

OCCUPATIONAL TRENDS IN OKLAHOMA

By

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OCCUPATIONAL TRENDS IN OKLAHOMA

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CHAPTER I

INTRODUCTION

Objective of the Study

The objective of this study is to determine the occupational trends in Oklahoma by examining the composition and changing conditions of employment in the major industries.

Scope of the Study

Population and occupational statistics are presented in this study for the State of Oklahoma for the year 1910 and every decade thereafter through 1950. For the years 1930, 1940, and 1950, figures are shown separately for the eleven state economic areas of Oklahoma.¹

The occupational classifications used for this study are the seven groups:

Agriculture

Mining

Manufacturing

Transportation and Communication

Trade

Service

Other

¹See Chapter II, Section 2.

Sources of Data

The data presented in this study are secondary data. They are derived from the statistics which are published in a number of publications of the Bureau of the Census.

The main sources of data in this study were:

Thirteenth Decennial Census of Population

Fourteenth Decennial Census of Population

Fifteenth Decennial Census of Population

Sixteenth Decennial Census of Population

Seventeenth Decennial Census of Population

County Data Book--1940

County and City Data Book--1950

Other sources of data are listed in the bibliography.

CHAPTER II

PROCEDURE AND METHODOLOGY

Determination of the Period Studied

Oklahoma became a state of the Union in 1907. Since statehood, the economic development of Oklahoma has been truly startling. On the whole, it has been one of the leading states in the area of economic development in the first fifty years of the twentieth century.¹ The Bureau of the Census has conducted a national census of the total population of the United States every ten years since 1870. The first census that contains data on the population of the state of Oklahoma is the census of 1910. These are the reasons for taking 1910 as the starting point for this study.

Since the census is the only reliable source of data for occupational trends, the analysis is to be based on ten-year intervals. By collecting data at ten-year intervals, the effect of the seasonal variation and part of the business cycle are eliminated. On the other hand, a ten-year interval is short enough to show the shifts between occupations. Thus, the data in this study are for the years 1910, 1920, 1930, 1940, and 1950.

¹Edward E. Dale and Jesse L. Rader, Readings in Oklahoma History (Norman, Oklahoma, 1930), p. 768.

Choice of the Area Unit of Enumerations

In order to make an intensive study of the occupational trends in Oklahoma, it is necessary to break down the entire state into several parts. In this case, county units are too small and too numerous to be usable. If an analysis were made of the occupational trends in Oklahoma by the seventy-seven counties, it would undoubtedly be more detailed than necessary for the objectives of this study. However, some detail is necessary to study the occupational trends in the different parts of the state. Therefore, the state economic area is chosen as the unit of enumeration in this study.

State economic areas are relatively homogeneous subdivisions of the state. They consist of a single county or group of counties which have similar economic and social characteristics. The boundaries of these areas have been drawn in such a way that each state is subdivided into a few parts, with each part having certain significant characteristics which distinguish it from the other areas which it adjoins. The State of Oklahoma has been subdivided into eleven state economic areas and two metropolitan areas, Tulsa and Oklahoma City.²

According to the objectives of this study, four revisions are made in the State Economic Area of Oklahoma as follows:

1. State Economic Area 7a and State Economic Area 7b are combined as Area 7.
2. State Economic Area 8a and State Economic Area 8b are combined as Area 8.

²The analysis which led the development of the state economic areas was initiated by the Bureau of the Census, Committee on Statistical Area, of which Dr. Morris H. Hansen is chairman. The definition of state economic areas as shown in this paragraph is published by the Bureau of the Census in the State Economic Area, page 1.

3. Treat Metropolitan Area A (Tulsa) as Area 10.
4. Treat Metropolitan Area B (Oklahoma City) as Area 11.

The list of counties in each state economic area of Oklahoma is shown as Table I, and an outline map of the boundaries of these areas is shown in Figure 1.

Structure of the Classification of Occupations

Since occupations can be classified in a great variety of ways, and because there is no established list of categories other than that of the census, each investigator must arrange his own list according to his purpose.

The main purpose of this study is to determine the trends of occupations in Oklahoma which picture the economic development. Thus, many occupations mean little when considered apart from the industries in which they are pursued. It is believed that the best classification of occupations for the purpose of this study would be one which shows the number of persons employed in each major industry and service group.

In this study the industries are divided into seven groups. The definition and scope of each major group is listed as follows:³

1. Agriculture: Including farming and agriculture service excluding forestry and fishery.
2. Mining: Including mining, quarrying, crude petroleum and natural gas extraction.
3. Manufacturing: Including all types of manufacturing and construction activities.

³This method of classification has been adopted by the Bureau of Census in County Data Book--1940 except for a few revisions as shown in Chapter III.

TABLE I

LIST OF COUNTIES IN THE STATE ECONOMIC AREA OF OKLAHOMA

Area	County	Area	County	
1	Beaver	5 (continued)	Logan	
	Cimarron		McClain	
	Custer		Pawnee	
	Dewey		Payne	
	Ellis		Pottawatomie	
	Harper			
	Roger Mills		6	Coal
	Texas			Creek
	Woods			Hughes
Woodward	Okfuskee			
2	Alfalpa	7 (7a)	Pontotoc	
	Blaine		Seminole	
	Canadian		Carter	
	Garfield		Jefferson	
	Grant		Johnston	
	Kay		Love	
	Kingfisher		Murray	
	Major		Stephens	
3	Noble	8 (8a)	Bryan	
	Craig		Choctaw	
	Mayes		Marshall	
	Nowata			
	Osage		Haskell	
	Ottawa		McIntosh	
4	Rogers	9	Muskogee	
	Washington		Okmulgee	
	Beckham		Sequoyah	
	Caddo		Wagoner	
	Comanche		8b)	Adair
	Cotton			Cherokee
	Grady			Delaware
	Greer			
	Harmon			
	Jackson			
Kiowa				
Tillman				
Washita				
5	Cleveland	10	Atoka	
	Garvin		Latimer	
	Lincoln		LeFlore	
		11	McCurtain	
			Pittsburg	
			Pushmataha	
			Tulsa	
			Oklahoma City	

Source: Bureau of the Census, State Economic Area.

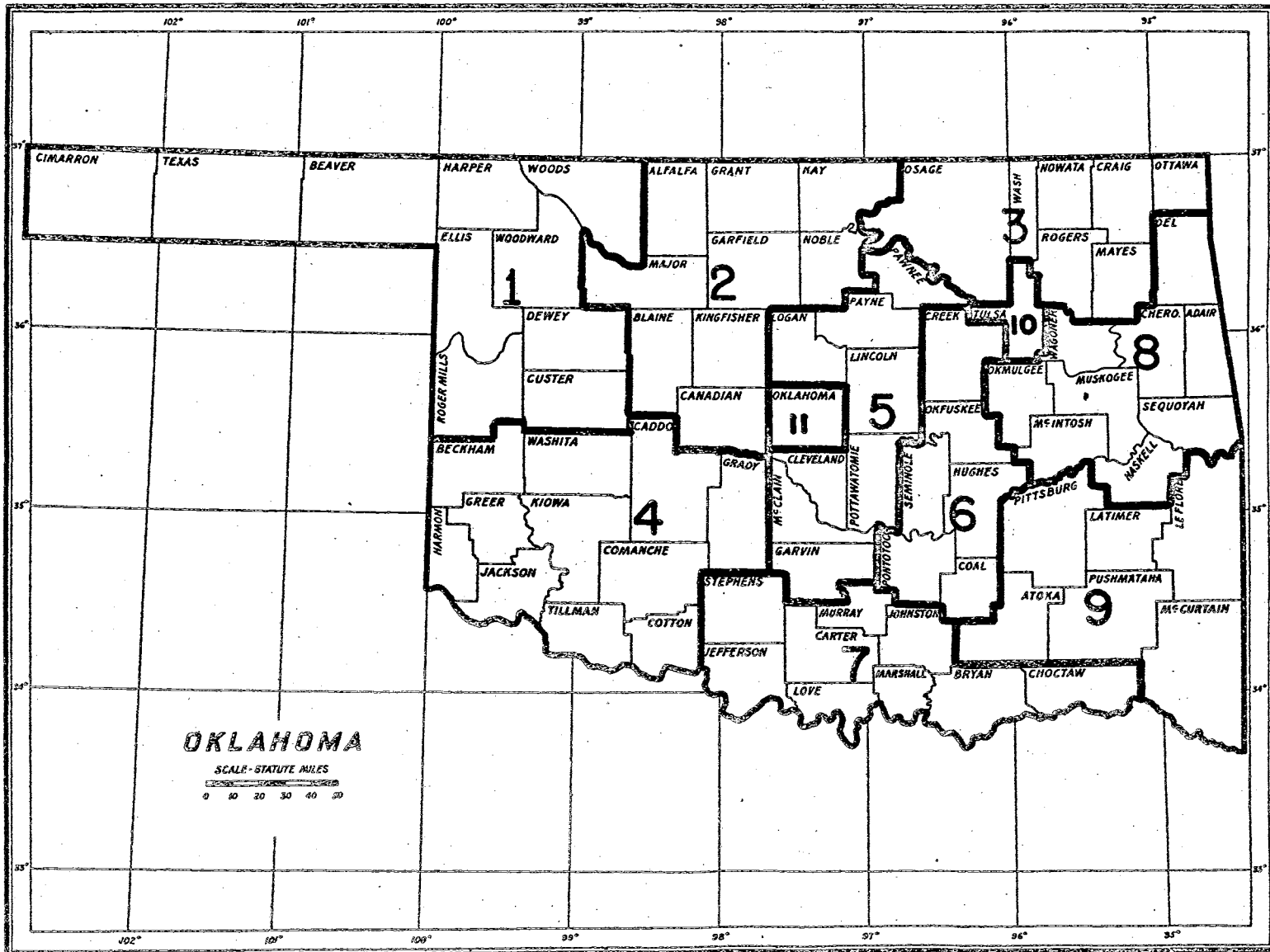


Figure 1. Map of Boundaries of Eleven State Economic Areas of Oklahoma.

4. Transportation and communication: Including
 - (i) Railway, railway express, and railroad repair shops
 - (ii) Tracking service, warehousing, taxicab services, etc.
 - (iii) Other transportations
 - (iv) Petroleum and gasoline pipeline
 - (v) Telecommunication including telephone and telegraph both wire and radio
 - (vi) Other public utilities and sanitary services such as electrics, gas, steam, and water supply

5. Trade: Including
 - (i) All wholesale and retail trade including eating and drinking place
 - (ii) Motor vehicles and accessories, retail stores and filling stations.

6. Service: Including
 - (i) Finance, insurance, and real estate
 - (ii) Business service such as advertising, bookkeeping, and auditing service, etc.
 - (iii) Repair service such as automobile repairing service
 - (iv) Personal service such as hotel place, dressmaking and miscellaneous personal services, etc.
 - (v) Professional and related services
 - (vi) Domestic service

7. Other: Including
 - (i) Forestry and fishery
 - (ii) Public service and government employed
 - (iii) Industry not included in above categories
 - (iv) Industry not reported in census

The definition and scope of each group will remain the same throughout this study.

Use of the Rural-Urban Classification of Population

In this study, urban-rural classification of population is used as an important indicator to trace the occupational trends in Oklahoma.

The definitions of urban and rural are as follows:⁴

The urban population consists primarily of residents in cities and other incorporated places having 2,500 inhabitants or more.

⁴These definitions are quored from County Data Book--1940, Page VIII, published by the Bureau of the Census. The definition of urban was changed by the Bureau of the Census in 1950. However, in this study the old definition of 1940 is still applied to 1950 data in order to keep comparability of the data from 1910-1950.

The rural is divided into two parts:

1. The rural-nonfarm population is that part of the population which is not urban as explained above and which does not live on a farm. In general, it comprises persons living in a wide variety of locations ranging from isolated nonfarm houses in the open country to small unincorporated areas adjacent to a large city.

2. Rural farm includes all farm residents living outside of area classified as urban, regardless of occupation.

During the last half century, the development of an urban population is one of the most striking changes to appear in Oklahoma. From 1910 to 1950 the urban population of Oklahoma increased from 320,155 to 1,107,252. The urban percentage of the total population increased from 19.3 per cent in 1910 to 49.6 per cent in 1950. Table II shows the proportion of population that is urban and rural for Oklahoma from 1910 to 1950.

TABLE II
URBAN RURAL POPULATION OF OKLAHOMA
1910-1950
(Unit: Person)

Year	Urban		Rural		Total
	Number	Per Cent	Nonfarm	Farm	
1910	320,155	19.3	-----*	-----*	1,337,000
1920	538,017	26.6	474,367	1,015,899	1,490,266
1930	821,681	34.3	553,185	1,021,174	1,574,359
1940	879,663	37.6	530,030	926,741	1,486,771
1950	1,107,252	49.6	573,033	553,066	1,126,099

*The data are not available for 1910 rural farm and rural non-farm.

Source: (1) Bureau of the Census, "Statistical Abstract of the United States, 1938," pp. 7-8.

(2) Bureau of the Census, "Statistical Abstract of the United States, 1956," pp. 22-23.

In Table II there is a sharp contrast between the urban population at one extreme and the rural-farm population at the other extreme, with the rural-nonfarm group taking an intermediate position. This movement--

urbanization--involves not only the redistribution of population but also mass shifts in the occupations of the people. Specifically, urbanization means the transfer of workers from agriculture to manufacturing and distributive occupations. Obviously, the decline of employment in agriculture has accompanied the urbanization of Oklahoma for these years.⁵

In order to compare the shift by employment in industry and the shift by residence, Table III serves to show the distribution of the employment of workers residing in rural-farm, rural-nonfarm and urban territory by selected industry groups for Southern states in 1950.

TABLE III
PERCENTAGE DISTRIBUTION OF CIVILIAN EMPLOYMENT
OF URBAN, RURAL-NONFARM, RURAL-FARM POPULATIONS
BY SELECTED INDUSTRY GROUPS, SOUTHERN STATES*
1950

Selected Industry	Urban	Rural-nonfarm	Rural-farm
Agriculture, Forestry and Fishing	1.9	12.7	72.0
Construction	7.7	9.1	3.2
Manufacturing	19.9	24.1	9.1
Transportation, Communi- cation & Public Utilities	9.2	6.4	1.7
Wholesale & Retail Trade	24.0	17.3	4.3
Personal Service	11.5	7.4	1.9
Professional & Related Services	9.7	7.5	2.4
All Other	16.1	15.5	5.4
Total Employed	100.0	100.0	100.0

*Southern States include: Alabama, Arkansas, Florida, Georgia, Kentucky, Louisiana, Mississippi, North Carolina, Oklahoma, South Carolina, Tennessee, Texas, and Virginia.
Source: U. S. Census of Population, 1950.

⁵For detail, see Chapter IV, Section 1: Trend in Agriculture.

Three conclusions can be drawn from Table III:

1. Of the employed labor force living on farms in 1950, 72 per cent worked in agriculture and related fields.

2. Services and trade are largely urban occupations. Of the employed labor force living in urban areas in 1950, 45.2 per cent worked in the service and trade field.

3. Rural-nonfarm residence is definitely associated with secondary and tertiary industry.⁶ Almost a fourth, 24.1 per cent, of this category worked in manufacturing compared to 19.9 per cent of the employed urban residence population. The proportion in trade, 17.3 per cent, also exceeded those employed in agriculture and related fields, 12.7 per cent.

It is concluded from the above analysis that in Southern states the work pattern is more urban than the residence pattern--a fact which is due to a great deal of commuting of rural-nonfarm dwellers to work in urban areas. In this case, when the population enumerated by rural-urban residence was checked against the industries in which they work, the proportions employed in urban-centered industries were found to exceed those living in urban areas. Thus, figures on southern urbanization actually understate the trend toward manufacturing, trade, and service fields. Therefore, in this study not only the trend toward urban but also toward rural-nonfarm will be considered directly related to the shift of workers from a primary industry to secondary and tertiary industry.

⁶Secondary industry refers to manufacturing; tertiary industry refers to commerce, services, administration, distribution; and primary industry refers to agriculture.

Problems Encountered in Collection of Data

In this study, the statistical data were collected from the last five decennial censuses. Considerable difficulty was encountered due to the fact that the data on the occupations in each decennial census publication are not directly comparable. It is partly because of differences in definition and partly because of the types of questions upon which the data were based. Not all of the industry classifications in each year correspond with those in other years. In some years, the industries appear in the classification but not in the other years; and even similar industries in the two classifications are sometimes different in actual coverage. The lack of such standardization has often made it difficult to compare the occupational statistics published by the Bureau of the Census.

The major problems encountered in the collection of data were as follows:

First, comparison of 1940 labor force data with 1930 gainful worker data. One of the most serious problems encountered in making this study is the lack of comparability in occupational statistics between 1930 and 1940; that is, the 1930 statistics for "gainful workers" are not exactly comparable with the 1940 statistics for the "labor force." Briefly, the 1930 gainful worker group includes all persons who reported a gainful occupation, regardless of whether they were working or seeking work at the time of the census. The "labor force" is defined in the 1940 census on the basis of activity during the census time. Thus, it includes only persons who had a job or were seeking work at that time. Obviously, the basic change from the concept of "gainful worker" to the concept of "labor force" affected the size of employment enumerated in the years of

1930 and 1940. The Bureau of the Census reports that there are four groups of persons who were enumerated differently in the 1930 and 1940 census:⁷

Group 1: New workers who were inexperienced young persons seeking their first job, were included in the labor force in 1940. But they were probably not enumerated as gainful workers in 1930, since they were unlikely to report an occupation.

Group 2: Seasonal workers who were neither employed nor seeking work at the time of the census were excluded from the 1940 labor force. Such persons were enumerated as gainful workers in 1930 if they reported an occupation.

Group 3: Inmates of penal and mental institutions were definitely excluded from 1940 labor force regardless of their activity during the census time. In 1930, such persons were enumerated as gainful workers if they regularly followed an occupation within the institution.

Group 4: Retired and disabled persons who had retired from work and those who were permanently unable to work were for the most part excluded from the labor force in 1940. In the 1930 census, many such persons reported their former occupations and were counted as gainful workers.

According to the analysis, group 1 will partly offset groups 2, 3, and 4 in comparison of the total labor force in 1940 with the total number of gainful workers in 1930. For particular occupational groups, however, the number reported as in the labor force in 1940 may have been different from the number who would have been counted as gainful workers had the 1930 procedure been used. Therefore, adjustment is needed to make these data comparable.

Since it is very difficult to measure exactly the effect of the intangible differences in the enumerators' instruction in the types of questions used and in the processing of the returns, it is impossible to make completely accurate adjustment of the 1930 and 1940 statistics.

⁷Bureau of the Census, Sixteenth Census of U. S., 1940, "Population--Comparative Occupational Statistics for the U. S., 1870 to 1940," Chapter IV, p. 11.

However, Dr. A. M. Edward has performed a valuable adjustment believed to be necessary to render the 1930 and 1940 occupational statistics comparable.⁸

By Dr. Edward's adjustment, the total gainful workers of the United States in 1930 (48,595 thousand persons) is reduced by the net adjustment (1,191 thousand persons)⁹ to form the estimated labor force of 1930 (47,404 thousand persons). This "estimated labor force" is believed to have a higher degree of comparability with the statistics of 1940 than "gainful workers."

Unfortunately, there is no possibility of working out an adjustment factor for Oklahoma by using the available data. Thus, in this study the adjusting factor of the United States is applied to Oklahoma.

$$\begin{aligned} \text{Adjusting factor} &= \frac{\text{Estimated Labor Force of the U. S.}}{\text{Total gainful workers of the U. S.}} \\ &= \frac{47,404}{48,595} = 97.55\% \end{aligned}$$

Therefore, the gainful worker of each major industry in each state economic area of 1930 is adjusted by the adjusting factor 97.55% to form the estimated labor force.

In applying this adjusting factor, the following assumptions were made:

⁸Ibid., p. 12.

⁹Ibid., p. 13. Net adjustment (1,191,000) = Seasonal workers (1,156,000) + Inmates of institutions (196,000) + Retired and disabled (472,000) - New worker (211,000) - Omitted entries (422,000).

By "Omitted entries" it means the persons who were actually gainful workers but were not classified as such because they failed to report their occupations in 1930.

1. The percentage of estimated labor force to the gainful workers in 1930 are the same between Oklahoma and the United States.

2. This percentage is the same in each state economic area of Oklahoma.

3. This percentage is the same in each major industry group of Oklahoma.

The second problem encountered in the data was the lack of comparability of 1910 and 1920 gainful worker data with 1940 labor force data. This problem is the same as discussed above; however, no satisfactory adjusting factor of these years is available.

The third problem is due to the changes adopted from one census year to the next in the method of classifying and presenting the statistics pertaining to occupations, considerable difficulty was encountered in assembling these data under broad classification heading so as to make the data for one year comparable to the other years.

A code for classification of occupations in this study was formulated.¹⁰ An attempt was made in revising the occupational statistics of different census to fit this code.¹¹

The fourth problem is that the occupational statistics in the censuses of 1930 to 1950 are organized on a county basis. Since the unit of enumeration used in this study is the state economic area and each of these areas is merely established by a county or a set of counties, the following procedure for forming these county data into the state economic areas was adopted:

¹⁰See Chapter II, Section 2.

¹¹See Chapter III, Sections 2, 3, and 4.

Step 1: Statistics for each county of Oklahoma were assembled.

Step 2: These county statistics were grouped by the state economic areas according to Table I in this chapter (p. 6).

Step 3: The data of the state economic areas are computed by adding the data for the counties in each group.

The data of each county were placed on standard 80-column tabulating cards. The more involved calculations were made on I.B.M. computing machines. While these machines cannot produce reliable results if the basic data were in gross error, they do insure a minimum of such tabulating mistakes as may occur in a work of this magnitude.

The fifth problem is that in collecting data for 1920 and 1910, it was found that the data for counties of these years are not available.¹² Thus, it is impossible to compute the occupational statistics by the economic areas in the year of 1910 and 1920.

¹²A letter to Mrs. Marguerite S. Howland, Head Documents Librarian, Oklahoma A. and M. College, from Howard G. Brunsman, Chief Population Division, Bureau of the Census, verified this fact.

CHAPTER III

PRESENTATION OF DATA AND LIMITATIONS

Explanation

In presenting the following tables, the statistical data were gathered from several sources, brought together and refined, and put into table form in such a manner as to show comparisons. In many cases, it was necessary to perform a considerable number of calculations and adjustments to make the data listed in these tables as comparable as possible.

In general, the statistics in Tables IV, V, VI, AND VII are derived from the publications of the Bureau of the Census and are adjusted to fit the classification of occupations used in this study. These procedures will be shown in the following sections.

Data of 1950 by State Economic Area--Table IV

Source I: Bureau of the Census, City and County Data Book--1950

Table 3: Selected Data for all Counties: Oklahoma (pp. 222-232),
items 36-45

Source II: 1950 U. S. Census of Population: Oklahoma General
Characteristics

Table 43: Economic Characteristics of the Population by Sex for
Counties (pp. 86-91)

Revisions:

Classification of
Occupations

Sources*

Agriculture	Agriculture (I--item 37)
Mining	Mining (I--item 38)
Manufacturing	Construction (I--item 39) + Manufacturing (I-- item 40)
Transportation and Communication	Transportation, Communication, and Public Utilities (I--item 41)
Trade	Wholesale and Retail Trade (I--item 42)
Service	Finance, Insurance, and Real Estate (I--item 43) + Business and Personal Services excluding Private Household (I--item 44) + Professional and Related Services (I--item 45) + Private Household (II) + Entertainment and Recreation Services (II)
Others	Total Employed (I--item 36) - Classification Speci- fied.

*(I) denotes Source I above; (II) denotes Source II above.

TABLE IV

OCCUPATIONAL STATISTICS FOR STATE ECONOMIC AREAS OF OKLAHOMA, 1950
(UNIT: PERSON)

Economic Area	Total Employed	Category						
		Agriculture	Mining	Manufacturing	Transportation and Communication	Trade	Service	Other
1	37,872	15,132	470	4,403	2,374	6,358	7,184	1,951
2	71,538	20,068	1,346	13,266	5,040	13,795	13,580	4,443
3	55,671	12,013	7,504	10,067	3,301	9,112	10,638	3,036
4	76,523	26,694	2,105	8,683	3,845	15,079	15,128	4,989
5	74,572	15,965	4,088	10,187	4,664	13,310	20,758	5,600
6	48,876	11,241	5,988	7,574	3,169	8,864	9,542	2,498
7	52,426	14,348	5,420	6,254	3,195	9,840	10,166	3,203
8	65,351	20,817	1,364	11,568	3,843	10,853	13,082	3,824
9	39,450	13,356	1,062	6,637	2,251	6,070	6,822	3,252
10	99,542	2,477	5,712	27,130	10,357	23,962	25,939	3,965
11	131,690	2,685	4,552	26,700	11,075	32,828	35,438	18,412
State Total	753,511	154,796	39,611	132,469	53,114	150,071	168,277	55,173

Data of 1940 by State Economic Area--Table V

Source I: Bureau of the Census, County Data Book--1940

Table 3: Selected Data for Metropolitan Areas and for all
Counties by State: Oklahoma (pp. 306-313),
items 21-29

Source II: Sixteenth Census of the U. S.--1940, Population--
Volume II
Part 5, Report by States, New York-Oregon

Table 23: Persons 14 years old and over, by employment status;
Class of worker, major occupation group, industry
group, and sex, by Counties: 1940--Oklahoma
(pp. 845-854)

Revisions:

<u>Classification of Occupations</u>	<u>Sources*</u>
Agriculture	Agriculture (I--item 22)
Mining	Mining (I--item 23)
Manufacturing	Construction (I--item 24) + Manufacturing (I--item 25)
Transportation and Communication	Transportation, Communication, and Public Utilities (I--item 26)
Trade	Wholesale and Retail Trade (I--item 27)
Service	Business and Personal Services excluding Private household (I--item 28) + Domestic Services (II)
Others	Other (I--item 29) - Domestic Service (II)

*(I) denotes Source I above; (II) denotes Source II above.

TABLE V

OCCUPATIONAL STATISTICS FOR STATE ECONOMIC AREAS OF OKLAHOMA, 1940
(UNIT: PERSON)

Economic Area	Total Employed	Category						
		Agriculture	Mining	Manufacturing	Transportation and Communication	Trade	Service	Other
1	33,739	17,536	72	2,326	1,328	5,050	6,005	1,422
2	63,285	23,357	1,412	8,457	3,459	10,866	12,614	3,120
3	52,867	16,324	8,172	6,338	2,362	7,202	9,922	2,547
4	73,983	33,578	857	4,718	2,452	11,373	13,166	7,839
5	64,636	25,861	2,646	5,409	3,108	10,229	14,242	3,141
6	58,096	20,348	7,279	5,454	2,608	9,066	11,243	2,098
7	52,105	24,418	2,350	3,477	2,004	7,787	9,966	2,103
8	62,113	29,323	1,520	6,163	2,637	8,381	11,158	2,931
9	41,083	20,560	878	5,288	1,542	4,689	6,330	1,796
10	70,052	3,402	6,084	14,970	5,105	16,231	21,248	3,012
11	86,780	3,423	3,739	15,016	6,757	22,709	28,559	6,577
State Total	658,739	218,130	35,009	77,616	33,362	113,583	144,453	36,586

Data of 1930 by State Economic Area--Table VI

Source I: Fifteenth Census of the U. S.--1930, Population--
 Volume III
 Part 2, Report by States, Montana--Wyoming

Table 20: Persons 10 years old and over engaged in gainful occupations, by sex, by color, and industry groups for counties and for cities of 25,000 or more: 1930, Oklahoma (pp.576-586)

Revisions:

Classification of Occupations	Source*
Agriculture	Agriculture
Mining	Coal Mines + Oil and Gas Wells + Other Mines and Quarries
Manufacturing	Building Industry + Chemical and Allied Industries + Clay, Glass, and Stone Industries + Clothing Industries + Bakeries + Slaughter and Packing Houses + Other Food and Allied Industries + Automobile Factories and Repair Shops + Iron and Steel Industries + Lumber and Furniture Industries + Paper, Printing, and Allied Industries + Independent Hand Trades + Other Manufacturing Industries
Transportation and Communication	Construction and Maintenance of Street, etc. + Garage, Greasing Station, etc. + Postal Service + Steam and Street Railroads + Telegraph and Telephone + Other Transportation and Communication
Trade	Automobile Agencies and Filling Stations + Wholesale and Retail Trade, except Automobiles + Other Trade Industries
Service	Banking and Bookerges + Insurance and Real Estate + Recreation and Amusement + Other Professional and Semi-Professional Services + Hotel, Restaurant and Boarding House, etc. + Laundries, Cleaning and Pressing Shop + Other Domestic and Personal Service
Others	Forestry and Fishing + Public Service + Industry not Reported

*All items listed are derived from Source I. Adjusting figure used as explained in Chapter II.

TABLE VI
 OCCUPATIONAL STATISTICS BY STATE ECONOMIC AREAS OF OKLAHOMA, 1930
 (UNIT: PERSON)

Economic Area	Total Employed	Category						
		Agriculture	Mining	Manufacturing	Transportation and Communication	Trade	Service	Other
1	44,627	24,948	198	3,223	3,395	4,598	6,057	2,208
2	73,118	28,851	2,534	10,458	6,742	8,809	12,467	3,257
3	59,260	20,203	9,577	6,771	4,057	5,940	9,689	3,023
4	101,643	55,184	1,132	8,639	5,627	10,255	13,114	7,692
5	83,003	35,314	5,531	9,303	6,657	8,498	13,660	4,040
6	78,826	26,538	15,146	8,467	5,804	7,790	11,722	3,359
7	60,756	30,760	3,492	4,961	4,112	5,878	8,665	2,888
8	80,184	40,234	3,905	7,949	5,036	7,062	11,839	4,159
9	54,567	26,859	4,001	7,123	3,510	3,582	5,854	3,638
10	78,176	4,599	5,992	19,791	7,054	13,898	22,932	3,910
11	93,582	5,149	7,227	22,525	8,694	17,599	26,800	5,588
State Total	807,742	298,639	58,735	109,210	60,688	93,909	142,799	43,762

Data of 1920 and 1910; State Total--Table VII

1920:

Source I: Fourteenth Census of the U. S.--1920, Volume IV
Population--Occupations

Table 15: Total persons 10 years of age and over engaged in each specified occupation, classified by sex, by states: 1920--Oklahoma (pp. 91-109)

Revisions:

Classification of Occupations	Source*
Agriculture	Agriculture, forestry and animal husbandry (total) - Fishermen and Oystermen - Forestries, forest rangers and timber cruisers
Mining	Extraction of minerals (total)
Manufacturing	Manufacturing and Mechanical Industries (total)
Transportation and Communication	Transportation (total)
Trade	Trade (total) - Bankers, brokers, and money lenders - Insurance agents and officials - Real estate agents and officials
Service	Professional Service (total) + Domestic and Personal Service (total) + Clerical occupations (total) + Bankers, brokers and money lenders + Insurance agents and officials + Real estate agents and officials
Others	Public Services (total) + Fishermen and Oystermen + Forestries, forest rangers and timber cruisers

*All items listed are derived from Source I above.

1910:

Source I: Thirteenth Census of the U. S.--1910, Volume IV
Population--Occupation Statistics

Table II: Total persons 10 years of age and over engaged in each specified occupation, classified by sex, by states: 1910--Oklahoma (pp. 125-137)
(item 3-522)

Revisions:

Classification of Occupations	Source*
Agriculture	Agriculture, forestry and animal husbandry (item 3) - Fishermen and Oystermen (item 16) - Foresters (item 17)
Mining	Extraction of Minerals (item 42)
Manufacturing	Manufacturing and Mechanical Industries (item 61)
Transportation and Communication	Transportation (item 301)
Trade	Trade (item 365) - Bankers, brokers, and money lenders (item 366) - Insurance agents and officials (item 383) - Real estate agents and officials (item 399)
Services	Professional Service (item 435) + Domestic and Personal Service (item 474) + Clerical Occupations (item 510) + Bankers, brokers and money lenders (item 366) + Insurance agents and officials (item 383) + Real estate agents and officials (item 399)
Others	Public Service (item 412) + Fishermen and Oystermen (item 16) + Foresters (item 17)

*All items listed are derived from Source I above.

TABLE VII
 OCCUPATIONAL STATISTICS OF OKLAHOMA
 STATE TOTAL ONLY, 1910 AND 1920
 (UNIT: PERSON)

Year	Total Employed	Category						
		Agriculture	Mining	Manufacturing	Transportation and Communication	Trade	Services	Other
1910	598,629	350,143	11,775	74,217	32,629	41,513	82,801	5,551
1920	681,428	314,611	38,349	104,785	43,547	55,503	115,619	9,014

Limitations

In making comparisons between the above tables (Tables IV, V, VI, and VII), the following factors should be taken into consideration:

1. The adjusting factor in Table VI (year 1930) is a national figure. The assumptions which were made in that procedure are not necessarily true for Oklahoma.
2. The statistics of gainful workers in Table VII (years 1910 and 1920) are unadjusted figures. This tends to bias Table VII when compared with Tables IV, V, and VI.
3. Change in census dates also affects the comparison of statistics in the above tables. In 1910 the census was taken as of April 15, whereas in 1920 it was taken January 1. In 1930, 1940, and 1950, the census date was April 1. These changes may have had some effect, especially in agricultural areas, on the occupational distribution due to seasonal employment.

Nevertheless, it is hoped that the statistics shown in these tables are accurate enough to trace the outstanding changes in occupations in Oklahoma during the decades 1910 to 1950.

CHAPTER IV

ANALYSIS OF THE DATA

Trend in Agriculture

Absolute Number Employed

Of all the industries, agriculture is first in numerical importance from 1910 to 1940. The trend has been downward in each successive decade since 1910. The employment in this category decreased from 350,143 in 1910 to 154,796 in 1950. Workers in the Agriculture group ranked second in employment of all categories of occupations in Oklahoma in 1950. Table VIII and Figure 2 show persons employed in Agriculture in Oklahoma from 1910 to 1950.

TABLE VIII
NUMBER OF AGRICULTURAL WORKERS IN OKLAHOMA
1910-1950

Year	Persons Employed
1910	350,143
1920	314,611
1930	298,639
1940	218,130
1950	154,796

Source: Tables IV, V, VI, and VII in Chapter 3.

Figure 2. Number of Agricultural Workers in Oklahoma, 1910-1950

Thousands

400

300

200

100

0

1910

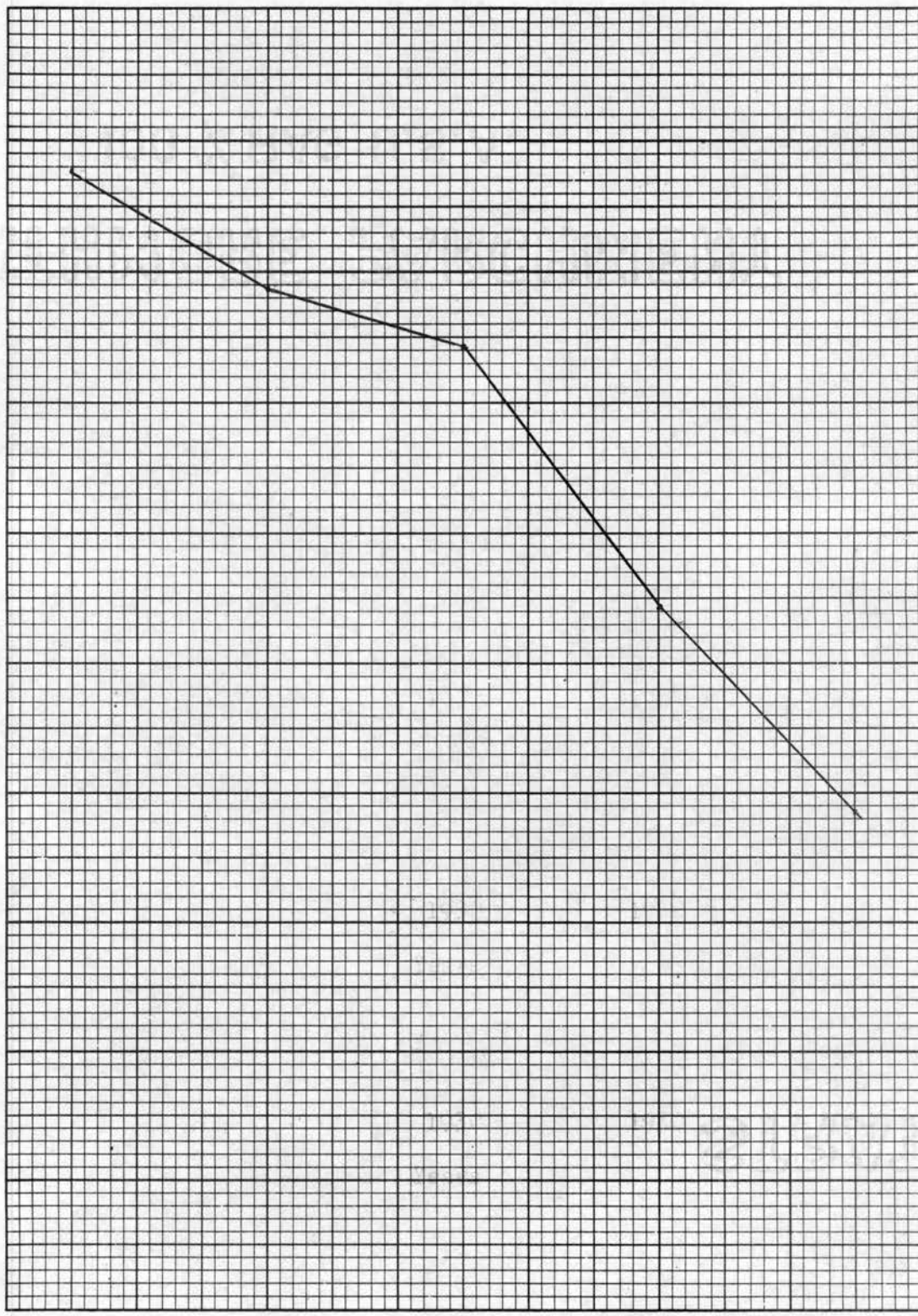
1920

1930

1940

1950

Years



Percentage in Agriculture Related to Total Employed

During the period from 1910 to 1950, there was a relative as well as an absolute decrease in the number employed in Agriculture. Agriculture employed more than one-half of the total working population in 1910 and only one-fifth in 1950. However, as compared to the other industries the percentage in Agriculture is second in the total employed in 1950. In Table IX and Figure 3, the Agricultural workers' percentage of the total working population in Oklahoma is displayed for each decade.

TABLE IX

WORKERS IN AGRICULTURE AS A PERCENTAGE OF TOTAL EMPLOYED,
OKLAHOMA, 1910-1950

Year	Percentage of Total Employed
1910	58.5
1920	46.2
1930	37.0
1940	33.1
1950	20.5

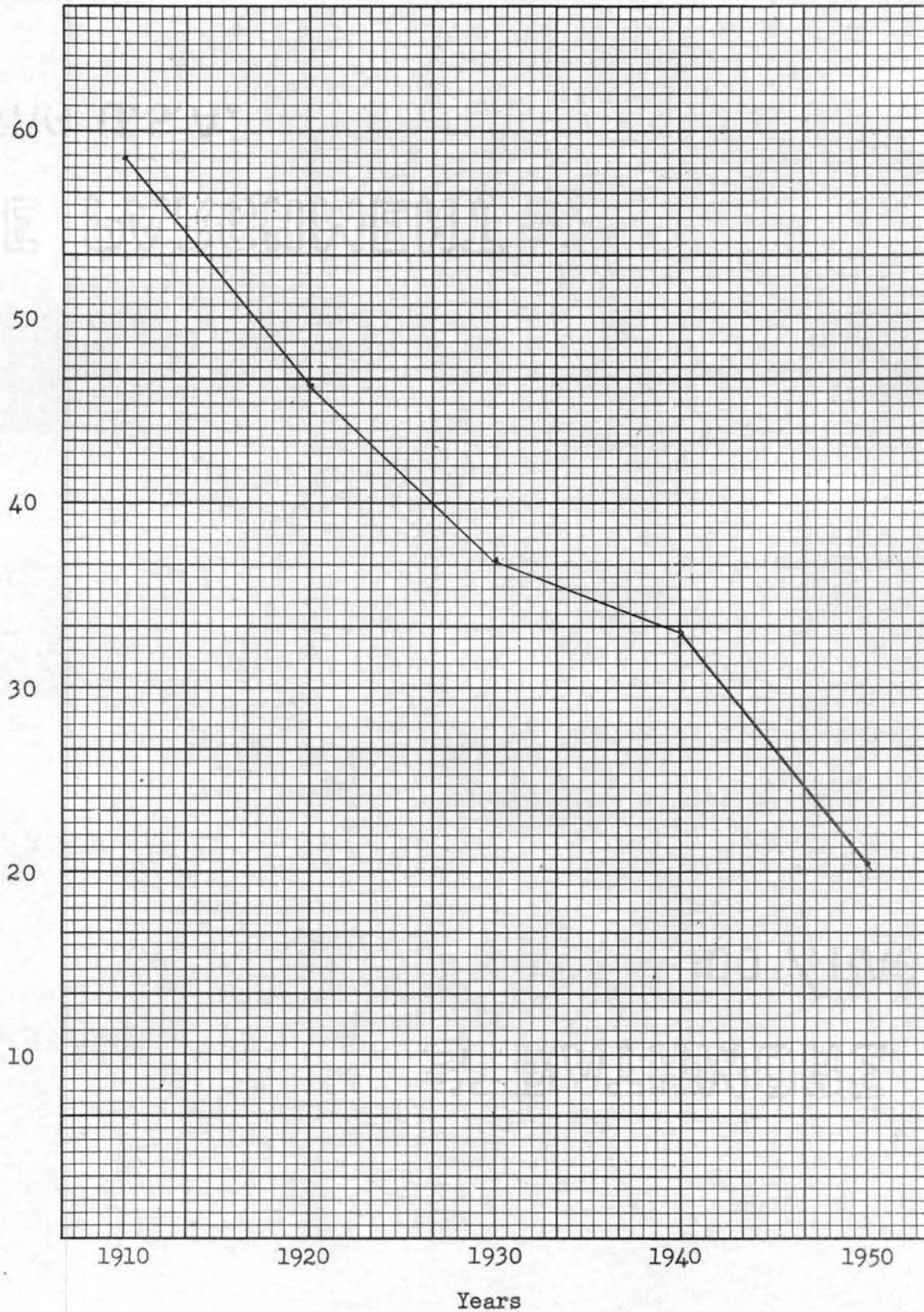
Source: Tables IV, V, VI, and VII in Chapter 3.

Use of Rural-farm Population as Indicator

As discussed in Chapter 2, Section 5, rural-farm population is directly and highly correlated with the labor force in Agriculture. Thus, it is used here as an indicator of Agriculture employment. Before 1910 the people of Oklahoma were primarily rural; but since that time the trend has been toward a predominantly industrial and urban-dwelling population. The size of the farm population and the percentage of the

Figure 3. Workers in Agriculture as a Percentage of Total Employed, Oklahoma, 1910-1950

Per Cent



farm population to the total population in the period of 1910-1950 is shown in Table X.

TABLE X

RURAL-FARM POPULATION AND THE PERCENTAGE OF RURAL-FARM
TO TOTAL POPULATION, OKLAHOMA, 1910-1950

Year	Rural-farm Population	Percentage of Total Population
1910	1,337,000*	80.7*
1920	1,015,899	50.0
1930	1,021,174	42.6
1940	926,741	39.7
1950	553,066	24.8

*1910 figures included rural-nonfarm population

Source: Bureau of the Census, "Statistical Abstract of the U. S., 1956," pp. 22-23, and "Statistical Abstract of the U. S., 1938," pp. 7-8.

Analysis of State Economic Area

Among the eleven state economic areas of Oklahoma, the employment in Agriculture were all decreased absolutely and relatively from 1910 to 1950. In 1930 there were four state economic areas (Areas 1, 4, 7, and 8) which had more than one-half of their total labor force engaged in Agriculture, but in 1950 none of these areas were exceeding 40 per cent. Between 1930 and 1950 all of these areas except Areas 10 and 11 lost more than 10 per cent in the ratio of the Agriculturally employed to total population. The greatest decline was found in Area 7; it decreased from 50.6 per cent in 1930 to 27.4 per cent in 1950. The number of agricultural workers and the percentage of agricultural workers to the

total labor force in the state economic areas of Oklahoma from 1930 to 1950 are indicated in Table XI and Figures 4 and 5.

TABLE XI

NUMBER OF AGRICULTURAL WORKERS AND AGRICULTURAL WORKERS
AS A PERCENTAGE OF TOTAL EMPLOYED BY STATE ECONOMIC AREAS
IN OKLAHOMA, 1930-1950

Area	Year					
	1930		1940		1950	
	Number	Per Cent	Number	Per Cent	Number	Per Cent
1	24,948	55.9	17,536	50.2	15,132	40.0
2	28,851	39.5	23,357	36.9	20,068	28.1
3	20,203	34.1	16,324	30.9	12,013	21.6
4	55,184	54.3	33,578	45.4	26,694	34.9
5	35,314	42.5	25,861	40.0	15,965	21.4 ✓
6	26,538	33.7	20,348	35.0	11,241	23.0
7	30,760	50.6	24,418	46.9	14,348	27.4
8	40,234	50.2	29,323	47.2	20,817	31.9 ✓
9	26,859	49.2	20,560	50.0	13,356	33.9
10	4,599	5.9	3,402	4.9	2,477	2.5
11	5,149	5.5	3,423	3.9	2,685	2.0

Source: Tables IV, V, and VI in Chapter 3.

Figure 4. Number of Agricultural Workers by State Economic Areas in Oklahoma, 1930-1950

Thousands

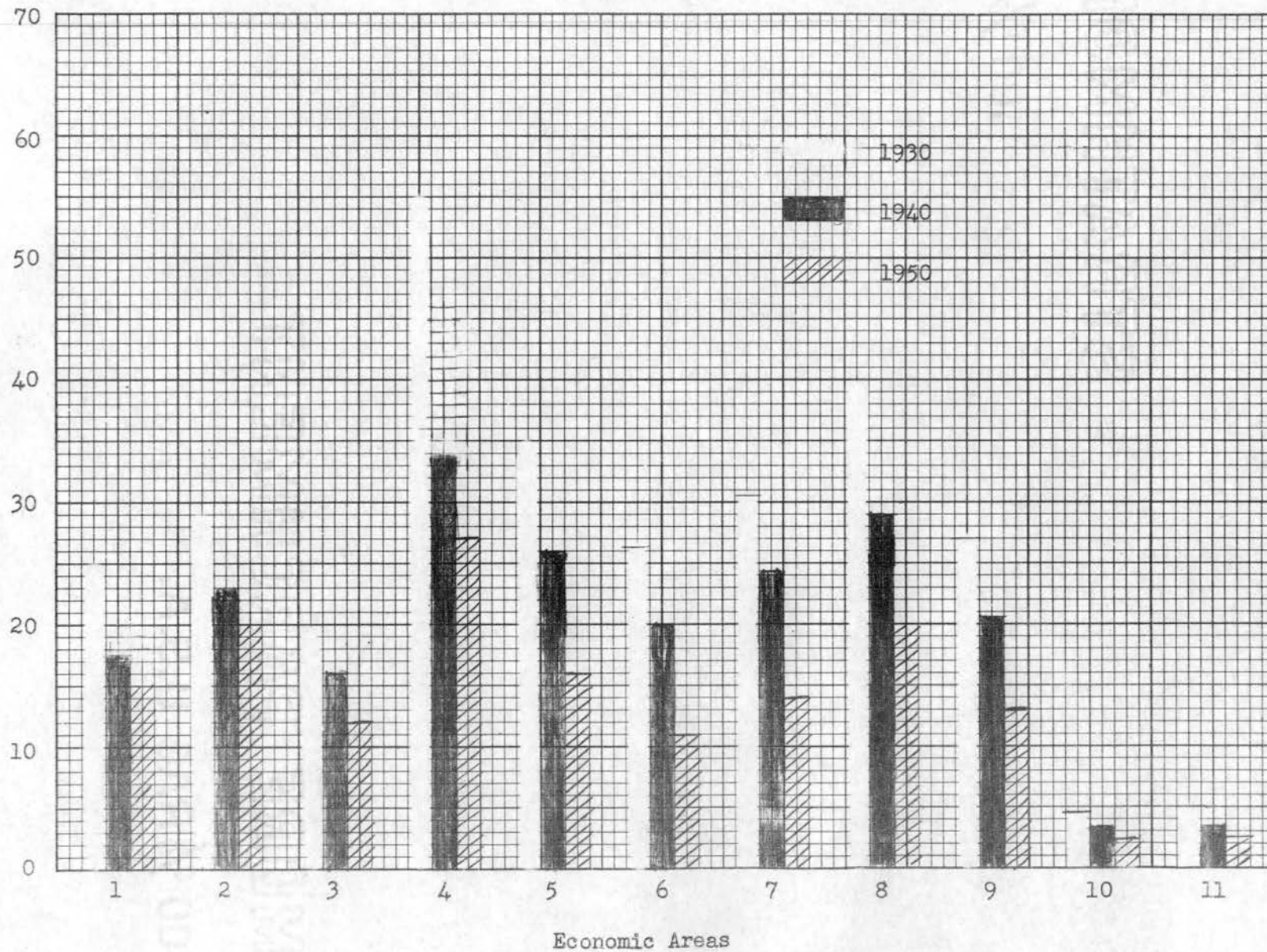
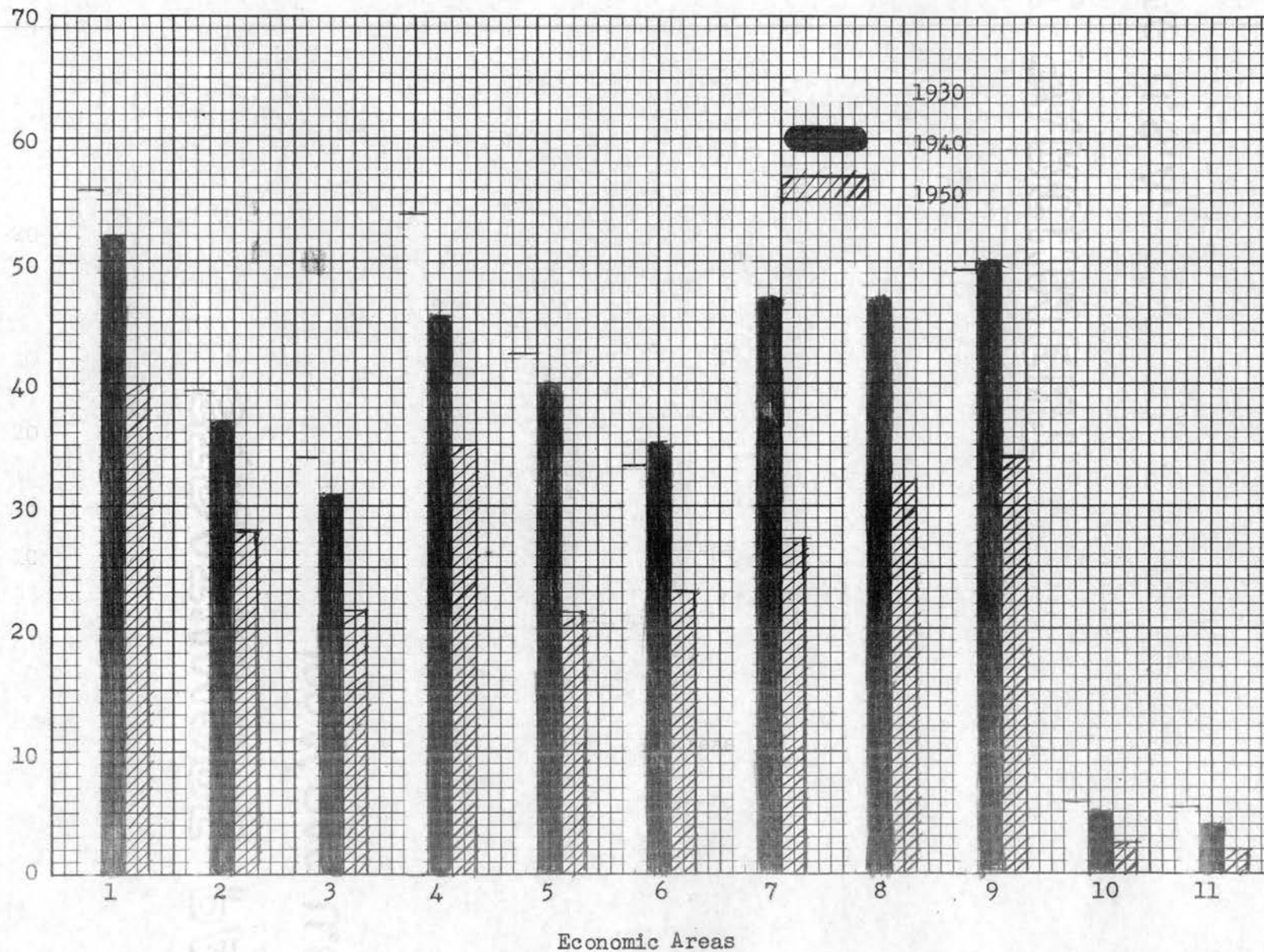


Figure 5. Agricultural Workers as a Percentage of Total Employed by State Economic Areas in Oklahoma, 1930-1950

Per Cent



Trend in Mining

Absolute Number Employed

Mining is one of the basic industries of Oklahoma. There were 11,775 persons listed in this category in 1910 and 39,611 persons in 1950. In terms of the decennial increase, large advances were made after 1910 until the decade ending in 1930. Thereafter a noticeable decline was evidenced in 1940 and a slight recovery in 1950. The trend in Mining during the successive decades from 1910 to 1950 is indicated in Table XII and Figure 6.

TABLE XII
NUMBER OF MINERAL WORKERS IN OKLAHOMA
1910-1950

Year	Persons Employed
1910	11,775
1920	38,349
1930	58,735
1940	35,009
1950	39,611

Source: Tables IV, V, VI, and VII in Chapter 3.

Percentage in Mining Related to Total Employed

As a percentage of the total employed, Mining increased from 2.0 per cent in 1910 to 7.3 per cent in 1930. The percentage had increased above 300 per cent through these decades and this was considerably greater than that of all other industries. However, this trend reached a peak in 1930. During the two decades from 1930 to 1950, there was a

Figure 6. Number of Mineral Workers in Oklahoma, 1910-1950

Thousands



perceptible decline in these occupations. In Table XIII percentages are given for Mining in relation to the total working population from 1910 to 1950. The figures are plotted in Figure 7.

TABLE XIII
WORKERS IN MINING AS A PERCENTAGE OF TOTAL EMPLOYED,
OKLAHOMA, 1910-1950

Year	Percentage of Total Employed
1910	2.0
1920	5.6
1930	7.3
1940	5.3
1950	5.3

Source: Table IV, V, VI, and VII in Chapter 3.

Analysis by State Economic Area

The distribution of mineral workers is related to the geographical location of the mineral deposit being exploited. Therefore, the workers in Mining are located in certain state economic areas which yield such deposits. In 1930, about 65 per cent of all mineral workers in Oklahoma were distributed in State Economic Areas 3, 6, 10, and 11. While in 1950, State Economic Areas 3, 6, 7, and 10 contained 62 per cent of all mineral workers. During the two decades from 1930 to 1950, three state economic areas (Areas 1, 4, and 7) gained in mineral workers absolutely and relatively, while the other eight areas suffered a decline in this period. This is shown in Table XIV and Figures 8 and 9.

Figure 7. Workers in Mining as a Percentage of Total Employed,
Per Cent Oklahoma, 1910-1950

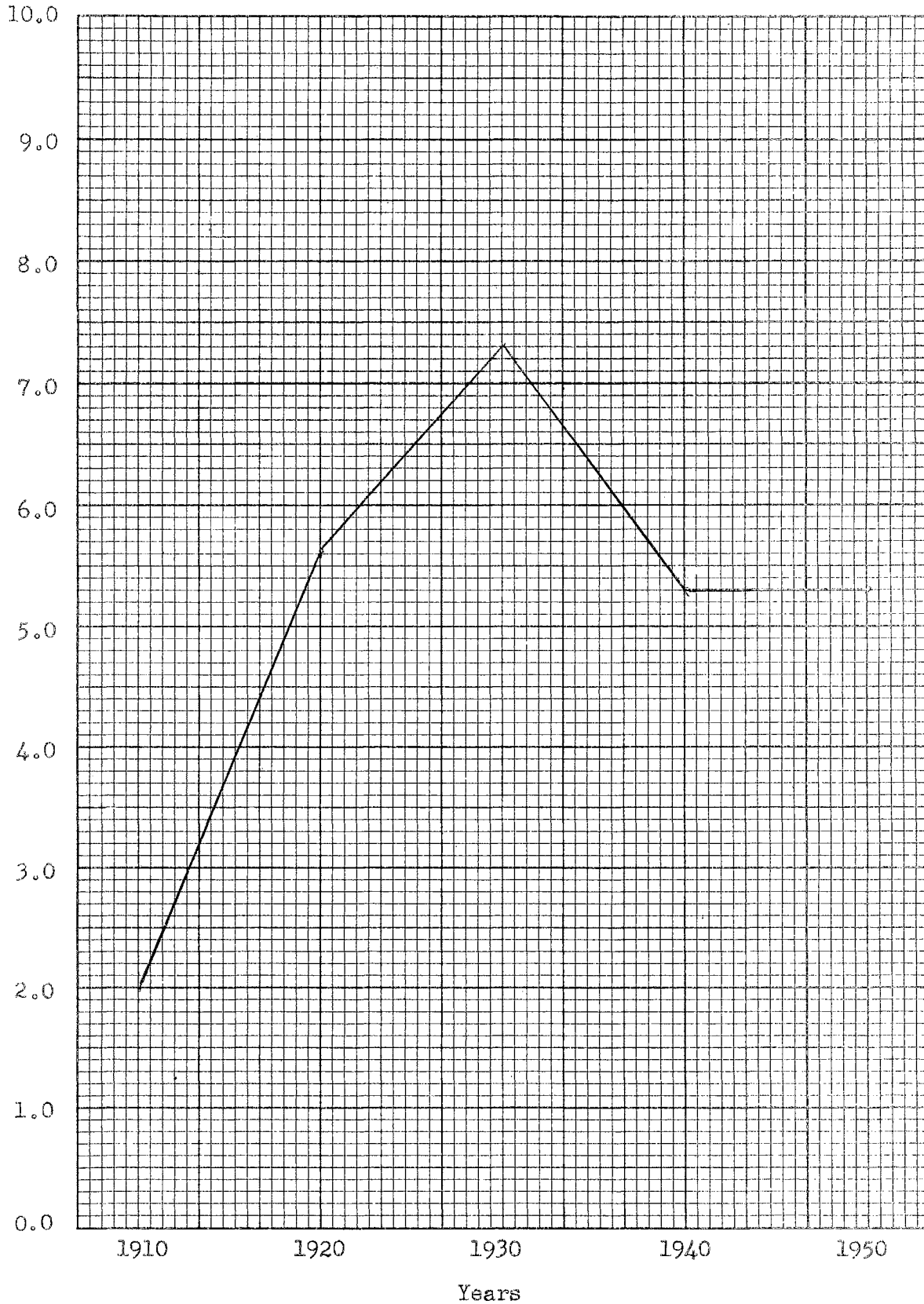


TABLE XIV

NUMBER OF MINERAL WORKERS, AND MINERAL WORKERS AS A PERCENTAGE
OF TOTAL EMPLOYED, BY STATE ECONOMIC AREAS IN OKLAHOMA,
1930-1950

Area	Year					
	1930		1940		1950	
	Number	Per Cent	Number	Per Cent	Number	Per Cent
1	198	0.4	72	0.2	470	1.2
2	2,534	3.5	1,412	2.2	1,346	1.9
3	9,577	16.2	8,172	15.5	7,504	13.5
4	1,132	1.1	857	1.2	2,105	2.8
5	5,531	6.7	2,646	4.1	4,088	5.5
6	15,146	19.2	7,279	12.5	5,988	12.3
7	3,492	5.7	2,350	4.5	5,420	10.3
8	3,905	4.9	1,520	2.4	1,364	2.1
9	4,001	7.3	878	2.1	1,062	2.7
10	5,992	7.7	6,084	8.7	5,712	5.7
11	7,227	7.7	3,739	4.3	4,552	3.5

Source: Tables IV, V, and VI in Chapter 3.

Figure 8. Number of Mineral Workers by State Economic Areas in Oklahoma, 1930-1950

Thousands

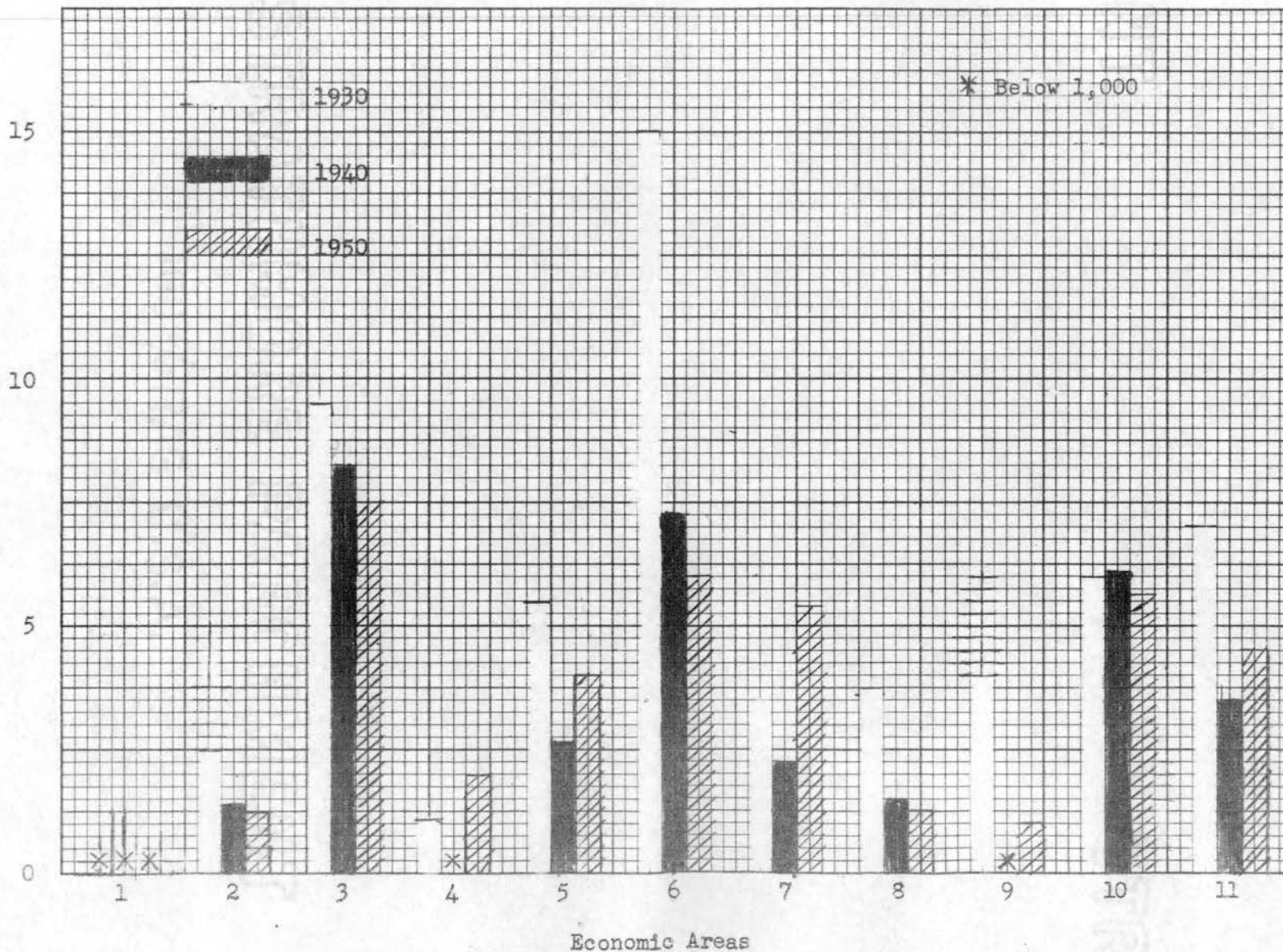
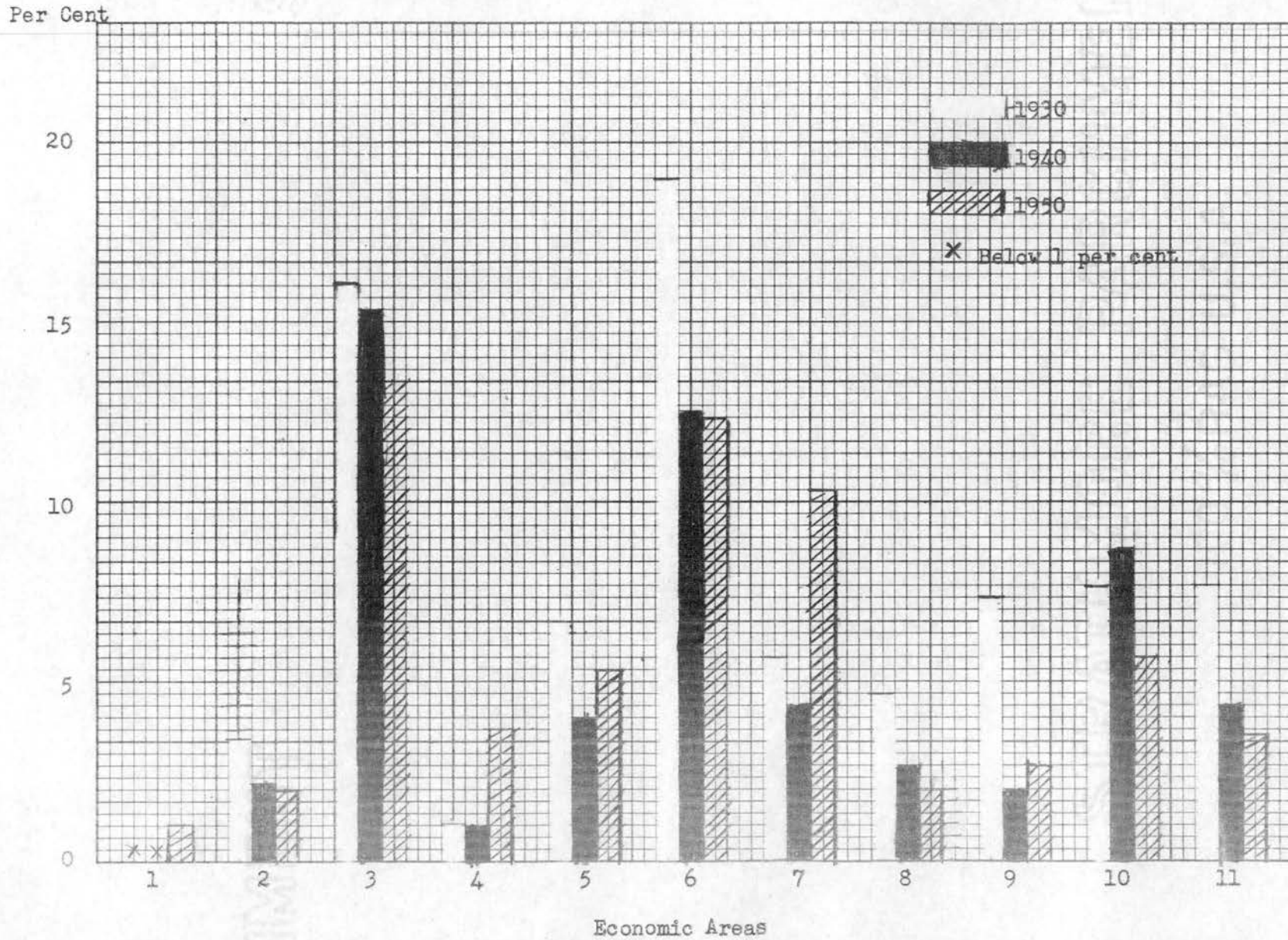


Figure 9. Mineral Workers as a Percentage of Total Employed by State Economic Areas in Oklahoma, 1930-1950



Trend in Manufacturing

Absolute Number Employed

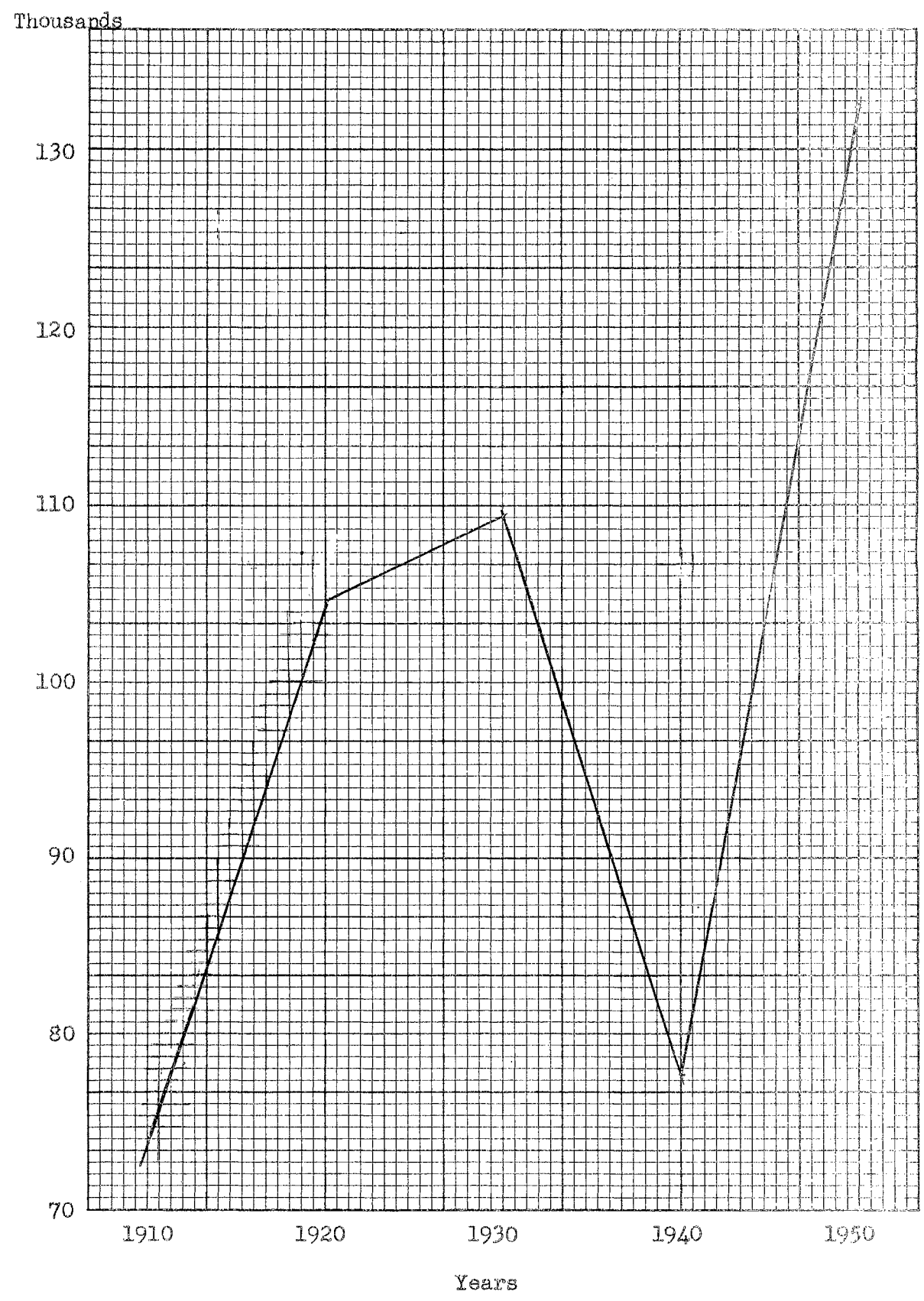
A comparison between the number of Manufacturing workers in 1910 and 1950 indicates that gains have been achieved in Oklahoma in this period. A total of 132,469 persons engaged in this group during 1950 is a net gain of 58,252 persons over the total for 1910. Percentage-wise, this figure represents an increase of 78.5 per cent. However, this trend fluctuated through every decade since 1910. The employment of Manufacturing workers increased rapidly from 1910 to 1920; then the rate of increase was slowed down during 1920 to 1930, followed by a sharp decline in 1940. The number of Manufacturing workers in that time was almost as low as 1910. The greatest ten-year gain occurred between 1940 and 1950. The workers in this category increased 47 per cent between 1940 and 1950. Table XV and Figure 10 show the trend of Manufacturing of Oklahoma from 1910 to 1950.

TABLE XV
NUMBER OF MANUFACTURING WORKERS IN OKLAHOMA
1910-1950

Year	Persons Employed
1910	74,217
1920	104,785
1930	109,210
1940	77,616
1950	132,469

Source: Tables IV, V, VI, and VII in Chapter 3.

Figure 10. Number of Manufacturing Workers in Oklahoma, 1910-1950



Percentage in Manufacturing Related to Total Employed

In studying the percentage of Manufacturing to total employed, it is found that the percentage has increased 5.1 per cent from 1910 to 1950. Although there was a numerical increase of Manufacturing workers in the decade from 1920 to 1930, the percentage of Manufacturing in total employed was decreased in that period. The total labor force increased so rapidly between 1920 and 1930 and Manufacturing industries failed to absorb their proportionate share. The relative importance of Manufacturing to total employed from 1910 to 1950 is as follows:

TABLE XVI

WORKERS IN MANUFACTURING AS A PERCENTAGE OF TOTAL EMPLOYED IN OKLAHOMA,
1910-1950

Year	Percentage of Total Employed
1910	12.4
1920	15.4
1930	13.5
1940	11.8
1950	17.5

Source: Tables IV, V, VI, and VII in Chapter 3.

Use of Rural-nonfarm Population as an Indicator

As discussed before, rural-nonfarm is highly correlated with the employment in Manufacturing. Table XVII gives a brief comparison of the trend in rural-nonfarm population with the trend in Manufacturing in Oklahoma from 1910 to 1950.

Figure 11. Workers in Manufacturing as a Percentage of Total Employed, Oklahoma, 1910-1950

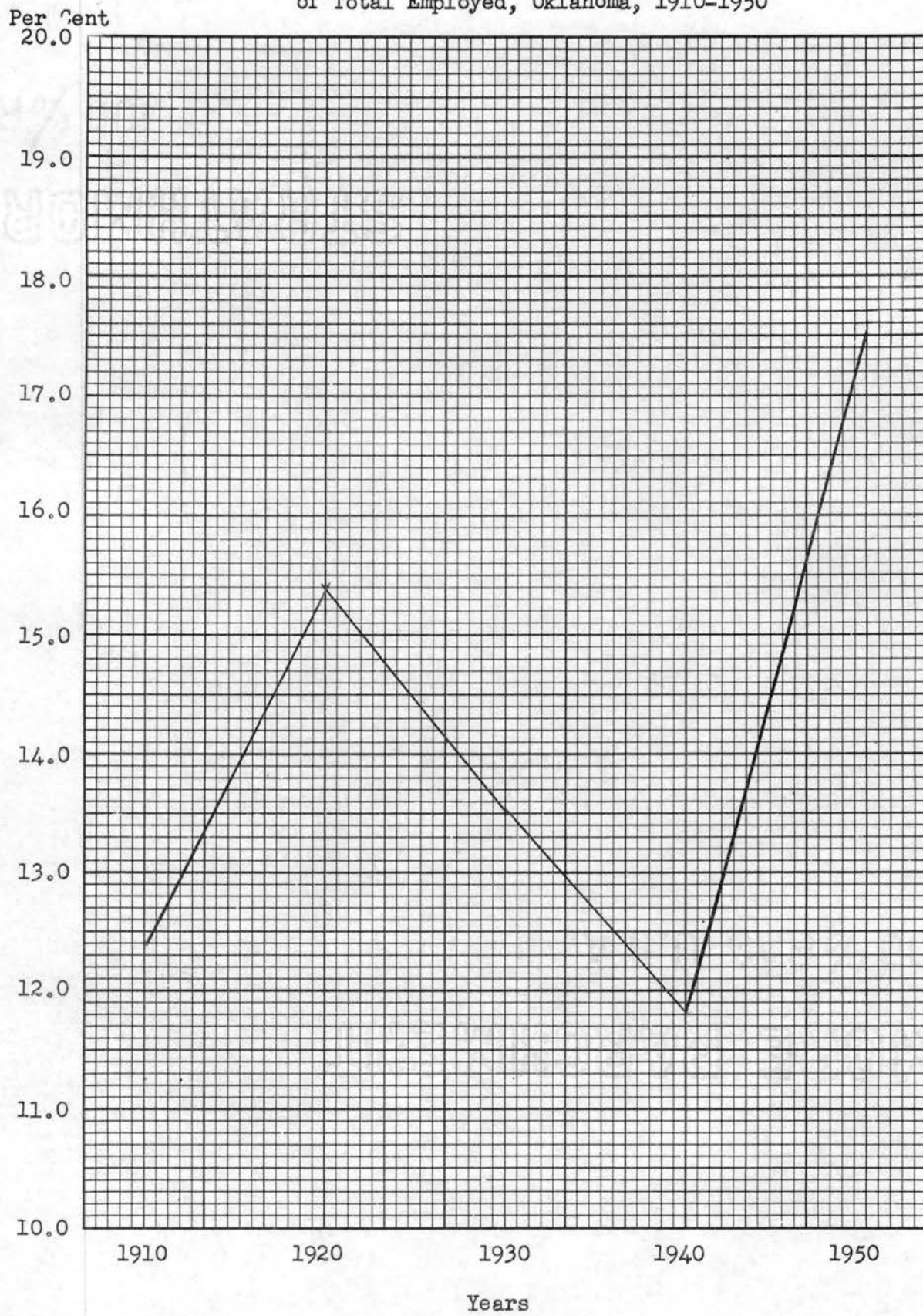


TABLE XVII

COMPARISON OF MANUFACTURING WORKERS WITH
RURAL--NONFARM POPULATION,
OKLAHOMA, 1910--1950

Year	Manufacturing Workers		Rural--nonfarm Population	
	Number	Per Cent of Total Employed	Number	Per Cent of Total Population
1910	74,217	12.4	---	---
1920	104,785	15.4	474,367	23.4
1930	109,210	13.5	553,185	23.1
1940	77,616	11.8	530,030	22.7
1950	132,469	17.5	573,033	25.6

*Data not available for 1910 in Rural--nonfarm Population.

Sources: (1) Tables XV and XVI.

(2) Bureau of the Census, "Statistical Abstract of the U. S., 1956," pp. 22-23.

It is quite evident that an increase or decrease in the rural--nonfarm population has accompanied an increase or decrease respectively in Manufacturing workers during these decades. In comparing the percentages of Manufacturing workers to total employed with the percentages of rural--nonfarm population to total population, it is found that from 1920 to 1940 they both suffered a decline while in 1950 they climbed to a peak. Thus, they varied directly with each other.

Analysis by State Economic Area

The State Economic Areas 10 and 11 are the main manufacturing areas of Oklahoma. Thirty-eight per cent of the manufacturing workers of the state were located in these two areas in 1930, while in 1950 there were 40 per cent of all manufacturing workers in these areas.

In the decade from 1930 to 1940, there was a noticeable decline in Manufacturing workers in every economic area throughout Oklahoma. The proportion of Manufacturing workers to total employed was decreased in ten out of eleven areas (the only area which increased the proportion in that period was State Economic Area 3). In 1950, the employment in manufacturing industries had increased numerically and relatively as compared to 1940. All of the areas except 6 and 11 had exceeded the 1930 level, both in absolute numbers and as a percentage of total employed. In Area 11, the number of Manufacturing workers in 1950 had increased to over four thousand more than in 1930; however, the percentage of Manufacturing workers to total employed was less by 3 per cent because of the increase in total employed in that area.

The number of workers in Manufacturing and the percentage of Manufacturing to total employed are shown in Table XVIII and Figures 12 and 13.

TABLE XVIII

NUMBER OF MANUFACTURING WORKERS AND WORKERS IN MANUFACTURING
AS A PERCENTAGE OF TOTAL EMPLOYED BY STATE ECONOMIC AREAS
IN OKLAHOMA, 1930-1950

Area	Year					
	1930		1940		1950	
	Number	Per Cent	Number	Per Cent	Number	Per Cent
1	3,223	7.2	2,326	6.9	4,403	11.7
2	10,458	14.3	8,457	13.3	13,266	18.6
3	6,771	11.4	6,338	11.9	10,067	18.0
4	8,639	8.5	4,718	6.4	8,683	11.4
5	9,303	11.2	5,409	8.3	10,187	13.7
6	8,467	10.8	5,454	9.3	7,574	15.5
7	4,961	8.1	3,477	6.7	6,254	11.9
8	7,949	10.0	6,163	9.9	11,568	17.7
9	7,123	13.0	5,288	12.8	6,637	16.8
10	19,791	25.3	14,970	21.4	27,130	27.3
11	22,525	24.1	15,016	17.3	26,700	20.3

Source: Tables IV, V, and VI in Chapter 3.

Figure 12. Number of Manufacturing Workers by State Economic Areas in Oklahoma, 1930-1950

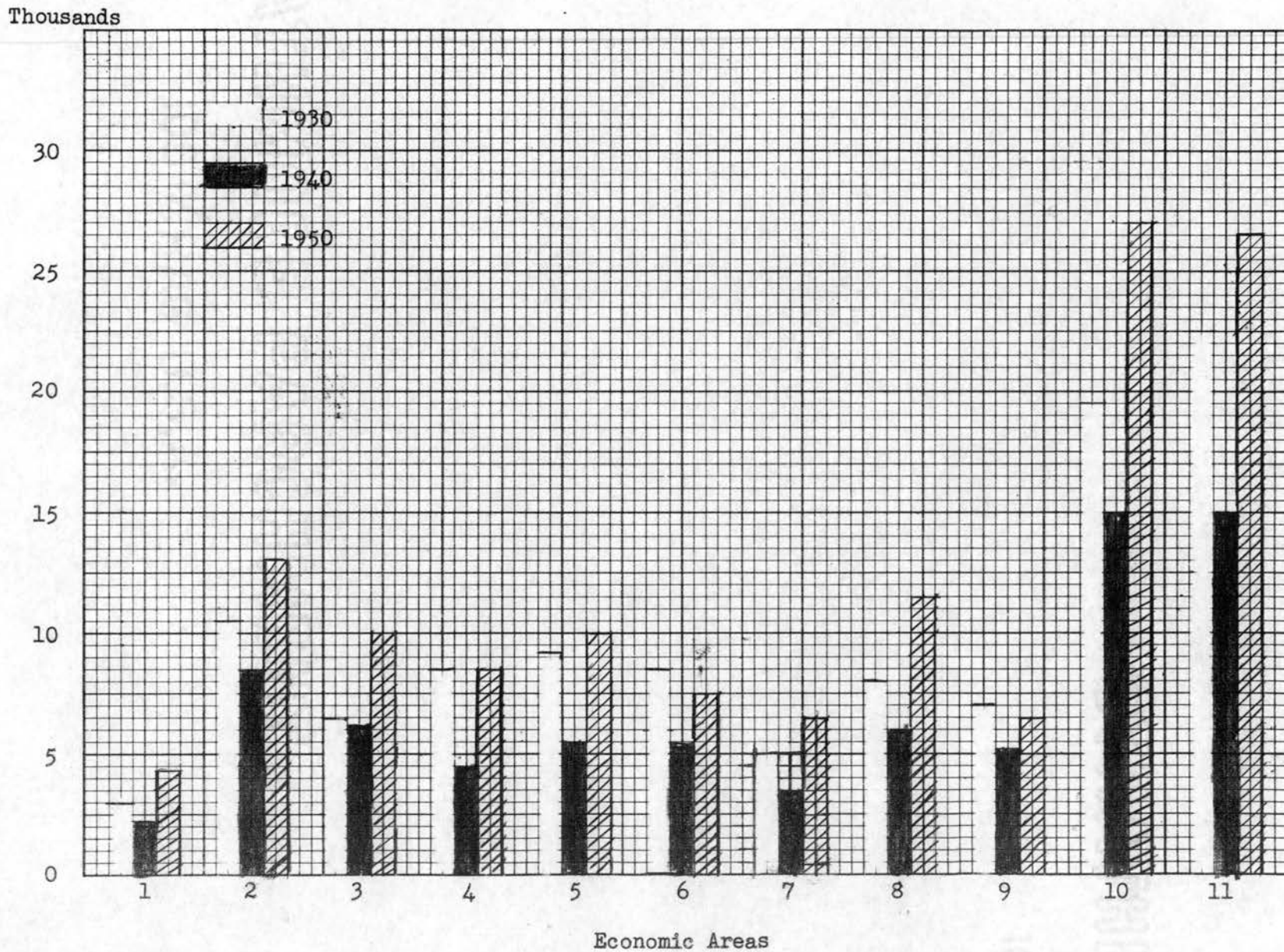
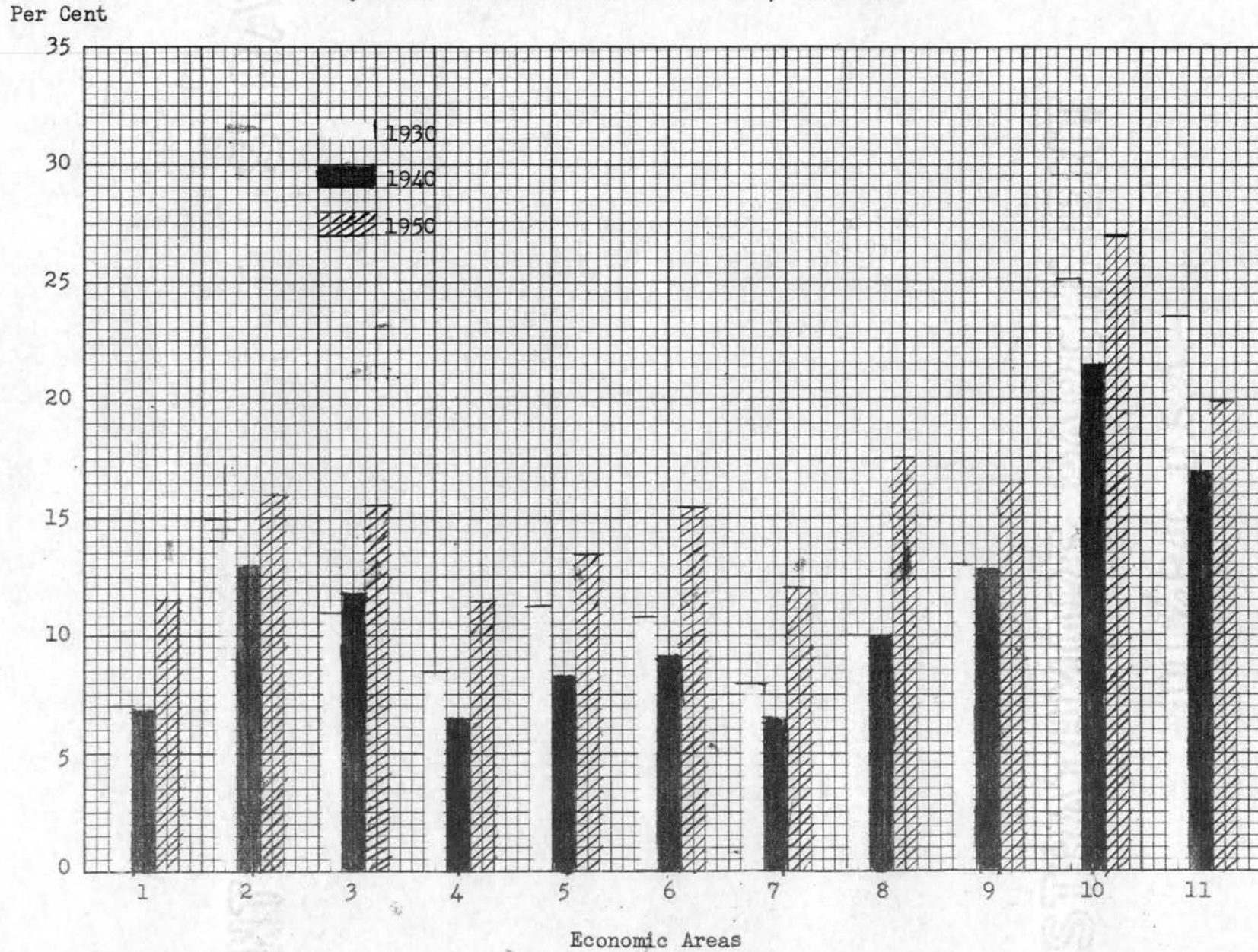


Figure 13. Workers in Manufacturing as a Percentage of Total Employed by State Economic Areas in Oklahoma, 1930-1950



Trend in Transportation and Communication

Absolute Number Employed

Rapid communication and transportation not only characterizes a modern economy but makes it possible. Thus the development of this industry during 1910 to 1950 manifested the industrialization of Oklahoma. The employment in communication and transportation has expanded since 1910 when it engaged only 32,629 persons to 53,114 persons in 1950. The development has been very erratic, however, reflecting inventions and the introduction of new methods of transportation and communication, which drastically affect the labor force engaged in these fields. Table XIX and Figure 14 show the trend in the employment in this category during the decades from 1910 to 1950.

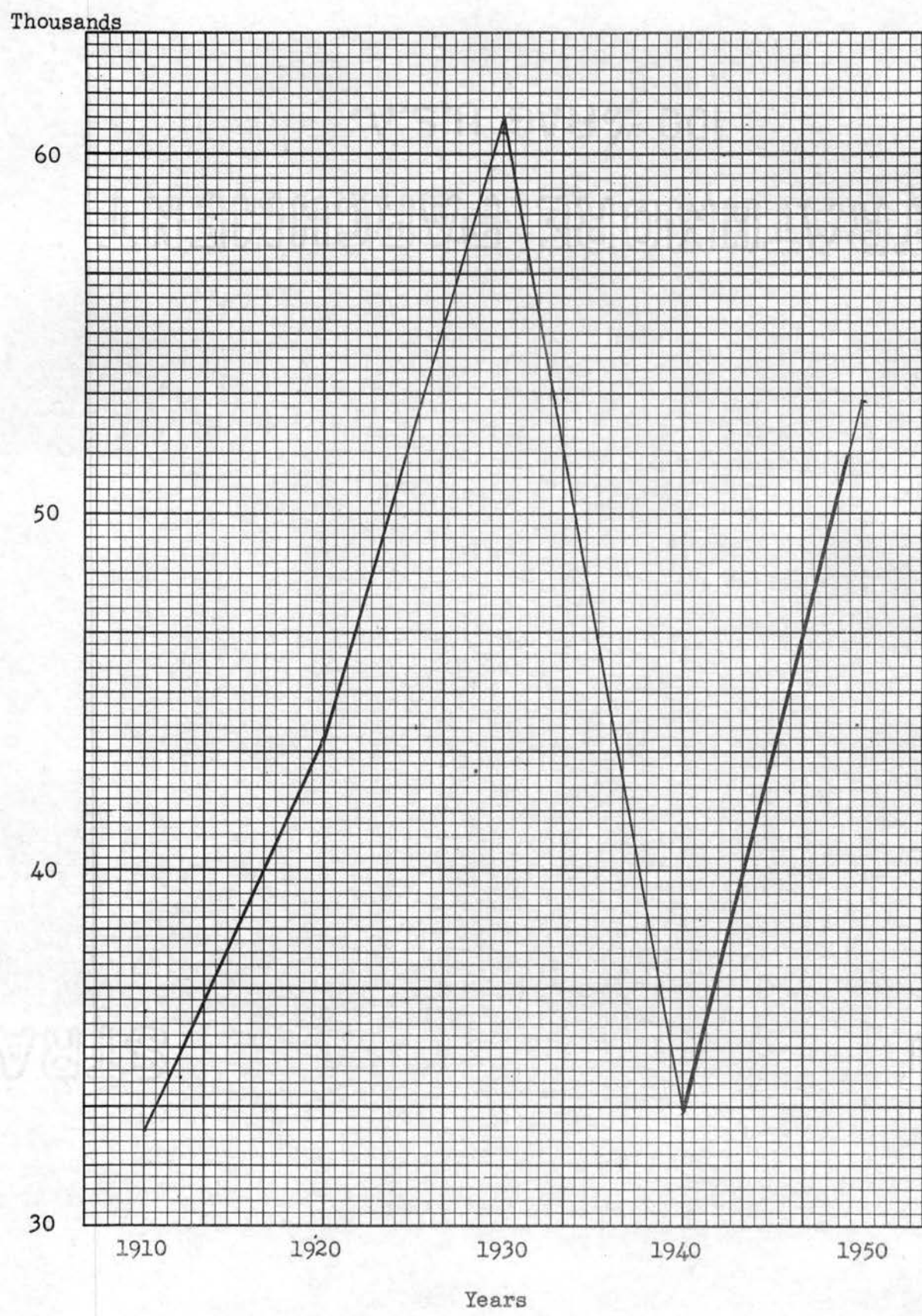
TABLE XIX

NUMBER OF WORKERS IN TRANSPORTATION AND COMMUNICATION
IN OKLAHOMA, 1910-1950

Year	Persons Employed
1910	32,629
1920	43,547
1930	60,688
1940	33,362
1950	53,114

Source: Tables IV, V, VI, and VII in Chapter 3.

Figure 14. Number of Workers in Transportation and Communication in Oklahoma, 1910-1950



Percentage in Transportation and Communication
Related to Total Employed

In terms of percentage of total employed, Transportation and Communication has increased from 5.5 per cent in 1910 to 7.1 per cent in 1950. This series climbed to a maximum point in 1930 and was followed by a sharp decline in 1940. In the decade of 1940 to 1950, the employment in this category increased absolutely and relatively. These movements are shown in Table XX and Figure 15.

TABLE XX

WORKERS IN TRANSPORTATION AND COMMUNICATION AS A PERCENTAGE
OF TOTAL EMPLOYED, OKLAHOMA, 1910-1950

Year	Percentage of Total Employed
1910	5.5
1920	6.4
1930	7.5
1940	5.1
1950	7.1

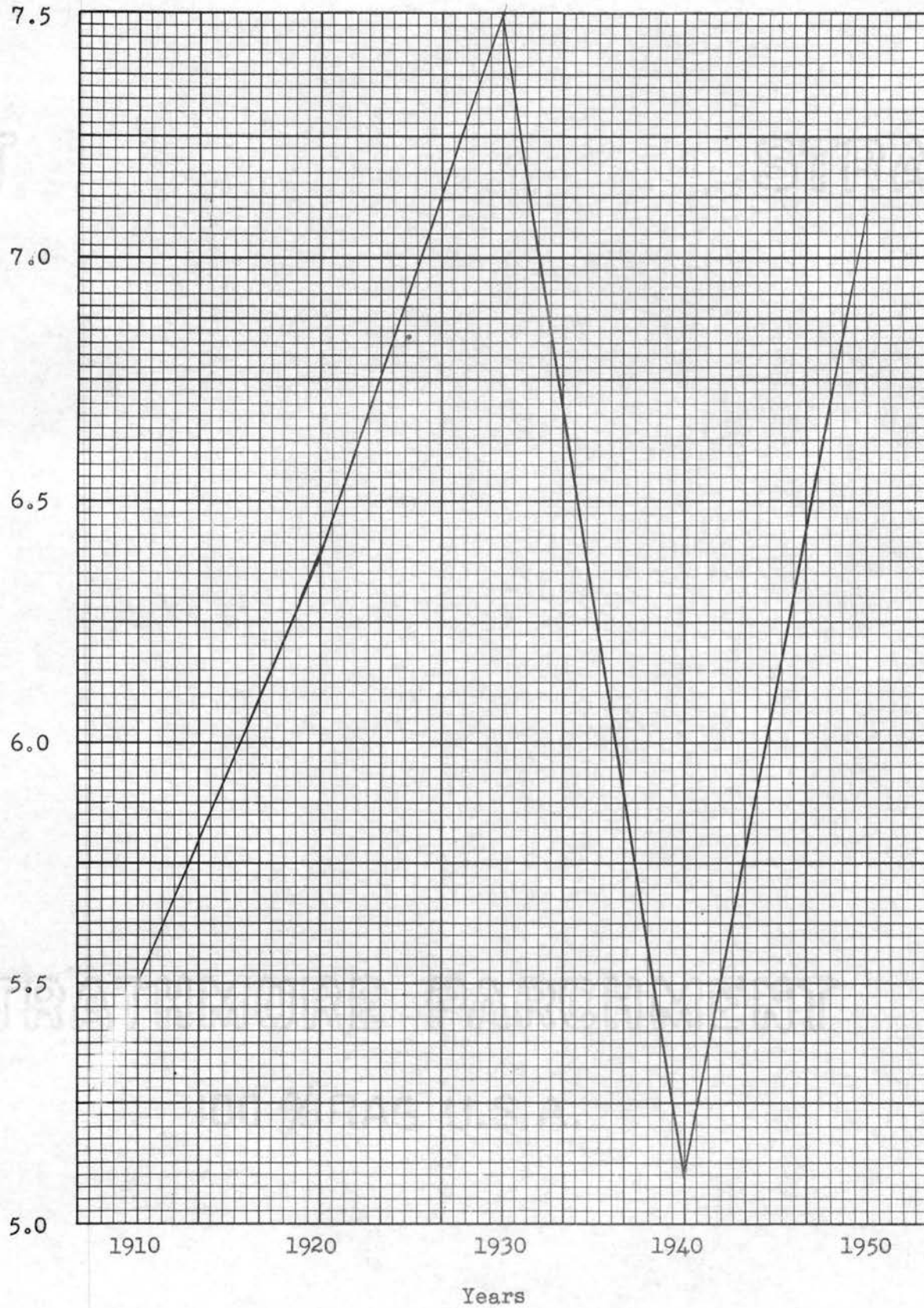
Source: Tables IV, V, VI, and VII in Chapter 3.

Analysis by State Economic Area

By analyzing distribution of the workers of Transportation and Communication, it appears that the workers in this category are distributed throughout the state almost in proportion to the distribution of total employed. In terms of percentage of total labor force in 1950, it is found that the range was 5.4 per cent in the eleven state economic areas. In 1930 and 1940 the ranges were 4.5 per cent and 3.8 per cent, respectively.

Figure 15. Workers in Transportation and Communication as a Percentage of Total Employed, Oklahoma, 1910-1950

Per Cent



During the decade 1930 to 1940, all state economic areas in Oklahoma lost workers in the Transportation and Communication group absolutely and relatively. These trends were upward from 1940 to 1950, although in terms of percentages none of these areas except Area 10 reached the 1930 level.

These trends are expressed in Table XXI and in Figures 16 and 17.

TABLE XXI

NUMBER OF WORKERS IN TRANSPORTATION AND COMMUNICATION, AND WORKERS IN TRANSPORTATION AND COMMUNICATION AS A PERCENTAGE OF TOTAL EMPLOYED, BY STATE ECONOMIC AREAS IN OKLAHOMA, 1930-1950

Area	Year					
	1930		1940		1950	
	Number	Per Cent	Number	Per Cent	Number	Per Cent
1	3,395	7.6	1,328	3.9	2,374	6.3
2	6,742	9.2	3,459	5.5	5,040	7.0
3	4,057	6.8	2,362	4.5	3,301	5.9
4	5,627	5.5	2,452	3.3	3,845	5.0
5	6,657	8.0	3,108	4.8	4,664	6.3
6	5,804	7.4	2,608	4.5	3,169	6.5
7	4,112	6.8	2,004	3.8	3,195	6.1
8	5,036	6.3	2,637	4.2	3,843	5.9
9	3,510	6.4	1,542	3.8	2,251	5.7
10	7,054	9.0	5,105	7.3	10,357	10.4
11	8,694	9.3	6,757	7.8	11,075	8.4

Source: Tables IV, V, and VI in Chapter 3.

Figure 16. Number of Workers in Transportation and Communication
by State Economic Areas in Oklahoma, 1930-1950

Thousands

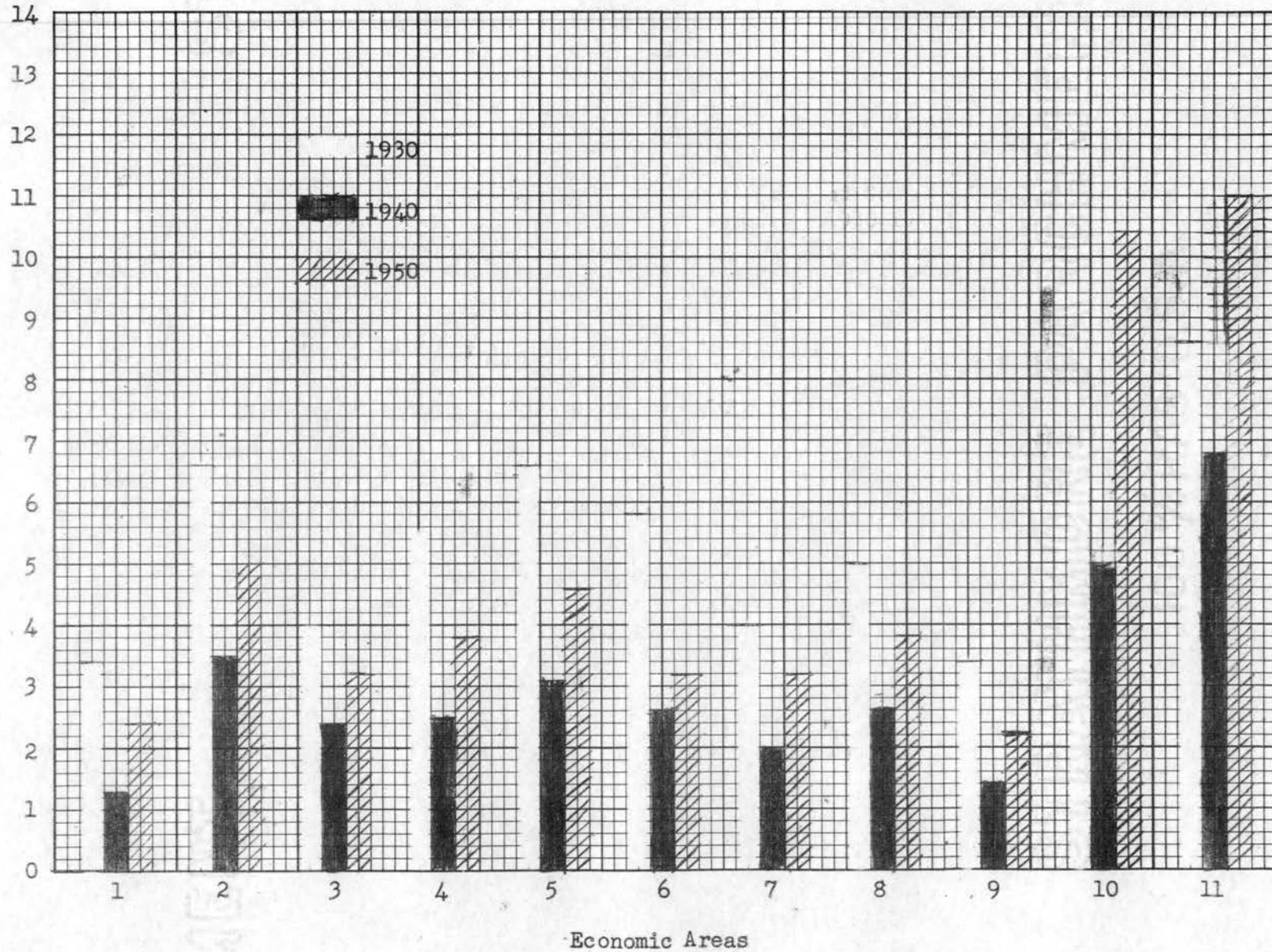
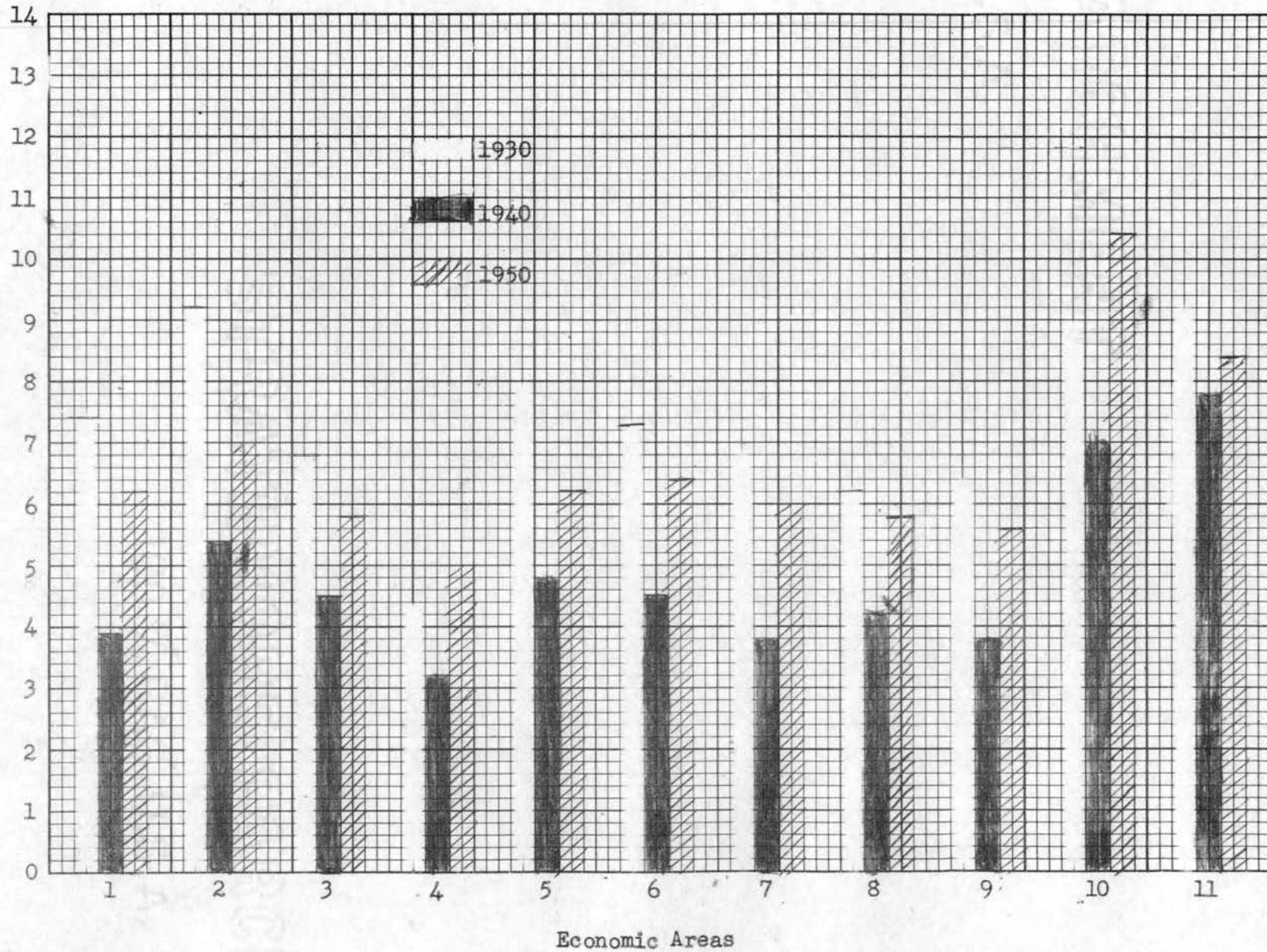


Figure 17. Workers in Transportation and Communication as a Percentage of Total Employed by State Economic Areas in Oklahoma, 1930-1950

Per Cent



Trend in Trade

Absolute Number Employed

Of all persons employed in Oklahoma, the Trade group is third in numerical importance, being exceeded by that of Service and Agriculture. The number of workers in Trade increased rapidly and without interruption through successive decades from 1910 to 1950. There were 41,513 persons who engaged in this category in 1910, while there were 150,071 persons in 1950. Thus, the number employed in Trade almost quadrupled from 1910 to 1950. The trend in Trade in absolute numbers is shown in Table XXII and Figure 18.

TABLE XXII

NUMBER OF WORKERS IN TRADE IN OKLAHOMA
1910-1950

Year	Persons Employed
1910	41,513
1920	55,503
1930	93,909
1940	113,583
1950	150,071

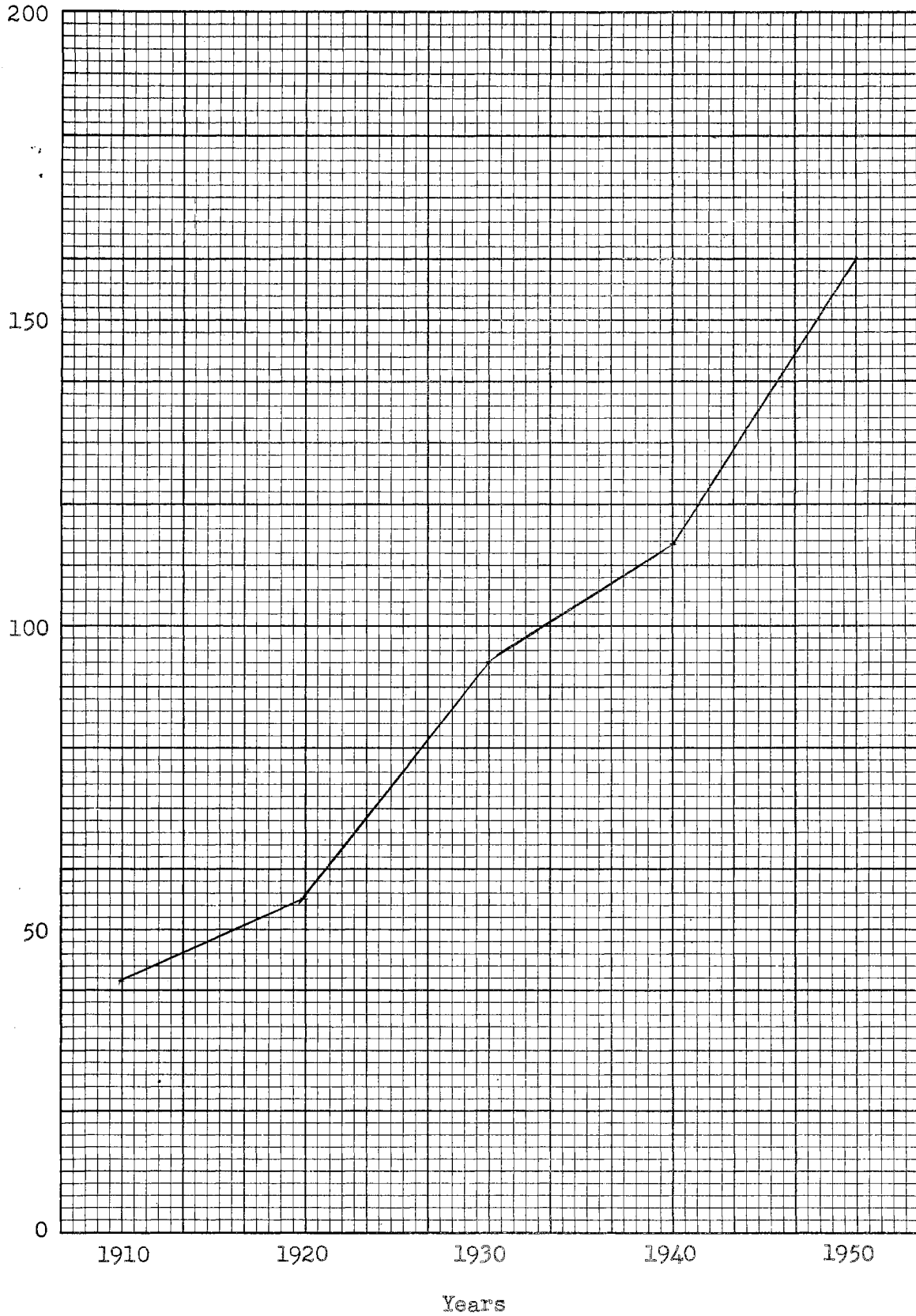
Source: Tables IV, V, VI, and VII in Chapter 3.

Percentage of Trade Related to Total Employed

The relative importance of Trade to total employment of Oklahoma has increased in successive decades since 1910--from 6.9 per cent of total employed at that time to more than double that proportion in 1950. Being exceeded by Service, Agriculture, and Manufacturing in

Figure 18. Number of Workers in Trade in Oklahoma, 1910-1950

Thousands



1910, Trade was fourth in the percentage of total labor force. In 1950, it was third in percentage, exceeded only by Service and Agriculture. Table XXIII and Figure 19 show those employed in Trade as a percentage of the total labor force in Oklahoma from 1910 to 1950.

TABLE XXIII
WORKERS IN TRADE AS A PERCENTAGE OF TOTAL EMPLOYED,
OKLAHOMA, 1910-1950

Year	Percentage of Total Employed
1910	6.9
1920	8.1
1930	11.6
1940	17.2
1950	19.9

Source: Tables IV, V, VI, and VII in Chapter 3.

Use of Urban Population as an Indicator

Urban population is an indicator of the trend in Trade occupations. The enormous increase in Trade workers has been associated with the growth of urban population.

In comparison with the development of urban population, Trade workers have grown as shown in Table XXIV.

According to Table XXIV, during the forty years from 1910 to 1950, the total number of workers engaged in Trade kept pace with the trend in the development of the urban population. The greatest ten-year gain of both Trade workers and urban population was made in 1930 and 1950. Furthermore, the increase of urban population in 1950 over 1910 (277.1 per cent) deviated not far from Trade workers in the same period (265.1 per cent). Thus, these two series of data are highly correlated.

Figure 19. Workers in Trade as a Percentage of Total Employed,
Oklahoma, 1910-1950

Per Cent

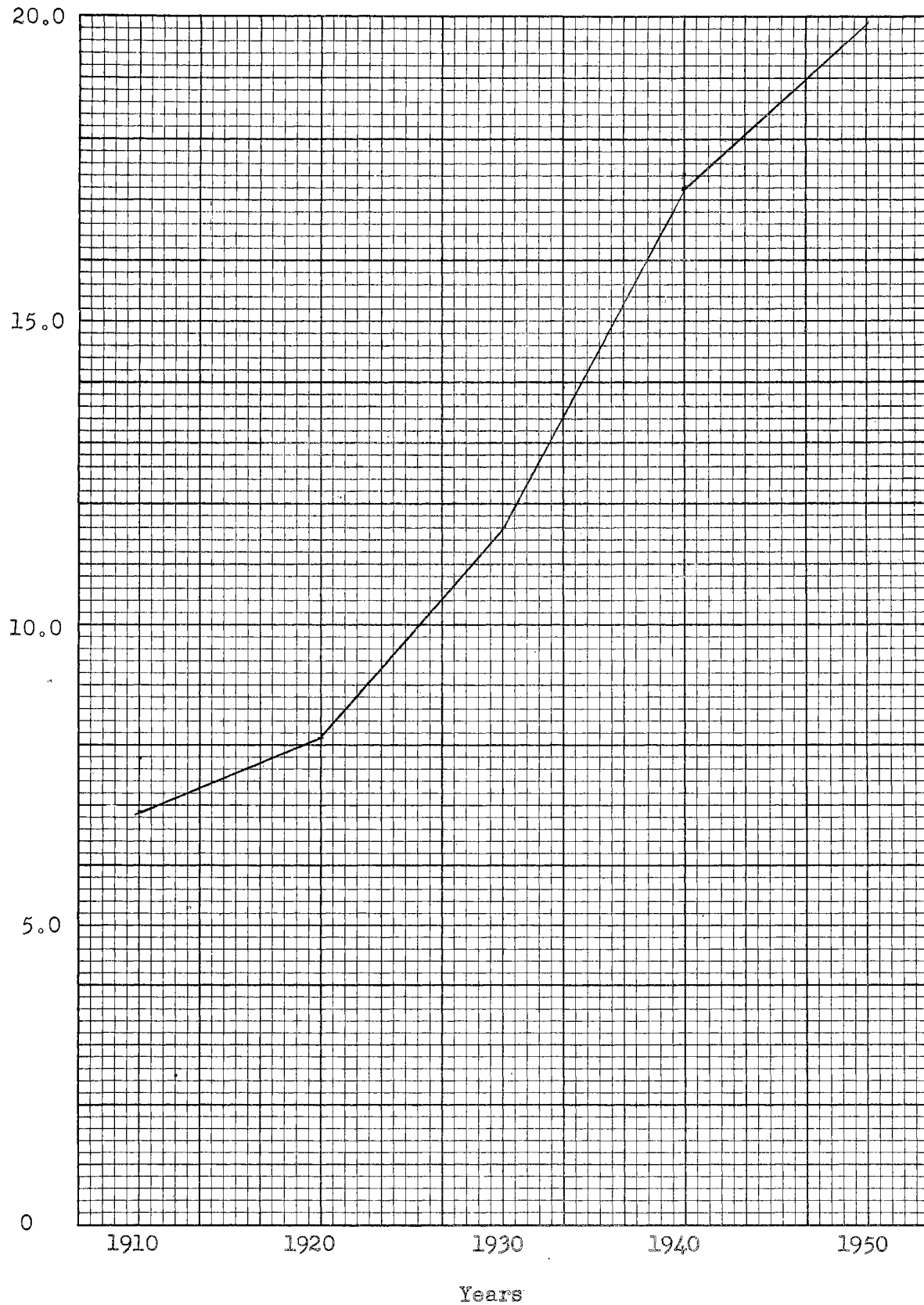


TABLE XXIV
COMPARISON OF TRADE WORKERS WITH URBAN POPULATION,
OKLAHOMA, 1910-1950

Year	Trade Workers			Urban Population		
	Number	Per Cent as of 1910	Increase in Per Cent	Number	Per Cent as of 1910	Increase in Per Cent
1910	41,513	100.0	-----	320,155	100.0	-----
1920	55,503	133.7	33.7	538,017	168.0	68.0
1930	93,909	226.2	92.5	821,681	256.6	88.6
1940	113,583	273.6	47.4	879,663	274.8	18.2
1950	150,071	365.1	91.5	1,107,252	377.1	102.3

Sources: (1) Tables XXII and XXIII.
(2) Bureau of the Census, "Statistical Abstract of the U. S., 1956," pp. 22-23.
(3) Bureau of the Census, "Statistical Abstract of the U. S., 1938," pp. 7-8.

Analysis by State Economic Area

Almost one half of the total Trade Workers of the state are concentrated in State Economic Areas 4, 10 and 11. About one fifth of the labor force in each of the above areas was engaged in Trade in 1950.

In general, the employment in Trade has increased numerically and relatively to the total labor force in each state economic area from 1930 through 1950. The only exception is that in State Economic Area 11 the percentage of Trade workers in the total labor force was decreased from 26.2 per cent in 1940 to 24.9 per cent in 1950. The trend of Trade workers in numbers and as a percentage of the total labor force in each state economic area is shown as follows:

TABLE XXV

NUMBER OF TRADE WORKERS, AND TRADE WORKERS AS A PERCENTAGE OF
TOTAL EMPLOYED IN OKLAHOMA BY STATE ECONOMIC AREAS,
1930-1950

Area	Year					
	1930		1940		1950	
	Number	Per Cent	Number	Per Cent	Number	Per Cent
1	4,598	10.3	5,050	15.0	6,358	16.8
2	8,809	12.0	10,866	17.2	13,795	19.3
3	5,940	10.0	7,202	13.6	9,112	16.4
4	10,255	10.1	11,373	15.4	15,079	19.7
5	8,498	10.2	10,229	15.8	13,310	17.8
6	7,790	9.9	9,066	15.6	8,864	18.1
7	5,878	9.7	7,787	14.9	9,840	18.8
8	7,062	8.8	8,381	13.5	10,853	16.6
9	3,582	6.6	4,689	11.4	6,070	15.4
10	13,898	17.8	16,231	23.2	23,962	24.1
11	17,599	18.8	22,709	26.2	32,828	24.9

Source: Tables IV, V, and VI in Chapter 3.

Figure 20. Number of Trade Workers by State Economic Areas in Oklahoma, 1930-1950

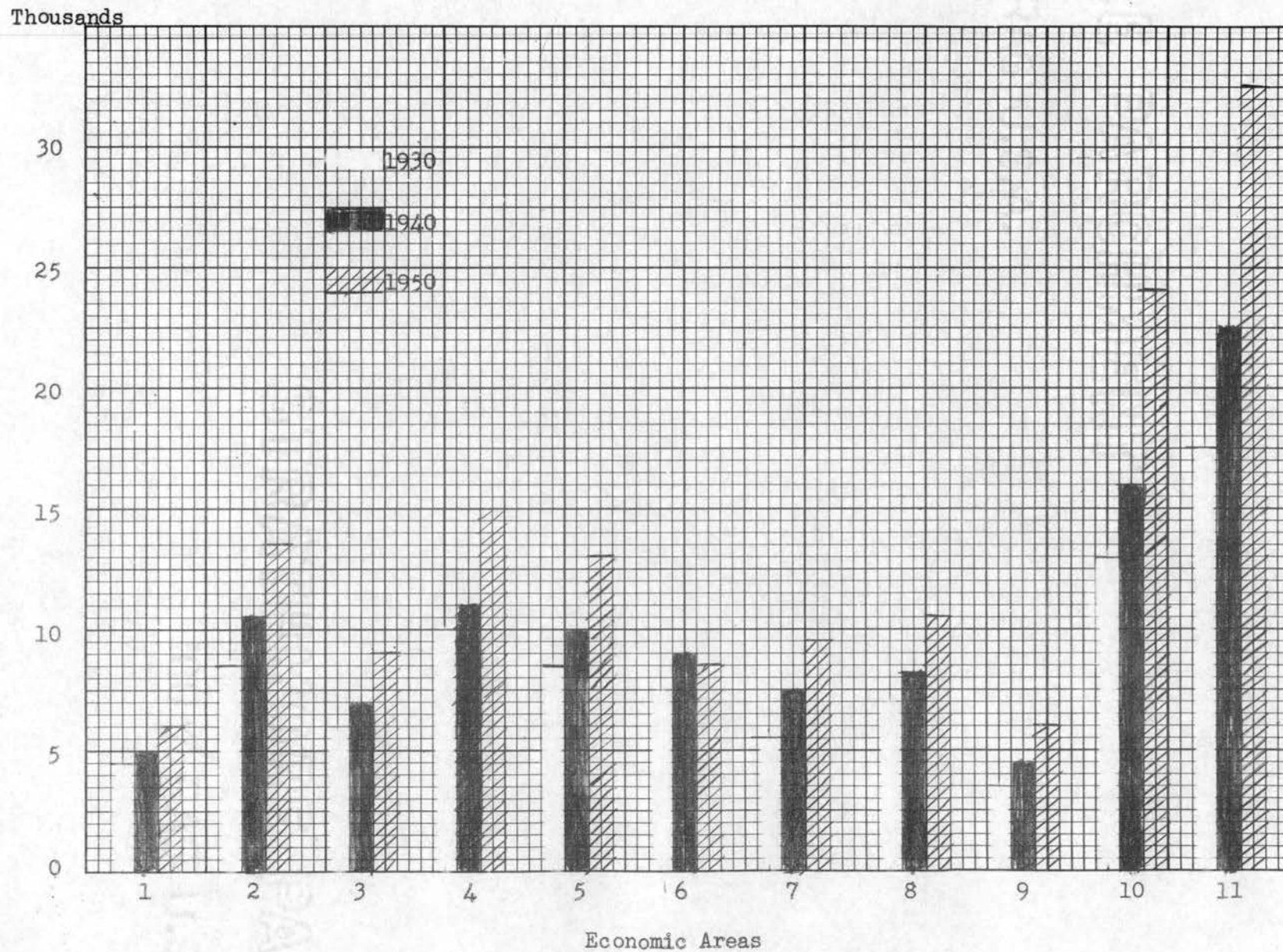
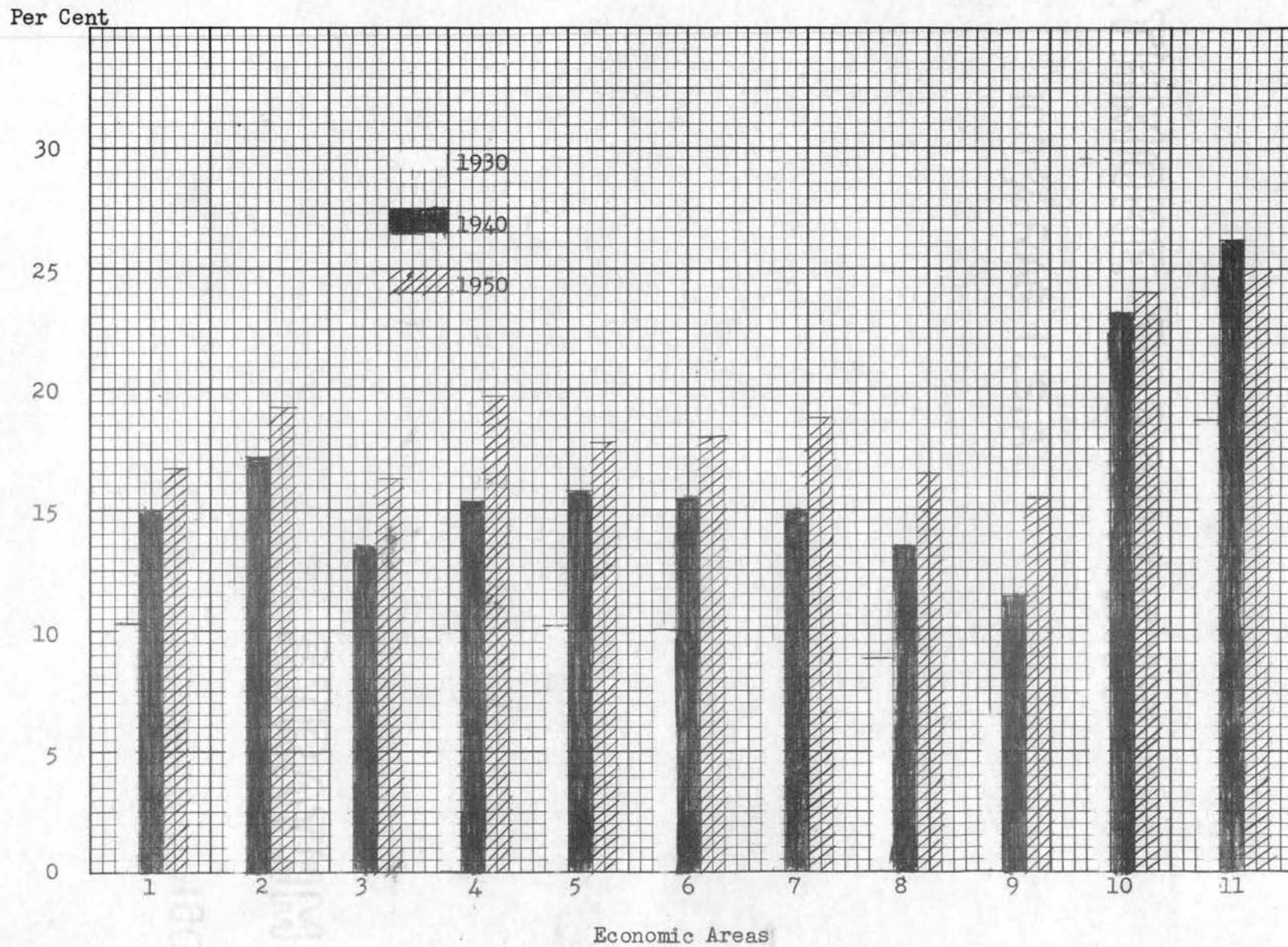


Figure 21. Trade Workers as a Percentage of Total Employed by State Economic Areas in Oklahoma, 1930-1950



Trend in Service

Absolute Number Employed

In 1910, the 82,801 workers in the Service group ranked second in employment of all categories of occupations in Oklahoma. Its numerical increase from 1910 to 1950 was quite substantial. In 1950, it employed 168,277 persons and became the largest category of employment in the state.

Employment in the Service group has increased every decade since 1910. This is shown in Table XXVI and Figure 22.

TABLE XXVI

NUMBER OF WORKERS IN SERVICE IN OKLAHOMA
1910-1950

Year	Persons Employed
1910	82,801
1920	115,619
1930	142,799
1940	144,453
1950	168,277

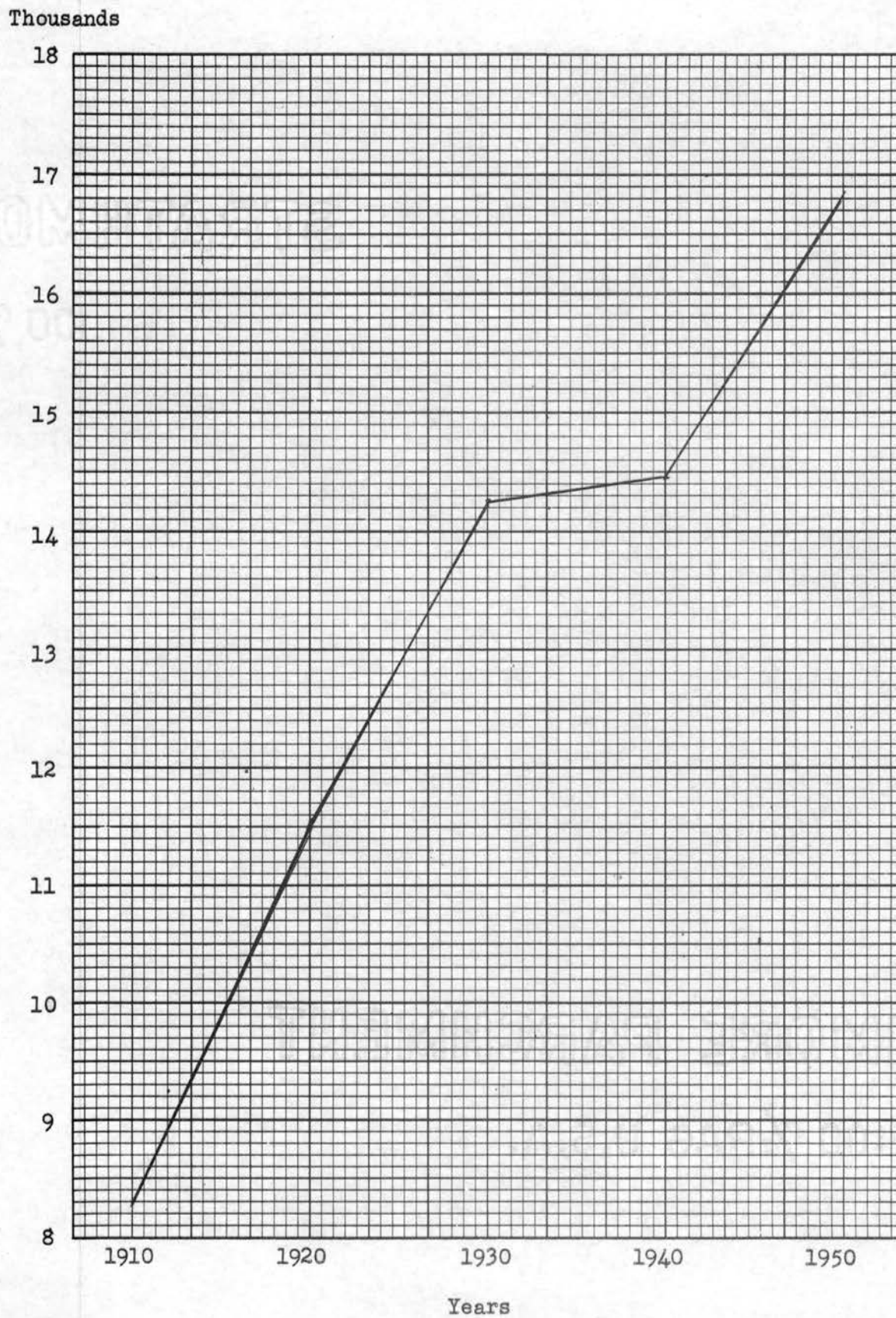
Source: Tables IV, V, VI, and VII in Chapter 3.

Percentage Related to Total Employed

In considering the whole labor force in Oklahoma, the proportion in the Service group increased from 13.8 per cent in 1910 to 22.3 per cent in 1950, the largest of all categories of occupations.

The share of the total employed in the Service group increased 3.2 per cent in the decade of 1910 to 1920. There was almost no upward trend

Figure 22. Number of Workers in Service in Oklahoma, 1910-1950



between 1920 and 1930. The greatest ten-year gain was from 1930 to 1940 and was then followed by only a slight increase from 1940 to 1950. In Table XXVII and Figure 23, workers in the Service group are expressed as a percentage of the total employed in Oklahoma.

TABLE XXVII
WORKERS IN SERVICE AS A PERCENTAGE OF TOTAL EMPLOYED,
OKLAHOMA, 1910-1950

Year	Percentage of Total Employed
1910	13.8
1920	17.0
1930	17.7
1940	21.9
1950	22.3

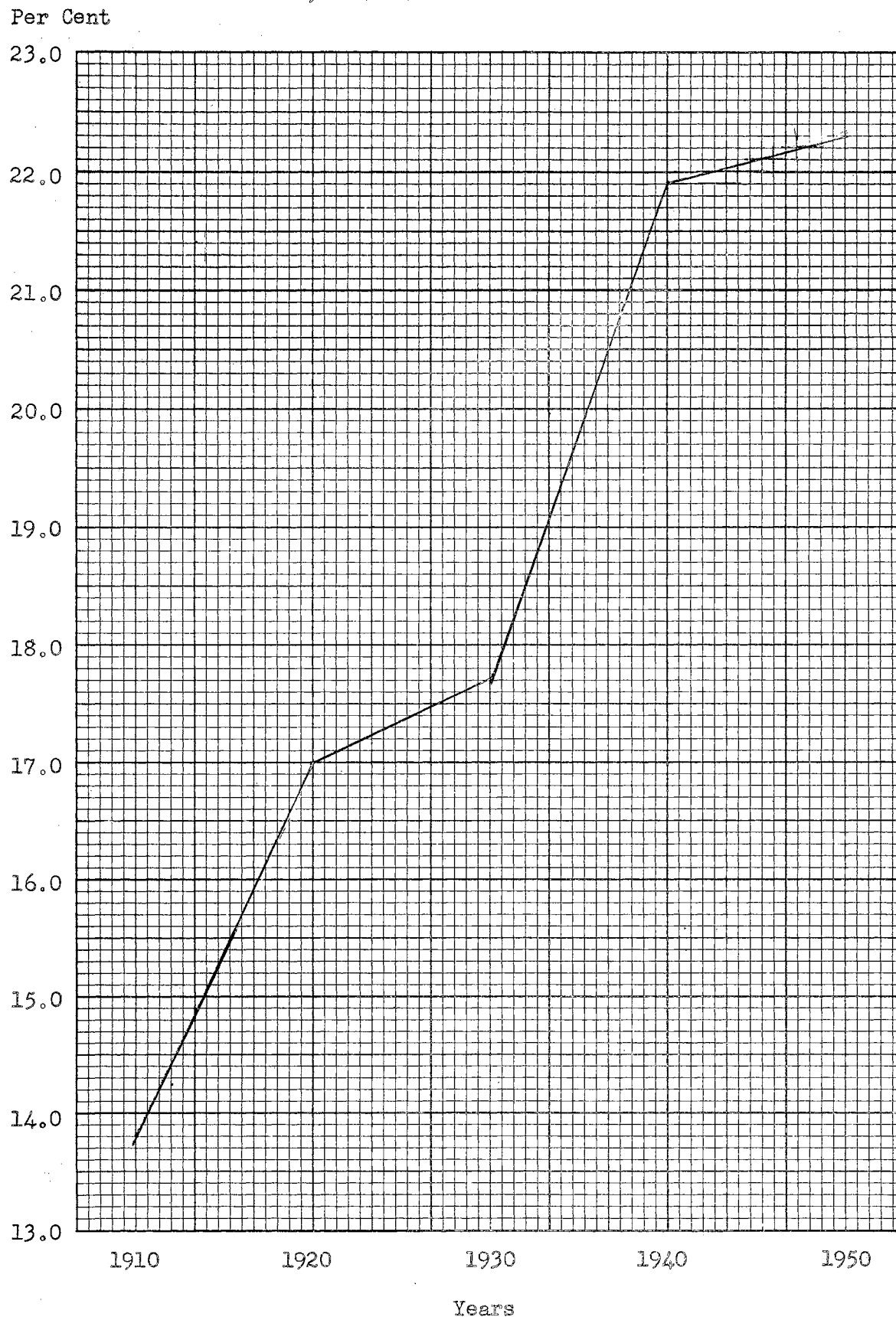
Source: Tables IV, V, VI, and VII in Chapter 3.

Analysis by State Economic Area

In each state economic area in Oklahoma, the Service group is a major category of occupations. In 1950, more than one worker out of every four was employed in the Service group in State Economic Areas 5, 10, and 11; and about one worker out of every five was in this category in the other eight areas.

Although Service workers in some state economic areas declined numerically from 1930 to 1940, in terms of percentage of total employed an increase occurred in all state economic areas during that period. The rate of increase was mild in the decade from 1940 to 1950. In that period, Area 10 and Area 11 gained numerically, but the percentage of service group to total employed was less in these areas in 1950 than in

Figure 23. Workers in Service as a Percentage of Total Employed,
Oklahoma, 1910-1950



1940. The number of workers in the Service group and the relative importance of this group to the total employed are shown as follows:

TABLE XXVIII

NUMBER OF WORKERS IN SERVICE, AND WORKERS IN SERVICE AS A PERCENTAGE OF TOTAL EMPLOYED BY STATE ECONOMIC AREAS IN OKLAHOMA, 1930-1950

Area	Year					
	1930		1940		1950	
	Number	Per Cent	Number	Per Cent	Number	Per Cent
1	6,057	13.6	6,005	17.8	7,184	19.0
2	12,467	17.1	12,614	19.9	13,580	19.0
3	9,689	16.3	9,922	18.8	10,638	19.1
4	13,114	12.9	13,166	17.8	15,128	19.8
5	13,660	16.5	14,242	22.0	20,758	27.8
6	11,722	14.9	11,243	19.4	9,542	19.5
7	8,665	14.3	9,966	19.1	10,166	19.4
8	11,839	14.8	11,158	18.0	13,082	20.0
9	5,854	10.7	6,330	15.4	6,822	17.3
10	22,932	29.3	21,248	30.3	25,939	26.1
11	26,800	28.6	28,559	32.9	35,438	26.9

Source: Tables IV, V, and VI in Chapter 3.

Figure 24. Number of Workers in Service by State Economic Areas in Oklahoma, 1930-1950

Thousands

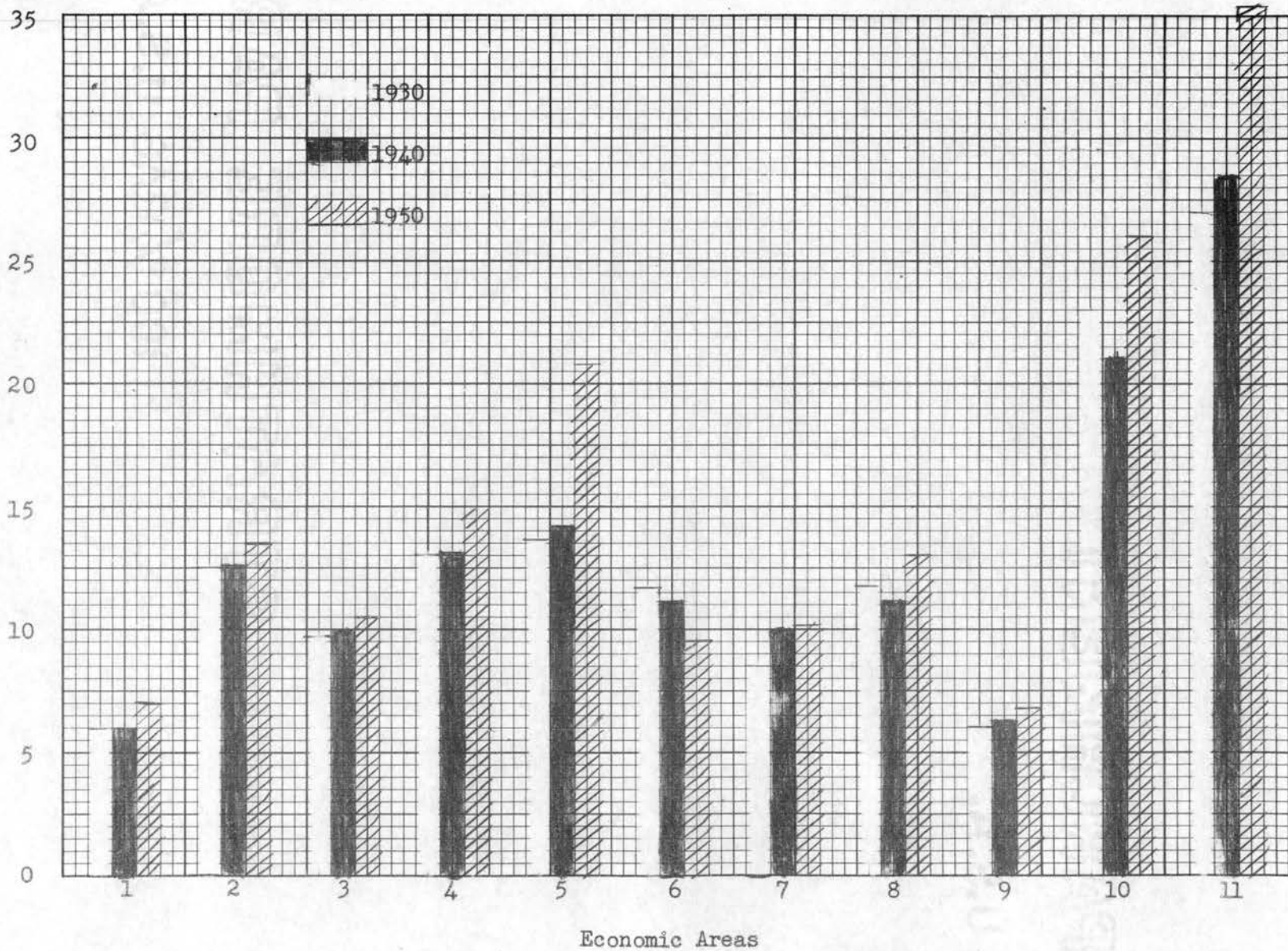
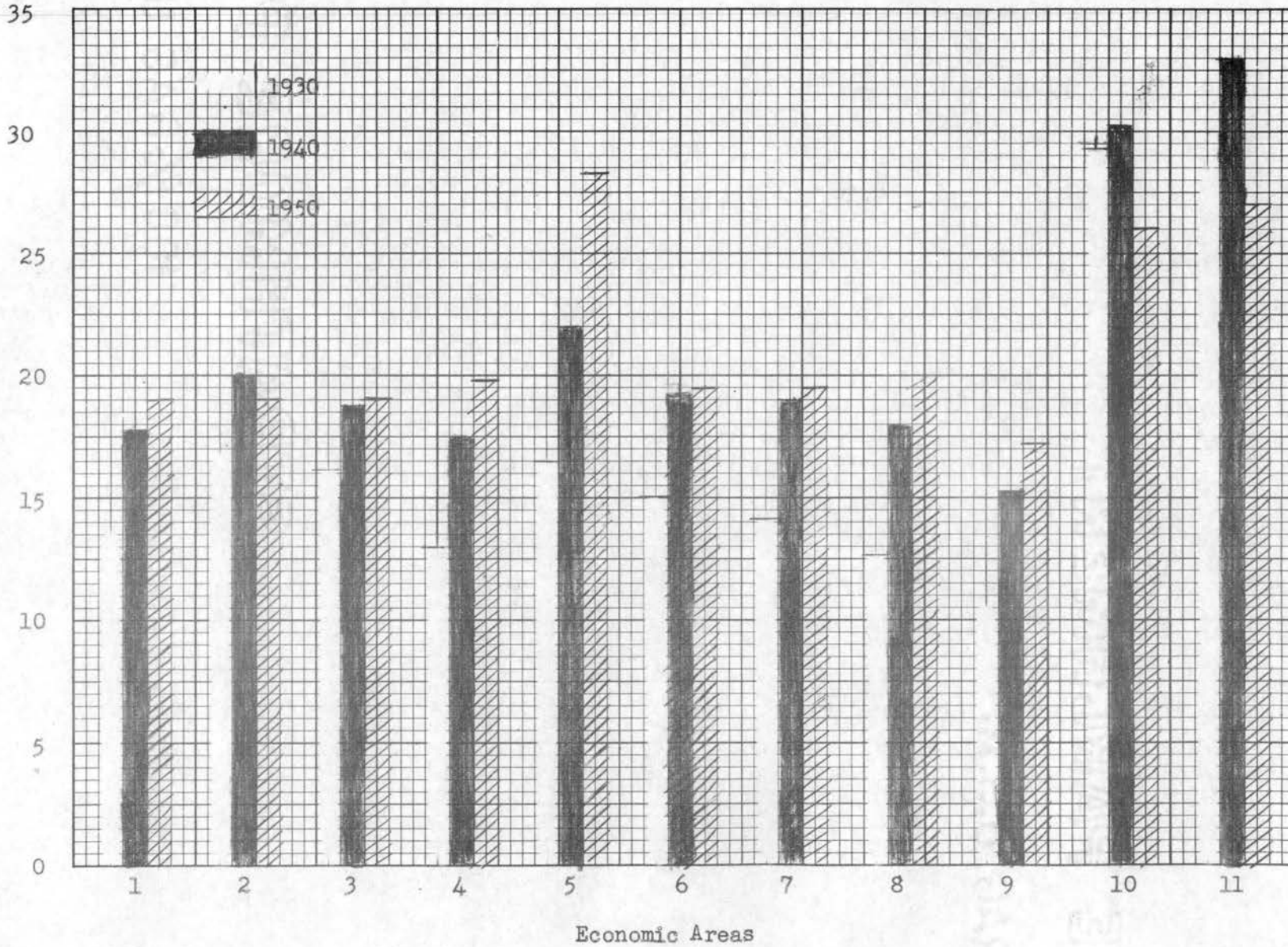


Figure 25. Workers in Service as a Percentage of Total Employed by State Economic Areas
In Oklahoma, 1930-1950

Per Cent



Combined Analysis

This section is developed by combining the occupational statistics which were discussed in the preceding sections. It is hoped in this analysis to bring to the reader's attention the part that each state economic area and each category of occupation plays in the occupational trends for Oklahoma from 1910 to 1950.

Percentage Distribution of Total Employed by Occupational Categories. (Table XXIX and Figure 26)

Figure 26 is a band chart which accumulates the percentage that each category comprises of the total working population of Oklahoma. The "Percentage" column in Table XXIX shows the percentage of the total number employed that are employed in each category. These percentages are accumulated in the column "A. P." of Table XXIX.

TABLE XXIX

PERCENTAGE DISTRIBUTION OF TOTAL EMPLOYED IN OKLAHOMA,
BY OCCUPATIONAL CATEGORIES, 1910-1950

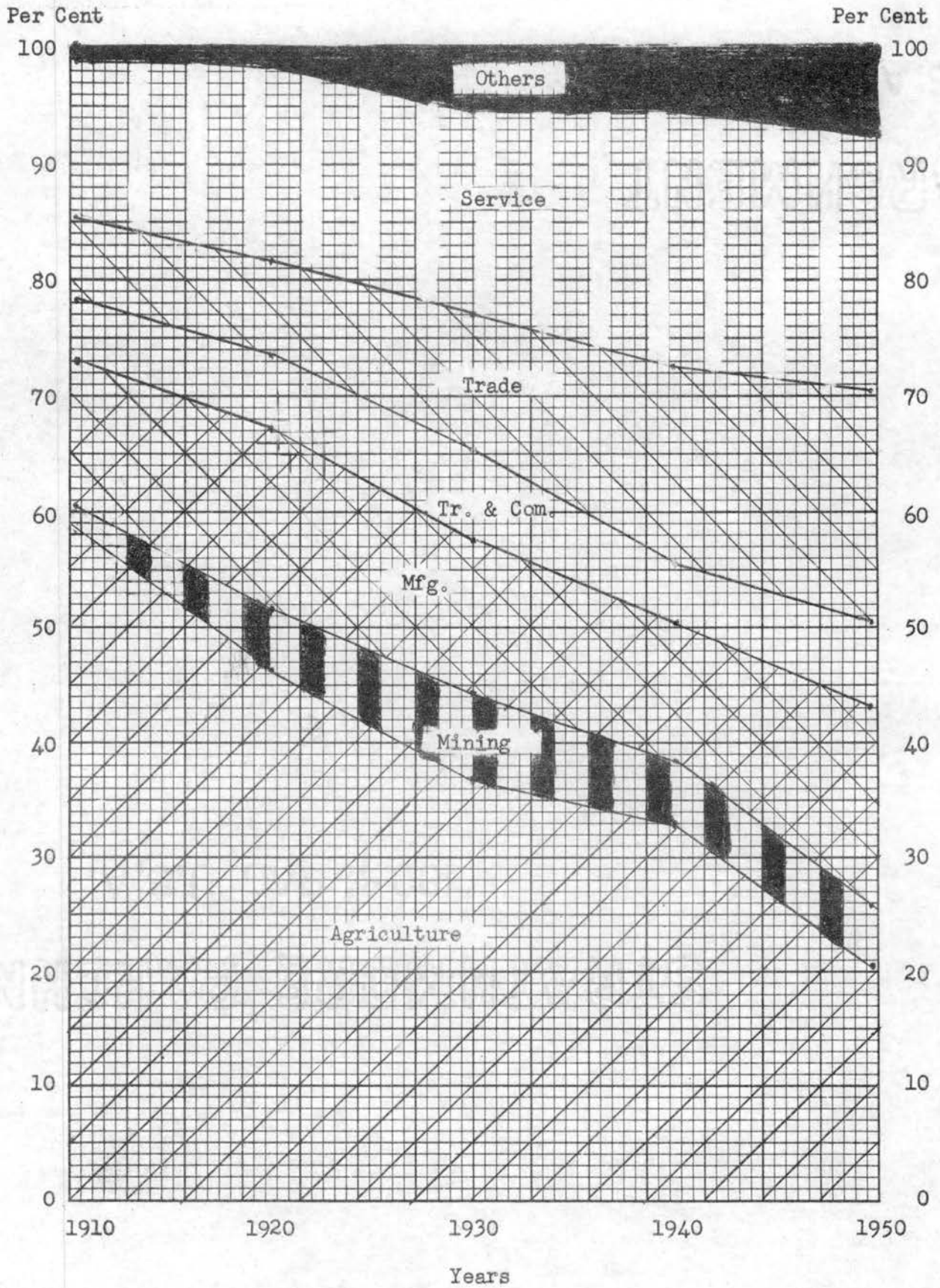
Category	Year									
	1910		1920		1930		1940		1950	
	Per.*	A. P.*	Per.	A. P.	Per.	A. P.	Per.	A. P.	Per.	A. P.
Agri.	58.5		46.2		37.0		33.1		20.5	
Mining	2.0	60.5	5.6	51.8	7.3	44.3	5.3	38.4	5.3	25.8
Mfg.	12.4	72.9	15.4	67.2	13.5	57.8	11.8	50.2	17.5	43.3
Tran. & Comm.	5.5	78.4	6.4	73.6	7.5	65.3	5.1	55.3	7.1	50.4
Trade	6.9	85.3	8.1	81.7	11.6	76.9	17.2	72.5	19.9	70.3
Service	13.8	99.1	17.0	98.7	17.7	94.6	21.9	94.4	22.3	92.6
Others	0.9	100.0	1.3	100.0	5.4	100.0	5.6	100.0	7.4	100.0

Source: Tables IV, V, VI, and VII in Chapter 3.

*Note: (1) "Per" denotes percentage.

(2) "A. P." denotes accumulative percentage.

Figure 26. Percentage Distribution of Total Employed in Oklahoma, by Occupational Categories, 1910-1950



Percentage Changes in Workers Employed by Each Occupational Category (Table XXX and Figure 27)

Table XXX and Figure 27 were compiled to show the changes in workers employed by each occupational group in Oklahoma from 1910 to 1950. The year 1910 is chosen as the base period. In Table XXX, the absolute number of workers in each category in every decade is compared with that for 1910, with the latter as a base—100 per cent. The percentages in the table were calculated by dividing the number of workers in each group for every decade by the number of workers in the corresponding group for 1910. In comparing the development of the total population and the total employed, the same treatment was used.

TABLE XXX

PERCENTAGE CHANGE IN THE TOTAL POPULATION, TOTAL EMPLOYED,
AND THE WORKERS ENGAGED BY OCCUPATIONAL CATEGORIES,
OKLAHOMA, 1910-1950

Item	Year				
	1910	1920	1930	1940	1950
Total Population	100.0	122.4	144.6	141.0	134.8
Total Employed	100.0	113.8	134.9	110.0	125.9
Agriculture	100.0	89.8	85.3	62.3	44.2
Mining	100.0	325.7	498.8	297.3	336.4
Manufacturing	100.0	141.2	147.1	104.6	178.5
Transportation and Communication	100.0	133.5	186.0	102.2	162.8
Trade	100.0	133.7	226.2	273.6	361.5
Service	100.0	139.6	172.5	174.5	203.2

Source: Tables IV, V, VI, and VII in Chapter 3.

Percentage Distribution of Workers in Each Occupational Category by State Economic Area (Table XXXI and Figure 28)

In order to indicate the relative importance of each state economic area in Oklahoma to the total employment in the various occupational groups, Table XXXI and Figure 28 were compiled. Table XXXI and Figure 28 are divided into six parts which show the six occupational categories by state economic area. The number of workers in each category in each state economic area is shown as a percentage of the total workers in the corresponding category in the state (Table XXXI, column P.) These percentages were accumulated in the A.P. column in Table XXXI. Figure 28 is expressed as a 100 per cent surface chart.

TABLE XXXI

PERCENTAGE DISTRIBUTION OF WORKERS BY STATE ECONOMIC AREAS
AND BY OCCUPATIONAL CATEGORIES, OKLAHOMA
1930-1950

Year	*	Area										
		1	2	3	4	5	6	7	8	9	10	11
<u>Agriculture</u>												
1930	P.	8.4	9.7	6.8	18.4	11.8	8.9	10.3	13.5	9.0	1.5	1.7
	A.P.		18.1	24.9	43.3	55.1	64.0	74.3	87.8	96.8	98.3	100.0
1940	P.	8.0	10.7	7.5	15.4	11.9	9.3	11.1	13.4	9.4	1.6	1.6
	A.P.		18.7	26.2	41.6	53.5	62.8	73.9	87.3	96.7	98.3	100.0
1950	P.	9.8	13.0	7.8	17.2	10.3	7.3	9.3	13.4	8.6	1.6	1.7
	A.P.		22.8	30.6	47.8	58.1	65.4	74.7	88.1	96.7	98.3	100.0
<u>Mining</u>												
1930	P.	0.3	4.3	16.3	1.9	9.4	25.8	6.0	6.7	6.8	10.2	12.3
	A.P.		4.6	20.9	22.8	32.2	58.0	64.0	70.7	77.5	87.7	100.0
1940	P.	0.2	4.0	23.3	2.4	7.6	20.8	6.7	4.3	2.5	17.4	10.7
	A.P.		4.2	27.5	29.9	37.5	58.3	65.0	69.3	71.8	89.2	99.9
1950	P.	1.2	3.4	18.9	5.3	10.3	15.1	13.7	3.4	2.7	14.4	11.5
	A.P.		4.6	23.5	28.8	39.1	54.2	67.9	71.3	74.0	88.4	99.9

*Note: "P." denotes Percentage.

"A.P." denotes Accumulative Percentage.

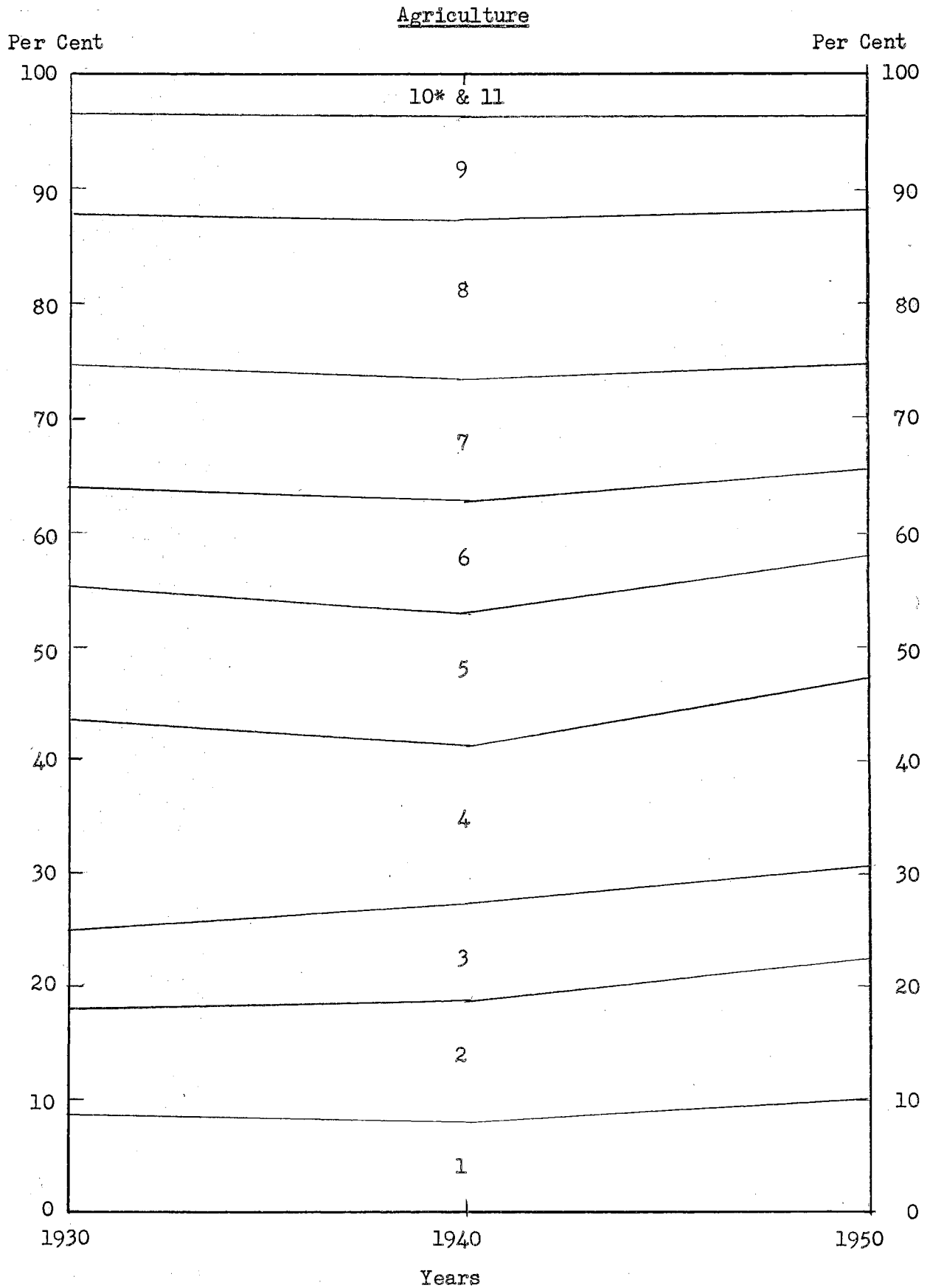
TABLE XXXI, Continued

Year	*	Area										
		1	2	3	4	5	6	7	8	9	10	11
<u>Manufacturing</u>												
1930	P.	3.0	9.6	6.2	7.9	8.5	7.8	4.5	7.3	6.5	18.1	20.6
	A.P.		12.6	18.8	26.7	35.2	43.0	47.5	54.8	61.3	79.4	100.0
1940	P.	3.0	10.9	8.2	6.1	7.0	7.0	4.5	8.0	6.8	19.2	19.3
	A.P.		13.9	22.1	28.2	35.2	42.2	46.7	54.7	61.5	80.7	100.0
1950	P.	3.3	10.0	7.6	6.6	7.7	5.7	4.8	8.7	5.0	20.5	20.2
	A.P.		13.3	20.9	27.5	35.2	40.9	45.7	54.4	59.4	79.9	100.0
<u>Transportation and Communication</u>												
1930	P.	5.6	11.1	6.7	9.3	11.0	9.5	6.8	8.3	5.8	11.6	14.3
	A.P.		16.7	23.4	32.7	43.7	53.2	60.0	68.3	74.1	85.7	100.0
1940	P.	4.0	10.4	7.1	7.3	9.3	7.8	6.0	7.9	4.6	15.3	20.3
	A.P.		14.4	21.5	28.8	38.1	45.9	51.7	59.8	64.4	79.7	100.0
1950	P.	4.5	9.5	6.2	7.2	8.8	6.0	6.0	7.2	4.2	19.5	20.9
	A.P.		14.0	20.2	27.4	36.2	42.2	48.2	55.4	59.6	79.1	100.0
<u>Trade</u>												
1930	P.	4.9	9.4	6.3	10.9	9.1	8.3	6.3	7.5	3.8	14.8	18.7
	A.P.		14.3	20.6	31.5	40.6	48.9	55.2	62.7	66.5	81.3	100.0
1940	P.	4.4	9.6	6.3	10.0	9.0	8.0	6.9	7.4	4.1	14.3	20.0
	A.P.		14.0	20.3	30.3	39.3	47.3	54.2	61.6	65.7	80.0	100.0
1950	P.	4.2	9.2	6.1	10.0	8.9	5.9	6.6	7.2	4.0	16.0	21.9
	A.P.		13.4	19.5	29.5	38.4	44.3	50.9	58.0	62.1	78.1	100.0
<u>Service</u>												
1930	P.	4.2	8.7	6.8	9.2	9.6	8.2	6.1	8.2	4.1	16.1	18.8
	A.P.		12.9	19.7	28.9	38.5	46.7	52.8	61.0	65.1	81.2	100.0
1940	P.	4.1	8.7	6.9	9.1	9.9	7.8	6.9	7.7	4.4	14.7	19.8
	A.P.		12.8	19.7	28.8	38.7	46.5	53.4	61.1	65.5	80.2	100.0
1950	P.	4.3	8.1	6.3	9.0	12.3	5.7	6.0	7.8	4.0	15.4	21.1
	A.P.		12.4	18.7	27.7	40.0	45.7	51.7	59.5	63.5	78.9	100.0

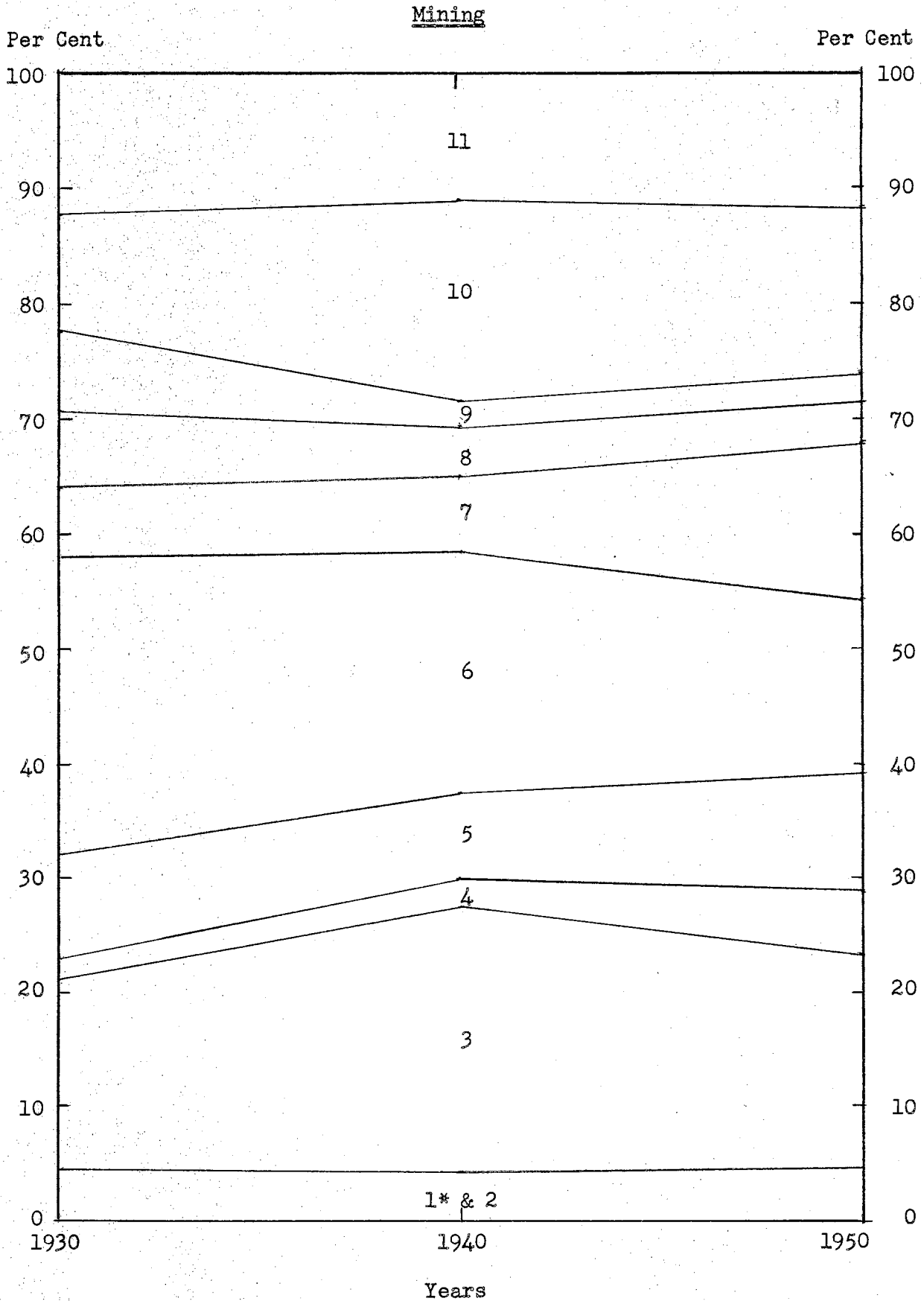
*Note: "P." denotes Percentage.

"A.P." denotes Accumulative Percentage.

Figure 28. Percentage Distribution of Workers by State Economic Areas, and by Occupational Categories, Oklahoma, 1930-1950

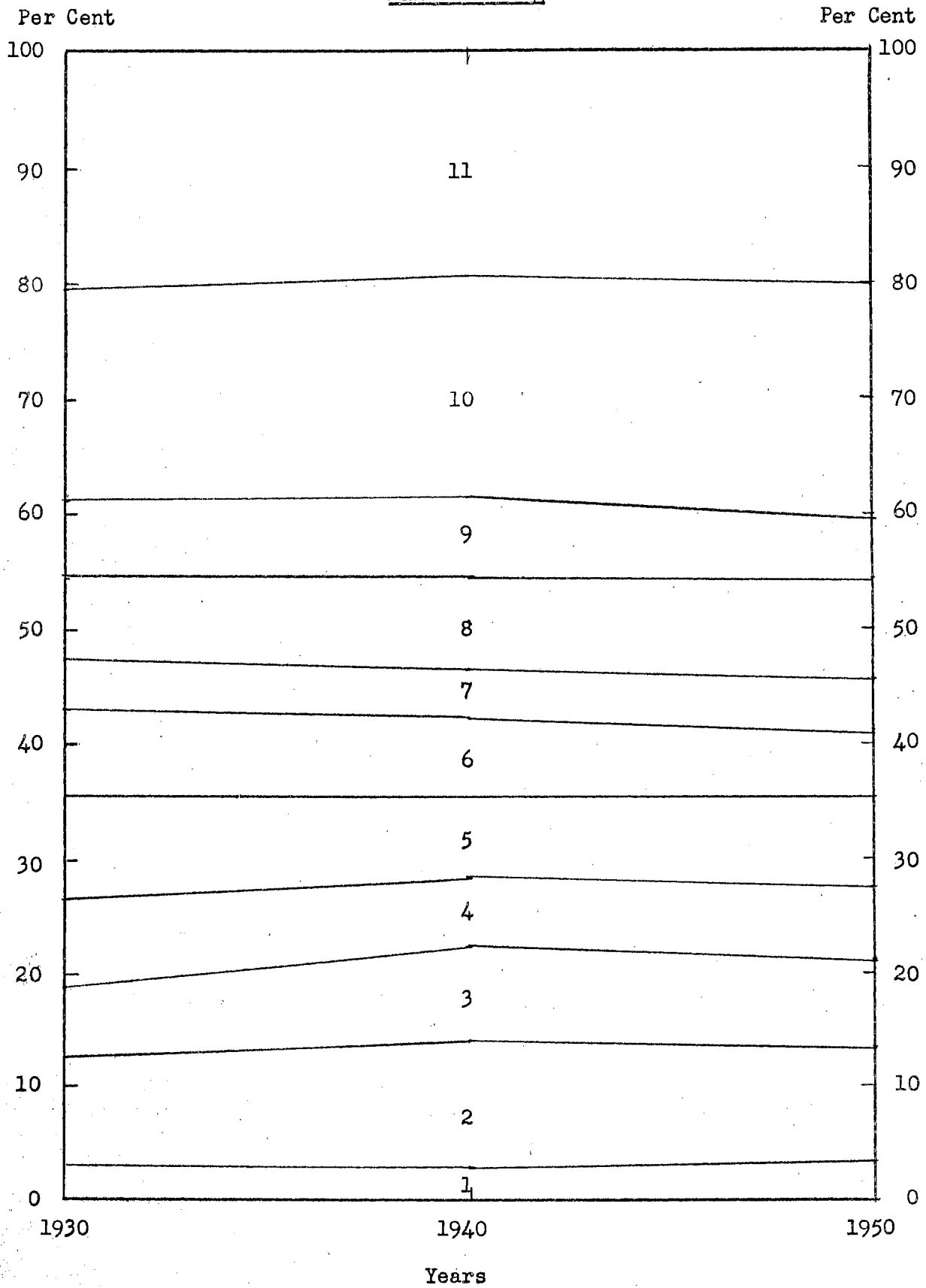


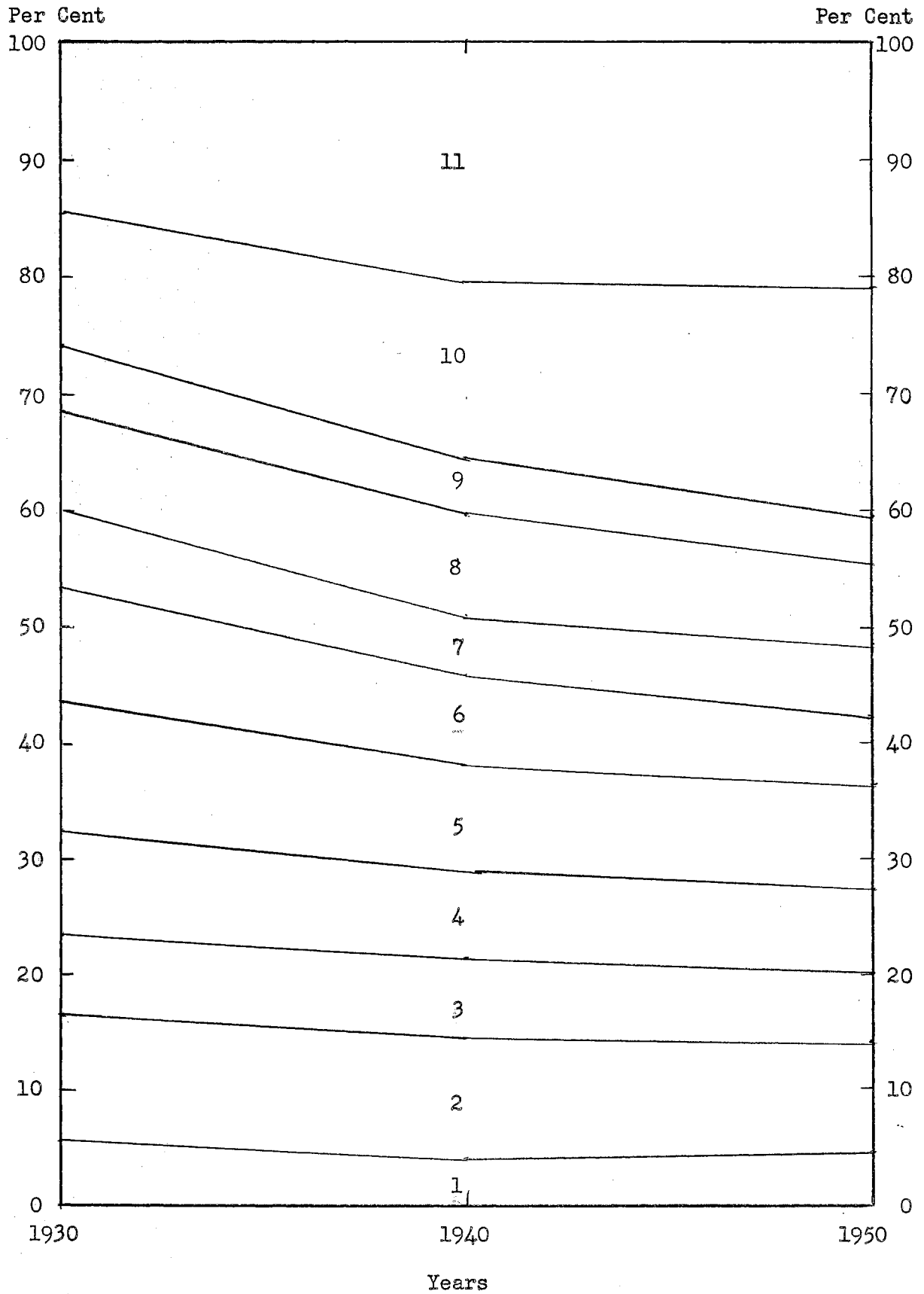
*Area 10: 1930--1.5% 1940--1.6% 1950--1.6%

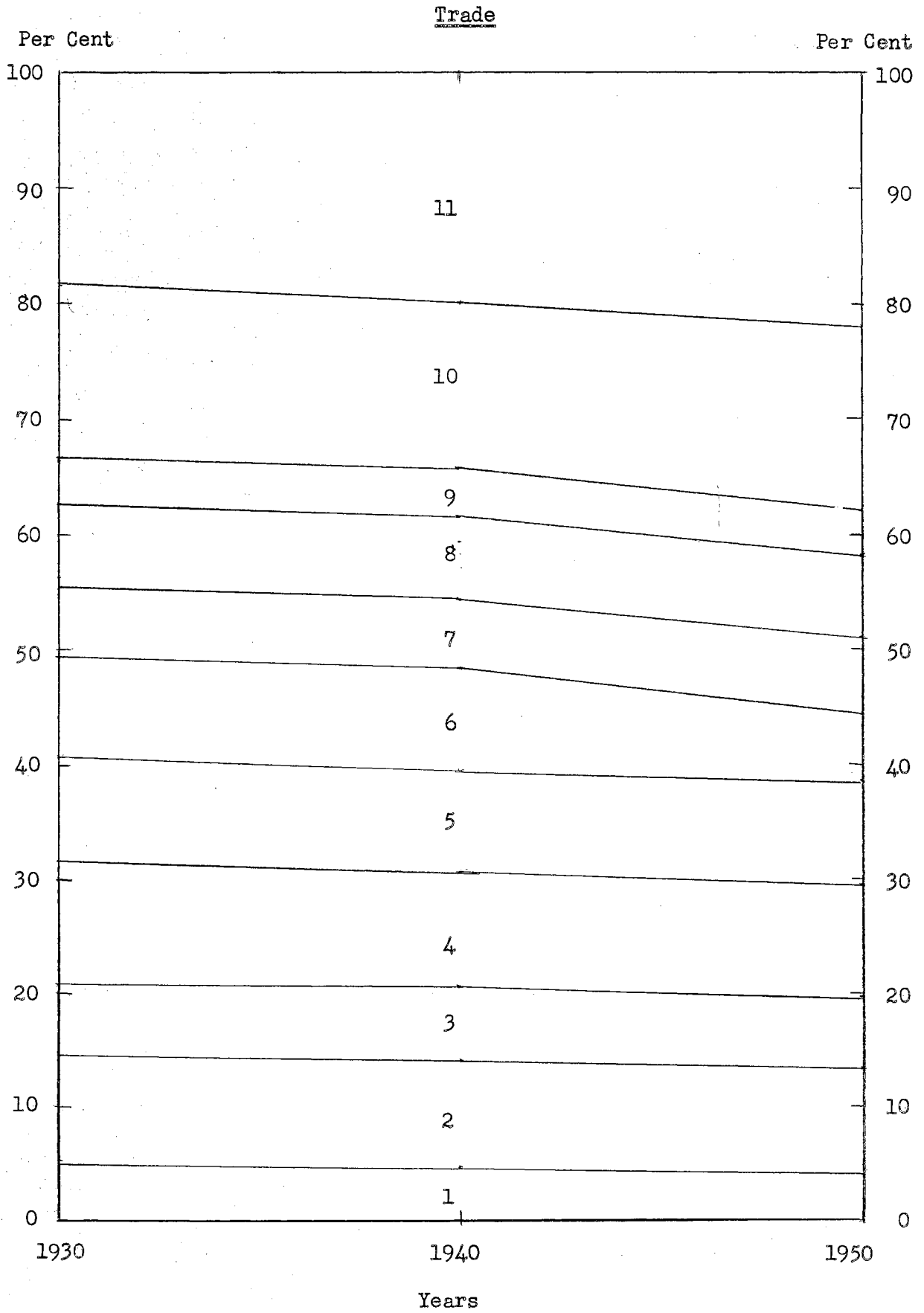


*Area 1: 1930--0.3% 1940--0.2% 1950--1.2%

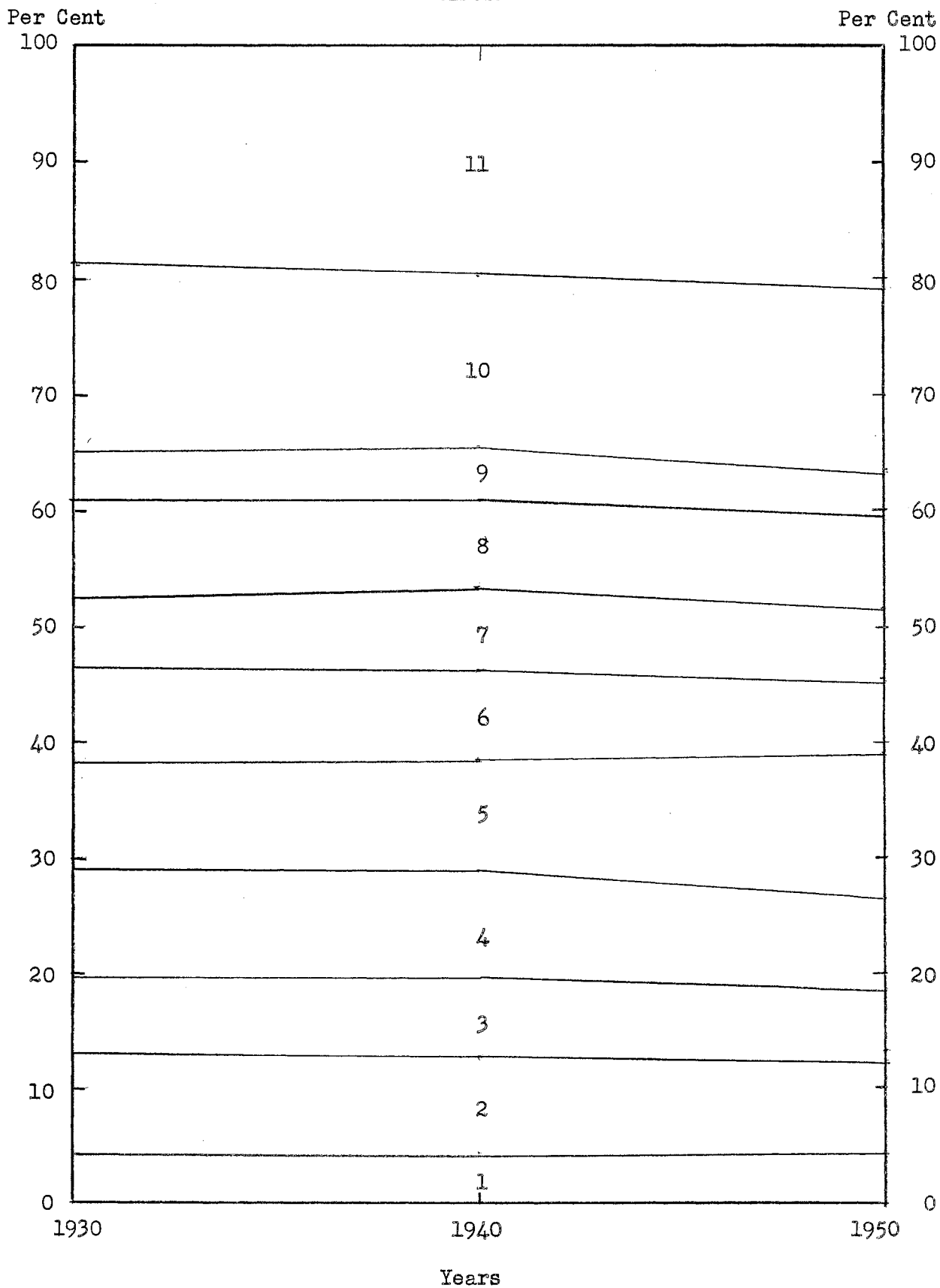
Manufacturing



Transportation and Communication



Service



CHAPTER V

SUMMARY AND CONCLUSIONS

In the foregoing sections the writer has attempted to indicate the occupational trends in Oklahoma by analyzing the changes in employment in the major industry categories and by combined analysis of these categories for the period from 1910 to 1950. From these analyses, the following conclusions were drawn:

1. A fewer number of workers, as well as a smaller proportion of the total working population in Oklahoma, has been employed in Agriculture in each successive decade since 1910. Oklahoma has transferred its labor force from 58.5 per cent located in Agricultural pursuits in 1910 to 79.5 per cent following non-agricultural callings in 1950. The number of Agricultural workers declined by about two hundred thousand persons or 55.8 per cent in this period. The growing use of power machinery is a main cause for the loss in Agricultural workers. Mechanical energy has increasingly been substituted for human and animal energy used in farming; as a result, the size of farms and the productivity of farm-labor have both increased.¹ Therefore, the amount of labor required in Agriculture has dropped sharply. It is believed that there will be a limit to the substitution of machinery for human

¹The average acreage per farm in Oklahoma has increased from 88.6 acres per farm in 1910 to 253.1 in 1950. The indices of farm output per man-hour (1947-49 as base period) are 46 in 1910, 50 in 1920, 54 in 1930, 69 in 1940, and 112 in 1950. These data are derived from the Bureau of the Census in "Statistical Abstract of the U. S." 1922 and 1956.

farm-labor and hence Agricultural employment will level off somewhere. However, increased mechanization in Agriculture and improved methods of farming will continue to exert pressure on the number of Agricultural workers. How long this declining trend will continue cannot be determined, but in view of conditions observable in this field it appears that the decline in Agricultural workers will go on mildly for some time.

2. The extraction of mineral deposits is one of the basic industries of Oklahoma. During their peak in 1930, Mining industries engaged about sixty thousand persons, which was fivefold the number in 1910. Since 1930, there has been a noticeable decline. In terms of percentage of total employed through the decades from 1910 to 1950, Mining industries increased only a fraction over 3 per cent. During the decade from 1930 to 1940, there was a relative as well as an absolute decrease in the employment in these occupations. One of the greatest forces influencing the number of workers needed in the extraction of minerals is the technological developments taking place in this branch of industry. The important phenomenon of an increased output without a corresponding expansion of the labor force needed for that production can be observed. Moreover, discovery of mineral deposits has in fact slowed down perceptibly since 1930.² These are the main causes of slackening the remarkable employment trend of Mining during the period from 1930 to 1950. For an indication of the direction of this trend in the future, the discoveries of new fields and changes in demand for the mineral production appear to be the determining factors. At the moment,

²H. Dewey Anderson and E. Percy Davidson, Occupational Trends in the United States (Stanford, California: Stanford University Press, 1938), pp. 120-125.

there seems little chance that the total demand for Mining labor will rise greatly above the 1930 level in the coming future.

3. The employment in Manufacturing of Oklahoma increased by almost sixty thousand persons or 78.5 per cent from 1910 to 1950. In 1950, Manufacturing employed 132,649 persons constituting 17.5 per cent of the total working population in Oklahoma. The rate of growth of employment in Manufacturing was slow from 1910 to 1930, then was followed by a noticeable decline from 1930 to 1940. The great period of growth came from 1940 to 1950 and was due to the industrial development of the state of Oklahoma. Although Oklahoma is still an agricultural rather than a manufacturing state, it has possibilities for extensive industrial development. The industrial growth of Oklahoma is now only in its initial state. It seems that manufacturing may increase quite rapidly in the future, particularly since the state has abundant natural gas for fuel. Therefore, the conclusion can be drawn that the employment in Manufacturing in Oklahoma will continue to increase in the future.

4. The number of persons constituting the labor force available for Transportation and Communication in 1950 totaled 53,114 in Oklahoma, which was 7.1 per cent of the entire working population. From 1910 to 1950 the number of new workers added to this group was over twenty thousand persons.

5. Statistics show the steady growth of Trade in Oklahoma during the forty years from 1910 to 1950. In 1950, the employment in Trade was over 150,000 persons. This figure is almost four times that of 1910. The proportion of the total employed in Trade increased from 6.9 per cent in 1910 to 19.9 per cent in 1950. There is little reason to believe that the ultimate development in this direction has been attained and much reason to believe that trade will increase in Oklahoma.

6. Employment in the Service group is first in size among all occupational categories of Oklahoma. In 1950, it comprised 168,277 employed persons or 22.3 per cent of total workers of Oklahoma. As compared to 1910, more than sixty thousand new workers had entered into this category. This remarkable growth gives some indication of the cultural development of Oklahoma, its educational advancement, and its industrialization in the past forty years. As Colin Clark indicated that service industries become an increasing share of labor force as an economy progresses,³ the employment in the Service group will undoubtedly expand in the future of Oklahoma.

7. The labor of Oklahoma totaled 735,511 in 1950. It registered an increase of 25.9 per cent over the forty years from 1910 to 1950. The changes in its composition were of greater significance. In general, Manufacturing, Trade, and Service mainly absorbed the workers displaced in Agriculture during this period. These shifts in the composition of the labor force can be explained by the growth of the state industrial economy. It is believed that the direction of these trends will continue as the state is on its way to industrialization. In terms of the absolute number employed, as the population of the state tends to increase and the economy of the state moves into higher gear, an overall gain of total labor force in Oklahoma can be expected.⁴

³Colin Clark, The Condition of Economic Progress (New York: Macmillan and Co., 1940), Chapter 10.

⁴See Cella R. Francis and Dikeman J. Neil, Oklahoma's Economic Future (Norman, Oklahoma: The University of Oklahoma, 1956), pp. 7-8.

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