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METHODS OF ESTIMATING WAGES AND SALARIES

IN THE COUNTIES OF OKLAHOMA

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METHODS OF ESTIMATING WAGES AND SALARIES IN THE COUNTIES OF OKLAHOMA

CHAPTER I

INTRODUCTION

Income statistics have become widely used in recent years as a tool for economic analysis and policy determination. The United States Department of Commerce currently prepares annual estimates of national income which have the dual objective of measuring the national output and placing it against the background of the transactions which underlie its production and distribution.[1] The Department also prepares annual estimates of income payments to individuals on a state basis. These data make it possible to examine differences in the amount of income in various states.

Statistics on income in smaller areas have many uses also. As a result, a number of attempts have been made to prepare estimates of income on a county basis. Estimates of

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[1]U.S. Department of Commerce, National Income, 1954 Edition (Washington: Government Printing Office, 1954), p. 27.

this nature are a source of useful factual information for the solution of many types of problems. Probably every branch of social science finds county income data helpful in evaluating social and economic patterns and changes. Government officials find data relative to the amount and structure of income in different counties important guides for determining the tax paying ability of various areas, the ability of governmental units to provide services for themselves, and the relative need for different types of aid. Business men utilize such information in deciding where to establish places of business, what kinds of goods they can expect to sell, and the estimated volume of their sales.

This study undertakes to examine the available statistical data for estimating county income in Oklahoma. The scope has been limited to methods of estimating county income accruing to the residents of the state in the form of wages and salaries, including supplements to wages and salaries. The annual estimates prepared by the National Income Division of the United States Department of Commerce will be accepted as the best available measure of the various types of income payments to individuals in Oklahoma. The problem is to determine the most satisfactory method of allocating each of the state totals to the counties. In recent years wage and salary payments have accounted for about three-fifths of total income payments in Oklahoma. Other types of income payments not covered in this study are net income of

proprietors of unincorporated enterprises (including farms), property income, and "other" income. Property income consists of dividends, interest, and net rents and royalties. "Other" income refers mainly to various types of transfer payments such as public assistance payments, old-age and survivors' insurance benefits, and different kinds of veterans' payments.

Historical Background

Research in the field of income has become wide-spread in recent decades. The first effort to estimate national income in the United States by methods similar to those now in use was made in 1915. The National Bureau of Economic Research, formed in 1920, took the lead in the early development of concepts and methodology useful in the preparation of national and state estimates. Valuable contributions to the literature were made by Dr. Simon Kuznets and other individuals during the next two decades.[2]

The United States Department of Commerce began the study and estimation of national income in 1932 as a result of Senate Resolution No. 220, submitted by Senator Robert

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[2]For an extensive discussion of the historical development of national, state, and county income statistics, see John Littlepage Lancaster, County Income Estimates for Seven Southeastern States, A Report of the Conference on the Measurement of County Income (Charlottesville: Bureau of Population and Economic Research, University of Virginia, 1952), pp. 2-10.

LaFollette during the first session of the Seventy-second Congress. The first report was published in 1934 and contained national estimates for each year, 1929-1932.[3] The favorable response to this study led to the establishment of a special section, now known as the National Income Division, in the Department of Commerce to continue work in this field. A second report, which extended the series through 1935, was published in 1936.[4] Since then, national income estimates have been published annually in the Survey of Current Business, a monthly publication of the Department of Commerce. Estimates of national income appear in the July issue. This is the most complete series of continuous national income data available for the period since 1929.

The National Income Division of the United States Department of Commerce has prepared three supplements (1947, 1951, and 1954) to the Survey of Current Business containing comprehensive statistical data on national income in the United States. The supplements also contain detailed explanations of the conceptual framework and statistical methodology underlying the estimates. The 1954 edition contains

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[3]U.S. Congress, Senate, National Income, 1929-1932, U.S. Senate, 73rd Cong., 2nd Session, Document No. 124 (Washington: Government Printing Office, 1934).

[4]U.S. Department of Commerce, National Income in the United States: 1929-1935 (Washington: Government Printing Office, 1936).

data in revised form for each year, 1929-1953.[5]

The National Income Division also prepares annual estimates of income payments to individuals in each state. The data have been published annually in the Survey of Current Business since 1940, but the series extends back to 1929. This is the most complete source of state income data available. Estimates of state income payments appear in the August issue.

One of the earliest attempts to prepare income estimates on a county basis was that of Wendell M. Adamson entitled Income in Counties of Alabama, 1929 and 1935, published in 1939.[6] During the next decade county income studies were made for at least fourteen different states.[7] An important contribution to the development of county income statistics was made by the Conference on the Measurement of County Income in its report entitled County Income Estimates for Seven Southeastern States, published in 1952.[8] The

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[5]U.S. Department of Commerce, National Income, 1954 Edition (Washington: Government Printing Office, 1954).

[6]Wendell M. Adamson, Income in Counties of Alabama, 1929 and 1935 (University: Bureau of Business Research, University of Alabama, 1939).

[7]The states are: California, Colorado, Georgia, Kansas, Illinois, Iowa, Louisiana, Michigan, Missouri, New York, North Carolina, Virginia, Washington, and West Virginia. For an extensive bibliography of county income studies prior to 1952, see Lancaster, op. cit., pp. 241-243.

[8]Lancaster, op. cit.

Conference was composed of representatives from the Universities of Alabama, Georgia, Kentucky, Mississippi, North Carolina, Tennessee, and Virginia, and the Tennessee Valley Authority. A detailed explanation of the methodology and procedures developed by this group is contained in Methods for Estimating Income Payments in Counties, a technical supplement to the report.[9] The procedures outlined in the supplement were helpful in the preparation of the present study. The work of the Conference will be referred to herein as the Southeastern Study.

Method of Approach

Most studies of county income in recent years, including the Southeastern Study, have been made within the framework of the state income payments series of the United States Department of Commerce. This method of approach assumes that the estimates prepared by the National Income Division are the most adequate measure of the various types of income payments to individuals for the state as a whole. The problem is to determine what available series of county data will most accurately reflect the geographic distribution of each component within the state. This is commonly

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[9]Lewis C. Copeland, Methods for Estimating Income Payments in Counties, A Technical Supplement to County Income Estimates for Seven Southeastern States (Charlottesville: Bureau of Population and Economic Research, University of Virginia, 1952).

referred to as the allocation approach.[10]

The present study has been carried out within the framework of the income payments series, and the allocation approach has been used. The purpose has been to examine the various possible methods of apportioning to the 77 counties of Oklahoma the state estimates prepared by the National Income Division for each wage and salary classification in an effort to determine the most desirable method in each case. This procedure is designed to show the pattern of distribution of income throughout the state. Available data are such that final estimates do not pretend to be precise. However, they are sufficiently accurate for the solution of many types of problems. This study differs from others of a similar nature mainly because greater stress is placed on evaluation of the various types of data used in making county estimates.

Income payments in Oklahoma.--The National Income Division defines "income payments to individuals" as:

> . . . a measure of the income received from all sources during the calendar year by the residents of each State. It comprises income received by individuals in the forms of (1) wages and salaries after deduction of employees' contributions to social security, railroad retirement, cash sickness compensation, and government employees' retirement programs; (2) proprietors' incomes, representing the net income of unincorporated establishments (including farms) before owners' withdrawals; (3) property

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[10] For a discussion of this and other possible approaches to the problem of obtaining county estimates, see Lancaster, op. cit., pp. 12-13.

> income, consisting of dividends, interest, and net rents and royalties; and (4) "other" income, which includes public assistance and other direct relief; labor income items such as work relief, government retirement payments, veterans' pensions and benefits, workmen's compensation, social insurance benefits, and pay of military reservists; mustering-out payments to discharged servicemen; family allowance payments and voluntary allotments of pay to dependents of military personnel; enlisted men's cash terminal-leave payments and redemptions of terminal-leave bonds; and State government bonuses to veterans of World War II. Income payments are distributed among the States on a where-received basis.[11]

Estimates of total and per capita income in each state are published annually in the income payments series. Figures are also shown by state for each of the four types of income payments listed in the definition above; i.e., wages and salaries, proprietors' income, property income, and "other" income.

Table 1 shows total and per capita income in Oklahoma, average per capita income in the United States, and the ratio of per capita income in Oklahoma to average per capita income in the United States for each year, 1929-1953. Total income payments to individuals in Oklahoma in 1953 amounted to almost $3 billions. Per capita income in Oklahoma in 1953 was $1,327, or 78 percent of the national average.

Table 2 shows each of the four types of income payments as a percent of total income payments in Oklahoma for each year, 1946-1953. Wages and salaries increased from 49 percent of the total in 1946 to 62 percent in 1953.

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[11] U.S. Department of Commerce, Survey of Current Business, August, 1950, pp. 22-23, Technical Notes.

TABLE 1

TOTAL AND PER CAPITA INCOME PAYMENTS IN OKLAHOMA, AND PER CAPITA INCOME PAYMENTS IN THE UNITED STATES, ANNUALLY, 1929-1953*

Year	Total Income Payments in Oklahoma (Millions of dollars)	Per Capita Income Payments		
		Oklahoma (Dollars)	United States (Dollars)	Oklahoma As Percent of United States
1929	1,079	455	680	67
1930	844	352	596	59
1931	659	275	500	55
1932	507	212	380	56
1933	537	226	368	61
1934	583	246	420	59
1935	666	281	460	61
1936	753	319	531	60
1937	841	358	561	64
1938	767	327	509	64
1939	796	340	539	63
1940	829	357	575	62
1941	956	423	693	61
1942	1,335	603	875	69
1943	1,639	743	1,057	70
1944	1,853	904	1,159	78
1945	1,839	908	1,191	76
1946	1,926	899	1,211	74
1947	2,130	999	1,292	77
1948	2,301	1,101	1,383	80
1949	2,285	1,086	1,324	82
1950	2,406	1,076	1,440	75
1951	2,692	1,196	1,581	76
1952	2,880	1,293	1,644	79
1953	2,986	1,327	1,709	78

*Source: U.S. Department of Commerce, Survey of Current Business, August, 1953, Tables 4 and 5, pp. 12-13; ibid., August, 1954, Table 4, p. 15.

TABLE 2

PERCENTAGE DISTRIBUTION OF INCOME PAYMENTS TO INDIVIDUALS IN OKLAHOMA, BY TYPE OF PAYMENT, ANNUALLY, 1946-1953*

Year	Total Income Payments	Wages and Salaries	Proprietors' Income	Property Income	Other Income
1946	100	49	29	10	12
1947	100	50	30	10	11
1948	100	54	28	10	9
1949	100	56	25	10	10
1950	100	57	22	11	10
1951	100	59	22	10	9
1952	100	60	21	10	9
1953	100	62	18	10	9

*Source: Computed from data provided through the courtesy of the U.S. Department of Commerce, National Income Division.



Proprietors' income dropped from a high of 30 percent in 1947 to a low of 18 percent in 1953. Property income consistently accounted for about 10 percent of the total. "Other" income declined from 12 percent to 9 percent during the eight-year period.

Although detailed breakdowns of each of the four types of income payments are not published, the National Income Division has provided such information for Oklahoma in recent years to those attempting to prepare county estimates. Wage and salary figures, by industrial source, for each year from 1946 through 1953 are shown in Table 3. Wages and salaries are classified according to the following industrial sources: agriculture, mining, manufacturing, construction, transportation, power and gas, communication, trade, finance, government, service, and miscellaneous. The amounts shown represent gross wages and salaries. Deductions for social insurance are not broken down by industry division but are lumped together in a separate category and subtracted from the sum of gross wages and salaries in all twelve categories to obtain net wages and salaries.

Table 4 shows the percentage distribution of wages and salaries in Oklahoma by industrial source for each year, 1946-1953. The figures show the relative importance of each of the various types of wage and salary payments in terms of total (gross) wages and salaries. For example, "trade" was the largest source from 1946 through 1950. Since 1951

TABLE 3

WAGES AND SALARIES IN OKLAHOMA, BY INDUSTRIAL SOURCE, ANNUALLY, 1946-1953*
(Millions of dollars)

	1946	1947	1948	1949	1950	1951	1952	1953
Total	961.7	1,077.4	1,247.7	1,296.6	1,389.0	1,601.7	1,773.7	1,889.9
Agriculture	36.0	39.1	50.7	46.7	39.2	44.9	43.1	44.1
Mining	91.3	107.7	130.5	133.3	140.3	158.7	176.1	188.1
Manufacturing	139.9	163.6	192.2	188.3	205.4	250.6	295.7	329.1
Construction	38.9	53.0	69.1	76.8	78.0	87.6	100.8	100.4
Transportation	100.9	111.3	124.5	123.6	122.7	139.4	150.4	153.7
Power and gas	15.4	18.7	22.9	25.8	27.3	28.3	31.7	34.0
Communication	16.4	18.9	23.4	25.7	27.1	30.2	33.6	36.1
Trade	194.9	221.9	254.7	261.0	284.8	313.3	334.7	352.6
Finance	28.5	34.2	39.4	41.0	47.3	51.9	55.5	60.4
Government	179.0	179.5	201.5	228.6	260.7	330.3	375.1	400.0
Service	81.3	90.8	98.6	99.7	108.7	119.2	130.7	143.4
Miscellaneous	39.2	38.7	40.2	46.1	47.5	47.3	46.3	48.0

*Source: Data provided through the courtesy of the U.S. Department of Commerce, National Income Division.

TABLE 4

PERCENTAGE DISTRIBUTION OF WAGES AND SALARIES IN OKLAHOMA, BY INDUSTRIAL SOURCE, ANNUALLY, 1946-1953*

	1946	1947	1948	1949	1950	1951	1952	1953
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Agriculture	3.7	3.6	4.1	3.6	2.8	2.8	2.4	2.3
Mining	9.5	10.0	10.5	10.3	10.1	9.9	9.9	10.0
Manufacturing	14.6	15.2	15.4	14.5	14.8	15.6	16.7	17.4
Construction	4.0	4.9	5.5	5.9	5.6	5.5	5.7	5.3
Transportation	10.5	10.3	10.0	9.5	8.8	8.7	8.5	8.1
Power and gas	1.6	1.7	1.8	2.0	2.0	1.8	1.8	1.8
Communication	1.7	1.8	1.9	2.0	2.0	1.9	1.9	1.9
Trade	20.3	20.6	20.4	20.1	20.5	19.6	18.9	18.7
Finance	3.0	3.2	3.2	3.2	3.4	3.2	3.1	3.2
Government	18.6	16.7	16.2	17.6	18.8	20.6	21.2	21.2
Service	8.4	8.4	7.9	7.7	7.8	7.4	7.4	7.6
Miscellaneous	4.1	3.6	3.2	3.6	3.4	3.0	2.6	2.5

*Source: Computed from data in Table 3.

Components do not always add to totals, because of rounding.

"government" has been the largest.

Sources of County Data

Quarterly data published by the Oklahoma Employment Security Commission constitute the most complete, unbroken series of available county data on wages and salaries in Oklahoma. The information in this series is obtained from quarterly contribution reports and county supplements filed by employers covered under the unemployment insurance program in Oklahoma. Another source of county data on wages and salaries in Oklahoma is the County Business Patterns series, now prepared under the joint sponsorship of the Bureau of the Census of the United States Department of Commerce and the Bureau of Old-Age and Survivors Insurance of the United States Department of Health, Education, and Welfare. The data in this series are based on a tabulation of tax reports filed by employers in connection with the old-age and survivors insurance program. Since data from these two series have been used throughout this study, their general characteristics will be discussed at this point. Information which is pertinent to a particular industrial division will be presented later.

Other sources used in the preparation of county estimates in this study include the censuses of agriculture, business, manufacturing, and population; published data obtained from various federal and state agencies; and unpublished

data available at different places. Each of these sources will be discussed in connection with the allocator for which it is considered.

Oklahoma Employment Security Commission (OESC) data. --The Oklahoma Employment Security Commission prepares data on total employment and payrolls covered by the Oklahoma Employment Security Act for each county in the state. The totals represent a tabulation of the quarterly contribution reports and county supplements submitted by covered employers. Employment and payroll figures are also prepared by industry division for 38 of the 77 counties in the state. The industry divisions are: mining; construction; manufacturing; public utilities, including transportation; wholesale and retail trade; finance, insurance, and real estate; service; and "other."

These data are published by calendar quarter approximately every third month in The Oklahoma Labor Market, a monthly publication of the Oklahoma Employment Security Commission.[12] The series began with the publication of data for the first quarter of 1949. Annual data for each year, 1949-1953, have also been published in handbook form.[13]

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[12]Oklahoma Employment Security Commission, The Oklahoma Labor Market, monthly.

[13]Oklahoma Employment Security Commission, County Employment Data, Oklahoma, 1949-1951 (Oklahoma City: Oklahoma Employment Security Commission, 1952) and Oklahoma Employment Security Commission, County Employment Data, Oklahoma, 1952-1953 (Oklahoma City: Oklahoma Employment Security Commission, 1954).

"Covered employment" in the OESC series is defined as:

> . . . the number of workers employed each month in the payroll period ending nearest the 15th of the month, by all employers subject to the Oklahoma Employment Security Act. An employer is subject to this Act when he has eight or more employees in each of 20 different calendar weeks within one year. Some employers voluntarily elect coverage even though they do not have eight employees in 20 weeks. Covered employment does not include government, interstate railroads, agriculture, religious or charitable organizations, domestic service, self-employed, or family workers.[14]

"Covered wages" in the OESC series is defined as:

> . . . all wages and salaries paid to covered employees by their employers, including bonuses, commissions, and cash value of all remuneration received in any medium other than cash. These wages include both taxable and nontaxable wages. Only the first $3,000 paid to each worker in a calendar year by each employer is taxable under the Oklahoma Employment Security Act; however, the nontaxable wages are reported and are included herein.[15]

Industrial breakdowns are not published for the remaining 39 counties in Oklahoma "because their employment is too small and the distribution of the covered employers by industry division is such that specific firm information would be revealed."[16] Statewide sales personnel with no permanent place of work, other types of roving employment, and all other employment which cannot be classified by county are included in a separate "statewide" or "multi-county" category. Statewide employment and payroll figures are

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[14]Oklahoma Employment Security Commission, County Employment Data, Oklahoma, 1952-1953 (Oklahoma City: Oklahoma Employment Security Commission, 1954), p. 1.

[15]Ibid.

[16]Ibid., p. 2.

broken down by industry division.[17]

Old-age and survivors insurance (OASI) data.--OASI data are based on a tabulation of the first quarter wage reports of employers subject to the Federal Insurance Contributions Act. The series began with the publication of data for the first quarter of 1946.[18] They were compiled by the Bureau of Old-Age and Survivors Insurance and published by the Office of Domestic Commerce with funds supplied by the business machinery and office equipment industry through the Office Equipment Manufacturers Institute. The publication of data for the first quarter of 1947 was accomplished in a similar manner.

Beginning with statistics for the first quarter of 1948 the series has been entitled County Business Patterns and has been published without the financial assistance of private organizations. OASI data for both manufacturing and nonmanufacturing industries were published for each year, 1946-1948. In 1949 the preparation of the series was placed under the joint sponsorship of the Bureau of Old-Age and Survivors Insurance and the Bureau of the Census. Since both of these agencies published employer statistics which were prepared for different purposes from different reporting

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[17] Ibid.

[18] U.S. Department of Commerce, Business Establishments, Employment, and Taxable Payrolls Under Old-Age and Survivors Insurance Program, First Quarter, 1946, Oklahoma (Washington: Government Printing Office, 1947).

forms, there was a need to coordinate the two statistical series. Such a coordination, it was believed, would constitute an important step towards the goal of a more unified and improved federal statistical program.[19]

However, because of financial limitations and because the coordination of Census and Old-Age and Survivors Insurance records was not sufficiently advanced in the nonmanufacturing industries, OASI data for 1949 and 1950 were restricted to manufacturing industries. Data for the first quarter of 1951 were published for both manufacturing and nonmanufacturing industries. OASI data for 1952 were not compiled because of budgetary limitations, but present plans provide for publication of the data for the first quarter of 1953.[20]

The County Business Patterns bulletin for the first quarter of 1951 presents county statistics on the number of reporting units by employee-size class, employment, and taxable payrolls. Detailed classifications by industry groups

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[19]For a discussion of the differences in the employer statistics of these two agencies and the steps taken to carry out their coordination, see U.S. Bureau of the Census and U.S. Bureau of Old-Age and Survivors Insurance, cooperative report, County Business Patterns, First Quarter, 1949, Part II, Geographic Divisions No. 3, South Atlantic, East South Central, West South Central (Washington: Government Printing Office, 1951), pp. vii-viii.

[20]U.S. Bureau of the Census and U.S. Bureau of Old-Age and Survivors Insurance, cooperative report, County Business Patterns, First Quarter, 1951, Part VIII, West South Central States (Washington: Government Printing Office, 1953), p. v.

are provided for selected "large" counties. In Oklahoma these counties are Garfield, Muskogee, Oklahoma, and Tulsa. Data are shown for 10 broad industry divisions for the remaining counties.[21]

The 1951 publication presents the number of "reporting units" covered by the OASI program rather than the number of "establishments", which was the term used in previous years. Establishments are defined as "single physical locations where business is conducted or where services or industrial operations are performed". The term "reporting unit" was adopted because in many instances two or more establishments of a single employer may be counted as one reporting unit. Usually establishments in a single industry and a single county are the only ones grouped in this manner. In some cases, though, a small number of employees in secondary industries or secondary counties may be included. The reporting unit is classified as "statewide" whenever employment in secondary counties becomes significant.[22]

The figures for "employment" in the OASI series represent the number of employees during the pay period ending nearest March 15. Except that certain types of employment are specifically excluded from coverage under the Social Security laws, any worker who performed services for an employer during this pay period would be reported as an

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[21] Ibid.

[22] Ibid., p. vi.

employee. OASI employment data, then, include both full-time and part-time workers.[23]

The data for "taxable payrolls" include only the amounts of taxable wages and salaries paid for covered employment during the first quarter of the calendar year. The amounts reported by employers as paid are the gross wages and salaries of their employees before deductions for Social Security taxes, Federal Withholding taxes, etc. One of the most important limitations of OASI wage data is that they are not available for the entire calendar year. The primary reason given for this is that total wages and salaries are not taxed under the OASI program. This is explained as follows:

> Under the law in effect starting in 1951, taxable wages for covered employment in the scope of County Business Patterns were all payments including the cash value of payments in kind, up to the first $3,600 paid to any one employee by any one employer during the year. In general, all payments for covered employment in the first quarter were taxable unless the employee was paid at the rate of more than $14,400 per year. For the first quarter of 1951 it is estimated that 97.5 percent of total earnings in covered employment in the scope of County Business Patterns was taxable. The proportion taxable of total wages becomes smaller in the later quarters of the year. Data are presented for the first quarter because wages for this quarter are least affected by the provisions of the law limiting taxable wages to $3,600 a year.[24]

The Social Security Act Amendments of 1950, which became effective January 1, 1951, extended coverage under the

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[23] Ibid.

[24] Ibid.

OASI program to many new groups of employees. In order to retain the comparability of the data in the County Business Patterns series, however, practically all the employment newly covered in 1951 as a result of these amendments was excluded from the 1951 statistics. "The only exception is that some small groups of newly covered employees which could not be identified as newly covered are included, usually because the employees were reported on the same report in combination with previously covered employment."[25]

Since most newly covered employment was omitted, the extent of coverage in the 1951 data is about the same as it was prior to the passage of the 1950 amendments. The major types of employment excluded at that time were: self-employment; employment by federal, state or local governments; employment in certain types of nonprofit organizations; railroad employment; agricultural labor; domestic service in private households; employment for an international organization, a foreign government or its instrumentality, or on a foreign vessel; employment as a student nurse or interne; employment in fishing from small boats; employment of certain close relatives of the employer; and employment of newsboys under 18.[26]

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[25] Ibid., p. vii.

[26] Ibid.

CHAPTER II

WAGES AND SALARIES IN AGRICULTURE

Since 1946 wages and salaries in agriculture have usually been about 3 or 4 percent of total wages and salaries in Oklahoma. In 1953 agricultural workers in the state received wages and salaries amounting to $44.1 millions, 2.3 percent of the total. According to the industrial classification system used by the National Income Division, "agriculture" includes farms, agricultural services, forestry, and fisheries.[1]

The National Income Division estimate includes both cash payments and the cost of board, lodging, and other perquisites furnished to hired workers. It is based on estimates prepared by the United States Department of Agriculture. The cash part of the estimate is derived from data contained in the Census of Agriculture. Estimates for agricultural services, forestry, and fisheries are based on various sources of information.[2]

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[1]U.S. Department of Commerce, National Income, 1954 Edition (Washington: Government Printing Office, 1954), p. 66.

[2]Ibid., pp. 71-72.

Sources of County Data

Statistical information on wages and salaries paid to agricultural workers is not abundant. There are two main reasons for this. First, the nature of farm employment makes the collection of wage and salary data relatively more difficult for agriculture than for other industry divisions. Second, hired farm workers have been deliberately and specifically excluded in the past from coverage under the old-age and survivors insurance and unemployment insurance programs.[3] Much of the wage and salary data available for other types of workers is published in connection with these two programs.

The Census of Agriculture is the most complete source of available county data on wages and salaries in agriculture in Oklahoma. It contains information relating to cash payments for hired farm labor during the calendar year preceding the enumeration. Neither the Oklahoma Employment Security Commission (OESC) nor the County Business Patterns (OASI) series contains wage and salary data useful for allocating the National Income Division estimate.

Farm workers are excluded from the coverage of the unemployment insurance program in Oklahoma. Although the data published by the Oklahoma Employment Security Commission

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[3]For a discussion of the economic status of hired farm workers see Clay L. Cochran, "Hired Farm Labor and the Federal Government" (Unpublished Ph.D. dissertation, Department of Economics, University of North Carolina, 1950).

in connection with that program include some employment in "agricultural services", which is covered, figures for this category are not shown separately but are included in the industry division "Other".[4] Hired farm workers were excluded from coverage under the old-age and survivors insurance (OASI) program prior to the Social Security Act Amendments of 1950. As a result of these Amendments, coverage under the program was extended to include certain "regular" farm workers. However, practically all newly covered farm employment was excluded from the OASI statistics for the first quarter of 1951 in order to retain the comparability of the County Business Patterns series.[5]

One of the industry divisions for which OASI data are published by county is "Agriculture, forestry, and fisheries." Since all agricultural labor and certain types of agricultural services and fishing employment are excluded, the data for this industry division include some farm employees who were covered because they were engaged in nonagricultural activities, and employees of such establishments as commercial kennels and certain types of greenhouses which, although

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[4]Oklahoma Employment Security Commission, County Employment Data, Oklahoma, 1952-1953 (Oklahoma City: Oklahoma Employment Security Commission, 1954), pp. 1-2.

[5]U.S. Bureau of the Census and U.S. Bureau of Old-Age and Survivors Insurance, cooperative report, County Business Patterns, First Quarter, 1951, Part VIII, West South Central States (Washington: Government Printing Office, 1953), p. vii.

classified as farms under the Standard Industrial Classification, were legally defined as nonagricultural.[6] OASI taxable payrolls in "Agriculture, forestry, and fisheries" in Oklahoma in the first quarter of 1951 amounted to $439 thousands.[7] Adjusted to an annual basis this would be about $2 millions, or about 5 percent of the National Income Division estimate for 1951. Until better data become available for allocating wages and salaries paid to hired farm workers, an attempt to use these data to allocate some small proportion of the National Income Division estimate is not warranted.

Aside from the limited employment data available in the OASI series, there are two main sources of county data on employment in agriculture in Oklahoma. The 1950 Census of Agriculture contains county data on the number of hired persons doing farm work during the week preceding the enumeration. "Farm work" includes any work, chores, or planning necessary to the operation of the farm or ranch business. It does not include housework and contract construction work.[8] Although the enumeration occurred over a period of

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[6]U.S. Bureau of the Census and U.S. Bureau of Old-Age and Survivors Insurance, cooperative report, County Business Patterns, First Quarter, 1951, Part VIII, West South Central States (Washington: Government Printing Office, 1953), p. 147.

[7]Ibid., Table 2, p. 52.

[8]U.S. Bureau of the Census, United States Census of Agriculture: 1950, Vol. I, Counties and State Economic Areas, Part 25 (Washington: Government Printing Office, 1952), p. xiv.

several weeks, most of the farms in Oklahoma were enumerated during April.[9] The data are therefore seasonal in nature.

The 1950 Census of Population contains county data on the number of farm laborers (excluding unpaid family workers) and farm foremen employed during the census week. The number of experienced unemployed farm laborers and foremen in each county is also shown. Since most of the population was enumerated during April, these are seasonal figures.[10]

Wage and salary data from the Census of Agriculture are more desirable than employment data from either the Census of Agriculture or the Census of Population. There are two reasons. First, the employment data are seasonal and may not reflect the pattern of distribution of average annual employment throughout the state. Second, employment data do not reveal differences in average annual earnings per worker in various parts of the state.

Census of Agriculture wage and salary data.--The only available source of county data on wages and salaries paid to hired farm workers in Oklahoma is the Census of Agriculture. The 1950 Census contains county data on cash payments for hired farm labor during the calendar year 1949. Similar data for 1939 and 1944 are available in the 1945 Census.

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[9]Ibid., State Table 6, p. 5.

[10]U.S. Bureau of the Census, United States Census of Population: 1950, Vol. II, Characteristics of the Population, Part 36, Oklahoma, Chapter B (Washington: Government Printing Office, 1952), pp. x-xii.

Cash payments for hired farm labor include cash payments for wage, contract, and piece-work labor but do not include the value of perquisites furnished the farm worker in addition to his cash wages, expenditures for machine hire and for any labor included in the cost of machine hire, and expenditures for household and contract construction work.[11]

Cash payments for hired farm labor in Oklahoma amounted to $12.1 millions in 1939, $38.2 millions in 1944, and $42.3 millions in 1949.[12] The 1949 figure is about 90 percent of the National Income Division estimate of wages and salaries in agriculture in the state for that year. Part of the difference is explained by the fact that the National Income Division estimate includes both cash payments and the cost of board, lodging, and other perquisites furnished hired workers.[13] Assuming that both the National Income Division estimate and the Census figure are reasonably correct, the remainder represents wages and salaries paid to agricultural workers other than hired farm workers.

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[11]U.S. Bureau of the Census, United States Census of Agriculture: 1945, Vol. I, Statistics for Counties, Part 25 (Washington: Government Printing Office, 1946), p. xi.

[12]Figures for 1939 and 1944 from Ibid., County Table 1 (Part 2 of 2), pp. 34-46; figure for 1949 from U.S. Bureau of the Census, United States Census of Agriculture: 1950, Vol. I, Counties and State Economic Areas, Part 25 (Washington: Government Printing Office, 1952), County Table 3, pp. 76-81.

[13]U.S. Department of Commerce, National Income, 1954 Edition (Washington: Government Printing Office, 1954), p. 71.

The 1949 data on cash payments for hired farm labor are comparable with those for 1939 and 1944 in most respects. The 1949 data may differ slightly from the others because of changes in the definition of a farm and the type of sample selected for the enumeration. For the two earlier censuses any tract of land of three or more acres on which some agricultural operations were performed in the preceding year was considered a farm. No minimum quantity of agricultural production was required for purposes of enumeration. Places of less than three acres were included if agricultural products were produced for home use or for sale of a value of $250 or more. Because of changes in the price level, the $250 limit for value of products for farms under three acres may have resulted in the inclusion of a greater number of farms in the 1945 Census than in the one for 1940.[14]

For the 1950 Census of Agriculture a place of less than three acres was counted as a farm if the value of sales of agricultural products the year before amounted to $150 or more. A place of three or more acres was counted only if the value of agricultural production for home use of for sale amounted to $150 or more.[15] Since the change in definition affected marginal farms only, the comparability of

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[14]U.S. Bureau of the Census, United States Census of Agriculture: 1950, Vol. I, Counties and State Economic Areas, Part 25 (Washington: Government Printing Office, 1952), p. xii.

[15]Ibid.

the data from the 1950 Census with those from the two earlier censuses probably is not materially affected.

The sample used in the 1945 and 1950 Censuses included all large farms. For Oklahoma a large farm was defined as any farm that met one of five criteria: (1) 5,000 acres or more of land in farms, (2) 1,000 acres or more of total crop land, (3) 500 or more cattle of all ages, (4) 4,000 or more sheep of all ages, or (5) $70,000 or more of value of farm products sold or to be sold. The remaining farms to be included in the 1945 sample were selected in the following manner:

> Each county was divided into cross sections of small areas averaging 2.5 square miles in size and containing about 5 farms each. A sample of 1 out of every 18 of these small areas or sample segments was selected and all farms having their headquarters within the selected areas were designated as sample farms, and were enumerated on questionnaires containing the supplementary questions in addition to the questions asked of non-sample farms.[16]

The sample for the 1950 Census included one out of every five farms not classed as a large farm. This sample was about three times as large as the one for the 1945 Census.[17]

The reliability of wage data taken from the Census of Agriculture is open to question for two reasons. First, the data are based on a sample of farms. Since this is the only

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[16] Ibid., pp. ix-xi.

[17] Ibid.

source of county data on wages and salaries in agriculture, it is unfortunate that the information could not have been obtained for all farms. However, the inclusion of all "large" farms in the sample improves the meaningfulness of the data. Second, the data are obtained by means of a farm interview. There is no assurance that the information provided the enumerator is accurate. On the other hand, it is becoming increasingly important for the farmer to keep accurate records for tax purposes, thus improving the likelihood that wage data are available. In fact, income tax returns of farmers might be a useful source of data on wages and salaries in agriculture. Information from this source cannot be obtained from published data at the present time.

Table 5 shows the percentage distribution of cash payments to hired farm workers in Oklahoma, by county, in 1939, 1944, and 1949. Percentages were obtained by dividing the amount for each county by the sum of the amounts for all counties.

About one-third of the number of counties in Oklahoma accounted for two-thirds of total cash payments for hired farm labor in each of the years 1939, 1944, and 1949. With few exceptions, most of these counties are located in a wide belt running from the north-central to the extreme southwestern part of the state. From 1939 to 1944 a distinct shift occurred in the relative importance of the counties in this group. In general, those in the north-central part of



TABLE 5

PERCENTAGE DISTRIBUTION OF CASH PAYMENTS TO HIRED FARM WORKERS IN OKLAHOMA, BY COUNTY, 1939, 1944, AND 1949*

County	1939	1944	1949
Adair	0.2	0.4	0.5
Alfalfa	2.4	1.5	1.5
Atoka	0.3	0.3	0.3
Beaver	1.4	1.4	1.9
Beckham	2.0	2.7	3.4
Blaine	1.9	1.6	1.5
Bryan	1.4	1.3	1.4
Caddo	3.7	5.0	4.2
Canadian	2.2	2.0	2.1
Carter	1.1	0.7	0.5
Cherokee	0.3	0.3	0.2
Choctaw	0.6	0.3	0.4
Cimarron	0.7	1.4	1.5
Cleveland	0.9	0.9	0.8
Coal	0.3	0.2	0.2
Comanche	1.1	1.4	1.6
Cotton	1.1	1.3	1.2
Craig	0.9	0.6	0.6
Creek	0.8	0.9	0.6
Custer	1.7	1.9	1.9
Delaware	0.4	0.3	0.4
Dewey	0.7	0.9	0.8
Ellis	0.9	0.9	0.8
Garfield	2.8	1.6	1.7
Garvin	2.2	2.7	1.5
Grady	2.3	3.6	3.2
Grant	2.2	1.3	1.3
Greer	1.2	1.8	2.5
Harmon	1.1	2.0	4.1
Harper	0.8	0.9	0.9



TABLE 5--Continued

County	1939	1944	1949
Haskell	0.4	0.5	0.4
Hughes	0.8	0.6	0.4
Jackson	2.6	3.3	4.4
Jefferson	1.2	1.6	1.9
Johnston	0.9	0.4	0.6
Kay	2.9	1.5	1.6
Kingfisher	1.4	1.3	1.1
Kiowa	2.3	3.4	3.0
Latimer	0.1	0.1	0.1
Le Flore	0.9	0.6	1.1
Lincoln	0.8	0.7	0.5
Logan	1.4	1.1	1.1
Love	0.6	0.7	0.5
McClain	1.7	1.9	1.4
McCurtain	0.8	0.7	0.7
McIntosh	0.8	1.0	0.7
Major	1.1	0.8	0.7
Marshall	0.4	0.4	0.6
Mayes	0.7	0.5	0.6
Murray	0.4	0.6	0.5
Muskogee	2.4	2.2	1.2
Noble	1.4	0.6	0.7
Nowata	0.7	0.5	0.4
Okfuskee	1.0	1.0	0.7
Oklahoma	2.8	1.9	2.1
Okmulgee	1.0	1.0	0.6
Osage	2.6	1.9	1.7
Ottawa	0.8	0.5	0.7
Pawnee	0.6	0.8	0.9
Payne	0.8	0.8	0.9

TABLE 5--Continued

County	1939	1944	1949
Pittsburg	0.6	0.8	0.9
Pontotoc	0.7	0.7	0.5
Pottawatomie	1.6	1.2	1.1
Pushmataha	0.2	0.1	0.2
Roger Mills	1.2	1.1	1.4
Rogers	0.7	0.6	0.7
Seminole	0.7	0.5	0.4
Sequoyah	0.7	0.9	0.4
Stephens	0.8	1.3	1.1
Texas	1.4	3.2	2.7
Tillman	4.8	5.2	4.9
Tulsa	3.5	1.6	1.8
Wagoner	1.1	1.4	1.0
Washington	0.9	0.5	0.5
Washita	2.5	3.7	5.2
Woods	1.7	1.3	1.0
Woodward	0.9	0.9	0.9
Total	100.0	100.0	100.0

*Source: Percentages for 1939 and 1944 computed from data in U.S. Bureau of the Census, United States Census of Agriculture: 1945, Vol. I, Statistics for Counties, Part 25 (Washington: Government Printing Office, 1946), County Table 1 (Part 2 of 2), pp. 34-36; percentages for 1949 computed from data in U.S. Bureau of the Census, United States Census of Agriculture: 1950, Vol. I, Counties and State Economic Areas, Part 25 (Washington: Government Printing Office, 1952), County Table 3, pp. 76-81.

Components do not always add to totals, because of rounding.

the state decreased in relative importance, while those in the southwestern part showed an increase. From 1944 to 1949 the counties in the extreme southwestern part of the state continued to increase in relative importance, while those toward the center of the state declined slightly. Counties in the north-central part of the state showed little relative change during the second five-year period. These shifts in the pattern of distribution of cash payments to hired farm workers illustrate one of the difficulties involved in using data from the Census of Agriculture as benchmarks for between-census years.

Recommended Procedure

Data on cash payments for hired farm labor from the most recent Census of Agriculture may be used to prepare county estimates of wages and salaries in agriculture. The procedure for obtaining the estimate for each county involves two steps. First, divide the amount of cash payments for hired farm labor for each county by the sum of the data for all counties. The result is the percentage allocator for each county. Second, multiply the percentage allocator for each county by the National Income Division estimate of wages and salaries in agriculture in Oklahoma to obtain the estimate for each county.

This procedure involves three assumptions. First, it assumes that there has been no change in the percentage

distribution of cash payments for hired farm labor since the most recent year for which Census of Agriculture data are available. Satisfactory results will be obtained to the extent that such changes have not taken place. Where changes have occurred in the relative importance of various counties, the estimates for those counties will be overstated or understated, as the case may be. Second, it assumes that the value of payments in kind, which is included in the National Income Division estimate but is not included in Census of Agriculture data, is distributed throughout the state in the same proportions as cash payments. Third, it assumes that wages and salaries paid to other types of agricultural workers are distributed throughout the state in the same proportions as cash payments for hired farm labor.

It will be remembered that the National Income Division estimate of wages and salaries in agriculture in Oklahoma in 1953 was 2.3 percent of total wages and salaries in the state. Since the proportion is small, errors involved in allocating wages and salaries in agriculture will not affect the pattern of distribution of total wages and salaries in Oklahoma in any significant manner. The estimate of total wages and salaries for an individual county, however, may be overstated or understated. The seriousness of this error will depend on the relative importance of agricultural and other payrolls in that particular county.

CHAPTER III

WAGES AND SALARIES IN MINING

Since 1949 mining has been the fourth largest source of wage and salary payments in Oklahoma, annually accounting for about 10 percent of total wages and salaries in the state. The National Income Division estimate for 1953 was $188.1 millions.

Wages and salaries in mining consist of payments to workers engaged in the mining of metal ores, the mining of coal, the extraction of crude petroleum and natural gas, and the mining and quarrying of other nonmetallic minerals. Oklahoma is an important mining state. It ranked sixth from the top of the forty-eight states in 1950 with 4.45 percent of the total value of mineral production in the United States.[1] The principal minerals produced in Oklahoma in 1950 in order of value of production were crude petroleum, natural gas, coal, zinc, and lead. Crude petroleum and natural gas accounted for 90 percent of the total value of

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[1]U.S. Bureau of Mines, Minerals Yearbook, 1950 (Washington: Government Printing Office, 1953), Table 4, pp. 40-41.

mineral production; coal, zinc, and lead accounted for another 7 percent; and such products as asphalt, cement, sand and gravel, gypsum, etc., which are produced in relatively small amounts in various parts of the state, accounted for the rest.[2]

Most of the crude petroleum and natural gas produced in Oklahoma comes from counties bordering on a line drawn from Stephens county in the southwest to Washington county in the northeast. Coal mining is concentrated in the eastern counties of Okmulgee, LeFlore, Pittsburg, Haskell, and Rogers. The mining of lead and zinc takes place almost entirely in Ottawa county in the extreme northeastern corner of the state.

Sources of County Data

There are two main sources of county data on wages and salaries in mining in Oklahoma. One is the Oklahoma Employment Security Commission (OESC) series, which contains county data on wages and salaries paid to workers covered under the unemployment insurance program. The other is the County Business Patterns (OASI) series, which contains county data on wages and salaries paid to workers covered under the old-age and survivors insurance program.

There are three main sources of county data on employment in mining in Oklahoma. They are (1) the OESC

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[2] Ibid., Table 6, p. 63.

series, (2) the OASI series, and (3) the Census of Population. Since satisfactory wage and salary data are available, employment data will not be considered for the purpose of preparing county estimates for mining.

However, it may be mentioned that a comparison of Census employment data with those from the other two series will provide an indication of the situs problem, which is known to exist but which is impossible to solve with the statistics presently available to the county estimator. Census data include workers in the county where they live. Since both OESC and OASI data are based on employer reports, workers are included in the data for the county where they work. For those areas where a significant number of workers cross county lines in order to go to and from work, substantial differences may exist in the statistics from the Census and those from the other two sources.[3]

OESC wage and salary data.--The Oklahoma Employment Security Commission (OESC) series contains county data on wages and salaries paid to mining workers covered under the unemployment insurance program in Oklahoma. These data have been published quarterly since 1949. Annual totals for each year, 1949-1953, have been published in handbook form. Annual totals for 1952 and 1953 used in this study were obtained by adding the quarterly data.

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[3]U.S. Bureau of the Census, United States Census of Population: 1950, Vol. II, Characteristics of the Population, Part 36, Oklahoma, Chapter B (Washington: Government Printing Office, 1952), pp. x-xiii.

OESC annual totals for each year, 1949-1953, are compared with National Income Division estimates of wages and salaries in mining in Oklahoma in Table 6. Since the coverage of the OESC program is limited to firms with eight or more employees, the National Income Division estimates should be larger than the OESC figures. However, the OESC figure is about 12 percent larger than the National Income Division estimate every year. The National Income Division estimates appear to be too low.

OESC wage and salary data are published by industry division for 38 "selected" large counties in Oklahoma. Mining data are generally published for about 30 of these counties. Mining data for the other "selected" counties are not published because the number of covered employers is small and publication might disclose information relating to a specific firm. Wages and salaries paid to statewide sales personnel with no permanent place of work and other types of roving employment, and all others whose place of work could not be determined are included in a separate "statewide" or "multi-county" category.

The sum of the data published for individual counties was about 78 percent of total OESC wages and salaries in mining in Oklahoma each year, 1949-1953. "Statewide" wages and salaries, which are relatively more important in mining than in other industry divisions, were about 16 percent of the state total each year. The remaining 5 or 6 percent of



TABLE 6

WAGES AND SALARIES IN MINING IN OKLAHOMA, ACCORDING TO THE OKLAHOMA EMPLOYMENT SECURITY COMMISSION AND THE NATIONAL INCOME DIVISION, ANNUALLY, 1949-1953*

Year	Oklahoma Employment Security Commission (Millions of dollars)	National Income Division Estimate (Millions of dollars)	Oklahoma Employment Security Commission As a Percent of National Income Division Estimate
1949	148.4	133.3	111.3
1950	156.5	140.3	111.5
1951	177.5	158.7	111.8
1952	196.8	176.1	111.8
1953	209.7	188.1	111.5

*Sources: Oklahoma Employment Security Commission, County Employment Data, Oklahoma, 1949-1951 (Oklahoma City: Oklahoma Employment Security Commission, 1952), Table 3, p. 16; Oklahoma Employment Security Commission, Oklahoma Labor Market, various issues; data provided through the courtesy of the United States Department of Commerce, National Income Division.

the state total represents the sum of OESC wages and salaries in mining in other counties in the state. Percentages for each year, 1949-1953, are shown in Table 7.

Table 8 shows the percentage distribution of OESC data on wages and salaries in mining in Oklahoma among the "selected" counties for each of the years, 1949-1953. Percentages were obtained by dividing the amount of wages and salaries in each county by the sum of the amounts published for individual counties. It will be noted that the pattern of distribution did not change in any significant manner during the five-year period. Tulsa county annually accounted for almost one-third of the total. Tulsa county and Oklahoma county together accounted for about one-half of the total each year. Other important mining counties are Carter, Ottawa, Seminole, Stephens and Washington.

OASI wage and salary data.--County data on wages and salaries in mining in Oklahoma have been published in the County Business Patterns (OASI) series for the first quarter of each year, 1946-1948 and 1951. Annual OASI data are not compiled. First quarter data for 1951 are comparable with those for earlier years in most respects, but differences may exist.[4]

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[4]U.S. Bureau of the Census and U.S. Bureau of Old-Age and Survivors Insurance, cooperative report, County Business Patterns, First Quarter, 1951, Part VIII, West South Central States (Washington: Government Printing Office, 1953), p. xii.

TABLE 7

PERCENTAGE DISTRIBUTION OF OKLAHOMA EMPLOYMENT SECURITY COMMISSION DATA ON WAGES AND SALARIES IN MINING IN OKLAHOMA, ANNUALLY, 1949-1953*

Year	State Total	Sum of County Data[1]	Statewide[2]	Remainder
1949	100.0	77.2	17.5	5.3
1950	100.0	77.8	16.3	5.9
1951	100.0	77.8	16.2	6.0
1952	100.0	78.0	16.4	5.6
1953	100.0	78.0	16.5	5.5

*Source: Computed from data in Oklahoma Employment Security Commission, County Employment Data, Oklahoma, 1949-1951 (Oklahoma City: Oklahoma Employment Security Commission, 1952), Table 3, pp. 16-55; Oklahoma Employment Security Commission, Oklahoma Labor Market, various issues.

[1]Equals sum of data for individual counties, shown separately in source.

[2]Includes amounts paid to statewide sales personnel with no permanent place of work and other types of roving employment, and all others whose place of work could not be determined.

TABLE 8

PERCENTAGE DISTRIBUTION OF OKLAHOMA EMPLOYMENT SECURITY COMMISSION DATA ON WAGES AND SALARIES IN MINING IN OKLAHOMA, SELECTED COUNTIES, ANNUALLY, 1949-1953*

Selected Counties	1949	1950	1951	1952	1953
Beckham	0.8	1.4	1.5	1.2	1.0
Bryan	-	-	-	-	-
Caddo	0.9	0.7	0.8	0.8	0.4
Canadian	0.2	0.2	0.1	0.1	0.1
Carter	4.6	4.8	4.5	4.7	5.1
Choctaw	-	-	-	-	-
Cleveland	0.1	0.1	0.1	0.1	0.1
Comanche	-	-	-	-	-
Creek	2.1	2.1	2.4	2.3	2.2
Custer	-	-	-	-	0.1
Garfield	0.3	0.3	0.3	0.3	0.4
Garvin	3.2	2.8	2.2	1.9	1.9
Grady	0.8	0.8	0.8	0.8	0.9
Hughes	0.5	0.6	0.6	0.7	0.8
Jackson	-	-	-	-	-
Kay	2.0	1.7	1.4	1.5	1.6
Kiowa	0.1	a	0.1	0.1	0.1
Le Flore	0.9	0.9	0.8	0.6	0.5
Lincoln	0.5	0.6	0.8	0.7	0.7
Logan	0.5	0.4	0.5	0.3	0.3
McCurtain	-	-	-	-	-
Mayes	-	-	-	-	-
Muskogee	0.6	0.6	0.3	0.3	0.4
Oklahoma	16.5	17.1	17.7	18.1	17.7
Okmulgee	2.7	2.7	2.4	2.3	2.2

TABLE 8--Continued

Selected Counties	1949	1950	1951	1952	1953
Osage	1.5	1.5	1.4	1.4	1.8
Ottawa	4.4	4.0	4.8	4.3	2.1
Payne	1.2	1.1	1.4	1.5	1.6
Pittsburg	1.5	1.4	1.1	0.7	0.7
Pontotoc	1.8	2.1	2.4	2.4	2.6
Pottawatomie	1.4	1.3	1.4	1.4	1.5
Seminole	4.3	4.2	4.0	3.2	3.6
Stephens	3.9	4.5	4.8	5.0	4.3
Texas	0.5	0.6	0.7	0.6	0.7
Tulsa	32.5	31.9	31.6	32.9	33.4
Washington	10.1	9.6	9.3	9.8	11.3
Woods	-	-	-	-	-
Woodward	-	-	-	-	-
Total	100.0	100.0	100.0	100.0	100.0

*Source: Computed from data in Oklahoma Employment Security Commission, County Employment Data, Oklahoma, 1949-1951 (Oklahoma City: Oklahoma Employment Security Commission, 1952), Table 3, pp. 16-55; Oklahoma Employment Security Commission, Oklahoma Labor Market, various issues.

[a]Less than 0.05 percent.

Components do not always add to totals, because of rounding.

OASI data are published by industry group for four "large" counties in Oklahoma (Garfield, Muskogee, Oklahoma, and Tulsa). Data for the remaining counties are published by industry division. Data for one or more industry divisions may not be published for some of the counties because the number of reporting units is small and publication might disclose information relating to a specific firm. Data for all reporting units not classified by county are shown in a separate "statewide" category. This classification includes reporting units without a fixed location within the state, or with employees in more than one county, or of unknown county location.[5]

OASI data on wages and salaries in mining in the first quarter of 1951 were published for 43 individual counties in Oklahoma. The sum of the data for these counties was 54.2 percent of the state total. "Statewide" wages and salaries in mining in the first quarter of 1951 amounted to 45.5 percent of the state total. The remainder, which represents wages and salaries in mining in the counties for which individual data were not published, is not significant. Percentages for the first quarter of each year, 1946-1948, and 1951, are shown in Table 9.

Table 10 shows the percentage distribution of OASI data wages and salaries in mining in Oklahoma, by county,

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[5]Ibid., p. vii.

TABLE 9

PERCENTAGE DISTRIBUTION OF OLD-AGE AND SURVIVORS INSURANCE DATA ON WAGES AND SALARIES IN MINING IN OKLAHOMA, FIRST QUARTER, 1946-1948, AND 1951*

First Quarter	State Total	Sum of County Data[1]	Statewide[2]	Remainder
1946	100.0	49.9	47.7	2.4
1947	100.0	48.5	50.8	0.7
1948	100.0	49.8	49.4	0.8
1951	100.0	54.2	45.5	0.3

*Source: Computed from data in U.S. Department of Commerce, Business Establishments, Employment, and Taxable Payrolls Under Old-Age and Survivors Insurance Program, First Quarter, 1946, Oklahoma (Washington: Government Printing Office, 1947), Table 3, pp. 3-12; U.S. Department of Commerce, Business Establishments, Employment, and Taxable Payrolls Under Old-Age and Survivors Insurance Program, First Quarter, 1947, Part II, Oklahoma (Washington: Government Printing Office, 1948), Tables 3 and 4, pp. 4-21; U.S. Department of Commerce, County Business Patterns, First Quarter, 1948, Part II, State Reports, No. 34, Oklahoma (Washington: Government Printing Office, 1949), Tables 3 and 4, pp. 8-26; U.S. Bureau of the Census and U.S. Bureau of Old-Age and Survivors Insurance, cooperative report, County Business Patterns, First Quarter, 1951, Part VIII, West South Central States (Washington: Government Printing Office, 1953), Tables 3 and 4, pp. 54-74.

[1]Equals sum of data for individual counties, shown separately in source.

[2]Includes amounts paid by reporting units without a fixed location within the state, or with employees in more than one county, or of unknown county locations.

TABLE 10

PERCENTAGE DISTRIBUTION OF OLD-AGE AND SURVIVORS INSURANCE DATA ON WAGES AND SALARIES IN MINING IN OKLAHOMA, BY COUNTY, FIRST QUARTER, 1946-1948, AND 1951*

County	1946	1947	1948	1951
Adair	-	-	-	-
Alfalfa	-	-	-	-
Atoka	-	-	0.2	0.3
Beaver	-	-	-	-
Beckham	-	-	-	0.2
Blaine	-	0.4	-	-
Bryan	-	-	-	-
Caddo	-	1.6	1.8	1.1
Canadian	-	-	-	-
Carter	3.0	3.1	3.5	3.9
Cherokee	-	-	-	-
Choctaw	-	-	-	-
Cimarron	-	-	-	-
Cleveland	-	-	0.1	a
Coal	-	0.1	0.2	0.1
Comanche	-	-	-	a
Cotton	-	0.1	0.1	0.1
Craig	-	0.1	0.1	a
Creek	2.5	2.2	1.3	1.3
Custer	-	-	-	-
Delaware	-	-	-	-
Dewey	-	-	-	-
Ellis	-	-	-	-
Garfield	-	4.4	0.4	1.6
Garvin	-	0.1	0.2	0.8
Grady	-	0.1	0.2	0.4
Grant	-	-	-	-
Greer	-	-	-	-
Harmon	-	-	-	-
Harper	-	-	-	-

TABLE 10--Continued

County	1946	1947	1948	1951
Haskell	-	a	0.1	0.1
Hughes	-	0.9	0.9	0.6
Jackson	-	a	a	-
Jefferson	-	a	a	a
Johnston	-	0.2	-	-
Kay	2.5	1.7	1.7	0.9
Kingfisher	-	-	-	-
Kiowa	-	0.1	0.1	a
Latimer	-	a	a	0.1
Le Flore	2.5	1.8	2.0	1.1
Lincoln	-	0.2	0.3	0.2
Logan	-	0.1	0.2	0.2
Love	-	-	-	-
McClain	-	-	-	-
McCurtain	-	-	-	-
McIntosh	-	-	-	-
Major	-	-	-	-
Marshall	-	-	-	-
Mayes	-	-	-	-
Murray	0.2	0.8	0.7	0.6
Muskogee	0.6	0.8	0.8	0.7
Noble	0.1	0.1	0.1	0.4
Nowata	0.5	0.5	1.7	1.1
Okfuskee	0.3	0.3	0.3	0.3
Oklahoma	16.4	15.2	18.1	14.7
Okmulgee	6.0	6.5	6.6	2.6
Osage	0.4	0.3	0.3	0.4
Ottawa	14.8	14.8	6.6	8.1
Pawnee	-	0.1	0.1	0.1
Payne	0.7	0.6	0.7	1.8

TABLE 10--Continued

County	1946	1947	1948	1951
Pittsburg	0.7	0.5	0.5	3.1
Pontotoc	1.6	2.3	2.8	3.3
Pottawatomie	1.2	1.3	1.5	2.0
Pushmataha	-	-	-	-
Roger Mills	-	-	-	-
Rogers	1.3	1.0	1.4	1.1
Seminole	2.2	2.8	2.9	2.5
Sequoyah	-	-	-	-
Stephens	1.9	2.0	3.0	3.9
Texas	-	0.1	0.1	0.3
Tillman	-	-	-	-
Tulsa	39.6	31.9	33.6	35.6
Wagoner	-	a	0.1	a
Washington	1.1	1.0	4.8	4.3
Washita	-	-	-	-
Woods	-	-	-	-
Woodward	-	-	-	-
Total	100.0	100.0	100.0	100.0

*Source: Same as in Table 9.

[a]Less than 0.05 percent.

Components do not always add to totals, because of rounding.

for the first quarter of each year, 1946-1948, and 1951. Percentages were obtained by dividing the amount for each county by the sum of the amounts published for individual counties. In the first quarter of 1951 the four counties for which OASI data are published by industry group (Garfield, Muskogee, Oklahoma, and Tulsa) accounted for 52.6 percent of the sum of the county data. Garfield and Muskogee are not important mining counties. The other two counties (Oklahoma and Tulsa) accounted for 50.3 percent of the sum of the county data.

Comparison of OESC and OASI wage and salary data.-- The first quarter of 1951 is the only period for which we have both OESC and OASI data on wages and salaries in mining in Oklahoma, by county. The two sets of data are shown in Table 11.

The main reason OASI data might be considered more useful than OESC data for the purpose of allocating the National Income Division estimate of wages and salaries in mining is because the coverage of the OASI program is broader. Wages and salaries paid by firms with less than eight employees are included in OASI data but are excluded from OESC data. Generally, OASI data will include a larger proportion of total wages and salaries in a given industry division in a given county than OESC data.

However, the OASI state total in Table 11 is less than the OESC state total. The reason for this is not

TABLE 11

COMPARISON OF OKLAHOMA EMPLOYMENT SECURITY COMMISSION (OESC) AND OLD-AGE AND SURVIVORS INSURANCE (OASI) DATA ON WAGES AND SALARIES IN MINING IN OKLAHOMA, BY COUNTY, FIRST QUARTER, 1951*

County	Thousands of Dollars		Percent of Sum of County Data[1]	
	OESC	OASI	OESC	OASI
Adair	-	-	-	-
Alfalfa	-	-	-	-
Atoka	-	59	-	-
Beaver	-	-	-	-
Beckham	525	36	1.7	0.2
Blaine	-	-	-	-
Bryan	-	-	-	-
Caddo	-	248	-	-
Canadian	35	-	-	-
Carter	1,467	846	4.6	4.2
Cherokee	-	-	-	-
Choctaw	-	-	-	-
Cimarron	-	-	-	-
Cleveland	22	3	0.1	a
Coal	-	13	-	-
Comanche	-	4	-	-
Cotton	-	11	-	-
Craig	-	9	-	-
Creek	733	275	2.3	1.3
Custer	-	-	-	-
Delaware	-	-	-	-
Dewey	-	-	-	-
Ellis	-	-	-	-
Garfield	105	356	0.3	1.7
Garvin	723	176	2.3	0.9
Grady	256	81	0.8	0.4
Grant	-	-	-	-
Greer	-	-	-	-
Harmon	-	-	-	-
Harper	-	-	-	-

TABLE 11--Continued

County	Thousands of Dollars		Percent of Sum of County Data[1]	
	OESC	OASI	OESC	OASI
Haskell	-	21	-	-
Hughes	150	132	0.5	0.6
Jackson	-	-	-	-
Jefferson	-	3	-	-
Johnston	-	-	-	-
Kay	498	201	1.6	1.0
Kingfisher	-	-	-	-
Kiowa	-	10	-	-
Latimer	-	18	-	-
Le Flore	272	234	0.9	1.1
Lincoln	-	44	-	-
Logan	120	43	0.4	0.2
Love	-	-	-	-
McClain	-	-	-	-
McCurtain	-	-	-	-
McIntosh	-	-	-	-
Major	-	-	-	-
Marshall	-	-	-	-
Mayes	-	-	-	-
Murray	-	141	-	-
Muskogee	99	160	0.3	0.8
Noble	-	96	-	-
Nowata	-	249	-	-
Okfuskee	-	63	-	-
Oklahoma	5,571	3,192	17.7	15.7
Okmulgee	826	570	2.6	2.8
Osage	450	84	1.4	0.4
Ottawa	1,547	1,765	4.9	8.7
Pawnee	-	21	-	-
Payne	440	384	1.4	1.9

TABLE 11--Continued

County	Thousands of Dollars		Percent of Sum of County Data[1]	
	OESC	OASI	OESC	OASI
Pittsburg	447	674	1.4	3.3
Pontotoc	730	711	2.3	3.5
Pottawatomie	459	424	1.5	2.1
Pushmataha	-	-	-	-
Roger Mills	-	-	-	-
Rogers	-	233	-	-
Seminole	1,272	543	4.0	2.7
Sequoyah	-	-	-	-
Stephens	1,543	845	4.9	4.1
Texas	-	70	-	-
Tillman	-	-	-	-
Tulsa	10,117	7,720	32.1	37.9
Wagoner	-	8	-	-
Washington	3,178	928	10.1	4.6
Washita	-	-	-	-
Woods	-	-	-	-
Woodward	-	-	-	-
Total	31,585	21,704	100.0	100.0

*Source: U.S. Bureau of the Census and U.S. Bureau of Old-Age and Survivors Insurance, cooperative report, County Business Patterns, First Quarter, 1951, Part VIII, West South Central States (Washington: Government Printing Office, 1953), Tables 2-4, pp. 52-74; Oklahoma Employment Security Commission, Oklahoma Labor Market, September, 1951, Table 5, pp. 22-25.

[1]Counties for which both OESC and OASI data were available.

[a]Less than 0.05 percent.

Components do not always add to totals, because of rounding.

readily explained. Differences between OASI data and OESC data are attributable to several factors.[6] One possibility, among others, is that the reports of one or more large firms were not submitted in time for the information to be included in the OASI data but were submitted in time for the information to be included in the OESC data. It is estimated that 0.3 percent of total taxable payrolls in the United States were excluded from the OASI data for the first quarter of 1951 because of late-filed and processed reports.[7] For a given industry division in a given state the ratio might be substantially larger.

There are 24 counties in Table 11 for which both OESC and OASI figures are shown. In 19 of the 24 counties the OESC figure is larger than the OASI figure. This is explained largely by the fact that a larger amount of OESC wages and salaries is classified by county. The sum of the OESC data for the 24 counties is $31.6 millions. The sum of the OASI data for the same counties is $20.4 millions. The OESC "statewide" figure is $6.7 millions, compared with the OASI "statewide" figure of $18.2 millions.

The percentages in Table 11 were obtained for each

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[6]U.S. Bureau of the Census and U.S. Bureau of Old-Age and Survivors Insurance, cooperative report, County Business Patterns, First Quarter, 1951, Part VIII, West South Central States (Washington: Government Printing Office, 1953), pp. xii-xiii.

[7]Ibid.

set of data by dividing the amount for each of the 24 counties by the sum of the amounts for these counties. There are important differences between the two patterns of distribution. For these counties estimates based on OESC data for the first quarter of 1951 appear to be more reliable than estimates based on corresponding OASI data.

OASI data on wages and salaries in mining are useful mainly in that they are shown for a larger number of counties than OESC data. OASI data provide a basis for preparing estimates for those counties for which OESC data are not published.

Recommended Procedure

Since the allocation approach is used in this study, the National Income Division estimate is accepted as the most adequate measure of wages and salaries in mining in Oklahoma. Although available data indicate that the state estimate may be too low, further study is needed before attempts to improve it are made. The following procedure is recommended for allocating the National Income Division estimate.

OESC annual data are an adequate measure of wages and salaries paid by mining firms with eight or more employees. If better data were available for wages and salaries paid by mining firms with less than eight employees, the first step in the recommended procedure would be to divide the National

Income Division estimate into two parts: (1) wages and salaries paid by firms with eight or more employees and (2) wages and salaries paid by firms with less than eight employees. There are two possible ways to do this.

First, the OESC state total for the year for which estimates are being prepared may be considered as the best measure of wages and salaries paid by firms with eight or more employees. The difference between this figure and the National Income Division estimate represents wages and salaries paid by firms with less than eight employees. Since the OESC state total is currently larger than the National Income Division estimate, this method cannot be used.

Second, the ratio of the OESC state total to the OASI state total for the most recent period for which both sets of data are available might be applied to the National Income Division estimate to obtain wages and salaries paid by firms with eight or more employees. The remaining part of the estimate would represent wages and salaries paid by firms with less than eight employees. Since the OESC state total for the first quarter of 1951 is larger than the OASI state total for the same period, this method cannot be used.

Until better data become available on wages and salaries paid by firms with less than eight employees it will be assumed that they are distributed throughout the state in the same proportions as wages and salaries paid by firms with eight or more employees. Divide the sum of OESC data

for the "selected" counties by the OESC state total (excluding "statewide" wages and salaries).[8] Multiply this ratio by the National Income Division estimate. Allocate the amount obtained in this manner to the "selected" counties on the basis of OESC data. Allocate the rest of the National Income Division estimate to other counties in the state on the basis of the most recent OASI data.

The percentage allocator for each "selected" county is obtained by dividing the OESC figure for that county by the sum of OESC figures for all "selected" counties. The estimate for each "selected" county is obtained by multiplying its percentage allocator by that portion of the National Income Division estimate allocated to the "selected" counties as a group. This accounts for about 78 percent of total mining wages in the state.

The percentage allocator for each county for which OASI data are available but for which OESC data are not is obtained by dividing the OASI figure for that county by the sum of OASI figures for all of these counties. The estimate for each county is obtained by multiplying its percentage allocator by that part of the National Income Division estimate allocated to this group of counties.

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[8]The exclusion of "statewide" wages and salaries assumes that they are distributed throughout the state in the same proportions as wages and salaries classified by county.

CHAPTER IV

WAGES AND SALARIES IN MANUFACTURING

Manufacturing has been the third largest source of wage and salary payments in Oklahoma each year since 1946, annually accounting for about one-sixth of total wages and salaries in the state. Nationally, wages and salaries in manufacturing account for about one-third of total wages and salaries.[1]

Sources of County Data

Manufacturing data have a high degree of reliability. The three main sources of county data on wages and salaries in manufacturing in Oklahoma are the Oklahoma Employment Security Commission (OESC) series, the County Business Patterns (OASI) series, and the Census of Manufactures. Data from any one of these sources probably would be more reliable for allocation purposes than the best data available for most other industry divisions. Each of these three sources also contains employment data which might be

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[1]U.S. Department of Commerce, National Income, 1954 Edition (Washington: Government Printing Office, 1954), Table 14, pp. 178-179.

considered for the purpose of allocating the National Income Division estimate of wages and salaries in manufacturing. Since useful wage and salary data are available, employment data are not considered in this study.

OESC wage and salary data.--The Oklahoma Employment Security Commission (OESC) series contains county data on wages and salaries paid to manufacturing workers covered under the unemployment insurance program in Oklahoma. These data have been published quarterly since 1949. Annual totals for each year, 1949-1953, have been published in handbook form. Annual totals for 1952 and 1953 used in this study were obtained by adding the quarterly data.

OESC annual totals for each year, 1949-1953, are compared with National Income Division estimates of wages and salaries in manufacturing in Oklahoma in Table 12. The OESC figure was about 95 percent of the National Income Division estimate every year. OESC data are limited to wages and salaries paid by employers with eight or more employees.

OESC wage and salary data are published by industry division for 38 "selected" large counties. Manufacturing data are published for every one of them. There were no manufacturing wages and salaries classified as "statewide" in any year, 1949-1953. The sum of the data published for each of the 38 counties was 97 or 98 percent of the state total each year. The other 2 or 3 percent represents the sum of OESC wages and salaries in manufacturing in the other

TABLE 12

WAGES AND SALARIES IN MANUFACTURING IN OKLAHOMA, ACCORDING TO THE OKLAHOMA EMPLOYMENT SECURITY COMMISSION AND THE NATIONAL INCOME DIVISION, ANNUALLY, 1949-1953*

Year	Oklahoma Employment Security Commission (Millions of dollars)	National Income Division Estimate (Millions of dollars)	Oklahoma Employment Security Commission As a Percent of National Income Division Estimate
1949	179.2	188.3	95.2
1950	195.3	205.4	95.1
1951	238.1	250.6	95.0
1952	280.8	295.7	95.0
1953	313.0	329.1	95.1

*Source: Oklahoma Employment Security Commission, County Employment Data, Oklahoma, 1949-1951 (Oklahoma City: Oklahoma Employment Security Commission, 1952), Table 3, p. 16; Oklahoma Employment Security Commission, Oklahoma Labor Market, various issues; data provided through the courtesy of the United States Department of Commerce, National Income Division.

counties. Percentages for each year, 1949-1953, are shown in Table 13.

Table 14 shows the percentage distribution of OESC data on wages and salaries in manufacturing among the "selected" counties for each year, 1949-1953. Percentages were obtained by dividing the amount of wages and salaries in each county by the sum of the amounts published for individual counties. Distinct shifts in the pattern of distribution are noticeable. The percentage for Tulsa county increased from 28.2 in 1949 to 41.3 in 1953. Percentages for several other important manufacturing counties (Creek, Garfield, Kay, Oklahoma, and Okmulgee) declined during this period.

OESC data on wages and salaries in manufacturing have four main features that make them useful for allocating the National Income Division estimate. First, they are published on a quarterly basis. Annual data may be obtained by adding the quarterly data. Second, OESC data on wages and salaries in manufacturing have been published on a continuous basis since 1949, making it possible to observe shifts in the pattern of distribution from one year to the next. Third, OESC data are available on a current basis. Data for all four quarters of a given year are published before the National Income Division estimates for that year are released. Fourth, OESC data on wages and salaries in manufacturing are more complete than those for any other industry



TABLE 13

PERCENTAGE DISTRIBUTION OF OKLAHOMA EMPLOYMENT SECURITY COMMISSION DATA ON WAGES AND SALARIES IN MANUFACTURING IN OKLAHOMA, ANNUALLY, 1949-1953*

Year	State Total	Sum of County Data[1]	Statewide[2]	Remainder
1949	100.0	97.3	-	2.7
1950	100.0	97.5	-	2.5
1951	100.0	97.7	-	2.3
1952	100.0	98.2	-	1.8
1953	100.0	98.2	-	1.8

*Source: Computed from data in Oklahoma Employment Security Commission, County Employment Data, Oklahoma, 1949-1951 (Oklahoma City: Oklahoma Employment Security Commission, 1952), Table 3, pp. 16-55; Oklahoma Employment Security Commission, Oklahoma Labor Market, various issues.

[1]Equals sum of data for individual counties, shown separately in source.

[2]Includes amounts paid to statewide sales personnel with no permanent place of work and other types of roving employment, and all others whose place of work could not be determined.

TABLE 14

PERCENTAGE DISTRIBUTION OF OKLAHOMA EMPLOYMENT SECURITY COMMISSION DATA ON WAGES AND SALARIES IN MANUFACTURING IN OKLAHOMA, SELECTED COUNTIES, ANNUALLY, 1949-1953*

Selected Counties	1949	1950	1951	1952	1953
Beckham	0.4	0.5	0.4	0.3	0.2
Bryan	0.2	0.2	0.2	0.2	0.2
Caddo	0.5	0.5	0.4	0.4	0.4
Canadian	0.7	0.8	0.6	0.5	0.4
Carter	0.6	0.6	0.7	0.7	0.7
Choctaw	0.2	0.2	0.1	0.1	0.1
Cleveland	0.1	0.1	0.1	0.1	0.1
Comanche	0.6	0.6	0.5	0.5	0.5
Creek	2.9	2.9	2.7	2.4	2.3
Custer	0.4	0.4	0.4	0.2	0.2
Garfield	3.5	3.8	3.3	3.0	2.7
Garvin	0.5	0.5	0.4	0.4	0.4
Grady	0.6	0.5	0.5	0.6	0.3
Hughes	0.1	0.1	0.1	0.1	0.1
Jackson	0.3	0.3	0.2	0.2	0.2
Kay	10.0	9.1	8.6	7.8	7.3
Kiowa	0.3	0.3	0.2	0.2	0.2
Le Flore	0.4	0.3	0.3	0.3	0.2
Lincoln	0.5	0.5	0.3	0.2	0.2
Logan	0.7	0.7	0.6	0.6	0.5
McCurtain	1.1	1.1	0.9	0.8	0.7
Mayes	a	0.2	a	0.3	0.4
Muskogee	2.8	2.8	2.6	2.3	2.3
Oklahoma	22.3	21.4	20.9	19.4	18.3
Okmulgee	4.8	4.9	4.5	4.0	3.9
Osage	0.8	0.6	0.5	0.5	0.4
Ottawa	2.7	3.3	2.9	2.3	2.2
Payne	2.1	1.9	1.7	1.3	1.3
Pittsburg	0.6	0.9	0.8	0.8	0.7
Pontotoc	1.4	1.3	1.2	1.1	1.1

TABLE 14--Continued

Selected Counties	1949	1950	1951	1952	1953
Pottawatomie	0.8	0.8	1.0	1.9	2.4
Seminole	0.3	0.4	0.4	0.3	0.3
Stephens	3.5	3.4	3.6	3.6	3.3
Texas	0.3	0.2	0.2	0.1	0.1
Tulsa	28.2	29.4	33.2	38.2	41.3
Washington	4.1	4.2	4.3	4.2	4.0
Woods	0.3	0.3	0.2	0.2	0.2
Woodward	0.1	0.1	0.1	0.1	0.1
Total	100.0	100.0	100.0	100.0	100.0

*Source: Computed from data in Oklahoma Employment Security Commission, County Employment Data, Oklahoma, 1949-1951 (Oklahoma City: Oklahoma Employment Security Commission, (1952), Table 3, pp. 16-55; Oklahoma Employment Security Commission, Oklahoma Labor Market, various issues.

[a]Less than 0.05 percent.

Components do not always add to totals, because of rounding.

division. There are no manufacturing wages and salaries classified as "statewide".

OASI wage and salary data.--County data on wages and salaries in manufacturing have been published in the County Business Patterns (OASI) series for the first quarter of each year, 1946-1951. Annual data are not compiled. There are important differences between the data for the first quarter of each year, 1946-1948, and those for the first quarter of each year, 1949-1951.[2] Only the latter are considered here.

OASI data are published by industry group for four "large" counties in Oklahoma (Garfield, Muskogee, Oklahoma, and Tulsa). Data for the remaining counties are published by industry division. Data for one or more industry divisions may not be published for some of the counties because the number of reporting units is small and publication might disclose information relating to a specific firm. Data for all reporting units not classified by county are shown in a separate "statewide" category. This classification includes reporting units without a fixed location within the state, or with employees in more than one county, or of unknown county location.[3]

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[2]U.S. Bureau of the Census and U.S. Bureau of Old-Age and Survivors Insurance, cooperative report, County Business Patterns, First Quarter, 1951, Part VIII, West South Central States (Washington: Government Printing Office, 1953), p. xii.

[3]Ibid., p. vii.

OASI data on wages and salaries in manufacturing in the first quarter of 1951 were published for 72 individual counties in Oklahoma. The sum of the data for these counties was 97.7 percent of the state total. "Statewide" wages and salaries accounted for 2.3 percent of the state total. The remainder, which represents wages and salaries in the 5 counties for which individual data were not published, was less than half of 1 percent. Percentages for the first quarter of each year, 1949-1951, are shown in Table 15.

Table 16 shows the percentage distribution of OASI wages and salaries in manufacturing in Oklahoma, by county, for the first quarter of each year, 1949-1951. Percentages were obtained by dividing the amount of wages and salaries in each county by the sum of the amounts published for individual counties. In the first quarter of 1951 the four counties for which OASI data were published by industry group (Garfield, Muskogee, Oklahoma, and Tulsa) accounted for 54.0 percent of the sum of the county data.

OASI data on wages and salaries in manufacturing are useful mainly because (1) they provide information about wages and salaries paid by firms with less than eight employees, which is not included in OESC data, and (2) they are published for more counties than OESC data. The usefulness of OASI data is limited, however, because they are available only on a first quarter basis. Furthermore, they are not available on a current basis. The most recent OASI

TABLE 15

PERCENTAGE DISTRIBUTION OF OLD-AGE AND SURVIVORS INSURANCE DATA ON WAGES AND SALARIES IN MANUFACTURING IN OKLAHOMA, FIRST QUARTER, 1949-1951*

First Quarter	State Total	Sum of County Data[1]	Statewide[2]	Remainder
1949	100.0	97.9	2.0	0.1
1950	100.0	97.4	2.5	0.1
1951	100.0	97.7	2.3	a

*Source: U.S. Bureau of the Census and U.S. Bureau of Old-Age and Survivors Insurance, cooperative report, County Business Patterns, First Quarter, 1949, Part II, No. 3 (Washington: Government Printing Office, 1951), Tables 2 and 3, pp. 77-80; U.S. Bureau of the Census and U.S. Bureau of Old-Age and Survivors Insurance, cooperative report, County Business Patterns, First Quarter, 1950, Part II, No. 3 (Washington: Government Printing Office, 1952), Tables 2 and 3, pp. 57-60; U.S. Bureau of the Census and U.S. Bureau of Old-Age and Survivors Insurance, cooperative report, County Business Patterns, First Quarter, 1951, Part VIII, West South Central States (Washington: Government Printing Office, 1953), Tables 2-4, pp. 53-74.

[1]Equals sum of data for individual counties, shown separately in source.

[2]Includes amounts paid by reporting units without a fixed location within the state, or with employees in more than one county, or of unknown county locations.

[a]Less than 0.05 percent.

TABLE 16

PERCENTAGE DISTRIBUTION OF OLD-AGE AND SURVIVORS INSURANCE DATA ON WAGES AND SALARIES IN MANUFACTURING IN OKLAHOMA, BY COUNTY, FIRST QUARTER, 1949-1951

County	1949	1950	1951
Adair	a	a	0.1
Alfalfa	0.1	a	a
Atoka	a	a	a
Beaver	-	a	a
Beckham	0.4	0.4	0.4
Blaine	0.5	0.6	0.6
Bryan	0.2	0.2	0.2
Caddo	0.1	0.1	0.1
Canadian	0.6	0.6	0.5
Carter	0.6	0.6	0.6
Cherokee	a	a	a
Choctaw	0.1	0.1	0.1
Cimarron	-	a	-
Cleveland	0.1	0.2	0.1
Coal	-	-	-
Comanche	0.8	0.8	0.7
Cotton	-	-	a
Craig	0.1	0.1	0.1
Creek	2.0	2.1	2.1
Custer	0.3	0.4	0.2
Delaware	a	a	a
Dewey	-	-	a
Ellis	a	a	a
Garfield	3.1	3.3	2.9
Garvin	0.6	0.1	1.0
Grady	0.5	0.5	0.5
Grant	0.1	0.1	0.1
Greer	0.1	0.1	0.1
Harmon	a	-	a
Harper	a	a	a

TABLE 16--Continued

County	1949	1950	1951
Haskell	a	a	a
Hughes	0.1	a	0.1
Jackson	0.4	0.3	0.2
Jefferson	a	a	-
Johnston	a	a	a
Kay	9.1	9.3	9.2
Kingfisher	0.1	0.1	a
Kiowa	0.2	0.1	0.1
Latimer	a	a	a
Le Flore	0.4	0.4	0.3
Lincoln	0.2	0.3	0.3
Logan	0.2	0.7	0.6
Love	-	-	-
McClain	a	-	a
McCurtain	0.8	0.9	0.9
McIntosh	a	a	a
Major	a	a	a
Marshall	a	a	a
Mayes	a	a	a
Murray	0.1	0.1	a
Muskogee	2.2	2.5	2.5
Noble	0.1	0.1	0.1
Nowata	0.1	a	a
Okfuskee	a	a	a
Oklahoma	19.3	20.3	19.6
Okmulgee	4.6	5.2	4.4
Osage	0.8	0.5	0.7
Ottawa	2.9	3.2	2.3
Pawnee	0.3	0.3	0.3
Payne	1.5	1.4	1.2
Pittsburg	0.5	0.7	0.7
Pontotoc	1.9	1.8	2.1
Pottawatomie	0.8	0.9	0.8
Pushmataha	a	0.1	a
Roger Mills	a	a	-

TABLE 16--Continued

County	1949	1950	1951
Rogers	0.1	0.2	0.1
Seminole	0.3	0.2	0.3
Sequoyah	a	a	a
Stephens	2.6	2.4	2.7
Texas	0.3	0.1	0.1
Tillman	0.1	a	a
Tulsa	28.0	26.4	29.0
Wagoner	a	0.1	0.1
Washington	10.6	10.3	10.0
Washita	a	a	0.1
Woods	0.3	0.3	0.2
Woodward	0.1	0.1	0.1
Total	100.0	100.0	100.0

*Source: Same as in Table 15.

[a]Less than 0.05 percent.

data available at the time of writing (Spring 1955) for preparing estimates for 1953 are those for the first quarter of 1951. More recent data are needed.

Comparison of OESC and OASI wage and salary data.--Both OESC and OASI data on wages and salaries in manufacturing in Oklahoma were published by county for the first quarter of each year, 1949-1951. The two sets of data for the first quarter of 1951 are shown in Table 17. Comparison of these data from the two series illustrates the problems involved in preparing county estimates.

Differences between OESC data on wages and salaries in manufacturing and corresponding OASI data are attributable to several factors.[4] One of the basic factors, of course, is the difference in coverage. OESC data are limited to wages and salaries paid by firms with eight or more employees. Firms with less than eight employees are excluded from the coverage of the OESC program. OASI data, on the other hand, include wages and salaries paid by both groups of firms. For this reason, OASI data should include a larger proportion of total wages and salaries in a given industry division than OESC data.

The OESC state total for the first quarter of 1951

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[4]U.S. Bureau of the Census and U.S. Bureau of Old-Age and Survivors Insurance, cooperative report, County Business Patterns, First Quarter, 1951, Part VIII, West South Central States (Washington: Government Printing Office, 1953), pp. xii-xiii.

TABLE 17

COMPARISON OF OKLAHOMA EMPLOYMENT SECURITY COMMISSION (OESC) AND OLD-AGE AND SURVIVORS INSURANCE (OASI) DATA ON WAGES AND SALARIES IN MANUFACTURING IN OKLAHOMA, BY COUNTY, FIRST QUARTER, 1951*

County	Thousands of Dollars		Percent of Sum of County Data[1]	
	OESC	OASI	OESC	OASI
Adair	-	54	-	-
Alfalfa	-	24	-	-
Atoka	-	15	-	-
Beaver	-	2	-	-
Beckham	218	205	0.4	0.4
Blaine	-	334	-	-
Bryan	125	123	0.2	0.2
Caddo	-	38	-	-
Canadian	382	303	0.8	0.5
Carter	316	335	0.6	0.6
Cherokee	-	15	-	-
Choctaw	78	54	0.2	0.1
Cimarron	-	-	-	-
Cleveland	68	76	0.1	0.1
Coal	-	-	-	-
Comanche	277	400	0.5	0.7
Cotton	-	5	-	-
Craig	-	31	-	-
Creek	1,498	1,194	2.9	2.2
Custer	186	117	0.4	0.2
Delaware	-	18	-	-
Dewey	-	2	-	-
Ellis	-	10	-	-
Garfield	1,790	1,650	3.5	3.0
Garvin	234	589	0.5	1.1
Grady	211	290	0.4	0.5
Grant	-	41	-	-
Greer	-	58	-	-
Harmon	-	3	-	-
Harper	-	9	-	-

TABLE 17--Continued

County	Thousands of Dollars		Percent of Sum of County Data[1]	
	OESC	OASI	OESC	OASI
Haskell	-	5	-	-
Hughes	-	34	-	-
Jackson	124	106	0.2	0.2
Jefferson	-	-	-	-
Johnston	-	14	-	-
Kay	4,642	5,241	9.1	9.5
Kingfisher	-	28	-	-
Kiowa	-	49	-	-
Latimer	-	5	-	-
Le Flore	165	193	0.3	0.3
Lincoln	-	164	-	-
Logan	330	338	0.6	0.6
Love	-	-	-	-
McClain	-	6	-	-
McCurtain	516	495	-	-
McIntosh	-	6	-	-
Major	-	5	-	-
Marshall	-	8	-	-
Mayes	19	12	a	a
Murray	-	28	-	-
Muskogee	1,316	1,407	2.6	2.5
Noble	-	37	-	-
Nowata	-	21	-	-
Okfuskee	-	17	-	-
Oklahoma	10,943	11,163	21.5	20.2
Okmulgee	2,521	2,505	5.0	4.5
Osage	250	422	0.5	0.8
Ottawa	1,321	1,322	2.6	2.4
Pawnee	-	173	-	-
Payne	1,008	692	2.0	1.3

TABLE 17--Continued

County	Thousands of Dollars		Percent of Sum of County Data[1]	
	OESC	OASI	OESC	OASI
Pittsburg	438	421	0.9	0.8
Pontotoc	692	1,171	1.4	2.1
Pottawatomie	409	437	0.8	0.8
Pushmataha	-	22	-	-
Roger Mills	-	-	-	-
Rogers	-	48	-	-
Seminole	227	173	0.4	0.3
Sequoyah	-	11	-	-
Stephens	2,039	1,519	4.0	2.7
Texas	-	85	-	-
Tillman	-	17	-	-
Tulsa	16,140	16,489	31.7	29.8
Wagoner	-	35	-	-
Washington	2,251	5,707	4.4	10.3
Washita	-	70	-	-
Woods	112	132	0.2	0.2
Woodward	51	47	0.1	0.1
Total	50,897	56,875	100.0	100.0

*Source: U.S. Bureau of the Census and U.S. Bureau of Old-Age and Survivors Insurance, cooperative report, County Business Patterns, First Quarter, 1951, Part VIII, West South Central States (Washington: Government Printing Office, 1953), Tables 2-4, pp. 52-74; Oklahoma Employment Security Commission, Oklahoma Labor Market, September, 1951, Table 5, pp. 22-25.

[1]Counties for which both OESC and OASI data were available.

[a]Less than 0.05 percent.

Components do not always add to totals, because of rounding.

was $52.8 millions, about 90 percent of the OASI state total. Although the two figures are not strictly comparable in other respects, on the basis of this comparison about one-tenth of the OASI state total represents wages and salaries paid by small firms.

There were no OESC wages and salaries classified as "statewide". The OASI "statewide" figure was not significant. There are 33 counties for which both OESC and OASI data are shown in Table 17. The sum of the OESC data for these counties is $50.9 millions, 96.4 percent of the OESC state total. The sum of the OASI data for the same 33 counties is $55.3 millions, 97.2 percent of the OASI state total (excluding "statewide"). The fact that these two percentages are about the same indicates that the 33 counties account for the same proportion of total wages and salaries paid by large manufacturing firms as by small manufacturing firms.

OESC percentages in Table 17 were obtained by dividing the amount of wages and salaries in each of the 33 counties by the sum of the amount for these counties. OASI percentages were obtained in a similar manner. The pattern of distribution obtained by using OESC data is very similar to the one obtained by using OASI data.

Recommended Procedure

The National Income Division estimate is accepted as



the best available measure of wages and salaries in manufacturing in Oklahoma. OESC annual data are the most adequate measure of wages and salaries paid by manufacturing firms with eight or more employees. It is recommended that an amount equal to the sum of the OESC data for the "selected" counties for which OESC data are available be allocated to this group of counties to represent wages and salaries paid by firms with eight or more employees. OESC data were published for 38 "selected" counties in 1953. The sum of the data for these counties was 93.4 percent of the National Income Division estimate for that year.

The difference between the OESC state total and the National Income Division estimate represents wages and salaries paid by firms with less than eight employees. Since the OESC state total for 1953 was 95.1 percent of the National Income Division estimate, firms with less than eight employees accounted for the other 4.9 percent.

Available data do not provide a satisfactory method of determining precisely how much of the difference between the OESC state total and the National Income Division estimate represents wages and salaries paid by firms with less than eight employees in the "selected" counties. The following method is recommended as reasonable.

Since OASI data include wages paid by all firms with one or more employees, the ratio of OASI data for the "selected" counties to the OASI state total (excluding "statewide"



wages and salaries) will include amounts paid by firms with less than eight employees as well as those with eight or more.[5] The sum of OASI data for the first quarter of 1951 for the 38 "selected" counties for which OESC data were published in 1953 was 97.9 percent of the OASI state total (excluding "statewide" wages and salaries).[6] OESC data indicate that firms with eight or more employees in the same counties account for 93.4 percent of the total. The difference between the two figures, which is 4.5 percent, may be taken to represent wages and salaries paid by firms with less than eight employees in the "selected" counties. It is recommended that an additional 4.5 percent of the National Income Division estimate be allocated to the "selected" counties to represent wages and salaries paid by firms with less than eight employees.

Wage and salary data which show separate amounts paid by firms with less than eight employees and those with eight or more employees are not available. Since the amount which represents wages and salaries paid by firms with less than eight employees in the "selected" counties is only 4.5 percent of the National Income Division estimate and the pattern of distribution among these counties obtained by using

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[5]It is recommended that OASI data for the most recent year available be used.

[6]OASI "statewide" wages and salaries in manufacturing in the first quarter of 1951 were less than 3 percent of the OASI state total.

OASI data for the first quarter of 1951 is similar to the one obtained by using OESC data for the same period, it may be assumed that wages and salaries paid by firms with less than eight employees are distributed among the "selected" counties in the same proportions as wages and salaries paid by firms with eight or more employees. Errors resulting from this assumption will not be significant in terms of the pattern of distribution.

The allocator for each of the "selected" counties is obtained in the following manner. Divide the OESC figure for each county by the sum of OESC figures for the "selected" counties. Multiply the quotient by that part of the National Income Division estimate which represents the sum of wages and salaries paid by firms with eight or more employees in the "selected" counties and wages and salaries paid by firms with less than eight employees in the "selected" counties. The result is the allocator for each county.

The two amounts allocated to the "selected" counties in 1953 to represent wages and salaries paid by firms with less than eight employees and those with eight or more employees represent 97.9 percent of the National Income Division estimate. The sum of the allocators for the "selected" counties will add to this figure.

The remaining part of the National Income Division estimate represents wages and salaries paid by all firms in the counties for which OESC individual county data were not



published. It is recommended that this amount be allocated on the basis of OASI data for these counties. The allocator for each county is obtained in the following manner. Divide the OASI figure for each county by the sum of OASI figures for these counties. Multiply the quotient by that percent of the National Income Division estimate which represents wages and salaries paid by all firms in these counties. The resulting percentage is the allocator. Wages and salaries paid by all firms in the counties for which OESC data are not available represent 2.1 percent of the National Income Division estimate for 1953. The sum of the allocators for these counties will equal this figure.

CHAPTER V

WAGES AND SALARIES IN CONSTRUCTION

The National Income Division estimate of wages and salaries in construction in Oklahoma has been about 5 or 6 percent of total wages and salaries in the state each year since 1947. However, construction payrolls have fluctuated widely in the past, not only in amount but also in relation to total wages and salaries in the state. For example, wages and salaries in construction reached a peak of 10.5 percent of total wages and salaries in 1942, amounting to $76.1 millions. Three years later in 1945, wages and salaries in construction were 2.0 percent of total wages and salaries, amounting to $20.1 millions.[1]

Sources of County Data

The two main sources of county data on wages and salaries in construction in Oklahoma are the Oklahoma Employment Security Commission (OESC) series and the County

[1]Data provided through the courtesy of the U.S. Department of Commerce, National Income Division, quoted in Earl Lee Bailey, Jr., "The Measurement of the Annual Income of the People of Oklahoma" (Unpublished M.B.A. thesis, Department of Economics, University of Oklahoma, 1951), Table 1, p. 7.

Business Patterns (OASI) series. The OASI series contains county data on the number of construction firms (reporting units) by employee-size class. Both series contain county data on employment in construction. So does the Census of Population. Since wage and salary data are available, employment data are not considered in this study.

OESC wage and salary data.--The Oklahoma Employment Security Commission (OESC) series contains county data on wages and salaries paid to construction workers covered under the unemployment insurance program in Oklahoma. These data are published on a quarterly basis in the Oklahoma Labor Market, a monthly publication of the Oklahoma Employment Security Commission. The series began with the publication of data for the first quarter of 1949. Annual totals for each year, 1949-1953, have been published in handbook form. Annual totals for 1952 and 1953 used in this study were obtained by adding the quarterly data.

OESC annual totals for each year, 1949-1953, are compared with National Income Division estimates of wages and salaries in construction in Oklahoma in Table 18. The OESC state total was about 93 or 94 percent of the estimate for each year. OESC data are limited to wages and salaries paid by firms with eight or more employees. Assuming that both the OESC figure and the National Income Division estimate for each year were correct, wages and salaries paid by construction firms with less than eight employees amount to 6

TABLE 18

WAGES AND SALARIES IN CONSTRUCTION IN OKLAHOMA, ACCORDING TO THE OKLAHOMA EMPLOYMENT SECURITY COMMISSION AND THE NATIONAL INCOME DIVISION, ANNUALLY, 1949-1953*

Year	Oklahoma Employment Security Commission (Millions of dollars)	National Income Division Estimate (Millions of dollars)	Oklahoma Employment Security Commission As a Percent of National Income Division Estimate
1949	72.1	76.8	93.9
1950	73.0	78.0	93.6
1951	81.8	87.6	93.4
1952	94.1	100.8	93.4
1953	94.2	100.4	93.8

*Source: Oklahoma Employment Security Commission, County Employment Data, Oklahoma, 1949-1951 (Oklahoma City: Oklahoma Employment Security Commission, 1952), Table 3, p. 16; Oklahoma Employment Security Commission, Oklahoma Labor Market, various issues; data provided through the courtesy of the U.S. Department of Commerce, National Income Division.

or 7 percent of the National Income Division estimate.

OESC wage and salary data are published by industry division for 38 "selected" large counties in Oklahoma. Construction data are generally published for 34 or 35 of these counties. Data for the other "selected" counties are not published because the number of covered employers is small and publication might disclose information relating to a specific firm. Wages and salaries paid to statewide sales personnel with no permanent place of work and other types of roving employment, and all others whose place of work could not be determined are included in a separate "statewide" category.

The sum of the data published for individual counties was about 90 percent of the OESC state total of wages and salaries in construction in Oklahoma each year, 1949-1953. "Statewide" wages and salaries ranged between 3 and 5 percent of the total. The remainder represents the sum of wages and salaries paid by construction firms in the counties for which OESC data were not published by industry division. Percentages for each year, 1949-1953, are shown in Table 19.

Table 20 shows the percentage distribution of OESC data on wages and salaries in construction in Oklahoma among the "selected" counties for each year, 1949-1953. Percentages were obtained by dividing the amount for each "selected" county by the sum of the amounts for these counties. Tulsa county and Oklahoma county together annually accounted for

TABLE 19

PERCENTAGE DISTRIBUTION OF OKLAHOMA EMPLOYMENT SECURITY COMMISSION DATA ON WAGES AND SALARIES IN CONSTRUCTION IN OKLAHOMA, ANNUALLY, 1949-1953*

Year	State	Sum of County Data[1]	Statewide[2]	Remainder
1949	100.0	85.7	5.1	9.2
1950	100.0	90.6	3.2	6.2
1951	100.0	89.1	4.3	6.6
1952	100.0	90.2	4.0	5.8
1953	100.0	90.3	4.8	4.9

*Source: Computed from data in Oklahoma Employment Security Commission, County Employment Data, Oklahoma, 1949-1951 (Oklahoma City: Oklahoma Employment Security Commission, 1952), Table 3, pp. 16-55; Oklahoma Employment Security Commission, Oklahoma Labor Market, various issues.

[1]Equals sum of data for individual counties, shown separately in source.

[2]Includes amounts paid to statewide sales personnel with no permanent place of work and other types of roving employment, and all others whose place of work could not be determined.

TABLE 20

PERCENTAGE DISTRIBUTION OF OKLAHOMA EMPLOYMENT SECURITY COMMISSION DATA ON WAGES AND SALARIES IN CONSTRUCTION IN OKLAHOMA, SELECTED COUNTIES, ANNUALLY, 1949-1953*

Selected Counties	1949	1950	1951	1952	1953
Beckham	0.2	1.3	1.1	0.5	0.6
Bryan	0.2	0.1	0.3	0.2	0.1
Caddo	0.3	0.2	0.5	1.3	0.5
Canadian	0.6	0.5	0.6	0.6	0.2
Carter	1.0	1.1	1.3	1.6	1.9
Choctaw	-	-	-	-	-
Cleveland	2.1	2.2	2.8	1.6	1.3
Comanche	1.0	1.7	2.3	4.2	3.6
Creek	1.1	0.9	0.7	2.2	1.0
Custer	0.1	0.1	0.3	0.1	0.3
Garfield	2.7	3.1	2.2	1.8	2.7
Garvin	3.3	0.8	0.8	0.8	0.8
Grady	0.9	0.9	0.4	0.4	0.4
Hughes	0.3	0.3	0.3	0.2	0.3
Jackson	0.5	0.3	0.2	0.4	1.0
Kay	1.5	1.4	2.4	1.6	1.5
Kiowa	-	-	-	-	-
Le Flore	0.5	0.4	0.2	0.7	0.7
Lincoln	0.1	0.2	0.9	1.4	0.6
Logan	0.3	0.1	0.2	0.1	0.3
McCurtain	0.4	0.2	0.4	-	-
Mayes	1.0	0.4	1.8	0.3	1.6
Muskogee	2.6	3.1	3.1	2.0	2.1
Oklahoma	29.5	37.1	38.8	34.3	31.8
Okmulgee	2.3	1.3	0.8	2.7	1.0

TABLE 20--Continued

Selected Counties	1949	1950	1951	1952	1953
Osage	1.6	1.2	0.6	0.4	0.3
Ottawa	0.3	0.4	1.0	0.9	0.5
Payne	3.4	2.2	1.6	1.3	1.8
Pittsburg	0.5	0.5	0.7	3.1	4.3
Pontotoc	1.2	1.2	1.1	0.7	0.9
Pottawatomie	1.4	1.5	1.1	1.1	1.1
Seminole	1.0	0.9	0.8	0.7	0.7
Stephens	1.8	0.7	0.9	1.0	2.1
Texas	0.7	1.1	1.1	0.3	0.2
Tulsa	28.7	25.9	26.2	29.4	30.2
Washington	6.3	6.0	2.3	1.9	3.4
Woods	-	-	-	-	-
Woodward	0.6	0.6	0.4	0.2	0.2
Total	100.0	100.0	100.0	100.0	100.0

*Source: Computed from data in Oklahoma Employment Security Commission, County Employment Data, Oklahoma, 1949-1951 (Oklahoma City: Oklahoma Employment Security Commission, 1952), Table 3, pp. 16-55; Oklahoma Employment Security Commission, Oklahoma Labor Market, various issues.

Components do not always add to totals, because of rounding.

about three-fifths of the total. Significant changes in the pattern of distribution among some of the other counties during this period are noticeable.

For the counties for which they are available, OESC data provide the most useful basis for estimates of wages and salaries paid by construction firms with eight or more employees. There are four main reasons for this. First, since the data are published for all four quarters, estimates can be based on annual data. Second, OESC data have been published on a continuous basis since 1949, making it possible to observe shifts in the pattern of distribution from one year to the next. Third, OESC data are available on a current basis. Data for all four quarters of a given year are published before the National Income Division estimates for that year are released. Sharp fluctuations in construction activity in small areas make this an important feature of the data for this industry division. Fourth, OESC "statewide" wages and salaries are relatively unimportant.

Since OESC data for the "selected" counties do not include wages and salaries paid by construction firms with less than eight employees, they must be adjusted to include these amounts. Estimates for other counties must be based on OASI data or some other county series.

OASI wage and salary data.--County data on wages and salaries in construction have been published in the County

Business Patterns (OASI) series for the first quarter of each year, 1946-1948, and 1951. Annual data are not compiled. First quarter data for 1951 are comparable with those for earlier years in most respects, but differences may exist.[2]

OASI data are published by industry group for the state and four "large" counties in Oklahoma (Garfield, Muskogee, Oklahoma, and Tulsa). Data for the remaining counties are published by industry division. Data for one or more industry divisions may not be published for some of the counties because the number of reporting units is small and publication might disclose information relating to a specific firm. Data for all reporting units not classified by county are shown in a separate "statewide" category. This classification includes reporting units without a fixed location within the state, or with employees in more than one county, or of unknown county location.[3]

OASI data on wages and salaries in construction in the first quarter of 1951 were published for 68 individual counties in Oklahoma. The sum of the data for these counties was 91.2 percent of the OASI state total. The "statewide" figure for the first quarter of 1951 was 8.2 percent of the

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[2]U.S. Bureau of the Census and the U.S. Bureau of Old-Age and Survivors Insurance, cooperative report, County Business Patterns, First Quarter, 1951, Part VIII, West South Central States (Washington: Government Printing Office, 1953), p. xii.

[3]Ibid., p. vii.

state total. The remainder may be taken to represent the sum of wages and salaries in the counties for which individual county data were not published. OASI data for the first quarter of 1951 provide a more useful basis for county estimates than corresponding data for the earlier years because in 1951 a larger proportion of the state total was classified by county. Percentages for the first quarter of each year, 1946-1948, and 1951 are shown in Table 21.

Table 22 shows the percentage distribution, by county, of OASI wages and salaries in construction in Oklahoma for the first quarter of each year, 1946-1948, and 1951. Percentages were obtained by dividing the amount of wages and salaries in each county by the sum of the amounts published for individual counties. In the first quarter of 1951 the four "large" counties accounted for almost three-fourths of the total:

County	Percent of Total
Garfield	2.4
Muskogee	4.2
Oklahoma	40.9
Tulsa	26.6
Total	74.1

OASI data on wages and salaries in construction are useful mainly because (1) they provide information about wages and salaries paid by firms with less than eight employees, which is not included in OESC data, and (2) they are published for more counties than OESC data. OASI data

TABLE 21

PERCENTAGE DISTRIBUTION OF OLD-AGE AND SURVIVORS INSURANCE DATA ON WAGES AND SALARIES IN CONSTRUCTION IN OKLAHOMA, FIRST QUARTER, 1946-1948, AND 1951*

First Quarter	State Total	Sum of County Data[1]	Statewide[2]	Remainder
1946	100.0	77.1	15.1	7.8
1947	100.0	84.7	14.2	1.1
1948	100.0	87.7	11.2	1.1
1951	100.0	91.2	8.2	0.6

*Source: Same as in Table 9.

[1]Equals sum of data for individual counties, shown separately in source.

[2]Includes amounts paid by reporting units without a fixed location within the state, or with employees in more than one county, or of unknown county locations.

TABLE 22

PERCENTAGE DISTRIBUTION OF OLD-AGE AND SURVIVORS INSURANCE DATA ON WAGES AND SALARIES IN CONSTRUCTION IN OKLAHOMA, BY COUNTY, FIRST QUARTER, 1946-1948, AND 1951*

County	1946	1947	1948	1951
Adair	-	-	-	-
Alfalfa	-	a	-	a
Atoka	-	-	-	-
Beaver	-	-	-	a
Beckham	-	0.2	0.2	2.1
Blaine	-	1.5	0.9	a
Bryan	-	0.2	0.1	0.1
Caddo	-	0.1	0.2	0.2
Canadian	-	0.8	0.7	0.5
Carter	0.9	1.1	1.1	1.0
Cherokee	-	a	-	0.1
Choctaw	-	0.1	0.1	0.1
Cimarron	-	-	-	-
Cleveland	1.1	2.0	1.3	2.4
Coal	-	-	-	-
Comanche	1.8	1.0	1.6	1.5
Cotton	-	a	0.2	a
Craig	-	1.3	0.7	0.1
Creek	0.2	0.3	0.2	0.4
Custer	-	0.1	0.3	0.1
Delaware	-	a	a	a
Dewey	-	-	0.1	-
Ellis	-	-	-	-
Garfield	2.2	1.4	2.1	2.4
Garvin	-	0.3	0.5	1.0
Grady	0.8	0.7	0.5	0.4
Grant	-	-	-	a
Greer	-	0.1	0.1	0.1
Harmon	-	a	a	a
Harper	-	a	0.1	a

TABLE 22--Continued

County	1946	1947	1948	1951
Haskell	-	0.2	0.4	-
Hughes	-	0.5	0.2	0.2
Jackson	-	0.3	0.2	0.2
Jefferson	-	-	-	a
Johnston	-	-	-	-
Kay	2.9	1.5	1.3	1.3
Kingfisher	-	a	a	0.1
Kiowa	-	0.2	0.3	0.3
Latimer	-	-	-	-
Le Flore	-	0.4	0.5	a
Lincoln	-	0.3	0.3	0.4
Logan	-	0.1	0.1	0.1
Love	-	-	-	0.1
McClain	-	a	0.1	0.2
McCurtain	-	-	-	a
McIntosh	-	0.1	a	0.1
Major	-	0.2	0.1	0.1
Marshall	-	0.1	0.1	a
Mayes	-	0.1	0.3	0.1
Murray	0.4	0.3	0.2	0.2
Muskogee	7.1	7.9	8.6	4.2
Noble	-	0.3	0.6	0.3
Nowata	0.1	0.1	0.1	0.2
Okfuskee	-	a	0.1	0.1
Oklahoma	40.6	39.2	33.7	40.9
Okmulgee	1.5	1.4	1.4	0.8
Osage	0.2	0.2	0.1	0.2
Ottawa	2.4	1.0	0.8	0.6
Pawnee	a	a	0.1	0.1
Payne	1.1	1.7	1.1	1.4

TABLE 22--Continued

County	1946	1947	1948	1951
Pittsburg	1.0	0.5	0.6	0.4
Pontotoc	1.6	1.4	1.3	1.0
Pottawatomie	2.2	1.0	1.1	1.9
Pushmataha	-	-	-	a
Roger Mills	-	-	-	a
Rogers	-	a	a	0.1
Seminole	2.0	1.6	1.4	0.8
Sequoyah	-	-	-	-
Stephens	-	0.5	0.6	1.0
Texas	-	1.1	0.5	0.3
Tillman	-	0.4	0.3	0.1
Tulsa	27.2	24.0	29.8	26.6
Wagoner	-	a	a	a
Washington	2.5	1.6	1.9	1.8
Washita	-	-	a	0.1
Woods	-	0.1	0.2	0.2
Woodward	-	0.4	0.7	0.6
Total	100.0	100.0	100.0	100.0

*Source: Same as in Table 9.

[a]Less than 0.05 percent.

Components do not always add to totals, because of rounding.

data provide a basis for estimates for counties for which OESC data are not available.

The usefulness of OASI data for preparing county estimates of wages and salaries in construction is limited mainly because (1) the data are available only on a first quarter basis and (2) current data are not available. Since seasonal variations in construction are significant, annual estimates based on first quarter data may not be representative of the entire year. Since construction payrolls fluctuate widely from year to year, estimates for 1953 or subsequent years based on data for 1951 may not be a satisfactory benchmark. More recent data are needed.

Comparison of OESC and OASI wage and salary data.--The first quarter of 1951 is the only period for which we have both OESC and OASI county data on wages and salaries in construction in Oklahoma. The two sets of data are shown in Table 23.

The main reason OASI data might be considered more useful than OESC data for the purpose of allocating the National Income Division estimate of wages and salaries in construction is because the coverage of the OASI program is broader. Wages and salaries paid by firms with less than eight employees are included in OASI data but are excluded from OESC data. Generally, OASI data will include a larger proportion of total wages and salaries in a given industry division in a given county than OESC data.

TABLE 23

COMPARISON OF OKLAHOMA EMPLOYMENT SECURITY COMMISSION (OESC) AND OLD-AGE AND SURVIVORS INSURANCE (OASI) DATA ON WAGES AND SALARIES IN CONSTRUCTION IN OKLAHOMA, BY COUNTY, FIRST QUARTER, 1951*

County	Thousands of Dollars		Percent of Sum of County Data[1]	
	OESC	OASI	OESC	OASI
Adair	-	-	-	-
Alfalfa	-	3	-	-
Atoka	-	-	-	-
Beaver	-	7	-	-
Beckham	459	425	2.9	2.1
Blaine	-	4	-	-
Bryan	16	22	0.1	0.1
Caddo	-	39	-	-
Canadian	77	113	0.5	0.6
Carter	201	214	1.3	1.1
Cherokee	-	25	-	-
Choctaw	-	11	-	-
Cimarron	-	-	-	-
Cleveland	475	499	3.0	2.5
Coal	-	-	-	-
Comanche	320	307	2.1	1.5
Cotton	-	3	-	-
Craig	-	29	-	-
Creek	96	75	0.6	0.4
Custer	38	22	0.2	0.1
Delaware	-	6	-	-
Dewey	-	-	-	-
Ellis	-	-	-	-
Garfield	353	496	2.3	2.5
Garvin	96	203	0.6	1.0
Grady	71	75	0.5	0.4
Grant	-	2	-	-
Greer	-	11	-	-
Harmon	-	8	-	-
Harper	-	9	-	-

TABLE 23--Continued

County	Thousands of Dollars		Percent of Sum of County Data[1]	
	OESC	OASI	OESC	OASI
Haskell	-	-	-	-
Hughes	55	51	0.4	0.3
Jackson	64	47	0.4	0.2
Jefferson	-	6	-	-
Johnston	-	-	-	-
Kay	260	273	1.7	1.4
Kingfisher	-	11	-	-
Kiowa	-	52	-	-
Latimer	-	-	-	-
Le Flore	40	6	0.3	a
Lincoln	-	78	-	-
Logan	49	18	0.3	0.1
Love	-	13	-	-
McClain	-	42	-	-
McCurtain	54	8	0.3	a
McIntosh	-	15	-	-
Major	-	22	-	-
Marshall	-	10	-	-
Mayes	76	28	0.5	0.1
Murray	-	48	-	-
Muskogee	486	856	3.1	4.3
Noble	-	67	-	-
Nowata	-	33	-	-
Okfuskee	-	21	-	-
Oklahoma	6,240	8,440	40.0	42.5
Okmulgee	126	158	0.8	0.8
Osage	91	36	0.6	0.2
Ottawa	108	133	0.7	0.7
Pawnee	-	21	-	-
Payne	296	287	1.9	1.4

TABLE 23--Continued

County	Thousands of Dollars		Percent of Sum of County Data[1]	
	OESC	OASI	OESC	OASI
Pittsburg	92	92	0.6	0.5
Pontotoc	174	196	1.1	1.0
Pottawatomie	236	394	1.5	2.0
Pushmataha	-	9	-	-
Roger Mills	-	3	-	-
Rogers	-	13	-	-
Seminole	117	167	0.8	0.8
Sequoyah	-	-	-	-
Stephens	122	207	0.8	1.0
Texas	-	72	-	-
Tillman	-	25	-	-
Tulsa	4,123	5,493	26.4	27.7
Wagoner	-	1	-	-
Washington	523	378	3.4	1.9
Washita	-	21	-	-
Woods	-	44	-	-
Woodward	64	119	0.4	0.6
Total	15,598	20,622	100.0	100.0

*Source: U.S. Bureau of the Census and U.S. Bureau of Old-Age and Survivors Insurance, cooperative report, County Business Patterns, First Quarter, 1951, Part VIII, West South Central States (Washington: Government Printing Office, 1953), Tables 2-4, pp. 52-74; Oklahoma Employment Security Commission, Oklahoma Labor Market, September, 1951, Table 5, pp. 22-25.

[1]Counties for which both OESC and OASI data were available.

[a]Less than 0.05 percent.

Components do not always add to totals, because of rounding.

The OESC state total for the first quarter of 1951 was $17.7 millions, 78 percent of the OASI state total. Although the two figures are not strictly comparable in other respects, on the basis of this comparison about one-fourth of the OASI state total apparently represents wages and salaries paid by small firms. If this is correct, the National Income Division estimates are too low. Comparison of OESC data with these estimates indicates that firms with less than eight employees account for 6 or 7 percent of the total.

There are 32 counties for which both OESC and OASI data were published in 1951. The sum of the OESC data for these counties was $15.6 millions, 92.2 percent of the OESC state total (excluding "statewide" wages and salaries). "Statewide" wages and salaries were 4.5 percent of the OESC state total and 8.2 percent of the OASI state total.

The percentages in Table 23 were obtained by dividing for each set of data the amount of wages and salaries in each of the 32 counties by the sum of wages and salaries in these counties. The pattern of distribution among these counties obtained by using OESC data is very similar to the one obtained by using OASI data.

Recommended Procedure

The estimate prepared by the National Income Division is accepted as the best available measure of wages and salaries in construction in Oklahoma. Even though there is

some possibility that estimates for past years were too low, they must be accepted as given data until statistics that provide a method for their improvement become available.

OESC annual data are an adequate measure of wages and salaries paid by construction firms with eight or more employees. Divide the OESC state total by the National Income Division estimate to obtain the percentage of the estimate that represents wages and salaries paid by firms with eight or more employees. This assumes that both the OESC state total and the National Income Division estimate are correct. The OESC state total for 1953 was 93.8 percent of the National Income Division estimate for that year.

Divide the sum of OESC data for the "selected" counties, shown separately in the source, by the OESC state total (excluding "statewide" wages and salaries) to obtain the percentage of total wages and salaries paid by firms with eight or more employees accounted for by this group of counties. The sum of OESC data for the "selected" counties in 1953 was $85.1 millions, 94.9 percent of the OESC state total (excluding "statewide" wages and salaries).

The remaining 5.1 percent of the OESC state total may be taken to represent wages and salaries paid by firms with eight or more employees in the counties for which OESC data were not shown separately in the source.

The difference between the OESC state total and the National Income Division estimate may be taken to represent

the sum of wages and salaries paid by all firms in the state with less than eight employees. This was 6.2 percent of the National Income Division estimate in 1953.

There is no satisfactory method of determining from existing data what part of this 6.2 percent represents wages and salaries paid by firms with less than eight employees in the group of "selected" counties for which OESC data were available. Until better data become available, it will be assumed that the group of "selected" counties accounts for the same proportion of total wages and salaries paid by firms with less than eight employees as total wages and salaries paid by firms with eight or more employees. It is also assumed that the pattern of distribution among the "selected" counties of wages and salaries paid by firms with less than eight employees is the same as that for wages and salaries paid by firms with eight or more employees.

The allocator for each "selected" county is obtained in the following manner. First, divide the amount of OESC wages and salaries in each "selected" county by the sum of the amounts for these counties. Second, multiply the quotient by the ratio of the sum of OESC data for the "selected" counties to the OESC state total (excluding "statewide" wages and salaries). This ratio was 94.9 percent in 1953. The result is the percentage allocator for each "selected" county. The sum of the percentage allocators for the "selected counties will equal 94.9 percent of the National

Income Division estimate. Multiply the percentage allocator by the National Income Division estimate to obtain the estimate for each county.

The remaining 5.1 percent of the National Income Division estimate may be taken to represent the sum of wages and salaries paid by firms with less than eight employees and those with eight or more employees in the counties for which OESC data were not published. Distribute this amount to these counties on the basis of the most recent OASI data.

The percentage allocator for each of these counties is obtained in two steps. First, divide the amount of OASI wages and salaries in each county by the sum of the amounts for these counties. Second, multiply the quotient by the percentage of the National Income Division estimate allocated to this group of counties (5.1 percent in 1953). The result is the percentage allocator for each county. Multiply the percentage allocator by the National Income Division estimate to obtain the estimate for each county.

CHAPTER VI

WAGES AND SALARIES IN TRANSPORTATION, POWER AND GAS, AND COMMUNICATION

The National Income Division prepares separate estimates of wages and salaries in transportation, power and gas, and communication. The sum of the estimates for 1953 was 11.8 percent of total wages and salaries in Oklahoma.

Transportation has been the fifth largest source of wage and salary payments in Oklahoma every year since 1948, amounting to 8.1 percent of the total in 1953. The various transportation industries are: railroads, local and highway passenger transportation, highway freight transportation and warehousing, water transportation, air transportation (common carriers), pipeline transportation, and services allied to transportation. Wages and salaries in power and gas have been less than two percent of total wages and salaries in Oklahoma every year since 1946. The ratio for 1953 was 1.8 percent. Wages and salaries in communication have also been less than two percent of total wages and salaries in Oklahoma every year since 1946. The ratio for 1953 was 1.9 percent.

Sources of County Data

The two main sources of county data on wages and salaries in transportation, power and gas, and communication are the Oklahoma Employment Security Commission (OESC) series and the County Business Patterns (OASI) series. These two series also contain employment data on a county basis. The Census of Population is another source of county data on the number of persons employed in transportation, power and gas, and communication industries. Census data on the number of railroad workers will be used in this study because wage and salary data for these workers are not included in either the OESC series or the OASI series. Otherwise, employment data will not be used since wage and salary data are available.

OESC wage and salary data.--The Oklahoma Employment Security Commission (OESC) series contains county data on wages and salaries paid to workers in "public utilities" covered under the unemployment insurance program in Oklahoma. The "public utilities" classification includes transportation (excluding railroads), power and gas, and communications industries.[1] State figures for each of the three industry groups are published by the Oklahoma Employment Security Commission in its Annual Report to the Governor. Similar information for counties is not available. National

[1]Railroad workers are covered under the Railroad Retirement Act rather than under the Social Security Act. Therefore, wages and salaries paid to them are excluded from OESC data.

Income Division estimates of wages and salaries in transportation, power and gas, and communication must be added together before county estimates can be obtained on the basis of OESC data.

OESC state totals of wages and salaries in transportation for each year, 1949-1953, are compared with National Income Division estimates in Table 24. The ratio of the OESC figure to the National Income Division estimate increased from 41.1 percent in 1949 to 46.6 percent in 1953. Assuming that both figures for each year are correct, the difference between them represents the sum of wages and salaries paid to other transportation workers by firms with less than eight employees. It must be allocated on the basis of some other series of county data.

OESC state totals of wages and salaries in power and gas for each year, 1949-1953, are compared with National Income Division estimates in Table 25. The OESC state total has been about 97 percent of the National Income Division estimate for each of the last five years. The remainder represents wages and salaries paid by power and gas firms with less than eight employees. Since the total amount of wages and salaries paid by power and gas firms is less than 2 percent of total wages and salaries in Oklahoma according to National Income Division estimates, the remainder is not significant in terms of the pattern of distribution.

OESC state totals of wages and salaries in communication

TABLE 24

WAGES AND SALARIES IN TRANSPORTATION IN OKLAHOMA, ACCORDING TO THE OKLAHOMA EMPLOYMENT SECURITY COMMISSION AND THE NATIONAL INCOME DIVISION, ANNUALLY, 1949-1953*

Year	Oklahoma Employment Security Commission (Millions of dollars)	National Income Division Estimate (Millions of dollars)	Oklahoma Employment Security Commission As a Percent of National Income Division Estimate
1949	50.8	123.6	41.1
1950	52.8	122.7	43.0
1951	60.4	139.4	43.3
1952	68.6	150.4	45.6
1953	71.7	153.7	46.6

*Source: Oklahoma Employment Security Commission, Annual Report to the Governor, 1949-1953 (Oklahoma City: Oklahoma Employment Security Commission, annually); data provided through the courtesy of the Oklahoma Employment Security Commission.

TABLE 25

WAGES AND SALARIES IN POWER AND GAS IN OKLAHOMA, ACCORDING TO THE OKLAHOMA EMPLOYMENT SECURITY COMMISSION AND THE NATIONAL INCOME DIVISION, ANNUALLY, 1949-1953*

Year	Oklahoma Employment Security Commission (Millions of dollars	National Income Division Estimate (Millions of dollars	Oklahoma Employment Security Commission As a Percent of National Income Division Estimate
1949	25.2	25.8	97.7
1950	26.6	27.3	97.4
1951	27.4	28.3	96.8
1952	30.6	31.7	96.5
1953	33.0	34.0	97.1

*Source: Oklahoma Employment Security Commission, Annual Report to the Governor, 1949-1953 (Oklahoma City: Oklahoma Employment Security Commission, annually); data provided through the courtesy of the Oklahoma Employment Security Commission.

for each year, 1949-1953, are compared with National Income Division estimates in Table 26. The OESC state total for 1953 was 92.5 percent of the National Income Division estimate for that year. Part of the difference between the two figures is probably explained by the fact that the National Income Division estimate includes wages and salaries paid in "radio broadcasting and television", while the OESC figure does not. The industrial classification used for OESC data includes "radio broadcasting and television" in the industry division, "services".[2]

OESC data on wages and salaries in "public utilities" were published for 38 "selected" counties each year, 1949-1953. The sum of the data for these counties in 1953 was 90.0 percent of the OESC state total. "Statewide" wages and salaries were 4.3 percent of the state total.[3] The remainder represents wages and salaries paid by firms in the counties for which individual county data were not published. Percentages for each year, 1949-1953, are shown in Table 27.

Table 28 shows the percentage distribution of OESC data on wages and salaries in public utilities in Oklahoma among the "selected" counties for each year, 1949-1953.

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[2]U.S. Department of Commerce, National Income, 1951 Edition (Washington: Government Printing Office, 1951), p. 61.

[3]The "Statewide" category includes wages and salaries paid to statewide sales personnel with no permanent place of work and other types of roving employment, and all others whose place of work could not be determined.

TABLE 26

WAGES AND SALARIES IN COMMUNICATION IN OKLAHOMA, ACCORDING TO THE OKLAHOMA EMPLOYMENT SECURITY COMMISSION AND THE NATIONAL INCOME DIVISION, ANNUALLY, 1949-1953*

Year	Oklahoma Employment Security Commission (Millions of dollars	National Income Division Estimate (Millions of dollars	Oklahoma Employment Security Commission As a Percent of National Income Division Estimate
1949	24.4	25.7	94.9
1950	25.4	27.1	93.7
1951	27.9	30.2	92.4
1952	30.9	33.6	92.0
1953	33.4	36.1	92.5

*Source: Oklahoma Employment Security Commission, Annual Report to the Governor, 1949-1953 (Oklahoma City: Oklahoma Employment Security Commission, annually); data provided through the courtesy of the Oklahoma Employment Security Commission.

TABLE 27

PERCENTAGE DISTRIBUTION OF OKLAHOMA EMPLOYMENT SECURITY COMMISSION DATA ON WAGES AND SALARIES IN PUBLIC UTILITIES IN OKLAHOMA, ANNUALLY, 1949-1953*

Year	State Total	Sum of County Data[1]	Statewide[2]	Remainder
1949	100.0	86.0	7.1	6.9
1950	100.0	87.7	5.5	6.8
1951	100.0	89.2	4.8	6.0
1952	100.0	89.5	4.6	5.9
1953	100.0	90.0	4.3	5.7

*Source: Computed from data in Oklahoma Employment Security Commission, County Employment Data, Oklahoma, 1949-1951 (Oklahoma City: Oklahoma Employment Security Commission, 1952), Table 3, pp. 16-55; Oklahoma Employment Security Commission, Oklahoma Labor Market, various issues.

[1]Equals sum of data for individual counties, shown separately in source.

[2]Includes amounts paid to statewide sales personnel with no permanent place of work and other types of roving employment, and all others whose place of work could not be determined.

TABLE 28

PERCENTAGE DISTRIBUTION OF OKLAHOMA EMPLOYMENT SECURITY COMMISSION DATA ON WAGES AND SALARIES IN PUBLIC UTILITIES IN OKLAHOMA, SELECTED COUNTIES, ANNUALLY, 1949-1953*

Selected Counties	1949	1950	1951	1952	1953
Beckham	0.5	0.6	0.7	0.7	0.6
Bryan	0.6	0.5	0.5	0.4	0.4
Caddo	0.5	0.5	0.5	0.4	0.5
Canadian	0.5	0.6	0.5	0.5	0.5
Carter	2.2	2.3	2.4	2.4	2.3
Choctaw	0.5	0.5	0.5	0.5	0.5
Cleveland	0.9	0.9	0.9	0.9	1.0
Comanche	1.4	1.5	2.0	1.9	1.9
Creek	1.8	1.9	1.8	1.8	1.5
Custer	0.6	0.6	0.6	0.6	0.5
Garfield	3.2	3.4	3.2	3.1	3.1
Garvin	1.0	1.0	1.1	1.1	1.0
Grady	1.0	1.1	1.0	1.0	0.9
Hughes	0.2	0.3	0.3	0.3	0.3
Jackson	0.5	0.4	0.4	0.4	0.4
Kay	2.0	2.0	2.0	2.1	2.0
Kiowa	0.4	0.4	0.3	0.3	0.3
Le Flore	0.5	0.4	0.3	0.3	0.3
Lincoln	0.6	0.5	0.4	0.5	0.5
Logan	0.5	0.6	0.5	0.4	0.3
McCurtain	0.2	0.2	0.2	0.1	0.1
Mayes	0.3	0.3	0.2	0.2	0.2
Muskogee	2.4	2.6	2.6	2.7	2.7
Oklahoma	28.6	29.8	29.5	29.1	29.5
Okmulgee	1.1	1.2	1.1	1.1	1.0

TABLE 28--Continued

Selected Counties	1949	1950	1951	1952	1953
Osage	0.8	0.6	0.4	0.5	0.4
Ottawa	0.5	0.5	0.5	0.5	0.5
Payne	2.5	2.3	2.2	2.1	2.0
Pittsburg	0.9	0.9	0.9	0.9	0.8
Pontotoc	1.3	1.2	1.0	1.0	1.0
Pottawatomie	1.7	2.0	1.9	1.9	2.0
Seminole	2.0	1.9	1.7	1.7	1.4
Stephens	1.2	1.2	1.5	1.5	1.6
Texas	0.4	0.4	0.4	0.5	0.5
Tulsa	34.6	32.8	33.8	34.6	35.2
Washington	1.2	1.2	1.4	1.4	1.4
Woods	0.4	0.3	0.3	0.3	0.3
Woodward	0.5	0.4	0.4	0.4	0.3
Total	100.0	100.0	100.0	100.0	100.0

*Source: Computed from data in Oklahoma Employment Security Commission, County Employment Data, Oklahoma, 1949-1951 (Oklahoma City: Oklahoma Employment Security Commission, 1952), Table 3, pp. 16-55; Oklahoma Employment Security Commission, Oklahoma Labor Market, various issues.

Components do not always add to totals, because of rounding.

Percentages were obtained by dividing the amount for each "selected" county by the sum of the amounts for these counties. The pattern of distribution remained practically unchanged from 1949 to 1953. Although there are many elements of non-comparability between OESC annual data and OASI first quarter data, the stability of the pattern indicates that estimates based on OASI data for 1951 would not be seriously affected by the absence of more recent data.

OASI wage and salary data.--The County Business Patterns (OASI) series contains county data on wages and salaries in public utilities for the first quarter of each year, 1946-1948, and 1951. "Public utilities" includes transportation (excluding railroads), power and gas, and communication industries.[4] OASI data are published by industry group for the state and four "large" counties (Garfield, Muskogee, Oklahoma, and Tulsa). Detailed breakdowns for other counties are not published. If OASI data are to be used as the basis for preparing county estimates, National Income Division estimates of wages and salaries in transportation, power and gas, and communication must be added together before allocation.

OASI data on wages and salaries in public utilities in Oklahoma in the first quarter of 1951 were published for

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[4]Railroad workers are covered under the Railroad Retirement Act rather than under the Social Security Act. Therefore, wages and salaries paid to them are excluded from OASI data.

70 individual counties. The sum of the data for these counties was 79.2 percent of the OASI state total. The "statewide" figure for the first quarter of 1951 was 20.4 percent of the state total. The remainder, which represents wages and salaries paid by public utilities in counties for which data were not published separately, is not significant. Percentages for the first quarter of each year, 1946-1948, and 1951 are shown in Table 29.

Table 30 shows the percentage distribution of OASI data on wages and salaries in public utilities in Oklahoma for the first quarter of each year, 1946-1948, and 1951. Percentages were obtained by dividing the amount of wages and salaries in each county by the sum of the amounts published for individual counties. The four "large" counties for which OASI data are published by industry group accounted for about two-thirds of the total in the first quarter of 1951:

County	Percent of Sum of County Data
Garfield	3.3
Muskogee	2.3
Oklahoma	40.6
Tulsa	21.1
Total	67.3

Comparison of OESC and OASI wage and salary data.--The first quarter of 1951 is the only period for which we have both OESC and OASI county data on wages and salaries in

TABLE 29

PERCENTAGE DISTRIBUTION OF OLD-AGE AND SURVIVORS INSURANCE DATA ON WAGES AND SALARIES IN PUBLIC UTILITIES IN OKLAHOMA, FIRST QUARTER, 1946-1948, AND 1951*

First Quarter	State Total	Sum of County Data[1]	Statewide[2]	Remainder
1946	100.0	63.8	26.3	9.9
1947	100.0	72.8	26.8	0.4
1948	100.0	76.7	23.0	0.3
1951	100.0	79.1	20.5	0.4

*Source: Same as in Table 9.

[1]Equals sum of data for individual counties, shown separately in source.

[2]Includes amounts paid by reporting units without a fixed location within the state, or with employees in more than one county, or of unknown county locations.

TABLE 30

PERCENTAGE DISTRIBUTION OF OLD-AGE AND SURVIVORS INSURANCE DATA ON WAGES AND SALARIES IN PUBLIC UTILITIES IN OKLAHOMA, BY COUNTY, FIRST QUARTER, 1946-1948 AND 1951*

County	1946	1947	1948	1951
Adair	-	a	a	a
Alfalfa	-	0.2	0.2	0.2
Atoka	-	6.1	6.1	0.1
Beaver	-	0.3	0.3	0.4
Beckham	-	0.4	0.3	0.4
Blaine	-	0.1	a	a
Bryan	0.5	0.5	0.5	0.5
Caddo	0.8	0.7	0.6	0.5
Canadian	0.6	0.6	0.5	0.6
Carter	2.3	2.1	2.1	2.3
Cherokee	-	0.1	0.1	0.1
Choctaw	-	0.5	0.5	0.4
Cimarron	-	-	-	-
Cleveland	1.2	1.0	0.9	0.8
Coal	-	-	-	-
Comanche	1.9	1.3	1.6	1.9
Cotton	-	0.3	0.3	0.3
Craig	-	0.4	0.4	0.4
Creek	1.5	1.4	1.0	0.9
Custer	0.6	0.5	0.6	0.3
Delaware	-	a	a	a
Dewey	-	a	a	a
Ellis	-	0.1	a	0.1
Garfield	3.3	3.0	3.1	3.3
Garvin	-	0.3	0.4	0.4
Grady	1.0	0.8	0.7	0.7
Grant	-	0.1	0.1	a
Greer	-	0.2	0.2	0.2
Harmon	-	-	-	-
Harper	-	a	a	-

TABLE 30--Continued

County	1946	1947	1948	1951
Haskell	-	0.1	0.1	0.1
Hughes	-	0.2	0.2	0.2
Jackson	-	0.4	0.3	0.3
Jefferson	-	0.1	0.1	0.1
Johnston	-	-	a	a
Kay	2.5	1.6	1.8	1.6
Kingfisher	-	0.3	0.2	0.5
Kiowa	-	0.3	0.2	0.2
Latimer	-	-	0.1	0.2
Le Flore	-	0.4	0.3	0.4
Lincoln	-	0.1	0.1	0.1
Logan	0.5	0.4	0.4	0.3
Love	-	-	-	-
McClain	-	-	-	a
McCurtain	-	0.2	0.1	0.1
McIntosh	-	0.1	a	-
Major	-	0.1	0.1	0.1
Marshall	-	0.1	0.1	0.1
Mayes	0.2	0.2	0.2	0.1
Murray	-	0.1	0.1	0.1
Muskogee	4.3	3.4	2.3	2.3
Noble	-	0.2	0.2	0.3
Nowata	0.1	0.1	0.1	0.1
Okfuskee	0.2	0.2	0.2	0.2
Oklahoma	40.4	39.6	36.3	40.6
Okmulgee	0.7	0.8	0.7	0.7
Osage	0.9	0.6	0.4	0.4
Ottawa	1.8	0.7	0.6	0.5
Pawnee	0.3	0.3	0.3	0.3
Payne	1.1	1.2	1.2	1.4

TABLE 30--Continued

County	1946	1947	1948	1951
Pittsburg	1.1	0.8	0.8	0.8
Pontotoc	1.8	1.6	1.2	1.0
Pottawatomie	2.1	1.8	1.8	1.8
Pushmataha	-	-	-	-
Roger Mills	-	a	-	a
Rogers	-	0.2	0.1	0.2
Seminole	1.4	1.4	1.2	1.0
Sequoyah	-	a	-	0.1
Stephens	1.0	0.9	1.1	1.0
Texas	-	0.4	0.4	1.0
Tillman	-	0.2	0.1	0.3
Tulsa	21.1	14.9	15.0	21.1
Wagoner	-	a	a	0.2
Washington	4.2	4.1	9.6	3.9
Washita	-	0.1	0.1	0.1
Woods	-	0.4	0.3	0.3
Woodward	0.7	0.7	0.7	0.6
Total	100.0	100.0	100.0	100.0

*Source: Same as in Table 9.

aLess than 0.05 percent.

Components do not always add to totals, because of rounding.

public utilities. The two sets of data are shown in Table 31.

Differences between OESC data on wages and salaries in public utilities and corresponding OASI data are attributable to several factors.[5] One of the basic factors is the difference in coverage. OESC data are limited to wages and salaries paid by firms with eight or more employees. OASI data include wages and salaries paid by firms with less than eight employees as well as those with eight or more. For this reason OASI data might generally be expected to include a larger proportion of total wages and salaries in a given industry division in a given county. However, the OASI state total for the first quarter of 1951 was less than the OESC state total for the same period. The reason is not readily explained.

There are 34 counties in Table 31 for which both OESC and OASI data are shown. The OESC figure is larger than the OASI figure in 30 of these counties. This is explained largely by the fact that a larger amount of OESC wages and salaries is classified by county. The sum of the OESC data for the 34 counties is $23.6 millions, compared with the corresponding OASI figure of $19.5 millions. The OESC "statewide" figure was $1.3 millions, compared with the OASI

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[5]U.S. Bureau of the Census and U.S. Bureau of Old-Age and Survivors Insurance, cooperative report, County Business Patterns, First Quarter, 1951, Part VIII, West South Central States (Washington: Government Printing Office, 1953), pp. xii-xiii.

TABLE 31

COMPARISON OF OKLAHOMA EMPLOYMENT SECURITY COMMISSION (OESC) AND OLD-AGE AND SURVIVORS INSURANCE (OASI) DATA ON WAGES AND SALARIES IN PUBLIC UTILITIES IN OKLAHOMA, BY COUNTY, FIRST QUARTER, 1951*

County	Thousands of Dollars		Percent of Sum of County Data[1]	
	OESC	OASI	OESC	OASI
Adair	-	4	-	-
Alfalfa	-	45	-	-
Atoka	-	25	-	-
Beaver	-	81	-	-
Beckham	176	78	0.7	0.4
Blaine	-	8	-	-
Bryan	117	104	0.5	0.5
Caddo	-	104	-	-
Canadian	127	116	0.5	0.6
Carter	592	475	2.5	2.4
Cherokee	-	29	-	-
Choctaw	139	90	0.6	0.5
Cimarron	-	-	-	-
Cleveland	218	158	0.9	0.8
Coal	-	-	-	-
Comanche	464	400	2.0	2.0
Cotton	-	66	-	-
Craig	-	87	-	-
Creek	419	199	1.8	1.0
Custer	145	73	0.6	0.4
Delaware	-	4	-	-
Dewey	-	3	-	-
Ellis	-	21	-	-
Garfield	795	691	3.4	3.5
Garvin	260	93	1.1	0.5
Grady	233	139	1.0	0.7
Grant	-	10	-	-
Greer	-	44	-	-
Harmon	-	-	-	-
Harper	-	-	-	-

TABLE 31--Continued

County	Thousands of Dollars		Percent of Sum of County Data[1]	
	OESC	OASI	OESC	OASI
Haskell	-	30	-	-
Hughes	72	49	0.3	0.3
Jackson	96	65	0.4	0.3
Jefferson	-	21	-	-
Johnston	-	10	-	-
Kay	498	343	2.1	1.8
Kingfisher	-	112	-	-
Kiowa	-	47	-	-
Latimer	-	43	-	-
Le Flore	80	81	0.3	0.4
Lincoln	-	30	-	-
Logan	113	63	0.5	0.3
Love	-	-	-	-
McClain	-	5	-	-
McCurtain	40	30	0.2	0.2
McIntosh	-	-	-	-
Major	-	18	-	-
Marshall	-	24	-	-
Mayes	59	28	0.3	0.1
Murray	-	27	-	-
Muskogee	632	478	2.7	2.4
Noble	-	58	-	-
Nowata	-	19	-	-
Okfuskee	-	43	-	-
Oklahoma	7,117	8,528	30.2	43.6
Okmulgee	269	137	1.1	0.7
Osage	105	78	0.4	0.4
Ottawa	116	115	0.5	0.6
Pawnee	-	60	-	-
Payne	546	289	2.3	1.5

TABLE 31--Continued

County	Thousands of Dollars		Percent of Sum of County Data[1]	
	OESC	OASI	OESC	OASI
Pittsburg	226	167	1.0	0.9
Pontotoc	247	214	1.0	1.1
Pottawatomie	469	375	2.0	1.9
Pushmataha	-	-	-	-
Roger Mills	-	2	-	2
Rogers	-	40	-	-
Seminole	386	209	1.6	1.1
Sequoyah	-	14	-	-
Stephens	372	205	1.6	1.0
Texas	-	202	-	-
Tillman	-	58	-	-
Tulsa	7,921	4,434	33.6	22.7
Wagoner	-	32	-	-
Washington	328	829	1.4	4.2
Washita	-	31	-	-
Woods	79	72	0.3	0.4
Woodward	101	134	0.4	0.7
Total	23,557	20,996	100.0	100.0

*Source: U.S. Bureau of the Census and U.S. Bureau of Old-Age and Survivors Insurance, cooperative report, County Business Patterns, First Quarter, 1951, Part VIII, West South Central States (Washington: Government Printing Office, 1953), Tables 2-4, pp. 52-74; Oklahoma Employment Security Commission, Oklahoma Labor Market, September, 1951, Table 5, pp. 22-25.

[1]Counties for which both OESC and OASI data were available.

Components do not always add to totals, because of rounding.

"statewide" figure of $5.4 millions. On the basis of this comparison OESC data are a more comprehensive measure of wages and salaries in public utilities than OASI data.

The percentages in Table 31 were obtained for each set of data by dividing the amount for each of the 34 counties by the sum of the amounts for these counties. There are important differences between the two patterns of distribution. OESC data provide the most useful basis for estimates for these counties. OASI data provide the basis for estimates for the counties for which OESC data were not published.

Census of Population data on railroad employment.-- Since railroad workers are excluded from coverage in both OESC and OASI data, some other series must be used to allocate that part of the National Income Division which represents wages and salaries paid to them. The Census of Population is the only available source of county data on railroad employment. There are no county data available on wages and salaries paid to railroad workers.

The 1950 Census of Population contains county data on the number of persons employed in "railroads and railway express service". Since most of the population was enumerated during the first half of April, the data are seasonal. Furthermore, Census data differ from OESC or OASI data in several respects.[6] Census data were obtained by household

[6]U.S. Bureau of the Census, United States Census of Population: 1950. Vol. II, Characteristics of the Population, Part 36, Oklahoma, Chapter B (Washington: Government Printing Office, 1952), pp. xi-xiv.

interview, whereas social security data were based on reports from business firms. Census data, therefore, include workers on the basis of their county of residence. The other type of data includes them in the county where they work. Comparisons between the two types of data should be made with caution for areas where large numbers of workers cross county lines in going to and from work. Table 32 shows the percentage distribution, by county, of data from the 1950 Census of Population on the number of persons employed in "railroads and railway express service".

Recommended Procedure

The recommended procedure for preparing county estimates of wages and salaries in transportation, power and gas, and communication involves four steps. First, determine how much of the National Income Division estimate of wages and salaries in transportation represents the earnings of railroad workers. Allocate this amount on the basis of employment data from the most recent Census of Population. Second, add together the rest of the transportation estimate, the power and gas estimate, and the communication estimate. Determine how much of this total represents wages and salaries paid by all firms in the counties for which OESC data are available. Allocate this amount on the basis of most recent OESC data for those counties. Third, allocate the rest of the total to the other counties in the

TABLE 32

EMPLOYMENT IN RAILROADS AND RAILWAY EXPRESS SERVICE IN OKLAHOMA, BY COUNTY, 1950*

County	Number of Persons	Percent of Total
Adair	56	0.5
Alfalfa	60	0.5
Atoka	71	0.6
Beaver	32	0.3
Beckham	86	0.8
Blaine	45	0.4
Bryan	117	1.0
Caddo	69	0.6
Canadian	987	8.7
Carter	86	0.8
Cherokee	17	0.1
Choctaw	145	1.3
Cimarron	30	0.3
Cleveland	50	0.4
Coal	33	0.3
Comanche	59	0.5
Cotton	5	a
Craig	85	0.7
Creek	305	2.7
Custer	88	0.8
Delaware	5	a
Dewey	32	0.3
Ellis	54	0.5
Garfield	521	4.6
Garvin	86	0.8
Grady	110	1.0
Grant	36	0.3
Greer	15	0.1
Harmon	11	0.1
Harper	19	0.2
Haskell	17	0.1
Hughes	93	0.8
Jackson	104	0.9
Jefferson	58	0.5
Johnston	45	0.4

TABLE 32--Continued

County	Number of Persons	Percent of Total
Kay	200	1.8
Kingfisher	27	0.2
Kiowa	58	0.5
Latimer	23	0.2
Le Flore	452	4.0
Lincoln	83	0.7
Logan	163	1.4
Love	47	0.4
McClain	153	1.3
McCurtain	40	0.4
McIntosh	34	0.3
Major	73	0.6
Marshall	69	0.6
Mayes	36	0.3
Murray	66	0.6
Muskogee	826	7.3
Noble	81	0.7
Nowata	59	0.5
Okfuskee	16	0.1
Oklahoma	1,384	12.2
Okmulgee	167	1.5
Osage	153	1.3
Ottawa	249	2.2
Pawnee	69	0.6
Payne	152	1.3
Pittsburg	224	2.0
Pontotoc	146	1.3
Pottawatomie	298	2.6
Pushmataha	30	0.3
Roger Mills	19	0.2

TABLE 32--Continued

County	Number of Persons	Percent of Total
Rogers	68	0.6
Seminole	48	0.4
Sequoyah	99	0.9
Stephens	41	0.4
Texas	61	0.5
Tillman	47	0.4
Tulsa	1,300	11.4
Wagoner	81	0.7
Washington	78	0.7
Washita	31	0.3
Woods	389	3.4
Woodward	85	0.7
Total	11,357	100.0

*Source: U.S. Bureau of the Census, United States Census of Population: 1950. Vol. II, Characteristics of the Population, Part 36, Oklahoma, Chapter B (Washington: Government Printing Office, 1952), Table 43, pp. 91-100.

[a]Less than 0.05 percent.

Components do not always add to totals, because of rounding.

state on the basis of most recent OASI data. Finally, add the figures obtained for each county in the above three steps.

The Oklahoma Employment Security Commission publishes current monthly estimates of "nonfarm employment" in Oklahoma in the Oklahoma Labor Market. The ratio of annual average employment in railroads to annual average employment in transportation (including railroads) provides a possible basis for dividing the National Income Division estimate. Annual average employment in railroads in Oklahoma in 1953 was 11.2 thousands, 22 percent of the total.[7]

The use of employment data for this purpose assumes that annual average earnings of railroad workers are the same as annual average earnings of all transportation workers (including railroad workers). There are no data available for Oklahoma for testing the reliability of this assumption. Comparison of national estimates of annual average earnings of full-time railroad employees with those for transportation workers as a whole shows that there has been little difference between them for the past several years.[8] In the absence of information to the contrary, we have no basis for

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[7]Oklahoma Employment Security Commission, Employment Trends in Oklahoma, 1939-1953 (Oklahoma City: Oklahoma Employment Security Commission, 1954), Table A-4, p. 15.

[8]U.S. Department of Commerce, National Income, 1954 Edition (Washington: Government Printing Office, 1954), Table 27, pp. 200-201.

assuming that this is not also the case in Oklahoma.

If we multiply 22 percent by $153.7 millions (the transportation estimate for 1953), we obtain a figure of $33.8 millions. This represents wages and salaries paid to railroad workers in Oklahoma. It was less than 2 percent of total wages and salaries in Oklahoma in 1953. Therefore, it is clear that minor deficiencies in Census of Population data will not materially affect the pattern of distribution of wages and salaries throughout the state. To obtain the estimate of wages and salaries paid to railroad workers for each county, multiply $33.8 millions by the ratio of the number of persons employed in each county to the state total.

The remainder of the National Income Division estimate of wages and salaries in transportation represents wages and salaries paid to transportation workers other than railroad workers. This was $119.9 millions in 1953, or 78 percent of the transportation total. The second step in the recommended procedure is to add this amount to the estimates of wages and salaries in power and gas and communication. The total was $190.0 millions in 1953.

OESC annual data are the best available measure of wages and salaries paid by public utility firms in Oklahoma with eight or more employees. The difference between the OESC state total and the National Income Division estimate represents the sum of wages and salaries paid by public utility firms in Oklahoma with less than eight employees.

The OESC state total for 1953 was $138.1 millions, 72.7 percent of the sum of National Income Division estimate of wages and salaries in transportation (excluding wages and salaries paid to railroad workers), power and gas, and communication. Assuming that both the OESC figure and the National Income Division estimates are correct, firms with less than eight employees account for 27.7 percent of total wages and salaries in public utilities in Oklahoma.

For the "selected" counties for which they are available, OESC data will be used to obtain estimates of wages and salaries paid by firms with eight or more employees. There is no satisfactory method of determining from existing data the amount of wages and salaries paid by firms with less than eight employees in this group of counties. Until better data become available, it will be assumed that the group of "selected" counties for which OESC data are available accounts for the same proportion of total wages and salaries paid by firms with less than eight employees as total wages and salaries paid by firms with eight or more employees. It is also assumed that wages and salaries paid by firms with less than eight employees are distributed among these counties in the same proportions as wages and salaries paid by firms with eight or more employees.

Determine the ratio of the sum of OESC data for the "selected" counties to the OESC state total (excluding "statewide" wages and salaries). This was 93.9 percent in 1953.

Multiply this percentage by the sum of National Income Division estimates of wages and salaries in transportation (excluding wages and salaries paid to railroad workers), power and gas, and communication to obtain the amount to be allocated to the "selected" counties as a group. The result for 1953 was $178.4 millions (93.9 percent of $190.0 millions).

Determine the percentage allocator for each "selected" county by dividing the OESC figure for that county by the sum of OESC figures for these counties. Multiply the allocator for each county by the amount allocated to this group of counties ($178.4 millions in 1953) to obtain the estimates.

The third step in the recommended procedure is to allocate the remaining part of the sum of National Income Division estimates of wages and salaries in transportation (excluding wages and salaries paid to railroad workers), power and gas, and communication to the counties for which OESC data were not shown separately in the source. This was $11.6 millions (6.1 percent of $190.0 millions) in 1953. Allocate this amount on the basis of most recent OASI data for these counties. Determine the percentage allocator for each county by dividing the OASI figure for that county by the sum of OASI figures for these counties. Multiply the allocator for each county by the amount allocated to these counties ($11.6 millions in 1953) to obtain the estimates.

The final step in the procedure is to add the estimate for each county of wages and salaries paid to railroad

workers to the estimate of wages and salaries paid to other transportation workers. The total for each county represents wages and salaries in transportation, power and gas, and communication.



CHAPTER VII

WAGES AND SALARIES IN TRADE

For each year, 1946-1950, trade was the largest source of wage and salary payments in Oklahoma. For each year, 1951-1953, it was the second largest, exceeded only by "government" in relative importance. Wages and salaries in trade in Oklahoma in 1953 amounted to $352.6 millions, 18.7 percent of total wages and salaries in the state.

The state estimates of wages and salaries in trade prepared by the National Income Division include amounts paid by both wholesale and retail firms. Separate estimates for each of the two types of firms are not prepared. The industrial classification of wholesale and retail industries by the National Income Division is similar in most respects to the classification systems used for OESC and OASI data.[1]

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[1]One relatively minor difference will be noted. The National Income Classification includes "automobile repair services and garages" in the industry division, "wholesale and retail trade." The classification system used for OESC and OASI data include the industry in "services". OASI data for the first quarter of 1951 indicate that wages and salaries in "automobile repair services and garages" accounted for about 2 percent of OASI wages and salaries in wholesale and retail trade. U.S. Department of Commerce, National Income, 1951 Edition (Washington: Government Printing Office, 1951), p. 61.

Sources of County Data

The three main sources of county data on wages and salaries in trade are the Oklahoma Employment Security Commission (OESC) series, the County Business Patterns (OASI) series, and the Census of Business. Since the last Census of Business was in 1948, wage and salary data from this source will not be used in this study.

Each of these three sources also contains employment data on a county basis, as well as other information. The Census of Population is another source of county data on employment in trade. Since wage and salary data are available, employment data will not be considered for the purposes of this study. Census of Population data, however, are useful as an indication of the situs problem.

OESC wage and salary data.--The Oklahoma Employment Security Commission (OESC) series contains county data on wages and salaries paid to trade workers covered under the unemployment insurance program in Oklahoma. Trade figures for counties are not broken down into wholesale and retail categories. Such a breakdown is available for the state, however.

OESC state totals of wages and salaries in trade for each year, 1949-1953, are compared with National Income Division estimates in Table 33. The OESC figure was about 75 percent of the estimate each year. OESC data are limited to firms with eight or more employees. Assuming that both

TABLE 33

WAGES AND SALARIES IN TRADE IN OKLAHOMA, ACCORDING TO THE OKLAHOMA EMPLOYMENT SECURITY COMMISSION AND THE NATIONAL INCOME DIVISION, ANNUALLY, 1949-1953*

Year	Oklahoma Employment Security Commission (Millions of dollars)	National Income Division Estimate (Millions of dollars)	Oklahoma Employment Security Commission As a Percent of National Income Division Estimate
1949	197.6	261.0	75.7
1950	215.3	284.8	75.6
1951	236.6	313.3	75.5
1952	252.4	334.7	75.4
1953	266.9	352.6	75.7

*Source: Oklahoma Employment Security Commission, County Employment Data, Oklahoma, 1949-1951 (Oklahoma City: Oklahoma Employment Security Commission, 1952), Table 3, p. 16; Oklahoma Employment Security Commission, Oklahoma Labor Market, various issues; data provided through the courtesy of the United States Department of Commerce, National Income Division.

figures for each year are correct, trade firms with less than eight employees probably account for the other 25 percent of the estimate.

OESC data on wages and salaries in trade were published for 38 "selected" counties in 1953. The sum of the data for these counties in 1953 was 91.6 percent of the OESC state total. "Statewide" wages and salaries amounted to 4.8 percent of the state total.[2] The remaining 3.6 percent represents wages and salaries paid by firms located in the counties for which OESC data were not shown separately in the source. Percentages for each year, 1949-1953, are shown in Table 34.

Table 35 shows the percentage distribution of OESC data on wages and salaries in trade among the "selected" counties for each year, 1949-1953. Percentages were obtained by dividing the amount for each "selected" county by the sum of the amounts for these counties. The pattern of distribution remained practically unchanged from 1949 through 1953. The stability of the pattern indicates that estimates for these counties based on OASI data for the first quarter of 1951 would not be seriously affected by the absence of more recent data.

OASI wage and salary data.--The County Business

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[2]The "statewide" category includes wages and salaries paid to statewide sales personnel with no permanent place of work and other types of roving employment, and all others whose place of work could not be determined.

TABLE 34

PERCENTAGE DISTRIBUTION OF OKLAHOMA EMPLOYMENT SECURITY COMMISSION DATA ON WAGES AND SALARIES IN TRADE IN OKLAHOMA, ANNUALLY, 1949-1953*

Year	State Total	Sum of County Data[1]	Statewide[2]	Remainder
1949	100.0	90.7	5.9	3.4
1950	100.0	91.1	5.2	3.7
1951	100.0	91.1	5.2	3.7
1952	100.0	91.7	4.8	3.5
1953	100.0	91.6	4.8	3.6

*Source: Computed from data in Oklahoma Employment Security Commission, County Employment Data, Oklahoma, 1949-1951 (Oklahoma City: Oklahoma Employment Security Commission, 1952), Table 3, pp. 16-55; Oklahoma Employment Security Commission, Oklahoma Labor Market, various issues.

[1]Equals sum of data for individual counties, shown separately in source.

[2]Includes amounts paid to statewide sales personnel with no permanent place of work and other types of roving employment, and all others whose place of work could not be determined.

TABLE 35

PERCENTAGE DISTRIBUTION OF OKLAHOMA EMPLOYMENT SECURITY COMMISSION DATA ON WAGES AND SALARIES IN TRADE IN OKLAHOMA, SELECTED COUNTIES, ANNUALLY, 1949-1953*

Selected Counties	1949	1950	1951	1952	1953
Beckham	0.6	0.7	0.6	0.6	0.5
Bryan	0.6	0.5	0.5	0.5	0.5
Caddo	0.4	0.4	0.4	0.5	0.4
Canadian	0.6	0.6	0.5	0.5	0.5
Carter	1.8	1.8	1.8	1.9	1.9
Choctaw	0.2	0.2	0.2	0.2	0.2
Cleveland	0.9	0.9	0.9	0.9	0.9
Comanche	2.0	2.1	2.4	2.7	2.5
Creek	0.6	0.6	0.5	0.5	0.6
Custer	0.7	0.7	0.6	0.7	0.6
Garfield	3.4	3.3	3.2	3.2	3.0
Garvin	0.5	0.5	0.5	0.5	0.5
Grady	1.0	1.0	1.0	1.0	0.9
Hughes	0.2	0.2	0.2	0.2	0.2
Jackson	0.7	0.6	0.6	0.5	0.5
Kay	2.5	2.0	1.9	1.9	1.8
Kiowa	0.4	0.4	0.4	0.4	0.4
Le Flore	0.2	0.2	0.2	0.2	0.2
Lincoln	0.2	0.2	0.2	0.3	0.3
Logan	0.4	0.4	0.3	0.3	0.3
McCurtain	0.2	0.2	0.2	0.2	0.2
Mayes	0.2	0.2	0.2	0.2	0.2
Muskogee	3.1	3.0	2.8	2.6	2.4
Oklahoma	38.3	39.3	39.3	39.4	39.2
Okmulgee	1.2	1.2	1.1	1.0	0.9

TABLE 35--Continued

Selected Counties	1949	1950	1951	1952	1953
Osage	0.5	0.4	0.4	0.4	0.4
Ottawa	0.8	0.7	0.8	0.8	0.7
Payne	1.4	1.7	1.3	1.3	1.3
Pittsburg	1.1	0.9	0.9	1.0	1.0
Pontotoc	0.9	0.9	0.8	0.9	0.8
Pottawatomie	1.5	1.4	1.5	1.4	1.4
Seminole	1.1	1.0	0.9	0.9	0.9
Stephens	1.0	1.1	1.0	1.1	1.2
Texas	0.5	0.5	0.4	0.4	0.4
Tulsa	28.6	28.3	29.5	29.2	30.6
Washington	1.0	1.0	1.0	1.0	1.1
Woods	0.4	0.4	0.3	0.3	0.3
Woodward	0.6	0.6	0.5	0.5	0.5
Total	100.0	100.0	100.0	100.0	100.0

*Source: Computed from data in Oklahoma Employment Security Commission, County Employment Data, Oklahoma, 1949-1951 (Oklahoma City: Oklahoma Employment Security Commission, 1952), Table 3, pp. 16-55; Oklahoma Employment Security Commission, Oklahoma Labor Market, various issues.

Components do not always add to totals, because of rounding.

Patterns (OASI) series contains county data on wages and salaries in wholesale trade and wages and salaries in retail trade for the first quarter of each year, 1946-1948, and 1951. Detailed breakdowns are published for the state and four "large" counties (Garfield, Muskogee, Oklahoma, and Tulsa).

OASI data on wages and salaries in wholesale trade in the first quarter of 1951 were published for 72 individual counties in Oklahoma. The sum of the data for these counties was 86.3 percent of the OASI state total. The "statewide" figure for the first quarter of 1951 was 13.3 percent of the OASI state total. The remainder was insignificant. Percentages for the first quarter of each year, 1946-1948, and 1951 are shown in Table 36.

Table 37 shows the percentage distribution of OASI data on wages and salaries in wholesale trade in Oklahoma, by county, for the first quarter of each year, 1946-1948, and 1951. Percentages were obtained by dividing the amount for each county by the sum of the amounts for individual counties, shown separately in the source. The four "large" counties for which OASI data are published by industry group accounted for more than three-fourths of the sum of county data in the first quarter of 1951:

County	Sum of County Data
Garfield	3.0
Muskogee	2.7
Oklahoma	39.8
Tulsa	31.2
Total	76.7

TABLE 36

PERCENTAGE DISTRIBUTION OF OLD-AGE AND SURVIVORS INSURANCE DATA ON WAGES AND SALARIES IN WHOLESALE TRADE IN OKLAHOMA, FIRST QUARTER, 1946-1948, AND 1951*

First Quarter	State Total	Sum of County Data[1]	Statewide[2]	Remainder
1946	100.0	79.5	17.5	3.0
1947	100.0	80.1	19.7	0.2
1948	100.0	83.4	16.4	0.2
1951	100.0	86.5	13.3	0.2

*Source: Same as in Table 9.

[1]Equals sum of data for individual counties, shown separately in source.

[2]Includes amounts paid by reporting units without a fixed location within the state, or with employees in more than one county, or of unknown county locations.

TABLE 37

PERCENTAGE DISTRIBUTION OF OLD-AGE AND SURVIVORS INSURANCE DATA ON WAGES AND SALARIES IN WHOLESALE TRADE IN OKLAHOMA, BY COUNTY, FIRST QUARTER, 1946-1948, AND 1951*

County	1946	1947	1948	1951
Adair	-	0.2	0.2	0.2
Alfalfa	0.2	0.2	0.2	0.1
Atoka	-	0.2	0.1	a
Beaver	-	0.1	a	0.1
Beckham	0.4	0.4	0.4	0.4
Blaine	0.2	0.2	0.2	0.2
Bryan	0.5	0.5	0.5	0.5
Caddo	0.4	0.4	0.3	0.3
Canadian	0.8	0.5	0.3	0.3
Carter	2.6	1.4	1.3	1.0
Cherokee	-	0.1	0.1	0.1
Choctaw	-	0.3	0.2	0.2
Cimarron	-	0.1	0.1	0.1
Cleveland	-	0.4	0.4	0.3
Coal	-	-	a	-
Comanche	2.4	2.1	2.3	1.9
Cotton	0.1	0.1	0.2	0.1
Craig	0.3	0.3	0.2	0.2
Creek	0.4	0.4	0.4	0.4
Custer	1.3	0.9	0.8	1.0
Delaware	-	a	a	a
Dewey	-	0.1	0.1	a
Ellis	-	a	a	0.2
Garfield	3.6	3.0	3.4	3.0
Garvin	0.2	0.3	0.3	0.9
Grady	1.0	0.8	0.8	0.6
Grant	0.4	0.3	0.3	0.3
Greer	-	0.1	0.2	0.1
Harmon	-	0.1	0.1	a
Harper	-	0.1	0.1	0.1

TABLE 37--Continued

County	1946	1947	1948	1951
Haskell	-	a	0.1	0.1
Hughes	-	0.1	0.1	0.1
Jackson	0.8	0.7	0.6	0.4
Jefferson	-	0.1	0.1	0.1
Johnston	-	-	a	a
Kay	1.9	2.2	1.6	1.2
Kingfisher	0.2	0.1	0.1	0.1
Kiowa	0.8	0.7	0.6	0.4
Latimer	-	-	-	-
Le Flore	-	0.2	0.2	0.1
Lincoln	0.5	0.4	0.3	0.3
Logan	0.7	0.6	0.7	1.0
Love	-	a	a	-
McClain	-	a	0.1	a
McCurtain	-	0.2	0.2	0.1
McIntosh	-	0.1	0.1	a
Major	0.3	0.2	0.2	0.2
Marshall	0.1	0.1	0.1	0.1
Mayes	-	0.2	0.2	0.2
Murray	0.1	0.1	0.1	a
Muskogee	3.4	2.9	2.9	2.7
Noble	0.2	0.2	0.2	0.4
Nowata	-	0.2	0.2	0.2
Okfuskee	0.1	0.1	0.1	0.1
Oklahoma	35.7	35.4	36.6	39.8
Okmulgee	0.8	0.8	0.8	0.7
Osage	0.3	0.3	0.3	0.2
Ottawa	0.9	0.8	0.8	0.9
Pawnee	-	0.1	a	0.1
Payne	0.5	0.5	0.6	0.4

TABLE 37--Continued

County	1946	1947	1948	1951
Pittsburg	1.9	1.7	1.6	1.0
Pontotoc	0.7	0.7	0.6	0.5
Pottawatomie	1.1	1.4	1.4	0.9
Pushmataha	-	a	a	-
Roger Mills	-	a	a	-
Rogers	-	0.1	0.1	0.1
Seminole	1.4	1.3	1.1	1.2
Sequoyah	-	0.1	0.1	0.1
Stephens	0.8	0.8	0.9	0.9
Texas	0.3	0.3	0.3	0.3
Tillman	0.3	0.2	0.2	0.2
Tulsa	30.1	31.3	30.4	31.2
Wagoner	-	a	0.1	a
Washington	0.3	0.3	0.6	0.4
Washita	0.2	0.2	0.1	0.1
Woods	0.4	0.3	0.4	0.3
Woodward	0.5	0.4	0.4	0.4
Total	100.0	100.0	100.0	100.0

*Source: Same as in Table 9.

[a]Less than 0.05 percent.

Components do not always add to totals, because of rounding.

OASI data on wages and salaries in retail trade in the first quarter of 1951 were published for every county in Oklahoma. The sum of the county data was more than 99 percent of the OASI state total. The "statewide" figure is insignificant. Percentages for each year, 1946-1948, and 1951 are shown in Table 38.

Table 39 shows the percentage distribution of OASI data on wages and salaries in retail trade in Oklahoma, by county, for the first quarter of each year, 1946-1948, and 1951. Percentages were obtained by dividing the amount for each county by the sum of the amounts published for individual counties. The four "large" counties for which OASI data are published by industry group accounted for about half of the sum of the county data in the first quarter of 1951:

County	Percent
Garfield	3.4
Muskogee	2.9
Oklahoma	27.1
Tulsa	20.5
Total	53.9

Comparison of OESC and OASI wage and salary data.--The first quarter of 1951 is the only period for which both OESC and OASI data on wages and salaries in trade are published. The two sets of data are shown in Table 40. OASI figures were obtained by adding the data on wages and salaries in wholesale trade to those for retail trade.

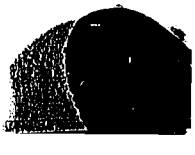

TABLE 38

PERCENTAGE DISTRIBUTION OF OLD-AGE AND SURVIVORS INSURANCE DATA ON WAGES AND SALARIES IN RETAIL TRADE IN OKLAHOMA, FIRST QUARTER, 1946-1948, AND 1951*

First Quarter	State Total	Sum of County Data[1]	Statewide[2]	Remainder
1946	100.0	97.2	2.6	0.2
1947	100.0	96.6	3.3	0.1
1948	100.0	96.5	3.4	0.1
1951	100.0	99.2	0.7	0.1

*Source: Same as in Table 9.

[1]Equals sum of data for individual counties, shown separately in source.

[2]Includes amounts paid by reporting units without a fixed location within the state, or with employees in more than one county, or of unknown county locations.

TABLE 39

PERCENTAGE DISTRIBUTION OF OLD-AGE AND SURVIVORS INSURANCE DATA ON WAGES AND SALARIES IN RETAIL TRADE IN OKLAHOMA, BY COUNTY, FIRST QUARTER, 1946-1948, AND 1951*

County	1946	1947	1948	1951
Adair	0.2	0.1	0.1	0.1
Alfalfa	0.2	0.3	0.3	0.3
Atoka	0.1	0.1	0.2	0.2
Beaver	0.1	0.1	0.2	0.1
Beckham	0.9	1.0	0.9	1.1
Blaine	0.5	0.5	0.5	0.5
Bryan	0.8	0.8	0.8	0.7
Caddo	0.9	0.9	0.9	0.8
Canadian	1.2	1.0	0.9	1.0
Carter	1.9	1.9	1.8	2.1
Cherokee	0.3	0.3	0.3	0.3
Choctaw	0.4	0.4	0.4	0.4
Cimarron	0.1	0.1	0.2	0.2
Cleveland	1.4	1.4	1.3	1.3
Coal	0.1	0.1	0.1	0.1
Comanche	2.4	2.1	1.8	2.5
Cotton	0.3	0.3	0.4	0.3
Craig	0.4	0.4	0.4	0.4
Creek	1.3	1.2	1.2	1.2
Custer	1.0	1.0	1.0	1.0
Delaware	a	a	a	0.1
Dewey	0.1	0.1	0.1	0.1
Ellis	0.2	0.2	0.2	0.2
Garfield	3.1	3.2	3.3	3.4
Garvin	0.8	0.9	0.8	0.7
Grady	1.2	1.3	1.3	1.2
Grant	0.2	0.2	0.3	0.2
Greer	0.3	0.3	0.3	0.3
Harmon	0.2	0.2	0.2	0.2
Harper	0.1	0.1	0.1	0.1

TABLE 39--Continued

County	1946	1947	1948	1951
Haskell	0.2	0.2	0.1	0.2
Hughes	0.6	0.5	0.5	0.4
Jackson	0.8	0.7	0.7	0.8
Jefferson	0.2	0.2	0.3	0.2
Johnston	0.1	0.1	0.1	0.1
Kay	2.2	2.3	2.3	2.7
Kingfisher	0.4	0.5	0.5	0.4
Kiowa	0.6	0.7	0.7	0.6
Latimer	0.1	0.1	0.1	0.1
Le Flore	0.4	0.4	0.4	0.4
Lincoln	0.6	0.5	0.5	0.6
Logan	0.7	0.7	0.6	0.7
Love	0.1	0.1	0.1	0.1
McClain	0.3	0.3	0.2	0.3
McCurtain	0.4	0.4	0.4	0.4
McIntosh	0.3	0.3	0.2	0.2
Major	0.2	0.3	0.3	0.3
Marshall	0.2	0.2	0.9	0.2
Mayes	0.5	0.4	0.4	0.3
Murray	0.2	0.3	0.3	0.4
Muskogee	3.4	3.3	3.1	2.9
Noble	0.6	0.5	0.4	0.5
Nowata	0.3	0.3	0.3	0.3
Okfuskee	0.3	0.4	0.3	0.3
Oklahoma	27.6	27.8	28.1	27.1
Okmulgee	1.4	1.4	1.5	1.5
Osage	0.8	0.8	0.8	0.8
Ottawa	1.3	1.3	1.2	1.2
Pawnee	0.3	0.2	0.2	0.3
Payne	1.6	1.8	1.7	1.8

TABLE 39--Continued

County	1946	1947	1948	1951
Pittsburg	1.3	1.2	1.2	1.1
Pontotoc	1.2	1.1	1.3	1.5
Pottawatomie	1.8	1.8	2.0	2.0
Pushmataha	0.1	0.2	0.2	0.1
Roger Mills	a	0.1	0.1	0.1
Rogers	0.4	0.3	0.4	0.4
Seminole	1.5	1.4	1.6	1.4
Sequoyah	0.1	0.1	0.1	0.2
Stephens	1.0	1.1	1.2	1.3
Texas	0.6	0.6	0.7	0.7
Tillman	0.7	0.7	0.6	0.6
Tulsa	20.8	20.7	20.3	20.5
Wagoner	0.3	0.3	0.2	0.2
Washington	1.1	1.2	1.2	1.3
Washita	0.4	0.4	0.4	0.3
Woods	0.6	0.6	0.6	0.5
Woodward	0.6	0.6	0.7	0.7
Total	100.0	100.0	100.1	100.1

*Source: Same as in Table 9.

[a]Less than 0.05 percent.

Components do not always add to totals, because of rounding.

TABLE 40

COMPARISON OF OKLAHOMA EMPLOYMENT SECURITY COMMISSION (OESC) AND OLD-AGE AND SURVIVORS INSURANCE (OASI) DATA ON WAGES AND SALARIES IN TRADE IN OKLAHOMA, BY COUNTY, FIRST QUARTER, 1951*

County	Thousands of Dollars		Percent of Sum of County Data[2]	
	OESC	OASI[1]	OESC	OASI
Adair	-	65	-	-
Alfalfa	-	141	-	-
Atoka	-	98	-	-
Beaver	-	78	-	-
Beckham	366	556	0.7	0.9
Blaine	-	256	-	-
Bryan	276	443	0.5	0.7
Caddo	-	445	-	-
Canadian	276	509	0.5	0.9
Carter	953	1,178	1.8	2.0
Cherokee	-	128	-	-
Choctaw	116	208	0.2	0.3
Cimarron	-	96	-	-
Cleveland	487	657	0.9	1.1
Coal	-	38	-	-
Comanche	1,103	1,513	2.1	2.5
Cotton	-	136	-	-
Craig	-	237	-	-
Creek	299	614	0.6	1.0
Custer	366	644	0.7	1.1
Delaware	-	55	-	-
Dewey	-	58	-	-
Ellis	-	115	-	-
Garfield	1,672	2,185	3.2	3.7
Garvin	298	534	0.6	0.9
Grady	517	689	1.0	1.2
Grant	-	161	-	-
Greer	-	158	-	-
Harmon	-	109	-	-
Harper	-	67	-	-

TABLE 40--Continued

County	Thousands of Dollars		Percent of Sum of County Data[2]	
	OESC	OASI[1]	OESC	OASI
Haskell	-	87	-	-
Hughes	105	205	0.2	0.3
Jackson	295	462	0.6	0.8
Jefferson	-	114	-	-
Johnston	-	43	-	-
Kay	1,030	1,459	2.0	2.4
Kingfisher	-	219	-	-
Kiowa	-	379	-	-
Latimer	-	38	-	-
Le Flore	101	202	0.2	0.3
Lincoln	-	319	-	-
Logan	183	508	0.4	0.8
Love	-	41	-	-
McClain	-	121	-	-
McCurtain	110	213	0.2	0.4
McIntosh	-	97	-	-
Major	-	167	-	-
Marshall	-	90	-	-
Mayes	86	183	0.2	0.3
Murray	-	172	-	-
Muskogee	1,410	1,898	2.7	3.2
Noble	-	295	-	-
Nowata	-	191	-	-
Okfuskee	-	132	-	-
Oklahoma	20,789	20,620	40.3	34.4
Okmulgee	557	828	1.1	1.4
Osage	232	421	0.4	0.7
Ottawa	411	712	0.8	1.2
Pawnee	-	150	-	-
Payne	686	933	1.3	1.6

TABLE 40--Continued

County	Thousands of Dollars		Percent of Sum of County Data[2]	
	OESC	OASI[1]	OESC	OASI
Pittsburg	455	717	0.9	1.2
Pontotoc	471	793	0.9	1.3
Pottawatomie	803	1,104	1.6	1.8
Pushmataha	-	68	-	-
Roger Mills	-	30	-	-
Rogers	-	198	-	-
Seminole	505	902	1.0	1.5
Sequoyah	-	84	-	-
Stephens	492	784	1.0	1.3
Texas	-	365	-	-
Tillman	-	330	-	-
Tulsa	15,184	15,836	29.4	26.5
Wagoner	-	90	-	-
Washington	518	681	1.0	1.1
Washita	-	164	-	-
Woods	178	290	0.3	0.5
Woodward	268	380	0.5	0.6
Total	51,598	66,286	100.0	100.0

*Source: U.S. Bureau of the Census and U.S. Bureau of Old-Age and Survivors Insurance, cooperative report, County Business Patterns, First Quarter, 1951, Part VIII, West South Central States (Washington: Government Printing Office, 1953), Tables 2-4, pp. 52-74; Oklahoma Employment Security Commission, Oklahoma Labor Market, September, 1951, Table 5, pp. 22-25.

[1]Figures were obtained by adding data on wages and salaries in wholesale trade to data on wages and salaries in retail trade.

[2]Counties for which both OESC and OASI data were available.

Components do not always add to totals, because of rounding.

Differences between OESC data on wages and salaries in trade and corresponding OASI data are attributable to several factors.[3] One of the basic factors is the difference in coverage. OESC data are limited to wages and salaries paid by firms with eight or more employees. OASI data include wages and salaries paid by firms with less than eight employees as well as those with eight or more. Because its coverage is more inclusive, OASI data might generally be expected to include a larger proportion of total wages and salaries in a given industry division in a given county.

The OASI state total for the first quarter of 1951 was $69.9 millions, compared with the corresponding OESC figure of $57.6 millions. There are 34 individual counties in Table 40 for which both OESC and OASI data are shown. The OASI figure is larger than the OESC figure in each of them except one (Oklahoma). The sum of the OESC data for these counties was $51.6 millions, compared with the corresponding OASI figure of $59.9 millions. "Statewide" wages and salaries account for about 5 percent of the state total in each series. For the first quarter of 1951, then, OASI data for these counties were more comprehensive than OESC

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[3]U.S. Bureau of the Census and U.S. Bureau of Old-Age and Survivors Insurance, cooperative report, County Business Patterns, First Quarter, 1951, Part VIII, West South Central States (Washington: Government Printing Office, 1953), pp. xii-xiii.

data.

The percentages in Table 40 were obtained for each set of data by dividing the amount for each of the 34 counties by the sum of the amounts for these counties. Practically the same pattern of distribution will be obtained by using either set of data, although OESC data show a larger proportion of the total concentrated in Oklahoma county and Tulsa county.

Recommended Procedure

Reliable county estimates of wages and salaries in trade in Oklahoma may be obtained on the basis of either OESC or OASI wage and salary data. It is recommended that the most recent OASI data be used.

The procedure is simple. Divide the amount for each county by the sum of the amounts shown for individual counties. The quotient is the percentage allocator. The estimate for each county is obtained by multiplying its percentage allocator by the National Income Division estimate.

The use of the sum of the county data as the divisor rather than the state total in computing the percentage allocators distributes "statewide" wages and salaries throughout the state in the same proportions as wages and salaries shown for individual counties. In the absence of information to the contrary, this method appears reasonable.

The use of OASI first quarter data to allocate the

annual estimate of the National Income Division will probably cause some error in the estimates for individual counties. Seasonal patterns are not necessarily the same for all counties. If we compare the pattern of distribution obtained on the basis of OESC data for the first quarter of 1951 with the one based on OESC annual data for 1951, we find that seasonal changes do not seriously distort the pattern of distribution. OESC data, of course, do not include firms with less than eight employees. In the absence of information to the contrary, it is not unreasonable to assume that firms with less than eight employees have seasonal patterns similar to those of firms with eight or more employees.

The most recent OASI data available at the present time are those for the first quarter of 1951. The use of these data to allocate the 1953 estimate of the National Income Division will introduce some additional error into the estimates as a result of changes in the pattern of distribution from 1951 to 1953. However, OESC data indicate that there have been no important changes in the pattern since 1951. County estimates for 1953 based on OASI wage and salary data for the first quarter of 1951 will be adequate for most purposes.

CHAPTER VIII

WAGES AND SALARIES IN FINANCE

"Finance" industries include banking, security and commodity brokers, insurance carriers, insurance agents, and real estate. The National Income Division estimate of wages and salaries in finance, insurance, and real estate consistently accounts for about 3 percent of total wages and salaries in Oklahoma. The estimate for 1953 was 3.2 percent of the total.

Sources of County Data

The two main sources of county data on wages and salaries in finance, insurance, and real estate are the Oklahoma Employment Security Commission (OESC) series and the County Business Patterns (OASI) series. Each of these two series also contains employment data on a county basis. The OASI series contains county data on the number of firms by employee-size class. The Census of Population is another source of county data on employment in finance, insurance, and real estate. Since adequate wage and salary data are available, employment data are not considered for this study.

OESC wage and salary data.--The Oklahoma Employment Security Commission (OESC) series contains county data on wages and salaries paid by finance, insurance, and real estate firms covered under the unemployment insurance program in Oklahoma. OESC state totals for each year, 1949-1953, are compared with National Income Division estimates in Table 41. The OESC figure was about 75 percent of the estimate each year. OESC data are limited to wages and salaries paid by firms with eight or more employees. If both figures for each year were correct, firms with less than eight employees probably accounted for the other 25 percent of the estimate.

OESC data on wages and salaries in finance, insurance, and real estate were published for 36 "selected" counties in 1953. The sum of the data for these counties was 94.5 percent of the OESC state total. "Statewide" wages and salaries amounted to 2.5 percent of the total. The remaining 3.0 percent apparently represents wages and salaries paid by firms located in the counties for which OESC data were not published. Percentages for each year, 1949-1953, are shown in Table 42.

Table 43 shows the percentage distribution of OESC data on wages and salaries in finance, insurance, and real estate among the "selected" counties for each year, 1949-1953. Percentages were obtained by dividing the amount for each "selected" county by the sum of the amounts for these



TABLE 41

WAGES AND SALARIES IN FINANCE, INSURANCE, AND REAL ESTATE IN OKLAHOMA, ACCORDING TO THE OKLAHOMA EMPLOYMENT SECURITY COMMISSION AND THE NATIONAL INCOME DIVISION, ANNUALLY, 1949-1953*

Year	Oklahoma Employment Security Commission (Millions of dollars)	National Income Division Estimate (Millions of dollars)	Oklahoma Employment Security Commission As a Percent of National Income Division Estimate
1949	30.6	41.0	74.6
1950	35.4	47.3	74.8
1951	39.0	51.9	75.1
1952	42.0	55.5	75.7
1953	45.7	60.4	75.7

*Source: Oklahoma Employment Security Commission, County Employment Data, Oklahoma, 1949-1951 (Oklahoma City: Oklahoma Employment Security Commission, 1952), Table 3, p. 16; Oklahoma Employment Security Commission, Oklahoma Labor Market, various issues; data provided through the courtesy of the United States Department of Commerce, National Income Division.

TABLE 42

PERCENTAGE DISTRIBUTION OF OKLAHOMA EMPLOYMENT SECURITY COMMISSION DATA ON WAGES AND SALARIES IN FINANCE, INSURANCE, AND REAL ESTATE IN OKLAHOMA, ANNUALLY, 1949-1953*

Year	State Total	Sum of County Data[1]	Statewide[2]	Remainder
1949	100.0	94.6	2.3	3.1
1950	100.0	95.0	2.3	2.7
1951	100.0	93.7	2.9	3.4
1952	100.0	94.1	2.6	3.3
1953	100.0	94.5	2.5	3.0

*Source: Computed from data in Oklahoma Employment Security Commission, County Employment Data, Oklahoma, 1949-1951 (Oklahoma City: Oklahoma Employment Security Commission, 1952), Table 3, pp. 16-55; Oklahoma Employment Security Commission, Oklahoma Labor Market, various issues.

[1]Equals sum of data for individual counties, shown separately in source.

[2]Includes amounts paid to statewide sales personnel with no permanent place of work and other types of roving employment, and all others whose place of work could not be determined.

TABLE 43

PERCENTAGE DISTRIBUTION OF OKLAHOMA EMPLOYMENT SECURITY COMMISSION DATA ON WAGES AND SALARIES IN FINANCE, INSURANCE, AND REAL ESTATE IN OKLAHOMA, SELECTED COUNTIES, ANNUALLY, 1949-1953*

Selected Counties	1949	1950	1951	1952	1953
Beckham	0.3	0.3	0.3	0.4	0.4
Bryan	0.3	0.2	0.2	0.2	0.2
Caddo	0.3	0.3	0.3	0.3	0.3
Canadian	0.4	0.4	0.5	0.5	0.5
Carter	0.7	0.7	0.6	0.7	0.6
Choctaw	0.3	0.2	0.2	0.2	0.2
Cleveland	0.5	0.4	0.5	0.5	0.5
Comanche	1.1	1.0	1.3	1.6	1.3
Creek	0.6	0.5	0.5	0.5	0.5
Custer	0.4	0.3	0.3	0.3	0.3
Garfield	1.5	1.3	1.4	1.5	1.5
Garvin	0.2	0.2	0.2	0.2	0.3
Grady	0.7	0.7	0.6	0.7	0.7
Hughes	-	-	-	-	-
Jackson	0.3	0.3	0.3	0.3	0.2
Kay	1.7	1.7	1.7	1.7	1.9
Kiowa	0.3	0.3	0.3	0.3	0.3
Le Flore	-	-	-	-	-
Lincoln	0.2	0.2	0.2	0.3	0.4
Logan	0.4	0.3	0.3	0.4	0.4
McCurtain	0.2	0.2	0.2	0.1	0.2
Mayes	0.2	0.2	0.2	0.2	0.2
Muskogee	2.4	2.5	2.5	2.4	2.5
Oklahoma	48.2	48.6	47.8	46.9	46.0
Okmulgee	0.8	0.7	0.7	0.7	0.7

TABLE 43--Continued

Selected Counties	1949	1950	1951	1952	1953
Osage	0.3	0.3	0.3	0.3	0.3
Ottawa	0.9	0.7	0.7	0.6	0.8
Payne	0.7	0.7	0.7	0.7	0.7
Pittsburg	0.6	0.6	0.6	0.6	0.6
Pontotoc	1.0	1.1	1.1	1.0	1.0
Pottawatomie	0.9	0.9	0.9	0.9	0.9
Seminole	0.8	0.7	0.7	0.7	0.6
Stephens	0.5	0.5	0.5	0.5	0.5
Texas	0.3	0.3	0.3	0.2	0.2
Tulsa	29.9	30.4	31.0	31.2	31.9
Washington	1.7	1.6	1.7	1.8	1.8
Woods	0.2	0.2	0.2	0.2	0.2
Woodward	0.3	0.2	0.3	0.3	0.3
Total	100.0	100.0	100.0	100.0	100.0

*Source: Computed from data in Oklahoma Employment Security Commission, County Employment Data, Oklahoma, 1949-1951 (Oklahoma City: Oklahoma Employment Security Commission, 1952), Table 3, pp. 16-55; Oklahoma Employment Security Commission, Oklahoma Labor Market, various issues.

Components do not always add to totals, because of rounding.

counties. The pattern of distribution remained practically unchanged from 1949 through 1953. The stability of the pattern indicates that estimates for these counties based on OASI data for the first quarter of 1951 would not be seriously affected by the absence of more recent data.

OASI wage and salary data.--The County Business Patterns (OASI) series contains county data on wages and salaries in finance, insurance, and real estate for the first quarter of each year, 1946-1948, and 1951. Detailed breakdowns are published for the state and four "large" counties (Garfield, Muskogee, Oklahoma, and Tulsa).

Data for the first quarter of 1951 were published for 75 individual counties in Oklahoma. The sum of the data for these counties was 92.3 percent of the OASI state total. The "statewide" figure for the first quarter of 1951 was 7.3 percent of the total. The 2 counties for which data were not published individually accounted for 0.4 percent of the total. Percentages for the first quarter of each year, 1946-1948, and 1951 are shown in Table 44.

Table 45 shows the percentage distribution of OASI data on wages and salaries in finance, insurance, and real estate in Oklahoma, by county, for the first quarter of each year, 1946-1948, and 1951. Percentages were obtained by dividing the amount for each county by the sum of the amounts for individual counties, shown separately in the source. The four "large" counties for which OASI data are published

TABLE 44

PERCENTAGE DISTRIBUTION OF OLD-AGE AND SURVIVORS INSURANCE DATA ON WAGES AND SALARIES IN FINANCE, INSURANCE, AND REAL ESTATE IN OKLAHOMA, FIRST QUARTER, 1946-1948, AND 1951*

First Quarter	State Total	Sum of County Data[1]	Statewide[2]	Remainder
1946	100.0	87.3	9.8	2.9
1947	100.0	91.2	8.2	0.6
1948	100.0	91.6	7.8	0.6
1951	100.0	92.3	7.3	0.4

*Source: Same as in Table 9.

[1]Equals sum of data for individual counties, shown separately in source.

[2]Includes amounts paid by reporting units without a fixed location within the state, or with employees in more than one county, or of unknown county locations.

TABLE 45

PERCENTAGE DISTRIBUTION OF OLD-AGE AND SURVIVORS INSURANCE DATA ON WAGES AND SALARIES IN FINANCE, INSURANCE, AND REAL ESTATE IN OKLAHOMA, BY COUNTY, FIRST QUARTER, 1946-1948, AND 1951*

County	1946	1947	1948	1951
Adair	-	0.1	0.1	0.1
Alfalfa	-	0.2	0.2	0.2
Atoka	-	0.1	0.1	0.1
Beaver	-	0.1	0.1	0.1
Beckham	0.5	0.4	0.4	0.5
Blaine	-	0.3	0.3	0.3
Bryan	0.5	0.4	0.4	0.3
Caddo	0.7	0.5	0.6	0.5
Canadian	0.6	0.6	0.6	0.5
Carter	1.3	1.3	0.9	1.0
Cherokee	-	0.2	0.1	0.1
Choctaw	-	0.2	0.2	0.1
Cimarron	-	0.1	0.1	0.1
Cleveland	0.8	0.7	0.8	0.7
Coal	-	0.1	0.1	0.1
Comanche	1.5	1.5	1.4	1.5
Cotton	-	0.1	0.1	0.1
Craig	-	0.3	0.3	0.2
Creek	1.0	1.0	1.1	0.8
Custer	0.5	0.4	0.4	0.5
Delaware	-	0.1	0.1	0.1
Dewey	-	0.1	0.1	0.1
Ellis	-	0.1	0.1	0.1
Garfield	2.1	1.9	1.9	1.9
Garvin	0.7	0.7	0.6	0.6
Grady	0.9	0.8	0.9	0.8
Grant	-	0.2	0.2	0.2
Greer	-	0.2	0.2	0.1
Harmon	-	0.1	0.1	0.1
Harper	-	0.2	0.2	0.2

TABLE 45--Continued

County	1946	1947	1948	1951
Haskell	-	-	-	-
Hughes	-	0.4	0.3	0.3
Jackson	0.5	0.4	0.4	0.4
Jefferson	-	0.2	0.2	0.2
Johnston	-	-	-	-
Kay	2.3	2.1	2.1	1.9
Kingfisher	-	0.3	0.2	0.2
Kiowa	0.5	0.4	0.4	0.4
Latimer	-	a	0.1	0.1
Le Flore	-	0.3	0.4	0.3
Lincoln	0.7	0.5	0.5	0.4
Logan	0.7	0.6	0.5	0.5
Love	-	0.1	0.1	0.1
McClain	-	0.3	0.2	0.2
McCurtain	-	0.4	0.2	0.2
McIntosh	-	0.2	0.2	0.1
Major	-	0.2	0.2	0.2
Marshall	0.2	0.1	0.2	0.1
Mayes	0.3	0.2	0.2	0.2
Murray	0.2	0.2	0.2	0.1
Muskogee	3.2	2.8	2.9	2.5
Noble	0.3	0.2	0.3	0.3
Nowata	0.2	0.2	0.2	0.2
Okfuskee	0.3	0.3	0.3	0.2
Oklahoma	39.5	38.4	39.1	39.9
Okmulgee	0.9	0.7	0.8	0.8
Osage	0.5	0.5	0.5	0.4
Ottawa	1.1	1.0	1.1	0.8
Pawnee	-	0.2	0.2	0.2
Payne	1.0	1.3	1.0	1.0

TABLE 45--Continued

County	1946	1947	1948	1951
Pittsburg	0.9	0.7	0.7	0.6
Pontotoc	1.8	1.4	1.1	1.2
Pottawatomie	1.3	1.3	1.3	1.2
Pushmataha	-	0.1	0.1	0.1
Roger Mills	-	0.1	0.1	0.1
Rogers	-	0.3	0.3	0.3
Seminole	1.3	1.1	1.1	1.0
Sequoyah	-	0.1	0.1	0.1
Stephens	0.8	0.7	0.7	0.8
Texas	-	0.4	0.3	0.3
Tillman	-	0.3	0.3	0.2
Tulsa	28.4	24.8	25.3	26.9
Wagoner	-	0.2	0.2	0.2
Washington	2.2	2.0	1.9	1.6
Washita	-	0.3	0.3	0.3
Woods	-	0.4	0.3	0.4
Woodward	-	0.4	0.4	0.3
Total	100.0	100.0	100.0	100.0

*Source: Same as in Table 9.

[a]Less than 0.05 percent.

Components do not always add to totals, because of rounding.

by industry group accounted for more than 70 percent of the total for the first quarter of 1951:

County	Percent of Sum of County Data
Garfield	1.9
Muskogee	2.5
Oklahoma	39.9
Tulsa	26.9
Total	71.2

Comparison of OESC and OASI wage and salary data.--The first quarter of 1951 is the only period for which we have both OESC and OASI county data on wages and salaries in finance, insurance, and real estate. The two sets of data are shown in Table 46.

The OESC state total, which did not include wages and salaries paid by firms with less than eight employees, was $9.1 millions, 76.8 percent of the OASI state total, which did include wages and salaries paid by these small firms. There are 26 counties in Table 46 for which both OESC and OASI data are shown. The sum of the OESC data for these counties was $8.3 millions, 83.8 percent of the corresponding OASI figure. "Statewide" wages and salaries accounted for 4.3 percent of the OESC state total and 7.3 percent of the OASI state total.

The OASI figure is larger than the OESC figure in each of the 26 counties except one (Choctaw). OASI data for the first quarter of 1951 were more complete than OESC data for the same period.

TABLE 46

COMPARISON OF OKLAHOMA EMPLOYMENT SECURITY COMMISSION (OESC) AND OLD-AGE AND SURVIVORS INSURANCE (OASI) DATA ON WAGES AND SALARIES IN FINANCE, INSURANCE, AND REAL ESTATE IN OKLAHOMA, BY COUNTY, FIRST QUARTER, 1951*

County	Thousands of Dollars		Percent of Sum of County Data[1]	
	OESC	OASI	OESC	OASI
Adair	-	11	-	-
Alfalfa	-	20	-	-
Atoka	-	13	-	-
Beaver	-	10	-	-
Beckham	24	58	0.3	0.6
Blaine	-	28	-	-
Bryan	-	33	-	-
Caddo	-	59	-	-
Canadian	38	57	0.5	0.6
Carter	53	114	0.6	1.2
Cherokee	-	15	-	-
Choctaw	17	16	0.2	0.2
Cimarron	-	12	-	-
Cleveland	38	75	0.5	0.8
Coal	-	6	-	-
Comanche	84	165	1.0	1.7
Cotton	-	12	-	-
Craig	-	24	-	-
Creek	43	88	0.5	0.9
Custer	26	60	0.3	0.6
Delaware	-	6	-	-
Dewey	-	13	-	-
Ellis	-	12	-	-
Garfield	110	208	1.3	2.1
Garvin	18	64	0.2	0.6
Grady	54	88	0.7	0.9
Grant	-	20	-	-
Greer	-	16	-	-
Harmon	-	10	-	-
Harper	-	18	-	-

TABLE 46--Continued

County	Thousands of Dollars		Percent of Sum of County Data[1]	
	OESC	OASI	OESC	OASI
Haskell	-	-	-	-
Hughes	-	30	-	-
Jackson	-	40	-	-
Jefferson	-	25	-	-
Johnston	-	-	-	-
Kay	149	213	1.8	2.2
Kingfisher	-	20	-	-
Kiowa	-	39	-	-
Latimer	-	9	-	-
Le Flore	-	35	-	-
Lincoln	-	49	-	-
Logan	-	60	-	-
Love	-	8	-	-
McClain	-	22	-	-
McCurtain	-	26	-	-
McIntosh	-	11	-	-
Major	-	19	-	-
Marshall	-	14	-	-
Mayes	-	24	-	-
Murray	-	12	-	-
Muskogee	191	279	2.3	2.8
Noble	-	29	-	-
Nowata	-	23	-	-
Okfuskee	-	24	-	-
Oklahoma	4,127	4,379	49.8	44.3
Okmulgee	62	87	0.7	0.9
Osage	26	45	0.3	0.5
Ottawa	51	86	0.6	0.9
Pawnee	-	21	-	-
Payne	59	109	0.7	1.1

TABLE 46--Continued

County	Thousands of Dollars		Percent of Sum of County Data[1]	
	OESC	OASI	OESC	OASI
Pittsburg	52	71	0.6	0.7
Pontotoc	84	132	1.0	1.3
Pottawatomie	59	130	0.7	1.3
Pushmataha	-	11	-	-
Roger Mills	-	7	-	-
Rogers	-	28	-	-
Seminole	51	107	0.6	1.1
Sequoyah	-	8	-	-
Stephens	40	90	0.5	0.9
Texas	-	34	-	-
Tillman	-	27	-	-
Tulsa	2,657	2,951	32.1	29.8
Wagoner	-	17	-	-
Washington	146	181	1.8	1.8
Washita	-	31	-	-
Woods	-	41	-	-
Woodward	27	36	0.3	0.4
Total	8,286	10,971	100.0	100.0

*Source: U.S. Bureau of the Census and U.S. Bureau of Old-Age and Survivors Insurance, cooperative report, County Business Patterns, First Quarter, 1951, Part VIII, West South Central States (Washington: Government Printing Office, 1953), Tables 2-4, pp. 52-74; Oklahoma Employment Security Commission, Oklahoma Labor Market, September, 1951, Table 5, pp. 22-25.

[1]Counties for which both OESC and OASI data were available.

Components do not always add to totals, because of rounding.

Recommended Procedure

It is recommended that the most recent OASI wage and salary data be used to allocate the National Income Division estimate of wages and salaries in finance, insurance, and real estate. The procedure involves two steps. First, divide the amount for each county by the sum of the amounts for individual counties, shown separately in the source. The quotient is the percentage allocator. Second, multiply the percentage allocator by the National Income Division estimate to obtain the estimate for each county.

The use of the sum of the county data as the divisor rather than the state total in computing the percentage allocators distributes "statewide" wages and salaries throughout the state in the same proportions as wages and salaries shown for individual counties. In the absence of information to the contrary, this method appears reasonable.

Since seasonal patterns are not necessarily the same for all counties, estimates based on first quarter data may not reflect the same pattern of distribution that would be obtained if annual data were used. Furthermore, since OASI data are not available on a current basis, some error may arise in the estimates as a result of shifts in the pattern of distribution between the most recent year for which the data are available and the year for which estimates are being prepared.

The use of a combined allocator might be considered.



It is doubtful that such efforts would improve the accuracy of the estimates. Actually, either OESC or OASI data may be used alone, and errors will not be of practical importance. Wages and salaries in finance, insurance, and real estate account for a relatively small percent of total wages and salaries in Oklahoma.

CHAPTER IX

WAGES AND SALARIES IN GOVERNMENT

Government was the largest source of wage and salary payments in Oklahoma each year, 1951-1953, annually accounting for about one-fifth of total wages and salaries in the state. The National Income Division estimate for 1953 was $400.0 millions, 21.2 percent of the total. Nationally, government wages and salaries accounted for 16.9 percent of total wages and salaries in 1953.[1]

National Income Division estimates of government wages and salaries in Oklahoma are broken down into four categories: federal civilian payrolls, military net pay,[2] state and local school payrolls, and state and local nonschool payrolls. Estimates for each year, 1949-1953, are shown in Table 47. The percentage distribution of government wages and salaries in Oklahoma for each year, 1949-1953, is shown in Table 48.

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[1]Computed from data in U.S. Department of Commerce, National Income, 1954 Edition (Washington: Government Printing Office, 1954), Table 15, pp. 180-181.

[2]Includes pay of the armed forces (net of contributions to family-allowance payments and of voluntary allotments of pay to individuals), allocated by states in terms of state of duty.

TABLE 47

WAGES AND SALARIES IN GOVERNMENT IN OKLAHOMA, ANNUALLY, 1949-1953*
(Millions of dollars)

	1949	1950	1951	1952	1953
Government wages and salaries	228.6	260.7	330.3	382.6	400.0
Federal civilian payrolls	98.1	109.9	147.8	165.2	166.1
Military net pay	24.0	33.1	52.5	72.4	73.1
State and local school	59.6	66.3	74.2	83.4	91.6
State and local nonschool	46.9	51.4	55.8	61.6	69.2

*Source: Data provided through the courtesy of the U.S. Department of Commerce, National Income Division.

TABLE 48

PERCENTAGE DISTRIBUTION OF WAGES AND SALARIES IN GOVERNMENT IN OKLAHOMA, ANNUALLY, 1949-1953*

	1949	1950	1951	1952	1953
Government wages and salaries	100.0	100.0	100.0	100.0	100.0
Federal civilian payrolls	42.9	42.2	44.7	43.2	41.5
Military net pay	10.5	12.7	15.9	18.9	18.3
State and local school	26.1	25.4	22.5	21.8	22.9
State and local nonschool	20.5	19.7	16.9	16.1	17.3

*Source: Computed from data in Table 47.

Sources of County Data

There is no single source of county data on employment or payrolls in all four government categories. Prior to the Social Security Act Amendments of 1950 all government employees were excluded from the coverage of the old-age and survivors insurance (OASI) program. As a result of these Amendments and others in 1954, the coverage of that program has been broadened so as to include some government employees. However, available OASI data do not include these persons.

Government workers are completely excluded from the coverage of the unemployment insurance program in Oklahoma. Oklahoma Employment Security Commission (OESC) data, therefore, do not provide a basis for allocating the National Income Division estimate of government wages and salaries.

The Census of Population contains county data on the number of employed persons classified as "government workers". The Census defines government workers as "persons who worked for any governmental unit (federal, state, or local), regardless of the activity which the particular agency carried on."[3] However, persons on active duty in the armed forces are not included.[4]

In the absence of more reliable information, data

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[3]U.S. Bureau of the Census, U.S. Census of Population: 1950. Vol. II, Characteristics of the Population, Part 36, Oklahoma, Chapter B (Washington: Government Printing Office, 1952), p. xiii.

[4]Ibid., p. x.

from the most recent Census of Population on the number of government workers employed in each county may be used as the allocator for total wages and salaries in government. This procedure assumes (1) that members of the armed forces are stationed throughout the state in the same proportions as other government workers, (2) that average annual earnings per employee are the same in every county, and (3) that there have been no shifts in the pattern of distribution since the Census year.

If there is any way to determine the distribution of members of the armed forces or their payrolls, the first assumption may be avoided by allocating the National Income Division estimate of military net pay separately. The sum of federal civilian payrolls, state and local school payrolls, and state and local nonschool payrolls may then be sllocated on the basis of the foregoing Census data. Estimates obtained in this manner will probably be more useful, particularly if a state has a few large military establishments, or where the number of military personnel and the number of civilian employees are not closely related.

The Census of Population also contains county data on the number of persons employed in "educational services, government", which may be used to allocate the National Income Division estimate of state and local school payrolls. If more reliable data are available for allocating this estimate (as is the case for Oklahoma), the number of employed

persons in "educational services, government" might be subtracted from the number of "government workers" in each county. The difference between the two figures would represent the number of federal, state, and local government employees in each county, excepting those in educational services. These figures might then be used to allocate the sum of federal civilian payrolls and state and local nonschool payrolls.

It is questionable whether Census data are reliable enough to make such manipulations of the data worth while. The limitations of Census data are due mainly to the fact that they are based on household interviews and that they are not comparable with data derived from other sources, particularly employer reports. If other data are not available, Census data must be used in spite of their inadequacies.

Federal civilian payrolls.--The National Income Division estimate of federal civilian payrolls in Oklahoma in 1953 was $166.1 millions, 41.5 percent of government wages and salaries and 8.8 percent of total wages and salaries.

The report of the Joint Committee on Reduction of Nonessential Federal Expenditures, Congress of the United States, entitled Federal Civilian Employment, 1950 contains county data on the number of federal civilian employees in each state.[5] This is commonly referred to as the "Byrd

[5]U.S. Congress, Joint Committee on Reduction of Nonessential Federal Expenditures, Federal Civilian Employment: 1950, Senate Committee Print, 82nd Congress, 1st Session (Washington: Government Printing Office, 1950).

report". Employment figures are shown by county for each of the departments and agencies listed below. State totals for Oklahoma in 1950 were as follows:

Department or Agency	Number of Employees
Agriculture Department	896
Commerce Department	561
Interior Department	2,184
Justice Department	372
Post Office Department	5,501
Treasury Department	618
National Military Establishment	16,702
Federal Security Agency	70
General Services Administration	105
Housing and Home Finance Agency	158
Veterans Administration	1,739
Other Agencies	263
Total	29,169

Table 49 shows the percentage distribution of federal civilian employees in Oklahoma, by county, in 1950. These data provide the most useful basis available at the present time for allocating the National Income Division estimate of federal civilian payrolls in Oklahoma. The use of these data involves two assumptions: (1) that the pattern of distribution has not changed since 1950, and (2) that average annual wages per employee are the same in every county. Although estimates for individual counties may be too large or too small, the pattern of distribution of federal civilian payrolls obtained in this manner is more complete and probably more reliable than can be obtained from any other available information.

TABLE 49

FEDERAL CIVILIAN EMPLOYMENT IN OKLAHOMA, BY COUNTY, 1950*

County	Number of Employees	Percent of Total
Adair	28	0.1
Alfalfa	53	0.2
Atoka	33	0.1
Beaver	36	0.1
Beckham	69	0.2
Blaine	64	0.2
Bryan	85	0.3
Caddo	298	1.0
Canadian	435	1.5
Carter	147	0.5
Cherokee	150	0.5
Choctaw	65	0.2
Cimarron	19	0.1
Cleveland	89	0.3
Coal	27	0.1
Comanche	1,454	5.0
Cotton	29	0.1
Craig	54	0.2
Creek	103	0.4
Custer	114	0.4
Delaware	42	0.1
Dewey	50	0.2
Ellis	46	0.2
Garfield	648	2.2
Garvin	78	0.3
Grady	103	0.4
Grant	46	0.2
Greer	38	0.1
Harmon	30	0.1
Harper	25	0.1

TABLE 49--Continued

County	Number of Employees	Percent of Total
Haskell	39	0.1
Hughes	63	0.2
Jackson	144	0.5
Jefferson	40	0.1
Johnston	52	0.2
Kay	317	1.1
Kingfisher	54	0.2
Kiowa	76	0.3
Latimer	21	0.1
Le Flore	251	0.9
Lincoln	66	0.2
Logan	86	0.3
Love	25	0.1
McClain	44	0.2
McCurtain	109	0.4
McIntosh	59	0.2
Major	38	0.1
Marshall	27	0.1
Mayes	111	0.4
Murray	54	0.2
Muskogee	1,203	4.1
Noble	43	0.1
Nowata	36	0.1
Okfuskee	44	0.2
Oklahoma	16,071	55.1
Okmulgee	118	0.4
Osage	161	0.6
Ottawa	155	0.5
Pawnee	136	0.5
Payne	207	0.7

TABLE 49--Continued

County	Number of Employees	Percent of Total
Pittsburg	1,293	4.4
Pontotoc	90	0.3
Pottawatomie	187	0.6
Pushmataha	42	0.1
Roger Mills	48	0.2
Rogers	91	0.3
Seminole	90	0.3
Sequoyah	42	0.1
Stephens	86	0.3
Texas	60	0.2
Tillman	53	0.2
Tulsa	2,334	8.0
Wagoner	35	0.1
Washington	211	0.7
Washita	59	0.2
Woods	51	0.2
Woodward	89	0.3
Total	29,169	100.0

*Source: U.S. Congress, Senate, Joint Committee on Reduction of Nonessential Federal Expenditures, Federal Civilian Employment, 1950, U.S. Senate, 82d Cong., 1st Sess. (Washington: Government Printing Office, 1950), pp. 59-60.

Components do not always add to totals, because of rounding.

Estimates for counties where large military establishments are located may be too large or too small due to relatively sudden changes in employment levels. Otherwise, the pattern of distribution will be adequate for most purposes. The distribution of Post Office workers throughout the state, for example, probably has not changed in any important degree since 1950. However, there are no data available to test the validity of this assumption.

Military net pay.--The National Income Division estimate of military net pay in Oklahoma in 1953 was $73.1 millions, 18.3 percent of government wages and salaries and 3.9 percent of total wages and salaries. There are no data available for preparing county estimates. The use of county data on federal civilian employment in military establishments from the Byrd report is not satisfactory since there is no necessary relation between the number of civilian employees and the number of military personnel at a given base. In the absence of any data, it is recommended that the estimate of military net pay be allocated to the counties where military installations are located on the basis of unofficial estimates of the average number of military personnel stationed at each of them during the year for which estimates are being prepared. This method is far from satisfactory.

State and local school payrolls.--The National Income Division estimate of state and local school payrolls in Oklahoma in 1953 was $91.6 millions, 22.9 percent of government

wages and salaries and 4.8 percent of total wages and salaries.

The Finance Division of the State Department of Education prepares county data annually on total salaries paid to superintendents, principals, and classroom teachers in the public schools during the fiscal year ending June 30. The state total for the fiscal year ending June 30, 1953, was $62.8 millions. The state total for the fiscal year ending June 30, 1954, was $68.7 millions. If the total for the calendar year 1953 is approximated by averaging these two figures, the result is $65.8 millions, compared with the National Income Division estimate of state and local school payrolls of $91.6 millions. Part of the difference may be explained by the fact that the National Income Division estimates the earnings of all public school employees, including administrative, clerical, maintenance, transportation, etc., whereas the State Department of Education figures include only amounts paid to superintendents, principals, and classroom teachers. The percentage distribution, by county, of the data for the fiscal year ending June 30, 1954, is shown in Table 50.

The data prepared by the State Department of Education provide a useful basis for allocating the National Income Division estimate of state and local school payrolls. County estimates for the calendar year 1953 may be based on the data for the fiscal year 1953-54. This procedure involves



TABLE 50

TOTAL SALARIES PAID TO SUPERINTENDENTS, PRINCIPALS, AND CLASSROOM TEACHERS IN OKLAHOMA PUBLIC SCHOOLS, BY COUNTY, FOR THE FISCAL YEAR ENDING JUNE 30, 1954*

County	Amount (Thousands of dollars)	Percent of Total
Adair	529	0.8
Alfalfa	404	0.6
Atoka	526	0.8
Beaver	283	0.4
Beckham	725	1.1
Blaine	566	0.8
Bryan	933	1.4
Caddo	1,177	1.7
Canadian	697	1.0
Carter	1,203	1.7
Cherokee	569	0.8
Choctaw	630	0.9
Cimarron	187	0.3
Cleveland	943	1.4
Coal	264	0.4
Comanche	1,459	2.1
Cotton	332	0.5
Craig	482	0.7
Creek	1,269	1.8
Custer	691	1.0
Delaware	524	0.8
Dewey	326	0.5
Ellis	240	0.3
Garfield	1,330	1.9
Garvin	1,024	1.5
Grady	1,147	1.7
Grant	404	0.6
Greer	424	0.6
Harmon	283	0.4
Harper	217	0.3

TABLE 50--Continued

County	Amount (Thousands of dollars)	Percent of Total
Haskell	419	0.6
Hughes	683	1.0
Jackson	632	0.9
Jefferson	413	0.6
Johnston	409	0.6
Kay	1,537	2.2
Kingfisher	470	0.7
Kiowa	659	1.0
Latimer	319	0.5
Le Flore	1,234	1.8
Lincoln	784	1.1
Logan	671	1.0
Love	285	0.4
McClain	521	0.8
McCurtain	1,133	1.6
McIntosh	615	0.9
Major	292	0.4
Marshall	244	0.4
Mayes	670	1.0
Murray	365	0.5
Muskogee	1,906	2.8
Noble	439	0.6
Nowata	443	0.6
Okfuskee	620	0.9
Oklahoma	9,085	13.2
Okmulgee	1,293	1.9
Osage	991	1.4
Ottawa	962	1.4
Pawnee	433	0.6
Payne	1,080	1.6

TABLE 50--Continued

County	Amount (Thousands of dollars)	Percent of Total
Pittsburg	1,310	1.9
Pontotoc	931	1.4
Pottawatomie	1,367	2.0
Pushmataha	410	0.6
Roger Mills	196	0.3
Rogers	650	0.9
Seminole	1,145	1.7
Sequoyah	747	1.1
Stephens	1,203	1.7
Texas	579	0.8
Tillman	590	0.9
Tulsa	7,265	10.6
Wagoner	538	0.8
Washington	1,015	1.5
Washita	533	0.8
Woods	446	0.6
Woodward	427	0.6
Total	68,747	100.0

*Source: The Twenty-fifty Biennial Report of the State Department of Education of Oklahoma (Oklahoma City: State Board of Education of Oklahoma, 1954), Table F-12, pp. 334-339.

two assumptions: (1) that the pattern of distribution for the fiscal year is the same as that for the calendar year, and (2) that wages and salaries paid to public school employees other than superintendents, principals, and classroom teachers are distributed throughout the state in the same proportions as those paid to these two groups.[6]

State and local nonschool payrolls.--The National Income Division estimate of state and local nonschool payrolls in Oklahoma in 1953 was $69.2 millions, 17.3 percent of government wages and salaries and 3.7 percent of total wages and salaries. The "nonschool" estimate includes wages and salaries paid to employees of state-supported institutions of higher education as well as to other employees of state, county, and municipal governments.

The annual State Distribution of Public Employment series prepared by the United States Bureau of the Census contains information on a state basis relating to the October payrolls of state and local governments. October payrolls in Oklahoma in 1953 were as follows:[7]

Type of Government	Millions of Dollars	Percent of Total
State	4.4	53.6
Counties	1.6	19.1
Cities	2.3	27.3
Total	8.3	100.0

[6]It is doubtful that important differences will result from these assumptions. The calendar year pattern may be approximated by averaging the figures for fiscal year 1952-53 with those for 1953-54.

[7]U.S. Department of Commerce, Bureau of the Census,

These data provide a possible basis for dividing the National Income Division estimate of state and local non-school payrolls into three parts: (1) state payrolls, (2) county payrolls, and (3) city payrolls. Each part may then be allocated separately on the basis of available county data. If the percentages shown in the table above are applied to the National Income Division estimate for 1953, the following figures are obtained:

Type of Government	Millions of Dollars
State	37.1
Counties	13.2
Cities	18.9
Total	69.2

This procedure assumes that annual payrolls are distributed by type of government in the same proportions as those for October.

The Census Bureau obtains the basic data for this series by means of mail survey of sample governmental units. The sample includes all state governments and state agencies, all cities of over 10,000 inhabitants, and about half of the counties in the nation.[8] The series does not contain data on a county basis.

The Budget of the state of Oklahoma for the fiscal years ending June 30, 1956 and 1957 shows the amount of

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State Distribution of Public Employment in 1953 (Washington: Government Printing Office, April 19, 1954), Table 7, p. 19.

[8] Ibid., pp. 7-10 and 31-32.

expenditures for "personal services" for each state agency during the fiscal years ending June 30, 1953 and 1954. Payments for professional services are included in these amounts. Totals for the two years were $43.2 and $51.5 millions, respectively. If the total for the calendar year 1953 is approximated by averaging these two figures, the result is $47.4 millions, compared with $37.1 millions shown above. There are three possible reasons for the difference. First, the National Income Division estimate includes only wage and salary payments; it does not include payments for professional services. Second, the National Income Division estimate of state and local nonschool payrolls in 1953 may be too small. And third, percentages obtained by using the October payroll figures of the Bureau of the Census may not reflect the actual distribution of annual payrolls by type of government. Available data do not permit any final conclusions on the matter. For the purpose of this study it may be assumed that the National Income Division estimate and the distribution by type of government based on data from the State Distribution of Public Employment series are satisfactory.

Although information about the wage and salary expenditures of state agencies is not available on a county basis, a large part of the state total can be allocated to various counties by determining the location of individual agencies or institutions. For example, payments made by

institutions of higher education for personal services during the fiscal year ending June 30, 1954, amounted to $20.6 millions, almost 40 percent of the state total. The counties where these institutions are located are easily determined. The Budget itself contains much helpful information in this respect. The remaining part of the state total might be allocated on the basis of population.

Every county, city, and town in Oklahoma is required to file an annual "Financial Statement and Estimate of Needs" in the Office of the State Auditor, Clerk of the Court of Tax Review, Capitol Building, Oklahoma City, Oklahoma. The statements are prepared for the fiscal year ending June 30. Wage and salary figures in these statements provide a possible basis for preparing county estimates of local nonschool payrolls. However, the problems involved in determining the total amount of wages and salaries paid by the various governmental units in each county prevent the use of information from this source at the present time.

The United States Bureau of the Census prepares an annual City Employment series which shows the October payroll of each city having 10,000 or more inhabitants. The data in this series provide a possible basis for distributing part of the National Income Division estimate of state and local nonschool payrolls among the counties in which these cities are located.

Until better data become available, however, it is

recommended that the National Income Division estimate of state and local nonschool payrolls be allocated on the basis of population. This method will result in understatement of the estimates for counties where large state institutions are located. Better data are needed. However, the estimate of state and local nonschool payrolls in Oklahoma in 1953 was only 3.7 percent of total wages and salaries. Errors involved in allocating this amount will not seriously affect the pattern of distribution of total wages and salaries in the state.

CHAPTER X

WAGES AND SALARIES IN SERVICE AND MISCELLANEOUS

Service

The National Income Division estimate of wages and salaries in service in Oklahoma in 1953 was $143.4 millions, 7.6 percent of total wages and salaries. There has been little change in the relative importance of service payrolls since 1946. The various service industries are:

Hotels and other lodging places
Personal services
Private households
Commercial and trade schools and employment agencies
Business services, n.e.c.
Miscellaneous repair services and hand trades
Motion pictures
Amusement and recreation, except motion pictures
Medical and other health services
Legal services
Engineering and other professional services, n.e.c.
Educational services, n.e.c.
Nonprofit membership organizations, n.e.c.[1]

The National Income Division obtains its estimate of total wages and salaries in service by adding together separate estimates for covered and noncovered industries. The

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[1]U.S. Department of Commerce, National Income, 1954 Edition (Washington: Government Printing Office, 1954), Exhibit 1, p. 66.

preparation of estimates for covered industries relies heavily on unemployment insurance data, supplemented by old-age and survivors insurance data. Estimates for noncovered industries are based on information from various sources. For example, estimates of the total cash pay of domestic servants are obtained as the product of employment and average annual earnings. Employment data are taken from the Current Population Survey. Estimates of average cash earnings are based on data from the Census of Population.[2]

Sources of County Data

The three main sources of county data on wages and salaries in service are the Oklahoma Employment Security Commission (OESC) series, the County Business Patterns (OASI) series, and the Census of Business. Each of these sources also contains county data on employment in service, as well as other information. The Census of Population is another source of county data on employment in service. Since wage and salary data are available, employment data will not be considered.

OESC wage and salary data.--The Oklahoma Employment Security Commission (OESC) series contains county data on wages and salaries paid to service workers covered under the unemployment insurance program in Oklahoma. OESC state totals for each year, 1949-1953, are compared with National

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[2]Ibid., pp. 68-72.

Income Division estimates in Table 51.

The OESC figure was less than half of the National Income Division estimate every year, accounting for 47.6 percent in 1953. There are two main reasons for the difference. First, service firms with less than eight employees are excluded from the coverage of the unemployment insurance program in Oklahoma. Service firms in Oklahoma are predominantly small. Second, certain groups of service workers are excluded from the coverage of the unemployment insurance program. OESC covered employment does not include workers in religious or charitable organizations, or domestic service.[3]

OESC data on wages and salaries in service were published for the state and 38 "selected" counties in 1953. The sum of the data for these counties was 97.8 percent of the OESC state total. "Statewide" wages and salaries were 0.7 percent of the total. The remaining 1.5 percent represents wages and salaries paid by firms located in counties for which OESC data were not published separately in the source. Percentages for each year, 1949-1953, are shown in Table 52.

Table 53 shows the percentage distribution of OESC data on wages and salaries in service among the selected

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[3]Oklahoma Employment Security Commission, County Employment Data, Oklahoma, 1949-1951 (Oklahoma City: Oklahoma Employment Security Commission, 1952), p. 1.

TABLE 51

WAGES AND SALARIES IN SERVICE IN OKLAHOMA, ACCORDING TO THE OKLAHOMA EMPLOYMENT SECURITY COMMISSION AND THE NATIONAL INCOME DIVISION, ANNUALLY, 1949-1953*

Year	Oklahoma Employment Security Commission (Millions of dollars)	National Income Division Estimate (Millions of dollars)	Oklahoma Employment Security Commission As a Percent of National Income Division Estimate
1949	47.3	99.7	47.4
1950	49.0	108.7	45.1
1951	54.3	119.2	45.6
1952	61.7	130.7	47.2
1953	68.2	143.4	47.6

*Source: Oklahoma Employment Security Commission, County Employment Data, Oklahoma, 1949-1951 (Oklahoma City: Oklahoma Employment Security Commission, 1952), Table 3, p. 16; Oklahoma Employment Security Commission, Oklahoma Labor Market, various issues; data provided through the courtesy of the United States Department of Commerce, National Income Division.

TABLE 52

PERCENTAGE DISTRIBUTION OF OKLAHOMA EMPLOYMENT SECURITY COMMISSION DATA ON WAGES AND SALARIES IN SERVICE IN OKLAHOMA, ANNUALLY, 1949-1953*

Year	State Total	Sum of County Data[1]	Statewide[2]	Remainder
1949	100.0	97.1	0.7	2.2
1950	100.0	97.2	0.8	2.0
1951	100.0	97.2	0.7	2.1
1952	100.0	97.7	0.7	1.6
1953	100.0	97.8	0.8	1.4

*Source: Computed from data in Oklahoma Employment Security Commission, County Employment Data, Oklahoma, 1949-1951 (Oklahoma City: Oklahoma Employment Security Commission, 1952), Table 3, pp. 16-55; Oklahoma Employment Security Commission, Oklahoma Labor Market, various issues.

[1]Equals sum of data for individual counties, shown separately in source.

[2]Includes amounts paid to statewide sales personnel with no permanent place of work and other types of roving employment, and all others whose place of work could not be determined.

TABLE 53

PERCENTAGE DISTRIBUTION OF OKLAHOMA EMPLOYMENT SECURITY COMMISSION DATA ON WAGES AND SALARIES IN SERVICE IN OKLAHOMA, SELECTED COUNTIES, ANNUALLY, 1949-1953*

Selected Counties	1949	1950	1951	1952	1953
Beckham	0.4	0.6	0.6	0.4	0.8
Bryan	0.5	0.5	0.4	0.4	0.3
Caddo	0.5	0.5	0.3	0.3	0.3
Canadian	0.4	0.5	0.4	0.4	0.3
Carter	1.6	1.3	1.3	1.3	1.2
Choctaw	0.2	0.2	0.2	0.2	0.2
Cleveland	0.7	0.6	0.6	0.5	0.7
Comanche	1.4	1.5	1.8	2.0	3.9
Creek	0.5	0.4	0.5	0.7	0.6
Custer	0.5	0.5	0.5	0.5	0.3
Garfield	2.4	2.4	2.2	2.0	2.1
Garvin	0.5	0.5	0.4	0.3	0.3
Grady	0.9	0.9	0.9	0.8	0.7
Hughes	0.3	0.3	0.2	0.2	0.3
Jackson	0.3	0.2	0.2	0.2	0.2
Kay	1.6	1.5	1.6	1.5	1.5
Kiowa	0.2	0.2	0.2	0.2	0.1
Le Flore	0.1	0.1	0.1	0.1	0.1
Lincoln	-	-	-	0.5	0.1
Logan	0.5	0.3	0.4	0.4	0.3
McCurtain	0.1	0.1	0.1	a	0.1
Mayes	0.1	0.1	0.1	0.1	0.1
Muskogee	2.2	1.9	1.6	1.5	1.4
Oklahoma	37.8	39.9	39.9	38.8	37.6
Okmulgee	1.0	1.0	0.9	0.8	0.7

TABLE 53--Continued

Selected Counties	1949	1950	1951	1952	1953
Osage	0.3	0.4	0.5	0.6	0.5
Ottawa	0.8	0.8	0.7	0.6	0.5
Payne	0.9	1.0	0.9	0.9	0.6
Pittsburg	0.9	0.8	0.9	0.9	1.0
Pontotoc	1.1	1.2	1.1	1.0	1.0
Pottawatomie	2.3	1.8	1.8	2.2	2.1
Seminole	1.0	1.0	0.9	0.8	0.7
Stephens	1.2	1.5	1.5	1.2	1.1
Texas	0.1	0.2	0.2	0.2	0.1
Tulsa	35.1	33.7	34.5	35.8	36.3
Washington	1.2	1.1	1.0	1.1	1.1
Woods	0.2	0.2	0.2	0.3	0.1
Woodward	0.4	0.5	0.4	0.4	0.5
Total	100.0	100.0	100.0	100.0	100.0

*Source: Computed from data in Oklahoma Employment Security Commission, County Employment Data, Oklahoma, 1949-1951 (Oklahoma City: Oklahoma Employment Security Commission, 1952), Table 3, pp. 16-55; Oklahoma Employment Security Commission, Oklahoma Labor Market, various issues.

[a]Less than 0.05 percent.

Components do not always add to totals, because of rounding.

counties for each year, 1949-1953. Percentages were obtained by dividing the amount for each "selected" county by the sum of the amounts for these counties. The pattern of distribution remained practically unchanged from 1949 through 1953. The stability of the pattern indicates that estimates for these counties based on OASI data for the first quarter of 1951 would not be seriously affected by the absence of more recent data.

OASI wage and salary data.--The County Business Patterns (OASI) series contains county data on service wages and salaries in Oklahoma for the first quarter of each year, 1946-1948, and 1951. Detailed breakdowns are published for the state and four "large" counties (Garfield, Muskogee, Oklahoma, and Tulsa).

Data for the first quarter of 1951 were published for each of the 77 counties in Oklahoma. The sum of the data for these counties was 98.4 percent of the state total. "Statewide" wages and salaries accounted for the other 1.6 percent. Percentages for the first quarter of each year, 1946-1948, and 1951 are shown in Table 54.

Table 55 shows the percentage distribution of OASI data on wages and salaries in services in Oklahoma, by county, for the first quarter of each year, 1946-1948, and 1951. Percentages were obtained by dividing the amount for each county by the sum of the amounts for individual counties, shown separately in the source. The four "large" counties

TABLE 54

PERCENTAGE DISTRIBUTION OF OLD-AGE AND SURVIVORS INSURANCE DATA ON WAGES AND SALARIES IN SERVICE IN OKLAHOMA, FIRST QUARTER, 1946-1948, AND 1951*

First Quarter	State Total	Sum of County Data[1]	Statewide[2]	Remainder
1946	100.0	97.6	1.3	1.1
1947	100.0	97.7	2.0	0.3
1948	100.0	97.5	2.2	0.3
1951	100.0	98.4	1.3	0.3

*Source: Same as in Table 9.

[1]Equals sum of data for individual counties, shown separately in source.

[2]Includes amounts paid by reporting units without a fixed location within the state, or with employees in more than one county, or of unknown county locations.

TABLE 55

PERCENTAGE DISTRIBUTION OF OLD-AGE AND SURVIVORS INSURANCE DATA ON WAGES AND SALARIES IN SERVICE IN OKLAHOMA, BY COUNTY, FIRST QUARTER, 1946-1948, AND 1951*

County	1946	1947	1948	1951
Adair	-	0.1	0.1	a
Alfalfa	0.2	0.2	0.2	0.2
Atoka	0.2	0.1	0.2	0.1
Beaver	-	0.1	0.1	0.1
Beckham	0.8	0.7	0.6	0.8
Blaine	0.2	0.2	0.2	0.1
Bryan	0.8	0.7	0.7	0.5
Caddo	0.5	0.6	0.5	0.5
Canadian	0.7	0.6	0.6	0.6
Carter	1.8	1.8	1.8	1.6
Cherokee	0.1	0.1	0.1	0.1
Choctaw	0.3	0.3	0.3	0.4
Cimarron	0.1	0.1	0.1	0.1
Cleveland	1.0	1.0	0.9	0.9
Coal	-	a	a	a
Comanche	2.3	2.0	1.9	2.4
Cotton	0.1	0.2	0.5	0.1
Craig	0.4	0.4	0.4	0.3
Creek	0.8	1.1	1.0	0.7
Custer	0.7	1.8	1.7	0.6
Delaware	-	0.2	0.5	0.1
Dewey	-	a	a	a
Ellis	-	0.3	0.2	0.1
Garfield	2.6	2.6	2.6	2.7
Garvin	0.4	0.4	0.5	0.5
Grady	1.1	1.2	1.1	1.0
Grant	0.1	0.1	0.1	0.1
Greer	0.3	0.3	0.3	0.2
Harmon	0.1	0.1	0.1	0.1
Harper	-	a	0.1	0.1

TABLE 55--Continued

County	1946	1947	1948	1951
Haskell	-	0.1	0.1	a
Hughes	0.5	0.4	0.4	0.3
Jackson	1.1	0.6	0.6	0.5
Jefferson	0.1	0.1	0.1	0.1
Johnston	-	0.1	a	a
Kay	2.3	2.2	2.0	2.0
Kingfisher	0.1	0.2	0.2	0.2
Kiowa	0.4	0.4	0.4	0.4
Latimer	-	a	a	a
Le Flore	0.4	0.3	0.3	0.2
Lincoln	0.3	0.3	0.3	0.3
Logan	0.8	0.6	0.6	0.5
Love	-	a	a	0.1
McClain	0.1	0.1	0.1	0.1
McCurtain	0.2	0.2	0.2	0.2
McIntosh	0.1	0.1	0.1	0.1
Major	0.1	0.1	0.1	0.1
Marshall	0.1	0.2	0.2	0.2
Mayes	0.4	0.3	0.2	0.2
Murray	0.1	0.2	0.2	0.2
Muskogee	3.3	3.1	2.9	2.5
Noble	0.2	0.2	0.2	0.2
Nowata	0.2	0.2	0.2	0.2
Okfuskee	0.2	0.2	0.2	0.2
Oklahoma	33.8	32.6	31.0	33.6
Okmulgee	1.6	1.4	1.3	1.1
Osage	0.6	0.7	0.7	0.7
Ottawa	1.1	1.1	1.0	1.1
Pawnee	0.2	0.1	0.2	0.2
Payne	1.4	1.3	1.3	1.3

TABLE 55--Continued

County	1946	1947	1948	1951
Pittsburg	1.1	1.0	0.8	0.7
Pontotoc	1.2	1.5	1.3	1.2
Pottawatomie	1.7	1.7	1.8	1.6
Pushmataha	0.1	0.1	0.1	a
Roger Mills	-	0.1	0.1	0.1
Rogers	0.5	0.5	0.4	0.3
Seminole	1.3	1.3	1.3	1.1
Sequoyah	-	0.1	0.1	0.1
Stephens	0.9	1.0	1.0	1.1
Texas	0.3	0.3	0.3	0.4
Tillman	0.4	0.4	0.4	0.4
Tulsa	24.9	25.1	27.3	29.0
Wagoner	0.1	0.1	0.1	0.1
Washington	1.2	1.2	1.3	1.3
Washita	0.2	0.2	0.2	0.2
Woods	0.4	0.4	0.4	0.4
Woodward	0.4	0.4	0.4	0.3
Total	100.0	100.0	100.0	100.0

*Source: Same as in Table 9.

[a]Less than 0.05 percent.

Components do not always add to totals, because of rounding.

accounted for about two-thirds of the total for the first quarter of 1951:

County	Percent of Sum of County Data
Garfield	2.7
Muskogee	2.5
Oklahoma	33.6
Tulsa	29.0
Total	67.8

Comparison of OESC and OASI wage and salary data.--The first quarter of 1951 is the only period for which we have both OESC and OASI county data on wages and salaries in service. The two sets of data are shown in Table 56.

The OESC state total, which did not include wages and salaries paid by service firms with less than eight employees, was $12.6 millions, 65.6 percent of the corresponding OASI figure, which did include wages and salaries paid by these small firms. OASI data on the number of firms by employee-size class show that almost 90 percent of the more than 8,000 firms reporting OASI taxable payrolls for the first quarter of 1951 had less than eight employees. These small firms employed between 30 and 70 percent of the total number of service employees.[4]

There are 33 counties for which both OESC and OASI

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[4]Computed from data in U.S. Bureau of the Census and U.S. Bureau of Old-Age and Survivors Insurance, cooperative report, County Business Patterns, First Quarter, 1951, Part VIII, West South Central States (Washington: Government Printing Office, 1953), Table 2, p. 53.

TABLE 56

COMPARISON OF OKLAHOMA EMPLOYMENT SECURITY COMMISSION (OESC) AND OLD-AGE AND SURVIVORS INSURANCE (OASI) DATA ON WAGES AND SALARIES IN SERVICE IN OKLAHOMA, BY COUNTY, FIRST QUARTER, 1951*

County	Thousands of Dollars		Percent of Sum of County Data[1]	
	OESC	OASI	OESC	OASI
Adair	-	7	-	-
Alfalfa	-	41	-	-
Atoka	-	21	-	-
Beaver	-	13	-	-
Beckham	67	151	0.5	0.9
Blaine	-	26	-	-
Bryan	51	103	0.4	0.6
Caddo	-	98	-	-
Canadian	54	109	0.4	0.6
Carter	138	307	1.1	1.7
Cherokee	-	24	-	-
Choctaw	17	69	0.1	0.4
Cimarron	-	11	-	-
Cleveland	76	173	0.6	1.0
Coal	-	4	-	-
Comanche	199	450	1.6	2.6
Cotton	-	20	-	-
Craig	-	59	-	-
Creek	62	141	0.5	0.8
Custer	66	114	0.5	0.6
Delaware	-	13	-	-
Dewey	-	7	-	-
Ellis	-	17	-	-
Garfield	291	505	2.4	2.9
Garvin	32	98	0.3	0.6
Grady	109	184	0.9	1.0
Grant	-	11	-	-
Greer	-	36	-	-
Harmon	-	17	-	-
Harper	-	12	-	-

TABLE 56--Continued

County	Thousands of Dollars		Percent of Sum of County Data[1]	
	OESC	OASI	OESC	OASI
Haskell	-	9	-	-
Hughes	29	66	0.2	0.4
Jackson	32	90	0.3	0.5
Jefferson	-	18	-	-
Johnston	-	4	-	-
Kay	184	379	1.5	2.1
Kingfisher	-	32	-	-
Kiowa	-	75	-	-
Latimer	-	4	-	-
Le Flore	10	42	0.1	0.2
Lincoln	-	48	-	-
Logan	43	101	0.4	0.6
Love	-	12	-	-
McClain	-	21	-	-
McCurtain	11	39	0.1	0.2
McIntosh	-	16	-	-
Major	-	14	-	-
Marshall	-	42	-	-
Mayes	-	40	-	-
Murray	-	35	-	-
Muskogee	200	465	1.6	2.6
Noble	-	36	-	-
Nowata	-	32	-	-
Okfuskee	-	30	-	-
Oklahoma	4,923	6,343	40.2	35.9
Okmulgee	113	210	0.9	1.2
Osage	50	137	0.4	0.8
Ottawa	91	204	0.7	1.2
Pawnee	-	29	-	-
Payne	114	239	0.9	1.4

TABLE 56--Continued

County	Thousands of Dollars		Percent of Sum of County Data[1]	
	OESC	OASI	OESC	OASI
Pittsburg	106	139	0.9	0.8
Pontotoc	132	232	1.1	1.3
Pottawatomie	210	293	1.7	1.7
Pushmataha	-	8	-	-
Roger Mills	-	19	-	-
Rogers	-	64	-	-
Seminole	105	199	0.9	1.1
Sequoyah	-	15	-	-
Stephens	183	210	1.5	1.2
Texas	-	68	-	-
Tillman	-	75	-	-
Tulsa	4,360	5,470	35.6	31.0
Wagoner	-	16	-	-
Washington	113	251	0.9	1.4
Washita	-	30	-	-
Woods	26	67	0.2	0.4
Woodward	53	66	0.4	0.4
Total	12,250	18,875	100.0	100.0

*Source: U.S. Bureau of the Census and U.S. Bureau of Old-Age and Survivors Insurance, cooperative report, County Business Patterns, First Quarter, 1951, Part VIII, West South Central States (Washington: Government Printing Office, 1953), Tables 2-4, pp. 52-74; Oklahoma Employment Security Commission, Oklahoma Labor Market, September, 1951, Table 5, pp. 22-25.

[1]Counties for which both OESC and OASI data were available.

Components do not always add to totals, because of rounding.

data are shown. The OASI figure is larger than the OESC figure in every one of them. The sum of the OESC data for these counties was $12.2 millions, 69.4 percent of the corresponding OASI figure. "Statewide" wages and salaries were 0.8 percent of the OESC state total and 1.6 percent of the OASI state total. Neither amount is significant.

If the OASI state total for the first quarter of 1951 is adjusted for seasonal variations indicated by OESC data, an OASI annual total of $82.8 millions is obtained. This figure is 69.5 percent of the National Income Division estimate for 1951. This seems to indicate that about 30 percent of the National Income Division estimate represents wages and salaries paid to service workers not covered under the old-age and survivors insurance program.

Census of Business wage and salary data.--The Census of Business contains county data on annual payrolls in some service industries. The data are obtained by direct enumeration of service establishments and provide a reliable basis for allocating a portion of the National Income Division estimate. However, the limited scope of the Census impairs the usefulness of the data for allocating all of the estimate. The 1948 Census of Business provides almost complete coverage of personal, business, and repair services and amusements. Hotels and tourist courts are partially covered; but the following service industries are excluded in their entirety from the scope of the Census: medical and other

health services, legal services, educational services, museums, etc., nonprofit membership organizations, private households, and miscellaneous services.[5] Total service payrolls in Oklahoma in 1948 according to the Census of Business amounted to $40.4 millions, about 40 percent of the National Income Division estimate.[6] Because of the limited scope of the data, they are not considered further in this study.

Recommended Procedure

It is recommended that the most recent OASI wage and salary data available be used to allocate the National Income Division estimate of wages and salaries in service. At the present time estimates for 1953 must be based on OASI data for the first quarter of 1951. There are two steps in the procedure. First, divide the amount of OASI wages and salaries in each county by the sum of the amounts for individual counties, shown separately in the source. The quotient is the percentage allocator. Second, multiply the percentage allocators by the National Income Division estimate to obtain the county estimates.

The use of the sum of the county data as the divisor rather than the state total in computing the percentage allocators distributes "statewide" wages and salaries throughout

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[5]U.S. Bureau of the Census, U.S. Census of Business-1948, Service Trades, Bulletin No. 1-S-35, Oklahoma (Washington: Government Printing Office, 1950), Explanation of data.

[6]Ibid., Table 101A, p. 35.02.

the state in the same proportions as wages and salaries shown for individual counties. OASI "statewide" wages and salaries in service were not significant in the first quarter of 1951.

This procedure involves three assumptions. First, it assumes that each county had the same proportion of the annual total as it did for the first quarter. Second, it assumes that each county had the same proportions of the annual total for the year for which estimates are being prepared as it did for the year for which most recent OASI data are available. Third, it assumes that wages and salaries paid to service workers not covered under the OASI program were distributed throughout the state in the same proportion as wages and salaries paid to covered workers.

Miscellaneous

Miscellaneous wages and salaries in Oklahoma declined from 4.1 percent of total wages and salaries in 1946 to 2.5 percent in 1953. It is recommended that they be allocated on the basis of population. Table 57 shows the percentage distribution, by county, of data from the 1950 Census of Population on the total population of Oklahoma.

TABLE 57

TOTAL POPULATION OF OKLAHOMA, BY COUNTY, 1950*

County	Number of Persons (Thousands)	Percent of Total
Adair	14.9	0.7
Alfalfa	10.7	0.5
Atoka	14.3	0.6
Beaver	7.4	0.3
Beckham	21.6	1.0
Blaine	15.0	0.7
Bryan	29.0	1.3
Caddo	34.9	1.6
Canadian	25.6	1.1
Carter	36.5	1.6
Cherokee	19.0	0.9
Choctaw	20.4	0.9
Cimarron	4.6	0.2
Cleveland	41.4	1.9
Coal	8.1	0.4
Comanche	55.2	2.5
Cotton	10.2	0.5
Craig	18.3	0.8
Creek	43.1	1.9
Custer	21.1	0.9
Delaware	14.7	0.7
Dewey	8.8	0.4
Ellis	7.3	0.3
Garfield	52.8	2.4
Garvin	29.5	1.3
Grady	34.9	1.6
Grant	10.5	0.5
Greer	11.7	0.5
Harmon	8.1	0.4
Harper	6.0	0.3

TABLE 57--Continued

County	Number of Persons (Thousands)	Percent of Total
Haskell	13.3	0.6
Hughes	20.7	0.9
Jackson	20.1	0.9
Jefferson	11.1	0.5
Johnston	10.6	0.5
Kay	48.9	2.2
Kingfisher	12.9	0.6
Kiowa	18.9	0.8
Latimer	9.7	0.4
Le Flore	35.3	1.6
Lincoln	22.1	1.0
Logan	22.2	1.0
Love	7.7	0.3
McClain	14.7	0.7
McCurtain	31.6	1.4
McIntosh	17.8	0.8
Major	10.3	0.5
Marshall	8.2	0.4
Mayes	19.7	0.9
Murray	10.8	0.5
Muskogee	65.6	2.9
Noble	12.2	0.5
Nowata	12.7	0.6
Okfuskee	16.9	0.8
Oklahoma	325.4	14.6
Okmulgee	44.6	2.0
Osage	33.1	1.5
Ottawa	32.2	1.4
Pawnee	13.6	0.6
Payne	46.4	2.1

TABLE 57--Continued

County	Number of Persons (Thousands)	Percent of Total
Pittsburg	41.0	1.8
Pontotoc	30.9	1.4
Pottawatomie	43.5	1.9
Pushmataha	12.0	0.5
Roger Mills	7.4	0.3
Rogers	19.5	0.9
Seminole	40.7	1.8
Sequoyah	19.8	0.9
Stephens	34.1	1.5
Texas	14.2	0.6
Tillman	17.6	0.8
Tulsa	251.7	11.3
Wagoner	16.7	0.7
Washington	32.9	1.5
Washita	17.7	0.8
Woods	14.5	0.7
Woodward	14.4	0.6
Total	2,233.4	100.0

*Source: U.S. Bureau of the Census, United States Census of Population: 1950. Vol. II, Characteristics of the Population, Part 36, Oklahoma, Chapter B (Washington: Government Printing Office, 1952), Table 42, pp. 86-90.

Components do not always add to totals, because of rounding.

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CHAPTER XI

SUMMARY AND CONCLUSIONS

This study was carried out within the framework of the state income payments series prepared by the National Income Division of the United States Department of Commerce. The scope was limited to methods of estimating wages and salaries in the counties of Oklahoma. Wages and salaries account for about three-fifths of total income payments in the state. Other types of income payments not covered in this study are proprietors' income, property income, and "other" income.

The National Income Division prepares wage and salary estimates on a state basis for the following industry divisions: agriculture, mining, manufacturing, construction, transportation, power and gas, communication, trade, finance, government, service, and miscellaneous. The estimates for Oklahoma were accepted as the best available, even though in a few instances it was apparent that they could be improved. The problem was to determine the most satisfactory method of allocating the estimate for each industry division among the counties.



The methods developed were based mainly on published data, but special tabulations of unpublished data were used in some instances. This study differs from others of a similar nature mainly because greater stress was placed on evaluation of the various types of available county data. The two main sources were the Oklahoma Employment Security Commission series, which contains county data on wages and salaries paid to workers covered under the unemployment insurance program, and the County Business Patterns series, which contains similar data for workers covered under the old-age and survivors insurance program. Other sources included the Census of Agriculture, the Census of Business, the Census of Manufactures, the Census of Population, and various publications of state and federal agencies.

For most industry divisions there were several possible methods of allocating the National Income Division estimates. Furthermore, the "best" method was not always readily apparent. The final decision in many cases was somewhat arbitrary. Nevertheless, the procedures outlined herein conform with those used in similar studies of county income in other states and with recommendations of the National Income Division.

There is little doubt that the pattern of distribution of wages and salaries which emerges from using the recommended procedures is adequate for a wide range of private and public purposes. For example, the estimates are



sufficiently accurate to enable the federal government, in time of a national labor shortage, to determine the areas of under-utilization of the labor force in Oklahoma. The data are sufficiently accurate as a basis for measuring the taxable capacity of various parts of the state. Businessmen will find the information useful for market analysis. Social scientists can use the data for a wide range of studies.

The nature of the data on which county estimates are based is such, however, that great care should be exercised in using data for an individual county. The estimates are useful in determining the pattern of distribution, but they do not pretend to exactness. Caution should be used also in comparing estimates for one county with those for another, especially where the differences are small. Finally, more useful estimates may be obtained by grouping some counties for some purposes. This is especially true for those areas where large numbers of workers live in one county and work in another.

Estimates for the following industry divisions are highly reliable: mining, manufacturing, construction, power and gas, communication, trade, and finance. They account for a large percentage of total wages and salaries in the state. Additional study and more comprehensive data are needed to improve the estimates for agriculture, transportation, government, and service. Recent extensions of the coverage of the old-age and survivors insurance program will



automatically improve the estimates for some of these industry divisions within the near future.

BIBLIOGRAPHY

Public Documents

Oklahoma Employment Security Commission. County Employment Data, Oklahoma, 1949-1951. Oklahoma City: Oklahoma Employment Security Commission, 1952.

Oklahoma Employment Security Commission. County Employment Data, Oklahoma, 1952-1953. Oklahoma City: Oklahoma Employment Security Commission, 1954.

Oklahoma Employment Security Commission. Employment Trends in Oklahoma, 1939-1953. Oklahoma City: Oklahoma Employment Security Commission, 1954.

Oklahoma Employment Security Commission. Oklahoma Labor Market. Various issues. Oklahoma City: Oklahoma Employment Security Commission, monthly.

U.S. Bureau of Mines. Minerals Yearbook, 1950. Washington: Government Printing Office, 1953.

U.S. Bureau of the Census. State Distribution of Public Employment in 1953. Washington: Government Printing Office, 1954.

U.S. Bureau of the Census. United States Census of Agriculture: 1945. Vol. I, Statistics for Counties, Part 25. Washington: Government Printing Office, 1946.

U.S. Bureau of the Census. United States Census of Agriculture: 1950. Vol. I, Counties and State Economic Areas, Part 25. Washington: Government Printing Office, 1952.

U.S. Bureau of the Census. United States Census of Business - 1948, Service Trades. Bulletin No. 1-S-35, Oklahoma. Washington: Government Printing Office, 1950.

U.S. Bureau of the Census. United States Census of Population: 1950. Vol. II, Characteristics of the Population, Part 36, Oklahoma, Chapter B. Washington: Government Printing Office, 1952.

U.S. Bureau of the Census and U.S. Bureau of Old-Age and Survivors Insurance, cooperative report, County Business Patterns, First Quarter, 1949. Part II, Geographic Divisions, No. 3, South Atlantic, East South Central, West South Central. Washington: Government Printing Office, 1951.

U.S. Bureau of the Census and U.S. Bureau of Old-Age and Survivors Insurance, cooperative report. County Business Patterns, First Quarter, 1950. Part II, No. 3. Washington: Government Printing Office, 1952.

U.S. Bureau of the Census and U.S. Bureau of Old-Age and Survivors Insurance, cooperative report. County Business Patterns, First Quarter, 1951. Part VIII, West South Central States. Washington: Government Printing Office, 1953.

U.S. Congress, Joint Committee on Reduction of Nonessential Federal Expenditures. Federal Civilian Employment: 1950. Senate Committee Print. 82nd Congress, 1st Session. Washington: Government Printing Office, 1950.

U.S. Congress, Senate. National Income, 1929-1932. U.S. Senate, 73rd Congress, 2nd Session. Document No. 124. Washington: Government Printing Office, 1934.

U.S. Department of Commerce. Business Establishments, Employment, and Taxable Payrolls Under Old-Age and Survivors Insurance Program, First Quarter, 1946. Oklahoma. Washington: Government Printing Office, 1947.

U.S. Department of Commerce. Business Establishments, Employment, and Taxable Payrolls Under Old-Age and Survivors Insurance Program, First Quarter, 1947. Part II, Oklahoma. Washington: Government Printing Office, 1948.

U.S. Department of Commerce. County Business Patterns, First Quarter, 1948. Part II, State Reports, No. 34, Oklahoma. Washington: Government Printing Office, 1949.

U.S. Department of Commerce. National Income, 1951 Edition. Washington: Government Printing Office, 1951.

U.S. Department of Commerce. National Income, 1954 Edition. Washington: Government Printing Office, 1954.

U.S. Department of Commerce. National Income in the United States: 1929-1935. Washington: Government Printing Office, 1936.

U.S. Department of Commerce. Survey of Current Business. Various issues. Washington: Government Printing Office, monthly.

Reports

Adamson, Wendell M. Income in Counties of Alabama, 1929 and 1935. University: Bureau of Business Research, University of Alabama, 1939.

Copeland, Lewis C. Methods for Estimating Income Payments in Counties. A Technical Supplement to County Income Estimates for Seven Southeastern States. Charlottesville: Bureau of Population and Economic Research, University of Virginia, 1952.

Lancaster, John Littlepage. County Income Estimates for Seven Southeastern States. A Report of the Conference on the Measurement of County Income. Charlottesville: Bureau of Population and Economic Research, University of Virginia, 1952.

Unpublished Material

Bailey, Earl Lee, Jr. "The Measurement of the Annual Income of the People of Oklahoma." Unpublished M.B.A. thesis, Department of Economics, University of Oklahoma, 1951.

Cochran, Clay L. "Hired Farm Labor and the Federal Government." Unpublished Ph.D. dissertation, Department of Economics, University of North Carolina, 1950.

U.S. Department of Commerce. Unpublished data prepared by the National Income Division.

