

THE CHANGING DISTRIBUTION OF MANUFACTURING IN ILLINOIS

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The years from 1939 to 1951 saw great changes in the economic life of the United States and the state of Illinois. The revival of business from the depression of the 1930's, World War II, the postwar transitional period, and the beginning of the Korean conflict profoundly altered the level and distribution of economic activity throughout the country. Of immediate interest in this paper are the consequent or concurrent changes which have taken place in the patterns of manufacturing activity in Illinois.

Among the more readily calculable and frequently employed measures of change in manufacturing activity which will be applied to changes in Illinois from 1939 to 1951 are: percentage of population in manufacturing; proportion of employed population in manufacturing; and change in number and size of establishments. The total areal pattern of changes revealed by these measures may be evaluated and summarized by an examination of the center of manufacturing at the beginning and end of the period. Total population figures have been taken from the most nearly comparable decennial census year. Data for both 1939 and 1947 were taken from the *'Census of Manufactures,'* (1949) and statistics used were those reported as "Production Workers." For 1951, "Employees"

from *'County Business Patterns,'* (1953) were used; these data are closely comparable to the meaning of, and figures for, "Production Workers."

POPULATION ENGAGED IN MANUFACTURING

Although Illinois is properly rated as one of the leading industrial states of the nation, only a relatively small proportion of its total population is engaged in manufacturing. This proportion, however, nearly doubled during the 12-year period, from 7.5% in 1939 to 14.6% in 1951. An examination of Figure 1, comparing the change in this proportion in each county with the average change in the state, shows several areas having similar rates of change. The lines on Figure 1 divide the state roughly into thirds, varying somewhat from exact numerical division for the sake of observed apparent unity. These three parts of the state will be referred to in connection with later maps, but the lines have not been repeated on those maps because of the danger that such repetition would give an impression of greater validity to the division than its use as a convenient analytical device warrants.

It can be noted that, in general, the counties of the northern one-

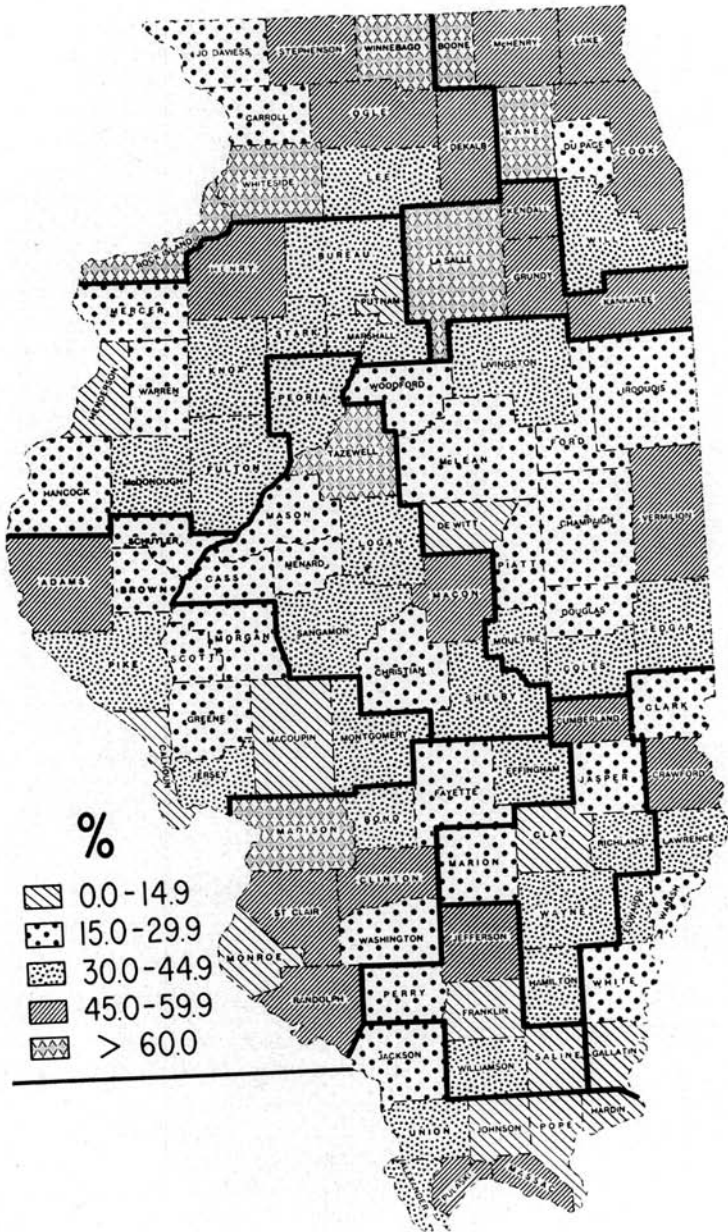


FIG. 2.—Percentage of non-agricultural workers in manufacturing, 1951.

third of the state showed an increase no greater than the state average. Many counties experienced an increase less than the average, and two showed an absolute decline. Only two counties in this area had an increase in the percentage of the population engaged in manufacturing greater than the average increase in the state. In the middle one-third, on the other hand, over half (23 of 42) of the counties showed an increase greater than the average for the state. Four other counties in this area increased at the same rate as the state, while only two showed an absolute decline. The pattern in the southern one-third is less clear-cut, but there are considerable areas of absolute decline and a general relative decline for the section. Only 7 of the 34 southern counties increased their proportion more rapidly than the average of the state. These patterns of change in the percentage of total population in manufacturing may be further refined to identify more clearly the areas in which industry is particularly important.

The analysis of non-agricultural workers engaged in manufacturing (Fig. 2) provides one means of locating the highly industrialized counties of the state. Six of the eight counties having a proportion of non-agricultural workers in manufacturing well above the state average are located in the northern one-third of the state. In addition, most of the counties in the northern third shown on the map as approximating the state average are also well above that average; in several cases they approach the upper limit of the class. In this, as in almost

all measures of economic activities in Illinois, the state average is very heavily affected by the situation in Cook County. It is apparent that the northern one-third of the state is the most highly industrialized and that the industrialization here is distributed more evenly than in other areas. This northern area has 79% of the state's non-agricultural employed population and 83% of the state's manufacturing workers. A comparison of the northern area with and without Cook County will provide an indication of the spread of industry. The area as a whole has 49% of its non-agricultural workers in manufacturing—about the same as the average for the state. Excluding Cook County, however, the northern one-third has 56% of its non-agricultural employed population in manufacturing—about one-fifth higher than the state average. The southern two-thirds of the state show only a few spots with a concentration of people in manufacturing. Perhaps the largest block of counties is made up of Madison, St. Clair, Clinton, and Randolph in the southwest.

In an attempt to arrive at more meaningful combinations of statistics, the Census Bureau has recently introduced county groupings which they designate as economic areas. To check the validity of these areas, by one measure at least, Figure 2 is shown with the Census Bureau's economic areas outlined. While this single-element comparison is admittedly limited, it may be seen that almost universally the economic areas bear little relationship to the patterns of industrial population. It would appear that these economic

areas must be used cautiously, if at all, when discussing the regionalization of manufacturing.

PRODUCTION WORKERS AND ESTABLISHMENTS

A more detailed appraisal of the impact of change on individual counties may be made by an examination of the change in the number of production workers in each county between 1939 and 1951. Changes during this period (Fig. 3) might be expected to be rather permanent changes in the industrial growth of counties, since the period is fairly long and encompasses a number of events with diverse effects. During this period the number of production workers in the whole state increased by 115%. Two areas, the middle one-third of the state and the eastern part of the northern one-third, showed increases generally equal to or more than that of the state. The largest areas of little growth or actual decrease are the eastern and southern parts of the southern one-third. The examination of changes over shorter periods within the 1939-51 span reveals that the rate of change was nearly twice as great from 1939 to 1947 as it was from 1947-1951. The patterns of change during the shorter periods are well summarized by the map of total change (Fig. 3).

Since, as already noted, an increase of 115% in the number of production workers in the state occurred, it would be reasonable to expect an accompanying increase in the number of manufacturing establishments in the state. This, in fact, did occur, and during the period from 1939 to 1951 there was an increase of 50% in the number of

manufacturing establishments in Illinois (Fig. 4). From the disparity between these two rates of change it may be noted that much of the increase in production workers was accounted for by increased employment in existing establishments. There is essentially no pattern to be discerned in the increase in number of establishments. That increase was rather widespread over the entire state.

A considerable proportion of the new establishments founded were small, as indicated by the state increase of only 44% in the average size of establishments, less than either the change in the number of establishments or in the number of production workers. This measure also shows a wide dispersal of the degrees of change and relatively little pattern can be discerned (Fig. 5). There is, however, once again a greater concentration of increases larger than the state average in the counties of the central one-third of the state. An examination of the counties included in certain industrial areas reveals that the size of establishments increased markedly in the East St. Louis, Peoria, and Rock Island districts. Cook County, on the other hand, showed no such disproportionate increase (and, of course, was largely responsible for establishing the state average). The southern one-third of the state experienced a general decrease in the size of establishments, particularly in those counties around the margins of the area.

CENTERS OF PRODUCTION

Each of the individual measures of industrial change discussed so

far indicates a considerable variation between counties, and the same county may show marked variation when different measures are used. These variations would indicate that each of these measures gives only a partial picture of industrial change, and often the pictures given seem to contradict one another. It is desirable, therefore, to examine industrial change by a measure which serves to summarize the essential nature of that change. The technique of determining the center of production or, in this case, the center of manufacturing, serves this purpose. It evaluates the net result of the changes portrayed by the individual indices, and to some extent smooths out interruptions in the pattern caused by extreme individual variations.

There are three major characteristics of the center of manufacturing in Illinois which may be noted (Fig. 6). First, the position of the center indicates very clearly the strong impact of Cook County. This single county has two-thirds of the state's manufacturing workers, a figure unchanged from 1939 to 1951. If the production workers were stacked up on the imaginary plane envisaged by this center technique, the plane would have a very decided downward tilt in the direction of Cook County. Second, if the center of manufacturing for the rest of the state, that is excluding Cook County, is determined, that center lies much nearer to, but north of, the geographical mid-point of the state. This indicates again the comparatively higher degree of industrializa-

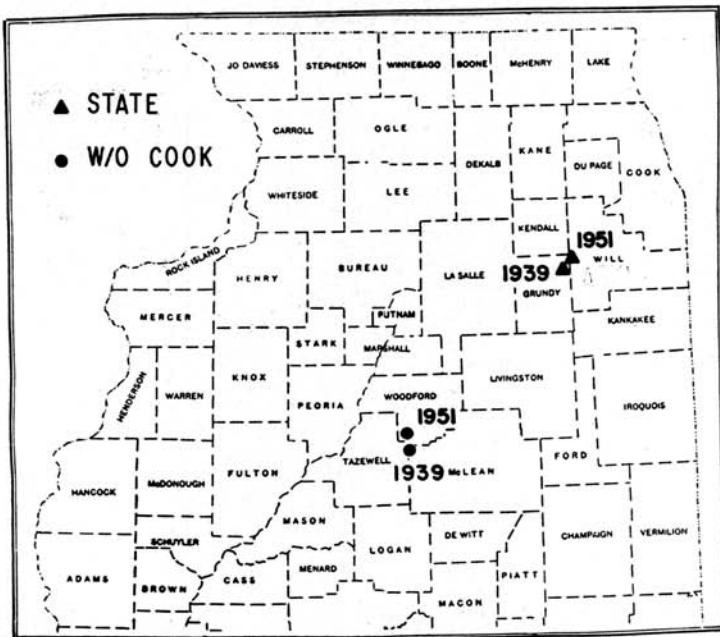


FIG. 6.—Centers of manufacturing (based on production workers).

tion in the north. Third, of primary concern in this discussion of changes in manufacturing in Illinois is the very small movement of the center of manufacturing, whether measured with or without Cook County. Although the center depicted here is based on production workers, rough determinations have shown that the center would not vary significantly if other of the measures presented here were used.

SUMMARY

The lack of movement of the center of manufacturing has important implications, both for the present study of changes in manufacturing in Illinois and for the technique useful in future studies of industrial change. With respect to changes in manufacturing in Illinois from 1939 to 1951, the lack of movement of the centers indicates that there has been basically no change in the over-all geographical pattern of industrial activity. This is true despite the considerable variations seen when other measures less summary in character are examined. The change in industrial activity in Illinois has been quite uniformly distributed, during a period which has seen the impact of several major economic developments. None of the industrial districts in Illinois has experienced a growth dispro-

portionately greater than that of the others. All of the industrial districts, except Peoria, are far removed from the center of manufacturing (without Cook County) and so would have had a considerable effect on the center if any disproportionate change had occurred. The fact that the center when measured for the state as a whole—that is, including Cook County—changed so little demonstrates that even this major industrial county grew little faster in industry than did the rest of the state. The only effects to be noted from movements of the center of manufacturing between 1939 and 1951 are: a slight intensification of the dominance of Cook County in the state's industrial activity; and a slightly greater increase in the importance of the northern part in the state's industrial pattern.

For future studies of industrial change, the results obtained would seem to indicate that determining movements of the center might well be a preliminary step, with the other measures being used only when significant shifts in the center are observed.

ACKNOWLEDGMENT

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