

Federal Activity and Hawaii's New Economy

Total Federal government expenditures in Hawaii reached the \$9 billion level in 2000. This total was 5.2 percent more than in 1999 and 60 percent more than the spending level ten years earlier in 1990. As shown in Figure 1, non-defense spending has increased its share of Federal spending over the last decade, making up nearly 62 percent of the total in 2000 at \$5.5 billion.

Non-defense activity includes the operations of Federal civilian agencies in Hawaii and also direct payments to people and programs in the state, such as Social Security and Federal retirement disbursements. Non-defense spending increased 83% over the 1990 to 2000 period.

Defense expenditures accounted for 39 percent of Federal spending in 2000, down from nearly 54 percent in 1990. Defense spending includes the major military services of Army, Navy and Air Force as well as some civilian defense agency activity. At \$3.5 billion in 2000, defense spending increased a modest 33 percent over the ten-year period from 1990 to 2000. A more thorough compilation of Federal government information is being made available through the DBEDT Internet Web Site at <http://www.hawaii.gov/dbedt/index.html>.

Information will be continuously added and updated at the site as it is received or developed.

TYPES OF EXPEDITURES

As Figure 2 shows, the largest type of spending by the Federal Government in Hawaii (about 44%) is direct payments to individuals and programs called *transfer payments*. The \$4.0 billion in transfer payments for 2000 included social security checks, Federal retirement payments, Medicare payments, food stamps and numerous other direct support programs. About 15 percent or \$1.4 billion in Federal spending went to the state and county governments in the form of grants. Salaries and wages for Federal workers made up about 27 percent of total Federal expenditures in 2000 or \$2.4 billion.

Figure 1: Federal Spending in Hawaii
(Billions of dollars)

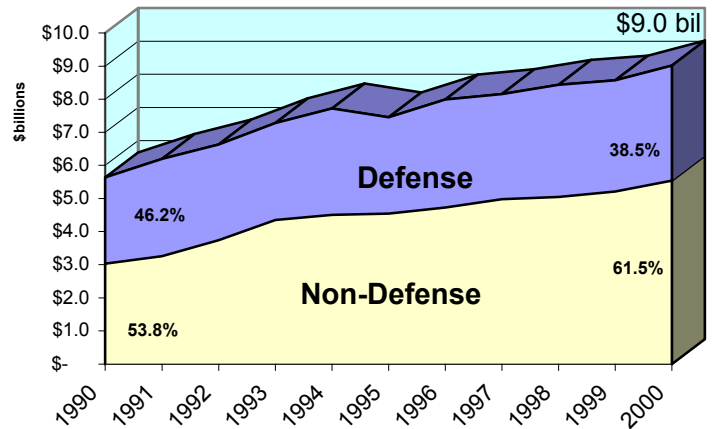


Figure 2. Types of Federal Spending

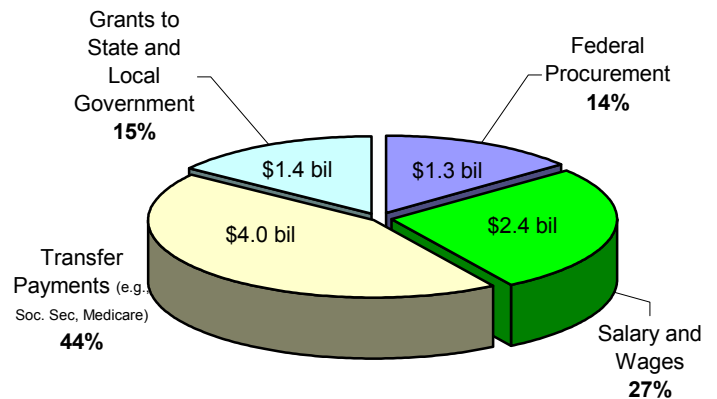
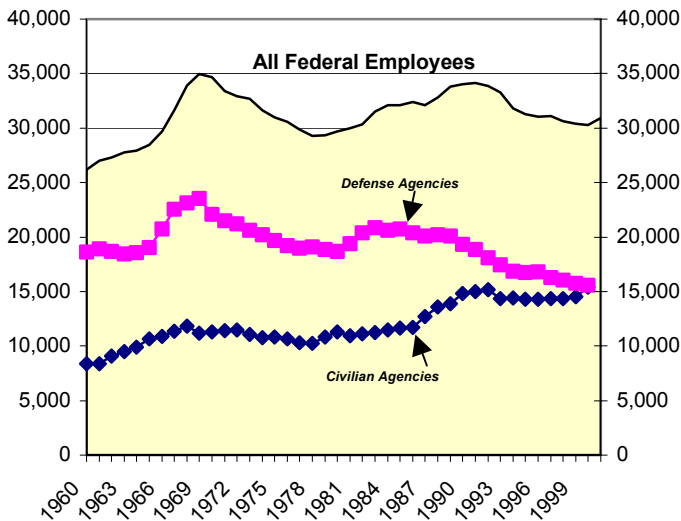


Figure 3. Federal Civilian Employment



Federal procurement (purchase of goods and services) made up 14 percent of total spending, at \$1.3 billion in 2000.

FEDERAL CIVILIAN WORK FORCE

Federal activity employed 31,000 civilian workers in 2000 (Figure 3). This number was split nearly equally between defense and non-defense agencies.

Over the past 20 years, total Federal civilian employment has ranged from 30,000 to 35,000. However, as Figure 3 shows, employment in Defense agencies has declined while increases in civilian agency employment have helped keep the Federal employment total relatively stable.



DIRECTOR'S MESSAGE

Dr. Seiji Naya
 Director
 Dept. of Business, Economic Development & Tourism

Federal spending has been an important part of Hawaii's Economy for many decades owing mainly to Hawaii's strategic military importance in the Asian-Pacific region. This has made defense activity a higher proportion of the economy in Hawaii than for almost any other state. Hawaii's strategic importance is reconfirmed in the decision by the Army to base one of its new, 3,500 member, "rapid-strike brigades" here in Hawaii.

As this report indicates, Federal activity has become a somewhat smaller proportion of our economy over the last 10 to 15 years. However, it is still a very significant proportion. For example, Federal employees, military personnel and military dependents represent about 9 percent of Hawaii's average daily population. This is not far from the average daily number of visitors in the state, which accounts for about 13 percent of the average daily population.

Defense employment and military strength in Hawaii have been declining gradually since the 1980s. While Hawaii will be gaining the new rapid strike brigade, that represents only about 20 percent of the overall loss in military personnel that Hawaii has experienced since the mid 1980s.

But the reductions in conventional military activity may be outweighed by the role that Federal activity is playing in helping Hawaii build a high-tech industry base for the future. Such key facilities as the Maui High performance Computing Center, the Space Surveillance complex on Haleakala, and the Pacific Missile Range Facility on Kauai, are providing new opportunities for private technology firms in areas of the State where such highly skilled work is very helpful to the local economy.

Much of the credit for securing and maintaining the Federal sector in Hawaii's economy must be given to the State's Congressional Delegation, particularly Senator Daniel K. Inouye. The Delegation has provided vital support to the military in Hawaii and the State's opportunity to participate in important Federal initiatives.

Notwithstanding the reduced military presence over the past decade, there are still concerns expressed about the potential negative impacts of defense activity on the environment and other aspects of Hawaii's society. On the other hand, in addition to its economic contribution, the military has been a good neighbor in Hawaii, giving generously of its time and resources to help charities, community activities and even in providing emergency medical evacuations on a day-to-day basis.

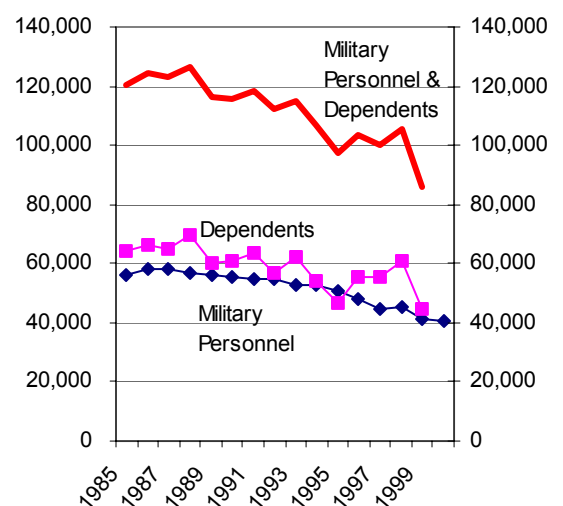
Given the potential benefits to Hawaii of Federal Defense activity, it is critical that we continue to address and mitigate negative impacts of that activity and strike a balance among national defense needs, Hawaii's economic development objectives and environmental priorities.

Of the 15,600 Federal defense workers in Hawaii, 8,800 or nearly 56 percent worked for the U.S. Navy. The Army accounted for about 30 percent of defense workers while the Air Force employed the remaining 14 percent.

MILITARY POPULATION

There were 40,800 military personnel stationed in Hawaii in the year 2000. Along with the military personnel there were roughly 42,500 military dependents in the State. The number of military personnel in Hawaii has edged from more than 58,000 members in 1987. The count of military dependents has also been declining, although it tends to show volatility from year to year. The most recent count of 42,500 dependents is down from 1980s. The 2000 count of 40,800 military personnel is down from a high of 67,100 in 1984.

Figure 4. Military Connected Population



FEDERAL SPENDING'S ECONOMIC IMPACT

DBEDT estimates that Federal expenditures in Hawaii have accounted for between 10 and 12 percent of annual Gross State Product (GSP) since 1990. In 2000 this amounted to between \$4 billion and \$5 billion out of \$39 billion in total GSP. Because the \$4.0 billion in direct payments by the Federal Government are not included in computing GSP, the impact of Federal spending is all the more impressive.

The size and scope of Federal spending has a significant impact on all sectors of Hawaii's economy. The \$4 billion in direct payments and government grants to Hawaii supports retirees, the medical needs of the elderly, a host of state and local government programs and other target groups throughout the state. The Federal payroll of nearly \$2.4 billion supports more than 31,000 civilian and nearly 41,000 military jobs in the state.

Federal procurement by defense and non-defense agencies is also a significant factor in Hawaii's economy. In 2000, Federal procurement expenditures for the wide range of goods and services needed by civilian and military agencies was nearly \$1.3 billion. Much of this spending is through local suppliers of goods and services and generates a considerable amount of indirect employment in the community among the supplying firms. More than 45 percent of procurement expenditures, nearly \$600 million were spent on construction projects, which represent an important investment in Hawaii's economy. Examples of procurement projects in fiscal year 2001 are shown in Table 1.

Table 1. Selected Procurement Projects from the Fiscal 2001 Federal Budget
• \$55 million for Kauai's Pacific Missile Range Facility (PMRF) Operations and Support
• \$46 million to address labor shortfalls at the Pearl Harbor Shipyard and technology investments
• \$31 million to the Maui High Performance Computing Center for various projects
• \$20 million for the Maui Space Surveillance System
• \$10 million for the Pacific Disaster Center (Maui) to continue support of this state-of-the-art facility

The recently announced Fiscal year 2002 budget request by the administration includes more than \$350 million in new construction projects for Hawaii. Some examples are shown in Table 2.

Table 2. Selected Projects Proposed in the Fiscal 2002 Federal Budget
• \$100 million for new construction and improvements to Pearl Harbor
• \$73 million for a housing complex at the Army's Schofield Barracks
• \$47 million to replace 172 housing units and build a new Post Office at The Marine Base at Kaneohe
• \$5 million for a command-and-control range building at the Army's Pohakuloa Training Area on the Big Island

The Federal Government has a substantial "balance of trade" that is favorable to Hawaii. That is, Federal spending in Hawaii is considerably more than Federal tax and other receipts that leave the State. In 1998, the most recent years for which a comparison is available, tax and other payments to the Federal government from Hawaii were about \$2.7 billion less than Federal spending in the State. This meant Hawaii experienced a net gain from Federal Government activity of nearly \$2.7 billion.

FEDERAL ACTIVITY AND HAWAII'S NEW ECONOMY

Beyond its direct role in the economy, Federal activity has also played a significant role in helping Hawaii move into the technology-driven, *New Economy*. Resources ranging from the Air Force's High Performance Computing Center on Maui to the Navy's Pacific Missile Range Facility on Kauai, provide both an infrastructure and market for Hawaii's expanding technology sector. While Federal activity is often identified as one of Hawaii's "traditional" industries it is making a contribution to the *New Economy* of the 21st century. The phrase "New Economy" has been coined to describe the emergence of companies that utilize the advantages of leading-edge technology to compete effectively in markets that have become globalized thanks to the internet and the communications revolution. In that respect even traditional industries can enter the new economy if they adopt new technologies and approaches to doing business. Federal activity is playing a role in propelling Hawaii's industries into the 21st century by building vital infrastructure for high-tech activity and providing a market for technology products.

Much of this is being done through the concept of *Dual-Use Technology*. This is a process in which technology developed with and for the military can be later adapted and marketed to civilian markets. Even where the products have limited civilian applications, firms engaged in producing technology for the military develop invaluable techniques and skills that can be applied to civilian technology products. Here are a few examples of the resources of the Federal Government that are facilitating Hawaii's entry into the *New Economy*.

The **Pacific Missile Range Facility (PMRF)** on Kauai is the largest multi-environmental military range in the world. PMRF's capabilities provide a wide variety of simulations for training, research, development, testing and evaluation as well as education endeavors. The Facility was recently approved as the primary test range for Navy missile de-



fense tests of ship-borne defenses. Companies involved in these initiatives include ITT, Sandia Labs, MIT-Lincoln Labs, Boeing, DSR, STI, SAIC, Textron Systems Division, TREX Enterprises, Oceanit Labs, Solipsys Corporation, Northrop Grumman, and Lockheed Martin. PMRF has received in excess of \$500 million over the last four years.



The Maui High Performance Computing Center (MHPCC) is located at the Maui Research & Technology Park, MHPCC is a national supercomputing center established by the University of New Mexico through a Cooperative Agreement with the Air Force Research Laboratory. MHPCC offers a large-scale parallel computing platform with both classified and unclassified capabilities, terabytes of disk and on-line tape storage, and a high-speed communications infrastructure that connects directly to the Defense Research and Engineering Network (DREN) and the Internet backbone. MHPCC is uniquely positioned to assist in the migration of basic research to production by offering a state-of-the-art computing environment for prototyping and testing high performance computing applications.

The **Pacific Disaster Center (PDC)** is a federally supported information processing center situated in the Maui Research & Technology Park and designed to assist federal, state, local, and regional emergency managers with disaster mitigation, preparation, response and recovery within the Pacific region. PDC links scientific understanding and web-based technologies to support disaster reduction. PDC is being developed as an organizational and technological model for global, national, and local disaster management initiatives.

The **Pacific Medical Network (PACMEDNET)** is a congressionally-mandated Department of Defense (DoD) automation and telecommunications project, PACMEDNET is designed to demonstrate clinical solutions to enrich patient encounter information. Benefits of this network include secure, web-enabled remote access to health information history on demand; computer-based patient records and synchronization of patient data from disparate data sources. Tripler Army Medical Center in Honolulu is providing the technical support and administrative coordination to demonstrate this technology and facilitate its deployment to military forces throughout the Pacific.



The **West Kauai Technology & Visitor Center** is another example of how Federal expenditures are contributing to Hawaii's technology growth. This facility, built partly with Federal funds, houses at least nine companies or organizations involved in dual-use technology with the nearby Pacific Missile Range Facility.

There are many other ways in which Federal activity is providing Hawaii with state-of-the-art technology infrastructure as well as a market source for Hawaii's technology products. A more complete review is available in the recent publication *Science And Technology: The Key To Hawaii's Economic Future*, available on the DBEDT web site at <http://www.hawaii.gov/dbedt/ert/key.html>.

In addition to the activities noted above, the Department of Defense announced on May 31, 2001 that the University of Hawaii, is being awarded a \$181 million indefinite-delivery/indefinite-quantity contract for the operations and management of the Maui Supercomputing Center, in Kihei, Maui. The contract has a basic performance period of October 2001 through September 2005 but provides for extension of the contract based on performance, through September 2011.

FEDERAL ACTIVITY AND DEVELOPMENT OF HAWAII'S TECHNOLOGY SECTOR

The technologies developed through federally funded activity in Hawaii help raise the state's productivity level and output growth. In addition, the development of "dual-use" technologies promotes further innovation and transfers technical and managerial skills to the private sector. This, in turn, provides Hawaii with a more skilled workforce and a greater potential to support new industries.

The Federal government's presence in the state's economy, therefore, presents opportunities to develop and utilize leading edge technology. Hawaii's positive response to these opportunities is, in turn, an incentive for the Federal government to engage in more technology activity involving Hawaii, and other economically valuable activity where Hawaii can show a comparative advantage over other locations.

Table 3: Selected Federal Activity Indicators, 1986 to 2000									
Year¹	Federal Expenditures (\$millions)			Civilian Employment			Military Related Population		
	Total	Defense	Non-Defense	Total	Defense	Non-Defense	Total	Military Members	Dependents
1986	4,646.9	2,484.7	2,162.3	32,100	20,400	11,700	124,332	58,122	66,210
1987	4,811.9	2,502.9	2,309.0	32,800	20,100	12,700	122,972	58,122	64,850
1988	5,064.9	2,564.1	2,500.8	33,800	20,200	13,600	126,720	56,815	69,905
1989	5,570.9	2,805.8	2,765.1	34,000	20,100	13,900	116,634	56,360	60,274
1990	5,633.9	2,602.6	3,031.3	34,150	19,350	14,800	115,157	55,222	59,935
1991	6,198.1	2,935.8	3,262.4	33,850	18,850	15,000	118,066	54,738	63,328
1992	6,636.3	2,895.8	3,740.5	33,250	18,100	15,150	112,093	55,099	56,994
1993	7,283.5	2,928.2	4,355.3	31,800	17,450	14,350	114,840	52,674	62,166
1994	7,719.3	3,212.2	4,507.1	31,250	16,850	14,400	107,183	52,845	54,338
1995	7,450.0	2,900.6	4,549.3	31,050	16,750	14,300	97,248	50,729	46,519
1996	7,990.3	3,258.1	4,732.1	31,100	16,800	14,300	103,323	47,986	55,337
1997	8,159.3	3,178.6	4,980.7	30,650	16,300	14,350	100,117	44,542	55,575
1998	8,442.0	3,394.4	5,047.6	30,400	16,050	14,350	105,522	44,984	60,538
1999	8,568.2	3,355.8	5,212.4	30,300	15,750	14,550	85,711	41,361	44,350
2000	9,015.3	3,473.0	5,542.3	30,950	15,550	15,400	83,329	40,796	42,533

¹ Fiscal year for expenditures.

Source: DBEDT, compiled from various sources.