

Arrowhead Center

Leading Economic Development for New Mexico State



The Economic Base of Lea County, NM

**PREPARED BY: The Office of Policy Analysis at Arrowhead Center,
New Mexico State University**

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New Mexico State University



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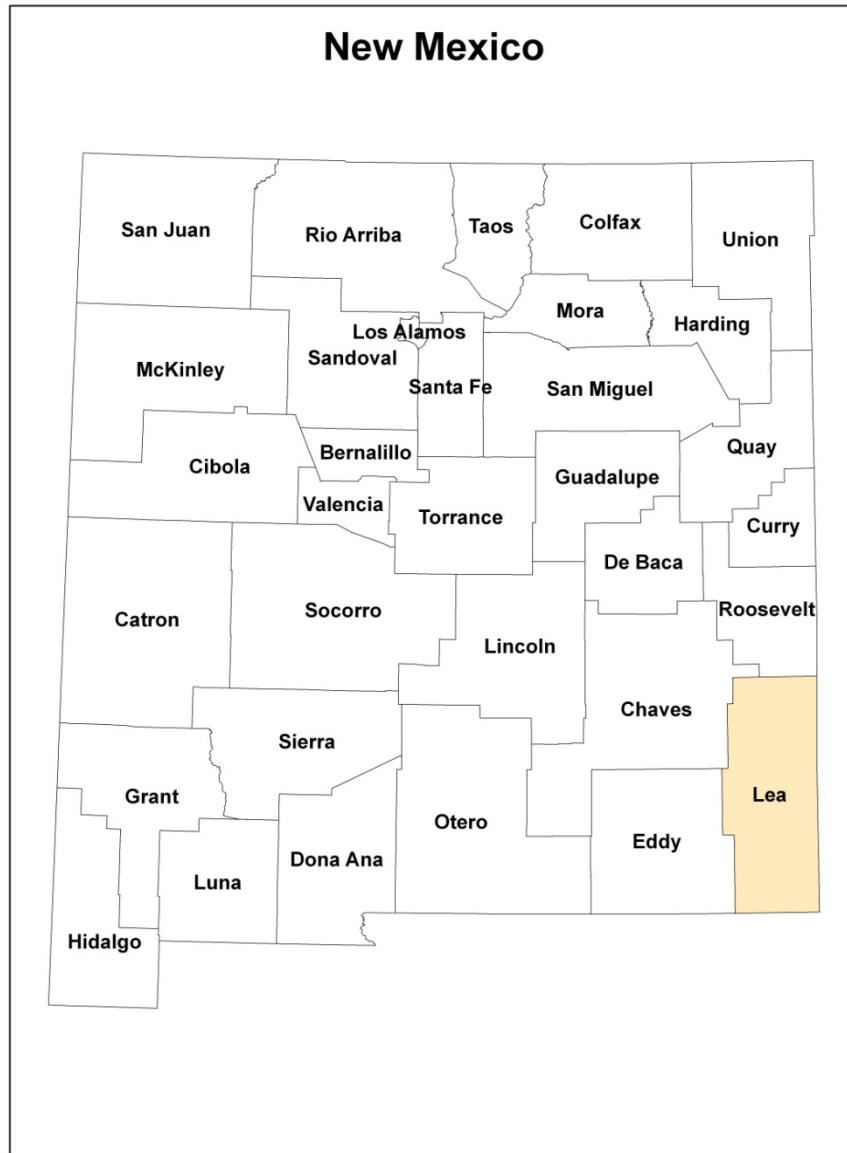
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Introduction

This report is one of 35 economic base studies prepared by the Office of Policy Analysis at NMSU's Arrowhead Center. Of the 35 reports, 33 describe the economic base of New Mexico's counties. There are separate reports for the Albuquerque Metropolitan Statistical Area (MSA), and the State of New Mexico. New Mexico has three additional MSAs (Las Cruces, Santa Fe and Farmington) but each of these are single county MSAs and separate reports for these MSAs were not prepared. All 35 reports may be found at: <http://arrowheadcenter.nmsu.edu/policy/>

The reports have been prepared under the direction of Anthony V. Popp and James Peach, Co-Directors of the Office of Policy Analysis. Ilana Boivie, a graduate student employed by Arrowhead Center, did much of the work on these reports. Comments and suggestions are welcome and should be sent to: jpeach@nmsu.edu. Our intent is to update these reports on an annual basis.

An economic base study is a descriptive tool used to analyze the composition of local economic activity. Economic base studies are often conducted to help guide local economic development activities and to help economic development officials make decisions such as what type of firms they should attempt to attract to local areas. Economic base studies can also help local and regional businesses better understand local and export product markets.

The specific purposes of economic base studies include:

- Understanding regional economic growth
- Making short and long term forecasts
- Identifying potential growth sectors
- Identifying potential problem areas

According to economic base theory, economic development depends on industries that export goods and services out of the region (basic industries), as opposed to those businesses whose services remain local (non-basic). Basic activities—often said to include mining, agriculture, tourism, and manufacturing, among other sectors—promote economic growth by bringing jobs and income into the local economy. Non-basic activities do not drive the economy in the same way that basic activities do.

Non-basic activities serve local residents and provide support for basic industries. Examples of non-basic industries typically include activities such as health care, finance, and real estate.

An industry classified as basic in one region may easily be identified as non-basic in another region. One common means of identifying local basic activity is through the use of location quotients (LQs). LQs are calculated as a single industry's percent of total local employment divided by that industry's percent of total state or national employment. For example, an LQ for a single New Mexico industry may be calculated as follows:

$$\text{LQ} = \left(\frac{\text{Employment in industry } j \text{ in NM}}{\text{total employment in NM}} \right) \div \left(\frac{\text{Employment in industry } j \text{ in US}}{\text{total employment in US}} \right)$$

The LQ serves to illustrate the relative importance of that sector locally as compared to the state or national economy. In this report LQs are calculated for industries within Lea County with national employment serving as the basis for comparison (Table 2). LQs using New Mexico employment as the basis of comparison are included (Table 3) for those readers who may wish to examine the state based LQs. No analysis or other reference to the state based LQs are included in this report.

An LQ greater than 1.0 indicates that a particular industry employs proportionately more workers locally than it does at the national level. Conversely, an LQ of less than 1.0 signifies that the industry of note employs fewer workers locally as compared to the state or national average. In this report, an LQ > 1.0 combined with judgment about the structure of the local economy is used to identify basic industries. For additional information on LQs, including a discussion of common criticisms of this approach, see <http://arrowheadcenter.nmsu.edu/policy/faq/Locationpercent20Quotients.pdf>.

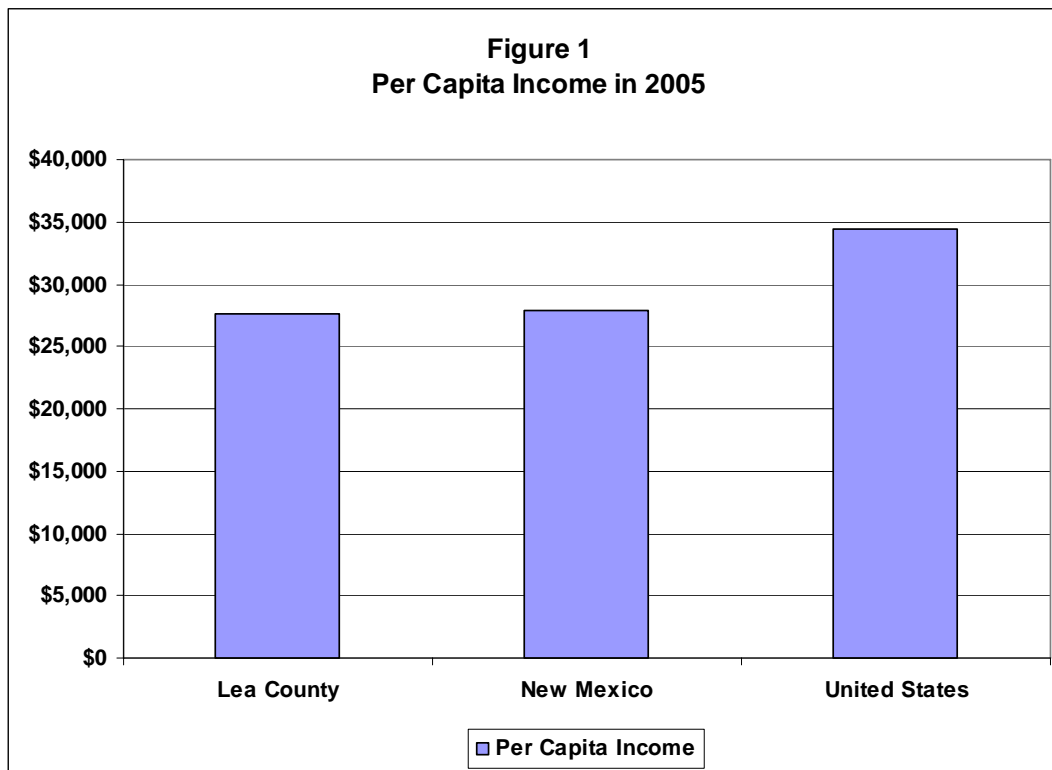
A common criticism of economic base studies and the LQ approach to identifying basic industries is that the LQs often change over time. In this report, LQs are described for the most recent year for which data are available and the four years preceding (2001-2005).

The data used in this report are from the U.S. Department of Commerce, Bureau of Economic Analysis, and Regional Economic Information System (BEA). The data are available at: www.bea.gov.

Lea County, New Mexico

Lea County is located in the southeastern corner of New Mexico and contains 4,393 square miles of land, or 3.62 percent of the total land area in New Mexico. The population of Lea County in 2005 was 56,560 (2.94 percent of the state total) and ranked tenth among New Mexico's counties. The City of Hobbs, with a population estimated by the U.S. Census Bureau to be 29,017 in 2005, contained 51.3 percent of Lea County's population. Between 2000 and 2005, Lea County's population increased by 2.64 percent, while New Mexico's population increased by 5.73 percent and the nation's population increased by 5.06 percent.

Per capita personal income in Lea County in 2005 was \$27,636 (see Figure 1). In terms of per capita income, Lea County ranked 6th in the state. Lea County's 2005 per capita income was 99.1 percent of the corresponding state figure (\$27,889), and 80.2 percent of the national average (\$34,471). The growth rate of per capita income in Lea County in the 2001 to 2005 time period (38.2 percent) has been substantially higher than that of both New Mexico (26.0 percent) and the United States (15.5 percent).



Total employment in Lea County in 2005 was 33,000. Total employment in Lea County increased by 11.1 percent between 2001 and 2005—a rate of growth higher than for the state (8.8 percent) and the nation (4.4 percent). Nearly half (48.7 percent) of Lea County's employment growth between 2001 and 2005 occurred in 2005. The Lea County employment to population ratio was 0.583. New Mexico's 2005 employment to population ratio was 0.553 and the nation's ratio was 0.591.

The private sector employed 86.0 percent of all workers in Lea County in 2005, while government and government enterprises accounted for 11.1 percent, and farm employment accounted for 2.9 percent of the total. Industries with the highest percentages of total employment included mining (19.1 percent of total employment), retail trade (10.5 percent of total employment), and construction (6.7 percent of total employment). Local government was the largest employer in the public sector, at 9.4 percent of total employment; while federal/civilian, military, and state employment each accounted for less than 1.0 percent of total employment. Lea County employment by sector is displayed in Table 1.

Basic and Non-Basic Industries in Lea County, New Mexico

Table 2 contains Location Quotients for Lea County from 2001 to 2005 calculated using data for the United States as the basis of comparison. An LQ greater than 1.0 qualifies an industry for consideration as a basic industry. Industries with LQs very near to 1.0 as well as industries such as local government and construction that typically support the local economy rather than export goods and services outside the region are not included here as basic industries.

The overwhelming importance of mining to the economic base of Lea County is obvious in Table 2, in which those sectors with an LQ greater than 1 have been shaded. In 2005, mining had an LQ of 40.66 and an LQ greater than 35 for all five years considered. The mining industry accounted for 6,314 jobs in 2005. Lea County's mining industry, which includes potash, oil, and natural gas extraction, is classified here as a basic economic activity. In September and October 2007 when this report was prepared, oil prices were in the \$75 to \$80 per barrel range. High oil prices and the importance of oil in the Lea County economy suggest strong future economic growth for the region.

Farm employment including both farm proprietors and farm employees should also be considered a basic economic activity in Lea County. The LQs for farm proprietors have exceeded 1.6 in all five years considered, while LQs for farm employees have been greater than 1.7 in all five years considered. In combination, farm employment accounted for 1,652 employees in Lea County in 2005.

Transportation and warehousing, with an LQ of 1.09 compared to the United States in 2005, should also be considered a basic industry for Lea County. This industry accounted for 1,132 total jobs (3.4 percent of total employment) in 2005.

The only other sectors with LQs above 1.0 were the construction sector, with an LQ of 1.07, and utilities, with an LQ of 2.25 in 2005. Nevertheless, the construction and utilities industries in Lea County are probably best viewed as non-basic or support industries.

The entry labeled government and government enterprises is not a separate industry, but merely the sum of the other government categories. For all five years considered, the only government sector with an LQ greater than 1.0 was local government. Because local government is generally considered a non-basic activity, for this analysis no government enterprises within Lea County are considered basic.

In brief, the data and analysis suggest that the following industries should be considered basic industries in Lea County:

1. Mining, which accounted for 6,314 jobs in Lea County in 2005.
2. Agriculture and related industries, including 683 farm proprietors and 969 farm employees, for a total of 1,652 jobs in 2005.
3. Transportation and warehousing, with accounted for 1,132 jobs in 2005.

It is common in economic base studies to calculate what is known as an export-base multiplier. This multiplier is obtained by dividing total employment by basic sector employment. In the case of Lea County the multiplier = $33,000 / 9,098 = 3.63$. This ratio suggests that the addition of each basic sector job in Lea County would be associated with an additional 3.63 non-basic sector jobs. Caution in the interpretation of this multiplier is appropriate. This ratio may or may not apply in future years. Further,

since farm proprietors have been included in the basic sector, it should be pointed out that farm proprietors often have more than one occupation and this fact may bias the 'multiplier' upward.

The export base multiplier (3.63) calculated above reinforces the importance of basic (exporting) industries to the Lea County economy. Local economic development policy actions such as the creation of industrial parks, tax abatement and financing, and workforce development projects are often used by local communities to expand an area's economic base. The appropriate mix of such policies is often a result of public and private sector interaction in the context of the development of a community economic development plan.

Tables 1 to 6 appear on pages 9-14

**Table 1
Lea County Employment by Sector, 2005**

Industry	Employment	Percent of Total Employment
Wage and salary employment	27,153	82.3
Proprietors employment	5,847	17.7
Farm proprietors employment	683	2.1
Nonfarm proprietors employment	5,164	15.6
Farm employment	969	2.9
Nonfarm employment	32,031	97.1
Private employment	28,378	86.0
Forestry, fishing, related activities	134	0.4
Mining	6,314	19.1
Utilities	253	0.8
Construction	2,196	6.7
Manufacturing	357	1.1
Wholesale trade	1,081	3.3
Retail trade	3,481	10.5
Transportation and warehousing	1,132	3.4
Information	293	0.9
Finance and insurance	832	2.5
Real estate and rental and leasing	1,028	3.1
Professional and technical services	797	2.4
Management of companies and enterprises	74	0.2
Administrative and waste services	1,933	5.9
Educational services	n.a.	n.a.
Health care and social assistance	n.a.	n.a.
Arts, entertainment, and recreation	579	1.8
Accommodation and food services	2,076	6.3
Other services, except public administration	2,079	6.3
Government and government enterprises	3,653	11.1
Federal, civilian	114	0.3
Military	153	0.5
State and local	3,386	10.3
State government	295	0.9
Local government	3,091	9.4
Total employment	33,000	100.0

Source: Regional Economic Information System, Bureau of Economic Analysis, and author calculations.

**Table 2
Lea County Location Quotients (US Based)**

	2001	2002	2003	2004	2005
Total employment	1.000	1.000	1.000	1.000	1.000
Wage and salary employment	0.997	0.998	0.996	1.007	1.017
Proprietors employment	1.015	1.012	1.020	0.968	0.928
Farm proprietors employment	1.787	1.831	1.747	1.738	1.689
Nonfarm proprietors employment	0.950	0.944	0.964	0.912	0.875
Farm employment	1.742	1.768	1.709	1.742	1.756
Nonfarm employment	0.986	0.986	0.987	0.987	0.987
Private employment	0.996	1.003	1.010	1.010	1.016
Forestry, fishing, related activities, and other	0.726	0.901	0.848	n.a.	0.699
Mining	38.046	35.498	35.271	37.737	40.658
Utilities	2.271	2.365	2.252	2.242	2.249
Construction	1.215	1.194	1.085	1.136	1.069
Manufacturing	0.142	0.122	0.139	0.130	0.127
Wholesale trade	1.082	1.064	0.953	0.892	0.892
Retail trade	1.035	1.019	0.955	1.004	0.970
Transportation and warehousing	1.020	1.036	1.004	1.062	1.085
Information	0.347	0.405	0.398	0.401	0.433
Finance and insurance	0.521	0.547	0.546	0.551	0.537
Real estate and rental and leasing	0.782	0.768	0.804	0.800	0.783
Professional and technical services	0.324	0.363	0.385	0.397	0.366
Management of companies and enterprises	0.392	0.271	0.263	0.297	0.210
Administrative and waste services	0.835	0.946	1.056	1.000	0.959
Educational services	n.a.	n.a.	n.a.	n.a.	n.a.
Health care and social assistance	n.a.	n.a.	n.a.	n.a.	n.a.
Arts, entertainment, and recreation	0.383	0.413	0.442	0.513	0.869
Accommodation and food services	0.876	0.848	0.899	0.928	0.935
Other services, except public administration	1.113	1.180	1.167	1.138	1.125
Government and government enterprises	0.925	0.884	0.849	0.847	0.809
Federal, civilian	0.245	0.248	0.229	0.223	0.216
Military	0.477	0.489	0.453	0.435	0.399
State and local	1.077	1.022	0.987	0.985	0.940
State government	0.320	0.331	0.322	0.317	0.305
Local government	1.364	1.279	1.234	1.232	1.174

Source: Author calculations from Tables 3, 4 and 5.

Table 3
Lea County Location Quotients
(with the State of New Mexico as the basis of comparison)

	2001	2002	2003	2004	2005
Total employment	1.000	1.000	1.000	1.000	1.000
Wage and salary employment	1.011	1.005	1.006	1.014	1.023
Proprietors employment	0.951	0.977	0.975	0.940	0.907
Farm proprietors employment	1.309	1.357	1.330	1.323	1.284
Nonfarm proprietors employment	0.911	0.935	0.940	0.904	0.873
Farm employment	1.294	1.341	1.313	1.306	1.266
Nonfarm employment	0.993	0.991	0.992	0.993	0.994
Private employment	1.097	1.103	1.109	1.111	1.116
Forestry, fishing, related activities, and other	0.619	0.773	0.718	n.a.	0.598
Mining	9.283	9.019	9.087	9.352	9.686
Utilities	1.926	2.064	1.931	1.946	1.935
Construction	1.110	1.119	1.016	1.046	0.968
Manufacturing	0.308	0.261	0.302	0.285	0.275
Wholesale trade	1.421	1.426	1.315	1.234	1.221
Retail trade	1.010	0.997	0.939	0.986	0.953
Transportation and warehousing	1.370	1.372	1.344	1.404	1.466
Information	0.426	0.481	0.483	0.505	0.546
Finance and insurance	0.771	0.826	0.838	0.849	0.836
Real estate and rental and leasing	0.873	0.876	0.904	0.895	0.875
Professional and technical services	0.332	0.371	0.382	0.396	0.373
Management of companies and enterprises	0.671	0.490	0.518	0.607	0.403
Administrative and waste services	0.894	1.008	1.170	1.135	1.100
Educational services	n.a.	n.a.	n.a.	n.a.	n.a.
Health care and social assistance	n.a.	n.a.	n.a.	n.a.	n.a.
Arts, entertainment, and recreation	0.392	0.420	0.434	0.505	0.850
Accommodation and food services	0.727	0.706	0.761	0.803	0.820
Other services, except public administration	1.173	1.261	1.258	1.261	1.249
Government and government enterprises	0.611	0.590	0.569	0.562	0.537
Federal, civilian	0.136	0.138	0.131	0.127	0.122
Military	0.342	0.354	0.332	0.316	0.304
State and local	0.725	0.696	0.673	0.663	0.630
State government	0.144	0.151	0.146	0.143	0.136
Local government	1.131	1.067	1.034	1.014	0.964

Source: Author calculations.

Table 4
Lea County, NM Employment by Sector: 2001-2005

	2001	2002	2003	2004	2005
Total employment	29,713	28,946	30,309	31,137	33,000
Wage and salary employment	24,622	23,855	24,747	25,571	27,153
Proprietors employment	5,091	5,091	5,562	5,602	5,847
Farm proprietors employment	695	702	678	675	683
Nonfarm proprietors employment	4,396	4,389	4,884	4,927	5,164
Farm employment	947	945	937	939	969
Nonfarm employment	28,766	28,001	29,372	30,234	32,031
Private employment	24,951	24,389	25,733	26,559	28,378
Forestry, fishing, related activities, and other	132	165	152	n.a.	134
Mining	5,492	4,631	5,131	5,353	6,314
Utilities	250	248	238	241	253
Construction	2,129	2,004	1,943	2,139	2,196
Manufacturing	430	336	378	354	357
Wholesale trade	1,208	1,136	1,053	1,019	1,081
Retail trade	3,413	3,270	3,198	3,425	3,481
Transportation and warehousing	993	962	962	1,049	1,132
Information	250	262	259	261	293
Finance and insurance	726	752	790	813	832
Real estate and rental and leasing	772	757	874	945	1,028
Professional and technical services	609	660	736	798	797
Management of companies and enterprises	124	85	84	99	74
Administrative and waste services	1,430	1,582	1,858	1,854	1,933
Educational services	n.a.	n.a.	n.a.	n.a.	n.a.
Health care and social assistance	n.a.	n.a.	n.a.	n.a.	n.a.
Arts, entertainment, and recreation	221	240	269	325	579
Accommodation and food services	1,687	1,611	1,816	1,942	2,076
Other services, except public administration	1,792	1,930	2,009	2,017	2,079
Government and government enterprises	3,815	3,612	3,639	3,675	3,653
Federal, civilian	119	118	117	114	114
Military	178	178	173	165	153
State and local	3,518	3,316	3,349	3,396	3,386
State government	286	291	295	295	295
Local government	3,232	3,025	3,054	3,101	3,091

Source: Regional Economic Information System, Bureau of Economic Analysis, www.bea.gov

**Table 5
New Mexico Employment by Sector: 2001-2005**

	2001	2002	2003	2004	2005
Total employment	977,815	987,693	1,013,107	1,037,060	1,064,351
Wage and salary employment	801,610	809,872	822,438	838,696	856,406
Proprietors employment	176,205	177,821	190,669	198,364	207,945
Farm proprietors employment	17,470	17,649	17,035	16,972	17,157
Nonfarm proprietors employment	158,735	160,172	173,634	181,392	190,788
Farm employment	24,091	24,038	23,855	23,912	24,685
Nonfarm employment	953,724	963,655	989,252	1,013,148	1,039,666
Private employment	748,250	754,776	775,615	795,628	820,099
Forestry, fishing, related activities, and other	7,019	7,284	7,080	7,153	7,224
Mining	19,469	17,520	18,875	19,043	21,024
Utilities	4,272	4,100	4,120	4,120	4,217
Construction	63,144	61,086	63,927	68,054	73,164
Manufacturing	46,001	43,939	41,770	41,265	41,896
Wholesale trade	27,970	27,181	26,761	27,469	28,566
Retail trade	111,250	111,912	113,827	115,584	117,770
Transportation and warehousing	23,854	23,930	23,920	24,849	24,901
Information	19,331	18,584	17,942	17,187	17,320
Finance and insurance	30,996	31,079	31,515	31,845	32,101
Real estate and rental and leasing	29,117	29,489	32,319	35,116	37,892
Professional and technical services	60,386	60,693	64,443	67,074	68,994
Management of companies and enterprises	6,083	5,923	5,423	5,429	5,921
Administrative and waste services	52,659	53,555	53,077	54,339	56,653
Educational services	11,826	12,535	13,936	14,797	15,551
Health care and social assistance	89,614	96,323	102,830	107,184	109,575
Arts, entertainment, and recreation	18,570	19,496	20,722	21,425	21,962
Accommodation and food services	76,403	77,903	79,733	80,496	81,679
Other services, except public administration	50,286	52,244	53,395	53,199	53,689
Government and government enterprises	205,474	208,879	213,637	217,520	219,567
Federal, civilian	28,785	29,152	29,871	29,801	30,099
Military	17,106	17,181	17,405	17,387	16,258
State and local	159,583	162,546	166,361	170,332	173,210
State government	65,503	65,814	67,614	68,599	69,786
Local government	94,080	96,732	98,747	101,733	103,424

Source: Regional Economic Information System, Bureau of Economic Analysis, www.bea.gov

**Table 6
United States Employment by Sector: 2001-2005**

	2001	2002	2003	2004	2005
Total employment	167,014,700	166,633,100	167,553,500	170,512,700	174,249,600
Wage and salary employment	138,831,000	137,664,000	137,406,000	138,847,000	140,967,000
Proprietors employment	28,183,700	28,969,100	30,147,500	31,665,700	33,282,600
Farm proprietors employment	2,186,000	2,207,000	2,146,000	2,124,000	2,135,000
Nonfarm proprietors employment	25,997,700	26,762,100	28,001,500	29,541,700	31,147,600
Farm employment	3,056,000	3,077,000	3,031,000	2,949,000	2,914,000
Nonfarm employment	163,958,700	163,556,100	164,522,500	167,563,700	171,335,600
Private employment	140,778,700	140,040,100	140,836,500	143,837,700	147,498,600
Forestry, fishing, related activities, and other	1,022,500	1,053,700	991,300	1,015,200	1,012,200
Mining	811,400	751,000	804,200	775,900	820,000
Utilities	618,800	603,600	584,200	588,100	594,100
Construction	9,846,700	9,665,800	9,901,300	10,301,500	10,845,700
Manufacturing	16,994,600	15,819,700	15,063,000	14,905,800	14,860,900
Wholesale trade	6,273,400	6,143,800	6,110,500	6,245,800	6,401,300
Retail trade	18,528,800	18,473,100	18,505,100	18,660,600	18,941,100
Transportation and warehousing	5,474,000	5,344,300	5,296,500	5,401,600	5,510,100
Information	4,053,800	3,723,200	3,595,400	3,562,100	3,577,100
Finance and insurance	7,839,600	7,912,300	7,996,500	8,074,000	8,186,600
Real estate and rental and leasing	5,551,400	5,677,000	6,008,500	6,465,100	6,934,300
Professional and technical services	10,575,800	10,461,200	10,572,300	10,988,000	11,488,700
Management of companies and enterprises	1,779,300	1,807,000	1,762,500	1,821,600	1,857,000
Administrative and waste services	9,621,000	9,630,300	9,729,400	10,142,200	10,645,100
Educational services	3,058,300	3,200,600	3,312,800	3,429,300	3,552,900
Health care and social assistance	15,611,400	16,080,000	16,552,100	16,861,400	17,267,000
Arts, entertainment, and recreation	3,243,100	3,342,200	3,367,800	3,465,700	3,517,300
Accommodation and food services	10,825,200	10,935,200	11,169,700	11,442,800	11,728,300
Other services, except public administration	9,049,600	9,416,100	9,513,400	9,691,000	9,758,900
Government and government enterprises	23,180,000	23,516,000	23,686,000	23,726,000	23,837,000
Federal, civilian	2,728,000	2,736,000	2,823,000	2,796,000	2,790,000
Military	2,099,000	2,097,000	2,110,000	2,077,000	2,027,000
State and local	18,353,000	18,683,000	18,753,000	18,853,000	19,020,000
State government	5,031,000	5,068,000	5,066,000	5,083,000	5,112,000
Local government	13,322,000	13,615,000	13,687,000	13,770,000	13,908,000

Source: Regional Economic Information System, Bureau of Economic Analysis, www.bea.gov