wright

MINERS' WAGES AND THE COST OF COAL
By Isador Lubin

INTEREST RATES AND STOCK SPECULATION
By Richard N. Owens and Charles O. Hardy

WORLD WAR DEBT SETTLEMENTS
By Harold G. Moulton and Leo Pasvolsky

THE COAL MINERS' STRUGGLE FOR INDUSTRIAL STATUS
By Arthur E. Suffern

TAX-EXEMPT SECURITIES AND THE SURTAX
By Charles O. Hardy

FINANCING THE LIVESTOCK INDUSTRY
By Forrest M. Larmer

ITALY'S INTERNATIONAL ECONOMIC POSITION
By Constantine E. McGuire

WORKERS' HEALTH AND SAFETY: A Statistical Program
By Robert Morse Woodbury

INDUSTRIAL PROSPERITY AND THE FARMER
By Russell C. Engberg

THE INTERNATIONAL ACCOUNTS
By Cleona Lewis

THE LEGAL STATUS OF AGRICULTURAL CO-OPERATION
By Edwin G. Nourse

AMERICAN LOANS TO GERMANY
By Robert R. Kuczynski

THE BRITISH COAL DILEMMA
By Isador Lubin and Helen Everett.

THE MACMILLAN COMPANY
Publishers New York