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PREFACE

This study represents an investigation into a field of public finance that has been explored but little. The information contained herein attempts to throw some new light on the question of industrial migration to escape taxation and bears directly upon important problems concerning various phases of state planning and legislative tax policy.

The study was undertaken at the suggestion of Professor M. H. Hunter and I am deeply indebted to him for many hours of friendly advice and criticism. I also wish to acknowledge the substantial aid I have received from Professor P. H. Brown who has read and criticized it. Professor Roy G. Blakey, Chief, Division of Economic Research, Bureau of Foreign and Domestic Commerce, Doctor Le Verne Beals, Chief Statistician for Manufactures, Doctor L. P. Fox, Manager, Research and Information Bureau, Pennsylvania State Chamber of Commerce, and numerous tax commissioners and members of state planning boards have given invaluable assistance and information without which this study could not have been completed.

GEORGE A. STEINER

March, 1938

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I. INTRODUCTION

The assertions that "heavy taxation drives capital from a state" and that "tax-exemption attracts capital" are both old and well known. Such assumptions have been vigorously set forth by numerous writers in the past few years. The many tax-exemptions provided by taxing jurisdictions in various states indicate that legislators entertain similar opinions. In the sixteen southern states, for example, which are especially anxious to attract new industries, there are more laws providing for tax-exemption than in the other thirty-two states.¹

The nine states selected for special attention in this study are Illinois, Indiana, Massachusetts, Michigan, Minnesota, New York, Ohio, Pennsylvania, and Wisconsin. The chief reasons for the choice of these particular states were their industrial importance, their relatively burdensome tax systems, and their geographical contiguity.

The tax systems of these states have previously been the subjects of various reports, which attempted to prove that the system then existing in the state concerned was effective either in attracting capital or in driving it out. The reading of such reports inevitably causes the thoughtful person to inquire why industries do not move to neighboring states, if by so doing they would secure superior advantages. The invariable answer is: Industries *have* moved.

Because of the widespread confusion and the erroneous conclusions prevalent in regard to the relation of taxation to the location of industry and to industrial development,² the primary purpose of the present study is to analyze as carefully as possible the available data on taxation and industry in the selected states, and to discover any inter-relationships that may be discernible.

¹A few excellent studies dealing with tax-exemption laws among the various states are:

State and Local Taxation of Property (New York: National Industrial Conference Board, Inc., 1930) especially pp. 117-123.

Claud Stimpson, "Stimulation of Industry Through Tax Exemption," *The Tax Magazine*, May and June, 1933.

James W. Martin, "Industrial Changes and Taxation Problems in the Southern States," *Annals of the American Academy of Political and Social Science*, Vol. 113, pp. 224-237.

B. Bailey, *Laws of Various States Relative to Exemption of Commercial Properties from Taxation for Encouragement of Industry* (New York Legislative Reference Library).

Jens P. Jensen, *Tax Exemption as a Means of Encouragement to Industry* (University of Kansas, Bureau of Business Research, Kansas Studies in Business, No. 10, May, 1929).

²The term "industrial development" is used here in its broad sense. The concept includes all the economic activities that supply consuming markets with goods and services. Such activities as farming, eleemosynary and charitable organizations not operated for profit, and financial institutions are excluded.

Since only a broad perspective is intended, no attempt has been made to analyze the effect of taxation upon the internal affairs of a particular concern. Figures for the United States as a whole, as well as aggregate amounts for the selected states, have been studied in order to examine the standing of particular states against a larger background.

The study consists of two parts. The first presents a qualitative and quantitative analysis of twelve major indexes that measure the industrial development of the nine selected states and the United States. These twelve indexes are classified into two groups: (1) those showing the entire industrial development of the state, and (2) those showing the development of manufacturing alone. The second part is a similar study of ten major indexes that portray the tax burdens borne by individuals and corporations in the selected states and the United States. As in the first part, these indexes are presented in two groups: (1) indexes of general tax burdens, and (2) indexes of tax burdens placed upon manufacturing establishments.³

The indexes shown in the two sections are as follows:

Indexes of Industrial Development

Population.	Value added to products by manufacture.
Total social income.	Value of products manufactured.
Per capita social income.	Number of wage earners engaged in manufacturing.
Industrial income.	Wages paid in manufacturing establishments.
Net income of all corporations.	
Per capita wealth.	
Kilowatt-hour sales to commercial customers.	
Net income of manufacturing corporations.	

Indexes of Tax Burdens

Total state and local tax collections.	Percentage of total state and local taxes to net profits of all corporations.
Percentage of per capita state and local taxes to per capita social income.	Change in the percentage of total state and local taxes to net profits of all corporations.
Percentage of per capita state and local taxes to per capita wealth.	Percentage of total state and local taxes to net profits of manufacturing corporations.
Per capita general property taxes.	Hypothetical corporation test.
Dollar amounts of per capita general property taxes.	
Percentage of per capita general property taxes to total per capita state and local taxes.	

³The methodology used in this study was suggested by the recent surveys of *Wisconsin Industry and the Wisconsin Tax System*, supervised by Professor Harold M. Groves, and published by the Bureau of Business and Economic Research, University of Wisconsin.

The rankings of the states according to these two groups of indexes are compared in an effort to answer the question: Has taxation had any effect upon the industrial development of these states?

Throughout the entire study, the statistics that have been employed suggest many important questions, but only those dealing with the broad problem of taxation as related to industry are surveyed and answers attempted. Furthermore, several interesting aspects have not been considered, because the data available are inadequate for these purposes. For example, the benefits received by corporations and individuals from the expenditure of tax revenues have not been investigated, in spite of the significance of these to an analysis of tax burdens. There is no qualitative or quantitative index that can be used to measure the advantages accruing to individuals from governmental services. It has been necessary to assume, therefore, that equal dollar expenditures in the different states are made with the same degree of efficiency, and that individuals and corporations receive the same benefits from government in one state as in another. This assumption is obviously contrary to fact, but it is believed that in the states chosen for study differences in governmental efficiency are not great enough to distort the picture presented.

II. INDEXES OF INDUSTRIAL DEVELOPMENT IN NINE SELECTED STATES AND THE UNITED STATES, 1922 TO 1935

GENERAL INDEXES OF INDUSTRIAL DEVELOPMENT

In this section, indexes of general industrial development are considered separately from indexes of manufacturing development, although manufacturing is an important part of the whole range of economic activities included in the broad concept of industry. This separation has been made for the following reasons: First, data showing manufacturing development are much more complete and specific than the information available for industry as a whole; second, there is a greater diversity of opinion in regard to the effects of taxation upon the location and development of manufacturing concerns than for other institutions included in the broader term "industry." This is true, perhaps, because capital is relatively immobile when "sunk" in a farm, a railroad, or a public utility. Such industries are therefore much less likely to be moved than manufacturing establishments.

Population

Growth of population is not in itself an index of industrial development. An analysis of its movement is necessary, however, for the following reasons: First, the center of population has been closely followed in its westward movement by the center of manufactures. Locational shifts of population and of manufacturing plants are usually interrelated. Concentration of population in any area, therefore, is likely to indicate some measure of industrial concentration. Second, since the farm population of the United States is relatively stationary, an increase of inhabitants in any state suggests an increasing number of persons in industrial areas, thus revealing an industrial growth in these centers. Third, the trend of population has an important influence on the rates of growth of some individual industries. Fourth, the tax burdens of the various states can best be compared when selected indexes are reduced to a per capita basis. Finally, "the rates at which the population grows, its geographic distribution and the proportions in which it is divided between farms and cities, the racial and national stocks from which it comes, its age trends, sex ratios and marital conditions—all these help to determine the rapidity and the direction of past and future changes."⁴

⁴Warren S. Thompson and P. K. Whelpton, *Recent Social Trends* (New York: McGraw-Hill and Company, 1933), p. 1.

Table I shows the trends of population in the nine states studied and in the United States as a whole in the period from 1922 to 1935. Large increases of population occurred in Michigan and in New York between 1922 and 1929, 21.0 per cent and 15.7 per cent, respectively. The increase of 11.9 per cent in the population of Illinois was not much above that of 10.6 for the entire United States. The rest of the states surveyed showed lower rates of increase. Minnesota population increased 2.8 per cent, and Massachusetts and Pennsylvania, 5.8 per cent.

The percentage changes for the period between 1929 and 1935, also shown in the table, reveal a decidedly different picture after 1929, for between that year and 1935 population actually declined .3 of 1 per cent in Wisconsin and .5 of 1 per cent in Michigan, and increased only 1.9 per cent in Ohio. For the United States as a whole, the increase was only 4.9 per cent.

The percentage changes in urban population for the period from 1920 to 1930 in the states surveyed showed trends different from those of total population from 1922 to 1935. Michigan, Illinois, and the United States as a whole had the largest increases in urban population. The smallest increase occurred in Massachusetts. The tendency toward an expanding urban population and a stationary rural population is evident in all the states shown except Massachusetts. This tendency is largely attributable to the increased efficiency of farming, the rising industrial wage levels prior to the depression of 1929, and other social and economic advantages of urban life as compared with rural life.

These broad population changes suggest interesting fields of investigation, which may be thought of as important corollaries to the major problem of the present study. Among these are the interrelationships among population, industrial development, and wealth and income, and any changes in tax burdens brought about by shifts in population.

Total Social Income

One of the best indications of the development of a state is the movement of its total social income. Social income means the aggregate income received by all persons in a given state in a particular period. Total social income, representing the flow of money to individuals of a state in payment for goods and services produced by them, probably shows better than any other index the economic importance of the aggregate production of that state. Such income data indirectly reflect the opportunities for industrial development in the state that result from changes in the purchasing power of the inhabitants.

TABLE I
PERCENTAGE CHANGES IN TOTAL POPULATION AND IN URBAN AND RURAL POPULATION IN NINE SELECTED STATES AND THE UNITED STATES, 1920-1935

State	Total Population					Rural Population			Urban Population		
	(In thousands)			Percentage Change		(In thousands)		Percent- age Change 1920 to 1930	Percentage to Total Population		Percent- age Increase 1920 to 1930
	1922	1929	1935	1922 to 1929	1929 to 1935	1920	1930		1920	1930	
Illinois.....	6,744	7,547	7,817	+11.9	+3.6	2,082	1,995	- 4.2	67.9	73.9	28.0
Indiana.....	3,000	3,216	3,429	+ 7.2	+6.6	1,448	1,443	- .3	50.6	55.5	21.1
Massachusetts.....	3,991	4,221	4,375	+ 5.8	+3.6	202	418	+106.9*	94.8	90.2	5.0
Michigan.....	3,930	4,756	4,731	+21.0	- .5	1,427	1,540	+ 7.9	61.1	68.2	47.3
Minnesota.....	2,482	2,551	2,627	+ 2.8	+3.0	1,336	1,306	- 2.2	44.1	49.0	19.6
New York.....	10,744	12,427	12,890	+15.7	+3.7	1,795	2,066	+15.1	82.7	83.6	22.5
Ohio.....	6,062	6,582	6,707	+ 8.6	+1.9	2,082	2,139	+ 2.7	63.8	67.8	22.6
Pennsylvania.....	9,042	9,565	10,067	+ 5.8	+5.2	3,112	3,098	- .4	64.3	67.8	16.5
Wisconsin.....	2,723	2,917	2,908	+ 7.1	- .3	1,387	1,385	- .1	47.3	52.9	24.8
Nine states.....	48,718	53,782	55,551	+10.4	+3.3	14,871	15,390	+ 3.5	68.2	71.7	21.9
United States.....	109,890	121,526	127,521	+10.6	+4.9	51,406	53,820	+ 4.7	51.4	56.2	27.0

Sources: *Statistical Abstract of the United States, 1926 and 1936* (Bureau of Foreign and Domestic Commerce, United States Department of Commerce); *Fifteenth Census of the United States, 1930, Population Bulletin, First Series* (Bureau of the Census, United States Department of Commerce), Table 14.

*The large percentage change in rural population in Massachusetts was chiefly due to a change in the classification of some towns from urban to rural.

TABLE II
PERCENTAGE CHANGES IN TOTAL SOCIAL INCOME IN NINE SELECTED STATES AND
THE UNITED STATES, 1921-1935

State	Total Social Income Averages (millions of dollars)			Percentage Change 1921-23 to 1928-30	Percentage Change 1928-30 to 1933-35
	1921 1922 1923	1928 1929 1930	1933 1934 1935		
Illinois.....	4,972	6,603	3,829	+32.8	-42.0
Indiana.....	1,811	2,220	1,565	+22.6	-29.5
Massachusetts.....	2,984	3,120	2,053	+ 4.6	-34.2
Michigan.....	2,662	3,594	2,663	+35.0	-25.9
Minnesota.....	1,329	1,563	1,021	+17.6	-34.7
New York.....	8,236	10,643	6,272	+29.2	-41.1
Ohio.....	3,971	5,040	3,260	+26.9	-35.1
Pennsylvania.....	6,244	7,247	4,465	+16.1	-38.4
Wisconsin.....	1,521	2,112	1,275	+38.9	-39.6
Nine States.....	33,730	42,142	26,412	+24.9	-37.3
United States.....	61,697	77,819	50,391	+26.1	-35.2

Source: *Brookmire Special Reports* (New York: Brookmire Bulletins, Inc.), Nos. A444, May 29, 1935, and A466, April 27, 1936.

TABLE III
PERCENTAGE CHANGES IN PER CAPITA SOCIAL INCOME IN NINE SELECTED STATES
AND THE UNITED STATES, 1921-1935

State	Per Capita Social Income Averages			Percentage Change 1921-23 to 1928-30	Percentage Change 1928-30 to 1933-35
	1921 1922 1923	1928 1929 1930	1933 1934 1935		
Illinois.....	\$736	\$879	\$487	+19.4	-44.6
Indiana.....	603	702	474	+16.4	-32.5
Massachusetts.....	747	728	474	- 2.5	-34.9
Michigan.....	674	786	524	+16.6	-33.3
Minnesota.....	535	596	393	+11.4	-34.1
New York.....	766	895	482	+16.8	-46.1
Ohio.....	653	765	479	+17.2	-37.4
Pennsylvania.....	689	749	455	+ 8.7	-39.3
Wisconsin.....	557	731	425	+31.2	-41.9
Nine states.....	692	784	478	+13.3	-39.0
United States.....	560	639	401	+14.1	-37.2

Source: *Brookmire Special Reports* (New York: Brookmire Bulletins, Inc.), Nos. A444, May 29, 1935, and A466, April 27, 1936.

Furthermore, the total amount of taxes and the burdens they impose depend, in the final analysis, upon the income that a given population commands from the resources at hand. Special interest attaches, there-

fore, to income, not only from the standpoint of industrial development, but from the standpoint of taxation as well.

Table II shows the relative changes in total social income in the nine states and in the United States, from 1921 to 1935.⁵ In the earlier part of the period, income rose 38.9 per cent in Wisconsin. In Michigan the increase was 35.0 per cent, and in Illinois it was 32.8 per cent. Massachusetts showed the smallest increase, 4.6 per cent.

In the depression years after 1929, income in every state under survey declined. From the standpoint of aggregate income received, Michigan and Indiana were affected least by the depression, for the declines in these states were 25.9 per cent and 29.5 per cent, respectively, as compared with a drop of 41.1 per cent in New York and 42.0 per cent in Illinois.

Per Capita Social Income

Aside from measuring the extent to which the people of a state have participated in the industrial development of the state, an analysis of per capita social income is useful in comparing the income of the inhabitants with the growth of population.

Table III shows that the largest growth in per capita social income in the earlier part of the period occurred in Wisconsin, where the amount increased from \$557 to \$731, a gain of 31.2 per cent. The gain in Pennsylvania was small, only 8.7 per cent, and in Massachusetts per capita social income declined 2.5 per cent, from \$747 to \$728. A comparison of this table with Table I shows that in all but two of these states and in the United States as a whole per capita social income was increasing faster than population in these years. The exceptions were Michigan, in which population gained 21.0 per cent and income 16.6 per cent, and Massachusetts, in which population increased 5.8 per cent while income declined 2.5 per cent.

In the years 1928-29-30, the highest per capita social income, \$895, was found in New York, and the lowest figure, \$596, was that for Minnesota. In the years 1933-34-35, the per capita social income was highest in Michigan, where it was \$524. Minnesota and the United States as a whole showed the lowest per capita incomes of \$393 and \$401, respectively. There was not much difference noticeable in the rates at which the figures for the various states declined in the later part of the period studied.

⁵In this table, averages for three series of three consecutive years are used in order to preclude the possibility that unusual circumstances in any state or in any year might distort the data and impair the comparability of the figures for various states and years.

Industrial Income

An excellent index of industrial development in a state is the growth of the total social income attributable to industrial activities. A rough approximation to such income is obtained by deducting farm income from total social income. Before presenting a summary of industrial development, it may be helpful to indicate the proportion of agricultural income to total social income in the selected states for the year 1935, as shown by the Brookmire reports used as sources for the two preceding tables:

Illinois.....	8.9%	Ohio.....	7.7%
Indiana.....	14.3	Pennsylvania.....	4.7
Massachusetts.....	2.7	Minnesota.....	25.3
Michigan.....	5.5	Wisconsin.....	17.9
New York.....	3.8	United States.....	12.8

The following tabulation shows the trend of industrial income in the selected states on a per capita basis. The percentage changes are based on three-year averages for 1921-23, 1928-30, and 1933-35.

	1921-23 to 1928-30	1928-30 to 1933-35
Illinois.....	+36.0%	-42.7%
Indiana.....	+26.7	-30.4
Massachusetts.....	+ 4.8	-34.5
Michigan.....	+38.5	-25.6
Minnesota.....	+19.9	-34.6
New York.....	+30.4	-41.4
Ohio.....	+30.5	-35.9
Pennsylvania.....	+16.9	-38.8
Wisconsin.....	+43.9	-40.8
United States.....	+28.4	-35.3

A comparison of this summary with Table II shows that with two exceptions the states ranked exactly the same for industrial income as for total social income. Illinois, Michigan, and Wisconsin made the largest gains in industrial income in the earlier years, and these three also led in total social income. In the depression years, Michigan, Indiana, and Massachusetts showed the smallest declines in both industrial and total social income.

Net Income of All Corporations

The movement of corporate net income is another important index by which to gauge the industrial development of a state. Although frequently there may be no direct correlation between the net income of a corporation and its rate of growth, nevertheless there is a clear pre-

TABLE IV
 PERCENTAGE CHANGES IN NET INCOMES REPORTED (LESS DEFICITS) OF ALL
 CORPORATIONS IN NINE SELECTED STATES AND THE UNITED STATES,
 1922-1933

State	Net Income Less Deficits All Corporations Averages (thousands of dollars)			Percentage Change 1922-23 to 1928-29	Percentage Change 1928-29 to 1932-33
	1922 1923	1928 1929	1932* 1933		
Illinois.....	556,511	860,089	508,099	+54.6	-159.1
Indiana.....	91,254	85,756	65,599	- 6.0	-176.5
Massachusetts.....	299,185	259,651	155,878	-13.2	-160.0
Michigan.....	410,939	609,793	155,565	+48.4	-125.5
Minnesota.....	69,452	120,674	85,283	+73.8	-170.7
New York.....	1,414,847	2,733,947	1,163,008	+93.2	-142.5
Ohio.....	347,060	499,903	268,443	+44.0	-153.7
Pennsylvania.....	637,703	795,462	293,059	+24.7	-136.8
Wisconsin.....	98,347	144,791	90,357	+47.2	-162.4
Nine states.....	3,925,298	6,110,066	2,785,291	+55.7	-145.6
United States.....	5,532,005	8,483,188	4,095,471	+53.2	-148.3

Source: *Statistics of Income*, published by the Bureau of Internal Revenue, United States Treasury Department.

*All figures for 1932 and 1933 are deficits.

sumption that over a period of years a definite relationship will be found to exist between income and growth. Such a relationship is especially likely to be evident when net incomes of a group of corporations are considered. For this reason the trend of corporate net incomes (less deficits) for all corporations has been employed as a measure of relative industrial development in the states studied.

Table IV shows the movement of corporate net incomes in the earlier and later parts of the period.⁶ The method of computation was the same as that used for Table II, except that averages of figures for only two years were taken as the bases. At the time of writing, statistics on corporate net incomes for years later than those given were unavailable.

As shown in Table IV, corporations in New York and Minnesota

⁶These statistics are defective for several reasons. First, net taxable income as shown for any state means the net income of all corporations with their home offices in that state, although such income may be almost entirely earned outside that state. This fact tends to inflate income data for several states. Corporations are required to file their returns in the collection district in which their principal place of business or the principal office or agency of the company is situated, except closely affiliated concerns that file a consolidated return. In the latter case, the consolidated return may be filed in a state other than those in which the principal places of business or principal offices or

had the largest gains in net income in the earlier part of the period studied, the increases being 93.2 per cent for New York and 73.8 per cent for Minnesota. In the group of nine states, corporate income increased in this period 55.7 per cent, and in the entire United States 53.2 per cent. The rapid gains in the growth of income of corporations in most of the selected states were no doubt due in part to the fact that in 1922-23 business had not yet completely recovered from the depression of 1921, and incomes were relatively low. This condition, however, does not distort the ranking among the states.

The table also shows that there were net deficits for corporate income in 1932-33 in each of the nine states and in the United States as a whole. Indiana, Minnesota, and Wisconsin corporations showed the greatest declines in net income in the latter part of the period, 176.5 per cent, 170.7 per cent, and 162.4 per cent, respectively. The decline for the United States as a whole was 148.3 per cent. Corporations in Michigan, Pennsylvania, and New York showed the greatest stability in the depression years.

Per Capita Wealth

In considering the industrial development of a state it is important to review the changing relationships of wealth and population, for society is assumed to be developing if per capita wealth is increasing more rapidly than population. The validity of this assumption must rest upon the postulate that increases in wealth represent growths in income from that wealth. It is conceivable, however, that the wealth of a community might be increasing at the same time that its industrial position was suffering a decline. In using per capita wealth as a measure of industrial development, this possibility must be kept in mind. Furthermore, it must be assumed that the growth in wealth is largely attributable to the development of industrial institutions.

The changing positions of per capita wealth in the states under consideration are shown in Table 1. The data are based upon the agencies of the various subsidiaries are situated. Second, shifts in industrial classification from year to year affect the comparability of the data. Such shifts are due, among other reasons, to the affiliation of groups of concerns that file consolidated returns. Such changes not only affect the geographical distributions of data because of changes in location of the principal office, but also influence the total results, since large concerns are able to offset losses of affiliates when consolidated returns are permitted. Statistics showing net income of corporations are not, therefore, strictly accurate and comparable from year to year. Finally, computations based upon these data give no information in regard to the status of an individual concern or a particular industry. Percentage computations are obviously only derived averages.

survey are shown in the following tabulation. The percentage changes are based on the figures for only three years, 1922, 1929, and 1932.⁷

	1922 to 1929	1929 to 1932
Illinois.....	-2.1%	-14.0%
Indiana.....	+4.8	-24.3
Massachusetts.....	+9.8	-25.9
Michigan.....	-3.6	-18.5
Minnesota.....	+8.4	-26.7
New York.....	-4.7	-6.0
Ohio.....	+6.6	-23.9
Pennsylvania.....	+7.5	-24.3
Wisconsin.....	+6.4	-19.9
Nine States.....	+2.0	-18.2
United States.....	+2.2	-20.4

From 1922 to 1929, declines in per capita wealth occurred in Illinois, Michigan, and New York. The average increase for the nine states was only 2.0 per cent. Every state surveyed showed a decrease in per capita wealth between 1929 and 1932. In five of the states the decrease was approximately 25 per cent, and even the smallest percentage of decline, found in New York, was 6 per cent. Several of the states showed a striking reversal of trend in the two periods, a notable increase in the pre-depression years being followed by a sharp decline after 1929. This is particularly noticeable in the figures for Massachusetts, Minnesota, Ohio, and Pennsylvania.

Kilowatt-hour Sales to Commercial Customers

The generation and sale of electric power to commercial customers is a valuable index of industrial development. Since industrial enterprises are turning more and more to the use of electrical power from year to year, the amounts of power sold to them indicate, to some degree, variations in industrial activity.

Important limitations on the adequacy of such an index must be taken into consideration. Power for many plants is supplied by company-owned generating units, which are excluded from data showing sales by power companies. Data showing the power generated by individual plants owned by concerns that use the power thus produced are not available. However, less than 12 per cent of the total kilowatt-hour sales in the United States crosses state boundaries.⁸

⁷The sources used were: for 1922, *Statistical Abstract of the United States, 1926*; for 1929, *Conference Board Bulletin, No. 62* (National Industrial Conference Board, Inc.), February 20, 1932, p. 496; for 1932, *The Annalist* (New York Times Company), November 15, 1935, p. 676.

⁸Erich W. Zimmerman, *World Resources and Industries* (New York: Harper and Brothers, 1933), p. 583.

The following tabulation shows percentage trends in total kilowatt-hour sales to commercial customers from 1926 to 1929, and from 1929 to 1935:⁹

	1926 to 1929	1929 to 1935
Illinois.....	+47.7%	-11.3%
Indiana.....	+52.3	+ 2.0
Massachusetts.....	+34.5	- 6.7
Michigan.....	+43.2	- 1.6
Minnesota.....	+19.9	+ 3.4
New York.....	+32.1	-12.5
Ohio.....	+35.3	- 4.9
Pennsylvania.....	+23.6	- .4
Wisconsin.....	+26.7	- 6.5
Nine States.....	+33.8	- 6.4
United States.....	+35.2	- 2.9

For the United States as a whole, total kilowatt-hour sales to all customers increased 34.2 per cent in the period 1926 to 1929, and sales to commercial customers, 35.2 per cent. Thus, both total sales and commercial sales were increasing about nine times as fast as population, which increased 3.7 per cent in the same years. Between 1929 and 1935, population continued to gain at a slightly higher rate, 4.9 per cent, whereas total sales of electric power to all customers increased only 3.1 per cent, and sales to commercial customers actually declined 2.9 per cent.

As shown by the tabulation, in all nine states studied, sales to commercial customers showed decided increases between 1926 and 1929, ranging from 19.9 per cent in Minnesota to 52.3 per cent in Indiana. For the group of states the percentage was 33.8, corresponding closely to the figure of 35.2 for the entire United States. From 1929 to 1935, such sales increased 3.4 per cent in Minnesota and 2.0 per cent in Indiana, but the other seven states showed decreases ranging from .4 of 1 per cent in Pennsylvania to 12.5 per cent in New York. For the nine states, the decline was 6.4 per cent. Thus the decline in sales of electric power to commercial customers in these states was more than double that shown by the United States as a whole.

INDEXES OF MANUFACTURING DEVELOPMENT

Net Income of Manufacturing Corporations

One of the best indexes of the development of manufacturing is the net income of all manufacturing corporations. Table V shows the relative changes in net income reported by manufacturing corporations

⁹*The Electric Light and Power Industry in the United States*, Statistical Bulletin Number 4 (New York: Edison Electric Institute).

TABLE V
 PERCENTAGE CHANGES IN NET INCOMES REPORTED (LESS DEFICITS) OF MANUFACTURING CORPORATIONS IN NINE SELECTED STATES AND THE UNITED STATES, 1922-1932

State	Net Income Less Deficits Manufacturing Corporations Averages (thousands of dollars)			Percentage Change 1922-23 to 1928-29	Percentage Change 1928-29 to 1932
	1922 1923	1928 1929	1932*		
Illinois.....	310,072	457,843	169,903	+47.7	-137.1
Indiana.....	57,439	57,152	38,578	- .5	-167.5
Massachusetts.....	193,272	110,134	119,906	-43.0	-208.9
Michigan.....	338,997	482,881	184,367	+42.4	-138.2
Minnesota.....	35,533	47,064	14,503	+32.5	-130.8
New York.....	719,514	1,166,524	391,301	+62.1	-133.5
Ohio.....	220,247	340,180	179,182	+54.5	-152.7
Pennsylvania.....	358,756	459,457	223,981	+28.1	-148.7
Wisconsin.....	66,882	106,227	68,718	+58.8	-164.7
Nine states.....	2,300,712	3,227,462	1,390,439	+40.3	-143.1
United States.....	3,105,947	4,158,149	1,806,354	+33.9	-143.4

Source: *Statistics of Income*, published by the Bureau of Internal Revenue, United States Treasury Department, and other unpublished data supplied by it.

*All figures for 1932 are deficits.

in the various states under survey for two selected periods. As might be expected, in the earlier period New York showed the most pronounced gain, with a percentage of 62.1. The East North Central states, with the exception of Indiana, which showed a net deficit of .5 of 1 per cent, had rather high percentages. Massachusetts showed a heavy loss of 43.0 per cent. By 1932, manufacturing corporations in all nine states and in the United States as a whole had suffered net deficits. Minnesota and New York showed the greatest stability in the depression years.

Value Added to Products by Manufacture

With the exception of net income, value added by manufacture is probably the best available index of manufacturing development. It is a net figure, free from duplications. It represents the difference between the total value of the manufactured product and the cost of fuel, materials, purchased electric energy, and similar items. Since the cost of such items is eliminated, the resultant figure shows only the value of manufacturing processes performed within a given state, and thus is a rough measure of the productive activity of both capital and labor employed in manufacturing in that state. It is consequently one of the most adequate indexes of the economic importance of manu-

TABLE VI
 PERCENTAGE CHANGES IN VALUE ADDED TO PRODUCT BY MANUFACTURE IN NINE
 SELECTED STATES AND THE UNITED STATES, 1919-1935

State	Value Added to Product by Manufacture Averages (thousands of dollars)			Percentage Change 1919, 1921 to 1927, 1929	Percentage Change 1927, 1929 to 1933, 1935
	1919 1921	1927 1929	1933 1935		
Illinois.....	1,771,802	2,697,475	1,444,885	+52.2	-46.4
Indiana.....	637,589	1,031,387	595,628	+61.8	-42.2
Massachusetts.....	1,579,423	1,674,884	944,057	+ 6.0	-43.6
Michigan.....	1,223,715	1,982,804	1,264,718	+62.0	-36.2
Minnesota.....	300,007	372,666	230,265	+24.2	-38.2
New York.....	3,597,076	4,784,905	2,704,015	+33.0	-43.5
Ohio.....	1,784,982	2,621,501	1,410,785	+46.9	-46.2
Pennsylvania.....	2,601,772	3,209,054	1,707,720	+23.3	-46.8
Wisconsin.....	603,315	885,084	458,041	+46.7	-48.2
Nine states.....	14,099,681	19,259,760	10,760,114	+36.6	-44.1
United States.....	21,679,182	29,735,247	17,017,144	+37.2	-42.8

Source: *Census of Manufactures, 1919 to 1935*, (Bureau of the Census, United States Department of Commerce).

facturing in a state, and over a period of years indicates the trend of manufacturing development. The fact that it is based upon the price level does not impair its usefulness as a measurement of trends or the comparability of data for various states.

Table VI shows the changes that occurred in value added by manufacture in the states surveyed in the years from 1919 to 1935. Wide degrees of variation are noted in the period from 1919 to 1929, when value added by manufacture increased 62.0 per cent in Michigan, whereas in Massachusetts only a slight growth of 6.0 per cent occurred. On the whole, the increases were greatest in the East North Central states. In the later period, the percentage declines in value added by manufacture were much more uniform among the various states than the increases had been in the earlier years; there was a difference of only 12.0 per cent between the highest and the lowest figures.

Value of Products Manufactured

The value of products manufactured is another test of industrial development that is significant, although not so reliable as value added by manufacture. There are several important limitations upon the use of this index. The figures include the costs of material used in manufacture, which are not necessarily attributable to the plant turning out the finished product. Moreover, if a total of the value of all products manufactured in a state is used, duplication evidently results, for

TABLE VII
 PERCENTAGE CHANGES IN AVERAGE NUMBER OF WAGE EARNERS IN MANUFACTURING
 ESTABLISHMENTS IN NINE SELECTED STATES AND THE UNITED STATES, 1919-1935

State	Average Number of Wage Earners in Manufacturing Establishments Averages			Percentage Change 1919, 1921 to 1927, 1929	Percentage Change 1927, 1929 to 1933, 1935
	1919 1921	1927 1929	1933 1935		
Illinois.....	583,495	657,512	479,059	+12.7	-27.1
Indiana.....	242,057	297,708	226,527	+23.0	-23.9
Massachusetts.....	646,454	567,781	420,621	-12.2	-25.9
Michigan.....	387,857	509,446	443,065	+31.3	-13.0
Minnesota.....	100,714	101,124	75,617	+ .4	-25.2
New York.....	1,114,272	1,089,125	814,722	- 2.3	-25.2
Ohio.....	612,511	705,120	530,075	+15.1	-24.8
Pennsylvania.....	999,877	1,000,730	778,916	+ .1	-22.2
Wisconsin.....	227,860	256,234	179,812	+12.5	-29.8
Nine states.....	4,915,097	5,184,780	3,948,414	+ 5.5	-23.8
United States.....	8,021,471	8,594,249	6,717,291	+ 7.1	-21.8

Source: *Census of Manufactures, 1919 to 1935*, (Bureau of the Census, United States Department of Commerce).

many industries manufacture products that are used as basic materials by other industries. For these reasons, the value of products manufactured in any particular state in any one year is far from satisfactory as an index. If, however, over a period of years, the ratio of the cost of raw materials to the value of the finished product remains about constant for the various states, this index can be regarded as significant in measuring their industrial development.

The changes in the value of products manufactured by concerns in the various states are indicated by the following summary:¹⁰

	1919, 1921 to 1927, 1929	1927, 1929 to 1933, 1935
Illinois.....	+27.8%	-45.8%
Indiana.....	+43.2	-42.2
Massachusetts.....	- 2.2	-43.9
Michigan.....	+56.9	-31.2
Minnesota.....	+ 8.3	-42.2
New York.....	+22.3	-44.8
Ohio.....	+34.0	-46.2
Pennsylvania.....	+14.4	-48.1
Wisconsin.....	+34.9	-47.7
Nine States.....	+24.7	-44.1
United States.....	+25.5	-42.1

According to this tabulation, the East North Central states had the

¹⁰Source: *Census of Manufactures, 1919 to 1935*.

greatest increases in value of products manufactured in the years from 1919 to 1929. The average increase for these five states was 39.4 per cent, as compared with a growth of 24.7 per cent for the nine states studied, and 25.5 per cent for the United States as a whole. Massachusetts was the only state to show a decline, amounting to 2.2 per cent. In the later period there was little regional conformity evident among the states.

Number of Wage Earners Engaged in Manufacturing

The average number of wage earners is based on the number on the pay rolls for the week that includes the fifteenth day of the month, and is equivalent to the approximate number of persons that would be employed if the work were spread evenly over the year. This index is a satisfactory measure of the development of industry at any particular time, but it does not disclose the industrial growth of a state over a period of years so well. Technological advances and cyclical fluctuations limit its usefulness.¹¹

Table VII shows the changes in average number of wage earners in the nine states and the United States between 1919 and 1935. In the period from 1919 to 1929, Michigan showed the greatest increase in average number of wage earners, 31.3 per cent, and the other East North Central states made good showings, the lowest figure being 12.5 per cent for Wisconsin. Figures for the eastern states were much lower; New York and Massachusetts actually declined 2.3 per cent and 12.2 per cent, respectively. The declines in the depression years did not conform to the movements in the previous period; instead wide variations are to be noted. Michigan was the only state to show a decrease of less than 20 per cent in average number of wage earners; declines for the rest of the states ranged between 20 and 30 per cent.

Wages Paid in Manufacturing Establishments

An index of wages paid is subject to the same limitations that were pointed out in discussing the average number of wage earners. Another limitation that may make the use of this index unsatisfactory is the likelihood that wage rates may change over a period and that they may vary from state to state. These limitations must be kept in mind in the use of such an index; its value may not be overestimated.

¹¹ The wage-job index of all manufacturing establishments shows that as the productivity index rose from 112 to 157, the index of wages paid in terms of goods produced, was not disclosed (see Tracey E. Thompson, *Location of Manufactures*, Bureau of the Census, 1933), pp. 5-6.

The following summary presents the changes occurring in wages paid in manufacturing establishments from 1919 to 1935:¹²

	1919 to 1929	1929 to 1935
Illinois.....	+29.0%	-48.3%
Indiana.....	+39.7	-44.9
Massachusetts.....	- .5	-42.9
Michigan.....	+51.1	-34.8
Minnesota.....	+ 9.3	-41.9
New York.....	+17.9	-45.6
Ohio.....	+31.7	-46.1
Pennsylvania.....	+11.7	-46.3
Wisconsin.....	+33.8	-49.3
Nine states.....	+22.2	-44.8
United States.....	+19.9	-43.0

The trends shown by wages paid, although very similar to those of average number of wage earners, are not exactly the same, since wage scales vary among the states. A comparison of Table VII with this tabulation shows that in the earlier years studied wage payments increased more rapidly than number of workers, indicating that increased rates were being paid. The data show a reversal of this trend after 1929.

SUMMARY

Table VIII summarizes the quantitative analysis presented in the various tables and tabulations of this chapter. In the table, each state is ranked according to the total number of points accumulated by it in the separate tests. For each index, the state that made the best showing was given a rating of one, or ranked first; the state making the next best showing was ranked second, and so on. The state showing the smallest degree of industrial development by any particular test was ranked ninth since the nine states were examined from the viewpoint of each index. The assumption is then made that the state with the lowest total number of points, on this basis, had the greatest industrial development in the period surveyed.

From 1922 to 1929, Michigan had more first places than any other state studied. There was a pronounced growth in population, and a more rapid expansion in industrial income. In four of the tests of manufacturing development this state ranked higher than any other. The fact that its rank in per capita wealth was next to last, and its percentage showing an actual decline, is evidence that its population partly absorbed the increase in wealth. Michigan showed smaller industrial declines than any other state. In the separate tests it had seven first places

¹²Source: *Census of Manufactures, 1919 to*

TABLE VIII
SUMMARY OF MEASURES OF INDUSTRIAL DEVELOPMENT IN NINE SELECTED STATES,
1922 TO 1935

Test	Ranking 1922 to 1929									Ranking 1929 to 1935								
	Ill.	Ind.	Mass.	Mich.	Minn.	N. Y.	Ohio	Pa.	Wisc.	Ill.	Ind.	Mass.	Mich.	Minn.	N. Y.	Ohio	Pa.	Wisc.
	General Measures									General Measures								
1.....	3	5	7	1	9	2	4	7	6	4	1	4	9	6	3	7	2	8
2.....	3	6	9	2	7	4	5	8	1	9	2	3	1	4	8	5	6	7
3.....	2	6	9	5	7	4	3	8	1	8	1	4	2	3	9	5	6	7
4.....	3	6	9	2	7	5	4	8	1	9	2	3	1	4	8	5	6	7
5.....	3	8	9	4	2	1	6	7	5	5	9	6	1	8	3	4	2	7
6.....	7	6	1	8	2	9	4	3	5	2	6	8	3	9	1	5	6	4
7.....	2	1	5	3	9	6	4	8	7	8	2	7	4	1	9	5	3	6
Sub-Total.....	23	38	49	25	43	31	30	49	26	45	23	35	21	35	41	36	31	46
Rank.....	1	6	8	2	7	5	4	8	3	8	2	4	1	4	7	6	3	9
	Measures of Manufacturing									Measures of Manufacturing								
	Ill.	Ind.	Mass.	Mich.	Minn.	N. Y.	Ohio	Pa.	Wisc.	Ill.	Ind.	Mass.	Mich.	Minn.	N. Y.	Ohio	Pa.	Wisc.
	Measures of Manufacturing									Measures of Manufacturing								
8.....	4	8	9	5	6	1	3	7	2	3	8	9	4	1	2	6	5	7
9.....	3	2	9	1	7	6	4	8	5	7	3	5	1	2	4	6	8	9
10.....	5	2	9	1	8	6	4	7	3	6	2	4	1	2	5	7	9	8
11.....	4	2	9	1	6	8	3	7	5	8	3	7	1	5	5	4	2	9
12.....	5	2	9	1	8	6	4	7	3	8	4	3	1	2	5	6	7	9
Sub-Total.....	21	16	45	9	35	27	18	36	18	32	20	28	8	12	21	29	31	42
Rank.....	5	2	9	1	7	6	3	8	3	8	3	5	1	2	4	6	7	9
Grand Total.....	44	54	94	34	78	58	48	85	44	77	43	63	29	47	62	65	62	88
Rank.....	2	5	9	1	7	6	4	8	2	8	2	6	1	3	4	7	4	9

Explanation of Tests

1. Percentage growth in population, 1922-1929, 1929-1935.
2. Percentage increase (and decrease) in total social income, 1922-1929, 1929-1935.
3. Percentage increase (and decrease) in total per capita social income, 1922-1929, 1929-1935.
4. Percentage increase (and decrease) in industrial income, 1922-1929, 1929-1935.
5. Percentage increase (and decrease) in net income (less deficits) of all corporations, 1922-1929, 1929-1933.
6. Percentage increase (and decrease) in per capita wealth, 1922-1929, 1929-1932.
7. Percentage increase (and decrease) in kilowatt-hour sales to commercial customers, 1926-1929, 1929-1935.
8. Percentage increase (and decrease) in net income (less deficits) of manufacturing corporations, 1922-1929, 1929-1933.
9. Percentage increase (and decrease) in value added to products by manufacture, 1919-1929, 1929-1935.
10. Percentage increase (and decrease) in value of products manufactured, 1919-1929, 1929-1935.
11. Percentage increase (and decrease) in wage earners in manufacturing establishments, 1919-1929, 1929-1935.
12. Percentage increase (and decrease) in wages paid in manufacturing, 1919-1929, 1929-1935.

expansion of the automobile industry probably accounts for this enviable position. Thus Michigan led the list of states in both parts of the period studied, and was, moreover, the only state to hold the same rank in the earlier and later years.

Illinois ranked second from 1922 to 1929, but dropped to eighth place in the later part of the period. Its high rank in the earlier years was the result of two second places and five third places; it did not

rank highest in any test. The low rank of Illinois in the depression years indicates that this state could not withstand the unfavorable conditions of that time as well as the majority of the other states. Illinois suffered greater declines in both total social income and industrial income than any other state.

Wisconsin also showed decidedly different trends in the two parts of the period, ranking second, with Illinois, in the earlier years, and declining to ninth, or last place, in the depression years. From 1922 to 1929, Wisconsin ranked first in total social income, per capita social income, and industrial income, second in net income of manufacturing corporations, and third in value of manufactured products and wages paid. After 1929, this state ranked seventh or less in ten of the twelve tests. Its only favorable position was fourth, in per capita wealth. The greatest declines occurred in the indexes of manufacturing development.

Ohio ranked fourth from 1922 to 1929, and seventh from 1929 to 1935. Its ranks in particular tests were generally third, fourth, or fifth in the earlier part of the period studied, with no low rankings. The declines in rank in the latter part were consistent, but not large. Thus Ohio showed considerable stability throughout the period, neither ranking at the very top nor dropping to an extremely low position.

The showing of Indiana was very irregular. This state was high in some respects and low in others throughout the period, and its standing changed from fifth place from 1922 to 1929 to second place in the later years. In the years before the depression, Indiana ranked very high on the basis of the manufacturing indexes. In the later years, this state made better showings according to several of the general indexes than previously.

The position of New York showed improvement in the later period, rising from sixth to fourth rank. This state was consistently high in corporation income, but showed marked variations in total social income, industrial income, and per capita wealth. New York had a large growth in population from 1922 to 1929, second only to that noted for Michigan.

Minnesota was another state that bettered its showing to a marked degree in the depression years, rising from seventh to third place. From 1922 to 1929, this state ranked second in net income of all corporations and per capita wealth, but was low in the other indexes. In the later years, its standing in per capita wealth and all-corporation income dropped to the other extreme, but with first places in kilowatt-hour sales and net income of manufacturing corporations, and six

cases of second, third, or fourth place, its resultant ranking showed a notable rise.

Pennsylvania also improved its showing in the second part of the period, changing its rank from eighth to fourth place. With one exception, all indexes for this state from 1922 to 1929 were in not higher than seventh place; the exception was per capita wealth, in which Pennsylvania ranked third. In the later years, marked increases occurred in its ranking with respect to population, net income of all corporations, kilowatt-hour sales, and average number of wage earners, whereas its rank in per capita wealth dropped to sixth place.

In nine of the twelve indexes Massachusetts had the lowest rank from 1922 to 1929, and its composite rank was therefore ninth. Moreover, for several indexes in which other states showed large increases, this state had either a very small growth or an actual decline. Partly because industry in this state had thus commenced to decline even before the years of depression, and partly because some Massachusetts industries are comparatively stable and successful in resisting the onslaughts of depression, this state made a better showing in the depression period than most of the others, raising its rank to sixth.

III. INDEXES OF TAX BURDENS IN NINE SELECTED STATES AND THE UNITED STATES, 1922 TO 1935

INDEXES OF GENERAL TAX BURDENS

For convenience and clarity in presentation, this chapter is divided into two major parts. The first part is an analysis of indexes measuring the general tax burdens within each of the nine selected states. The second part is an analysis of tax burdens placed upon all corporations in general, and manufacturing corporations in particular, in these states.

The volume, burden, and distribution of general taxes within a given area are reflected, directly and indirectly, in the industry of the region. The influences upon industry spring primarily from changes in the purchasing power left in the hands of the people of the district after deductions have been made for taxes. The general indexes shown in this part of the chapter indicate such influences of taxation.

Total State and Local Tax Collections

One index of the increase in governmental costs is the sum of state and local tax collections. Before the burden of taxation can be determined, however, these tax collections must be considered in relation to population, wealth, and income. Standing alone, they are not satisfactory tests of general tax burdens, although they are not completely devoid of significance.

Table IX shows the trend of total state and local tax collections in the period from 1922 to 1934. From 1922 to 1929, total tax collections increased in every state in the group. The smallest increase, 15.8 per cent, occurred in Minnesota, and the largest, 69.1 per cent, in Michigan. The United States as a whole showed a 50.9 per cent increase in tax collections in these years.

It is evident that in the depression years efforts were made to reduce the costs of government. For the United States, there was a decrease in tax collections of 7.9 per cent. Indiana and Ohio showed the largest declines, 25.6 per cent and 23.9 per cent, respectively. Three states had increases in tax collections in these years: New York, .4 of 1 per cent, Massachusetts, 1 per cent, and Illinois, 6.9 per cent.

Percentage of Per Capita State and Local Taxes to Per Capita Social Income

Perhaps the best index of tax burdens is the proportion of total

TABLE IX
 PERCENTAGE CHANGES IN TOTAL STATE AND LOCAL TAX COLLECTIONS IN NINE
 SELECTED STATES AND THE UNITED STATES, 1922-1934

State	Total State and Local Tax Collections Averages (thousands of dollars)			Percentage Change 1922-23 to 1928-29	Percentage Change 1928-29 to 1933-34
	1922 1923	1928 1929	1933 1934		
Illinois.....	288,272	414,372	442,818	+43.7	+ 6.9
Indiana.....	117,968	155,220	115,482	+31.6	-25.6
Massachusetts.....	205,751	280,503	283,205	+36.3	+ 1.0
Michigan.....	185,195	313,200	259,155	+69.1	-17.3
Minnesota.....	136,979	158,618	139,761	+15.8	-11.9
New York.....	606,670	1,010,223	1,013,972	+66.5	+ .4
Ohio.....	250,858	368,578	280,483	+46.9	-23.9
Pennsylvania.....	312,094	460,943	416,387	+47.7	- 9.7
Wisconsin.....	122,899	160,802	154,084	+30.8	- 4.2
Nine states.....	2,226,686	3,322,459	3,105,347	+49.2	- 6.5
United States.....	4,168,871	6,289,704	5,795,228	+50.9	- 7.9

Sources:

Illinois—*Biennial Report of the Illinois Auditor of Public Accounts, 1922-1933, and Biennial Report of the Illinois Tax Commission, 1921 to 1933.*

Indiana—*Indiana Year Book, 1922 to 1935; Statistics of State and Local Governments, 1922 to 1935; and Annual Reports of the Auditor of the State of Indiana, 1922 to 1935.*

Massachusetts—*Annual Report of the Commissioner of Corporations and Taxation, 1922 to 1934; and correspondence with the Commissioner of Corporations and Taxation.*

Michigan—*Annual Reports of the Auditor General of the State of Michigan, 1922 to 1935; and Biennial Report of the Michigan Tax Commission, 1921 to 1935.*

Minnesota—*Biennial Report of the Minnesota Tax Commission, 1928, p. 399, and 1934, p. 323.*

New York—*Annual Report of the Tax Commissioner of New York, 1922 to 1934.*

Ohio—*Annual Report of the Ohio Tax Commission, 1922 to 1935; Annual Report of the Auditor of Ohio, 1922 to 1935.*

Pennsylvania—Bureau of the Census, *Financial Statistics of States, 1922 to 1933*; Bureau of the Census, *Wealth, Debt and Taxation, 1922*; National Industrial Conference Board, *Cost of Government in the United States, 1923-1934, 1924-25, 1925-26, 1926-27, 1927-28, 1929-30, and 1933-35*; letter from Pennsylvania State Chamber of Commerce, dated December 30, 1936.

Wisconsin—*Bulletin No. 76 of the Municipal Statistics Department of the Tax Commission; Annual Report of Wisconsin Tax Commission, 1922 to 1935; Taxes of Wisconsin and its Political Subdivisions, 1901 to 1935*, Wisconsin Tax Commission.

United States—National Industrial Conference Board, series, *Cost of Government in the United States.*

tax collections to total social income. In fiscal practice, an individual's ability to pay taxes is measured by his income. The ability of a state to support its government is likewise measured by the social income of the state. The percentage of taxes to income is included, therefore, as an excellent measure of general tax burdens. The data in Table X are shown on a per capita basis. Averages for 1922-23-24, 1928-29-30, and 1933-34 are used in order to prevent any distortion of the picture by unusual conditions in any one year.

In each state studied, and in the United States as a whole, the percentage of income taken by taxes increased throughout the period, except for a negligible decline in Wisconsin between 1923 and 1929. Indiana, Ohio, and Pennsylvania took less income than the other states; Massachusetts, Minnesota, and New York took the largest proportions.

TABLE X
 PERCENTAGES OF TOTAL STATE AND LOCAL PER CAPITA TAX COLLECTIONS TO TOTAL PER CAPITA SOCIAL INCOME IN NINE SELECTED STATES AND THE UNITED STATES, 1922-1934

	Per Capita Taxes (Averages)			Per Capita Income (Averages)			Percentages for the Periods			Average Percentage in Periods
	1922 1923 1924	1928 1929 1930	1933 1934	1922 1923 1924	1928 1929 1930	1933 1934	1922 1923 1924	1928 1929 1930	1933 1934	
Illinois.....	\$43.35	\$57.11	\$55.90	\$764	\$879	\$460	5.7	6.5	12.2	8.1
Indiana.....	40.93	49.41	35.01	627	702	431	6.5	7.0	8.1	7.2
Massachusetts.....	52.43	69.08	65.46	735	728	460	7.1	9.5	14.2	10.3
Michigan.....	47.09	68.01	51.65	708	786	465	6.7	8.7	11.1	8.8
Minnesota.....	54.98	62.54	53.77	554	596	375	9.9	10.5	14.3	11.6
New York.....	57.41	85.00	77.93	797	895	466	7.2	9.5	16.7	11.1
Ohio.....	41.62	56.37	41.20	687	765	442	6.1	7.4	9.3	7.6
Pennsylvania.....	35.71	49.13	42.46	727	749	437	4.9	6.6	9.7	7.1
Wisconsin.....	45.79	57.76	51.27	574	731	390	8.0	7.9	13.1	9.7
Nine states.....	46.28	63.17	56.29	719	784	451	6.4	8.1	12.5	9.0
United States.....	38.87	53.00	45.95	582	639	384	6.7	8.3	12.0	9.0

Sources: Same as for Tables II and IX.

In several of the states the proportion of income taken by taxes increased greatly. The following tabulation, based on Table X, shows the percentage increases in these proportions between 1922-24 and 1933-34 for the various states:

Illinois.....	114.0%	New York.....	131.9%
Indiana.....	24.6	Ohio.....	52.5
Massachusetts.....	100.0	Pennsylvania.....	98.0
Michigan.....	65.7	Wisconsin.....	63.8
Minnesota.....	44.4	United States.....	79.1

These data are important as showing the growth of general tax burdens. In order to arrive at specific conclusions regarding the total tax burden, attention should be given to the various types of taxes levied in the several states. A thorough analysis of the complete tax systems of the states, however, is neither necessary nor feasible in the present study. General property taxes will be surveyed in some detail later in this section.

From this brief analysis the conclusion may be drawn that in the period from 1923 to 1929 tax burdens in every state studied and in the United States increased, with the slight exception for Wisconsin previously noted. In the later years, and for the period as a whole, tax burdens showed consistent increases. It is evident, however, that the burdens on some states increased much more sharply than was the case in others. The immediate effect of such circumstances upon industry is reflected in a decline in consumer purchasing power. Another factor which must be considered is the type of taxes levied, for different types of taxes will affect purchasing power in different ways.

Percentage of Per Capita State and Local Taxes to Per Capita Wealth

It is doubtful whether the percentage of per capita taxes to per capita wealth is an acceptable index of tax burdens. The following summary of per capita wealth of the various states for 1929 shows that Minnesota, the state with the highest proportion of farm income to total social income in the group, also had the highest per capita wealth.¹⁸

Illinois.....	\$3,227	New York.....	\$3,276
Indiana.....	3,082	Ohio.....	3,250
Massachusetts.....	3,562	Pennsylvania.....	3,425
Michigan.....	2,795	Wisconsin.....	3,073
Minnesota.....	3,731	United States.....	2,977

¹⁸*Conference Board Bulletin* No. 62 (New York: National Industrial Conference Board, Inc.), p. 496.

The natural inference would be that Minnesota would have a relatively low tax burden. Actually, as shown by Table X, that state took on an average 11.6 per cent of the income of its citizens for taxes, a larger proportion than was collected by any other state surveyed. In spite of its limitations, this index may be used as a rough approximation of burden. All of the states studied, with the exception of Minnesota, and the United States as a whole derived a far larger proportion of their 1935 income from manufacturing than from agriculture. Consequently, for this group a comparison of per capita wealth with per capita taxes is somewhat more significant than it would be for a group that was primarily agricultural.

The following summary shows the percentages of per capita taxes to per capita wealth for the years 1922, 1929, and 1932, and the average percentage for the three years:

	<i>Average</i>	<i>1922</i>	<i>1929</i>	<i>1932</i>
Illinois.....	1.8%	1.3%	1.7%	2.4%
Indiana.....	1.7	1.4	1.6	2.0
Massachusetts.....	2.1	1.6	1.9	2.8
Michigan.....	2.3	1.6	2.4	2.9
Minnesota.....	1.7	1.5	1.7	1.9
New York.....	2.3	1.6	2.6	2.7
Ohio.....	1.6	1.3	1.7	1.8
Pennsylvania.....	1.4	1.0	1.4	1.7
Wisconsin.....	2.0	1.6	1.9	2.4
Nine states.....	1.9	1.4	1.9	2.3
United States.....	1.8	1.3	1.8	2.2

Per Capita General Property Taxes

Steadily increasing tax burdens in the past have fallen with great severity upon property owners. Among the state and local governments, general property constitutes the most important single source of revenue. Because of the break-down of the general property tax in the late depression, attested by the large number of tax delinquencies, governmental units have looked more and more to other forms of taxation for their necessary revenues. For these reasons, an analysis of general property taxes is essential in estimating the tax burden of a state.

Table XI shows the trend of per capita general property taxes from 1922 to 1934 in the states studied. The figures given are averages for the years 1922 and 1923, 1929 and 1930, and 1933 and 1934. It will be noted that increases in general property tax collections in the earlier period were greatest in New York, Pennsylvania, and Michigan, with percentages of 43.0, 35.7, and 33.4, respectively. Minnesota had the smallest increase of 8.4 per cent. In the later years,

TABLE XI
PERCENTAGE CHANGES IN PER CAPITA GENERAL PROPERTY TAXES IN NINE
SELECTED STATES, 1922-1934

State	Per Capita General Property Taxes (Averages)			Percentage Change 1922-23 to 1929-30	Percentage Change 1929-30 to 1933-34
	1922 1923	1929 1930	1933 1934		
Illinois.....	\$38.74	\$50.31	\$46.02	+29.9	- 8.5
Indiana.....	38.05	43.98	26.89	+15.6	-38.9
Massachusetts.....	41.08	50.25	51.03	+22.3	+ 1.6
Michigan.....	39.96	53.29	37.13	+33.4	-30.3
Minnesota.....	44.40	48.11	41.37	+ 8.4	-14.0
New York.....	43.22	61.79	57.28	+43.0	- 7.3
Ohio.....	36.24	44.89	28.68	+23.9	-36.1
Pennsylvania.....	26.57	36.06	34.30	+35.7	- 4.9
Wisconsin.....	35.39	40.90	30.71	+15.6	-24.9
Nine states.....	37.30	49.00	41.40	+31.4	-15.5

Source: Same as for Table IX.

every state but Massachusetts, which had an increase of 1.6 per cent, showed declines in general property tax collections. The percentages varied greatly, ranging from 4.9 for Pennsylvania to 38.9 for Indiana.

Percentage of Per Capita General Property Taxes to Total Per Capita State and Local Taxes

Although property taxes must continue to occupy an important place in tax systems in the future, equity in taxation, particularly in industrial states, requires that more reliance be placed on taxes other than that on general property. An excellent index of the extent to which general property taxes are used in state and local fiscal systems is the percentage of such taxes to total state and local tax collections. The following tabulation shows these percentages for the various states in the same years selected for Table XI.

	<i>Average</i>	<i>1922-23</i>	<i>1929-30</i>	<i>1933-34</i>
Illinois.....	88.3%	91.1%	92.3%	81.6%
Indiana.....	88.5	97.3	91.6	76.7
Massachusetts.....	78.1	80.3	76.0	78.0
Michigan.....	80.2	86.0	81.9	72.6
Minnesota.....	79.1	81.5	77.6	78.3
New York.....	78.5	85.3	76.7	73.4
Ohio.....	79.1	88.5	80.7	68.1
Pennsylvania.....	75.6	77.4	75.2	74.2
Wisconsin.....	71.2	79.0	74.6	59.9
Nine states.....	78.9	82.5	79.9	74.3

In the selected periods, a definite downward trend is noted in the percentage of general property taxes to total state and local taxes. In each of the states the figure for 1933-34 was lower than for 1922-23.

In Massachusetts and Minnesota the percentages for 1933-34 were higher than those for 1929-30, indicating that in the depression years increasing dependence had been placed upon general property as a revenue producer by these states. The averages for the period showed that Illinois and Indiana placed the most, and Pennsylvania and Wisconsin the least, reliance upon general property taxes.

The following percentages show the increases in taxes other than general property taxes in the selected states from 1922 to 1934, the assumption being that the difference between total per capita state and local taxes and per capita general property taxes represents the per capita figure for all other taxes.

Illinois.....	167.8%	New York.....	60.0%
Indiana.....	417.2	Ohio.....	166.4
Massachusetts.....	42.7	Pennsylvania.....	5.6
Michigan.....	123.0	Wisconsin.....	118.3
Minnesota.....	20.4	Nine states.....	69.5

The data indicate that in the combined revenues of state and local governments Illinois, Indiana, and Ohio have tended to use taxes other than the general property tax to a greater extent than the other states. Such an inference is not altogether justified, however, because, if a state has a high percentage of general property taxes to total taxes, a small decrease in property taxes would cause a large percentage increase in the use of other taxes.

INDEXES OF TAX BURDENS ON ALL CORPORATIONS

The purpose of this section of the study is to show the trends of tax burdens on corporations. The analysis is divided into two parts: (1) tax burdens upon all corporations, and (2) tax burdens upon manufacturing corporations.

In spite of their divergent features, combined state and local taxes on corporations represent a substantial part of the entire tax burden of industry. In 1933, for example, state and local taxes constituted 83.4 per cent of the total taxes paid by all corporations. That this proportion has been increasing is indicated by the fact that in 1922 state and local governments exacted 68.0 per cent of the total taxes of corporations. In 1933, the federal government took only 16.6 per cent of the total taxes paid by corporations, whereas in 1922 the percentage had been 32.0.¹⁴

This change, however, does not necessarily imply that corporations are supplying a larger proportion of state and local revenues than they

¹⁴Computed from unpublished data furnished by the Bureau of Internal Revenue.

formerly did. On the contrary, the corporations in Michigan, Minnesota, and Wisconsin paid a smaller portion of the total tax bill in 1933 than in 1922. The average percentages of state and local taxes on all corporations to total state and local tax collections for the years 1922, 1929, and 1933 were:¹⁵

Illinois.....	44.4%	New York.....	68.3%
Indiana.....	18.3	Ohio.....	35.4
Massachusetts.....	36.9	Pennsylvania.....	44.5
Michigan.....	30.3	Wisconsin.....	20.6
Minnesota.....	33.0	United States.....	34.8

Percentage of Total State and Local Taxes to Net Profits of All Corporations

Probably one of the best measures of the tax burdens on all corporations is the ratio of state and local taxes to compiled net profits, before all taxes, of the corporations. For corporations, this index is comparable in many respects to the measurement that estimates tax burdens of a state by determining the relationship between taxes and social income.

Table XII shows the percentages of total state and local taxes paid by all corporations to the net profits of such corporations before tax deductions, for two selected years, and also averages of these percentages for groups of earlier years. The averages show that throughout the period Minnesota took a larger proportion of the net profits of corporations than any other state, and Michigan took the smallest part.

Since capital employed in manufacturing is relatively mobile as compared with that of other industrial institutions, it is asserted that manufacturing establishments move when taxes in any state become heavier than they consider reasonable. As the major objective of this study is to ascertain whether this opinion is correct, it is advisable to discover as accurately as possible the tax burdens placed upon corporations in the selected states.

¹⁵The percentage shown for New York is augmented greatly by the fact that many corporations that carry on operations in other states file returns from New York. This tendency for home offices to be concentrated in New York and branch plants to be operated in other states has been increasing in the past decade. It is impossible to estimate the extent to which this practice has inflated the revenues in New York above the amounts obtained from corporations actually operating in that state. "For New York, it is not improbable that as high as 50 per cent of the taxes paid by manufacturing corporations are assessed by other jurisdictions than New York." See George L. Lefler, *Wisconsin Industry and the Wisconsin Tax System* (Bureau of Business and Economic Research, University of Wisconsin, Bulletin No. 3, 1931) p. 121. Income data for Indiana corporations are probably underestimated because of the fact that a large proportion of Indiana business is carried on through branch plants. For most of the other states, the greater part of the taxes paid by manufacturing corporations is probably assessed and paid in the home state.

TABLE XII
 PERCENTAGES OF TOTAL STATE AND LOCAL TAXES TO NET PROFITS OF ALL
 CORPORATIONS (BEFORE TAX DEDUCTIONS) IN NINE SELECTED
 STATES AND THE UNITED STATES, 1922-1933

State	Averages			Percentage Change 1922, 1924 to 1928-29	1932	1933*
	1922 1924	1928 1929	1926-29			
Illinois.....	17.7	14.3	15.4	-19.2	(56.0)	(409.9)
Indiana.....	19.8	20.8	20.2	+ 5.1	(29.5)	(358.6)
Massachusetts.....	23.7	21.0	22.6	-11.4	(95.2)	99.1
Michigan.....	12.9	13.1	13.0	+ 1.6	(39.5)	71.7
Minnesota.....	30.3	23.6	25.1	-22.1	(115.4)	867.0
New York.....	17.9	16.1	16.1	-10.1	(290.5)	225.4
Ohio.....	20.5	16.5	17.7	-19.5	(61.3)	(1676.0)
Pennsylvania.....	16.5	15.3	15.8	- 7.3	(893.6)	116.6
Wisconsin.....	22.1	17.9	17.2	-19.0	(28.0)	(248.2)
Nine states.....	19.6	16.1	16.4	-17.9	(112.6)	232.2
United States.....	19.1	16.4	17.1	-14.1	(119.8)	177.9

Source: Computed from unpublished material furnished by the Bureau of Internal Revenue.
 *Figures in parentheses show the extent to which taxes increased actual net operating deficits of all corporations.

The prevailing under-assessment of real property in the various states and the wide differences in assessment and escape of personal property make comparisons of tax burdens very difficult. Different manufacturing corporations in the same city may pay property taxes that vary widely because of different rates. Theoretically, in the constitution of almost every state it is required that property be assessed at its true value. Such an ideal is seldom attained. The cities, states, and factories in the territory covered by this study seem to have varying tax burdens because of these widespread inequalities. There seems to be no satisfactory standard by which to measure the burdens, and unless the relative property tax burdens can be ascertained, no adequate comparisons are possible.

Even if rates were reasonably comparable, tax exemptions of manufacturing plants in different cities and states would invalidate any conclusions drawn regarding the relative level of taxes in one section as compared with those in another. Table XIII shows that tax rates on true values are generally higher in Massachusetts, Michigan, and Minnesota than in the other states. Illinois and Ohio have the lowest tax rates on true value.

At this point, it will be helpful to refer to the discussion in the first part of the chapter concerning the growth of general property taxes. An increase in the use of the general property tax is likely to indicate an increasing burden upon manufacturing establishments. Percentage changes in general property taxation should show roughly,

TABLE XIII
TOTAL PROPERTY TAX RATES PER \$1,000 OF ASSESSED VALUATION FOR NINE
SELECTED STATES, 1933 AND 1935

State	1935			1933		
	Tax Rate on 100% Legal Basis	Estimated Percentage of Assessed Value to Legal Basis	Adjusted Rate	Tax Rate on 100% Legal Basis	Estimated Percentage of Assessed Value to Legal Basis	Adjusted Rate
Illinois.....	\$53.13	39.8	\$20.64	\$54.24	39.0	\$20.58
Indiana.....	28.19	83.8	23.65	28.37	82.2	23.31
Massachusetts.....	35.81	96.3	34.41	34.00	96.3	32.71
Michigan.....	29.71	93.7	27.98	34.08	94.7	32.40
Minnesota.....	36.60	100.0	36.60	30.03	100.0	30.03
New York.....	31.61	81.7	25.55	32.55	75.6	24.13
Ohio.....	20.15	85.0	16.89	23.13	86.9	20.02
Pennsylvania.....	32.45	71.6	22.57	33.35	68.4	22.21
Wisconsin.....	28.80	87.9	25.14	27.74	87.4	24.21

Source: C. E. Rightor, "Comparative Tax Rates for 284 Cities, 1933," *National Municipal Review*, Vol. XXII, p. 596; and "Comparative Tax Rates for 301 Cities, 1935," *ibid.*, Vol. XXIV, p. 686.

The figures for each state presented in the table are averages of the data for all cities of that state given in Mr. Rightor's compilation.

TABLE XIV
TAXABLE ELEMENTS OF AN "AVERAGE" AND A "LARGE" MANUFACTURING CORPORATION*

Balance Sheet Items	Value for "Average" Corporation	Value for "Large" Corporation
A. Authorized capital stock.....	\$500,000	\$1,000,000
B. Issued capital stock (par value).....	400,000	800,000
C. Issued capital stock (fair value).....	500,000	1,000,000
D. Surplus.....	250,000	500,000
E. Land and buildings.....	200,000	400,000
F. Machinery and equipment.....	150,000	300,000
G. Inventories.....	175,000	350,000
H. Credits.....	150,000	300,000
I. Cash.....	75,000	150,000
J. Net taxable income.....	50,000	200,000
K. Gross income.....	52,000	208,000

*This financial statement was derived by the National Industrial Conference Board from a balance sheet of an average manufacturing corporation, based on the capital stock returns of 68,523 taxable manufacturing corporations as reported in the United States Bureau of Internal Revenue's *Statistics of Income, 1925*. See *The Fiscal Problem in New York State* (New York: National Industrial Conference Board, Inc., 1928) p. 274. The complete balance sheet of the "average" corporation was doubled except items J and K which were quadrupled in order to get a comparable balance sheet for the so-called "large" corporation.

therefore, the trends in the burden of the general property tax upon manufacturing establishments.

The Hypothetical Corporation Test

The preceding analysis showed that tax burdens on corporations varied considerably as among business concerns in the same state and corporations in the several states. The various situations may be

TABLE XV
 PERCENTAGE OF NET INCOME OF VARIOUS HYPOTHETICAL CORPORATIONS TAKEN BY ALL TAXES AND BY TAXES OTHER THAN GENERAL
 PROPERTY TAXES IN NINE SELECTED STATES

State	Total Taxes Paid by an Average Corporation				Taxes Other Than General Property Taxes* Paid in 1936 by Corporations With					
	1927		1936		No Income		Average Income		Large Income	
	Amount	Percentage of Income Taken	Amount	Percentage of Income Taken	Amount	Percentage of Income	Amount	Percentage of Income	Amount	Percentage of Income
Illinois.....	\$10,000	20.0	\$10,000	20.0	\$ 200	...	\$ 200	.4	\$ 200	.1
Indiana.....	11,200†	22.4	13,675	27.4	0	...	127	.3	700	.4
Massachusetts.....	10,500	21.0	15,670	31.3	500	...	2,650	5.3	5,500	2.8
Michigan.....	15,500	31.0	16,040	32.1	1,625	...	1,625	3.3	3,250	1.6
Minnesota.....	9,500†	19.0	21,453	42.9	0	...	2,205	4.4	9,784	4.9
New York.....	12,000	24.0	12,107	24.2	25	...	3,000	6.0	12,000	6.0
Ohio.....	12,000	24.0	12,875	25.8	500	...	500	1.0	1,000	.5
Pennsylvania.....	9,000	18.0	13,793	27.6	2,500	...	5,500	11.0	14,500	7.3
Wisconsin.....	13,000	26.0	16,381	32.8	10	...	3,267	6.5	14,000	7.0

Sources: For balance sheet items of hypothetical corporations, see Table XIV. Amounts of taxes paid were computed and estimated from various sources, including *The Fiscal Problem in New York State* (New York: National Industrial Conference Board, Inc., 1928) p. 117, and *Tax Systems of the World*, 5th ed. (New York: The Tax Research Foundation, Commerce Clearing House, 1934).

*Income and capital stock taxes only.

†Estimated by the writer.

brought together for purposes of better comparison by means of the hypothetical corporation test, in which tax burdens in the various states are estimated upon the base of a fictitious corporation.

The balance sheet values of the fictitious corporations upon which the subsequent tests of tax burden are based are shown in Table XIV. There are two important limitations upon the use of this method, although it does furnish a fair approximation to the relative burdens upon corporations in the different states. First, since property tax rates vary widely, even within a particular state, the computations made on the basis of an average property tax rate for a whole state may not give an adequate representation of the taxes paid by any particular corporation in the state. Second, corporations show a large degree of variation as to tangible and intangible assets, capital stock, and earning power. Consequently, a thorough investigation of all these elements in any one corporation would have to be made before its tax burden could be computed accurately.

Table XV shows the percentage of net income taken by all taxes and by other than general property taxes for various hypothetical corporations in the selected states in the years 1927 and 1936. It will be noted that when property taxes are excluded Pennsylvania and Michigan show far higher tax burdens for corporations with no income than the other states. The burdens are very light for New York and Wisconsin, and no tax is shown for Indiana and Minnesota. For corporations earning an "average" income (\$50,000), Pennsylvania imposes the heaviest taxes, amounting to \$5,500. Wisconsin corporations pay \$3,267 and New York corporations, \$3,000. The lowest burdens are found in Illinois, Indiana, and Ohio. For corporations earning a large income (\$200,000), tax burdens are heaviest in New York, Pennsylvania, and Wisconsin, amounting, respectively, to 6.0 per cent, 7.3 per cent, and 7.0 per cent of net income. Illinois, Indiana, and Ohio are again in the most favorable positions, each of these states taking less than one per cent in other than general property taxes.

The inclusion of general property taxes changes the picture, and the percentages shown for an "average" corporation for the years 1927 and 1936 are only rough approximations. In 1936, Minnesota took 42.9 per cent of the income of the average corporation, the largest proportion shown, and Illinois took the least, 20.0 per cent.

Percentage of Total State and Local Taxes to Net Profits of Manufacturing Corporations

Perhaps the best single index of the tax burdens imposed upon manufacturing corporations is the proportion of net profits taken by

TABLE XVI
 PERCENTAGES OF TOTAL STATE AND LOCAL TAXES TO NET PROFITS OF MANUFACTURING CORPORATIONS (BEFORE TAX DEDUCTIONS) IN NINE SELECTED STATES AND THE UNITED STATES, 1926-1933

State	Averages 1926-29	1930	1932	1933
Illinois.....	8.0	15.2	(77.5)*	60.9
Indiana.....	12.7	52.3	(22.5)	376.0
Massachusetts.....	23.0	1259.9	(36.5)	64.0
Michigan.....	8.7	17.0	(29.2)	28.1
Minnesota.....	12.5	24.6	(92.0)	43.4
New York.....	10.8	19.3	(81.7)	63.9
Ohio.....	12.9	39.0	(41.6)	87.8
Pennsylvania.....	11.7	29.6	(74.7)	139.9
Wisconsin.....	14.3	33.5	(22.7)	283.7
Nine states.....	11.2	23.5	(54.0)	68.5
United States.....	11.8	26.7	(56.5)	59.2

Sources: Computed from unpublished information of the Bureau of Internal Revenue.
 *Figures in parentheses show the extent to which taxes increased actual net operating deficits.

taxation of these corporations in a state. Table XVI shows these percentages for the various states surveyed in selected years and averages for four years.

An examination of the table will show that these figures do not fully agree with the results of the hypothetical corporation test. There are several reasons for these apparent discrepancies. First, corporation profits vary widely. Second, some states like Michigan and Pennsylvania have many large corporations, whereas in Minnesota and Wisconsin, for example, corporations are generally small. Furthermore, net profits as used here are resultant figures remaining after deduction of deficits. The use of both this test and the hypothetical corporation test is therefore advisable in order to avoid the mistaken conclusions that might be derived from the employment of either alone.

As might be expected, the trends shown in Table XVI for manufacturing corporations are similar to those in Table XII for all corporations.

If data were available from which to compute percentages of state and local taxes to net profits of manufacturing concerns for the years 1935 and 1936, doubtless the picture would be different from that shown for prior years. The high "emergency" rates upon corporations in New York and Pennsylvania, for example, would tend to raise the proportions of state and local taxes to net profits.

SUMMARY

In Table XVII the tax burdens of the nine states are ranked by the same method as was used for their industrial development in Table VIII, in the summary of Chapter II.

TABLE XVII
SUMMARY OF MEASURES OF TAX BURDENS IN NINE SELECTED STATES IN THE
PERIOD 1922-1936

Test	Ranking 1922 to 1929									Ranking 1929 to 1936								
	Ill.	Ind.	Mass.	Mich.	Minn.	N. V.	Ohio	Pa.	Wisc.	Ill.	Ind.	Mass.	Mich.	Minn.	N. V.	Ohio	Pa.	Wisc.
	General Measures									General Measures								
1.	5	3	4	9	1	8	6	7	2	9	1	8	3	4	7	2	5	6
2.	1	3	7	6	9	8	4	2	5	5	1	7	4	8	9	2	3	6
3.	3	2	6	8	3	9	3	1	6	5	4	8	6	3	7	2	1	5
4.	6	2	4	7	1	9	5	8	2	6	1	9	5	5	7	2	8	4
5.	7	3	6	8	5	9	4	1	2	7	1	8	5	6	9	2	4	3
6.	9	8	3	7	5	4	6	2	1	9	6	7	3	8	4	2	5	1
7.	2	7	8	1	9	4	6	3	5	7	7	6	7	7	3	4	6	8
8.	4	9	5	8	1	6	2	7	2	8	8	5	8	6	5	3	7	9
Sub-Total	37	37	43	54	34	57	36	31	25	41	14	47	27	34	43	12	26	25
Rank	5	5	7	8	3	9	4	2	1	7	2	9	5	6	8	1	4	3
	Measures of Manufacturing									Measures of Manufacturing								
9.	1	7	9	2	5	3	6	4	8	3	9	5	1	2	4	6	7	8
10.	3	5	4	9	2	6	6	1	8	1	4	6	7	9	2	3	5	8
Sub-Total	4	12	13	11	7	9	12	5	16	4	13	11	8	11	6	9	12	16
Rank	1	6	8	5	3	4	6	2	9	1	8	5	3	5	2	4	7	9
Grand Total	41	49	56	65	41	66	48	36	41	45	27	58	35	45	49	21	38	41
Rank	2	6	7	8	3	9	5	1	3	6	2	9	3	6	8	1	4	5

Explanation of Tests

1. Percentage increase (and decrease) in total state and local tax collections, 1922-1929, 1929-1934.
2. Percentage of per capita total state and local taxes to per capita social income, 1928-1930, 1933-1934.
3. Percentage of per capita total state and local taxes to per capita wealth, 1929, 1932.
4. Percentage increase (and decrease) of per capita property taxes, 1922-1929, 1929-1934.
5. Amount of per capita property taxes, 1929-1930, 1933-1934.
6. Percentage of per capita property taxes to total per capita state and local taxes, 1929-1930, 1933-1934.
7. Percentage of total state and local taxes to net profits of all corporations, average for four years, 1926-1929.
8. Percentage increase (and decrease) in the ratio of total state and local taxes to net profits of all corporations, 1922-1929.
9. Percentage of total state and local taxes to net profits of manufacturing corporations, average for four years, 1926-1929, 1933.
10. Percentage of taxes to income of hypothetical corporation for the years 1927 and 1936.

From 1922 to 1929, according to the combined index, Pennsylvania showed the lightest tax burdens. In each sub-section, however, this state was second in rank, since Wisconsin ranked ahead of it in the general measures, and Illinois in the measures for manufacturing. From 1929 to 1935, tax burdens in Pennsylvania did not decline so rapidly as in other states, and its ranking dropped from first to fourth. Since 1935, moreover, because of various "emergency" taxes that have been passed, corporations in Pennsylvania are probably taxed more heavily than in any other state in the Union.

Illinois ranked second on the basis of all tests for tax burdens in the years from 1922 to 1929. The burdens imposed on manufacturing corporations by this state were less than those in any other state, but in the general tests it was fifth, ranking equally with Indiana. In the later years, when tax burdens were appreciably increased, Illinois kept its position as the state in which burdens on manufacturing corporations were lowest, although in the general measures it showed a decline. Its rank by the combined index from 1929 to 1935 was sixth.

The summary of all tests for the years 1922 to 1929 showed that Wisconsin and Minnesota had the third lightest tax burdens. Wisconsin was at the extremes in the two classifications of measurements, ranking as the most favorable by the general tests, and the least favorable according to the burdens imposed upon manufacturing corporations. From 1929 to 1935, Wisconsin ranked third by the general tests, and still taxed manufacturing corporations more heavily than any other state. Its composite rank was fifth.

From 1922 to 1929, Minnesota ranked equally with Wisconsin as third by the combined index, but the two states were decidedly different by the separate tests. Instead of showing extreme rankings as Wisconsin did, Minnesota was third both by general measures and by measures of manufacturing. In the years from 1929 to 1935, Minnesota's rank fell from third to sixth, the same as that of Illinois. Massachusetts and New York were the only states with heavier tax burdens than Minnesota in the later years.

Ohio ranked in fifth place in the years from 1922 to 1929. Most of the separate tests showed Ohio in sixth place. Taxes on manufacturing corporations were heavier than general taxes in this state. In the later years, Ohio stood highest in ranking among the nine states. No other state had so light a tax burden, either by general measures or by the combined index, and Ohio's rank on corporation taxes was fourth.

Indiana was sixth in the group of states for the period from 1922 to 1929. In a number of the general measures Indiana ranked high, but these favorable factors were offset by heavy burdens on manufacturing, only exceeded by those in Massachusetts and Wisconsin. In the later years, from 1929 to 1935, Indiana rose to second place in the list of states. This gain in ranking was not caused by any lessening of the burdens on manufacturing, but by an improved position in the general measures.

According to the combined indexes for the period 1922 to 1929 Massachusetts was in seventh place. The results of the separate tests showed seventh place for this state in the general measures and eighth

place in burdens upon manufacturing. From 1929 to 1935, Massachusetts was in last place among the states. This low rank resulted from an unfavorable position in the general measures, and the tax burden on manufacturing was less than in several other states.

In the pre-depression years Michigan had the eighth place in the composite ranking, its tax burdens being exceeded only by those of New York. Taxes on manufacturing in Michigan were not so high as in some other states, but its rankings by the general tests, with the exception of one, were consistently low. In the depression period, the position of Michigan relative to the other states was much more favorable than in the earlier years, and the state advanced to third place.

From 1922 to 1929 New York showed the heaviest tax burdens found in any of the nine states. General taxes in New York in the pre-depression years were also the heaviest, but the tax burden on manufacturing was fourth in rank. In the later years, the position of New York was somewhat improved, as it was in eighth place. By the test of burdens on manufacturing, New York ranked in second place, only Illinois showing a lighter burden.

TABLE XVIII

COMPARATIVE RANKING OF NINE SELECTED STATES IN MEASURES OF INDUSTRIAL DEVELOPMENT AND MEASURES OF TAX BURDENS, 1922-36

	Ranking 1922 to 1929									Ranking 1929 to 1936								
	Ill.	Ind.	Mass.	Mich.	Minn.	N. Y.	Ohio	Pa.	Wisc.	Ill.	Ind.	Mass.	Mich.	Minn.	N. Y.	Ohio	Pa.	Wisc.
Industrial Development.....	2	5	9	1	7	6	4	8	2	8	2	6	1	3	4	7	4	9
Tax Burdens.....	2	6	7	8	3	9	5	1	3	6	2	9	3	6	8	1	4	5