

Arrowhead Center

Leading Economic Development for New Mexico State



The Economic Base of Grant County, NM

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

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New Mexico State University

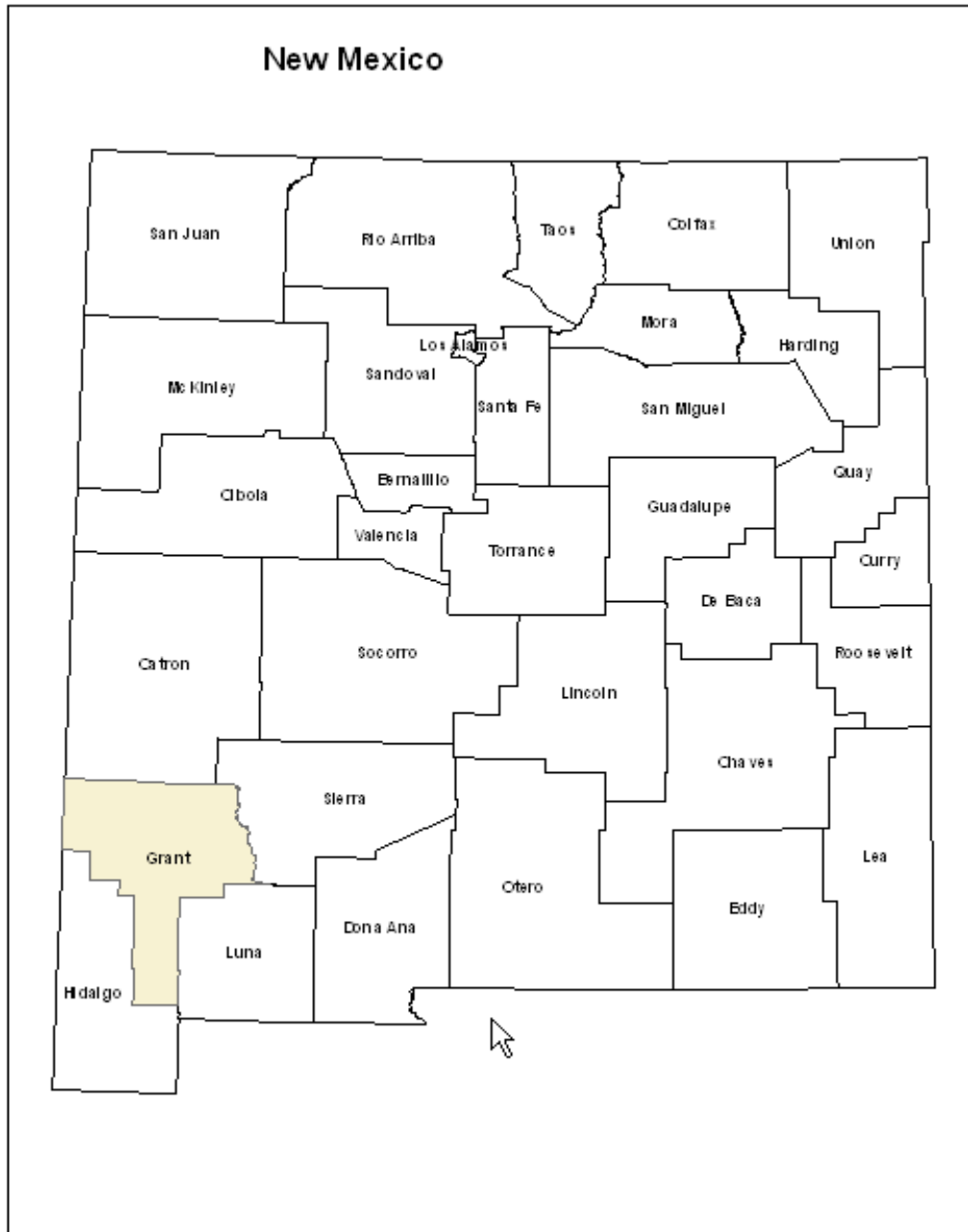
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Introduction

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 and Leo Delgado, Policy Analyst at Arrowhead Center. Graduate students employed by Arrowhead Center who contributed to the reports include: Ilana Boivie, Hector J. Aguirre, and Amanda J. Alaniz. 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 Grant 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>.

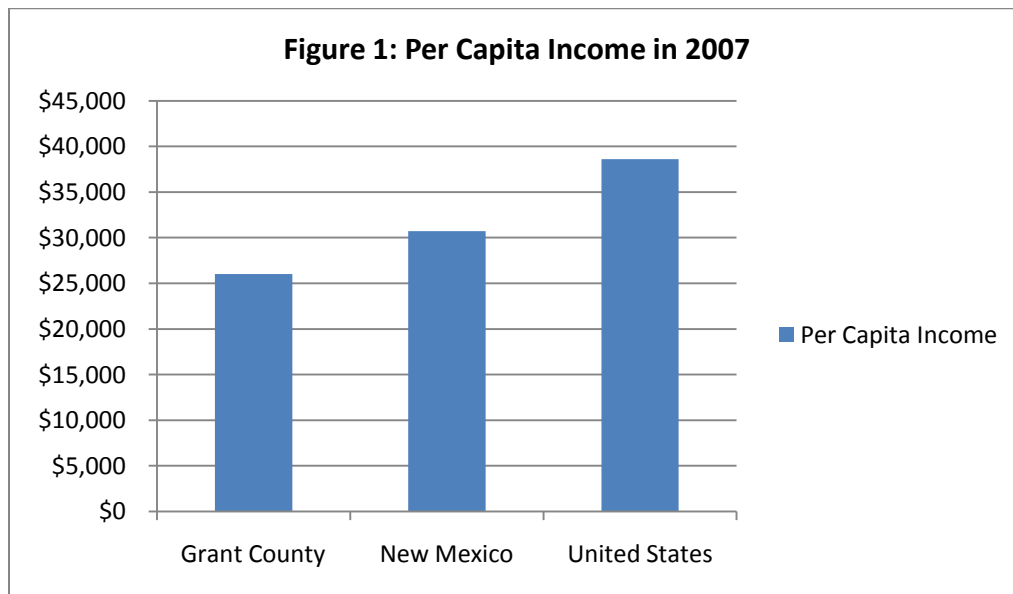
A common criticism of economic base studies and the LQ approach to identifying basic industries is that the LQs often change over time. In this report, LQs are described for the most recent year for which data are available and the four years preceding (2003-2007).

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

Grant County, New Mexico

Grant County is located in southwestern New Mexico and contains 3,966 square miles or 3.27 percent of the land area in New Mexico. The population of Grant County in 2007 was 29,688 (1.51 percent of the state total) and ranked fifteenth among New Mexico's counties. Silver City, with a population estimated by the U.S. Census Bureau to be 9,977 in 2006 contained 33.6 percent of Grant County's population. Between 2003 and 2007, Grant County's population decreased 0.69 percent, while New Mexico's population increased 5.17 percent and the nation's population increased 3.82 percent.

Per capita personal income in Grant County in 2007 was \$26,007 (see Figure 1). In terms of per capita income, Grant County ranked 15th in the state. Grant County's 2007 per capita income was 84.7 percent of the corresponding state figure (\$30,706), and 67.3 percent of the national average (\$38,615). The growth rate of per capita income in Grant County in the 2003 to 2007 time period (34.3 percent) was higher than that of New Mexico (22.95 percent), and higher than the nation's per capita income growth rate (22.47 percent).



Total employment in Grant County in 2007 was 15,012. Between 2003 and 2006, employment increased 12.1 percent, a rate of growth slightly higher than for the state (10.1 percent) and higher than

the nation (8.0 percent). The Grant County employment to population ratio was 0.506 in 2007. New Mexico's 2006 employment to population ratio was 0.568 and the nation's ratio was 0.601.

The private sector employed 71.7 percent of all workers in Grant County in 2007, while government and government enterprises accounted for 25.3 percent, and farm employment accounted for 3.0 percent of the total. The industries with the highest percentages of total employment included retail trade (11.7 percent of total employment), health care and social assistance (8.1 percent of total employment), accommodation and food service (7.4 percent of total employment), and construction (6.6 percent of total employment). State and local government were the largest employers in the public sector, at 10.4 percent and 13.4 percent of total employment, respectively, while federal/civilian and military employment accounted for 1.4 percent and 0.5 percent of the total, respectively. Grant County employment by sector is displayed in Table 1.

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

Table 2 contains Location Quotients for Grant County from 2003 to 2007 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 dominant position of mining to the economic base of Grant County is obvious in Table 2, in which those sectors with an LQ greater than 1 have been shaded. Although 2003 was the only year that data was available for this sector, the LQ in that year was 9.61, reflecting the tremendous value of Grant's copper mining industry. The Chino copper mine in the city of Hurley is one of the largest open-pit copper mines in the world, encompassing over 9,000 acres and covering 1.75 miles across. The mining industry accounted for 618 total jobs in 2003 and this figure is used in the calculation of the multiplier below.

A new addition to industries that should be considered basic is utilities. Data for this industry was not available for the previous three years of this study until the updated employment data was provided

in 2007. This industry was shown to provide 62 employment positions in 2007, and had an LQ of 1.29. Utilities is thus also considered a basic economic activity for Catron County.

Another addition to industries considered basic in Grant County is management of companies, which grew significantly from the 2004, as new employment information for this industry was provided in 2007. Employment grew from only 36 total jobs in 2004, to 259 total jobs in 2007. This jump in employment moved the LQ to a high 1.59, from 0.25 in 2004. A high LQ of 1.59 reflects that this industry has become an important industry to Grant County.

Farm employment including both farm proprietors and farm employees should also be considered a basic economic activity in Grant County. The LQs for farm proprietors have exceeded 2.0 in all five years considered, while farm employees LQs have been greater than 1.7 in all five years considered. In combination, these sectors accounted for 835 employees in 2007.

The accommodation and food services industry is normally considered a non-basic activity, but within Grant County the large LQ of 1.10 in 2007 reflects the large tourism base of the Gila National Forest and Gila Cliff Dwellings National Monument located just outside of Silver City. Hence, for this analysis, the accommodation and food services industry within Grant County will be considered basic, as tourism is generally considered a basic activity.

Other private sector industries with LQs above 1.0 were construction (1.02), and retail trade (1.10). Nevertheless, these industries are probably best viewed as non-basic or support industries in Grant County.

The entry labeled government and government enterprises is not a separate industry but merely the sum of the other government categories. The LQ for state government employment in Grant County (3.50 in 2007) is very large and reflects in particular the significant employment base of Western New Mexico University (WNMU). As a comprehensive university, WNMU exports educational services. Hence, state government is classified here as a basic industry.

Though local government had an LQ of 1.70 in 2007, it is generally categorized as non-basic, and for Grant County that practice is followed here as well.

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

1. Mining, which accounted for 618 jobs and 4.6 percent of total employment in 2003.
2. Utilities, which accounted for 62 total jobs in 2007.
3. Management of companies, which accounted for 259 total jobs in 2007.
3. Agriculture and related industries, including 386 farm proprietors and 449 farm employees, for a total of 835 jobs in 2007.
4. Accommodation and food services, which accounted for 1,115 total jobs in 2007.
5. State government employment, which accounted for 1,512 jobs in 2007.

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 Grant County the multiplier = $15,012 / 4,401 = 3.41$. This ratio suggests that the addition of each basic sector job in Grant County would be associated with an additional 3.41 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 (3.41) calculated above reinforces the importance of basic (exporting) industries to the Grant 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.

Changes from Prior Year

This document has been revised to reflect new data figures obtained from the BEA (www.bea.gov) for the 2007 year. The following are significant changes for the state of New Mexico for the years preceding 2007.

Population increased from 29,363 in 2006 to 29,688 in 2007. Per capita income in Grant County saw an increase of 5.16 percent from \$24,732 in 2006 to \$26,007 in 2007. Total employment saw a small increase of 1.01 percent, with an addition of 150 employment positions. Industries considered basic in 2007 remained the same as the previous year, with the addition of Utilities and management of companies. From 2004-2007, as new employment information was disclosed Utilities provided an additional 18 jobs and management of companies provided an additional 223 jobs to the economic base of Grant County.

Tables 1 to 6 appear on pages 10-15

Table 1: Grant County Employment by Sector, 2007

Industry	Employment	Percent of Total Employment
Wage and salary employment	11,401	75.9
Proprietors employment	3,611	24.1
Farm proprietors employment	386	2.6
Nonfarm proprietors employment	3,225	21.5
Farm employment	449	3.0
Nonfarm employment	14,563	97.0
Private employment	10,760	71.7
Forestry, fishing, related activities, and other	n.a.	n.a.
Mining	n.a.	n.a.
Utilities	62	0.4
Construction	996	6.6
Manufacturing	178	1.2
Wholesale trade	227	1.5
Retail trade	1,757	11.7
Transportation and warehousing	214	1.4
Information	176	1.2
Finance and insurance	271	1.8
Real estate and rental and leasing	449	3.0
Professional and technical services	426	2.8
Management of companies and enterprises	259	1.7
Administrative and waste services	681	4.5
Educational services	194	1.3
Health care and social assistance	1,220	8.1
Arts, entertainment, and recreation	247	1.6
Accommodation and food services	1,115	7.4
Other services, except public administration	843	5.6
Government and government enterprises	3,803	25.3
Federal, civilian	205	1.4
Military	77	0.5
State and local	3,521	23.5
State government	1,512	10.1
Local government	2,009	13.4
Total employment	15,012	100.0

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

Table 2: Grant County Location Quotients (US Based): 2003-2007

	2003	2004	2005	2006	2007
Total Employment	1.000	1.000	1.000	1.000	1.000
Wage and salary employment	0.926	0.921	0.947	0.949	0.949
Proprietors employment	1.337	1.345	1.226	1.211	1.205
Farm proprietors employment	2.186	2.185	2.175	2.133	2.222
Nonfarm proprietors employment	1.272	1.284	1.161	1.151	1.142
Farm employment	1.795	1.830	1.875	1.845	1.905
Nonfarm employment	0.985	0.985	0.985	0.986	0.986
Private employment	0.829	0.821	0.820	0.836	0.843
Forestry, fishing, related	n.a.	n.a.	n.a.	n.a.	n.a.
Mining	9.613	n.a.	n.a.	n.a.	n.a.
Utilities	n.a.	0.946	0.944	0.961	1.282
Construction	1.234	1.219	1.032	0.984	1.031
Manufacturing	0.198	0.306	0.129	0.133	0.148
Wholesale trade	0.411	0.378	0.363	0.363	0.411
Retail Trade	1.075	1.102	1.048	1.047	1.098
Transportation and warehousing	n.a.	0.491	0.434	0.460	0.438
Information	0.626	0.627	0.677	0.626	0.600
Finance and insurance	0.474	0.464	0.423	0.395	0.387
Real estate and rental and leasing	0.968	0.922	0.797	0.735	0.665
Professional and technical services	n.a.	0.474	0.444	0.444	0.433
Management of companies	n.a.	0.248	1.123	1.523	1.589
Administrative and waste services	0.714	0.365	0.325	0.707	0.734
Educational services	n.a.	0.422	0.462	0.519	0.610
Health care and social assistance	n.a.	0.905	0.923	0.863	0.808
Arts, entertainment, and recreation	0.851	0.881	0.824	0.826	0.797
Accommodation and food services	1.354	1.268	1.173	1.162	1.097
Other services, except public administration	0.909	0.908	0.927	0.957	1.002
Government and government enterprises	1.915	1.981	2.009	1.928	1.890
Federal, civilian	1.099	1.064	0.981	0.950	0.888
Military	0.545	0.513	0.485	0.452	0.455
State and local	2.192	2.279	2.322	2.227	2.184
State government	3.660	3.764	3.923	3.731	3.501
Local government	1.649	1.730	1.731	1.675	1.702

Source: Author calculations from Tables 3,4 and 5

Table 3: Grant County Location Quotients (NM Based): 2003-2007

	2003	2004	2005	2006	2007
Total Employment	1.000	1.000	1.000	1.000	1.000
Wage and salary employment	0.936	0.930	0.942	0.951	0.954
Proprietors employment	1.278	1.295	1.252	1.200	1.178
Farm proprietors employment	1.665	1.666	1.632	1.620	1.637
Nonfarm proprietors employment	1.240	1.261	1.215	1.164	1.140
Farm employment	1.379	1.384	1.343	1.335	1.362
Nonfarm employment	0.991	0.991	0.992	0.992	0.992
Private employment	0.910	0.902	0.902	0.908	0.908
Forestry, fishing, related	n.a.	n.a.	n.a.	n.a.	n.a.
Mining	2.477	n.a.	n.a.	n.a.	n.a.
Utilities	n.a.	0.819	0.798	0.816	1.048
Construction	1.156	1.126	0.946	0.868	0.900
Manufacturing	0.433	0.677	0.281	0.281	0.311
Wholesale trade	0.568	0.523	0.496	0.494	0.558
Retail Trade	1.057	1.082	1.034	1.040	1.077
Transportation and warehousing	n.a.	0.648	0.585	0.623	0.576
Information	0.759	0.789	0.846	0.738	0.701
Finance and insurance	0.727	0.717	0.669	0.634	0.620
Real estate and rental and leasing	1.088	1.050	0.962	0.870	0.796
Professional and technical services	n.a.	0.471	0.451	0.418	0.387
Management of companies	n.a.	0.508	1.971	2.766	3.153
Administrative and waste services	0.791	0.414	0.375	0.803	0.834
Educational services	n.a.	0.591	0.661	0.741	0.866
Health care and social assistance	n.a.	0.867	0.885	0.838	0.788
Arts, entertainment, and recreation	0.836	0.866	0.834	0.835	0.804
Accommodation and food services	1.147	1.098	1.023	1.014	0.969
Other services, except public administration	0.979	0.980	0.990	1.022	1.056
Government and government enterprises	1.284	1.317	1.322	1.327	1.345
Federal, civilian	0.628	0.608	0.549	0.531	0.502
Military	0.400	0.373	0.364	0.359	0.379
State and local	1.494	1.538	1.547	1.562	1.589
State government	1.658	1.703	1.756	1.853	1.889
Local government	1.382	1.427	1.407	1.385	1.419

Source: Author calculations from Tables 3,4 and 5

Table 4: Grant County Employment by sector: 2003-2007

	2003	2004	2005	2006	2007
Total Employment	13,394	13,741	14,198	14,862	15,012
Wage and salary employment	10,172	10,310	10,875	11,370	11,401
Proprietors employment	3,222	3,431	3,323	3,492	3,611
Farm proprietors employment	375	374	378	377	386
Nonfarm proprietors employment	2,847	3,057	2,945	3,115	3,225
Farm employment	435	435	445	442	449
Nonfarm employment	12,959	13,306	13,753	14,420	14,563
Private employment	9,333	9,515	9,849	10,549	10,760
Forestry, fishing, related	n.a.	n.a.	n.a.	n.a.	n.a.
Mining	618	n.a.	n.a.	n.a.	n.a.
Utilities	n.a.	44	44	46	62
Construction	977	1,015	925	941	996
Manufacturing	239	367	156	164	178
Wholesale trade	201	190	189	198	227
Retail Trade	1,590	1,656	1,621	1,674	1,757
Transportation and warehousing	n.a.	214	198	221	214
Information	180	180	197	186	176
Finance and insurance	303	302	284	278	271
Real estate and rental and leasing	465	484	463	459	449
Professional and technical services	n.a.	420	407	432	426
Management of companies	n.a.	36	170	242	259
Administrative and waste services	555	298	275	636	681
Educational services	n.a.	116	134	160	194
Health care and social assistance	n.a.	1,231	1,295	1,279	1,220
Arts, entertainment, and recreation	229	246	237	251	247
Accommodation and food services	1,209	1,169	1,120	1,166	1,115
Other services, except public administration	691	709	741	799	843
Government and government enterprises	3,626	3,791	3,904	3,871	3,803
Federal, civilian	248	240	223	221	205
Military	92	86	80	77	77
State and local	3,286	3,465	3,601	3,573	3,521
State government	1,482	1,545	1,639	1,607	1,512
Local government	1,804	1,920	1,962	1,966	2,009

Table 5: New Mexico Employment by sector: 2003-2007

	2003	2004	2005	2006	2007
Total Employment	1,013,107	1,038,845	1,051,704	1,091,651	1,115,677
Wage and salary employment	822,438	838,544	855,049	877,954	887,936
Proprietors employment	190,669	200,301	196,655	213,697	227,741
Farm proprietors employment	17,035	16,972	17,159	17,095	17,519
Nonfarm proprietors employment	173,634	183,329	179,496	196,602	210,222
Farm employment	23,855	23,757	24,550	24,318	24,508
Nonfarm employment	989,252	1,015,088	1,027,154	1,067,333	1,091,169
Private employment	775,615	797,520	808,390	853,037	881,017
Forestry, fishing, related	7,080	7,132	7,219	7,164	7,086
Mining	18,875	19,025	21,118	23,666	24,596
Utilities	4,120	4,063	4,082	4,142	4,397
Construction	63,927	68,145	72,453	79,654	82,275
Manufacturing	41,770	40,954	41,083	42,857	42,563
Wholesale trade	26,761	27,441	28,248	29,419	30,243
Retail Trade	113,827	115,746	116,168	118,189	121,257
Transportation and warehousing	23,920	24,980	25,077	26,060	27,625
Information	17,942	17,238	17,240	18,511	18,663
Finance and insurance	31,515	31,844	31,460	32,210	32,460
Real estate and rental and leasing	32,319	34,859	35,664	38,754	41,905
Professional and technical services	64,443	67,459	66,884	75,824	81,750
Management of companies	5,423	5,354	6,388	6,426	6,105
Administrative and waste services	53,077	54,423	54,336	58,185	60,687
Educational services	13,936	14,838	15,015	15,850	16,645
Health care and social assistance	102,830	107,352	108,336	112,171	115,090
Arts, entertainment, and recreation	20,722	21,479	21,062	22,081	22,823
Accommodation and food services	79,733	80,498	81,137	84,443	85,528
Other services, except public administration	53,395	54,690	55,420	57,431	59,319
Government and government enterprises	213,637	217,568	218,764	214,296	210,152
Federal, civilian	29,871	29,822	30,099	30,558	30,332
Military	17,405	17,426	16,258	15,764	15,119
State and local	166,361	170,320	172,407	167,974	164,701
State government	67,614	68,600	69,127	63,694	59,478
Local government	98,747	101,720	103,280	104,280	105,223

Table 6: United States Employment by sector: 2003-2007

	2003	2004	2005	2006	2007
Total Employment	167,553,500	170,512,700	174,228,400	177,817,600	180,943,800
Wage and salary employment	137,406,000	138,847,000	140,973,000	143,321,000	144,815,000
Proprietors employment	30,147,500	31,665,700	33,255,400	34,496,600	36,128,800
Farm proprietors employment	2,146,000	2,124,000	2,133,000	2,115,000	2,094,000
Nonfarm proprietors employment	28,001,500	29,541,700	31,122,400	32,381,600	34,034,800
Farm employment	3,031,000	2,949,000	2,913,000	2,867,000	2,841,000
Nonfarm employment	164,522,500	167,563,700	171,315,400	174,950,600	178,102,800
Private employment	140,836,500	143,819,700	147,466,400	150,930,600	153,845,800
Forestry, fishing, related	991,300	1,010,500	1,028,400	1,018,500	1,014,400
Mining	804,200	783,400	836,600	932,200	984,900
Utilities	584,200	577,400	571,900	572,700	576,500
Construction	9,901,300	10,333,600	10,993,800	11,438,900	11,641,100
Manufacturing	15,063,000	14,873,900	14,819,200	14,774,200	14,512,000
Wholesale trade	6,110,500	6,230,500	6,385,500	6,534,800	6,657,800
Retail Trade	18,505,100	18,649,500	18,980,800	19,121,800	19,282,000
Transportation and warehousing	5,296,500	5,406,800	5,603,300	5,747,900	5,887,700
Information	3,595,400	3,561,100	3,569,700	3,553,500	3,537,000
Finance and insurance	7,996,500	8,075,000	8,243,300	8,414,800	8,429,700
Real estate and rental and leasing	6,008,500	6,511,300	7,125,100	7,468,500	8,142,400
Professional and technical services	10,572,300	10,988,900	11,243,100	11,631,800	11,866,300
Management of companies	1,762,500	1,800,400	1,858,200	1,901,700	1,965,200
Administrative and waste services	9,729,400	10,132,000	10,372,500	10,759,500	11,180,300
Educational services	3,312,800	3,413,300	3,555,800	3,690,500	3,833,000
Health care and social assistance	16,552,100	16,871,600	17,224,300	17,739,900	18,204,900
Arts, entertainment, and recreation	3,367,800	3,466,700	3,529,300	3,634,400	3,736,900
Accommodation and food services	11,169,700	11,443,800	11,714,100	12,008,200	12,253,000
Other services, except public administration	9,513,400	9,690,000	9,811,500	9,986,800	10,140,700
Government and government enterprises	23,686,000	23,744,000	23,849,000	24,020,000	24,257,000
Federal, civilian	2,823,000	2,798,000	2,790,000	2,784,000	2,782,000
Military	2,110,000	2,082,000	2,026,000	2,040,000	2,041,000
State and local	18,753,000	18,864,000	19,033,000	19,196,000	19,434,000
State government	5,066,000	5,094,000	5,127,000	5,154,000	5,205,000
Local government	13,687,000	13,770,000	13,906,000	14,042,000	14,229,000