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OKLAHOMA BUSINESS BULLETIN

Volume 68, Number 3
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Quarterly

Announcing

The Dikeman Honorarium

In recognition of 40 years of service to the people of Oklahoma, the Center for Economic and Management Research in OU's Price College of Business is proud to announce the Neil J. Dikeman, Jr. Honorarium. The purpose of this honorarium is to stimulate research on the Oklahoma economy, inform citizens, and guide public policy. For each paper accepted for publication in the *Oklahoma Business Bulletin*, $500 will be provided to the author or authors of the paper. Recipients have two options: personal or institutional payment. The authors may designate that the award be paid to an institution in support of the research missions. In the latter case, the award is non-taxable. Also an additional $1000 will be awarded to the paper judged by the editors as the best paper published in an academic year. Student involvement and co-authorship in publications is encouraged.

CEMR is proud to announce that the first recipients of the Dikeman Honorarium are Robert Henry Cox and Christian Breunig for their fine paper entitled "How Global is the Oklahoma Economy?" This paper was published in the most recent issue of the *Bulletin*. The award is small recognition for a job well done.

A wide variety of economic subject areas will be considered for publication in the *Bulletin*. Articles should be related to economic and business activity or public policy in the State of Oklahoma, but can include regional comparisons. Example topics include:

- Labor force trends and workforce development issues
- Future education demands, potential patterns and opportunities
- Population change and migration patterns
- High technology growth in Oklahoma
- Transportation problems and priorities
- Intra- and inter-state economic trends and forecasts
- Poverty in Oklahoma, its changing character
- Fiscal trends in Oklahoma—How long will the good times last?
- Personal income growth deficiencies, causes and solutions
- Growth potentials for the nation and Oklahoma's prospects
- The advance of immigrant populations in Oklahoma
- The future of the petroleum industry in Oklahoma
- Deregulation of utilities—Oklahoma implications
- Economic development programs—The Oklahoma experience
- Workman's compensation insurance—An impediment to Oklahoma growth?
- The effectiveness of local development programs in stimulating regional growth
- Health care in Oklahoma—How well are workers and their families covered?

The above are meant to be simply illustrative of the variety of subject matter that is considered relevant to the goals of the Dikeman Honorarium. We encourage you to submit your research to the *Bulletin*, which is in its 72nd year of publication. Please send papers to:

Patricia Wickham
Center for Economic and Management Research
Price College of Business
307 W. Brooks, Room 4
Norman, OK 73019-0450

Thank you.

Michael F. PRICE College of Business

The Center for Economic and Management Research

Business Highlights

by Robert C. Dauffenbach

The Growth Question

The Oklahoma economy continues to experience difficulties, especially in comparison to our neighbors and the nation. Often quoted is the ratio of per capita personal income in Oklahoma in comparison to the nation. This ratio has hovered around the 80 percent mark for some time now, and has even shown some continuing signs of slippage. This is only one, albeit important, measure of economic well-being. Taking a broader real purchasing power perspective, what is the extent of these difficulties that Oklahoma's economy faces? Is the glass half-full or half-empty? Are there any hopeful signs? These are questions that will be examined in this *Business Highlights* section, in somewhat of a departure from the standard review of current economic statistics for the nation, state and major metro areas of Oklahoma.

The broader perspective we seek to examine in this issue will focus on two measures: (1) inflation-adjusted, or real, personal income and (2) Oklahoma's share of regional and national income. Has the state achieved gains in the real purchasing power of personal income? If so, by how much? What is Oklahoma's share of national and regional personal income and how has this share changed over time?

Real Purchasing Power

The problem with trying to figure out to what extent the Oklahoma economy has grown is confounded by problems of measuring inflation. We would like to look at the real purchasing power of personal income earned and received by Oklahomans, but this computation is shrouded in controversy. The calculation is simple enough. To compute real personal income, the nominal amount of personal income, $76.5 Billion in Oklahoma in 1999, is simply divided by the price level. The problem is, there are several alternative price indexes that could be used in the denominator. This wouldn't be much of a problem if they all said essentially the same thing. But, they don't.

The most popular and widely quoted measure of inflation is the Consumer Price Index, or CPI, a product of the US Bureau of Labor Statistics. This inflation measure is based on a "market basket of goods and services" which is priced monthly. The index is widely used in labor agreements and in adjustments of social security payments and other government programs. The problem is that this index is widely viewed by economists as an overstatement of inflation.

There are several reasons why this market-basket concept can lead to an overstatement of inflation. Reasons given by the Boskin Commission,[1] which looked into such issues in 1996, include the following:

> *Substitution bias*: occurs because a fixed market basket fails to reflect the fact that consumers substitute relatively less for more expensive goods when relative prices change. When prices increase, we tend to buy less of the now more expensive items.
>
> *Outlet substitution bias*: occurs when shifts to lower price outlets are not properly accounted for.

Examples include the rise of discount establishments such as Wal-Mart and "box" stores such as Lowes, Home Depot, etc.

Quality change bias: occurs when improvements in the quality of products, such as greater energy efficiency or less need for repair, are measured inaccurately or not at all. Some automobiles now have 100,000 service intervals for tune-ups, for example. Computers represent probably the most obvious example of this type of bias. Not only have personal computers gotten more powerful in terms of processing speed, but memory sizes have increased and hard disk storage capacities have expanded dramatically.

New product bias: occurs when new products are not introduced in the market basket, or included only with a long lag. Personal computers, for example, are not only much more feature laden, but they have dropped dramatically in price. This bias occurs because new products are only slowly introduced into the market basket and, in consequence, the index may in fact miss much of the gains in quality and price reductions that come with increasing adoption.

The Boskin Commission estimated the magnitude of inflation overstatement in the CPI to be 1.1 percentage points per year with a plausible range between 0.8 and 1.6 percentage points per year. This is their estimate of the current degree of overstatement. In prior years they think that the CPI overestimates inflation by 1.3 percentage points per year, in consequence of a bias in the formula inadvertently introduced in 1978 and only fixed recently. The consequence of this upward bias can be monumental, as noted in the Boskin report:

> The upward bias creates in the federal budget an annual automatic real increase in indexed benefits and a real tax cut. CBO (Congressional Budget Office) estimates that if the change in the CPI overstated the change in the cost of living by an average of 1.1 percentage points per year over the next decade, this bias would contribute about $148 billion to the deficit in 2006 and $691 billion to the national debt by then. The bias alone would be the fourth largest federal program, after social security, health care and defense. By 2008, these totals reach $202 billion and $1.07 trillion, respectively.

There is a lot riding on this issue of overstatement of inflation in the CPI. And, of course, how inflation is measured makes a great deal of difference in evaluations of the extent of economic growth that has occurred in any given region of the country.

Some economists believe that the Boskin Commission has overstated their case. While consensus among economists is high, the putative assessment is that the probable truth lies close to the low-end values of the Boskin Commission's probable range . That is, somewhere in the region of a 0.75 percent overstatement is more probable. Many economists also believe that the Gross Domestic Product (GDP) price deflator is a better measure of inflation. This fixed-weighted inflation measure examines the issue from the standpoint of the actual mix of final demand in the economy. The benchmark year is adjusted periodically to reflect changes in output mix. There are also deflators for consumption, investment, government spending, and other components of GDP. It still suffers from some of the problems inherent in the CPI, particularly quality adjustment problems. It is also less timely and is only computed quarterly.

As somewhat of a test of the 3/4th of a percentage point rule, the monthly CPI was adjusted to form a series that reflects a reduction in the annual rate of inflation by this amount. While this adjustment is, to a degree, arbitrary, the results, reported in Table I, are quite interesting. This table reports the GDP price deflator with the CPI and the CPI adjusted for the 0.75 percentage point reduction in inflation per

year.[2] The indices are normalized to 1980=100 by dividing the reported index by the average of the 1980 values. On basis of the unadjusted CPI, the price level has about doubled since 1980. The GDP deflator has risen by 82.5 percent. Thus, there has been significant inflation in the last 20 years. Yet, there is almost a 20-point difference between the CPI and the GDP deflator. In the 1999 results there is only a 1.1 point difference in the adjusted CPI and the GDP deflator. These results provide some evidence of overstatement in the CPI and some indication of the magnitude. There may be important reasons why Chairman of the Federal Reserve System Alan Greenspan is said to prefer the GDP deflator.

A 20-point difference in the magnitude of inflation over the course of the last 20 years can make quite a difference in an analysis of the extent of improvement in the Oklahoma economy. In truth, the CPI/GDP deflator is somewhat of an apples-to-oranges comparison because the GDP deflator takes a broad, economy-wide look at inflation while the CPI focuses on consumer goods. A fairer comparison is between the GDP Consumption Expenditures deflator and the CPI and its adjusted value. Table II reports these values, again normalized for comparison with 1980=100. These results show that there has been more inflation in the consumption component than in the economy-wide values: the 1999 consumption deflator is about six points higher than the GDP deflator value. Thus, by this measure, the 3/4th of a percentage point adjustment is a little too high. Nevertheless, these three measures provide a basis for evaluation of the extent to which real incomes have risen in Oklahoma.

Table I

GDP Price Deflator, CPI and Adjusted CPI

Year	*GDP Deflator*	*CPI*	*CPI**
1980	100.0	100.0	100.0
1981	109.3	110.6	111.1
1982	115.7	117.2	119.2
1983	120.2	121.0	123.4
1984	124.6	126.2	127.1
1985	128.4	130.7	131.0
1986	131.3	133.2	133.7
1987	135.3	138.1	136.0
1988	140.0	143.7	140.5
1989	145.3	150.7	145.8
1990	151.0	158.8	151.9
1991	156.3	165.5	158.6
1992	160.1	170.5	162.5
1993	163.9	175.6	166.3
1994	167.3	180.1	169.5
1995	170.9	185.2	172.9
1996	174.2	190.6	176.4
1997	177.5	195.0	179.9
1998	179.8	198.1	181.7
1999	182.5	202.4	183.6

Table II

GDP Consumption Deflator, CPI and Adjusted CPI

Year	*GDP Consumption Deflator*	*CPI*	*CPI**
1980	100.0	100.0	100.0
1981	108.7	110.6	111.1
1982	114.5	117.2	119.2
1983	119.4	121.0	123.4
1984	123.7	126.2	127.1
1985	127.9	130.7	131.0
1986	131.0	133.2	133.7
1987	136.1	138.1	136.0
1988	141.5	143.7	140.5
1989	147.7	150.7	145.8
1990	154.5	158.8	151.9
1991	160.2	165.5	158.6
1992	165.0	170.5	162.5
1993	168.9	175.6	166.3
1994	172.4	180.1	169.5
1995	176.3	185.2	172.9
1996	180.1	190.6	176.4
1997	183.4	195.0	179.9
1998	185.4	198.1	181.7
1999	188.8	202.4	183.6

Real Growth in Oklahoma

Armed with these alternative inflation measures, we can examine the extent of real income gains in the state. These real income gains can also be compared to gains in employment, which represent real economic change since jobs do not have to be adjusted for inflation. As noted earlier,

computation of real personal income is a simple matter: simply divide the nominal amount of personal income by the inflation index. As also noted, the problem lies in choice of the denominator. Four inflation indicators have been presented in this study. The results of applying all four adjustments is reported in Table III. Also shown in this table is the nominal personal income estimate and average annual non-agricultural wage and salary jobs, the employment measure.

These results show that by whatever choice of inflation measure, the real economy of Oklahoma has grown significantly in the last 20 years. The 163 percent gain in nominal PI, measured in current unadjusted dollars, is whittled down considerably by the CPI adjustment to a 30 percent gain of $8.7 Billion. Using the GDP deflator, the real gain in purchasing power is $12.8 Billion, for a 44 percent gain. The adjusted CPI yields about the same magnitude of growth while the GDP Consumption deflator yields about a 4-5 percent lower growth value, but still almost a two-fifths gain in purchasing power. It is also noteworthy that these percentage gains compare favorably with employment changes over those 20 years. Jobs grew by 323,600 from 1980-1999, a 28 percent increase. The fact that the real personal income growth rates exceed the percentage change in jobs is indication that the real wage has grown in Oklahoma as well.

Table III also reports absolute and percentage changes since 1987, the nadir of the 1980s Okla-

Table III

Nominal Personal Income (PI), Alternative Inflation Adjustments, and Employment in Oklahoma, 1980-1999
(in Billions, Employment in Thousands)

Year	*Nominal PY*	*Real-CPI*	*Real-GDP*	*Real-CPI**	*Real-GDPC*	*Employment*
1980	$29.1	$29.1	$29.1	$29.1	$29.1	1,138
1981	$34.1	$30.8	$31.2	$30.7	$31.3	1,201
1982	$37.9	$32.3	$32.7	$31.8	$33.1	1,217
1983	$38.6	$31.9	$32.1	$31.3	$32.3	1,171
1984	$41.7	$33.0	$33.4	$32.8	$33.7	1,180
1985	$43.4	$33.2	$33.8	$33.1	$33.9	1,165
1986	$43.2	$32.5	$32.9	$32.3	$33.0	1,124
1987	$43.2	$31.3	$32.0	$31.8	$31.8	1,108
1988	$45.2	$31.4	$32.2	$32.1	$31.9	1,131
1989	$48.1	$31.9	$33.1	$33.0	$32.6	1,164
1990	$51.0	$32.1	$33.8	$33.6	$33.0	1,193
1991	$52.9	$32.0	$33.9	$33.4	$33.0	1,208
1992	$56.2	$32.9	$35.1	$34.5	$34.0	1,222
1993	$58.4	$33.3	$35.6	$35.1	$34.6	1,247
1994	$60.8	$33.8	$36.3	$35.9	$35.3	1,279
1995	$63.3	$34.2	$37.1	$36.6	$35.9	1,316
1996	$66.3	$34.8	$38.0	$37.6	$36.8	1,353
1997	$69.9	$35.8	$39.4	$38.8	$38.1	1,393
1998	$73.4	$37.0	$40.8	$40.4	$39.6	1,441
1999	$76.5	$37.8	$41.9	$41.7	$40.5	1,462
1980-1999	$47.4	$8.7	$12.8	$12.5	$11.4	323.6
% Change	163%	30%	44%	43%	39%	28%
1987-1999	$33.3	$6.5	$10.0	$9.9	$8.8	353.3
% Change	77%	21%	31%	31%	28%	32%

homa economic experience. The bulk of Oklahoma's employment gains occurred since that time. Here we see that by four of the inflation adjustment measures, the state has experienced real personal income growth in percentage terms that about match employment gains in percentage terms. There is a small differential of 1-3 percentage points, but the results are relatively consistent with the notion of a constant real wage during that period of fairly rapid employment growth.

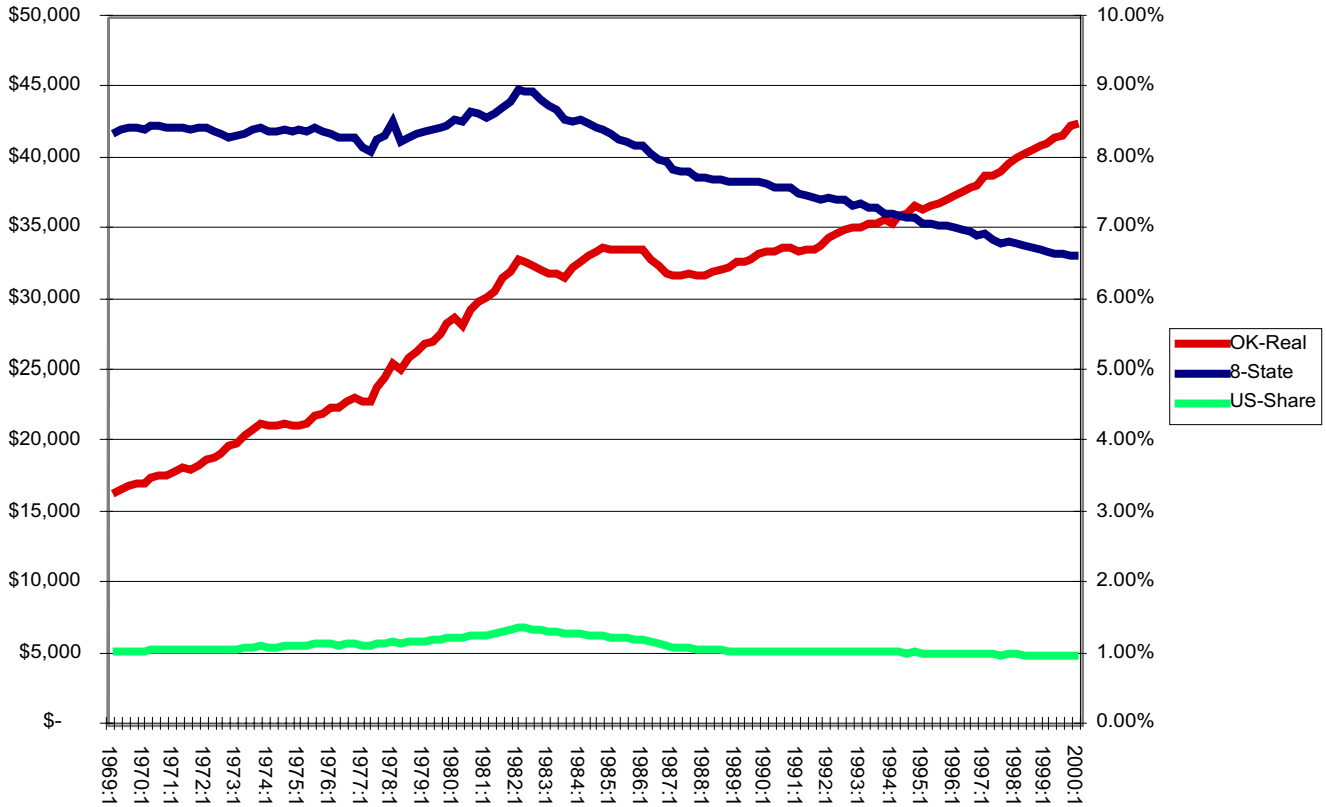
Our Seven Neighbors

It has become somewhat of a tradition to compare Oklahoma with its seven neighboring states: Arkansas, Colorado, Louisiana, Missouri, New Mexico, and Texas. All of these states, save Louisiana, are contiguous with Oklahoma. Louisiana is included because of similarities to the Oklahoma economy. It, too, has experienced grave difficulties in the energy-bust years. A fair question to ask is, "What has happened to Oklahoma's national and regional share of personal income?" One major advantage accrues to this approach of market share: It is not necessary to involve any measure of inflation in its calculation. Thus, this is an important basis for evaluating Oklahoma's relative standing.

Figure A provides a graphical representation of the results of this market share approach. Also graphed with Oklahoma's share of national and regional eight-state personal income is the real level of Oklahoma personal income, adjusted using the GDP price deflator. The data are quarterly, from 1969 through the second quarter of 2000. Oklahoma

Figure A

Oklahoma Inflation-Adjusted Personal Income and Percentage Share of Eight-State/US Aggregates



began the 1970s with about a 1.04 percent share of national personal income and an 8.4 percent share of regional personal income. At the height of the energy boom, Oklahoma's share of national personal income had risen to 1.39 percent and 9.0 percent of regional income. Since that time, Oklahoma's relative standing has steadily declined. As of the second quarter of year 2000, Oklahoma has fallen beneath the 1.0 percent share of national personal income to 0.98 percent and to only 6.6 percent of regional personal income. The bad news is the extent of the decline; the good news is that the rate of decline seems to be moderating.

Conclusion

Over the course of the last 20 years, the Oklahoma economy has experienced very turbulent times. This paper has examined some of these issues, especially as they relate to changes in real personal income over that period. This exploration necessarily launches the researcher into issues of just what the true extent of inflation has been over that course of time. There are no easy answers to such questions; investigators disagree about the general degree of inflation, but are in agreement that the Consumer Price Index overstates inflation. The amount of overstatement appears to be in the range of 0.8 to 1.6 percentage points per year. It has been shown in this paper that even a 3/4th percentage point difference over 20 years can lead to a 20-point differential. Obviously, then, very different assessments of Oklahoma's real personal income gains can be attributed to choice of deflator in such analysis.

On various inflation indicator bases, however, this study shows that Oklahoma has experienced about a 40 percent gain in real personal income since 1980. That 40 percent gain translates into about a $12 Billion gain in real personal income using 1980 prices. It is important to note, however, that the problems the Boskin Commission has with the Consumer Price Index are also problems with other indicators of inflation. That Commission would also consider the GDP deflator to be flawed for similar reasons, but not as dramatically. Yet, it is clear by just about any reasonable inflation measure, the state has experienced considerable growth in real purchasing power, even in comparison to growth in employment. That is, the real wage appears to have advanced, as well.[3]

On a relative basis, the news is not good. This study shows that relative to our neighboring states and the nation, Oklahoma has dropped beneath even its early 1970s market share of personal income. Today we stand at less than one percent share of national personal income and 6.6 percent share of regional personal income. These percentages are down from 1.07 percent nationally in the early 1970s and 8.4 percent regionally. There are a lot of dollars associated with even a small change in the national share. If Oklahoma were to rise to its early 1970's share of national personal income, almost $7.5 Billion (9.4 percent) would be added to our second quarter year 2000 personal income level. A one-hundredth of a percentage point change in Oklahoma's share of national personal income amounts to $811 Million dollars today.

The glass is half-full on an absolute basis. The Oklahoma economy is significantly a larger, more robust, and more highly diversified economy than it was even at the height of the energy boom. The glass is half-empty on a relative basis. The state has not done well in comparison to the nation and its neighbors. These relative loses, while sizable, are showing some tendency to stabilize. But, these losses are large, indeed. It is particularly troubling that about one-half of the loss in relative standing regionally has occurred since the fourth quarter of 1990. Clearly, the time has not yet arrived that Oklahoma can rest on its economic development laurels. We need to rededicate our efforts to advance this state economically.

Notes

[1]The proper title of the commission was Advisory Commission to Study the Consumer Price Index, and its report is called the Final Report to the Senate Finance Committee from the Advisory Commission To Study The Consumer Price Index, December 4,1996. There are five authors to the study: Michael J. Boskin, Ellen R. Dulberger, Robert J. Gordon, Zvi Griliches, and Dale Jorgenson, but is commonly known as the Boskin Report. The document is available on the Internet at address: http://www.ssa.gov/history/reports/boskinrpt.html

[2]The inflation series utilized in this study include the GDP implicit price deflator, the GDP state and local

government deflator, and the Consumer Price Index (CPI). The two GDP deflators are produced and published by the Bureau of Economic Analysis, US Department of Commerce. The CPI series is compiled by the Bureau of Labor Statistics, US Department of Labor. These series are available electronically for subscribers to Citibase as variables GDPD, GDGS, and PUNEW.

[3]A more careful analysis of real earnings per job will require investigation of nominal earnings, adjusted for inflation, as opposed to personal income. Thus, there is need to be cautious in interpretation of what has happened to the real wage in Oklahoma by simply looking at personal income. Earnings are an important and dominant component of personal income, but certainly not the only component. Personal income includes social security payments, dividends, interest, rent and other nonlabor income. A subsequent study will take a more methodologically consistent look at the real wage issue.

Robert C. Dauffenbach is Director for the Center for Economic and Management Research.

Twenty Years of Taxable Sales in Oklahoma Localities: The Trends and Their Meaning

by Robert C. Dauffenbach

Introduction

Revenues from taxable sales are of vital importance in financing city services throughout Oklahoma. The lesser reliance that Oklahomans place on the property tax accentuates the importance of local sales tax revenue. In 1999 total sales subject to the sales tax are estimated to be $28.3 Billion. At the weighted average local tax rate on sales of 3.17 percent in 1999, $898 Million in local revenue was generated.[1] The high degree of dependence on the sales tax raises a number of questions. One set of questions relates to issues of centrality in sales. That is, to what extent do mid- and larger size communities draw customers from other communities to form retail trade centers? The paper entitled "1999 County Trade Pull Factors for the State of Oklahoma," by Jon Chiappe, investigates this question in this issue of the *Oklahoma Business Bulletin*. In this interesting and useful paper, the author finds that only a handful of counties sport per capita sales values in excess of the statewide per capita figure. There are few retail trade centers in the state.

Other questions abound. The widespread local dependence upon the sales tax as a revenue source brings forth issues of what the trends have been and how these trends have varied both regionally and by city size. Concern about relative economic growth in the western portion of the state is one such issue. Has the western part of the state lost market share, and if so, to what extent? Are smaller communities losing market share to the "big" cities, and if so, to what extent? Then there is the general issue of how taxable sales have fared in Oklahoma relative to the rate of inflation. Has the real spending power of the funds generated for local governments through this tax source declined? With inflation we generally expect taxable sales to rise from year to year, provided the economy is showing at least some employment growth. It does little good, however, if sales rise by two percent when the inflation rate is three percent. Such a result yields a one percentage point decline in purchasing power.

Dealing with issues of purchasing power generates its own set of problems. Which inflation measure is the most appropriate for computing real purchasing power? There are several such measures, but one stands out. That is the gross domestic price deflator for state and local government purchases. A measure based solely on local government purchases would be better if it were available. And, it would be nice to have a pure Oklahoma measure, if it existed. But the US average state and local measure seems to be finest cut of the data readily available.

An added issue in recent years has been the impact of the Internet on sales. If the Internet takes hold as a viable medium for retail purchases, local communities will lose out on an important source of revenue. While it is early in the game to be evaluating the ultimate impact of the Internet on local purchases, there is ample reason to see if any discernable trends are in evidence. A possible indication of Internet impact would be in terms of a declining ratio of taxable sales to total state personal income, the Sales/Income ratio. If sales are being diverted to the Internet, one would expect this ratio to fall.

The Center for Economic and Management Research tracks taxable sales of all individual cities in Oklahoma on a monthly basis and now has over 20 years of data in the system.[2] The database contains monthly records of tax collections and tax

rate for each city levying a local sales tax. With the data in a relational database system, it is possible to quickly perform a variety of computations. Taxable sales has a simple definition in this research:

Taxable Sales = Tax Collections/Tax Rate

Dividing the tax collections for any given month by the tax rate for that month yields taxable sales. Once these calculations are performed the results are summed to form county aggregates and then state-wide totals from the county values. Data on counties and the 50 largest communities are available on the Internet at address ORIGINS.OU.EDU. The taxable sales database provides a vehicle for systematic evaluation of sales trends in Oklahoma.

The goals of the paper are then (1) to review taxable sales trends for the state and by region and city size; (2) to inflation-adjust total local taxable sales to gain understanding of the real purchasing power of taxable sales; (3) to examine statewide trends in local area sales tax rates; and (4) to assess whether there is evidence of Internet in roads in retail purchases. Principal among the findings are that "the more things change, the more they stay the same." There are some discernable trends and clearly some winners and losers, but for the most part the shifts in market share have been minor. Evidence shows that the real value of taxable sales has been preserved, after initial declines in the energy bust years. Little evidence exists that the Internet has made inroads on local purchases. But, the one dominant trend has been to higher local tax rates. On a weighted average basis, local sales tax rates are about 50 percent higher than they were in the early 1980s.

Taxable Sales Trends

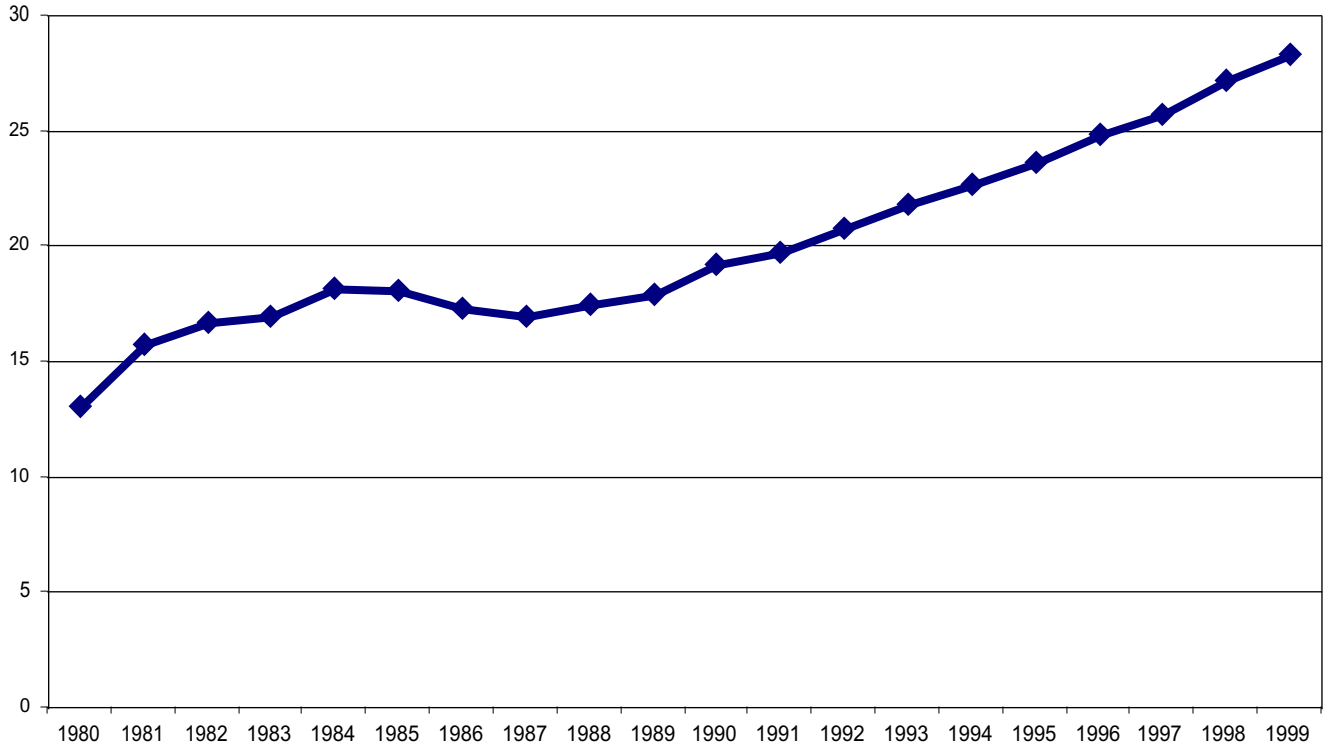
Since 1980, total taxable sales, the sum of all taxable sales for all cities in Oklahoma, have risen by $15.3 Billion, from $13.0 to $28.3 Billion.[3] As shown in Figure A, the time path of the $15.3 Billion gain has varied. Even without inflation adjustment, the 1985-1987 period was one of decline in total taxable sales. 1987 taxable sales were $1.2 Billion lower than 1984 sales. Almost two-thirds of the 20 year gain of $15.3 Billion has occurred since 1987. This appears to be a substantial gain, but again we must recognize that there has been a significant increase in the prices of goods and services in the last 20 years. This issue we address below. Now we focus on the regional distribution of gains and changes by city size.

Six regional areas are examined. Two are formed by the US Census defined six counties in the Oklahoma City metro area and the five-county Tulsa metro area. Other counties are allocated to four quadrants in the state by vertical and horizontal lines centered on Oklahoma County. If a county is split by either a vertical or horizontal line, a determination of region was made using the area of largest landmass. This scheme results in the following allocation of counties:

OKC Metro:	Canadian	Cleveland	Logan
	McClain	Oklahoma	Pottawatomie
Tulsa Metro:	Creek	Osage	Rogers
	Tulsa	Wagoner	
Northeast:	Adair	Cherokee	Craig
	Delaware	Kay	Lincoln
	Mayes	Muskogee	Noble
	Nowata	Okmulgee	Ottawa
	Pawnee	Payne	Washington
Northwest:	Alfalfa	Beaver	Blaine
	Cimarron	Custer	Dewey
	Ellis	Garfield	Grant
	Harper	Kingfisher	Major
	Roger Mills	Texas	Woods
	Woodward		
Southeast:	Atoka	Bryan	Carter
	Choctaw	Coal	Garvin
	Haskell	Hughes	Johnston
	Latimer	LeFlore	Love
	Marshall	McCurtain	McIntosh
	Murray	Okfuskee	Pittsburg
	Pontotoc	Pushmataha	Seminole
	Sequoyah		
Southwest:	Beckham	Caddo	Comanche
	Cotton	Grady	Greer
	Harmon	Jackson	Jefferson
	Kiowa	Stephens	Tillman
	Washita		

Figure A

Statewide Taxable Sales
$Billions



It is important to note that the resulting regional allocation of counties yields a differential number of counties. The northeast region has 15 counties; northwest, 16; southeast, 22; and southwest, only 13. Thus, on this basis alone we would expect differentials in market shares. The issues of differential growth, however, revolve around trends in market shares, not levels.

The market share is defined quite simply. It is the total sales in a region divided by total sales of all regions, expressed as a percent. In other words,

$$MS_i = SST_i / \Sigma SST_i$$

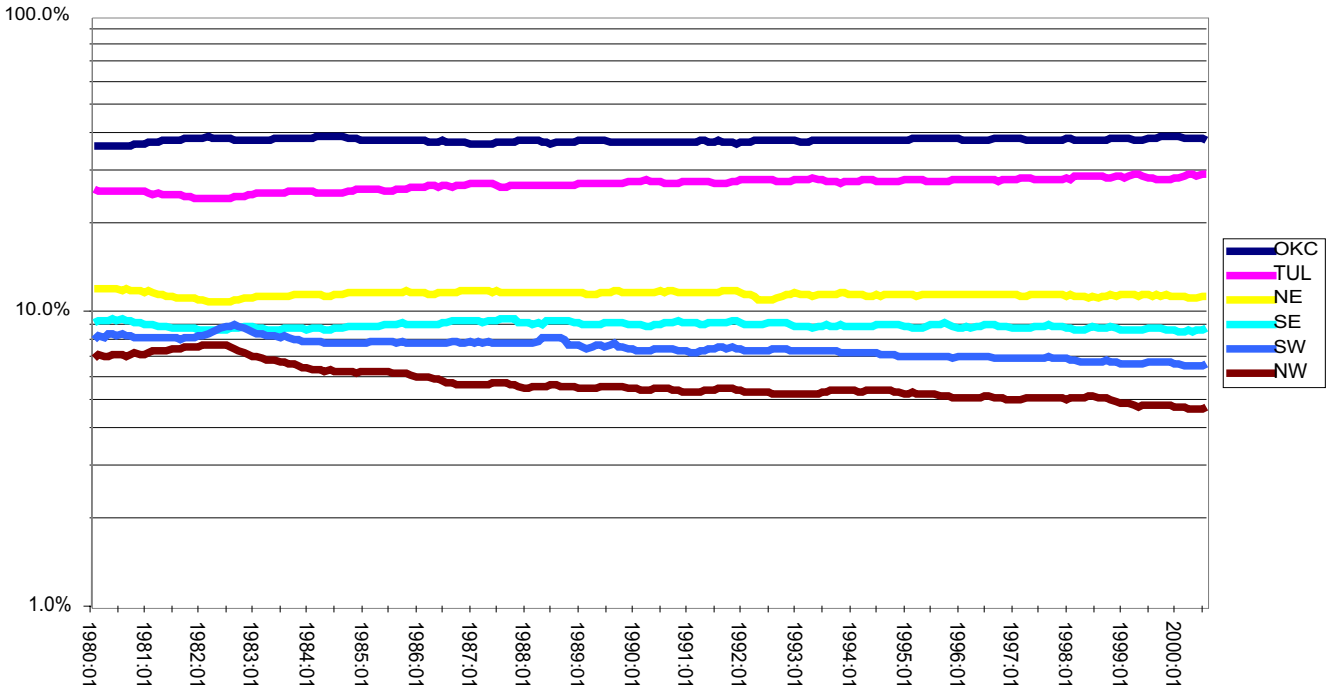
or the Market Share of region "i" is equal to sales-subject-to-tax in region "i" divided by the sum of all taxable sales in all regions. As Figure B shows, there is subtle indication of changes in market shares by region. To highlight these regional changes, the graph is expressed in log-graphical form. This tends to exaggerate the visual "presence" of lower market share values and thus enables us to more readily see the trends. The OKC metro area has, by far the largest market share. Generally this share hovers at slightly less than 40 percent, but never exceeds this value. Relative to its high value, its share seems quite stable. The Tulsa metro area shows a slight upward trend in market share, after an initial decline in the early 1980s from about 25 percent to 29 percent. The Northeast is the next highest with an 11.5 percent share that has been quite stable. This is followed by the Southeast with about a 9 percent share that has sometimes dips to the 8.5 percent range, but is again quite stable. The Southwest and Northwest regions follow in the rankings. The Southwest has lost about one and one-half of a percentage point in market share and now has about a 6.8 percent share while the Northwest has lost

about two and one-half of a percentage point in share and now stands at 4.9 percent. It is pertinent that the western portion of the state benefited greatly from the energy boom which undoubtedly impacted their market shares in the early 1980s.

In summary these results show stability for the OKC metro area and the Southeast. The gains in the Tulsa metro area about match the declines in the western portion of the state. What is most surprising in the results is that the changes are not as large as one might have supposed. The general impression is one of share stability. Still, a loss in market share of one percentage point is not to be downplayed. Remember that in 1999 the sum of city taxable sales is estimated to be $28.3 Billion. On an annual basis, then, a loss of one percentage point in share amounts to a decline in taxable sales of $283 million. At the present weighted average tax rate of 3.17 percent, this loss of sales translates into almost $9 million in local revenues. The cities in the northwestern part of the state could then be said to have lost about $22 million in tax revenue in comparison to their market-share standing in the early 1980s. And, this is an annual loss. Thus, these changes in market shares have real and sizable local revenue consequences. Still, the "redistribution" is only about $22 million in almost $900 million in total local revenue, which seems comparatively small for a 20-year time span. Furthermore, the western portion of the state received considerable drilling activity in the heyday of the energy boom. It could well be true that their market shares expanded dramatically during that period from levels earlier in the 1970s. The western part of the state may simply have been experiencing a return to long established market shares prior to the energy boom.

Figure B

Market Shares of Taxable Sales
Log-Scale



Turning to the issues of taxable sales trends by city population size, the incorporated areas in the state, which number 586, were divided into eight size classes. Table I shows the class-sizes and the resulting frequency distribution of cities by size is as follows:

Table I

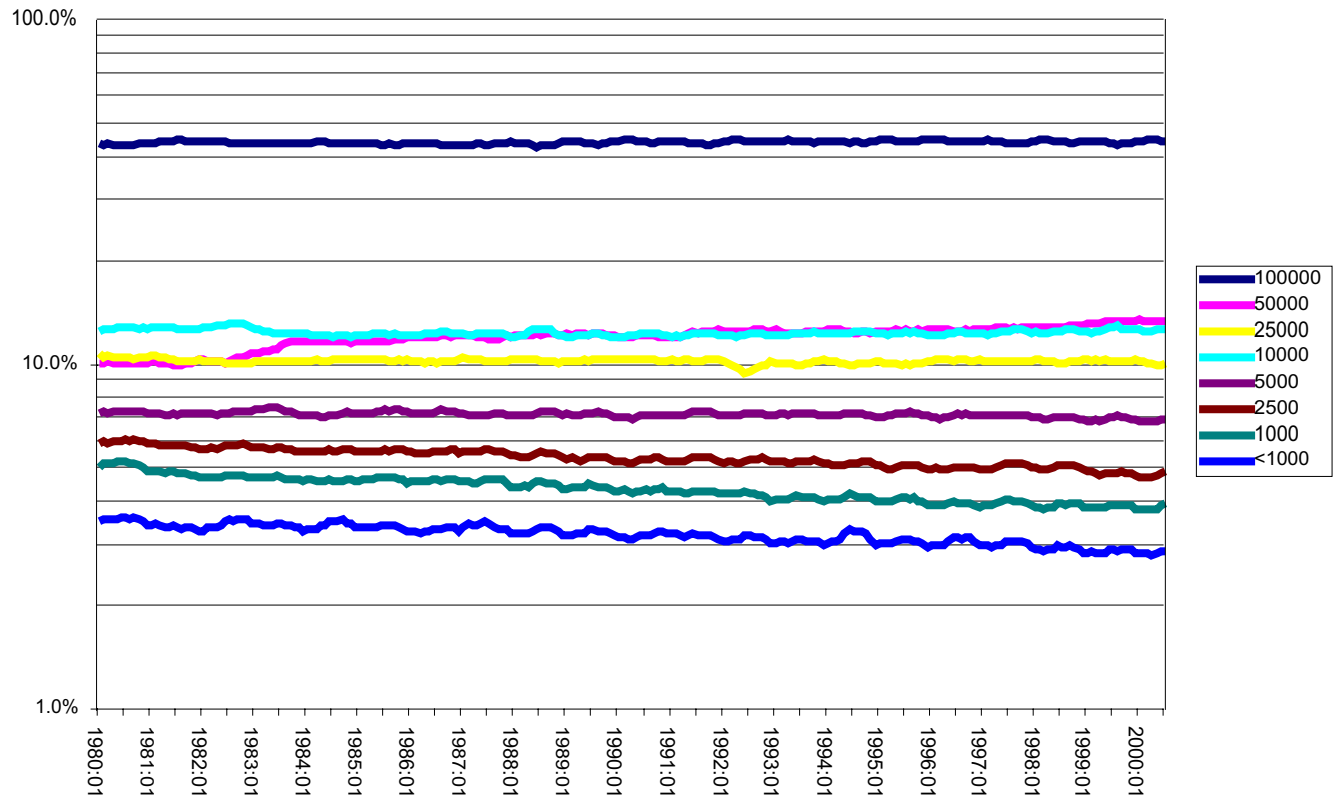
Frequency Distribution of Incorporated Areas in Oklahoma

Class	*1998 Population Size Class*	*Frequency*	*Relative Frequency*
I	0-1000	360	61.4%
II	1,000-2,500	111	18.9%
III	2,500-5,000	53	9.0%
IV	5,000-10,000	27	4.6%
V	10,000-25,000	20	3.4%
VI	25,000-50,000	7	1.2%
VII	50,000-100,000	6	1.0%
VIII	100,000-500,000	2	0.3%
		586	100.0%

Figure C shows the market share results for these various size classes of cities. Again, a log-scale is used in the graphic to highlight the trends. First we look at the largest size category, Class VIII. The incorporated areas of Oklahoma City and Tulsa are the two cities that comprise the largest size class. These two cities account for about 45 percent of taxable sales and their share has been quite stable over the years. If anything it has risen, if only marginally. The next largest size class, Class VII, consists of Norman, Lawton, Broken Arrow, ElReno, Edmond, and Midwest City (shown in order by their 1998 estimated population). This group of cities has trended upward from the 10 percent share level to the 13.5 percent share in recent years. A substantial portion of this gain occurred in the early years of the energy bust period. Class V, 25,000 to 50,000 in population, consisting of seven cities (Moore, Enid, Stillwater, Muskogee, Bartlesville, Shawnee, Ponca City), has had a very stable market share in the 10 percent area.

Figure C

Market Shares of Taxable Sales by City Size Class



The next size class, Class IV, 10,000 to 25,000 in population, consists of 21 cities which ranked by population are: Ardmore, Yukon, Duncan, Altus, Bethany, Claremore, Sapulpa, Sand Springs, Chickasha, Ada, Owasso, Okmulgee, Durant, Miami, Bixby, Mustang, Tahlequah, Woodward, Elk City, and Guthrie. This class of cities has had a comparatively stable market share at about 7.3 percent. The remaining classes of cities, Classes I, II, and III have experienced declining shares of taxable sales. These three classes of cities experienced an aggregate decline of 3.4 percentage points in market share when comparing the early 1980 share with the late 1999 share. Given a combined share for these three classes of 15.0 percent in early 1980 and 11.6 percent in late 1999, the 3.4 percent decline represents a sizable reduction in market share. The losses in share for the smallest communities is gradual, but persistent. It doesn't seem related to energy shocks.

Examining Table II, which reports various statistical measures of market shares by city population size, the patterns of change are readily summarized. The measures of greatest usefulness for examining changes are the *relative variation* measure, defined as the ratio of the standard deviation to the mean and expressed as a percent, and the *difference* between the early 1980 and the late 1999 shares. High relative variation is symptomatic of change in time series data. The early 1980 share refers to the average share in the first six months of 1980 while the late 1999 share is the average in the last six months of 1999. Class VII and Classes I, II and III have the largest relative variations. This signals potential change. The differences between the early 1980 and late 1999 values show that Class VII experienced the largest gain while the lowest population category cities experienced the largest losses. The gains of the former essentially match the losses of the latter and may signal improved trade center status for these Class VII cities. Again, each percentage point change in market share represents about $9 Million in current annual revenue.

Inflation-Adjusted Taxable Sales

This section examines the issue of the real purchasing power of taxable sales. There are a variety of inflation indicators including the GDP price deflator and the Consumer Price Index (CPI). These are the two most quoted inflation measures. Inflation can also be measured for various sectors of the economy and in this regard the US Department of Commerce computes an inflation measure solely based on state and local government purchases. This is the primary benchmark that we will utilize for examining the real purchasing power of taxable sales. The standard GDP price deflator and the CPI results will also be utilized. The CPI is often criticized for overstating inflation. Some economists think that the overstatement is as much as 1.3 percent. Others believe that the CPI overstates inflation by about 0.75 percent. The author has computed an alternative inflation measure, based on the CPI, but for which 0.75 percent was subtracted from reported inflation on a systematic basis. This alternative system we will call CPI*. The resulting inflation measures have been adjusted in such a manner that the index averages 100 for 1980. This allows us to readily see how inflation has varied by these various measures.[4]

Table II

Various Statistical Measures on Taxable Sales Market Shares by City Population Size

	Class of Cities							
	VIII	***VII***	***VI***	***V***	***IV***	***III***	***II***	***I***
Mean	44.6%	12.2%	10.4%	12.5%	7.3%	5.4%	4.4%	3.3%
Standard Deviation	0.85%	0.92%	0.26%	0.36%	0.22%	0.35%	0.39%	0.25%
Relative Variation	1.9%	7.6%	2.6%	2.8%	3.0%	6.5%	8.8%	7.5%
Median	44.5%	12.3%	10.4%	12.5%	7.2%	5.4%	4.4%	3.3%
Early 1980 Share	43.8%	10.2%	10.6%	12.9%	7.4%	6.1%	5.3%	3.6%
Late 1999 Share	44.7%	13.6%	10.4%	12.8%	7.0%	4.8%	3.9%	2.9%
Difference	0.9%	3.4%	-0.2%	-0.1%	-0.5%	-1.3%	-1.4%	-0.8%

Table III reports the resulting inflation indices, 1980=100. The S&L Deflator refers to the GDP price deflator for state and local government purchases. This index has risen from 100 in 1980 to 196.1 in 1999, almost doubling. The GDP price deflator rises to 182.5 while the CPI more than doubles to 202.4. It is noteworthy that the CPI* index, with its 0.75 percent point reduction, rises only to 183.6, closely matching the GDP deflator in final year value.

The simple process of dividing each index by 100 and then dividing current dollar taxable sales by the result yields the real purchasing power of taxable sales. The results are shown in Table IV. The State SST column refers to statewide current dollar estimates of taxable sales. Column 3 adjusts these measures by the state and local purchases price deflator while the remaining columns provide adjustments by the standard GDP deflator, the CPI and the downwardly revised CPI. By all measures, Oklahoma was going through rough times in real purchasing power of sales tax collections during the period 1985 through 1989. Beginning in 1990 Oklahoma began to experience real gains in purchasing power of taxable sales. By the S&L deflator measure, this gain has been about $2.6 Billion. By the standard GDP measure and the adjusted CPI, the gain has been about $3.1 Billion. The S&L deflator measure is probably preferred, however, thus producing about a 2.6 gain from the low end values of real purchasing power that today match the highest achievements of the halcyon days of the energy boom. Bottom line, we are essentially about back to *go*, possibly a little ahead in terms of the real purchasing power of taxable sales in this state.

Table III

Various Inflation Measures (1980=100)

Year	*S&L Deflator*	*GDP Deflator*	*CPI*	*CPI**
1980	100.0	100.0	100.0	100.0
1981	109.7	109.3	110.6	111.1
1982	116.5	115.7	117.2	119.2
1983	121.6	120.2	121.0	123.4
1984	127.0	124.6	126.2	127.1
1985	131.8	128.4	130.7	131.0
1986	135.6	131.3	133.2	133.7
1987	141.4	135.3	138.1	136.0
1988	145.7	140.0	143.7	140.5
1989	150.9	145.3	150.7	145.8
1990	157.7	151.0	158.8	151.9
1991	161.9	156.3	165.5	158.6
1992	165.1	160.1	170.5	162.5
1993	169.3	163.9	175.6	166.3
1994	173.9	167.3	180.1	169.5
1995	178.8	170.9	185.2	172.9
1996	182.8	174.2	190.6	176.4
1997	187.4	177.5	195.0	179.9
1998	190.5	179.8	198.1	181.7
1999	196.1	182.5	202.4	183.6

Trends in Local Sales Tax Rates

Table V shows the weighted average local sales tax rates for the state and the various size classes of cities. Figure D also provides a graphic of the state's weighted average rate for all cities combined. These results reveal that the state has experienced substantially higher rates of local sales taxes over this 20-year period. In recent years these weighted averages have stabilized and shown a slight tendency to decline. With the average rate up by about 50 percent and with the real value of sales tax collections about equal to the high-water mark of the energy boom period, it is clear that local sales tax revenues in real terms are about 50 percent higher than in the early years of the 1980s.

Taxable Sales in Relation to Income

Finally, we examine the question of whether sales tax collections have changed in relation to personal income in the State of Oklahoma. This measure is formed by simply dividing total taxable sales by personal income, expressing the result as a percent. As Table VI reveals, the ratio has declined from the mid 40 percent range to 37 percent. The rationale for this decline are fully understood. One part of the explanation lies in the considerable revenues that were generated by drilling activity in the state in those years of the energy boom. Such activity certainly raised local collections as companies purchased drilling equipment and related goods.

Table IV

State Taxable Sales and Various Real Purchasing Power Measures

Year	State SST	Real S&L Deflator	Real GDP Deflator	Real CPI	Real CPI*
1980	$13.1	$13.0	$13.0	$13.0	$13.0
1981	$15.8	$14.4	$14.4	$14.3	$14.2
1982	$16.7	$14.4	$14.5	$14.3	$14.0
1983	$17.0	$14.0	$14.1	$14.0	$13.8
1984	$18.2	$14.4	$14.6	$14.5	$14.4
1985	$18.1	$13.8	$14.1	$13.9	$13.8
1986	$17.4	$12.8	$13.2	$13.1	$13.0
1987	$17.0	$12.0	$12.6	$12.3	$12.5
1988	$17.5	$12.0	$12.5	$12.2	$12.4
1989	$18.0	$11.9	$12.4	$11.9	$12.3
1990	$19.2	$12.2	$12.7	$12.1	$12.7
1991	$19.7	$12.2	$12.6	$11.9	$12.4
1992	$20.8	$12.6	$13.0	$12.2	$12.8
1993	$21.8	$12.9	$13.3	$12.4	$13.1
1994	$22.8	$13.1	$13.6	$12.6	$13.4
1995	$23.7	$13.2	$13.8	$12.8	$13.7
1996	$24.9	$13.6	$14.3	$13.0	$14.1
1997	$25.7	$13.7	$14.5	$13.2	$14.3
1998	$27.2	$14.3	$15.2	$13.8	$15.0
1999	$28.3	$14.5	$15.5	$14.0	$15.4

Of importance, however, there is little evidence that the ratio has changed in recent years. The ratio has been essentially stable throughout the 1990s. This evidence is far from proof that the Internet has had little impact on sales in local economies, but these results are not inconsistent with that hypothesis. If, in fact, Oklahomans like most Americans seem to have raised their ratios of consumption to income, correspondingly reducing savings, there is still room in these results for suggesting that the Internet has had some impact on local sales. The Internet is still in its infancy and there is still some likelihood that it will begin to have a noticeable effect on local sales tax collections.

Conclusion

This study reviews various trends in taxable sales in Oklahoma resulting from local governmental levies. Analyzed are trends by region, by city size, and by real purchasing power. By region the results show gains in market share for the Tulsa area and declines in the western part of the state. The magnitude of the shift in shares is about 4 percentage points. The remaining areas are essentially stable in share throughout the 20-year period. By city size, the results show gains for Class VII cities, population 50,000-100,000, of about 3.5 percent. This gain about matches the reduction in shares for Classes I, II, and III, the smallest of the city groupings. Adjustments for inflation reveal that the total taxable sales about matches the high levels of attainment during the energy boom years. Thus, there is little evidence that inflation has eroded in real terms the purchasing power of taxable sales to local governments. Whether these shifts in market shares seem large or small is somewhat in the eyes of the beholder. Striking to the author has been, however, the relative constancy of shares.

Figure D

Statewide Weighted Average of Local Sales Tax Rates

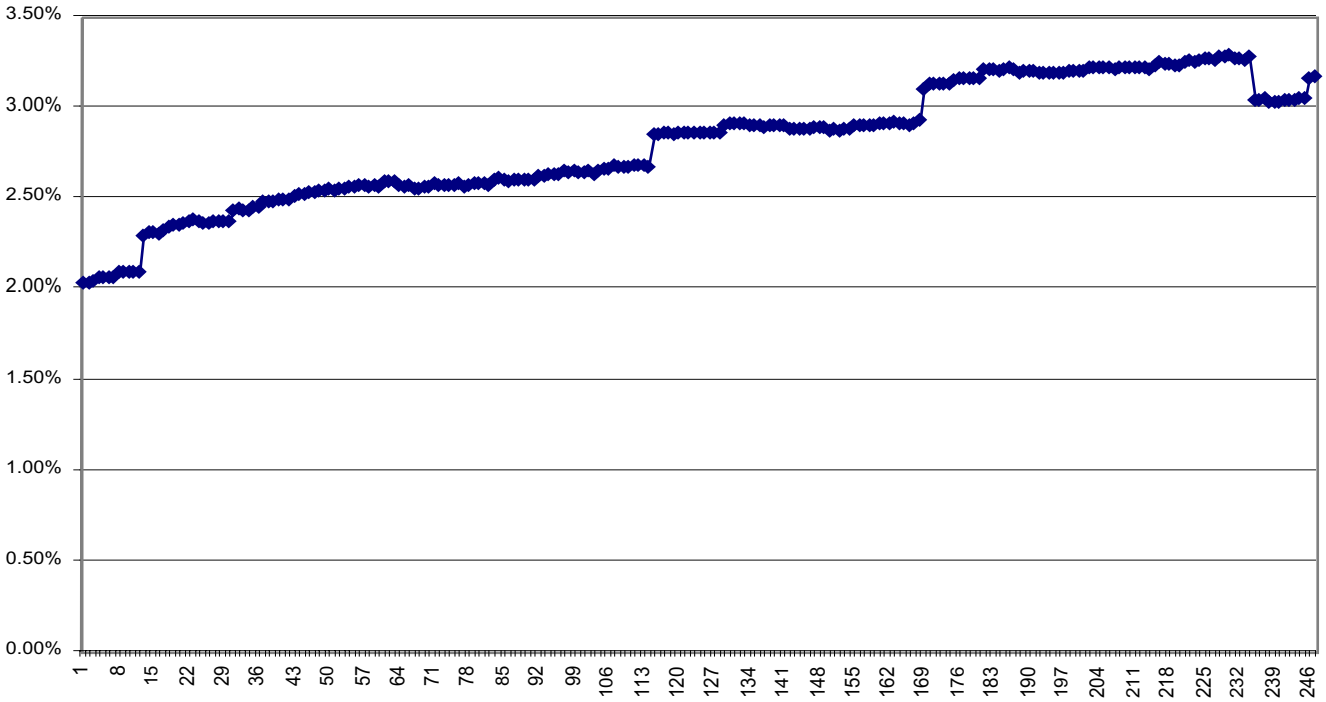


Table V

Weighted Average Sales Tax Rates for the Size Classes of Cities and Total

	Total	*VIII*	*VII*	*VI*	*V*	*IV*	*III*	*II*	*I*
1980	2.1%	2.0%	2.1%	2.3%	2.1%	2.1%	2.0%	2.1%	1.8%
1981	2.3%	2.4%	2.2%	2.4%	2.3%	2.2%	2.2%	2.2%	1.9%
1982	2.4%	2.4%	2.4%	2.5%	2.5%	2.4%	2.3%	2.3%	2.0%
1983	2.5%	2.4%	2.6%	2.8%	2.5%	2.5%	2.5%	2.4%	2.1%
1984	2.6%	2.4%	2.6%	2.9%	2.7%	2.6%	2.6%	2.6%	2.2%
1985	2.6%	2.5%	2.9%	2.7%	2.7%	2.6%	2.7%	2.6%	2.2%
1986	2.6%	2.5%	2.9%	2.6%	2.7%	2.6%	2.6%	2.6%	2.2%
1987	2.6%	2.5%	2.9%	2.9%	2.7%	2.7%	2.6%	2.6%	2.3%
1988	2.7%	2.5%	2.9%	3.1%	2.7%	2.7%	2.7%	2.7%	2.6%
1989	2.8%	2.7%	2.9%	3.0%	2.8%	2.8%	2.7%	2.8%	2.7%
1990	2.9%	2.9%	2.8%	3.1%	2.8%	2.8%	2.7%	2.8%	2.8%
1991	2.9%	2.9%	2.8%	3.1%	2.8%	2.8%	2.7%	2.8%	2.9%
1992	2.9%	2.9%	2.7%	3.1%	2.8%	2.9%	2.7%	2.9%	2.9%
1993	2.9%	2.9%	2.8%	3.1%	2.8%	2.9%	2.8%	2.9%	2.9%
1994	3.1%	3.5%	2.7%	3.0%	2.9%	2.9%	2.8%	2.9%	2.9%
1995	3.2%	3.5%	3.0%	3.2%	3.0%	2.9%	3.0%	3.0%	2.9%
1996	3.2%	3.5%	2.9%	3.0%	3.1%	2.9%	3.1%	3.0%	2.9%
1997	3.2%	3.5%	3.0%	3.1%	3.1%	2.9%	3.1%	3.0%	2.9%
1998	3.3%	3.4%	3.0%	3.2%	3.2%	2.9%	3.1%	3.1%	2.9%
1999	3.2%	3.2%	3.1%	3.1%	3.2%	3.0%	3.2%	3.1%	2.9%

Table VI
Oklahoma Personal Income in Relation to Taxable Sales
Dollar Amounts in Billions

Year	OK Personal Income	Total Taxable Sales	Ratio
1980	$29.1	$13.1	44.8%
1981	$34.1	$15.8	46.3%
1982	$37.9	$16.7	44.2%
1983	$38.6	$17.0	44.0%
1984	$41.7	$18.2	43.8%
1985	$43.4	$18.1	41.8%
1986	$43.2	$17.4	40.2%
1987	$43.2	$17.0	39.4%
1988	$45.2	$17.5	38.7%
1989	$48.1	$18.0	37.3%
1990	$51.0	$19.2	37.7%
1991	$52.9	$19.7	37.3%
1992	$56.2	$20.8	37.1%
1993	$58.4	$21.8	37.4%
1994	$60.8	$22.8	37.4%
1995	$63.3	$23.7	37.4%
1996	$66.3	$24.9	37.5%
1997	$69.9	$25.7	36.8%
1998	$73.4	$27.2	37.1%
1999	$76.5	$28.3	37.0%

Stability is also revealed, in recent years anyway, in the ratio of taxable sales to total personal income. These results can weakly be interpreted that the Internet has yet to affect local area sales. The one clear trend has been in sales tax rates. Local rates have risen from 2.1 to 3.2 percent level, on a sales-weighted basis. That is to say that sales tax rates are almost 50 percent higher than they were at the beginning of the 1980s. This fact, when coupled with relative constancy in the real purchasing power of taxable sales, leads to the conclusion that government coffers are receiving 50 percent more revenue in real terms from the sales tax. An interesting question for future investigation is the extent to which increasing reliance on the sales tax has lessened reliance on other revenue sources at local levels. Perhaps it is time to consider broadening the base of local revenue sources.

Notes

[1]The weighted average rate is computed by dividing total local sales tax collections for all cities combined and dividing that result by total taxable sales for all cities. This figure pertains only to local tax collections and does not include the state's sales tax rate.

[2]The author wishes to thank his friend and colleague, Larkin Warner, for the original idea to compile Oklahoma taxable sales data.

[3]Excluded from the computations, for purposes of consistency, are incorporated areas which began levying a sales tax sometime during the 1980 through 1999 period. Generally these are small cities that do not have an appreciable impact on the totals.

[4]The inflation series utilized in this study include the GDP implicit price deflator, the GDP state and local government {consumption sector} deflator, and the Consumer Price Index (CPI). The two GDP deflators are produced and published by the Bureau of Economic Analysis, US Department of Commerce. The CPI series is compiled by the Bureau of Labor Statistics, US Department of Labor. These series are available electronically for subscribers to Citibase as variables GDPD, GDGS {GDC}, and PUNEW.

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1999 County Trade Pull Factors for the State of Oklahoma

Jon Chiappe

Introduction

Retail trade not only provides sales tax revenues for state & local governments, but also employment benefits to the local community. In order to maximize the sales tax and employment benefits and therefore gain the most from retail trade, communities would need to attract shoppers from outside the community. Convenience and entertainment in the form of large shopping malls, an interstate, tourist attractions, etc. would attract people from surrounding areas, and the retail purchases that these visitors make would enhance the aforementioned benefits to the local community.

Whether or not a given county is able to attract people from outside its borders can be measured by County Trade Pull Factors. Trade pull factors are basically location quotients that compare a given county's per capita retail sales to the state's per capita retail sales. Location quotients greater than 1.00 indicate that the county's per capita retail sales are greater than the state's per capita retail sales and that the county is able to pull shoppers from surrounding regions for retail trade. Location quotients less than 1.00 indicate that the county's per capita retail sales are less than the state's per capita retail sales and that the county's residents shop in other counties for retail trade.

Assumptions

Before the County Trade Pull Factor (CTPF) model is explained, there are several assumptions associated with this location quotient that should be mentioned.

The first assumption would be that the state is self-sufficient with regard to retail sales. This would mean that Oklahomans do not spend outside the state and that people from other states do not spend in Oklahoma. This is the Robinson Crusoe assumption – meaning that the state would be viewed as an island that provides all of its retail sales for its entire population. If this assumption is too farfetched, then an alternative assumption would be that the dollar value of Oklahomans spending outside the state equaled the dollar value of non-Oklahomans spending inside the state (as long as the non-resident spending pattern replaced the resident spending pattern dollar for dollar). Either initial assumption, whether the state were self-sufficient or the dollar values equaled, would produce the same results.

The second assumption would be that the amount of money spent on retail sales by the residents of each county averaged to equal the per capita retail sales figure associated with the state. Which means that, as a group, the residents of each county spend the same amount of money on per capita retail sales as the residents of every other county in the state.

A third assumption of the model would be that per capita personal income (PCPI) is equal across counties. This means that any differences in per capita retail sales is not due to any income differences. This assumption will be relaxed later, and a modification of the model will be made.

The Model

Now that the weaknesses of the model have been presented, the basic CTPF model requires only retail sales and population information for each of the seventy-seven counties and the state as a whole.

A modification of the CTPF model will require the use of per capita personal income (PCPI) for each of the counties and the state.

Total sales subject to sales tax numbers were obtained from the ORIGINS database, the population estimates were obtained from the U.S. Census Bureau, and the PCPI estimates were obtained from the REIS 1969-1998 CD-ROM.

Computing County Trade Pull Factors requires first calculating per capita retail sales for each of the seventy-seven counties and the state. And as would be expected, per capita sales requires dividing the region's total sales subject to sales tax by a population figure – in this case total non-institutionalized population. The non-institutionalized population adjusts the total population by accounting for people in prisons, mental hospitals, etc., and the rationale for this adjustment is that most of the institutionalized do not make their own purchases.[1]

$$\text{Per Capita Sales} = \frac{\text{Sales Subject to Sales Tax}}{\text{Non-Institutionalized Population}}$$

The next step in the computation of County Trade Pull Factors requires dividing per capita sales in the county by per capita sales in the state. Basically, this is a ratio with those ratios (CTPF) greater than 1.00 indicating that per capita sales in the county are greater than those in the state, and ratios less than 1.00 indicating that per capita sales are greater in the state than the county.

$$\text{CTPF} = \frac{\text{County Per Capita Sales}}{\text{State Per Capita Sales}}$$

After computing the pull factors, more descriptive information can be presented that complements and completes the picture.

Trade area capture figures adjust a county's population by its CTPF. So those counties that have pull factors greater than 1.00 will capture a greater number of people in its trade area than there are people residing in the county. This therefore indicates that, on the whole, people are traveling to the county for some of their retail purchases. Likewise, those counties with pull factors of less than 1.00 will lose population since residents are traveling outside county borders to purchase goods & services. In the accompanying table, this information is located under the "Trade Capture Area" heading.

$$\text{Trade Capture Area} = \text{CTPF} \times \text{Population}$$

Another useful statistic computes the county's proportion of total sales subject to sales tax in Oklahoma. This is calculated by simply dividing the county's total sales subject to sales tax by the state's total sales subject to sales tax. In the table, this information is presented under the "Percent Market Share" heading.

$$\text{Market Share} = \frac{\text{County Total Sales Subject to Sales Tax}}{\text{State Total Sales Subject to Sales Tax}}$$

Results

County Trade Pull Factors

For the 1999 calendar year, the most recent year for which there is complete data, CTPF values ranged in size from a high of 1.61 in Oklahoma county to a low of 0.13 in Osage county. Only eight of Oklahoma's seventy-seven counties (or 10.4% of all the counties) managed CTPF values of 1.00 or greater in 1999. As can be seen from the accompanying map, the eight Oklahoma counties with CTPF values of 1.00 or greater were Oklahoma, Tulsa, Woodward, Garfield, Washington, Carter, Beckham and Muskogee counties.

Three of the counties with CTPFs of greater than 1.00 are located in northeast Oklahoma. Southeast Oklahoma does not contain any county with a CTPF of over 1.0, with Pontotoc (a 0.89 CTPF) and Pittsburg (a 0.82 CTPF) counties obtaining the highest CTPFs in the region. With a CTPF of 0.78 in Texas county, the Panhandle also does not contain a county with a CTPF of over 1.00. The remaining five counties with CTPFs of over 1.00 are spread evenly across the state.

As might be expected, Oklahoma's two largest counties, Oklahoma & Tulsa counties, posted CTPF values of greater than 1.00. However, the next three most populated counties, Cleveland, Comanche, and Canadian counties, had CTPF values of less than 1.00. This indicates that there is not a direct relationship between a county's population size and its respective trade pull factor value. Woodward county, with a 1999 population of 17,878 people, was the smallest county in the state to post a CTPF value of greater than 1.00.

Payne (0.99), Custer (0.99), Kay (0.97), and Woods (0.92) counties also managed to obtain relatively high CTPF values for the 1999 calendar year. Surprisingly, Payne county, sandwiched between Oklahoma City and Tulsa, obtained a high CTPF value. Part of the explanation for this may be due to the presence of Oklahoma State University in Stillwater. Custer county may have been helped by the presence of the interstate (I-40), two cities, Clinton and Weatherford, and the presence of Southwestern Oklahoma State University in Weatherford. Kay county also has two cities, Blackwell and Ponca City, an interstate (I-35), and is also on the Kansas border. Woods county is more remote, but Northwestern Oklahoma State University is located in Alva, and it too is on the Kansas border.

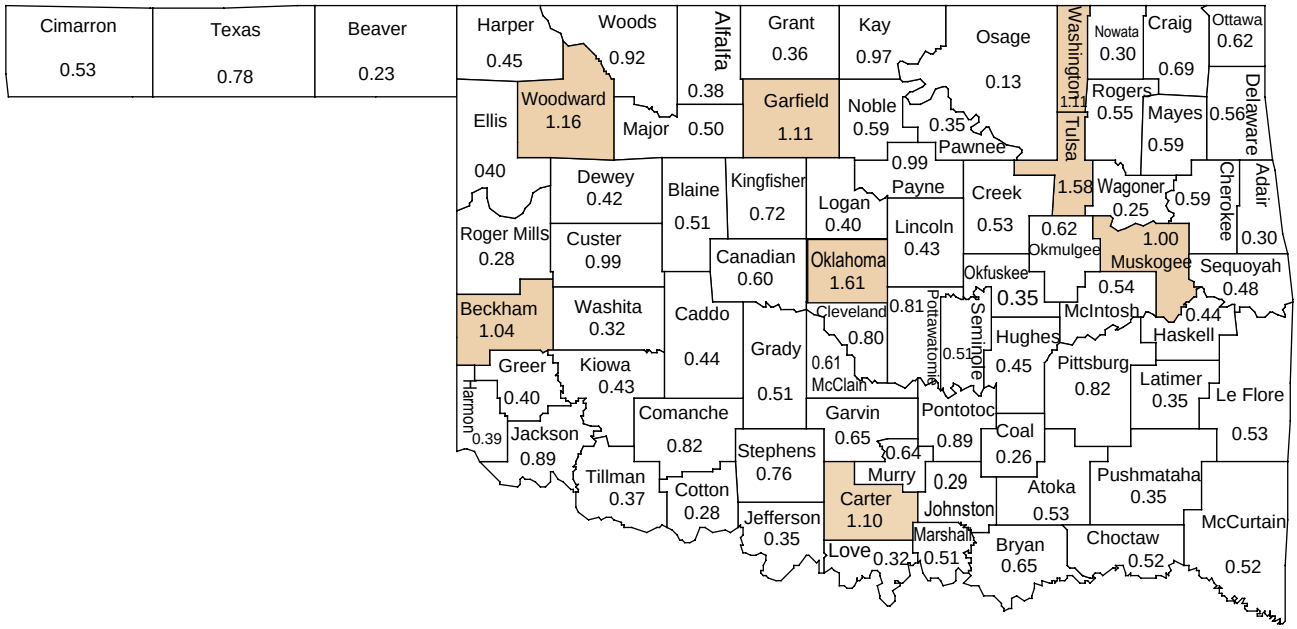
From a similar study completed by David Darling and Sara Logan for the state of Kansas, fifteen of Kansas' one hundred and five counties (14.3%) managed CTPF values of 1.00 or greater in fiscal year 1998 (July, 1997 to June, 1998). And CTPF values in the state of Kansas ranged from a high of 1.54 in Johnson county (which contains part of the Kansas City MSA) to a low of 0.21 in Kearny county.[2]

With a wider CTPF range in Oklahoma (a low of 0.13 to a high of 1.61) than in Kansas (a low of 0.21 to a high of 1.54), and a slightly lower proportion of counties with CTPF values greater than 1.00 in Oklahoma than in Kansas, this may indicate that there is greater regionalization in Oklahoma than in Kansas. Additionally, both Oklahoma and Tulsa counties have higher CTPF values than any Kansas county.

Sales Subject to Sales Tax

The state of Oklahoma had over $28.3 billion worth of sales subject to sales tax in 1999. Sales subject to sales tax were over $8.6 billion in Oklahoma county and over $7.3 billion in Tulsa county. Together these two counties accounted for 56.5% of total sales subject to sales tax in the state. Which means that more than one out of every two dollars spent by Oklahomans and Oklahoma's businesses was spent in either Oklahoma or Tulsa counties.

1999 County Trade Pull Factors



With a non-institutionalized population of 3,308,710 people in 1999, per capita sales subject to sales tax reached $8,566.70 for the state of Oklahoma. Obviously, counties with per capita sales figures greater than the state would have CTPFs of greater than 1.00, and those counties with per capita sales figures of less than the state would have CTPFs of less than 1.00. Per capita figures in both Oklahoma and Tulsa counties were about five thousand dollars greater than the state figure.

Trade Capture Area & Market Share

Although Oklahoma county's population was about 630,000, over one million people are considered to be in its trade capture area. The difference (381,939 people) are people who do not reside in the county but who travel to the county for retail trade. Additionally, the county accounts for three-tenths (30.56%) of all sales subject to sales tax in the state.

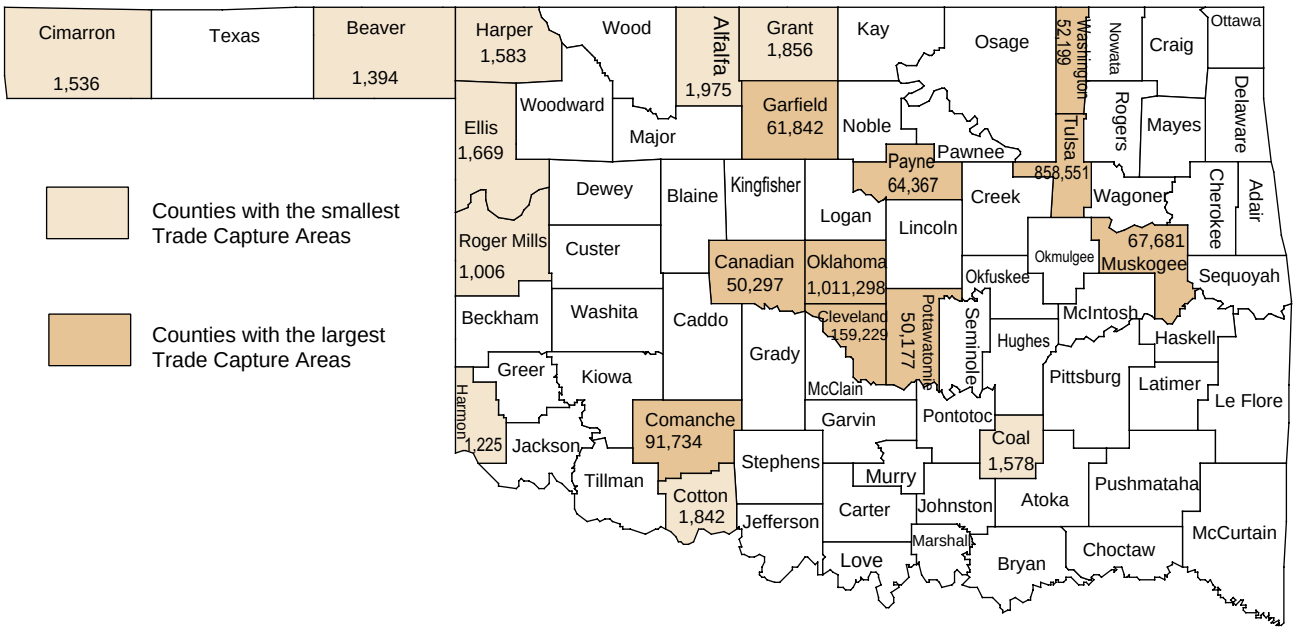
Tulsa county's relatively large CTPF has enabled it to also attain a sizeable trade capture area at 858,551 people. This means that at least 315,329 people are considered to be in the county's trade capture area, but do not reside within the county's borders. Tulsa county accounts for over one-quarter (25.95%) of the state's sales subject to sales tax.

After Oklahoma and Tulsa counties, Cleveland (4.81% or 159,229 people), Comanche (2.77% or 91,734 people), and Muskogee (2.05% or 67,681 people) counties have the largest market shares and trade capture areas. And of those counties, Cleveland county is in the Oklahoma City metro area.

The accompanying map depicts the ten counties with the greatest trade capture areas, and the ten counties with the smallest trade capture areas. As is evident, most of the counties with the greatest trade capture area are located in Central and Northeast Oklahoma. Only Comanche county in Southwest Oklahoma and possibly Garfield county in North Central Oklahoma fall outside the two regions. Combined, these ten counties claim 2,467,375 people (or 74.6% of the population) in their trade capture areas.

Nine of the ten counties with the smallest trade capture areas lie West of I-35, with Coal county being the only exception. Of these ten rural counties, only Cotton county has an interstate (I-44) running through it. Combined, these ten counties claim 15,664 people (or 0.5% of the population) in their trade capture areas.

Oklahoma Counties with the Largest and Smallest Trade Capture Areas



CTPF Adjusted for Income

As previously mentioned, the basic CTPF model assumes that per capita personal income is equal for every county and the state as a whole. If incomes were not assumed to be equal across counties, then part of the explanation for a county having higher per capita retail sales (and thus a higher CTPF) could be attributable to income differences. The problem when incomes are not assumed to be equal becomes one of measuring the pull factors and trade capture areas.

As would be expected, per capita personal income (PCPI) is different across counties. A simple adjustment to the basic CTPF model can be made to eliminate the effects of income on the pull factors, and then measure the adjusted trade capture area. The adjustment simply requires dividing the CTPF by the proportion of county to state PCPI.

$$\text{Income-Adjusted CTPF} = \frac{(\text{CTPF})}{\text{County PCPI/State PCPI}}$$

Therefore, those counties that have a higher PCPI than the state will produce a PCPI proportion that is greater than 1.0. This in turn will reduce the county's trade pull factor. The rationale for this is that part of the reason the county has more per capita retail sales than the state is due to the higher income. This adjustment eliminates the income differences across counties. Likewise, those counties that have a lower PCPI than the state will produce a PCPI proportion that is less than 1.0, and this in turn will raise the county's trade pull factor.

Whereas eight counties had basic pull factors greater than 1.00, eleven counties have income-adjusted pull factors greater than 1.00. Washington county was the only county that dropped from a basic pull factor of over 1.00 to an income-adjusted pull factor of less than 1.00. This indicates that Washington county's PCPI was higher than the state's PCPI. With one county dropping out, four counties jumped from having basic pull factors of less than 1.00 to income-adjusted pull factors of greater than 1.00. Those four counties are Custer (from 0.99 to 1.13), Payne (from 0.99 to 1.12), Pittsburg (from 0.82 to 1.04), and Pontotoc (from 0.89 to 1.04).

Of the remaining seven counties with income-adjusted pull factors greater than 1.00, four had higher income-adjusted pull factors than basic pull factors. With a 1999 PCPI of 73.7% of the state, Beckham county had the largest increase from a basic pull factor of 1.04 to an income-adjusted pull factor of 1.42. This pull factor adjustment would push Beckham county's trade capture area to 27,311 people. Muskogee, Woodward, and Carter counties also fall into the category of having higher income-adjusted pull factors than basic pull factors.

Garfield, Oklahoma and Tulsa counties each had a higher PCPI than the state which caused each of their respective pull factors to drop. Tulsa county, with the highest PCPI at 136.5% of the state's PCPI, experienced the greatest drop. Tulsa county's pull factor dropped from a basic pull factor of 1.58 to an income-adjusted pull factor of 1.16. Even with this drop, Tulsa county's trade capture area includes over 630,000 people. Oklahoma county's PCPI was 114.0% of the state average which caused its basic pull factor to drop from 1.61 to an income-adjusted pull factor of 1.41. Associated with this income-adjusted pull factor is a trade capture area of over 880,000 people.

Of all seventy-seven Oklahoma counties, only nine had PCPI levels greater than the state's PCPI. This means that only nine counties have lower income-adjusted pull factors than basic pull factors. And as already mentioned, included in this nine are the state's two most populous counties – Oklahoma and Tulsa counties.

Notes

[1]Per capita personal income (PCPI) data is for the most current year available (1998). It was obtained from the REIS CD-ROM (1969-1998). Bureau of Economic Analysis, US Department of Commerce, Regional Economic Information System CD-ROM, 1969-1998.

Sales subject to sales tax (SSTST) information was obtained from the ORIGINS database.

ORIGINS database, (Oklahoma Resources Integration General Information Network System),

<www.origins.ou.edu>

Total county population estimates and estimates of group quarters population was obtained from the US Census Bureau at:

<www.census.gov/population/estimates/county/co-99-8/99C8_40.txt>

The 1999 group quarters population was adjusted to account for the institutionalized by using 1990 US Census proportions.

[2]David Darling & Sara Logan, "County Trade Pull Factors, FY 1998", *Kansas Business Review*, Volume 22, no. 3, Spring 1999.

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1999 Income-Adjusted County Trade Pull Factors

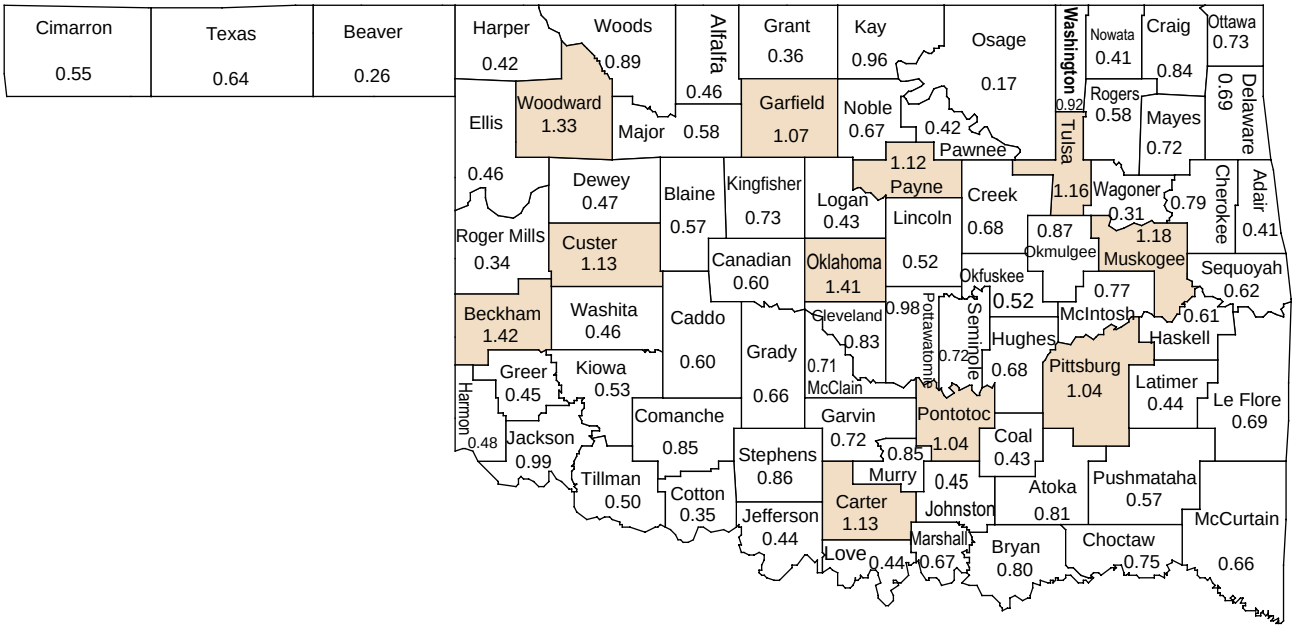

Table 1

1999 County Trade Pull Factors for the State of Oklahoma

County	Total 1999 SSTST*	1999 Population	Per Capita Sales	County Trade Pull Factor	Trade Capture Area	Market Share	1998 PCPI	CTPF Adjusted for PCPI
Adair	51.554	20,346	2533.88	0.30	6,018	0.18%	15,678	0.41
Alfalfa	16.923	5,218	3243.08	0.38	1,975	0.06%	17,904	0.46
Atoka	55.633	12,313	4518.37	0.53	6,494	0.20%	14,343	0.81
Beaver	11.941	5,953	2005.77	0.23	1,394	0.04%	19,431	0.26
Beckham	171.927	19,233	8939.10	1.04	20,069	0.61%	16,184	1.42
Blaine	44.106	9,998	4411.44	0.51	5,148	0.16%	19,706	0.57
Bryan	191.783	34,487	5561.02	0.65	22,387	0.68%	17,848	0.80
Caddo	111.434	29,293	3804.15	0.44	13,008	0.39%	16,215	0.60
Canadian	430.877	84,185	5118.20	0.60	50,297	1.52%	21,917	0.60
Carter	412.389	43,703	9436.09	1.10	48,139	1.45%	21,344	1.13
Cherokee	199.650	39,292	5081.25	0.59	23,305	0.70%	16,480	0.79
Choctaw	66.283	14,804	4477.25	0.52	7,737	0.23%	15,237	0.75
Cimarron	13.162	2,889	4555.66	0.53	1,536	0.05%	21,098	0.55
Cleveland	1,364.071	199,577	6834.82	0.80	159,229	4.81%	21,203	0.83
Coal	13.516	6,058	2230.95	0.26	1,578	0.05%	13,386	0.43
Comanche	785.855	111,835	7026.94	0.82	91,734	2.77%	21,257	0.85
Cotton	15.777	6,495	2429.01	0.28	1,842	0.06%	17,924	0.35
Craig	80.935	13,785	5871.08	0.69	9,448	0.29%	18,008	0.84
Creek	309.384	67,569	4578.77	0.53	36,115	1.09%	17,358	0.68
Custer	212.315	25,093	8461.05	0.99	24,784	0.75%	19,140	1.13
Delaware	165.913	34,612	4793.52	0.56	19,367	0.59%	17,753	0.69
Dewey	16.978	4,768	3560.54	0.42	1,982	0.06%	19,306	0.47
Ellis	14.209	4,128	3441.94	0.40	1,659	0.05%	19,335	0.46
Garfield	529.781	55,944	9469.89	1.11	61,842	1.87%	22,720	1.07
Garvin	144.142	26,055	5532.34	0.65	16,826	0.51%	19,590	0.72
Grady	199.594	45,533	4383.51	0.51	23,299	0.70%	17,078	0.66
Grant	15.901	5,130	3099.32	0.36	1,856	0.06%	22,204	0.36
Greer	18.866	5,484	3439.97	0.40	2,202	0.07%	19,704	0.45
Harmon	10.493	3,178	3302.12	0.39	1,225	0.04%	17,736	0.48
Harper	13.564	3,497	3878.33	0.45	1,583	0.05%	23,708	0.42
Haskell	43.132	11,323	3809.21	0.44	5,035	0.15%	16,009	0.61
Hughes	49.141	12,793	3841.16	0.45	5,736	0.17%	14,499	0.68
Jackson	214.751	28,196	7616.34	0.89	25,068	0.76%	19,700	0.99
Jefferson	19.125	6,341	3015.95	0.35	2,232	0.07%	17,630	0.44
Johnston	25.262	10,186	2480.19	0.29	2,949	0.09%	14,046	0.45
Kay	380.360	45,745	8314.87	0.97	44,400	1.34%	22,273	0.96
Kingfisher	82.453	13,308	6195.75	0.72	9,625	0.29%	21,715	0.73
Kiowa	37.625	10,258	3667.78	0.43	4,392	0.13%	17,789	0.53
Latimer	29.816	9,926	3003.76	0.35	3,480	0.11%	17,693	0.44

Table 1 (continued)

1999 County Trade Pull Factors for the State of Oklahoma

County	*Total 1999 SSTST**	*1999 Population*	*Per Capita Sales*	*County Trade Pull Factor*	*Trade Capture Area*	*Market Share*	*1998 PCPI*	*CTPF Adjusted for PCPI*
Leflore	208.691	45,748	4561.70	0.53	24,361	0.74%	16,919	0.69
Lincoln	114.911	31,549	3642.32	0.43	13,414	0.41%	17,976	0.52
Logan	103.371	29,972	3448.87	0.40	12,067	0.36%	20,509	0.43
Love	23.208	8,494	2732.15	0.32	2,709	0.08%	15,774	0.44
McClain	139.041	26,531	5240.76	0.61	16,230	0.49%	18,809	0.71
McCurtain	152.788	34,351	4447.88	0.52	17,835	0.54%	17,210	0.66
McIntosh	88.339	19,063	4633.97	0.54	10,312	0.31%	15,386	0.77
Major	32.049	7,540	4250.31	0.50	3,741	0.11%	18,874	0.58
Marshall	52.780	12,079	4369.54	0.51	6,161	0.19%	16,697	0.67
Mayes	192.991	38,009	5077.57	0.59	22,528	0.68%	18,205	0.72
Murray	66.656	12,089	5513.97	0.64	7,781	0.24%	16,720	0.85
Muskogee	579.799	67,771	8555.25	1.00	67,681	2.05%	18,538	1.18
Noble	55.958	11,060	5059.56	0.59	6,532	0.20%	19,503	0.67
Nowata	25.330	9,888	2561.72	0.30	2,957	0.09%	16,188	0.41
Okfuskee	31.365	10,449	3001.80	0.35	3,661	0.11%	14,767	0.52
Oklahoma	8,663.488	629,359	13765.58	1.61	1,011,298	30.56%	25,031	1.41
Okmulgee	201.869	38,175	5287.94	0.62	23,564	0.71%	15,599	0.87
Osage	47.542	41,819	1136.86	0.13	5,550	0.17%	17,618	0.17
Ottawa	161.790	30,611	5285.34	0.62	18,886	0.57%	18,537	0.73
Pawnee	49.429	16,441	3006.46	0.35	5,770	0.17%	18,181	0.42
Payne	551.412	64,778	8512.32	0.99	64,367	1.95%	19,405	1.12
Pittsburg	287.710	41,110	6998.48	0.82	33,585	1.02%	17,184	1.04
Pontotac	260.926	34,172	7635.73	0.89	30,458	0.92%	18,868	1.04
Pottawatomie	429.848	61,860	6948.76	0.81	50,177	1.52%	18,224	0.98
Pushmataha	34.550	11,420	3025.36	0.35	4,033	0.12%	13,512	0.57
Roger Mills	8.619	3,560	2421.05	0.28	1,006	0.03%	18,457	0.34
Rogers	329.856	70,148	4702.25	0.55	38,504	1.16%	20,657	0.58
Seminole	104.283	24,029	4339.88	0.51	12,173	0.37%	15,555	0.72
Sequoyah	153.637	37,529	4093.85	0.48	17,934	0.54%	16,964	0.62
Stephens	277.277	42,551	6516.28	0.76	32,367	0.98%	19,422	0.86
Texas	122.453	18,278	6699.49	0.78	14,294	0.43%	26,751	0.64
Tillman	29.183	9,147	3190.44	0.37	3,407	0.10%	16,259	0.50
Tulsa	7,354.944	543,222	13539.48	1.58	858,551	25.95%	29,990	1.16
Wagoner	120.017	55,889	2147.43	0.25	14,010	0.42%	17,836	0.31
Washington	447.171	47,236	9466.69	1.11	52,199	1.58%	26,271	0.92
Washita	31.039	11,451	2710.60	0.32	3,623	0.11%	15,261	0.46
Woods	62.527	7,951	7863.65	0.92	7,299	0.22%	22,640	0.89
Woodward	177.256	17,878	9914.64	1.16	20,691	0.63%	19,151	1.33
TOTAL	28,344.722	3,308,710	8566.70	1.00	3,308,710	100.00%	21,964	1.00

Note: SSTST = Sales Subject to Sales Tax, which is in millions of dollars. PCPI = Per Capita Personal Income, which is reported in dollars.

SELECTED INDICATORS

Category	2nd Qtr '00	1st Qtr '00	2nd Qtr '99	Percentage Change '00/'99 2nd Qtr	Percentage Change 2nd Qtr '00 1st Qtr '00
Crude Oil Production (000 bbl)[a]	18,002	17,859	17,968	0.2	0.8
Natural Gas Production (000 mcf)[b]	385,360	407,808	393,427	-2.1	-5.5
Rig Count	90	76	56	60.7	18.4
Intial Unemployment Claims	20,234	24,634	25,170	-19.6	-17.9
PERMIT-AUTHORIZED CONSTRUCTION					
Residential Single Family					
Dollar Value ($000)	275,697	262,000	320,963	-14.1	5.2
Number of Units	2,193	2,144	2,691	-18.5	2.3
Residential-Multi Family					
Dollar Value ($000)	35,451	30,500	18,815	88.4	16.2
Number of Units	768	594	441	74.1	29.3
Total Construction ($000)	311,148	292,500	339,778	-8.4	6.4
EMPLOYMENT					
Total Labor Force (000)[c]	1,650.4	1,639.4	1,653.9	-0.2	0.7
Total Employment (000)	1,603.2	1,585.5	1,591.4	0.7	1.1
Unemployment Rate (%)	2.9	3.2	3.8	—	—
Wage and Salary Employment (000)	1,493.5	1,470.0	1,463.0	2.1	1.6
Manufacturing	27,633	27,533	28,233	-2.1	0.4
Mining	184,500	183,400	184,200	0.2	0.6
Government	291,267	288,367	283,833	2.6	1.0
Contract Construction	60,400	57,867	57,567	4.9	4.4
Services	429,367	419,633	417,600	2.8	2.3
Retail Trade	271,933	267,767	266,600	2.0	1.6
Average Weekly Hours (Per Worker)					
Manufacturing	40.6	40.1	40.7	-0.2	1.2
Average Weekly Earnings ($ Per Worker)					
Manufacturing	542.17	523.19	517.01	4.9	3.6
Contract Construction	574.44	566.49	541.14	6.2	1.4

Note: Includes revisions in some previous months.

[a]Figures are for 1st Qtr 2000 and 4th Qtr 99. Crude oil includes condensate. Natural gas includes casinghead gas.

[b]Sales of larger private owned utility companies.

[c]Labor Force refer to place of residence, non-agricultural wage and salary employment refers to place of work.

NA = Not Available

RETAIL TRADE IN METRO AREAS AND STATE ($000 Seasonally Adjusted)

Category	2nd Qtr '00	1st Qtr '00	2nd Qtr '99	Percentage Change '00/'99 2nd Qtr	Percentage Change 2nd Qtr '00 1st Qtr '00
OKLAHOMA CITY MSA					
Durable Goods	196,935,837	194,728,563	174,666,057	12.7	1.1
Lumber, Building Materials and Hardware	60,289,754	59,977,422	56,486,755	6.7	0.5
Auto Accessories and Repair	30,641,508	30,471,194	28,874,489	6.1	0.6
Furniture	24,452,905	24,209,914	22,198,988	10.2	1.0
Computer, Electronics and Music Stores	34,634,029	33,587,504	24,984,578	38.6	3.1
Miscellaneous Durables	40,332,230	39,834,154	35,073,816	15.0	1.3
Used Merchandise	6,585,409	6,648,373	7,047,430	-6.6	-0.9
Nondurable Goods	487,424,425	487,459,192	451,921,241	7.9	0.0
General Merchandise	144,195,202	143,436,770	135,192,928	6.7	0.5
Food Stores	112,178,496	112,083,895	109,945,324	2.0	0.1
Apparel	29,540,320	29,714,982	30,806,762	-4.1	-0.6
Eating and Drinking Places	95,780,596	95,228,659	89,910,202	6.5	0.6
Drug Stores	12,608,216	12,556,734	11,779,025	7.0	0.4
Liquor Stores	5,931,289	5,897,048	5,666,103	4.7	0.6
Miscellaneous Nondurables	25,033,915	24,889,652	23,226,805	7.8	0.6
Gasoline	62,156,389	63,651,451	45,394,092	36.9	-2.3
Total Retail Trade	684,360,261	682,187,754	626,587,297	9.2	0.3
TULSA MSA					
Durable Goods	163,785,697	161,626,445	144,495,337	13.4	1.3
Lumber, Building Materials and Hardware	44,390,419	44,123,726	41,025,192	8.2	0.6
Auto Accessories and Repair	21,551,651	21,423,258	20,322,477	6.0	0.6
Furniture	17,951,031	17,916,539	16,986,952	5.7	0.2
Computer, Electronics and Music Stores	44,494,384	43,014,477	32,902,939	35.2	3.4
Miscellaneous Durables	31,579,378	31,205,882	27,712,632	14.0	1.2
Used Merchandise	3,818,834	3,942,562	5,545,146	-31.1	-3.1
Nondurable Goods	377,091,904	376,980,866	347,542,517	8.5	0.0
General Merchandise	115,684,793	115,182,337	108,924,316	6.2	0.4
Food Stores	84,241,443	84,376,112	82,428,323	2.2	-0.2
Apparel	26,015,631	25,896,164	25,624,141	1.5	0.5
Eating and Drinking Places	67,819,133	67,545,544	64,813,008	4.6	0.4
Drug Stores	9,680,357	9,619,073	8,707,786	11.2	0.6
Liquor Stores	5,076,499	5,043,803	4,767,481	6.5	0.6
Miscellaneous Nondurables	22,621,252	22,260,093	18,717,189	20.9	1.6
Gasoline	45,952,796	47,057,740	33,560,273	36.9	-2.3
Total Retail Trade	540,877,602	538,607,310	492,037,854	9.9	0.4
ENID MSA					
Durable Goods	7,639,641	7,654,034	7,715,385	-1.0	-0.2
Lumber, Building Materials and Hardware	2,563,732	2,590,227	2,708,072	-5.3	-1.0
Auto Accessories and Repair	1,649,466	1,640,740	1,531,014	7.7	0.5
Furniture	671,786	666,822	650,680	3.2	0.7
Computer, Electronics and Music Stores	627,082	636,075	807,571	-22.3	-1.4
Miscellaneous Durables	1,989,703	1,955,274	1,523,488	30.6	1.8
Used Merchandise	137,872	164,897	494,559	-72.1	-16.4

RETAIL TRADE IN METRO AREAS AND STATE ($000 Seasonally Adjusted)

Category	2nd Qtr '00	1st Qtr '00	2nd Qtr '99	Percentage Change '00/'99 2nd Qtr	Percentage Change 2nd Qtr '00 1st Qtr '00
ENID MSA (continued)					
Nondurable Goods	26,851,063	26,924,624	25,433,401	5.6	-0.3
General Merchandise	8,863,540	8,852,123	8,646,947	2.5	0.1
Food Stores	6,817,471	6,841,016	6,968,237	-2.2	-0.3
Apparel	1,309,308	1,282,978	1,038,109	26.1	2.1
Eating and Drinking Places	4,141,574	4,146,022	4,065,844	1.9	-0.1
Drug Stores	676,705	677,948	700,362	-3.4	-0.2
Liquor Stores	266,755	262,226	203,583	31.0	1.7
Miscellaneous Nondurables	1,368,528	1,373,264	1,321,983	3.5	-0.3
Gasoline	3,407,183	3,489,049	2,488,336	36.9	-2.3
Total Retail Trade	34,490,704	34,578,659	33,148,786	4.0	-0.3
LAWTON MSA					
Durable Goods	10,169,604	10,246,562	10,594,414	-4.0	-0.8
Lumber, Building Materials and Hardware	2,613,646	2,701,309	3,326,065	-21.4	-3.2
Auto Accessories and Repair	1,932,156	1,939,024	1,946,553	-0.7	-0.4
Furniture	1,318,758	1,321,709	1,196,221	10.2	-0.2
Computer, Electronics and Music Stores	1,312,456	1,300,434	1,200,076	9.4	0.9
Miscellaneous Durables	2,873,106	2,831,118	2,310,177	24.4	1.5
Used Merchandise	119,482	152,969	615,322	-80.6	-21.9
Nondurable Goods	41,636,592	41,760,701	40,702,134	2.3	-0.3
General Merchandise	18,845,453	18,804,449	18,945,932	-0.5	0.2
Food Stores	6,299,938	6,361,852	6,628,442	-5.0	-1.0
Apparel	1,887,929	1,893,265	1,919,367	-1.6	-0.3
Eating and Drinking Places	7,625,566	7,607,965	7,242,281	5.3	0.2
Drug Stores	575,743	580,950	604,424	-4.7	-0.9
Liquor Stores	224,297	226,925	228,650	-1.9	-1.2
Miscellaneous Nondurables	1,847,483	1,850,943	1,970,617	-6.2	-0.2
Gasoline	4,330,183	4,434,352	3,162,422	36.9	-2.3
Total Retail Trade	51,806,196	52,007,263	51,296,548	1.0	-0.4
STATE					
Durable Goods	528,030,934	525,438,805	497,005,230	6.2	0.5
Lumber, Building Materials and Hardware	168,609,747	168,285,661	160,738,464	4.9	0.2
Auto Accessories and Repair	87,880,463	88,089,483	87,547,607	0.4	-0.2
Furniture	59,567,185	59,210,376	54,622,657	9.1	0.6
Computer, Electronics and Music Stores	96,063,878	94,738,380	86,608,906	10.9	1.4
Miscellaneous Durables	101,445,583	100,291,645	87,892,582	15.4	1.2
Used Merchandise	14,464,078	14,823,260	19,595,014	-26.2	-2.4
Nondurable Goods	1,481,001,787	1,458,461,020	1,439,443,545	2.9	1.5
General Merchandise	466,087,822	465,213,245	497,577,938	-6.3	0.2
Food Stores	364,735,798	364,809,454	355,248,997	2.7	0.0
Apparel	76,789,589	76,510,836	77,393,522	-0.8	0.4
Eating and Drinking Places	254,471,120	253,655,086	253,757,443	0.3	0.3
Drug Stores	31,340,940	31,196,587	29,206,941	7.3	0.5
Liquor Stores	15,891,614	15,815,253	15,164,169	4.8	0.5
Miscellaneous Nondurables	77,954,233	77,020,603	69,609,036	12.0	1.2
Gasoline	193,730,670	174,239,957	141,485,499	36.9	11.2
Total Retail Trade	2,009,032,721	1,983,899,825	1,936,448,774	3.7	1.3

RETAIL TRADE IN SELECTED CITIES

Category	2nd Qtr '00	1st Qtr '00	2nd Qtr '99	Percentage Change '00/'99 2nd Qtr	Percentage Change 2nd Qtr '00 1st Qtr '00
Ada	53,004,517	51,978,210	48,622,135	9.0	2.0
Altus	41,976,849	41,958,139	40,990,236	2.4	0.0
Alva	13,633,097	13,257,545	12,558,926	8.6	2.8
Anadarko	13,661,811	13,567,227	13,140,188	4.0	0.7
Ardmore	73,224,078	72,622,079	69,188,878	5.8	0.8
Bartlesville	89,366,886	87,149,563	86,775,139	3.0	2.5
Blackwell	10,391,893	10,297,834	10,683,289	-2.7	0.9
Broken Arrow	115,312,886	113,715,960	102,368,619	12.6	1.4
Chickasha	35,027,935	34,406,996	31,196,683	12.3	1.8
Clinton	26,397,990	23,980,745	17,291,253	52.7	10.1
Cushing	13,765,135	13,796,024	13,422,854	2.5	-0.2
Del City	30,076,190	30,763,070	27,975,396	7.5	-2.2
Duncan	43,517,544	42,782,373	40,304,311	8.0	1.7
Durant	34,846,112	34,479,623	31,321,644	11.3	1.1
Edmond	146,527,490	144,117,642	133,532,265	9.7	1.7
El Reno	27,447,285	27,063,075	24,706,004	11.1	1.4
Elk City	30,101,050	29,127,263	27,160,497	10.8	3.3
Enid	96,927,065	97,237,169	94,749,822	2.3	-0.3
Guthrie	19,511,795	19,145,729	17,796,332	9.6	1.9
Guymon	22,316,202	21,883,726	20,477,271	9.0	2.0
Henryetta	11,538,136	11,512,664	10,870,705	6.1	0.2
Hobart	5,881,185	5,830,497	5,588,162	5.2	0.9
Holdenville	8,193,470	7,961,876	7,694,975	6.5	2.9
Hugo	13,735,255	13,538,561	12,412,022	10.7	1.5
Idabel	15,358,009	15,449,333	15,115,472	1.6	-0.6
Lawton	162,502,380	156,600,093	140,543,981	15.6	3.8
McAlester	59,741,591	58,797,901	54,480,298	9.7	1.6
Miami	28,142,279	27,933,864	26,271,133	7.1	0.7
Midwest City	130,796,335	130,280,987	127,316,533	2.7	0.4
Moore	61,681,554	62,138,002	62,906,333	-1.9	-0.7
Muskogee	105,944,932	105,625,597	99,046,251	7.0	0.3
Norman	206,339,359	201,980,573	186,742,627	10.5	2.2
Oklahoma City	1,178,193,625	1,150,733,420	1,030,685,004	14.3	2.4
Okmulgee	31,307,149	31,263,742	29,970,641	4.5	0.1
Pauls Valley	19,767,680	19,709,861	18,162,680	8.8	0.3
Pawhuska	4,615,805	4,702,175	4,306,929	7.2	-1.8
Ponca City	62,960,644	62,027,173	59,677,822	5.5	1.5
Poteau	29,691,491	29,689,696	28,964,691	2.5	0.0
Sand Springs	43,394,955	43,898,075	41,915,826	3.5	-1.1
Sapulpa	45,512,876	45,917,228	41,377,934	10.0	-0.9
Seminole	18,520,105	17,990,799	16,135,492	14.8	2.9
Shawnee	81,910,182	80,828,152	77,648,356	5.5	1.3
Stillwater	99,506,747	97,810,009	90,496,710	10.0	1.7
Tahlequah	45,823,980	45,086,652	40,831,830	12.2	1.6
Tulsa	1,181,658,036	1,158,677,426	1,047,863,650	12.8	2.0
Watonga	5,716,418	5,366,910	4,807,542	18.9	6.5
Weatherford	23,976,736	23,660,941	23,629,422	1.5	1.3
Wewoka	3,018,735	2,981,594	2,811,244	7.4	1.2
Woodward	38,701,886	38,549,501	36,118,900	7.2	0.4
Total Selected Cities	4,661,165,345	4,579,873,292	4,208,654,903	10.8	1.8

ENID AND LAWTON MSAs, MUSKOGEE MA

Category	2nd Qtr '00	1st Qtr '00	2nd Qtr '99	Percentage Change '00/'99 2nd Qtr	Percentage Change 2nd Qtr '00 1st Qtr '00
ENID MSA					
Employment (Number)					
Labor Force[a]	26,903	26,903	27,813	-3.3	0.0
Total Employment	26,160	26,040	26,930	-2.9	0.5
Unemployment Rate (%)	2.8	3.2	3.2	—	—
Wage and Salary Employment	24,200	24,100	24,333	-0.5	0.4
Wholesale and Retail Trade	6,233	6,200	6,367	-2.1	0.5
Manufacturing	2,600	2,567	2,400	8.3	1.3
PERMIT-AUTHORIZED CONSTRUCTION					
Residential-Single Family					
Dollar Value ($000)	2,261	2,898	4,221	-46.4	-22.0
Number of Units	10	15	24	-58.3	-33.3
Residential-Multi Family					
Dollar Value ($000)	132	0	0	—	—
Number of Units	4	0	0	—	—
Total Construction ($000)	2,393	2,898	4,221	-43.3	-17.4
LAWTON MSA					
Employment (Number)					
Labor Force[a]	41,093	41,130	41,307	-0.5	-0.1
Total Employment	39,843	39,620	39,623	0.6	0.6
Unemployment Rate (%)	3.1	3.7	4.1	—	—
Wage and Salary Employment	39,000	38,600	38,067	2.5	1.0
Wholesale and Retail Trade	9,033	8,833	8,767	3.0	2.3
Manufacturing	3,733	3,767	3,800	-1.8	-0.9
PERMIT-AUTHORIZED CONSTRUCTION					
Residential-Single Family					
Dollar Value ($000)	3,959	5,847	4,242	-6.7	-32.3
Number of Units	33	49	40	-17.5	-32.7
Residential-Multi Family					
Dollar Value ($000)	0	0	0	—	—
Number of Units	0	0	0	—	—
Total Construction ($000)	3,959	5,847	4,242	-6.7	-32.3
MUSKOGEE MA					
Employment (Number)					
Labor Force[a]	32,923	32,543	31,383	4.9	1.2
Total Employment	31,740	31,157	29,800	6.5	1.9
Unemployment Rate (%)	3.6	4.2	5.1	—	—
Port of Muskogee					
Tons In	104,039	78,954	74,386	39.9	31.8
Tons Out	44,834	28,453	20,408	119.7	57.6

Note: Includes revisions.
[a]Civilian Labor Force.
E = Exceeds 600 percent.

TULSA MSA

Category	2nd Qtr '00	1st Qtr '00	2nd Qtr '99	Percentage Change '00/'99 2nd Qtr	Percentage Change 2nd Qtr '00 1st Qtr '00
TULSA MSA					
Employment (Number)					
Labor Force[a]	417,300	414,633	426,507	-2.2	0.6
Total Employment	405,857	401,767	412,980	-1.7	1.0
Unemployment Rate (%)	2.7	3.1	3.2	—	—
Wage and Salary Employment	399,500	392,800	395,533	1.0	1.7
Manufacturing	54,967	54,867	56,467	-2.7	0.2
Mining	7,167	7,100	7,533	-4.9	0.9
Government	44,267	43,367	43,267	2.3	2.1
Wholesale and Retail Trade	92,467	90,367	91,367	1.2	2.3
Average Weekly Earnings					
Manufacturing ($ Per Worker)	596.12	589.10	556.25	7.2	1.2
Air Transportation					
Passengers Enplaning (Number)	464,114	398,864	449,764	3.2	16.4
Passengers Deplaning (Number)	463,481	396,411	440,023	5.3	16.9
Freight (Tons)	13,232	12,865	12,650	4.6	2.9
Water Transportation					
Tulsa Port of Catoosa					
Tons In	254,571	306,987	231,761	9.8	-17.1
Tons Out	279,041	342,560	260,123	7.3	-18.5
PERMIT-AUTHORIZED CONSTRUCTION					
Residential-Single Family					
Dollar Value ($000)	119,809	95,469	120,613	-0.7	25.5
Number of Units	934	793	1,002	-6.8	17.8
Residential-Multi Family					
Dollar Value ($000)	642	876	2,155	-70.2	-26.7
Number of Units	18	22	62	-71.0	-18.2
Total Construction	120,451	96,345	122,768	-1.9	25.0

Note: Includes revisions.
[a]Civilian Labor Force.

OKLAHOMA CITY MSA

Category	2nd Qtr '00	1st Qtr '00	2nd Qtr '99	Percentage Change '00/'99 2nd Qtr	Percentage Change 2nd Qtr '00 1st Qtr '00
OKLAHOMA CITY MSA					
Employment (Number)					
Labor Force[a]	555,837	551,743	539,117	3.1	0.7
Total Employment	543,000	537,993	523,097	3.8	0.9
Unemployment Rate (%)	2.3	2.5	3.0	—	—
Wage and Salary Employment	543,900	535,300	528,700	2.9	1.6
Manufacturing	57,533	57,300	56,067	2.6	0.4
Mining	6,033	5,900	6,267	-3.7	2.3
Government	109,333	107,333	105,000	4.1	1.9
Wholesale and Retail Trade	125,067	123,100	122,800	1.8	1.6
AverageWeekly Earnings					
Manufacturing ($ Per Worker)	612.19	596.48	572.62	6.9	2.6
Air Transportation					
Passengers Enplaning (Number)	465,665	392,750	463,219	0.5	18.6
Passengers Deplaning (Number)	459,996	397,977	453,714	1.4	15.6
Freight Enplaned (Tons)	5,776	5,509	5,221	10.6	4.8
Freight Deplaned (Tons)	6,734	6,691	6,255	7.7	0.6
PERMIT-AUTHORIZED CONSTRUCTION					
Residential-Single Family					
Dollar Value ($000)	132,388	137,537	173,599	-23.7	-3.7
Number of Units	1,046	1,120	1,453	-28.0	-6.6
Residential-Multi Family					
Dollar Value ($000)	29,423	25,515	15,013	96.0	15.3
Number of Units	561	513	348	61.2	9.4
Total Construction ($000)	161,811	163,052	188,612	-14.2	-0.8

Note: Includes revisions.
[a]Civilian Labor Force.