



OCTOBER, 1948

BUSINESS CONDITIONS

A REVIEW BY THE FEDERAL RESERVE BANK OF CHICAGO

Meat Packing Financial-Economic Trends

Some Sales Earnings Decline Foreseen for 1948

The meat packing industry established new all-time records in dollar sales and earnings in 1947, which probably will not be equaled during the present year because of recurrent shortages in livestock supplies, work stoppages affecting the largest producers, and rising costs. By most measures, however, the industry continues to be in a strong position, with favorable prospects for sustained over-all high demand and prices during the coming year.

Meat packing, along with many other industries, now is experiencing numerous small-scale adjustments in output, demand, and prices as part of the gradual shift to more normal conditions following the sharp operating and financial distortions of the war and immediate post-war years. But, it seems likely that another year will elapse before prices become more stabilized.

Without rationing and price control, a noticeable narrowing occurred in the spread of earnings between the *large*¹ and the other meat packing firms during 1947. The former companies acquired a greater proportion of available livestock supplies with resultant higher profits than in the previous year when livestock flow was distorted considerably from more normal marketing channels.

Because of the more than two-month shutdown of the *large* packing plants and some others during March-June of this year, however, it is expected that 1948 earnings of many *medium* and *small* companies will reflect relative gains over the *large* companies, and thus again widen the earnings spread between these groups of firms.

PRODUCTION DOWN IN 1948

The supply of livestock available to the meat packing industry for slaughter and processing during 1948 has been below the very high level of 1947 and apparently will continue in reduced volume for the remainder of the year and well into 1949. The feed stringencies causing liquidation of livestock in recent years will disappear with completion of the 1948 harvests. Record crop production, with reduced inventories of livestock on farms, will result in an all-time peak in feed per animal for the coming feeding year. Under these conditions farmers are expected to expand livestock production as rapidly as possible with a substantial general increase in the output of meat, which will begin to appear in the fourth quarter of 1949.

EARNINGS PATTERNS²

During 1947 the more than 650 slaughtering meat packers which reported the results of their operations to the Packers and Stockyards Division of the U. S. Department of Agriculture had average earnings of 15.9 per

cent on net worth, compared with 15.2 per cent in 1946. This slight over-all gain resulted from the strong showing of the *large* meat packers which increased their earnings more than one-third during their 1947 fiscal year. In contrast, earnings of the *small* and *very small* companies, while remaining well above those of the *large* packers, nevertheless fell by over 40 per cent during the year.

Although total commercial slaughter rose only about five per cent in 1947, the return of livestock to more normal marketing channels following price decontrol enabled the *large* packers to increase their tonnage by one-fourth. As a consequence, the aggregate tonnage handled by companies in the remaining size groups fell.

Meat packing retained its position as a relatively low earnings industry in 1947 with return on net worth ranking fourth lowest among the 45 manufacturing industries included in the financial studies of the National City Bank of New York. Meat packing earnings, moreover, were five percentage points below the average for all manufacturing corporations.

The working capital of the meat packing industry expanded moderately, about seven per cent, during 1946-47, continuing the same rate of increase experienced during the preceding year. The industry's current ratio continued to fall fairly generally in 1947, with current assets dropping from about three to 2.7 times current liabilities. Cash and marketable security holdings declined substantially, especially among the *very small* concerns.

This trend reflected the shift in current assets to the less liquid form of higher dollar inventories and receivables, in turn traceable in large part to rising prices. Pointing to the increased difficulty the industry has had in financing its operations from insufficient internal sources of funds, a substantial and fairly general rise has occurred in bank borrowings, with an increase of almost 60 million dollars for the *large* packers during 1947. Accounts payable increased 50 per cent, but tax liabilities showed little change.

¹The four size groups of meat packing companies used as the basis of analysis in terms of 1941 total assets are: *very small*, under 1 million dollars; *small*, 1 to 5 million; *medium*, 5 to 35 million; and *large*, 35 million and over.

²Earnings are net after taxes but before reserves for possible inventory losses as a percentage of net worth.

This brief article summarizes a more comprehensive study entitled "A Financial and Economic Survey of the Meat Packing Industry, 1948 Supplement." Financial conclusions are based largely upon data compiled by the Packers and Stockyards Division of the U. S. Department of Agriculture, the Robert Morris Associates, and allied published sources.

Copies of this supplement, as well as of the original study and 1947 Supplement, may be obtained upon request to the Research Department, Federal Reserve Bank of Chicago, Box 834, Chicago 90, Illinois.

ERRATUM

The third sentence in the last paragraph on page 3 of the September 1948 issue of *Business Conditions* should read as follows:

During the past few years, especially the last three, good grade slaughter steers have commanded a larger premium over medium steers than choice and prime over good, and medium steers have commanded even larger premiums over common grade.

Seventh District Population Trends

Five States Parallel National Gain Since 1940

Since 1940, the population of the Seventh Federal Reserve District states, Illinois, Indiana, Iowa, Michigan, and Wisconsin, is estimated to have increased by more than two million persons, to about 24.5 million. This 10 per cent gain is at least as large as the comparable national increase during the past eight years. An above average postwar population expansion has more than offset a small wartime decline and enabled the five District states to regain their collective prewar "share" of about 17 per cent of the national population.

Contrary to population developments in the Far West, but more typical of most other regions, the bulk—nearly 90 per cent—of the population gain in the Seventh District since 1940 is attributable to natural increase, i.e., excess of births over deaths, rather than to in-migration. Since the end of the war, however, there has been a noticeable increase in the number of persons moving into the industrial centers of certain of the District states from other areas, and particularly into Illinois, Michigan, and Wisconsin.

The postwar peak in the birth rate and in the natural rate of population growth appears to have been reached last year. The outlook, however, is for further substantial absolute gains in population from excess births over deaths for many years.

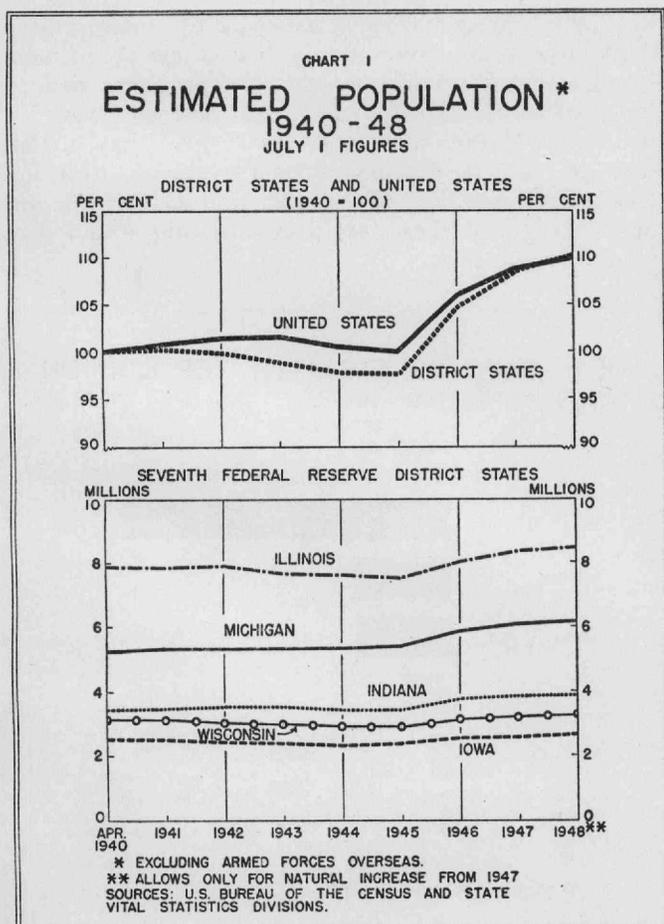
The war and postwar upsurge in births represents a new major factor of strength in the economic life of the Seventh District and the nation, already reflecting, and pointing to still more, greatly enlarged needs for goods, services, housing, and similar items in coming years than could be foreseen before the war. The era of a "stationary" or "declining" population, it seems likely, has been pushed ahead into the next century in contrast to prewar predictions of such an occurrence in the 1980's. The recent and current population gain, however, also greatly intensifies many current problems of shortages of facilities to meet the educational and social as well as economic needs of the people.

RECENT DISTRICT DEVELOPMENTS

The latest official population estimates of the U. S. Bureau of the Census relate to July 1, 1947, but there is considerable interest in appraising subsequent population trends in this unsettled postwar period. On the basis of the Census Bureau estimates, the Seventh District states by mid-1947 are seen to have just about equaled the national population growth following 1940, but only after a rather consistent lag during both the war and early postwar years (see Chart 1).

Scattered unofficial estimates of the number of persons now living in the District states rather uniformly show further important gains relative to the nation generally during the 15 months since the last Census Bureau sample count. These more recent estimates are reliable to the extent that they are based upon official birth and death statistics among the respective states, but are less defensible insofar as they include rough measures of migration. Without allowing for in-migration, however, which is generally held to have continued at a fairly steady rate, the natural increase alone since July 1947 indicates a population gain for the District states of close to 400,000 persons. Such an increase is equivalent to the addition of a city roughly the size of Indianapolis to the District population during a period of slightly more than a year, and emphasizes the importance of population increase as a powerful current economic force in the Midwest.

The remainder of this analysis is based largely upon the Census Bureau data to July 1947 because of their more reliable method of estimation. Nevertheless, sufficient evidence already has been presented to show that these official estimates are now low and may well obscure some



greater-than-average recent population gain in the states of the Seventh District.

INDIVIDUAL STATE CHANGES

While no one of the District states now has a smaller population than before the war, considerable variation in population growth has occurred among them (see Chart 2). Most of the 1940-47 increase took place in Michigan, 806,000; Illinois, 477,000; and Indiana, 406,000 persons. Wisconsin added only about 100,000, and Iowa only half this amount. Percentage increases in population were: Michigan, 15.3; Indiana, 11.8; Illinois, 6.0; Wisconsin, 3.5; and Iowa, 2.1. The corresponding increases for the five states were 8.3, and for the nation, 8.6 per cent.

This pattern of growth reflects rather clearly the locations of the heaviest population concentrations in the industrial states, and also that manufacturing expansion was a strong attraction to newcomers during the early years of the war and after hostilities ceased.

During the two years after July 1, 1945, the U. S. Bureau of the Census estimates that the annual net migration into the five District states was about 145,000 persons. Most striking was the in-migration estimate of 106,000 persons for Illinois, which was almost as large as the 108,000 estimate for California. Postwar migration into Michigan and Indiana has continued at lower rates than during the war and immediate prewar years. Wisconsin temporarily at least has reversed a previous strong out-migration movement, and Iowa appears to be continuing to lose population through migration at about the same rate as during the war and the immediately preceding years.

The contribution of net natural increase to the population of the District, as indicated, has been due almost entirely to more births rather than to any significant lowering of the death rate. The number of births in the five states increased from 17.3 per 1,000 inhabitants in 1940 to a war peak of 21.3; subsequently declined to 19.6 in 1945; reached a new high of 24.7 in 1947; and currently is about 22. Throughout this eight-year period, the District states birth rate has been slightly under the national rate. Although natality statistics long have tended to associate the highest birth rates with the more agricultural areas, Michigan had the greatest number, 26.4, of births per 1,000 population among the five District states in 1947 and is presently only slightly under the Wisconsin level of 25.6.

The death rate, in the District states currently is about 10.3 per 1,000 inhabitants, virtually unchanged since the end of the war, and fractionally under the 10.8 level in 1940. The District rate rather consistently has been slightly higher than the national rate, with Illinois mortality trends an important element underlying this general relationship.

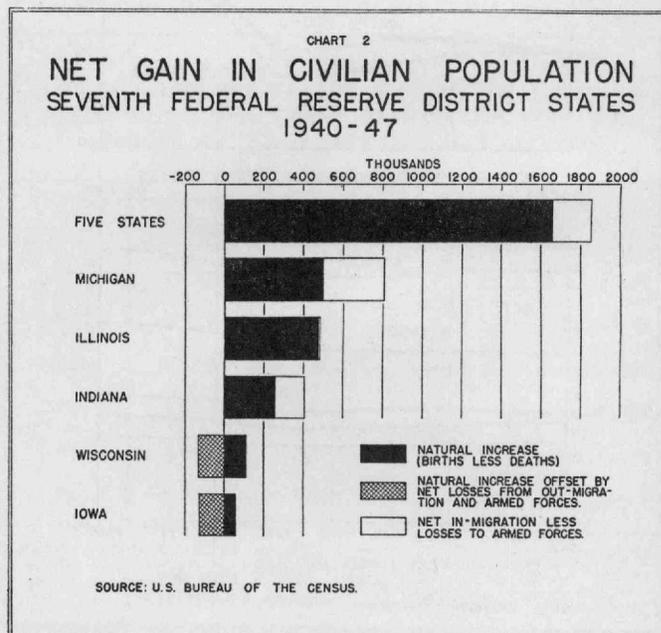
The population gain since 1940 in the east north central region of the country, comprising all of the District states except Iowa, plus Ohio, has been greater than in any other region except the Far West states, i.e., California, Oregon, Washington, Arizona, Utah, and Nevada.

IMPLICATIONS OF NEW GROWTH

The more than 12 million population gain in the nation and over two million in the District states since 1940 constitute a new "wave" in the broad population movement. Not only has there been a generally unforeseen population growth in recent years, but this increase itself points to still further cumulative expansion in future generations. Since a growing population is an important factor influencing the secular or longer-run level of business activity, it is to be expected that the war and postwar natural increase in population, plus expected further in-migration, will serve to extend into the 21st century the present underlying upward trend in most basic economic measures.

A sharply expanded population has many favorable short- and longer-run implications for business, but it also poses many acute problems as well, particularly when accompanied by prosperous-inflationary general business conditions. A seriously inadequate housing supply obviously has been made much more critical by the rising birth rate as well as by larger per capita personal income. Moreover, the housing problem cannot be expected to reach "solution" without further substantial residential building.

Numerous other illustrations of the direct effects of a rapidly enlarged population can be found, ranging from extreme shortages of school and local transit facilities to mounting new demands for food, clothing, and the many allied goods and services needed by small children. Many business executives in this District now are planning their long-range production and sales programs to meet the needs of the World War II and postwar "wave" of natural population increase. This "wave" has already begun to reach the grammar school level, will affect high school enrollments in the middle and late 1950's and early 1960's, and thereafter pass into college and marriageable age groups.



Milwaukee's Industrial Output Reflects New Plants

Value of Manufacturing Production at All-Time High

The Milwaukee industrial area¹ has added about a quarter billion dollars worth of new factories and equipment to its over-all industrial plant in the last decade. This huge outlay consists primarily of the war-built plants for the manufacture of metals and machinery, and the postwar expansion in the food and beverage industry. Partly because of this expansion, and partly because of the more intensive use and modernization of existing plants, the value of output in manufacturing is now at an estimated annual rate of nearly two billion dollars, a total which is over three times that of the prewar year 1939. However, the nature of the expansion in both facilities and production has been such as to retain the fundamental product pattern existing in Milwaukee before the war period.

The expenditure of nearly 250 million dollars in the past decade ranks Milwaukee above such roughly comparable areas in population size as Cincinnati and Baltimore, but below others, e.g., Buffalo, Cleveland, and Minneapolis-St. Paul. The current ranking of Milwaukee is largely the result of higher-than-average postwar capital expenditures more than compensating for lower-than-average outlays for war plants.

As has been true in the nation generally during the first half of the current year, the local trend of contract awards for new industrial plants, while continuing high, nevertheless has been markedly downward in comparison with the same months of 1946 and 1947. In view of the continued increases in construction costs, this means that Milwaukee firms, like those in other industrial centers, are balancing the prospects for increased markets against the extremely large outlays required to carry out expansion programs, and are concluding in many cases that the risks are too great. Local exceptions to this conclusion include the large brewers, who continue to announce sizable expansion plans, in many cases involving the demolition of present obsolete structures.

The high *dollar* volume of manufactured products at present is to be accounted for to a very considerable extent by the general inflation. However, the more intensive use of prewar facilities and the modernization of equipment in previously existing plants, when combined with the outlays for *new* plant, have accomplished an approximate doubling of Milwaukee's physical production in the current year as compared with 1939. The increase for the nation as a whole has been about 90 per cent for the same period.

Milwaukee continues to produce largely the goods for which it has long been known, i.e., machinery for farms, factories, construction work, and mines; auto frames, and motorcycles; shoes, hosiery, and gloves; lastly but not least—beer. To be sure, certain new manufacturing lines have become established during the war and postwar years, the most important of which are electrical appliances and x-ray equipment. Also, some of the existing firms have altered their product mix, but these changes have not been of sufficient magnitude to bring about important differences in the area's over-all pattern of physical production.

POSTWAR PLANT EXPANSION²

During the three years since the end of the war, expenditures for constructing and equipping new plants and additions in Milwaukee have totaled approximately 65 million dollars, an amount which tops the like expenditures in the areas here selected for comparison (see Table 1), and ranks the local area 13 among all industrial centers in the nation. This high volume, when adjusted for construction cost increases, is greater than in any three-year span during the prewar decade and about equals the amount expended during the 1926 to 1929 period.

Of particular significance to the area's future is the fact that nondurable goods industries have accounted for about 75 per cent of all industrial expansions in the postwar period. This trend has the effect of partially restoring the further imbalance toward durable goods facilities which occurred during the war plant construction period. Paced by the large building and equipment programs of the major brewers, the food and kindred products industries have been responsible for the bulk of this postwar nondurable goods expansion. New grain

TABLE 1
ESTIMATED DOLLAR VOLUME
OF NEW INDUSTRIAL PLANT AND EQUIPMENT
SELECTED INDUSTRIAL AREAS, 1940-48
(In millions of dollars)

Area	Total	June 1940 to June 1945	June 1945 to June 1948
San Francisco	386.6	363.8	22.8
Buffalo	349.6	325.4	24.2
Minneapolis - St. Paul.....	338.4	291.8	46.6
MILWAUKEE	224.5	163.5	61.0
Cincinnati	218.4	198.6	19.8
Baltimore	181.6	143.3	38.3

SOURCES: County Data Book, 1947, supplement to The Statistical Abstract. *Engineering News Record*, as compiled and reported by The Territorial Information Department of Commonwealth Edison and Associated Companies, Chicago, Illinois, adjusted for undercoverage and equipment expenditures.

¹Includes Milwaukee County only unless otherwise specified.

²"Plant expansion" as used here refers only to new structures and additions. Alterations not resulting in additional floor space are excluded.

elevators, malting houses, bottling plants, stock and fermentor houses, packaging and storage facilities, and power plants—all integral parts of the huge local brewing operations—in themselves have accounted for nearly 20 million dollars in new and expanded plant and equipment.

Other nondurable goods industries in which facilities have been increased significantly since the end of the war are paper products (especially boxes) and chemical products (chiefly paint). Minor additions to capacity also have occurred in shoe manufacturing, printing, and numerous other small industries producing goods of the nondurable type.

The strong emphasis on new facilities in the nondurable goods lines is explainable by the fact that throughout the war years these industries not only were unable to carry out normal replacement of worn-out and obsolete plant and equipment, but also could not keep abreast of growing demands for their products. At the same time, the great demand of the war years could be met only by overworking the existing plant and machinery. It is not surprising, therefore, that these industries, particularly the brewers, have led in expansions during the postwar period, nor that they are the ones who have announced still larger programs to be undertaken during the coming months.

Among the metals and machinery industries—Milwaukee's real stand-by in basic employment and production—postwar expansions have been minor and widely scattered. No truly major project in this field has been started since the end of the war. This is to be expected in view of the fact that virtually all of the war-built plants were in this category. Most large war plants have been converted to peacetime products and at least one more is scheduled for such conversion soon. While the

expenditures necessary to rehabilitate them to peacetime uses have been large, they cannot be considered as new postwar "capacity" in the broad economic sense used here. Furthermore no complete information is available as to the magnitude of these rehabilitation expenditures in Milwaukee or elsewhere.

Over and above the building and equipping of new factories and additions, very large expenditures have been made in replacing worn-out and obsolete machines in existing plants. The total of such expenditures when added to the estimated amounts spent for new capacity would undoubtedly result in an aggregate Milwaukee outlay for manufacturing facilities considerably higher than the figures in Table 1. Unquestionably, Milwaukee's physical capacity to produce goods, because of this replacement and modernization process, has increased to a much greater extent than is indicated by the actual *new* plant and its equipment. But, the exact amount is not known.

TRENDS IN MANUFACTURING PRODUCTION

An estimated annual total of 1.9 billion dollars worth of goods is currently being turned out of Milwaukee's factories. This aggregate—about one per cent of the national total—is 3.4 times the 556 million dollar total of local output in 1939. The value of all manufactured products for the nation as a whole is presently estimated to be 3.2 times the 1939 level, giving Milwaukee a somewhat higher-than-average increase for the past decade.

The previously described expansion in new manufacturing facilities, combined with the improved productivity of modernized, as distinct from new plants, has played an important part in this tremendous rise in product

TABLE 2
ESTIMATED VALUE OF INDUSTRIAL PRODUCTION
MILWAUKEE INDUSTRIAL AREA,¹ 1939-48

(In millions of dollars)

Industry	1939	1940	1941	1942	1943	1944	1945	1946	1947	1948 ²
Total.....	556	690	1,014	1,334	1,656	1,603	1,669	1,536	1,900	1,900
Durable goods ³	307	400	627	848	1,135	1,243	1,119	881	1,151	1,180
Iron and steel.....	58	67	151	194	232	212	199	233	281	284
Electrical machinery.....	30	43	68	97	110	137	136	109	148	158
Nonelectrical machinery.....	121	145	222	304	385	418	392	331	429	440
Transportation equipment including automobile parts.....	71	90	139	205	347	410	325	160	231	240
Other durable goods ⁴	27	35	47	48	62	66	67	48	62	58
Nondurable goods.....	249	290	387	486	520	560	550	655	749	720
Food.....	122	136	188	254	265	291	263	313	332	310
Textiles and apparel.....	27	32	45	56	58	62	73	84	95	102
Printing.....	26	36	38	41	47	47	51	60	68	65
Leather.....	34	29	40	51	63	72	71	77	101	92
Other nondurable goods ⁵	40	57	76	84	87	83	92	121	153	151

¹Milwaukee County.

²1948 estimates are annual rate based upon first seven months and reflect important work stoppages earlier in the year.

³Ordnance production is included within the normal peacetime product classification of the producing company.

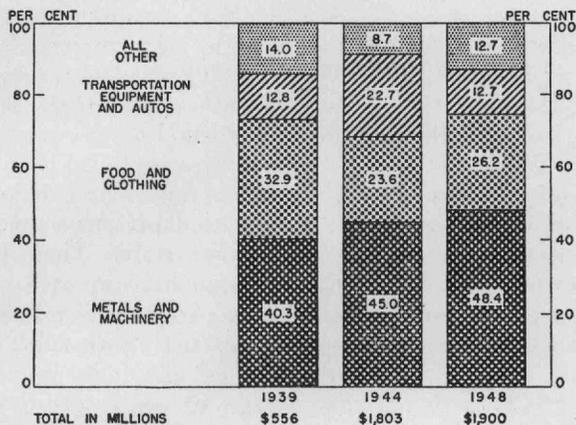
⁴Includes nonferrous metals; lumber; furniture; and stone, clay, and glass products.

⁵Includes tobacco, rubber, paper, chemicals, petroleum and coal, and miscellaneous industries.

SOURCES: Estimated from data provided by the U. S. Department of Commerce, U. S. Bureau of Labor Statistics, Milwaukee County Office of the Wisconsin Employment Service, and Wisconsin Industrial Commission.

VALUE OF INDUSTRIAL PRODUCTION BY MAJOR CATEGORIES

MILWAUKEE INDUSTRIAL AREA^{1/}
1939, 1944, AND 1948^{2/}



^{1/} MILWAUKEE COUNTY.

^{2/} DISTRIBUTION AS OF FIRST SIX MONTHS, 1948.

SOURCES: ESTIMATED FROM DATA PROVIDED BY THE U.S. DEPARTMENT OF COMMERCE, U.S. BUREAU OF LABOR STATISTICS, MILWAUKEE COUNTY OFFICE OF THE WISCONSIN EMPLOYMENT SERVICE, AND WISCONSIN INDUSTRIAL COMMISSION.

value. Furthermore, the general inflation, here as elsewhere, has caused *value*, as differentiated from *physical volume*, to increase still more markedly.

One other factor, however, appears to have a bearing upon greater-than-average local increase in both employment (see *Business Conditions*, August 1948) and production; that is, the apparent fact that Milwaukee had more unused plant capacity and labor in 1939 than many other industrial areas. As a result, the area's relative position is favored by comparisons which employ the commonly used "base" date of 1939. By the same token, moreover, larger-than-average war and postwar gains from an unusually low prewar level of activity may suggest somewhat more cyclical vulnerability for the area than would be expected in certain other industrial centers.

The metals and machinery industries bring more income to the Milwaukee area than any other category of production. Likewise, these industries have had the greatest output growth, both absolute and relative, during the war and postwar years. Estimated value of all products from these industries has more than quadrupled since 1939, reaching a current total of about 900 million dollars. The industries producing food, clothing, and shoes also have shown significant increases in absolute terms, but are no longer as important relatively in providing basic income to the area (see Table 2 and accompanying chart).

Likewise, the output of transportation equipment, and automobile parts, now carries a more important place in Milwaukee's production total than was true before the war, having a present value which is estimated to be 240 million, but represents a lesser proportionate increase from prewar than was true for manufacturing as a whole. The bulk of this production is tied to the auto-

mobile parts and equipment industries, since railroad equipment, aircraft, and shipbuilding manufactures are very minor in the area.

The rest of Milwaukee's industries, including lumber, furniture, paper, printing, chemicals, building materials, petroleum, and miscellaneous lines, contribute approximately 14 per cent of all manufactured products when measured in dollar terms. In total, this broad group of industries turns out products valued at about a quarter billion dollars, a marked increase from the prewar level.

Like the other major industrial areas in the Seventh District, such as Detroit, Indianapolis, and Chicago, Milwaukee depends heavily upon manufacturing for its economic life. In this respect it differs from such centers as Atlanta, Boston, Kansas City, San Francisco, or Seattle in which trade and transportation assume more relative importance. About half of all wage and salary incomes in Milwaukee are dependent directly upon the production from factories, and thus the value of manufacturing output is of particular significance to local prosperity.

RAW MATERIALS AND MARKETS

Railroads and common-carrier motor trucks handle much of the in-bound raw material and out-bound finished product traffic of Milwaukee, a situation which causes the area's manufacturing firms to be affected importantly by rising freight rates. The principal raw materials used in local production are: pig iron and semi-finished steel, processed nonferrous metals, grain and other farm products, hides and leather, basic textiles, and lumber. Since these are brought from both nearby and more distant points, the pattern of freight rate increases becomes an important element of cost in Milwaukee's production.

The area contains no basic steel plants—that is, no blast furnaces, open hearth operations, or converters. The considerable number of gray iron and steel foundries and steel fabricating plants, however, comprise an important part of the area's manufacturing production, and obtain their raw materials, basic steel and iron, from Chicago, Pittsburgh, and other steel centers.

Because of this dependence upon outside areas for basic steel, the emerging changes in supplier-consumer relationships, made necessary by the widespread abandonment of multiple basing point pricing practices, are being watched with great care. There is still considerable uncertainty, however, about both the proper interpretation and full implication of the new Supreme Court ruling. F.o.b. mill or other newly adopted pricing systems are not expected locally to have as disruptive effects on the over-all economy of the area as seems likely in the case of many other industrial centers. By local estimate, about 75 per cent of the users already obtain their basic steel from Chicago producers. However, the remaining 25 per cent of firms which have been buying steel from more distant mills on Chicago basing point prices are expected to be more directly and adversely affected as supply-demand relationships become more normal.

The Units of Local Government—II

The Demands of Urbanization for Public Expenditures

Among the factors that have accounted for the steady growth of taxation and public expenditure in the past several decades, the increase in urbanization has been generally neglected. Though war is far and away the largest single determinant of the existing level of over-all public expenditure, the demands of urbanization rank along with requirements for education, welfare, and public streets and highways as major cost conditioning factors. These factors have particular relevance to the functions and responsibilities of state and local government. Local government has absorbed much of the increase in the cost of education, a portion of that attributable to welfare, better highways and streets, and nearly all of that due to the fact that a steadily increasing proportion of the nation's population resides in urban areas.

The multifarious expressions used to emphasize or de-emphasize the cost of government give widely varying impressions of the magnitudes involved. Confronted with apparently conflicting facts, one is almost certain to be bewildered, if not misinformed, should he seek an understanding beyond the statement of the bald billions of government expenditures and taxation. Not more than a few can be satisfied with such unvisionable magnitudes. Most persons need something with which to compare the cost of government and the burden of taxation. The usual frames of reference are comparable conditions in other times and places.

Comparative contemporary finance is the best avenue for scientific investigation but is all too often made useless by insufficient attention to evaluating the conditions requisite to comparability. Most persons find it easier to employ comparisons in time, to relate their situation today with that of a year ago, a decade ago, in their father's time, or even their grandfather's time. Such comparisons, if they do not extend too remotely, have the advantage that they involve an implicit recognition of many of the modifications that must be introduced to give significance to the results. The crudest sort of comparison in time, for example, would be one which would note that in the five states of the Seventh District a half century ago, the public expenditures of state and local governments aggregated 100 million dollars whereas today the total is close to 2,700 million dollars.

This comparison ignores changes in population and the price level to mention two important qualifications. In this same interval, the population in the area increased more than 100 per cent and the price level in the neighborhood of 200 per cent. If fairly simple adjustments are made to take these facts into account instead of showing state and local expenditures as having increased 26 times, they will show, in terms of the number of persons in the area and in terms of dollars of equivalent

purchasing power, state and local costs as having increased between three and four times.

GROWTH OF URBANIZATION

The accompanying tables have been compiled and arranged to measure the growth and present extent of urbanization in the Seventh District states. These facts are evinced by classifying the population in each state for the decades since 1880 according to place of residence, i.e., (1) within a metropolitan district (with subclasses for the central cities, satellite cities, and unincorporated areas), (2) within a city, village, or town outside of a metropolitan district, and (3) in rural territory.¹

The population designated as rural is that presumed not to require those government services associated with concentrations of population in towns and cities. It consists principally of farmers and their families living on farms, but also includes persons living in resort areas particularly in Wisconsin and Michigan, in the coal mining region of southern Illinois, and, in the past three decades, a growing number of persons residing on the periphery of the smaller incorporated communities and along paved rural highways.

These data indicate that in 1880 nearly two-thirds of the population in the District states lived in rural areas, but that in 1940 three-fourths were urban dwellers. The differences among the states are indicated (see Table 2) by the contrast between Illinois and Iowa; in Illinois the proportion of rural population shrank from 55 to 15 per cent during the period, whereas in Iowa the decline was

¹To a limited degree the proportion of the population shown as living in incorporated places is affected by varying formal statutory prerequisites to incorporation imposed by the several states. There are no restrictions on the incorporation of villages in Iowa and Indiana, a fact reflected in the count of small communities in both states. In Wisconsin the minimum requirement is a population of 150 in an area of one-half square mile, in Michigan 250 residents in an area of $\frac{1}{4}$ square mile, and in Illinois 300 persons in an area of less than two square miles. Prior to 1919 in Wisconsin and prior to 1917 in Michigan a resident population of 300 was the minimum qualification for incorporation of villages. In Illinois the present population requirement of 300 was adopted in 1872, lowered to 200 in 1923, and to 100 in 1927, and restored to 300 in 1937. There were no changes in the statutory restrictions in Indiana and Iowa during the period under consideration (1880-1940). Population minima for cities range from 1,000 in Illinois and 1,500 in Wisconsin to 2,000 in Indiana, Iowa, and Michigan. Area specifications are added in Michigan (not less than 500 persons per square mile) and Illinois (an area not exceeding four square miles for the population minimum). In Indiana and Michigan, villages may become cities without fully complying with these requirements.

FOOTNOTES TO TABLE ON OPPOSITE PAGE

¹Following are the districts identified by the central cities and the years in which they are included: Chicago (Illinois portion, 1880-1940), St. Louis (Illinois portion, 1880-1940), Davenport-Rock Island-Moline (Illinois portion, 1920-40), Decatur (1930-40), Rockford (1920-40), and Springfield (1910-40).

²Includes the following districts identified by the central cities: Chicago (part in Indiana, 1890-1940), Louisville (part in Indiana, 1880-1940), Evansville (1890-1940), Fort Wayne (1910-40), Indianapolis (1880-1940), South Bend (1910-40), and Terre Haute (1910-40).

³Consists of the following identified by the central cities: Davenport-Rock Island-Moline (area in Iowa, 1920-40), Omaha-Council Bluffs (area in Iowa, 1880-1940), Sioux City (area in Iowa, 1920-40), Cedar Rapids, (1930-40), Des Moines (1890-7940), and Waterloo (1940).

⁴Is composed of the following districts identified by the central city: Detroit (1880-1940), Flint (1920-40), Grand Rapids (1890-1940), Kalamazoo (1930-40), Lansing (1920-40), Saginaw-Bay City (1910-40).

⁵Following are the districts included identified by their central city: Duluth-Superior (part in Wisconsin, 1900-40), Madison (1930-40), Milwaukee (1880-1940), and Racine-Kenosha (1920-40).

TABLE I
GROWTH IN URBANIZATION IN SEVENTH DISTRICT STATES
1880-1940

Area	1940		1930		1920		1910		1900		1890		1880	
	Number of Incorporated Places	Population (000's)												
District States														
Total	3,588	22,257	3,545	21,121	3,396	18,120	3,187	15,709	2,666	14,060	2,057	11,718	1,621	9,634
Metropolitan Districts	299	10,887	279	10,237	166	6,969	123	4,589	90	3,122	47	2,036	36	1,012
Central Cities	29	8,003	28	7,805	23	5,820	15	3,947	9	2,730	8	1,798	5	828
Other Incorporated	270	2,117	251	1,925	143	881	108	487	81	253	39	120	31	67
Unincorporated	—	767	—	507	—	258	—	155	—	134	—	118	—	117
All Other Cities, Villages, and Incorporated Towns	3,289	5,856	3,266	5,546	3,230	5,554	3,064	5,136	2,576	4,518	2,010	3,444	1,585	2,448
10,000-50,000	108	2,279	99	2,118	95	1,981	90	1,816	80	1,558	61	1,104	37	636
1,000-10,000	948	2,483	901	2,432	951	2,565	903	2,358	816	2,133	673	1,712	530	1,321
Under 1,000	2,233	1,094	2,266	993	2,184	1,008	2,071	962	1,680	827	1,271	623	1,018	491
Rural	—	5,514	—	5,338	—	5,597	—	5,984	—	6,420	—	6,238	—	6,174
Illinois														
Total	1,140	7,897	1,126	7,631	1,109	6,486	1,066	5,639	935	4,822	731	3,826	659	3,078
Metropolitan Districts	157	5,019	150	4,857	87	3,470	69	2,616	54	1,943	21	1,180	19	591
Central Cities	7	3,799	7	3,767	5	2,969	3	2,304	2	1,755	1	1,100	1	503
Other Incorporated	150	1,034	143	958	82	430	66	270	52	150	20	60	18	33
Unincorporated	—	186	—	132	—	71	—	42	—	38	—	20	—	55
All Other Cities, Villages, and Incorporated Towns	983	1,641	976	1,562	1,022	1,701	997	1,578	881	1,319	710	1,035	640	807
10,000-50,000	26	561	22	439	27	556	24	515	21	415	18	329	11	175
1,000-10,000	285	778	275	734	313	816	299	750	238	608	208	475	178	428
Under 1,000	672	302	679	299	682	329	674	313	622	296	484	231	451	204
Rural	—	1,237	—	1,212	—	1,315	—	1,445	—	1,560	—	1,611	—	1,680
Indiana														
Total	529	3,428	525	3,239	483	2,930	471	2,701	402	2,516	350	2,192	290	1,978
Metropolitan Districts	44	1,268	41	1,176	28	884	22	635	16	303	18	235	12	124
Central Cities	5	767	5	748	5	623	5	479	2	228	2	156	1	75
Other Incorporated	39	352	36	329	23	205	17	119	14	57	16	53	11	30
Unincorporated	—	149	—	99	—	56	—	37	—	18	—	26	—	19
All Other Cities, Villages, and Incorporated Towns	485	1,090	484	1,022	455	946	449	845	386	841	332	606	278	462
10,000-50,000	23	489	24	453	19	363	15	240	14	293	10	178	7	134
1,000-10,000	155	454	147	421	159	450	166	471	149	43	115	322	92	243
Under 1,000	307	147	313	148	277	133	268	134	223	115	207	106	179	85
Rural	—	1,070	—	1,041	—	1,100	—	1,221	—	1,372	—	1,351	—	1,392
Iowa														
Total	931	2,538	917	2,471	900	2,404	837	2,225	684	2,232	462	1,913	321	1,625
Metropolitan Districts	17	524	13	418	11	312	4	130	4	102	2	78	1	20
Central Cities	6	463	5	381	4	291	2	116	2	88	2	72	1	18
Other Incorporated	11	25	8	13	7	9	2	3	2	2	—	—	—	—
Unincorporated	—	36	—	24	—	12	—	11	—	12	—	6	—	2
All Other Cities, Villages, and Incorporated Towns	914	1,067	904	1,051	889	1,048	833	1,000	680	883	460	631	320	440
10,000-50,000	15	308	16	336	14	313	15	352	12	259	9	189	6	126
1,000-10,000	190	382	180	438	188	456	165	383	171	395	123	280	93	209
Under 1,000	709	377	708	277	687	279	653	265	497	229	328	162	221	165
Rural	—	947	—	1,002	—	1,044	—	1,095	—	1,247	—	1,204	—	1,165
Michigan														
Total	475	5,256	475	4,842	452	3,668	436	2,810	384	2,421	305	2,094	220	1,637
Metropolitan Districts	58	3,035	56	2,807	27	1,613	18	739	9	417	4	309	3	140
Central Cities	7	2,203	7	2,155	6	1,390	4	674	2	374	2	266	1	116
Other Incorporated	51	525	49	483	21	155	14	30	7	9	2	4	2	4
Unincorporated	—	307	—	184	—	68	—	35	—	34	—	39	—	20
All Other Cities, Villages, and Incorporated Towns	417	1,025	419	973	425	983	418	909	375	831	301	671	217	445
10,000-50,000	22	440	21	415	19	396	20	370	17	308	13	234	7	121
1,000-10,000	170	473	159	443	156	467	154	415	157	415	134	354	97	256
Under 1,000	225	112	239	115	250	120	244	201	107	154	83	113	83	88
Rural	—	1,196	—	1,061	—	1,072	—	1,162	—	1,173	—	1,114	—	1,052
Wisconsin														
Total	513	3,138	502	2,939	452	2,632	377	2,334	261	2,069	209	1,693	131	1,316
Metropolitan Districts	23	1,041	19	979	13	690	10	469	7	357	2	234	1	137
Central Cities	4	771	4	754	3	557	1	374	1	285	1	204	1	116
Other Incorporated	19	151	15	157	10	82	9	65	6	40	1	3	—	—
Unincorporated	—	89	—	68	—	51	—	30	—	32	—	27	—	21
All Other Cities, Villages, and Incorporated Towns	490	1,033	483	938	439	876	367	804	254	644	207	501	130	294
10,000-50,000	22	481	16	385	16	352	16	359	16	282	11	174	6	90
1,000-10,000	148	396	140	397	135	377	119	339	101	281	98	281	70	185
Under 1,000	320	156	327	156	288	147	232	126	137	80	98	46	54	29
Rural	—	1,064	—	1,022	—	1,066	—	1,061	—	1,068	—	958	—	885

Note: See opposite page for footnotes.

from 72 to 37 per cent. In fact, rural population as here defined has even declined in absolute numbers in Illinois, Indiana, and Iowa, and changed but little in Michigan and Wisconsin since 1900.

In both 1930 and 1940 the rural population in each of the District states was between one and one and one quarter million persons, and during the entire period 1880-1940 approximately six (5.4 to 6.4) million persons in the five states did not require urban services. Though there has been a great change in the character and cost of rural government in these 60 years, principally in the provisions for education and roads, urbanization has required a steadily expanding list of services for a larger and larger proportion of the population in addition to being affected by the factors increasing rural government costs.

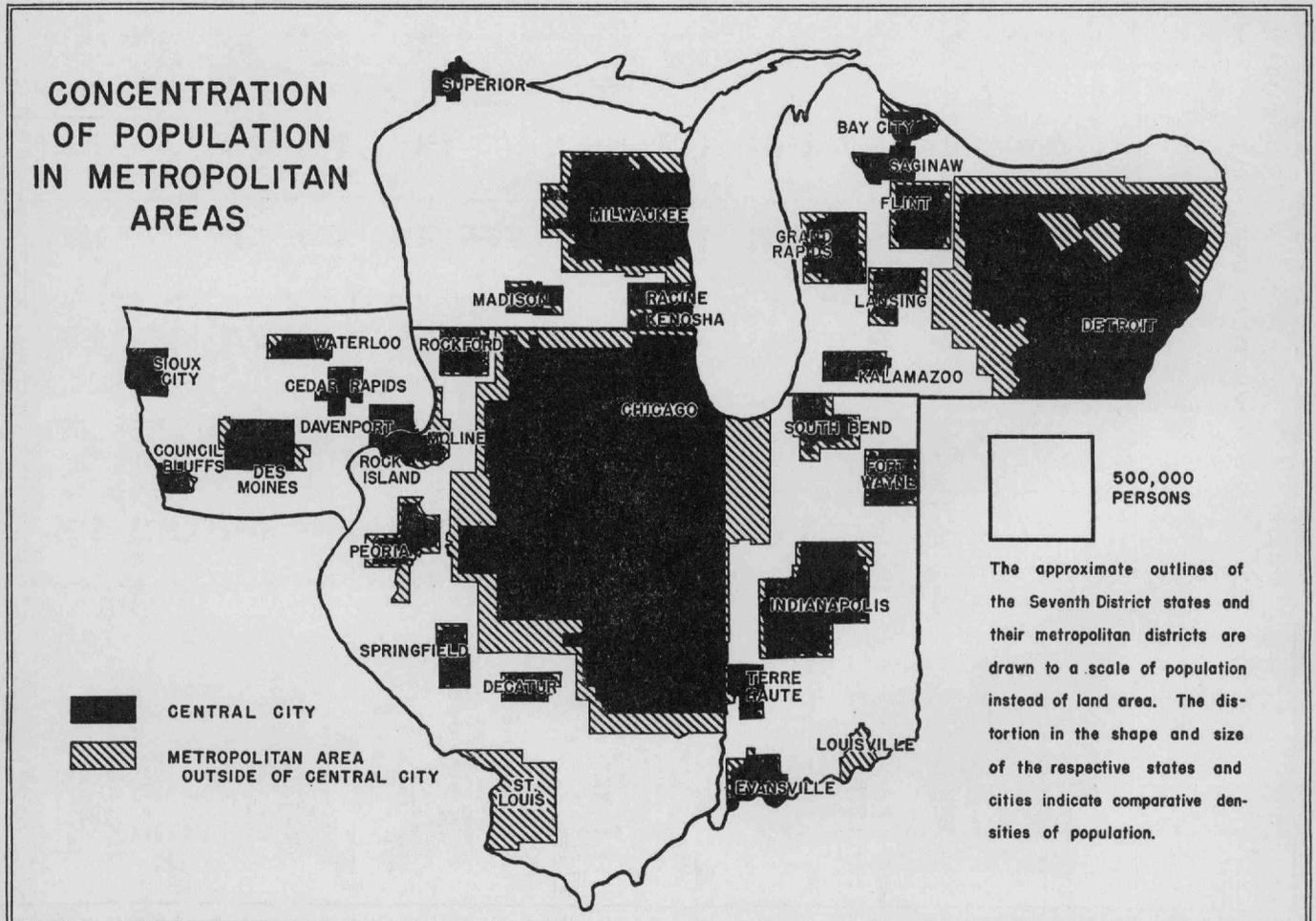
During these decades when the rural population remained comparatively unchanged, urban residents increased five-fold—from 3.4 to nearly 17.0 million persons. Moreover, such population growth far from being uniformly distributed geographically occurred in the larger cities and in metropolitan areas—the very large cities with their satellite towns, villages, and adjacent unincorporated areas—where its impact on local services and their financing had the least chance of being effectively dealt with. The inherited form and organization of local government was not designed to meet the needs of such

vast concentrations of population, and the political machinery of the states with its rural bias was not responsive enough to adapt existing institutions of local government into units capable of coping with the problem.

To overcome the unconscious habit of visualizing the comparative magnitude of state and local expenditures as proportional to area, the accompanying chart has been drawn simulating the shape of the Seventh District states but scaled according to the density of population. The areas on this map represent numbers of persons and not square miles. The impression conveyed is a measure of the degree to which population is concentrated in cities and governmental expenditures even more so.

The data in Table 1 on metropolitan districts utilize such Census materials as are available and extend the concept of the metropolitan district back for two decades to provide some additional perspective on the development of urbanization in the area.

A metropolitan district is defined by the Census of 1940 as a thickly settled territory in and around a city or group of cities of 50,000 population or more.² The areas adjacent and contiguous to the central cities are those in which the density of population is greater than 150 persons per square mile; these areas are in fairly large indivisible units: i.e., entire townships, cities, villages, or incorporated towns. In the Middle West, metropolitan districts follow township lines excepting where municipi-



palities extend across township limits on the outer fringe, then the municipality boundaries in the more remote township are used.

The practice of including an entire contiguous township—usually 36 square miles—if its average density is 150 persons per square mile distorts both the shape and size of the metropolitan areas. The density requirement is attained by greater concentrations along the channels of transportation and is offset by a typically rural population elsewhere. The geographic configuration of population congestion and its bearing on the services and cost of municipal government can hardly be adequately explored by reference to metropolitan area statistics, but they may furnish the initial clues to further investigation.

WHY CITIES NEED MORE GOVERNMENT

Urbanization adds to government costs by creating conditions with which only community action can effectively cope. It also eliminates the practicability of satisfying many wants by private expenditure, and accentuates an awareness of comparative social conditions, thus stimulating the reliance on government to raise directly or indirectly the lower scales of living. The major impact of urbanism, however, may well be on the future, not the present or past, costs of government. This is due partly to the potential burdens of the growing obsolescence of residential, business, and industrial facilities and the present inability of the cities to anticipate or control future private investment so as to minimize public costs.

Illustrative of the present differences in the demands upon rural and urban government are such major items in municipal budgets as the provision of an adequate water supply and the disposal of sewage, garbage, and other wastes. In rural areas where the population is comparatively dispersed such facilities as are required to furnish these services are ordinarily provided by private expenditure with very little, if any, government assistance or supervision. In cities, there is no generally acceptable alternative to public performance of functions of this character.

Fire and police protection, two other major items of city expenditure, also are significantly affected by concentration of population. While the causes of fire and infractions of legal rules are not confined to the cities, they are more numerous in such areas, and the insulation of distance to the spread of fire and crime is analogous to the quarantine to prevent the spread of disease. A society might well insure its fire, crime, and disease losses with a dispersed, rural population, but it could

²The 1940 definition of a metropolitan district has undergone some modification since the concept was introduced in 1910. In that year these urban areas were known as "metropolitan districts" or "cities with adjacent areas." The former were defined as central cities with a population of more than 200,000 plus the civil divisions (incorporated places and townships in the Middle West) within 10 miles of the central city and having a population density of 150 persons per square mile. The "cities with adjacent areas" were similarly defined except that the central city population requirement was over 100,000 and less than 200,000, and no density qualification was imposed for the adjacent territory. In 1930 the minimum population for the central city was reduced to 50,000, the concept of the city with contiguous areas discontinued, and the metropolitan areas were determined according to the outline of suburban development.

In the accompanying tables, cities and their adjacent territory are treated as metropolitan areas as far back as the central city qualification under the current definition (50,000 population) obtains. The areas used to compile metropolitan district populations in the years 1880 and 1890 and in later years for districts that did not qualify for the earlier census definitions of metropolitan areas, are, with some minor exceptions, the initially determined boundaries of the district.

never afford to do so with large concentrations of population in which any one of these hazards could quickly get out of control.

The effect of urban community life on the social conscience and the prevalence of self-reliance can only be advanced as relevant factors affecting urban costs but with no indication of their quantitative significance. Unquestionably the cultural evolution in the United States has been affected by social contacts facilitated by urban life. From the cities has stemmed much of the demand for social legislation and government expenditure to improve the condition of the poorest portions of our population.

Urban life involves far more interdependence than 19th century or even present day rural life. Occupational specialization is one of the major assets of the modern economic system, but city dwellers are peculiarly exposed to its hazards—technological change, the trade cycle, and occupational inflexibility. Thus the urbanite is less self-reliant both because of the role he plays in the economic system, and because his entire environment is one in which he looks to others to provide so large a proportion of his wants. Often he may confuse areas in which self-help is a more effective measure than government aids and policies.

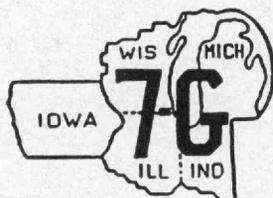
All of the foregoing elements have been gradually adding to the dimensions of the demands for the services of local units of government. Despite Federal and state participation, particularly in the fields of highway facilities, education, and social security, expenditures of urban local units for these services have continued to expand.

TABLE 2
PERCENTAGE OF TOTAL POPULATION
IN URBAN AND RURAL AREAS
1880-1940

Year	Metropolitan Districts			All Other Cities, Villages, and Incorporated Towns	Rural	
	Total	Central Cities	Other Incorporated Places			
Seventh District						
1940	49	35	10	4	26	25
1920	39	32	5	2	30	31
1900	22	19	2	1	32	46
1880	11	9	1	1	25	64
Illinois						
1940	64	48	13	3	21	15
1920	54	46	6	1	26	20
1900	40	36	3	1	27	33
1880	19	16	1	2	26	55
Indiana						
1940	37	22	10	5	32	31
1920	30	21	7	2	32	38
1900	12	9	2	1	33	55
1880	6	4	2	*	23	71
Iowa						
1940	21	18	1	2	42	37
1920	13	12	*	1	44	43
1900	4	4	—	—	40	56
1880	1	1	—	*	27	72
Michigan						
1940	58	42	10	6	19	23
1920	44	38	4	2	27	29
1900	17	16	*	1	34	49
1880	8	7	*	1	27	65
Wisconsin						
1940	33	24	6	3	33	34
1920	26	21	3	2	33	41
1900	17	14	2	1	31	52
1880	10	9	—	1	23	67

*Less than .5 per cent.

SEVENTH FEDERAL



RESERVE DISTRICT

