
THE MEASUREMENT OF INCOME IN OKLAHOMA BY COUNTIES*

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Income is rapidly becoming the accepted measure of the performance of an economy. Some of the measures used in earlier years were the general price level, the volume of bank credit, the level of industrial production, the volume of money, and the state of the nation's gold supply. In focusing attention on one or a group of these latter measures, the purpose was to select strategic factors which were presumed to reflect the activity of other segments of the economy.

For example, many business cycle theorists maintained that the economy could be stabilized at desirable levels of activity if some price index could be stabilized. These indices are still important and useful for many problems, but they are being merged, subordinated, and reoriented in the direction of the income framework. Income measures the total activity of the economy rather than some strategic part of it. In attempting to measure income, economists are resuming the study of the subject matter with which Adam Smith was concerned in the latter part of the eighteenth century, namely, an inquiry into the nature and causes of the wealth of nations.

Compilation of income aggregates for the economy of an area involves the ambitious task of summarizing the end results of the efforts of the working population to produce goods and services. In our economy the production of goods and services involves the use of the so-called "factors of production," in the form of land, labor, capital, and the entrepreneur. For engaging in productive effort, these factors receive income in the form of rent, wages, interest and profits.¹ Income, therefore, is a summary of the amount of compensation paid to the factors of production for engaging in current economic activity.

We now have reasonably accurate data on the national income of the United States on an annual basis for the past two decades, and other estimates go back as far as 1799.² In 1947, the United States Department of Commerce

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¹Broadly speaking, income estimators accept the various types of income in the form in which they appear in the modern economy and in doing so have departed widely from the generally accepted, more rigid definitions of the neo-classical economists.

²Robert F. Martin, *National Income in the United States, 1789-1938*, New York National Industrial Conference Board Incorporated, 1939.

published the most comprehensive statistical data on the American economy ever published for this or any other country.³ The United Nations now compiles estimates of income in some thirty-nine nations, and the coverage is expanding rapidly.⁴

In addition to the national totals, the United States Department of Commerce prepares annual estimates of the income of individuals on a state basis. The data are arranged to show per capita income for each state. Such information makes it possible to compare the performance of one part of the nation's economy with other parts, and to compare relative rates of growth in various regions of the nation.

For the solution of many problems, however, information is needed on income of smaller areas than the states. Information on the income of counties within a state is useful in the solution of a wide range of problems in the field of public policy and private business decisions. In the area of public policy such information might serve as a basis for state tax systems, for state aid to local government, particularly aid to schools, and aid for highway construction. For the business man county income estimates provide a basis for comparing and ranking local areas in terms of economic importance. They are useful for analyzing market potentials, for measuring the effectiveness of sales and advertising programs and for other business planning. Most business men will agree, I think, that it would be unwise to spend money on advertising campaigns to sell television sets costing \$500 per unit in an area where per capita income amounts to only \$350 per year.

In recent years a number of attempts have been made in various states to break down the Department of Commerce estimates of state income into county income data. The principal difficulty encountered in these studies is the lack of certain statistical series on a county basis. On the other hand, sufficient information is available to make possible useful estimates of county income. For example, in many instances it is not enough to know that per capita income in Tulsa county is greater than per capita income in some county in the southeastern part of Oklahoma. County income estimates make it possible to indicate the order of magnitude of the difference between the income of one county and that of another.

Bureaus of Business Research in state-supported universities have played a large part in the efforts to break down state totals on a county basis. The Bureau of Business Research at the University of Oklahoma is in the process of completing estimates of county income for the calendar year, 1949.

The distribution of income throughout the United States shows a considerable degree of inequality from region to region. Per capita income in New York State, for example, runs about one-third above the national average. In the southeastern states, on the other hand, per capita income has been running about one-third below the national average. Although the difference between per capita incomes in the richer areas and the poorer areas of the nation has been reduced during the past two decades, a wide disparity still exists. Per capita income in Oklahoma ranks above most of the southeastern states, but below per capita income in most other states in the nation. During the calendar year 1949 Oklahoma's per capita income was below that in 36 other states.

Studies of the distribution of income within a particular state reveal similar disparities. For example, per capita income of the highest county of Okla-

³U. S. Department of Commerce, *National Income Supplement to Survey of Current Business*, July 1947. Revisions and new annual data appear in each July issue of the *Survey of Current Business*.

⁴*National Income Statistics of Various Countries, 1938-1948*; New York, Statistical Office of the United Nations, 1950.

⁵The data are published annually in the August issue of the *Survey of Current Business*.

homa is some five times as great as the per capita income in the lowest county. In some counties in Oklahoma per capita income ranks well above the national average, and in a few counties approaches the per capita income in the highest income states. At the other end of the income scale, per capita income in some of the poorer counties of Oklahoma ranks well below the per capita income in Mississippi, the state having the lowest per capita income in the nation.

Per capita income figures do not, of course, tell the whole story and for many types of problems other data are needed, such as total income and income by industrial origin. Moreover, per capita figures on a county basis conceal the inequality in distribution of income within a county. Available data provide no basis for assuming that the distribution of income is less unevenly divided within a county than the average per capita income of counties within a state. Thus, while county data leave much to be desired, such information is a distinct improvement over data on a state basis.

The breakdown of state income data to a county base makes it possible to outline the pattern of income received in different parts of the state. Because certain statistical series are not available, the data on county income do not pretend to exactness. For many purposes, grouping of counties on some such basis as a decile arrangement might be more helpful. It is to be emphasized at this point that further study will doubtless lead to modification of the current estimates, but it is believed that such modifications are likely to be relatively minor and will not affect appreciably the pattern of distribution within the state. The purpose in preparing county estimates, then, is not only to indicate the richer and poorer areas of the state but to indicate the approximate magnitude of these differences.

METHOD OF ESTIMATING COUNTY INCOME. The Income Division of the Department of Commerce prepares estimates of the income payments to individuals in each state on an annual basis. Income payments to individuals include payments in the form of wages and salaries, the income of proprietors of unincorporated enterprises, property income, and "other" income. The Department of Commerce, on request, will also provide breakdowns of wages and salaries into major categories as follows: Agriculture; mining; manufacturing; construction; transportation; power and gas; communications; trade; finance including insurance and real estate; service; and miscellaneous. Wages and salaries amount to about 55 to 60 percent of the total income of individuals in Oklahoma.

A breakdown of proprietor income similar to that on wages and salaries is also available from the U. S. Department of Commerce. The most important industrial source of proprietor income in Oklahoma is agriculture, followed by wholesale and retail trade, and service. Proprietor income amounts to about one-fourth the income of individuals in Oklahoma. Property income in Oklahoma accounts for slightly less than 10 percent of income of individuals in the state. The remainder is "other" income and refers principally to so called "transfer" payments. "Other" income includes such items as veteran payments of various kinds, allotments of pay to dependents of military personnel, old age assistance payments, payments under the old age and survivors insurance program, aid to dependent children, public and private pension plans, railroad retirement system benefits, and others. In all, "other" income payments include some twenty-one categories of income.

The Department of Commerce figures are accepted as benchmark data, and the problem is to find a satisfactory method of distributing each of the separate items among the seventy-seven counties of the state, and summing the income for each county. The methods used in the Oklahoma study might be divided into two principal categories as follows: (1) Direct allocators, and (2) Indirect allocators. An example of direct allocation is old age assistance benefits. The State Department of Public Welfare provides monthly data on

disbursements by county, and these sums can simply be entered under appropriate headings. An example of an indirect method is the allocation of property income. This item includes rent, interest, dividends and royalties received by individuals. There is no direct method of allocating this sum among the counties. Three methods that might be used are: (a) income tax payments by individuals in each county, (b) the purchase of Series E bonds by individuals, or (c) holdings of savings deposits by individuals; or some combination of these and possibly other methods might be used. The method actually used was to compute a ratio of income taxes paid by individuals in Oklahoma who reside in county X to the total for the state. Similar ratios were then computed for each of the other 76 counties. Total property income was distributed on the basis of these ratios. The results of allocating property income by this method were then compared with results obtained by other procedures.

PRINCIPAL SOURCES OF INFORMATION. The main source of information on wages paid farm labor and on proprietor income in agriculture in Oklahoma was obtained from the *Census of Agriculture* of 1945, which also includes comparative data for earlier Census years. The Census shows information on total wages paid farm labor by county during the calendar year, 1944. The ratio of farm wages in each county to the state total was computed for the calendar year 1944, and the Commerce estimate of 1949 farm wages in Oklahoma was allocated on the basis of these ratios.*

Other important source of information on wages and salaries are the Old Age and Survivors Insurance Bureau of the Social Security Administration and the Oklahoma Employment Security Commission. The Bureau of Old Age and Survivors Insurance, in cooperation with the United States Department of Commerce, publishes annually beginning in 1946 a series of bulletins which present statistics on the number of business establishments covered by the Federal Old Age and Survivors Insurance Program in the first quarter of each year. The bulletins also show the number of employees and the amount of taxable wages paid. The figures are further broken down to show data by county and by major industry.†

Publications of the Oklahoma Employment Security Commission provide data on total wages and salaries for employees covered by that program for each county in the state. In addition, the data are subdivided and presented for each major industry in about half of the larger counties of the state. Fortunately for many of the important industries of the state, this detailed information covers a very high percentage of total wages paid.‡

*When the 1950 *Census of Agriculture* becomes available, it will be possible to compute new ratios for each county and revise the basis for allocating farm wages in future years. A comparison of ratios in 1940 and 1945 Census data, however, indicates considerable stability among the various counties, although an individual county may show a substantial percentage change.

†U. S. Department of Commerce, *County Business Patterns*, First Quarter, 1948. *Business Establishments, Employment, and Taxable Payrolls, by Industry Groups, Under Old Age and Survivors Insurance Program, Part II, State Reports, No. 34, Oklahoma.*

‡Oklahoma Employment Security Commission, *The Oklahoma Labor Market, May 1950, County Employment Data Supplement*, covered employment and wages, January - June 1949, and *Ibid.*, July 1950, July - December 1949. Other sources of information were as follows: *The Census of Manufacturing* for 1947, 1939 and earlier; the Census figures show total wages paid to production workers in each county during the census year and also total wages and salaries paid in manufacturing for each county. The *Census of Business* for 1948 shows detail by county on wholesale, retail trade, and service. The Department of Public Welfare in Oklahoma provides detailed information on each of its major programs for each county in the state. Regional offices of the Veteran's Administration in Oklahoma City and Muskogee were able to provide a considerable amount of information on payments under the various veterans' programs. The Bureau of Business Research collects and analyzes a wide variety of data on construction, trade, population, and other aspects of the state's economy. This information was used as a basis for comparing the reasonableness of the methods used to allocate some of the items. The State Budget Bureau was able to provide information on wages and salaries paid by the

In all, about forty separate items were computed for each county and these items were summed to arrive at a county total. Several times that many items were computed for each county as a basis of checking the validity of the procedure. In evaluating the general reliability of the data it is important to keep in mind the size of the particular items relative to total income in the state of Oklahoma. In 1949, for example, each \$23,000,000 of income was equal to about one percent of the state's income. Although a single method had to be selected for allocating each item, it is also important to remember that in most cases it was possible to check this method against alternatives. In many cases the alternatives were based on data collected independently. For example, manufacturing wages in Oklahoma are an important part of total wages paid in the state. As a method of checking the reasonableness of the method selected, we had available information from the Old Age and Survivors Insurance Program, data collected independently by the Oklahoma Employment Security Commission, and the Census of Manufactures for 1947. Fortunately, the most comprehensive data are available for those items which bulk large in total income for the people in the state. This is not unexpected, since it appears reasonable that as a particular item becomes relatively large, some agency, private or public, will collect data on it.

It is believed that the present estimates of county income in Oklahoma are sufficiently accurate for the solution of the wide variety of problems in the private and public sphere. It is recognized of course, that the availability of new data in future years will modify and improve the county estimates. Perhaps the principal danger in using the data lies in the area of minute comparisons of such items as per capita income in one county with per capita income in another county, especially where both counties might better be grouped into a single category.

The following Table I shows per capita income for each county in Oklahoma during the calendar year 1949.

state government, and information on salaries of teachers. Some of the state offices of federal departments and bureaus were able to provide information on federal payrolls in Oklahoma. Publications of the State Tax Commission contain detailed information on income and sales taxes by counties. Publications of the Federal Reserve System on demand deposits and savings deposits by counties were also used. The State Savings Bond Committee was able to provide data on savings bond sales by county. There were a large number of miscellaneous sources of information which were used either as a basis for allocation or as a method of checking on the results of a particular method.

TABLE I

*Per Capita Income in Oklahoma, by County, for the Calendar Year 1949**

COUNTY	PER CAPITA INCOME (DOLLARS)	COUNTY	PER CAPITA INCOME (DOLLARS)
Adair	394	Lincoln	613
Alfalfa	1329	Logan	693
Atoka	854	Love	510
Beaver	1754	McClain	614
Beckham	869	McCurtain	460
Blaine	1034	McIntosh	503
Bryan	580	Major	878
Caddo	775	Marshall	736
Canadian	791	Mayes	509
Carter	1069	Murray	639
Cherokee	351	Muskogee	787
Choctaw	520	Noble	825
Cimarron	1734	Nowata	849
Cleveland	752	Okfuskee	640
Coal	481	Oklahoma	1802
Comanche	845	Okmulgee	866
Cotton	848	Osage	808
Craig	544	Ottawa	875
Creek	708	Pawnee	596
Custer	997	Payne	923
Delaware	425	Pittsburg	601
Dewey	802	Pontotoc	871
Ellis	1014	Pottawatomie	755
Garfield	1196	Pushmataha	426
Garvin	946	Roger Mills	871
Grady	803	Rogers	584
Grant	1283	Seminole	728
Greer	755	Sequoyah	432
Harmon	896	Stephens	1126
Harper	1189	Texas	1634
Haskell	458	Tillman	1032
Hughes	574	Tulsa	1705
Jackson	868	Wagoner	594
Jefferson	757	Washington	1776
Johnston	474	Washita	991
Kay	1205	Woods	1080
Kingfisher	1070	Woodward	944
Kjowa	863		
Latimer	365	State	1068
LeFlore	456		

*Source: Bureau of Business Research, University of Oklahoma