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GROWTH OF  
AMERICAN MANUFACTURING AREAS

A Comparative Analysis with Special Emphasis  
on Trends in the Pittsburgh District

PITTSBURGH, PENNSYLVANIA  
1938

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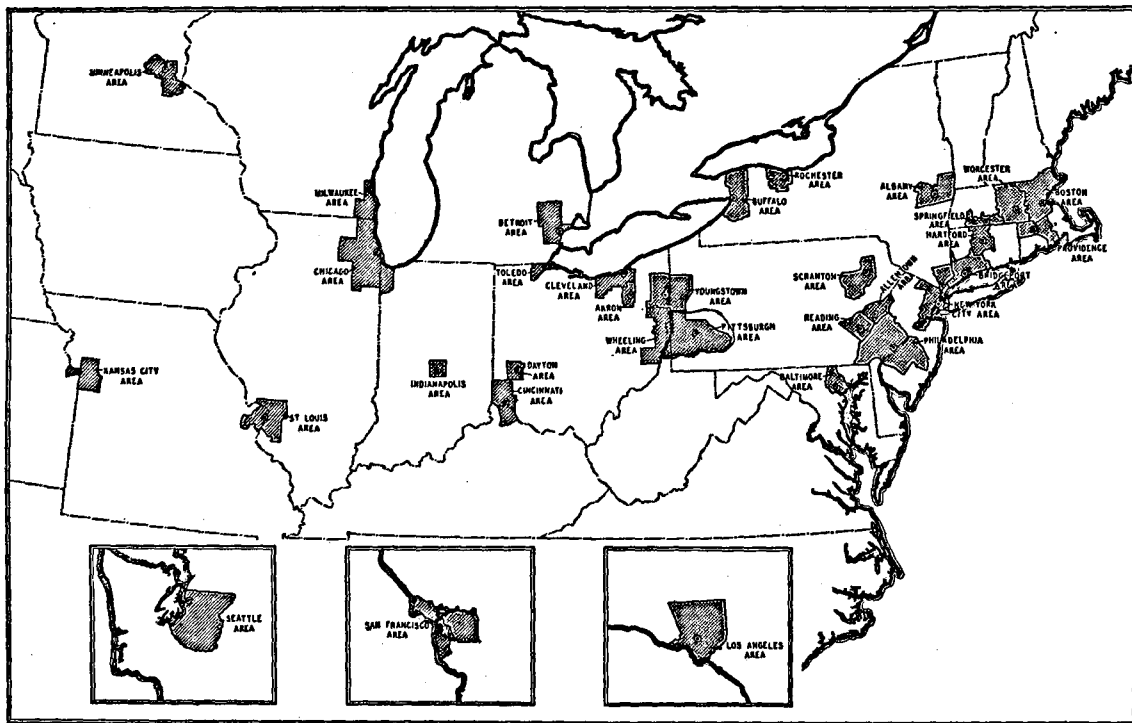
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LOCATION OF 33 INDUSTRIAL AREAS DEFINED BY THE UNITED STATES BUREAU OF THE CENSUS



**GROWTH OF  
AMERICAN MANUFACTURING AREAS**

**A Comparative Analysis with Special Emphasis  
on Trends in the Pittsburgh District**

*by*

**GLENN E. McLAUGHLIN**



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## DIRECTOR'S PREFACE

Early in its program of regional economic research, under a grant from The Buhl Foundation, the staff of the Bureau of Business Research undertook to compute measures of industrial growth for the Pittsburgh district. It was recognized that an intelligent appraisal of the district's present position and prospects for growth must be based in large part on an understanding of what had gone on before, an understanding that could best be secured through statistical measurement of long-time trends. It followed, of course, that these trends must be related to corresponding trends, not only for the nation but for other centers, especially competing centers, of industrial activity. Economic change in one industrial area can be understood only in terms of economic change elsewhere in the economy of which that area forms a part. Accordingly, a comparative study of industrial growth in the chief American manufacturing districts was undertaken as a necessary parallel inquiry. The fruits of that undertaking are contained in the present monograph.

One of the essentials in an interdependent economy is some degree of regional specialization, whereby each region tends to produce those things for which it has comparative advantages in natural resources, in transportation facilities, in its position with respect to markets, in the skill and energy of its population, or in any of the many other factors, including the chance factor of an early start. These comparative advantages shift with changes in the stage of technical advancement, with changes in consumption demands, with changes in market areas, with changes in public policy. Consequently we do not find that all our economic regions move along parallel lines. There are great differences in rates of growth, not to mention differences in seasonality of economic activity and in the amplitude of the swings from the fat years to the lean years. Moreover, in a relatively young and growing country there are bound to be great differences in the stage of development among economic regions. Infancy of growth in one region may parallel in time ripe maturity in another.



In the reports of the decennial census of manufactures for 1929, the United States Bureau of the Census published, for the first time, extensive data on manufacturing industries classified by industrial areas. Thirty-three such areas were defined, each one consisting of a major manufacturing city, the county in which the central city is situated, and the surrounding industrial counties considered to form a part of the industrial agglomeration. (Data for a few differently defined areas were published in the reports for 1904, 1909, and 1914, and data for certain counties had been published in the reports for earlier census years.) Provision of these records represented a major advance in industrial statistics. Economists, observing the growth of urban clusters of population and manufacturing activity, had long complained of the artificiality of state boundaries. For example, most industrial states include several centers of manufacturing; and more often than not these centers are of diverse industrial composition, representing different stages of economic development and reflecting varied rates of growth. Consider, for illustrative purposes, the differences between the manufacturing area centering in Pittsburgh, dominated by iron and steel, heavy machinery, glass, coke, and producers' goods generally, and that centering in Philadelphia, consisting of many diversified industries, such as printing and publishing, knit goods, radios and phonographs, light machinery, etc. It can be seen, then, that state totals obscure significant detail. Likewise, in many instances, manufacturing districts overlap state lines, for example, New York, Chicago, and Philadelphia. Moreover, the central city is generally a poor measure of the importance of an industrial area and frequently a highly misleading unit for measuring changes in industrial growth. For example, the city of Pittsburgh in 1929 ranked fourteenth among the industrial cities of the country, rank being based on the number of wage earners employed in manufacturing industries, whereas the Pittsburgh Industrial Area ranked sixth among the 33 areas defined by the Bureau of the Census. Again, manufacturing establishments in the city of Pittsburgh employed 14 per cent fewer wage earners in 1929 than in 1899, whereas in the Pittsburgh Industrial Area the number of wage earners in manufacturing industries was 68 per cent greater in 1929 than in 1899. In 1879 the city accounted for 78 per cent of the wage earners in

manufacturing industries in the industrial area, but by 1929 the proportion had declined to 27 per cent. The Pittsburgh district is an extreme example of this disparity between changes in the central city and changes in the area, but in general it may be said that the central city is an inadequate and unsafe unit for such measurements. The industrial areas defined by the Bureau of the Census in the reports for 1929 and continued in the subsequent biennial census reports on manufacturing go far to repair these deficiencies.

In this study, the author, by a laborious and painstaking process, has compiled comparable data for these 33 industrial areas for the census years prior to 1929 and extending back to 1869. This process has required adjustments for changes in classification of industries, for changes in geographic limits, and for errors revealed in later censuses, as well as preparation of estimates to fill gaps in the record. It has required also many special compilations by the Bureau of the Census. As a result, for the first time it is possible to speak with statistical assurance concerning rates of growth and trend lines for the chief manufacturing areas of the country. The study, however, is not a mere statistical record. Wherever possible, the author has sought to point out the economic, geographic, historical, accidental, and other causal factors responsible for industrial growth and for variations in growth among manufacturing centers. These discussions, together with examination of the growth curves, shed light on prospective trends.

Because of its setting in a regional research program, attention is focused throughout this study on industrial growth in the Pittsburgh district. The aim has been to call attention to Pittsburgh's growth in comparison with growth in other industrial areas and, more particularly, with growth in other iron and steel areas. Part I comprehends this comparative measurement and analysis of industrial growth, wherein emphasis is placed on the statistical record. In Part II an effort is made to analyze the reasons for variations in growth among areas, to interpret growth in the Pittsburgh district, and to appraise the district's position and industrial prospects.

This monograph represents part of a program in regional economic research under a grant from The Buhl Foundation, of Pittsburgh. The purpose of that program has been to contribute

*DIRECTOR'S PREFACE*

toward an understanding of Pittsburgh's economic environment and toward solution of Pittsburgh's economic problems. Through its work, the Bureau of Business Research seeks to provide the factual background for a more intelligent ordering of both private business and public business; to heighten community awareness of critical economic problems; and thus to stimulate group and community action.

RALPH J. WATKINS  
*Director*

December, 1937

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The statistical work for this study, including the painstaking task of estimating regional figures for years for which there were gaps in the census records, was done in the statistical laboratory of the Bureau of Business Research, under the supervision of Messrs.

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GLENN E. McLAUGHLIN

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