

Report to the Chairman, Committee on the Budget, U.S. Senate

January 1998

DEFENSE SPENDING AND EMPLOYMENT

Information Limitations Impede Thorough Assessments





United States General Accounting Office Washington, D.C. 20548

National Security and International Affairs Division

B-276819

January 14, 1998

The Honorable Pete V. Domenici Chairman, Committee on the Budget United States Senate

Dear Mr. Chairman:

The size of the defense budget is a pressing issue in the wake of the post-Cold War reduction in defense spending and the priorities of balancing the federal budget. Moreover, the difficulties of determining the impacts and outcomes of budget decisions add to existing challenges. Congress and other decisionmakers have a practical and continuous need for information on defense-related expenditures and employment in states. In response to your request, and discussions with your office, we examined defense and other federal spending in the state of New Mexico. Specifically, we examined (1) characteristics of New Mexico's economy and changes in it; (2) the amount of direct defense-related and nondefense-related federal spending in the state and the direct federal employment associated with both, over time; and (3) the extent to which available government data can provide reliable information on defense spending and employment. The last issue became a major component of our study, since the quality of the data directly affects what can be concluded about defense spending and employment.

Background

In 1996, the federal government spent \$1.4 trillion in U.S. states and territories to procure products and services, to fund grants and other assistance, to pay salaries and wages to federal employees, to provide public assistance, and to fund federal retirement programs and Social Security, among other things. Some states rank relatively high on the per capita distribution of different types of federal dollars. Government reports indicate that in 1996, Maryland, Virginia, and Alaska were the only three states to rank among the top five in each of the following categories: (1) total federal expenditures, (2) total federal procurement expenditures, and (3) total salary and wage expenditures for federal workers. The only other state that ranked among the top 10 states in all these categories was New Mexico.

Interest in the economic magnitude of defense and other federal expenditures in states has been amplified by concerns over anticipated outcomes of the post-Cold War drawdown. In hearings before the Joint Economic Committee of the 101st Congress, 12 state governors¹ submitted to the leadership of the Senate and House a plan for responding to expected adverse economic impacts in states that were believed to be particularly vulnerable to reductions in defense spending. In 1992, President Bush issued Executive Order 12788, requiring the Secretary of Defense to identify the problems of states, regions, and other areas that result from base closures and Department of Defense (DOD) contract-related adjustments. The Office of Economic Adjustment is DOD's primary office responsible for providing assistance to communities, regions, and states "adversely impacted by significant Defense program changes."

The federal government tracks defense-related and other federal spending and associated employment through various sources. Centralized reporting of this information is done by the Census Bureau in its Consolidated Federal Funds Report (CFFR) series. The CFFR includes the Federal Expenditures by State (FES) report and a separate two-report volume that presents information at the county and subcounty level. The FES report presents the most comprehensive information on federal expenditures at the state level that can actually be attributed to specific federal agencies or programs. Agencies involved in collecting and reporting various types of employment information include the Office of Personnel Management (OPM) and the Bureau of Labor Statistics.

Expenditure information reported in the CFFR also appears in agency-specific publications or data sources. DOD reports information on its total procurement expenditures and the salaries and wages paid to DOD personnel, by state, in the Atlas/Data Abstract for the United States and Selected Areas. In compiling information for the CFFR, DOD's procurement data are first sent to the Federal Procurement Data System (FPDS) and then sent to Census. Therefore, Census, DOD, and the FPDS can and do report DOD procurement expenditures.

Federal expenditure and employment data are available to users in and outside the government and are regularly used in policy formulation and evaluation. DOD contractors, including the Logistics Management Institute, have used federal government data in support of their work for DOD on the economic impacts of base realignment and closure actions. The Office of Economic Conversion Information, a collaborative effort between the Economic Development Administration of the Department of Commerce

¹Governors from Arkansas, Colorado, Connecticut, Louisiana, Maryland, Massachusetts, Michigan, Mississippi, New Jersey, New York, Ohio, and Washington.

and DOD, uses existing federal data to provide information to communities, businesses, and individuals adjusting to the effects of defense downsizing and other changing economic conditions. The Congressional Budget Office and the Congressional Research Service have also used DOD procurement expenditure data in examining the expected effects of planned reductions in the national defense budget. DOD uses its prime contract award expenditure data to track the status and progress of goals associated with contracts made to small businesses. Researchers at think tanks, universities, and state government offices also use government data in a wide array of research projects and publications.

Results in Brief

New Mexico is home to two Department of Energy (DOE) national laboratories and four DOD military installations, among other federal activities. State officials indicate that New Mexico's economy is "heavily dependent" upon federal expenditures. In 1996, New Mexico was fourth among states in the per capita distribution of federal dollars and first in return on federal tax dollars, receiving \$1.93 in federal outlays for every \$1.00 paid in federal taxes. While parts of the state have relatively strong and growing economies, in 1994 New Mexico's poverty rate was the second highest in the country and its per capita income was 48th in the country. Although defense-related spending has been declining, New Mexico's gross state product and total per capita income have been increasing, indicating that the economy is growing and that efforts to diversify the economy may be having a positive effect.

One can learn several things from the available federal government expenditure and employment data for New Mexico. Dod and Doe expenditures have consistently represented the largest share of all federal expenditures for procurement and salaries and wages in New Mexico. Defense-related employment has also consistently represented the largest share of total federal employment in New Mexico, including retired federal workers. Dod and Doe do not contribute equally on types of defense-related spending or defense-related employment, revealing relevant distinctions between the types of direct economic contributions made by these agencies. Doe contributes most in federal procurement expenditures and private contractor employment. Dod contributes most in federal salaries and wages and federal employment, namely active duty military and retired Dod employees.

Existing government data, however, contributes to only a partial understanding of the type of federal dollars that enter a state's economy

and the employment supported by the expenditures. Our research based on New Mexico shows that the data have multiple limitations that restrict the ability to determine the total amount and distribution of federal funding and jobs in the state. Key limitations that generally apply include reporting thresholds that exclude millions in procurement expenditures; the reporting of the value of an obligation, rather than the money actually spent; the absence of any comprehensive source of primary data that systematically identifies private sector employment associated with federal contracts; and DOD's lack of data on subcontracts. Since these data sources are not unique to New Mexico, these limitations would also apply to assessments of federal funding and employment in other states. Existing data are not without value, but those who rely on federal data need to be alert to their drawbacks and exercise discretion when using them.

Federal Dollars Contribute to New Mexico Economy, but Economy Is Diversifying

DOE and DOD military activities have contributed substantially to the economy of New Mexico for about 50 years. Government data show that between 1988 and 1996, New Mexico was ranked second, third, or fourth, among U.S. states in per capita distribution of federal dollars. In terms of per capita federal procurement expenditures only, New Mexico was ranked first among U.S. states during 1988-94 and second in 1995-96. In 1996, New Mexico was ranked first among states in return on federal tax dollars, receiving \$1.93 in federal outlays for every \$1.00 in federal taxes paid. The state was also ranked first in return on federal tax dollars in 1995. In 1996, 5 of the 6 major federal facilities were among the top 10 employers in the state.

This federal revenue comes largely from the six major federal facilities in New Mexico, including two doe national laboratories, Los Alamos National Laboratory and Sandia National Laboratory; Cannon, Holloman, and Kirtland Air Force Bases; and White Sands Missile Range, a test range that supports missile development and test programs for all the services, the National Aeronautics and Space Administration (NASA); and other government agencies and private industry. New Mexico's geography and climate, including relative isolation from major population centers, year-round good weather, and open airspace, have made the state attractive for some military activities. In May 1996, the Secretary of Defense and the German Defense Minister activated the German Air Force Tactical Training Center at Holloman Air Force Base in Alamogordo. The training opportunities provided by the vast airspace in and around Holloman and its proximity to Fort Bliss, Texas—the headquarters

location for German air force operations in North America—were factors in Germany's decision to invest in a tactical training center at the base. State officials estimate that the training center will result in a population increase to the Alamogordo area of about 7 percent and investment by Germany of \$155 million by 1999.

Services and trade are distinct components of New Mexico's economy. In 1993, the largest employment sectors in New Mexico were services, government, and trade: these were reported as accounting for approximately 76 percent of the total average annual state employment.² Businesses involved in trade and/or services accounted for 67 percent of all businesses in New Mexico in 1993. Revenue from the gross receipts tax is the highest source of tax revenue in New Mexico, and in 1996, gross receipt taxes from services and trade accounted for more than half of all gross receipts tax revenue. DOE reports show that between 1990 and 1995, it made more expenditures in the services and trade sectors of the New Mexico economy. New Mexico Department of Labor projections indicate that by 2005, the services sector will alone account for about 41 percent of total employment while employment in the trade sector is projected to remain stable and government employment is expected to decline. The projections indicate that jobs in services and trade will account for 70 percent of the new jobs between 1993 and 2005.

New Mexico state officials have been focusing on "achieving economic diversification to protect against dramatic negative changes in the state's economy," believed to be linked to changes in federal spending in the state. Efforts in 1996 to recruit select industries to the state have initially resulted in at least 7 businesses locating to New Mexico, creating 230 new jobs. In terms of other efforts, New Mexico was 8th among U.S. states in high-technology employment growth between 1990 and 1995. The single leading high-technology industry in the state is semiconductor manufacturing, which accounts for 34 percent of total high-technology jobs. Intel Corporation has three advanced computer chip manufacturing sites that employ at least 6,500 people making it the state's second-largest

²The service sector includes employment associated with hotels and other lodging places, personal services, business services, health services, legal services, educational services, and others. The trade sector includes wholesale trade of durable and nondurable goods and retail trade at general merchandise stories, food stores, automobile dealers and service stations, eating and drinking places, and other retail trade. The government sector includes federal, state, and local government employment.

³Cyberstates: A State-By-State Overview of the High-Technology Industry. American Electronics Association, Washington, D.C., 1997. There is no conventional, standard accepted definition of high-technology or high-technology industry. Thus, definitions of high-technology industries can vary greatly depending upon what combination of products and services are selected.

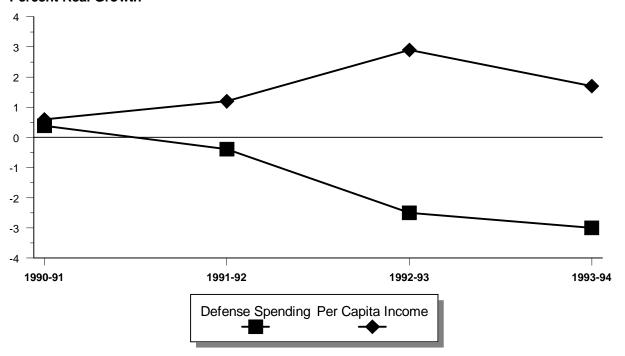
private sector employer and contributing to the growth in New Mexico's high-technology employment. In 1995, Intel was also the leading manufacturing employer in the state. High-technology exports account for the largest percentage of New Mexico exports to other countries, with exports to Korea leading other nations. Currently, about 10 percent of all New Mexico manufacturers are exporting. The leading exporters in New Mexico are Intel, Motorola, and Honeywell Defense Avionics.

A comparison of the percent change in New Mexico's per capita income and total defense-related spending (DOE and DOD) in the state during 1990-94 shows that real growth occurred in per capita income, while total defense expenditures declined (see fig.1). A comparison between percent real growth in New Mexico's gross state product and total defense-related federal expenditures reveals the same pattern, suggesting that efforts to diversify the state's economy may be having a positive effect (see fig. 2). Based on the average rate of growth in the gross state product during 1987-94, the Bureau of Economic Analysis identified New Mexico as the third-fastest-growing state.

⁴The Trade Division of the New Mexico Economic Development Department defines high-technology industry as the composite of all exports originating from three industry sectors: electronic and other electric equipment and components, except computer equipment; industrial machinery and computer equipment; and measuring analyzing and controlling instruments, photographic, medical, and optical goods, and watches and clocks.

Figure 1: Change in Per Capita Income and Defense-Related Expenditures in New Mexico (1990-94)

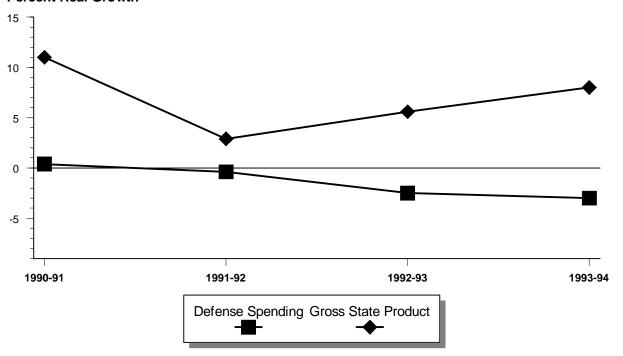
Percent Real Growth



Source: Our analysis of data from the Bureau of Economic Analysis, Census Bureau, Department of Defense, and the Department of Energy-Albuquerque Operations Office.

Figure 2: Change in New Mexico's Gross State Product and Federal Defense Expenditures in New Mexico (1990-94)

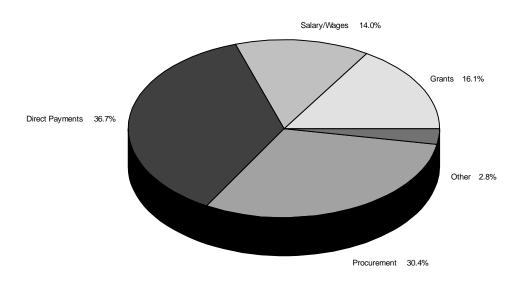
Percent Real Growth



Source: Our analysis of data from the Bureau of Economic Analysis, Census Bureau, Department of Defense, and the Department of Energy-Albuquerque Operations Office.

DOE Spends More on Procurement; DOD Spends More on Workforce and Retirement Available federal data provides a segmented and rough snapshot of federal money spent in states and the employment linked to those expenditures that is relevant to gauging some trends and patterns. For example, government data indicates that in 1996, the federal government spent about \$12 billion in New Mexico. Direct expenditures for procurement, salaries and wages for federal workers, and grants accounted for 60 percent, or about \$7.3 billion, of the total. Direct payments to individuals, the single largest category of federal expenditures, accounted for approximately 37 percent, or about \$4.4 billion, of total 1996 federal expenditures (see fig. 3).

Figure 3: Federal Expenditures in New Mexico (1996)



Source: Our analysis of Census data.

Appendix II includes additional descriptions of federal spending and employment in New Mexico.

Defense-Related Expenditures

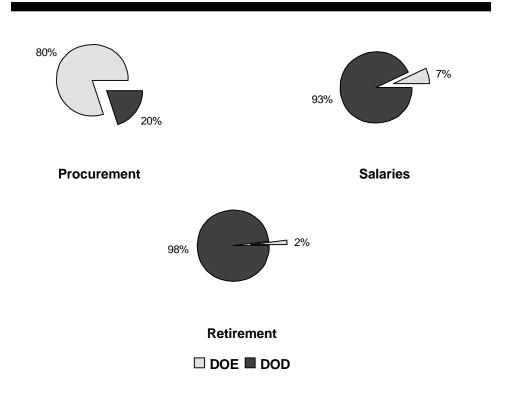
The top five agencies making procurement expenditures in New Mexico during 1993-96, were DOE, DOD, the Department of Interior, NASA, and the Postal Service. The defense-related agencies (DOE and DOD), compared to the nondefense-related ones,⁵ accounted for 90 percent, or \$14.1 billion, of the \$15.5 billion total spent during 1993-96.⁶ Specifically, DOE accounted for 80 percent of the total federal defense-related procurement expenditures, or about \$11.2 billion of the 1993-96 total of \$14.1 billion.

⁵Agencies included in the nondefense category are the Departments of Agriculture, Commerce, Education, Health and Human Services, Housing and Urban Development, Interior, Justice, Labor, State, Transportation, Treasury, Veterans Affairs, and other nondefense offices.

⁶The primary time period that we report on is 1988-96. However, data for the complete time period was not always available. Therefore, in some cases we report data only for the years it was available.

Between 1993 and 1996, the top five federal agencies that accounted for the largest dollar amount of expenditures to pay salaries and wages of federal workers in New Mexico were DOD; the Postal Service; and the Departments of Interior, Health and Human Services, and Veterans Affairs. Salaries and wages paid to federal employees of the defense-related agencies account for about \$7 billion, or 54 percent, of the total \$13 billion spent in New Mexico. Specifically, between 1988 and 1996 dod accounted for about \$6.5 billion, or 93 percent, of the \$7 billion total defense-related federal salaries and wages. Payments to workers retired from defense-related agencies also accounted for more of the total annuities to retired federal workers living in New Mexico during 1990-96. Payments to retired defense-related federal workers accounted for \$3.2 billion, or 68 percent, of the total \$4.7 billion in annuitant expenditures. Payments to former DOD workers accounted for 98 percent of the total payments to retired defense-related workers. Figure 4 shows the percent of defense-related expenditures for procurement, federal workers' salary and wages, and retirement payments accounted for by DOE and DOD, respectively.

Figure 4: Defense-Related Expenditures Accounted for by DOE and DOD



Note: Procurement expenditure data is the total during 1993-96, salary expenditure data is the total during 1988-96, and retirement payment data is the total during 1990-96.

Defense-Related Employment

Between 1988 and 1996,⁷ the Departments of Defense, the Interior, Health and Human Services, Veterans Affairs, and Agriculture were the top five agencies in terms of total federal employees in New Mexico.⁸ Between 1988-1996, defense-related jobs were about 72 percent, or 300,000 jobs, of the total 420,000 federal jobs in New Mexico.⁹ Specifically, DOD accounted for 97 percent, or about 292,000 of these jobs, over the period 1988-96. Thus, DOD federal jobs were more of the total federal jobs and more of the defense-related federal jobs in New Mexico. Federal retirees of defense-related agencies also comprised more of the retired federal

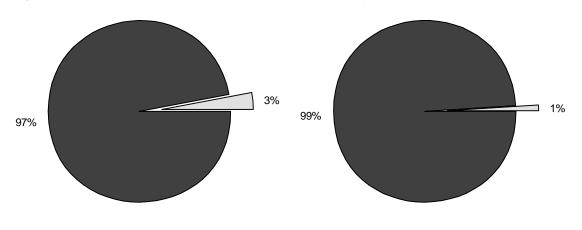
 $^{^7\}mathrm{Data}$ for 1989 was not available. Government employment data includes part-time and full-time workers.

⁸We did not include Postal Service employment data in calculating the top five because data for the Postal Service were only available in 1988, 1990, 1992, and 1994. If we calculated the top five for only the years that Postal Service data were available, it would consistently rank second.

 $^{^9}$ On a yearly basis, there were approximately 52,500 total federal jobs and 37,500 defense-related jobs.

workers living in New Mexico: 68 percent of the total between 1990 and 1996. Specifically, DOD accounted for 99 percent of all retirees from the defense-related agencies. Figure 5 shows the percent of defense-related jobs and retirees in New Mexico accounted for by DOE and DOD.

Figure 5: Defense-Related Jobs and Retirees Accounted for by DOE and DOD (1990-96)



Federal Jobs

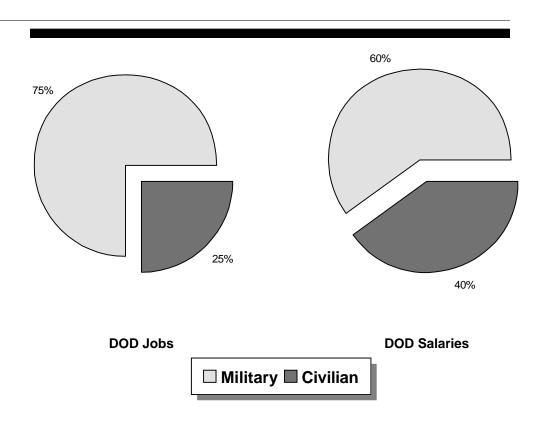
Federal Retirees



The existing data provides information on federal employees only. This is an important point because although the overall ratio of DOD federal workers to DOE federal workers was 44:1 between 1988 and 1996, our research also shows that more of the DOE employment is linked to private contractors that manage and operate the laboratories and other DOE facilities than to the number of DOE federal employees. Private contractors working on government contracts are not considered or counted as federal employees. However, even when we compared the total DOE employment, which included direct DOE prime contractor, subcontractor, and federal employees, to the total DOD federal employment DOD's direct federal employment was higher than DOE's in each year between 1990 and 1996.

Of the DOD employment, more of the federal jobs were DOD military than DOD civilians. Between 1988-96 about 42 percent of the total DOD federal jobs in New Mexico were held by active duty military members, 33 percent were held by inactive duty military (national guard and reserves), and 25 percent were held by DOD civilians. Similarly, more of the federal wages were associated with active duty military. Active duty military members accounted for 55 percent, inactive members accounted for 5 percent, and DOD civilians accounted for 40 percent of the total salaries and wages between 1988-96.

Figure 6: DOD Military and Civilian Jobs and Salaries in New Mexico (1988-96)



A comparison of the occupations represented by the defense-related federal jobs in New Mexico indicates that during 1988-96 the largest number of jobs were blue-collar and technical. This finding, however,

¹⁰The available DOD data did not make distinctions between full-time and part-time DOD federal employees in New Mexico. Inactive duty military members, that is the reserve and national guard, are typically employed less than part-time in these jobs.

largely represents the patterns for the DOD active duty employment in New Mexico, for which technical and blue-collar jobs comprise about 70 percent of the total jobs. Among DOD civilian employees, the two categories that accounted for the largest number of jobs over the period 1988-96 were professional (23 percent of the total jobs) and blue-collar (20 percent of the total jobs). ¹¹ The two occupational categories that account for more of the DOE direct federal employment in New Mexico are administrative (30 percent of total jobs) and professional (37 percent of total jobs). ¹²

Federal Expenditure and Employment Data Are Incomplete

Official federal data sources are useful for gaining a preliminary understanding of the composition of federal expenditures in states. However, fundamental characteristics of the federal data make it difficult to determine the direct economic impact of federal activities on states. For example, our analysis of defense-related expenditures and employment did not include information on DOD contractor employment because there is no official DOD or other federal source of such information. Federal government data sources provide insufficient evidence for determining where federal dollars are actually spent, how much is actually spent, and the number or type of jobs that the federal dollars directly generate because of numerous limitations in scope and coverage and in reporting requirements or procedures. Our related findings that pertain to the data sources used and reviewed in our work are summarized in tables 1 and 2.

¹¹Occupational categorizations are based on OPM definitions. At New Mexico military installations, examples of occupation titles in the blue-collar category include general aircraft worker, ammunition repair worker, general construction worker, electrician, and missile mechanic, among others. Examples of occupation titles in the technical occupational category include air traffic control, medical care and treatment worker, operators/analysts, flight operations, general nuclear weapons equipment repair, and auditing and accounting, among others. Examples of civilian occupation titles in the professional category include general engineering, contracting, operations research, physics, accounting, computer engineering, social science, and aerospace engineering, among others.

¹²Examples of occupation titles in the professional category for DOE employees include general engineering and general physical science, among others. Examples of occupation titles in the administrative category include security administration and management program analyst, among others.

Source	Type of direct expenditure	Tracking system/office ^a	Key limitations known or reported
Federal expenditures by state report (Census Bureau)	DOD procurement	DD350 to DOD/DIOR/ WHS to FPDS	DD350 •Dollar values are obligations, not expenditures. •Reporting threshold includes only obligations over \$25,000. •Classified data is masked or unreported. •DOD/IG study found data integrity and reliability problems with DD350. •DD350 records differed from GAO survey-based results of total DOD contract awards to New Mexico contractors during 1988-96. •Does not include data on subcontracts.
	Non-DOD procurement	Multiple agencies to FPDS	FPDS •Most dollar values are obligations, not expenditures. •Reporting threshold includes only obligations over \$25,000. •It is unclear whether data represent actual in-state expenditures.
	DOD grants	DD2566 to DOD/DIOR/ WHS to FAADS	FAADS •FAADS dollar amounts are obligations, not actual expenditures.
	Non-DOD grants	Multiple agencies to FAADS	FAADS •FAADS dollar amounts are obligations, not actual expenditures.
	DOD salary and wages	DFAS to DOD/DIOR/WHS	DFAS: •Defense finance and accounting systems have reliability problems. ^b
			DOD/WHS/DIOR •Does not include salaries for undistributed personnel.c •Estimates made for other personnel whose location cannot be exactly determined; unknown how many or what areas may be most impacted. •No information on nonappropriated fund staff. •Only includes federal employee data; no information on private contractor employees.
	Non-DOD salary and wages	Multiple agencies to OPM/CPDF	OPM/CPDF •Wages for federal workers are estimated for state reports. •Includes some federal workers. Not included are CIA, DIA, NSA, judicial and legislative branches, TVA, and Postal Service. FBI does not report duty stations for employees. •Part-time and seasonal worker salaries are annualized. •Wages for workers who get piece-rate, hourly rate, or other nonsalary rates include only unit-rate compensation, not total compensation.
Office of the Actuary (DOD)	Retired military pay	Multiple services to DMDC	DMDC •Obtained different figures from Actuary and DMDC for New Mexico sample. Data from Actuary and DMDC were different from a third DOD source, raising questions about reliability of information.

(continued)

Source	Type of direct expenditure	Tracking system/office ^a	Key limitations known or reported	
Annuities roll (OPM)	Retired DOD civilian pay and all other non-DOD retired pay	Multiple agencies	None reported.	

Legend:

CIA—Central Intelligence Agency

DD350—Department of Defense [Form] 350

DFAS—Defense Finance and Accounting Service

DIA—Defense Intelligence Agency

DIOR/WHS—Directorate for Information Operations and Reports, Washington

Headquarters Service

DMDC—Defense Manpower Data Center

DOD/IG-Department of Defense, Inspector General FAADS—Federal Assistance Awards Data System

FBI—Federal Bureau Of Investigation

NSA— National Security Agency

TVA—Tennessee Valley Authority

^aThis column identifies the database or office that provides the original data, which is "fed" to the source listed in the first column. For example, DOD's procurement expenditures reported in the Federal Expenditures by State report are generated through the tracking system that starts with the collection of information on the DD350, which is centrally reported through DOD's Directorate for Information Operations and Reports, Washington Headquarters Services, to the Federal Procurement Data System and then finally reported to the Census Bureau. The DD350 is the official DOD form used to record individual DOD contract actions (obligations or deobligations) in excess of \$25,000. Contract offices complete DD350s according to instructions detailed in the Defense Federal Acquisition Regulations supplement. The dollar value of contracts is recorded along with information on the name and location of contractors, the location where the work will be performed, products or services purchased, contract solicitation procedures used (competitive or other than competitive), and the type of business contracted with (large, small, small disadvantaged), among other things.

^bWe previously reported on these problems in our report entitled DOD Infrastructure: DOD's Planned Finance and Accounting Structure Is Not Well Justified (GAO/NSIAD-95-127, Sept. 1995).

^cDOD's definition of undistributed personnel includes military personnel in a transient status, for example, personnel on travel, proceed, leave en route or in a temporary duty status while on permanent change of station (PCS) orders, or for which an exact location is classified. In 1996, undistributed personnel were 2.6 percent of all military personnel.

Source	Type of direct employment	Tracking system/office	Known limitations
Atlas/data abstract for the U.S. and selected areas (DOD)	Number of DOD active, inactive, and civilian employees	DFAS/other DOD offices to DOD/DIOR/WHS	DFAS:
Office of the Actuary (DOD)	Number of retired military personnel receiving pay	Multiple services/ agencies to DMDC	DMDC •Obtained different figures for total retirees from Actuary and DMDC for New Mexico sample, raising questions about reliability of information.
Annuities Roll (OPM)	Number of retired DOD civilians and all other non-DOD retired personnel receiving pay	Multiple agencies	None reported.
OPM/CPDF	Number of all non-DOD civilian federal employees	Multiple agencies	OPM/CPDF Includes only the number of federal employees; no data on private contractor employees. Includes only some federal workers. Does not include CIA, DIA, NSA, judicial and legislative branches, TVA, and Postal Service. FBI does not report duty stations for employees.
Office of Worker and Community Transition (DOE)	Number of DOE prime contractor employees	Multiple DOE field offices or facilities	Office of Worker and Community Transition •Employee counts are not provided by specific location but by major employer so actual number at specific locations must be assumed. •Some contractor employment is "work for others" and "other work," not part of funded DOE major program activities.

^aWe previously reported on these problems in our report entitled DOD Infrastructure: DOD's Planned Finance and Accounting Structure Is Not Well Justified (GAO/NSIAD-95-127, Sept. 1995).

To gain further insights into the reliability of the federal government's data we focused on characteristics of existing DOD data. Although DOD's procurement expenditure data (DD350) is used in broad policy contexts and used to evaluate the status of programs that are believed to be important to economic security, the form is not designed to provide

information on all DOD expenditures in a single state or at the national level. Procurement contracts under \$25,000 are not included, no information on DOD subcontracts of any value are included, and financial data related to classified programs may or may not be reported or be accurate.

DOD acknowledges that the DD350 does not completely account for all procurement expenditures, and although this limitation is generally understood and acknowledged by informed users, the possible implications are not. We surveyed the top five DOD contractors in New Mexico to determine how much money they received in DOD prime contracts and subcontracts and compared their responses to DOD's records (the DD350 data) of their total contracts. The comparisons revealed that in no case were the DOD records of the dollar value of contracts awarded to these companies the same as the contractors' records. Differences between DOD and contractors' records ranged from \$20 million for prime contracts to \$80 million for total contracts. In some cases, the DOD records appeared to overstate the amount the contractors received, while in other cases the DOD records appeared to understate the amount.

Our research suggests several possible reasons for the inconsistencies between contractor records and DOD records. For example, expenditures associated with procurement contracts can leak from a state's economy if a company subcontracts part of the work elsewhere. One study reported that of \$5.2 billion in DOD prime contracts received by McDonnell Douglas in St. Louis, Missouri, less than 3 percent, or \$156 million, stayed in Missouri due to out-of-state subcontracting. ¹⁴ However, from our survey of contractors in New Mexico we determined that leakages were more prevalent for certain types of procurement contracts. While our survey showed overall that more than 80 percent of the total DOD prime contract dollars remained in the state, for every year between 1988 and 1996, it also showed that the businesses that predominantly received service contracts, rather than supply and equipment contracts (i.e., major hard goods/weapons), kept nearly all of the DOD contract money they received in the state. This is particularly relevant because other DOD data indicate that in every year between 1988 and 1996, DOD procurement contracts for

¹³In order, the top five contractors in New Mexico in 1996 were Lockheed Martin, Honeywell Defense Avionics, DynCorp, EG&G, and Kit Pack Company. We obtained complete survey data from four of the top contractors. Lockheed Martin was unable to provide reliable information on the value of DOD contracts they received for work performed in New Mexico. See appendix III for a complete discussion of the contractor survey methods and results.

 $^{^{14}}$ R. Atkinson, "Defense Spending Cuts and Regional Economic Impact: An Overview. " $\underline{\text{Economic}}$ Geography, 69(2), (1993), pp. 107-122.

services account for the largest dollar volume of contracts to New Mexico. 15

Also, service contracts may more likely be under DOD's \$25,000 reporting threshold¹⁶ and therefore excluded from total expenditures as officially reported by DOD. Furthermore, injections of dollars from subcontracts with out-of-state firms or with other in-state firms are not tracked by DOD, yet would have been included in the contractors' records.

Finally, the DOD Inspector General reported in 1989 that the DD350 data had reliability problems due to instances of unreported contract obligations and other errors in reported data. The Inspector General made no recommendations and has not assessed the reliability and validity of the DD350 contract tracking system since then.

The existing data that track defense-related employment are limited in their scope, coverage, and reliability. Among the most notable limitation in the data is the lack of a central or official source of data on private-sector employment associated with DOD contracts. Information on the number of jobs associated with particular defense contracts or weapon programs are repeatedly discussed in the media and in Congress. Further, DOD has stated that defense procurement dollars promote the creation of jobs. However, DOD officials have also indicated that they do not collect information on the job impacts of particular DOD budget decisions.

To obtain information on the employment associated with defense contracts or the employment linked to particular defense programs, it is necessary to contact individual defense contractors and/or dod system program offices directly. The contractor employment data we obtained from our survey of defense contractors in New Mexico is summarized in appendix III, along with other survey findings. The responses from the top four contractors who provided us data indicated that the total number of direct jobs associated with dod contracts was approximately 19,200 during

¹⁵DOD categories of service contracts include the operation of government-owned facilities; automatic data processing and telecommunications services; architect and engineering services; social services; medical services; and lease or rental of facilities, among others. Other broad categories of DOD contracts include supply and equipment contracts (e.g., weapons) and research, development, testing, and evaluation contracts.

 $^{^{16}\}mathrm{J.R.}$ Crump, "Sectoral Composition and Spatial Distribution of Department of Defense Services Procurement," Professional Geographer, 45(2), (1993), pp. 286-296.

1988-96.¹⁷ The total DOD federal employment (active duty, inactive, and civilians) in the state for the same period (1989 data included) was approximately 328,000.¹⁸ A comparison of employment data from three top DOE prime contractors to the data from the top four DOD prime contractors indicates that, over the period 1994-96, DOE had about eight prime contractor employees to every one DOD prime contractor employee in New Mexico.¹⁹ We also obtained employment and expenditure data for a sample of specific defense programs that were known to have some involvement with New Mexico contractors (see table 3).²⁰

 $^{^{17}}$ This is approximately 2,100 defense contractor employees on a yearly basis. In its 1996 review of the New Mexico economy, Sunwest Bank lists New Mexico's 132 largest employers. Of the top five New Mexico defense contractors we contacted for our survey, only Honeywell appears on the list with a ranking as the state's 45th largest employer.

¹⁸This is approximately 36,000 DOD federal employees on a yearly basis.

¹⁹This includes DOE prime contractor employment at the Los Alamos and Sandia National laboratories and at the Waste Isolation Pilot Plant in Carlsbad.

²⁰DOD's public affairs office publishes summaries of each contract it awards that exceed \$5 million. These DOD summaries, referred to as Blue Tops, are distributed to Congress, the public, the media and industry. The contract summaries include information on who the contract was awarded to, the total amount of the contract, what the contract is for, and where the work will be done. These summaries can be useful for current event information; however, the information reported can also be misleading if one is attempting to determine the DOD contract dollars directed to specific states. For example, a summary from September 1996 indicated that the Navajo Refining Company in Artesia, New Mexico was awarded an \$86-million contract. Although the summary indicated that the work would be performed in Roswell, New Mexico and El Paso, Texas, data we obtained from other DOD offices indicated that \$36,000 of the work was done in New Mexico, whereas \$85 million was done in Texas.

Table 3: New Mexico Expenditures and Employment for a Sample of Defense Programs

Program	Total FY 96 program funding ^a	FY 96 expenditures in New Mexicob	FY 96 employment in New Mexico ^c
Airborne laser (ABL) (Air Force research and development)	\$19,000,000	\$4,409,000	24
C-17 (Air Force procurement)	\$2,270,000,000	\$8,818,000	28
Echelon Above Corps (EAC) Communication Program (Army procurement)	\$44,500,000	\$5,283,825	63
Kiowa Warrior helicopter (Army procurement)	\$64,300,000	\$20,000,000	115
Sense and destroy armor (SADARM) submunition (Army procurement)	\$41,100,000	\$383,542	3
Stinger missile (Army procurement)	\$16,900,000°	\$157,876 ^e	Not available
TOW2B missile (Army procurement)	\$12,000,000	\$5,500,000 ^f	20

^aSource of funding for the airborne laser is DOD Comptroller 1997 R-1 budget tables. For all procurement programs, the 1997 P-1 is the source.

Conclusions

The available data indicate that the state of New Mexico receives relatively large amounts of federal dollars. Defense-related federal activities in the state have contributed to the development of the economy, and recent efforts to diversify the economic base appear linked to continued growth. The best available data indicate that in New Mexico DOE and DOD account for about 90 percent of all federal procurement spending (1993-96), 54 percent of expenditures for federal worker salary and wages (1988-96), 72 percent of all federal jobs in the state (1988-96), and 68 percent of all

^bData was provided by the DOD system program offices and/or the prime contractors for the systems.

^cData was provided by the DOD system program offices and/or the prime contractors for the systems.

^dThis is the amount of the fiscal year 1997 Stinger program funding.

eThis is the amount of the fiscal year 1997 Stinger-related expenditures made in New Mexico.

fEstimate.

retired federal workers living in the state (1990-96). Specifically, DOE accounts for 80 percent of the defense-related procurement expenditures, and DOD accounts for 93 percent of the defense-related salary and wage expenditures, 97 percent of the defense-related federal jobs, and 99 percent of the federal workers retired from defense-related agencies and living in New Mexico. The largest component of DOE employment is private contractor employment, while the largest component of DOD employment is federal employment, namely active duty military members.

On one hand, determining the full and complete economic magnitude of federal expenditures in states, whether defense or nondefense, and the related employment is not possible with existing data. Trying to reconcile differences among data sources and account for gaps or questionable data is very resource-intensive and does not necessarily yield benefits in precision or accuracy. On the other hand, the existing data are not without value, nor should the government necessarily strive for increased data collection that could actually entail more costs than benefits. The limitations in federal data may, in part, reflect the fact that data collection trails behind changes in federal policy or shifts in policy relevance. Those who rely on federal data need to be alert to their drawbacks and exercise discretion when using them.

Agency Comments

In oral comments on a draft of this report, DOD concurred with our findings and conclusions. It also provided several technical comments, which we incorporated in the text where appropriate.

Scope and Methodology

In conducting our work, we contacted and interviewed officials and experts from federal and state government offices and the private sector. Because the scope of the work covered all federal expenditures and related employment in New Mexico over an 8-year period, there was a large range and number of contacts and outreach efforts we made in completing our work. We made over 50 contacts throughout federal and state governments and the private sector. Our final results were produced from databases from four separate federal agencies; our survey of New Mexico defense contractors encompassing 8 years of financial and business information; information obtained from a review of more than 30 publications; and information we obtained from numerous documented interviews with key officials. A list of the offices we contacted is in appendix I.

To determine the characteristics of the New Mexico economy and recent changes in the economy, we reviewed and analyzed economic data and information we obtained from interviews with New Mexico state officials, federal government officials, and available federal and state data sources, including the Bureau of Economic Analysis and the Bureau of Business and Economic Research at the University of New Mexico.

To determine the direct defense-related and nondefense-related federal expenditures and employment in New Mexico over the period 1988-1996²¹ we contacted multiple federal offices and obtained official data from dod and doe. We obtained data on all other nondefense-related federal expenditures from the Census Bureau. All available data on dod and doe expenditures were categorized as defense-related.²² We obtained total nondefense-related employment data from opm's Central Personnel Data File. All expenditure figures were adjusted for inflation and are presented in constant 1996 dollars. Appendix II contains the complete overview and figures depicting our findings related to direct federal expenditures and employment in New Mexico.

To determine the extent to which available government data provides reliable information on defense spending and employment, we evaluated the qualities of the existing federal data. We reviewed technical documentation for the sources used, interviewed agency officials about the data sources, conducted crosschecks of data that appeared in multiple sources but had been derived from the same source, and in the case of DOD procurement expenditures, compared the results of DOD data to our survey results. Survey results are discussed in appendix III. Given the outcome of our review, federal data limitations and data reliability concerns are discussed in our findings and reflected in the report's conclusions.

Our work was conducted between November 1996 and October 1997 in accordance with generally accepted government standards.

²¹We did not report on indirect or induced effects of federal expenditures. Direct expenditures include, for example, the actual amount of a contract awarded to a business, and direct employment includes the actual number of jobs created by that contract. Direct expenditures and employment produce some indirect and induced effects. Indirect expenditures include, for example, purchases of supplies or services that support the contract or the initial direct expenditure. Indirect employment includes the number of jobs that are created from the indirect expenditures. Induced expenditures and employment include the effects created by spending from wages earned on retail purchases, housing, and restaurants, among others.

²²Some DOD expenditures may be for civil functions not directly related to national defense. DOE programs include defense, environmental management, and energy research, among others. The predominant mission of the national laboratories in New Mexico focus on nuclear weapons research and engineering. Since the predominant mission of the DOD programs and the DOE programs in New Mexico are defense-related we categorized all the expenditures and employment as defense-related.

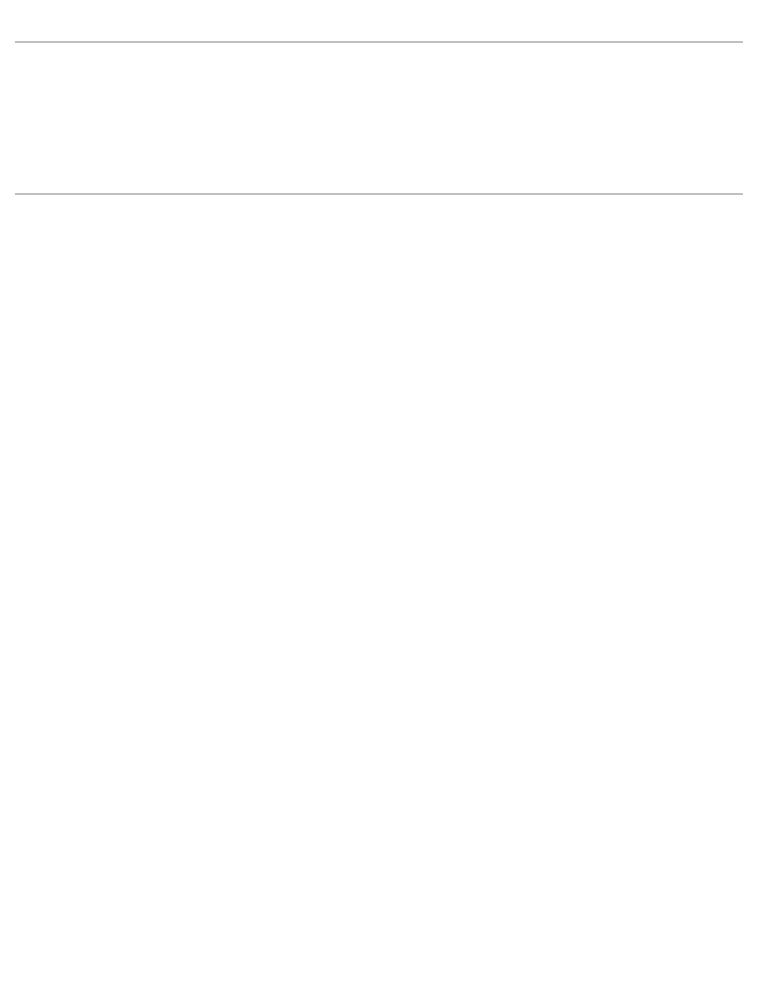
As agreed with your office, unless you publicly announce its contents earlier, we plan no further distribution of this report until 14 days from its issue date. At that time, we will send copies of this report to other interested congressional committees and members. Copies will also be made available to others upon request.

Please contact me at (202) 512-3092 if you or your staff have any questions concerning this report. Major contributors to this report were Carolyn Copper, John Oppenheim, and David Bernet.

Sincerely yours,

Kwai-Cheung Chan

Director, Special Studies and Evaluations



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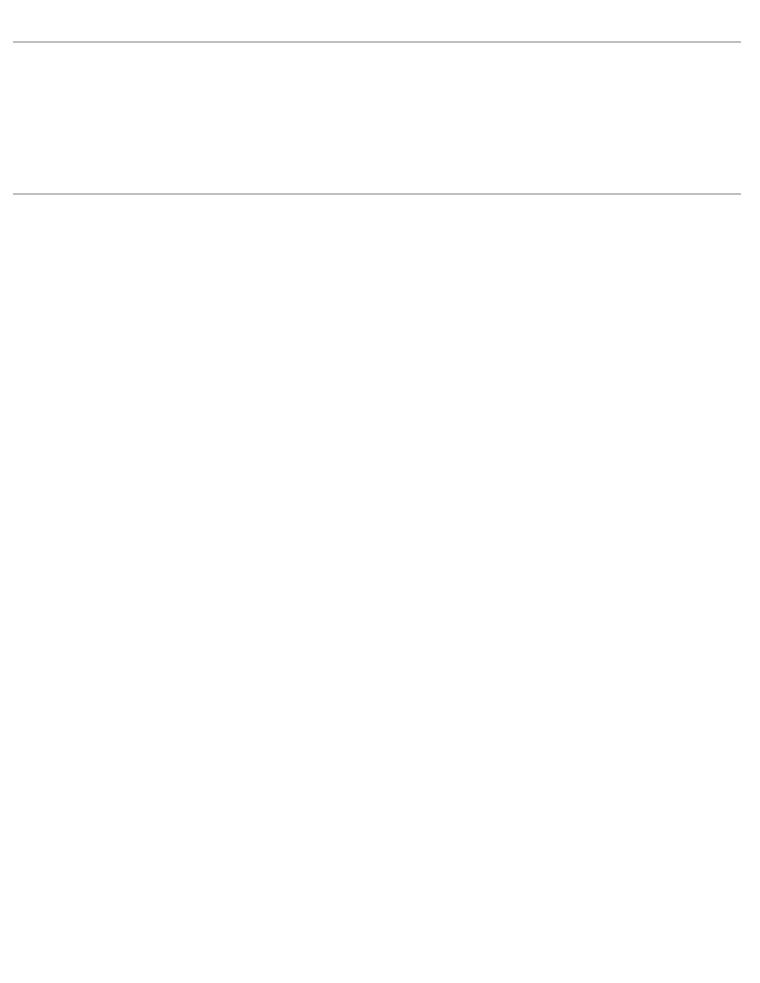
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Abbreviations

CFFR	Consolidated Federal Funds Report
DOD	Defense of Defense
DOE	Department of Energy
FES	Federal Expenditures by State
FPDS	Federal Procurement Data System
FTE	full-time equivalents
HHS	Department of Health and Human Services
NASA	National Aeronautics and Space Administration
OPM	Office of Personnel Management



Offices We Contacted

Departme	ent of
Defense,	Washington,
D.C.	,

Directorate for Information Operations and Reports, Washington Headquarters Services

Office of Program Analysis and Evaluation

Office of the Comptroller

Office of Economic Adjustment

Defense Manpower Data Center

Office of the Actuary

Secretary of the Air Force

Industrial Affairs and Installations

Office of Nonappropriated Fund Personnel

Defense Finance and Accounting Service

Public Affairs Inspector General

Department of Energy, Washington, D.C.

Office of Worker and Community Transition Office of Human Resources and Administration Office of the Budget

Department of Commerce, Washington, D.C.

Bureau of the Census Bureau of Economic Analysis

Congressional Agencies, Washington, D.C.

Congressional Budget Office Congressional Research Service

Federal Facilities, New Mexico

Cannon Air Force Base, Clovis, New Mexico
Holloman Air Force Base, Alamogordo, New Mexico
Kirtland Air Force Base, Albuquerque, New Mexico
White Sands Missile Range, White Sands, New Mexico
Albuquerque Operations Office, Department of Energy,
Albuquerque, New Mexico
Bureau of Land Management, Department of the Interior, Las Cruces and
Albuquerque, New Mexico

Appendix I **Offices We Contacted**

State Government Offices

Santa Fe, New Mexico

Department of Economic Development Department of Taxation and Revenue

Albuquerque, New Mexico

Department of Labor Richmond, Virginia

Economic Development Partnership, Department of Business Assistance

Annapolis, Maryland

Federal Response and Technology Commercialization

Universities

Bureau of Business and Economic Research, University of New Mexico, Albuguergue, New Mexico

Department of Economics, University of Maryland, College Park, Maryland

Defense Contractors

Honeywell Defense Avionics, Albuquerque, New Mexico

Laguna Industries, Laguna, New Mexico

McDonnell Douglas, Long Beach, California

Aeroparts Manufacturing and Repair, Rio Rancho, New Mexico

SBS Technologies, Albuquerque, New Mexico

Physics, Mathematics, and Computers, Socorro, New Mexico

Kit Pack Company, Las Cruces, New Mexico

EG&G Management Systems, Albuquerque, New Mexico

Lockheed Martin, Bethesda, Maryland

DynCorp, Reston, Virginia

Others

Professional Aerospace Contractors Association of New Mexico, Albuquerque, New Mexico

Intel Corporation, Albuquerque, New Mexico

American Electronics Association, Santa Clara, California

Logistics Management Institute, McClean, Virginia

Academy for State and Local Governments, Washington, D.C.

National Council of State Governments, Washington, D.C.

National Legislative Council, Washington, D.C.

National Governors Association, Washington, D.C.

RAND, Washington, D.C.

Direct Federal Expenditures and Employment in New Mexico

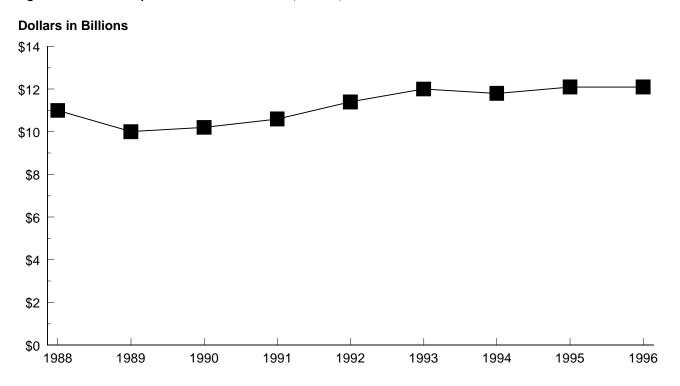
This appendix presents 1988-96 (1) trends in total direct federal expenditures and employment in New Mexico and within specific spending categories, (2) defense-related and nondefense-related expenditures and employment, and (3) the Department of Energy's (DOE) and the Department of Defense's (DOD) share of the defense-related expenditures and employment.

We used existing databases and a survey on how much money is directly spent and how many people are directly employed to determine expenditures and employment. We did not assess the indirect or induced effects of federal expenditures and employment. All expenditure data were adjusted for inflation and are presented in constant 1996 dollars. Data for all years were not always available.

Federal Expenditures in New Mexico

Federal expenditures in New Mexico fluctuated between about \$10 billion and \$12 billion, 1988 through 1996. The highest level of spending occurred in 1996 (see fig. II.1).

Figure II.1: Federal Expenditures in New Mexico (1988-96)



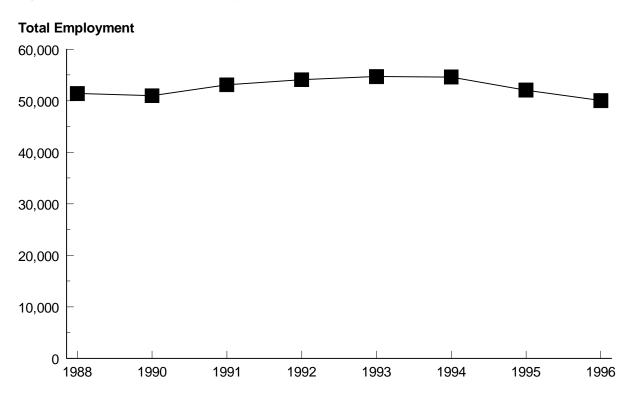
Source: Our analysis of Census data.

This increase in federal expenditures for New Mexico is consistent with nationwide trends. $^{\rm 1}$

Total federal employment in New Mexico generally increased between 1988 and 1994, then declined to 1996. Total employment in 1996 is the lowest level of any year in the period (see fig. II.2). The decline in federal employment in New Mexico in the last several years is consistent with trends in declining nationwide federal employment.

¹Federal Fiscal Trends: Fiscal Years 1971-1995 (GAO/AIMD-97-3, Nov. 1996).

Figure II.2: New Mexico Federal Employment (1988-96)

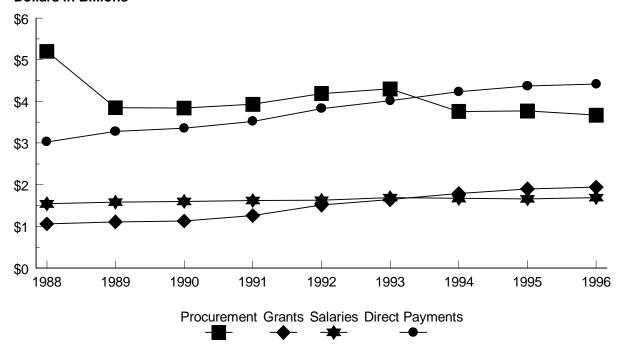


Source: Our analysis of OPM and DOD data. Postal Service employment is not included.

Figure II.3 shows the specific expenditure trends in procurement, grants, salaries and wages for federal workers, and direct payments to individuals.

Figure II.3: Total Federal Spending on Procurement, Grants, Federal Employee Salaries and Wages, and Direct Payments in New Mexico (1988-96)

Dollars in Billions

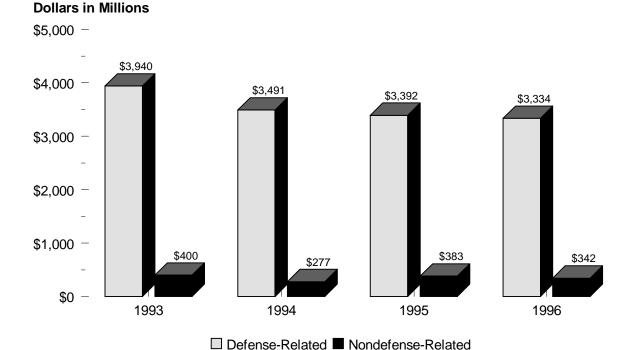


Procurement expenditures in New Mexico have generally declined over time but did increase between 1989 and 1992. In the 1988-96 time frame, procurement expenditures were at their lowest in 1996. Expenditures on grants and direct payments have increased over time and have not shown periods of decline. This is consistent with national trends. Federal salary and wage trends are marked by small increases over time with periods of stability following an increase.

Defense-Related and Nondefense-Related Federal Expenditures in New Mexico

Defense-related procurement expenditures far exceeded nondefense-related procurement expenditures during 1993-96.² But both types of expenditures have been declining (see fig. II.4). The decline in defense-related expenditures is consistent with overall trends in declining dod and doe budgets.³

Figure II.4: Defense-Related and Nondefense-Related Federal Procurement Expenditures in New Mexico (1993-96)



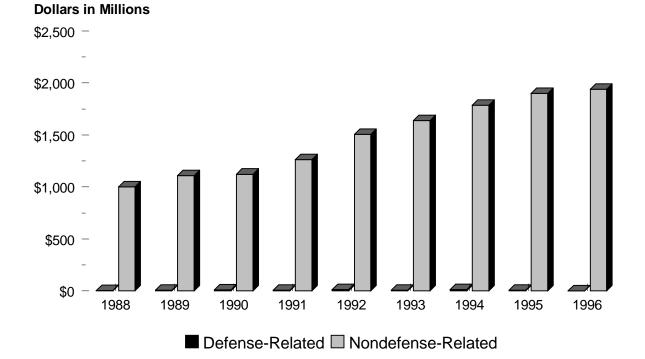
Nondefense-related agencies accounted for more of the expenditures for federal grants to New Mexico (see fig. II.5). The top five agencies in terms of expenditures on federal grants to New Mexico were the Departments of Health and Human Services (hhs), Transportation, Interior, Agriculture, and Education. Expenditures on nondefense-related grants were

 $^{^2\}mathrm{Procurement}$ expenditures identified by all specific federal agencies were not reported by Census until 1993.

³See Defense Industry: Trends in DOD Spending, Industrial Productivity and Competition (GAO/PEMD-97-3), Jan. 1997) and Department of Energy: Funding and Workforce Reduced, but Spending Remains Stable (GAO/RCED-97-96, Apr. 1997).

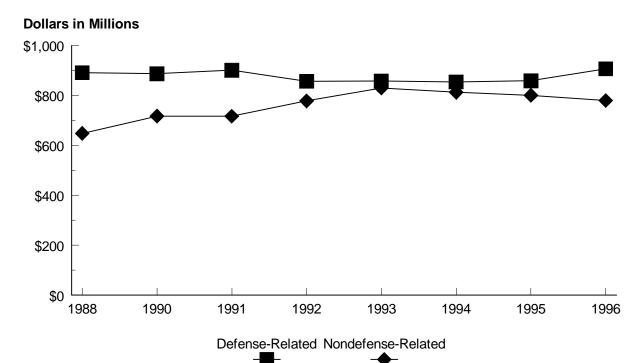
99 percent of the total grant expenditures in each year between 1988 and 1996.

Figure II.5: Defense-Related and Nondefense-Related Federal Grant Expenditures in New Mexico (1988-96)



Defense-related agencies accounted for more of the total salaries and wages for federal workers than nondefense-related agencies between 1988 and 1996 (see fig. II.6).

Figure II.6: Salaries and Wages to Defense-Related and Nondefense-Related Federal Workers in New Mexico (1988-96)

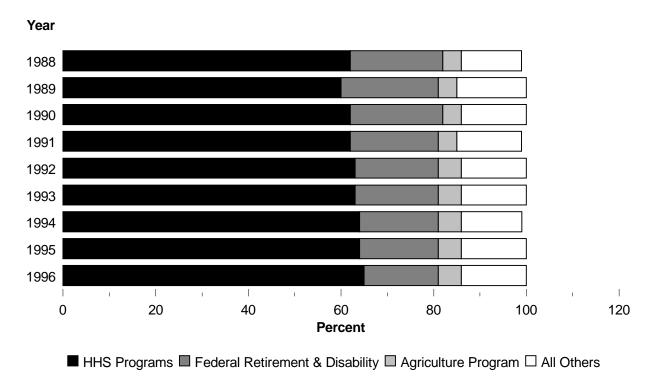


Between 1988 and 1993 total expenditures on salaries and wages for nondefense-related workers increased steadily, slowly declining in the last 4 years. On the other hand, salary and wage expenditures for defense-related workers generally declined between 1988 and 1993 but increased slightly between 1995 and 1996. Salaries and wages were at their highest in 1996 for defense-related workers were and at their highest in 1993 for nondefense-related federal workers.

It is not possible to make clear federal agency distinctions in direct payment expenditures. These expenditures are commonly reported by federal program, not by federal agency. Given the reporting criterion used, we determined which federal program accounted for most of the direct payments in New Mexico. In some but not all cases, this information is sufficient to determine which federal agency accounted for most of the expenditures.

Programs administered by hhs accounted for over 50 percent of the total direct payment expenditures in New Mexico in each year between 1988 and 1996: the average was 63 percent (see fig. II.7). The programs included in the hhs roll-up include Social Security, Medicare, and Supplemental Security Income.

Figure II.7: Distribution of Federal Direct Payments in New Mexico, by Federal Program (1988-96)



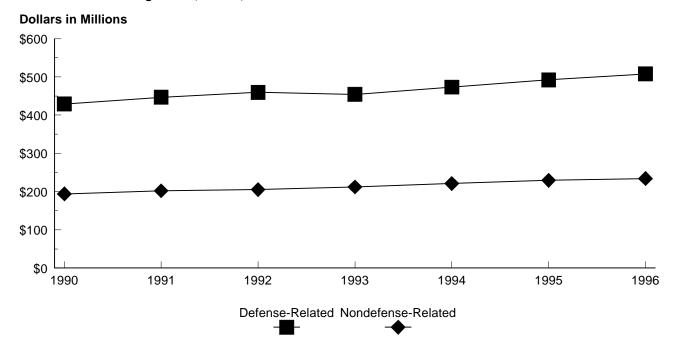
Note: Totals may not always add to 100 percent due to rounding.

Payments for federal retirement and disability made up the second largest category of direct payments in New Mexico in each year between 1988 and 1996. On average, these payments accounted for 18 percent of all direct payments made in New Mexico during 1988-96. The Food Stamp Program, administered by the Department of Agriculture, on average, accounted for

5 percent, and direct payments to individuals associated with all other programs, on average, accounted for 14 percent of the total direct payments over the same time period.⁴

We could not determine the breakdown between the defense-related and nondefense-related distribution of federal retirement payments directly from the Census data. Therefore, we obtained additional data from dod and the Office of Personnel Management (OPM). Figure II.8 shows that payments to workers retired from the defense-related agencies account for the majority—on average 68 percent—of the total annuities for retired federal workers in New Mexico, between 1988 and 1996. Total annuities for defense and nondefense-related retired federal workers have increased over time.

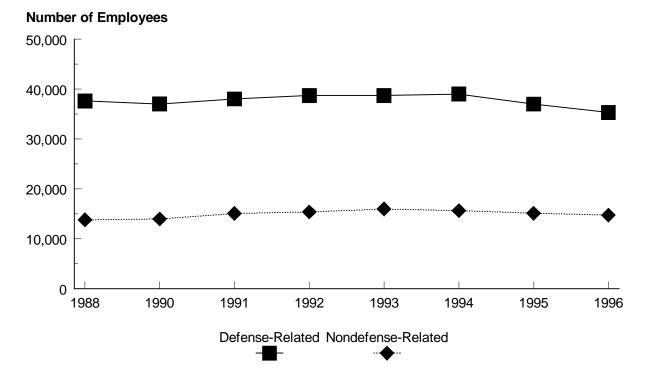
Figure II.8: Total Annuities for Federal Workers Living in New Mexico and Retired From Defense-Related and Nondefense-Related Agencies (1988-96)



⁴All other programs include unemployment compensation, veteran's benefit programs, payments to railroad workers, housing assistance programs, Pell Grants, earned income tax credits, National Guaranteed Student Loan interest subsidies, federal workers' compensation, black lung disease payments, and other programs.

Defense-Related and Nondefense-Related Federal Employment in New Mexico Federal workers from the defense-related agencies accounted for the majority of the total federal employment in New Mexico during 1988-96 (see fig. II.9). Federal jobs in the defense-related agencies, on average, accounted for 72 percent of the total federal jobs in New Mexico. Total federal employment declined by approximately 4,000 jobs between 1992 and 1996; about 84 percent of these jobs were in defense-related agencies.

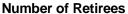
Figure II.9: Defense-Related and Nondefense-Related Federal Employment in New Mexico (1988-96)

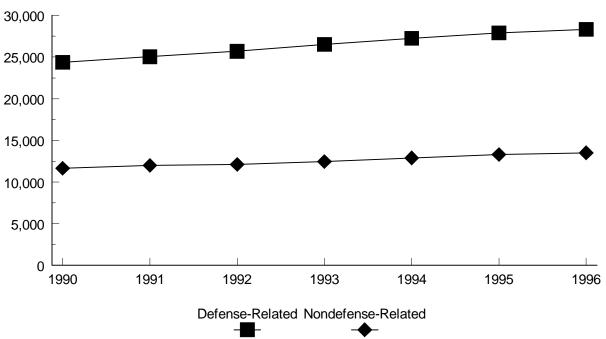


Source: Our analysis of DOD and OPM data. Postal Service employment not included. OPM sources do not include 1989 data.

Defense-related agencies in New Mexico account for about 68 percent of the federal retirees, on average, between 1990 and 1996. The number of federal workers retired from defense and nondefense-related agencies and living in New Mexico has increased over time.

Figure II.10: Federal Retired Workers From Defense and Nondefense-Related Agencies Living in New Mexico (1988-96)





DOD and DOE Share of Defense-Related Expenditures in New Mexico The defense-related agencies in New Mexico accounted for the majority of procurement expenditures, total annuities for retired federal workers, and salaries and wages for federal employees. In figures II.11, II.12, and II.14, we show the trends in the DOD and DOE share of the expenditures in each of these categories. We also show the number of DOD and DOE federal retirees in New Mexico (see fig. II.13).

Between 1993 and 1996, does accounted for more of the defense procurement dollars that went to New Mexico than dod (see fig. II.11). Consistent with overall declining does and dod budgets, does and dod procurement expenditures in New Mexico have declined in the last several years.

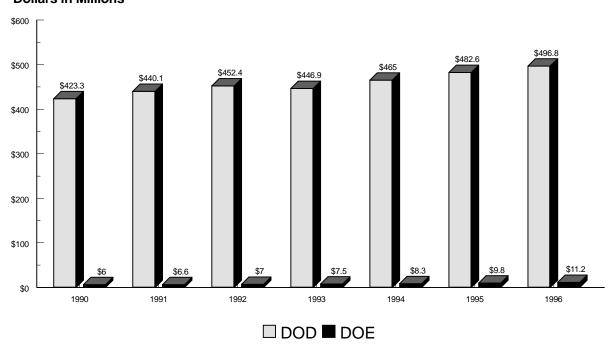
Dollars in Millions \$4,000 \$3,500 \$2,799 \$2,723 \$3,000 \$2,654 \$2,500 \$2,000 \$1,500 \$867 \$1,000 \$691 \$669 \$500 \$0 1993 1994 1995 1996

■ DOD □ DOE

Figure II.11: DOD and DOE Procurement Expenditures in New Mexico (1993-96)

Figure II.12 shows that payments to DOD retired federal workers living in New Mexico account for most of the total annuities to federal workers retired from defense-related agencies between 1990 and 1996. On average, annuities to retired DOD workers accounted for 98 percent of total annuities between 1990 and 1996.

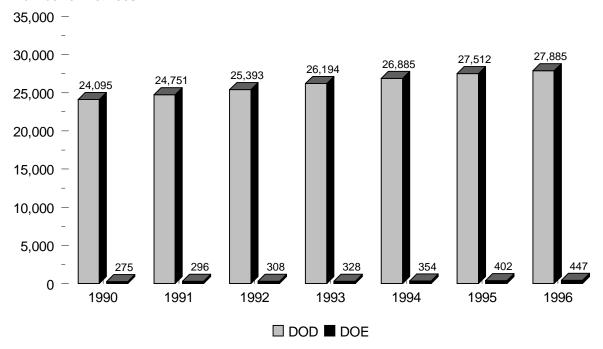
Figure II.12: Annuities to Workers Retired From DOD and DOE and Living in New Mexico (1990-96) Dollars in Millions



Also, more former DOD than DOE federal employees were living in New Mexico between 1990 and 1996 (see fig. II.13).

Figure II.13: DOD and DOE Retired Federal Workers in New Mexico (1990-96)

Number of Retirees

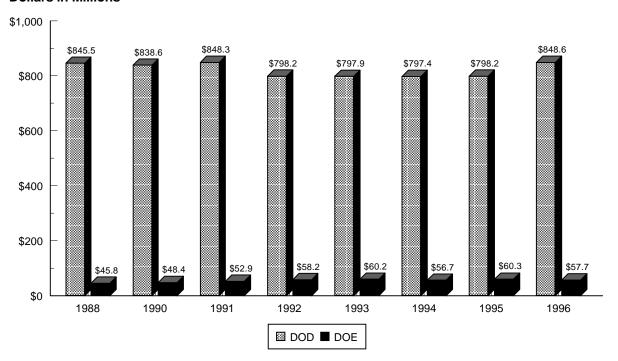


The increase in retired DOD workers in New Mexico is consistent with an overall increase in the number of retired active duty military members and DOD civilians.

Figure II.14 shows that DOD also accounts for nearly all of the salary and wage expenditures for federal employees of defense-related agencies.

Figure II.14: DOD and DOE Federal Employee Salary and Wage Expenditures in New Mexico (1988-96)

Dollars in Millions



Source: Our analysis of Census and OPM data.

On average, DOD accounted for 93 percent of the defense-related salaries and wages for federal employees. The total amount of DOD and DOE salary and wage expenditures has fluctuated some over the years, but no sharp increases or decreases have occurred.

DOE mostly employs prime contractor employees, who are not counted as federal employees, thus, their numbers are not included in federal data. DOE data we obtained indicates that the salaries and wages for DOE prime contractor employees in New Mexico are greater than those of DOD federal employees in the state. For example, between 1990 and 1994 the total salaries and wages for DOD federal employees were about \$4 billion and, for DOE prime contractors were about \$6 billion. Comparable figures on

 $^{^5}$ On a yearly basis, this is approximately \$800 million in DOD federal employee salaries and wages and \$1.2 billion in DOE prime contractor salaries.

the total compensation to DOD prime contractor employees in New Mexico were not available. However, the data we obtained from our survey of the top New Mexico contractors shows that the total compensation to their employees was \$332 million between 1990 and 1994, or about \$6.6 million per year.

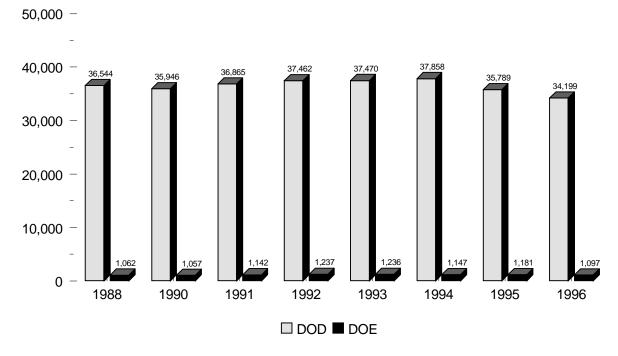
DOD and DOE Share of Defense-Related Employment in New Mexico

Defense-related federal employment in New Mexico is higher than nondefense-related employment. In this section, we show the DOD and DOE portions of defense-related employment over time, including DOD's and DOE's numbers and types of occupations.

On average, DOD accounted for 97 percent of the total defense-related federal employment in New Mexico between 1988 and 1996 (see fig. II.15).

Figure II.15: DOE and DOD Employment in New Mexico (1988-96)

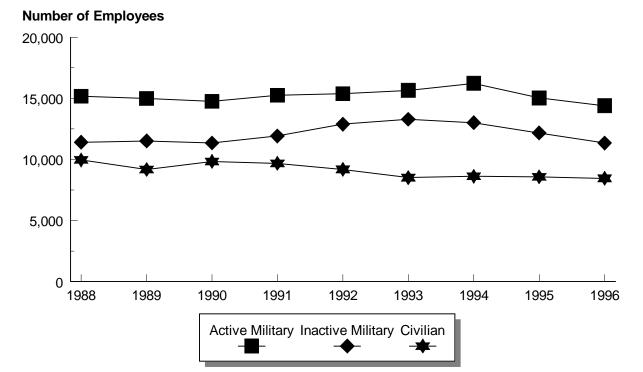
Number of Employees



Source: Our analysis of DOD and OPM data.

In each year between 1988 and 1996, active duty military members were the single largest group of DOD federal employees in New Mexico. Inactive duty military and DOD civilian employees, respectively, accounted for the second and third largest component of DOD federal employment (see fig. II.16).

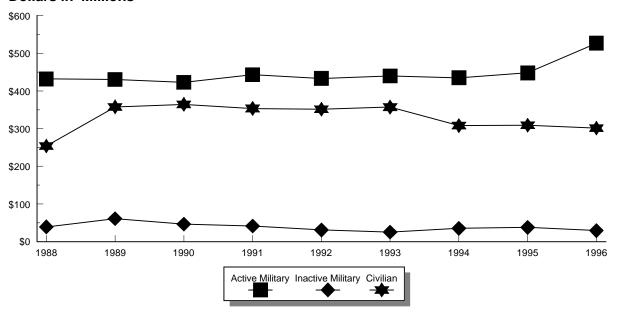
Figure II.16: DOD Active, Inactive, and Civilian Employment in New Mexico (1988-96)



Active duty and inactive duty military members, and DOD civilians ranked first, third, and second, respectively, in accounting for the largest share of salary and wages for DOD federal employees in New Mexico from 1988 to 1996 (see fig. II.17).

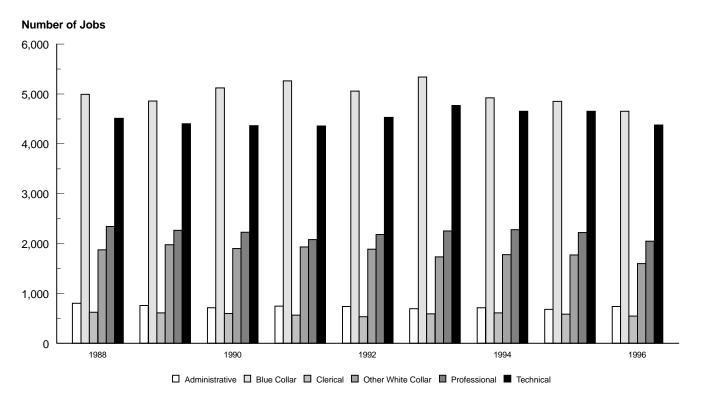
 $\textbf{Figure II.17: Salary and Wages for DOD Active and Inactive Duty Members and DOD Civilians in New Mexico} \ (1988-96)$

Dollars in Millions



Between 1988 and 1996 more of the DOD active duty military jobs in New Mexico were blue collar and technical compared to administrative, clerical, white collar, or professional job occupations (see fig. II.18).

Figure II.18: Job Occupations of DOD Active Duty Military in New Mexico (1988-96)

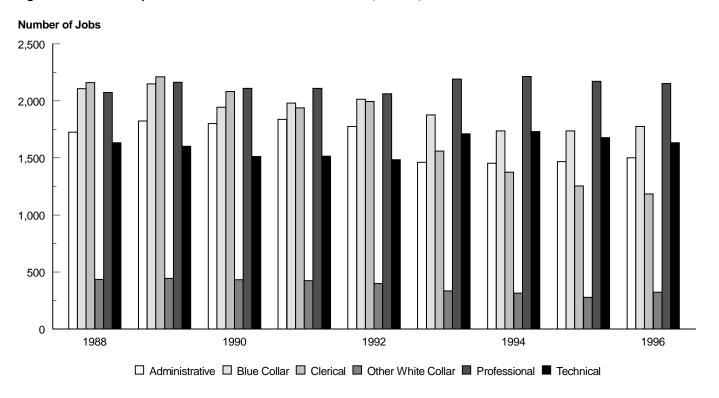


Note: Reserves and National Guard not included.

Source: Defense Manpower Data Center.

The job occupations of DOD civilians were more evenly dispersed across categories than DOD military jobs. Professional job occupations accounted for the most DOD civilian jobs in New Mexico between 1988 and 1996 (see fig. II.19).

Figure II.19: Job Occupations of DOD Civilians in New Mexico (1988-96)

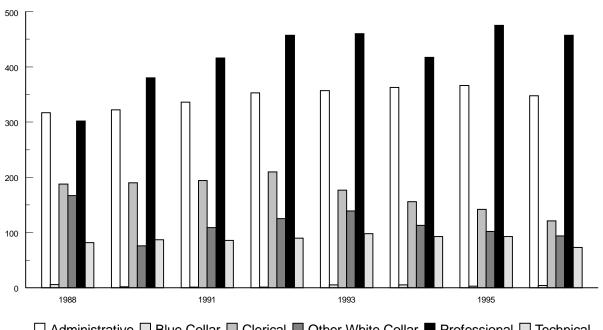


Source: Defense Manpower Data Center.

The majority of DOE federal jobs in New Mexico between 1988 and 1996 were professional and administrative (see fig. II.20).

Figure II.20: Job Occupations of DOE Federal Employees in New Mexico (1988-96)

Number of Jobs



Survey of Top Defense Contractors in New Mexico

The principal purpose of our survey was to determine and characterize the flow of defense dollars to contractors and to illuminate and quantify the limitations of existing data sources that document defense spending in states.

Survey Methods

For our survey sample, we selected contractors who were among the top five in terms of the total dollar amount of DOD prime contracts awarded in fiscal year 1996. Time and resource constraints prevented us from surveying every business that was awarded a defense contract and performed work in New Mexico. For example, in 1996 alone, 471 businesses were awarded DOD contracts exceeding \$25,000 for work principally done in New Mexico.

We obtained DOD's DD350 data to determine the total value of DOD prime contracts awarded to all businesses in 1996 with the principal place of work in New Mexico. From this population we selected five contractors: Honeywell, DynCorp, EG&G, Kit Pack Company, and Lockheed Martin. In 1996, prime contracts to these businesses accounted for 26 percent of the total value of all DOD prime contracts awarded to businesses in New Mexico. In the period covered by our survey, that is, 1988-96, the percentage of total DOD prime contract awards accounted for by the top five New Mexico contractors ranged from 26 to 46 percent. Different companies have been in the list of the top five over the years. However, over the survey period, Honeywell and DynCorp were consistently among the top five.

Contractors were asked to complete several questions about DOD contracts they were awarded as a prime and subcontractor between 1988-96. We asked them to indicate the total value of all DOD contracts received, the dollar amount of contract work that was subcontracted or was interdivisional work, the amounts subcontracted in-state and out-of-state, the amount of salary and wages for all contracts completed by the contractor and by subcontractors, and the number of full-time equivalent (FTE) positions for work completed by the contractor and for subcontractors.

Contractor Background

As a group Honeywell, Lockheed Martin, DynCorp, and EG&G are large, diversified corporations with business establishments physically located in New Mexico but actual corporate headquarters located elsewhere in the

country. Kit Pack is a relatively smaller company, with its business headquarters and all operations located in New Mexico.

During the period of time covered by our survey, Honeywell's principal DOD work in New Mexico was research, development, and testing and evaluation services for military aircraft and the manufacturing of aircraft avionics components. In 1996, DOD awarded prime contracts to Honeywell to provide automatic pilot mechanisms; flight instruments; and research, development, and testing and evaluation services related to aircraft engine manufacturing, among other things. Its survey data was completed by staff at Honeywell's business establishment in Albuquerque.

DynCorp is a large professional and technical services firm. DynCorp's principal work in New Mexico is providing business services, which include aircraft maintenance and repair at military bases, and operations services provided at government-owned facilities. In 1996, DOD awarded prime contracts to DynCorp to provide maintenance and repair services to equipment and laboratory instruments, telecommunications services, and other services associated with operating a government-owned facility at White Sands Missile Range, among other things. DynCorp's survey data was completed by staff at the corporate headquarters in Reston, Virginia. DynCorp's responses were based on financial data for DynCorp and its subsidiaries that also operate in New Mexico (e.g., Aerotherm).

EG&G's principal DOD work in New Mexico is providing communications equipment; operating radar and navigation facilities at Holloman Air Force Base; and doing advanced research, development, testing and evaluation work. In 1996, DOD awarded prime contracts to EG&G to provide advanced development and exploratory research and development (including medical) services at Kirtland Air Force Base and to operate radar and navigation facilities at Holloman Air Force Base, among other things. EG&G's survey data was completed by staff at the Albuquerque office and includes data only for EG&G Management Systems.

Kit Pack Company is located in Las Cruces, south of Holloman Air Force Base near White Sands Missile Range. Kit Pack's principal DOD work in New Mexico is providing aircraft spare parts and modification kits. In 1996, DOD awarded prime contracts to Kit Pack to provide aircraft hydraulics, vacuum and deicing system components, airframe structural components, and torque converters and speed changers, among other things. After it completed and returned the survey to us, Kit Pack officials informed us that it was currently operating under Chapter 11 bankruptcy

due to the termination for default of an Army contract. Kit Pack had filed an appeal of the termination, which was pending when we completed our work. The company indicated that it has seen a severe reduction in the number of DOD contracts awarded since it filed for bankruptcy. Kit Pack staff in Las Cruces completed our survey.

We were unable to obtain survey information from Lockheed Martin. Company officials indicated that they did not have the type of information we requested broken out by states or geographical locations. In a follow-up meeting, company officials provided us with information on their total expenditures to New Mexico suppliers, annual payroll for their employees in New Mexico and the number of employees in the state between 1992 and 1996. The information was developed by staff in Lockheed Martin's Washington operations office.

We could not use Lockheed Martin's information because it was not broken out by specific federal agencies, nor could we determine whether the total expenditures, payroll, or employment were associated with government-funded work or whether they were part of the company's commercial business. Over the course of several meetings and conversations with Lockheed Martin officials, we obtained detailed supplier expenditure information from the Lockheed Martin Consolidated Procurement Program which was broken out by specific Lockheed Martin business units. Company officials said that this would provide an indication of the type of business activity (e.g., DOD, DOE, NASA, and commercial) that the expenditures were made for. In addition, we were given information on corporate sales and payroll by staff in Lockheed Martin's tax department.

We discovered several discrepancies in the company's financial information. When we discussed these with company officials, they indicated that the data provided by the Washington operations office were "less reliable" than other data. Company officials also indicated that their record-keeping had been challenged by the recent merger/acquisition activities (i.e., Lockheed and Martin Marietta in 1995 and the Loral acquisition in 1997). Lockheed Martin officials said that different companies had different information systems and that some information may have been lost during the recent merger.

Key Limitations

Our survey was not designed to specify or measure the exact amount of all DOD contract dollars that flow into New Mexico. Rather, its purpose was to

reflect the nature of the flow of DOD prime and subcontract dollars to a sample of top New Mexico contractors and to compare these results to existing DOD data.

Among the four contractors that completed the survey, none indicated that they could not provide reliable responses to the survey items. The most common limitation was the lack of information on FTEs and wages for subcontracted work. Specifically, contractors indicated the following limitations in their responses to us.

- Honeywell provided information on the dollar amount of the orders it received during the calendar year and estimates of subcontracted work and employees and wages associated with subcontracted work.
- Kit Pack did not have FTE or wage information on its subcontractors and indicated that it no longer had payroll records for its own staff for 1988, 1989, or 1991.
- EG&G did not have records for FTEs and wages associated with subcontracted work.
- DynCorp did not have information on its subcontractors prior to 1993. To report fiscal year information, DynCorp had to convert some company financial data that was not identified by fiscal years.

Survey Findings

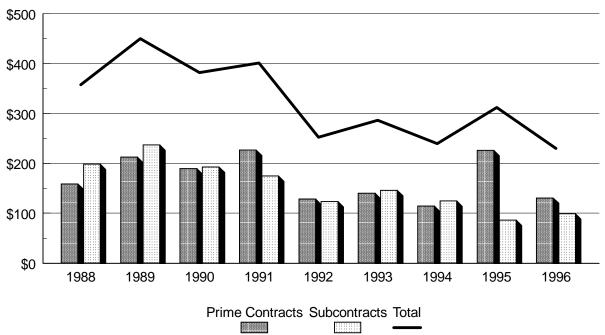
We treated all survey data received from contractors as proprietary. Therefore, in discussing survey findings, contractor names are not used and data is aggregated to protect business-sensitive information. All dollars were adjusted for inflation and are constant 1996 dollars. All of the contractors surveyed were DOD prime contractors. Two of the four contractors we surveyed indicated that they were also DOD subcontractors.

The total amount of DOD prime and contract subcontract awards has declined over the 9-year period. The totals reported for 1996 were the lowest of all the years. For the 9-year period of our survey, expenditures for DOD prime contracts (\$1.5 billion) were roughly the same as for subcontracts (\$1.4 billion). However, in 5 of the 9 years, the contractors received more subcontract than prime contract dollars (see fig. III.1).

⁶This is consistent with the general decline in total DOD procurement budgets. See Defense Industry: Trends in DOD Spending, Industrial Productivity and Competition (GAO/PEMD-97-3, Jan. 1997).

Figure III.1: DOD Contracts Awarded to the Top Four New Mexico Defense Contractors (1988-96)

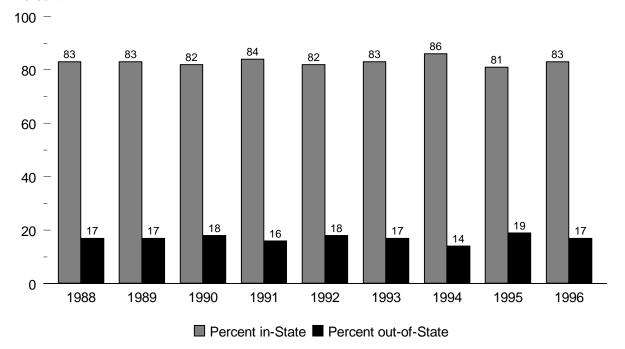




Between 1988 and 1996, the percent of prime contract dollars that remained in-state was consistently greater than 80 percent (see fig. III.2). The 9-year average was 83 percent.

Figure III.2: Contract Dollars Received by the Top Four New Mexico Defense Contractors That Stayed In-State (1988-96)

Percent



Although the average percent of prime contract dollars that remained in New Mexico was high, examination of specific contractor data indicates important exceptions. For two of the contractors, the survey results indicated that nearly 100 percent of the prime contract dollars they received remained in-state between 1988 and 1996. However, one contractor's data shows that less than 50 percent of prime contract dollars received remained in-state each year between 1988 and 1996. Approximately 70 percent of the total prime contract awards received by another contractor remained in-state for all years (see fig. III.3).

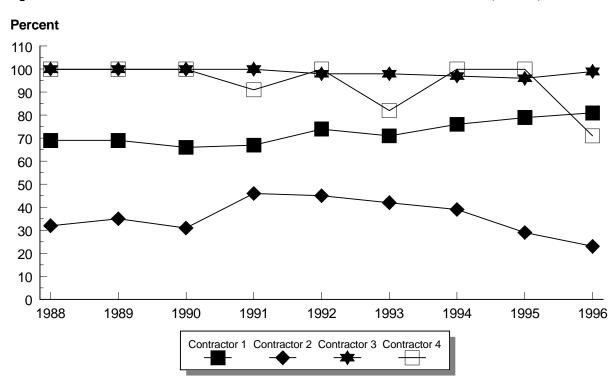
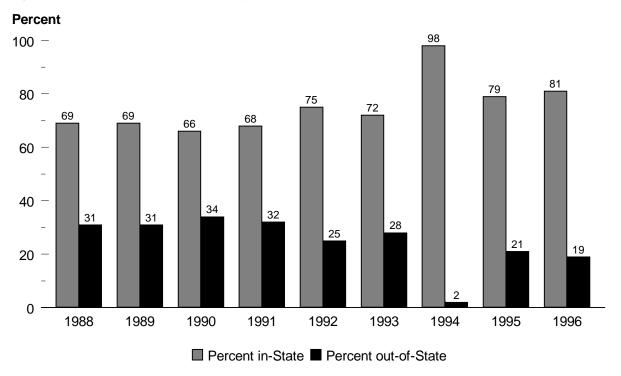


Figure III.3: Differences in Percent of Prime Contract Dollars That Remained In-State (1988-96)

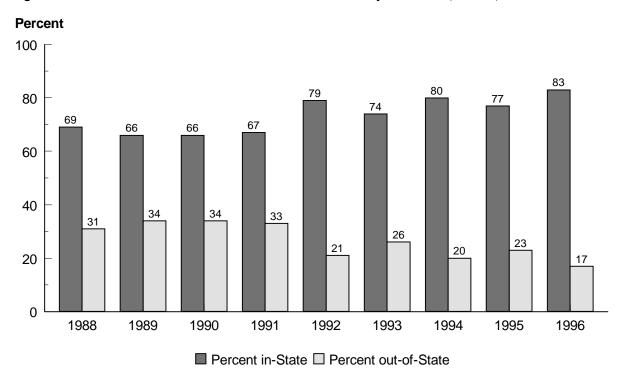
For the two contractors that were also dod subcontractors, a slightly smaller percentage of their subcontract dollars remained in-state compared to the percentage of their prime contract dollars (see fig. III.4). On average, 75 percent of subcontract dollars remained in-state between 1988 and 1996.

Figure III.4: Subcontract Dollars That Stayed In-State (1988-96)



The contractors indicated that the majority of jobs supported by their DOD prime contracts remained in-state. On average, 73 percent of the jobs remained in-state during 1988-96. The lowest yearly percentage was 66 percent in 1989 and 1990, and the highest was 83 percent in 1996 (see fig. III.5).

Figure III.5: DOD Prime Contract and Subcontract Jobs That Stayed In-State (1988-96)



On average, 73 percent of the total wages for employees working on DOD prime contracts and subcontracts remained in-state between 1988 and 1996 (see fig. III.6). From 1988 to 1996 the percent of wages that remained in-state generally increased.

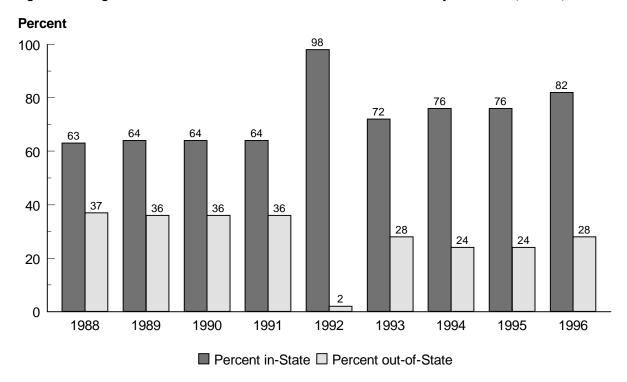


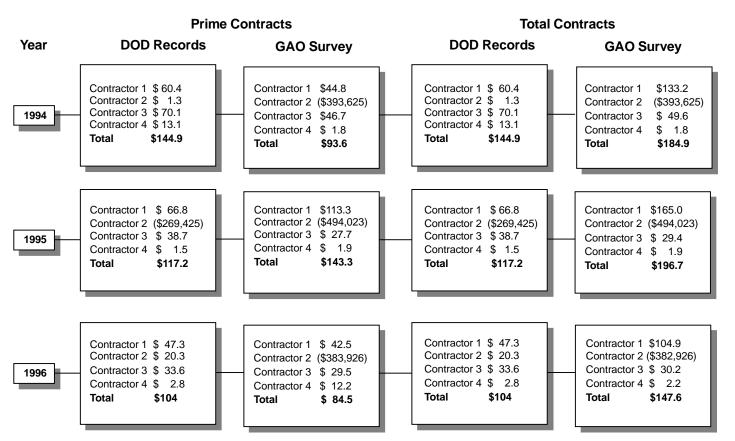
Figure III.6: Wages for DOD Prime Contract and Subcontract Work That Stayed In-State (1988-96)

Survey Results Compared to DOD Records

We compared our survey results to Dod's records of the total amount of contract awards received by the contractors between 1994 and 1996. Dod sources collect and report information only on prime contracts while our survey collected information on Dod prime contracts and subcontracts. Thus, we expected that Dod's records and the contractors' would be different as was revealed in the survey. Therefore, we compare Dod's records of total prime contracts to our survey results on the amount of prime contracts received by the contractors in New Mexico and that remained in the state. However, to shed further light on and quantify, where possible, the limitations in existing Dod data, we also compared the amount of total contracts, defined as in-state prime contracts and subcontracts, to the Dod totals, defined as prime contracts (see fig. III.7).

⁷When reporting the total value of prime contract awards for specific companies, DOD reports information according to the "ultimate" owner of the company. For example, DynCorp has a subsidiary named Aerotherm that also performs work in New Mexico. Therefore, DOD's records of contract totals for DynCorp includes awards to Aerotherm. We accounted for this DOD reporting procedure when conducting the comparisons between DOD records and the contractors' records.

Figure III.7: DOD Records of Total Contract Awards Received Compared With Our Survey Results of Contractor Records



Note: Dollars in millions, except where indicated. Our prime contract data includes total prime contract awards that remained in the state and our total data includes prime contracts and subcontracts that remained in-state. All DOD data is from the DD350 database.

The overall comparison between the contractors' records and DOD's records of total prime contract amounts shows that DOD records can both overstate and understate the total amount of prime contracts that actually end up in a state's economy. In 1994, the contractors' records show that \$93.6 million in DOD prime contract work was done in New Mexico. On the other hand, DOD's records indicate that the contractors received \$144.9 million in prime contracts, representing a possible \$51 million, or

about a 54-percent overstatement. However, in 1995, the contractors' records showed that \$143.3 million in DOD prime contract work was done in the state, whereas DOD's records show that the businesses received \$117.2 million, representing a possible \$26-million, or about an 18 percent understatement.

As expected, a comparison of the contractors' records of the total contracts (in-state prime contracts and in-state subcontracts) to the existing DOD records of total prime contracts shows that the totals reported by the contractors were consistently greater than the totals reported in DOD's records.

Summary

Between 1988 and 1996, more than 70 percent of the DOD prime contract and subcontract dollars and associated jobs and wages for the top four contractors in New Mexico remained in the state. However, a notable exception in one contractor's data, combined with the fact that the principal type of contract awarded to firms in New Mexico generally is for services, suggests that the survey findings may be explained, in part, by the nature of the contracts that are awarded to the top New Mexico defense contractors.

The responses of one contractor showed that about one third of the DOD prime contract dollars received remained in state between 1988 and 1996. This pattern is an outlier relative to the data for the other three contractors. Further, the DOD prime contracts this company received between 1994 and 1996 were exclusively for hardware and equipment. On the other hand, nearly 100 percent of two contractors' prime contract dollars remained in the state and all of the contracts were for services (e.g., operation of military facilities, technical services). Data for the single remaining contractor indicate that 70 to 80 percent of its DOD prime contract work remained in the state between 1988 and 1996. This contractor received DOD contracts for services and for some hardware procurement between 1994 to 1996.

The presence of four military installations in New Mexico (Cannon, Holloman, and Kirtland Air Force Bases and White Sands Missile Range) drives the need for services to support the operation and maintenance of the installations. DOD's data show that in each year during 1988-96, the largest dollar amount of DOD prime contracts awarded to all businesses in New Mexico was for services. Further, DOD's data shows that between 1994 and 1996 the four military installations consistently received the

largest dollar amount of DOD prime contracts compared to all other cities or locations in the state. Given that these installations generate service contracts, it is reasonable to expect that the dollars received by these top four contractors for performing the service contracts would remain in the state. However, the survey data indicate it would be inappropriate to generalize that expectation to all types of DOD contracts (e.g., major hardware, equipment, and supplies).

Dod's official data on prime contracts for the top four contractors overstated as well understated amounts reported by the contractors. Our research suggests at least three reasons for this. First, Dod's data does not account for leakages of Dod prime contract dollars from the state's economy that may occur through the subcontracting process. All of the contractors we surveyed indicated that they subcontracted out of state at one time or another or did it consistently. Second, Dod is required to report only on prime contracts greater than \$25,000. This reporting threshold may be very inclusive for certain types of Dod purchases (e.g., major weapon systems). However, for other types of Dod purchases (e.g., service contracts), this reporting threshold may mask a large proportion of actual Dod expenditures. And third, the existing Dod data sources do not account for injections into a state's economy from subcontracts that companies receive from other Dod contractors.

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