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Change in the economy: Defense conversion and Maine

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Defense conversion is a major issue confronting Maine and other states that are threatened with the loss of major military and civilian defense facilities. The closing of Loring AFB this year has made real to most Maine citizens the rapidly changing nature of our defense infrastructure. As the anxiety increases about the future of remaining defense facilities, both the public and private sectors are working to develop meaningful conversion programs and policies. The latter was the focus of a statewide conference on defense conversion -- "From Defense to Offense" -- held last June in Portland. The following five articles, some of which are based on presentations made at the Maine Science and Technology Foundation-sponsored conference, focus on the defense conversion issue. They include national, regional and state perspectives on the likely economic impacts of defense policy changes, the need for greater federal support for small and medium defense conversion firms, the politics of Maine's defense conversion efforts, and an interview with the leaders of the Maine Economic Conversion Project. Additionally, Maine's state economist examines the nature and extent of the state's defense dependency and its implications for future economic growth. (See News and Commentary section.) This article is drawn from a special report of the same title published by BENS in November 1993.

Defense downsizing: The economic impacts in New England

By Yolanda K. Kodrzycki

This article is excerpted from the author's remarks at a conference entitled "From Defense to Offense: Converting Maine's Economy in a Time of Shrinking Military Expenditures," which took place in Portland on June 13, 1994. The views expressed do not necessarily reflect official positions of the Federal Reserve Bank of Boston

Introduction

This article reviews the extent of New England's dependency on defense and various measures of the severity of the downsizing. I will put this analysis in the broader context of the New England economy. Because the economy can provide opportunities or constraints, it is important to understand the general economic environment when designing a defense conversion strategy.

There are various ways to measure defense dependency, but it is fair to say that New England is more defense-dependent than most (if not all) other regions of the country. And certainly, if we looked at particular communities, we would find extremely high concentrations of dependency.

One illustrative set of statistics is drawn from the work of the Defense Budget Project, a nonpartisan group located in Washington, D.C. They looked at the following three categories of defense workers: people employed at military bases (whether in a military or civilian capacity), people whose jobs depend directly on Pentagon contracts, and people who are subcontractors or suppliers of goods and services to support Pentagon contracts. [Table 1](#) shows these three

categories of defense workers as a share of total employment for the New England states and the United States as a whole. It also ranks states according to this percentage dependency on defense. Four of the New England states-- Connecticut, Maine, Massachusetts, and Rhode Island fall in the top half of states across the nation for overall defense dependency. Connecticut is fifth highest, and Maine ranks 19th according to this measure. [Table 2](#) looks at defense dependency just in the private sector, leaving out the military bases. Maine stays in about the same position as before. But Connecticut and Massachusetts rank one and two, respectively, in terms of dependency on Pentagon contracts to private industry related to the New England economy and in public finance and tax policy. She is a member of the Board of Directors of the New England Economic Project. New Hampshire jumps up in the rankings; it did not look as defense-dependent in the first set of numbers because Pease Air Force Base was already shut down.

Theoretically, one could go beyond this definition to a “big tent” view and include the retail establishments where defense workers shop and the real estate agencies that sell them their homes and so forth. This would be entirely appropriate in thinking about the overall effects of the defense downsizing. The state of Rhode Island actually did that and found that about 30 percent of its work force had some connection with defense. As far as I know, the other New England states have not tried to make such calculations, perhaps because even in a small state like Rhode Island, the work is very painstaking.

Summarizing the information on defense dependency: First, New England has substantially more exposure to defense downsizing than other parts of the country, because it is a bigger part of our economy. Second, defense downsizing affects many more people than are seen in the numbers, because of the myriad ripple effects on industries such as retail stores, restaurants, real estate, and a variety of services.

The second part of my analysis concerns the losses New England has already suffered in the defense downsizing. But as an introduction to this segment I would like to start with the national picture, to provide some context. [Figure 1](#) shows total national defense spending as a share of gross domestic product. In other words, of what we as a society produce, how much is defense spending? This chart combines historical data back to 1950 with Clinton administration budget plans out to 1999.

The figure clearly shows the spikes for wars -- Korea in the early 1950s, Vietnam in the 1960s and early 1970s -- and then the buildup that was started under President Carter and continued under President Reagan. But you may not have realized that the trend was actually downward over time. That should be somewhat comforting in the current period of adjustment. However painful downsizing can be, the U.S. economy has been able on previous occasions to absorb laid-off defense workers.

People sometimes want to know how far along the adjustment we have already come, versus how much lies ahead. At the peak of the Reagan build-up, the defense-to-GDP ratio was 6.5 percent; it is now 4.2 percent, and the Clinton administration has it down to 2.9 percent at the end of the century. So if you use these figures, we are more than halfway -- close to two-thirds -- through the cutbacks.

Private defense-related jobs

What has the downsizing meant for New England? Not surprisingly, the impacts have been rather severe. To date, both military base employment and private industry employment have been reduced by roughly 20 percent: one in five workers has lost his or her job.

[Figure 2](#) shows military bases. Here I have included regular military and civilian jobs, but no reservists. Throughout the eighties, military bases provided about 64,000 jobs for New Englanders. By 1993, that figure had fallen to below 50,000. In other words, almost 15,000 positions were eliminated. [Figure 3](#) indicates the states with the bulk of the cuts. Roughly 4,000 jobs have been lost in Massachusetts, and similar cutbacks have occurred in Maine and in New Hampshire, where they loom larger because the economies of these states are much smaller than the Massachusetts economy.

Private industry defense contractors experienced a boom in the eighties. [Figure 4](#) indicates Pentagon contract spending for both the United States and New England. To be able to show them on the same chart, I have indexed the numbers to equal 100 in fiscal year 1980. The U.S. figure went above 200 in FY 1985; in other words, prime contracts doubled in a five-year period. New England defense contractors also saw a sharp increase in Pentagon dollars. By FY 1989, business was just a little shy of twice what it was at the beginning of the decade.

In the nineties, as [Figure 4](#) shows, Pentagon contracts with New England businesses have fallen off sharply. Today's level is \$5.5 billion dollars less than it was at the peak. [Figure 5](#) shows the top three states in New England. Massachusetts and Connecticut have suffered sizeable losses. Comparatively speaking, Maine has not fared all that badly, and the new Aegis contract (at BIW) should continue to help.

The U.S. Bureau of Labor Statistics publishes national figures on employment in industries that have close ties to defense. [Table 3](#) shows the industries that, nationally, receive at least 40 percent of their business from defense. The list includes a couple of industries that are very important here in Maine with companies such as Bath Iron Works (shipbuilding) and Pratt & Whitney (aircraft parts). Most of these industries are in the manufacturing sector, but toward the bottom of the list are the research and testing industries that are also key targets of defense monies in Massachusetts.

With the help of state employment agencies, including the one in Maine, I have been informally tracking New England jobs in these industries. This is the kind of effort where, if you get too close to the numbers, you realize all the problems. For example, in Connecticut, the ship and submarine industry is so dominated by one company (Electric Boat) that the Connecticut Department of Labor cannot release the data. For that state my figures reflect mostly what is going on in the aircraft industry. Also, Pentagon dollars flow into industries that are not particularly defense-intensive. In Massachusetts, universities and computer firms come to mind. So these numbers show only part of the cutbacks. Despite all the limitations, the message is clear. The three largest states in terms of defense contracts are shown in [Figure 6](#). In Massachusetts, employment in defense-intensive industries is down by 18 percent, in Connecticut 25 percent, and in Maine 24 percent. Thus saying that about 20 percent of New

England's defense industry workers have lost their jobs seems on the mark. And of course, given projected further cutbacks in Pentagon spending, more defense related layoffs lie ahead.

How does all of this relate to the overall economic environment in New England and the opportunities and challenges it offers for defense conversion?

I started working on defense issues about five years ago, when I prepared an extensive study at the Boston Federal Reserve about the impacts of reduced defense spending on the New England economy. Looking back now at my earlier predictions, I see I was correct in one respect, but wrong in another. I was correct in anticipating the magnitude of the overall cutbacks in defense spending, and I was even in the right ballpark for the employment consequences for New England. But what I failed to appreciate fully was how painful these job losses would be. That is, I didn't foresee the depth of the overall recession. Given the recession, corporations with declining defense business found it difficult to reassign defense workers to other divisions, and laid-off defense workers found it all that much harder to find new employment. Conversion is almost impossible in an economy that is in overall decline, as the New England economy was for several, long years.

New England has been adding jobs since 1992, and the pace of our growth now is very similar to the rate of growth nationally. On the basis of what professional forecasters project for the U.S. economy, the New England Economic Project, or NEEP, (a not-for-profit consortium of organizations throughout the region) foresees a constructive five-year period ahead ([Figure 7](#)). NEEP's view is that the New England economy will continue to generate new jobs, eventually getting back to where we were before the Great Recession hit us. This pattern of recovery is expected throughout the New England region, although NEEP sees the three northern states -- Maine, New Hampshire, and Vermont -- doing better than the southern tier ([Figure 8](#)).

The general upturn will create opportunities for defense-dependent companies and for workers who have lost their jobs in the defense downturn. The challenge is that the nature of New England jobs will be changing -- as it has been in fact over the course of history. The new jobs are much more likely to be in service industries than in manufacturing industries.

To illustrate this point, [Figure 9](#) shows the percentage of New England employment in four broad sectors since 1980 and forecasted by the New England Economic Project: manufacturing, wholesale and retail trade, services, and all other. These shares add up to 100 percent. An ever decreasing proportion of the New England work force is employed by manufacturing firms -- 28 percent in 1980, compared to only 15 percent projected in 1998. Meanwhile, the service share is growing -- in five years' time, one in every three employees will work for a service provider. The other sectors are more stable.

Service industries include a wide range of jobs, paying a wide range of wages and salaries. Some service companies hire professionals and pay them quite well -- think of computer programmers, business consultants, engineers, and medical specialists. But if these are the jobs we want our defense workers to convert to -- as opposed to lower paying lines of work--we have to pay attention to designing and implementing the appropriate training programs. Otherwise, many of

them will be left out of the general recovery, or they will have to settle for work that is far less challenging than the work they had been doing.

An obvious alternative is to create new manufacturing ventures, or to convert from defense-related manufacturing to another type of manufacturing. After all, it may be easier for a defense worker to make that transition, rather than going to another industry. I fully agree that bringing new manufacturing opportunities to New England is desirable, and I applaud those manufacturers who have succeeded already in expanding their operations. But, from a planning standpoint, one needs to recognize that expanding the overall manufacturing work force in New England means swimming against a very strong tide, one that pre-dates the recent recession. Also, the types of manufacturing jobs where New England is likely to be able to compete are the highly skilled, technologically advanced jobs, not the mass assembly plants that predominate in other parts of the country. So once again, we need to make sure that our workers get the appropriate training, even if we are trying to steer them to new jobs in manufacturing.

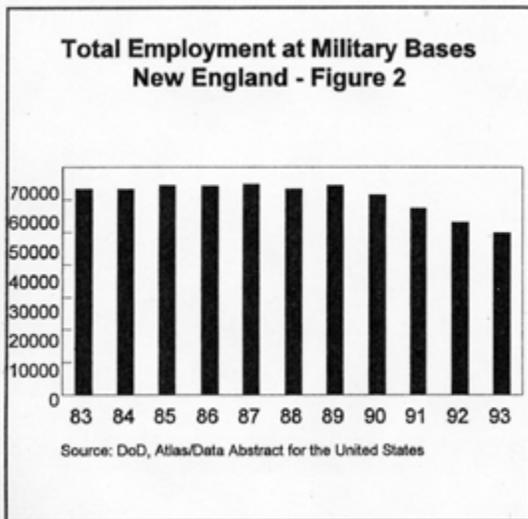
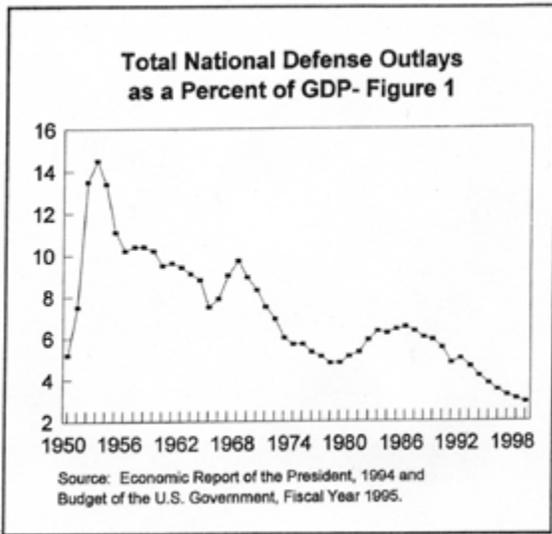
Conclusions

To summarize in just a few words: defense downsizing has exerted a drag on New England's economy and it will continue to do so for the foreseeable future. Luckily, some other sectors are finally pulling us out of our long recession and new opportunities for business growth are appearing in New England. In planning conversion, we need to be aware of what types of industries are likely to grow in the future, in order to channel New England's resources in the appropriate directions.

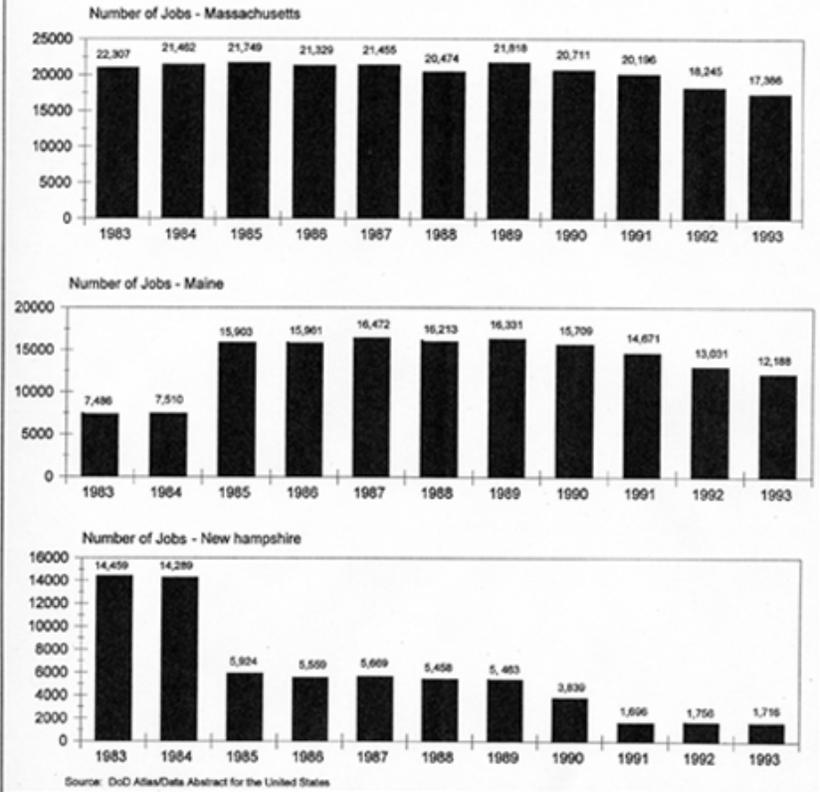


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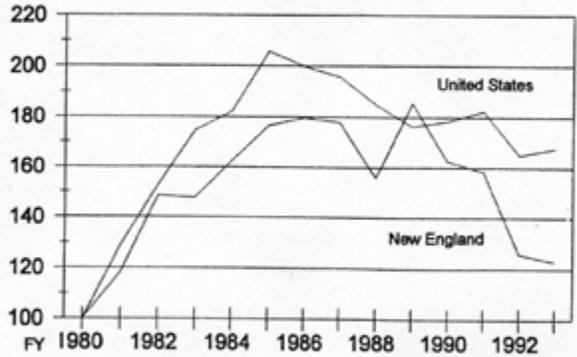
Figures



Total Employment at Military Bases
Figure 3

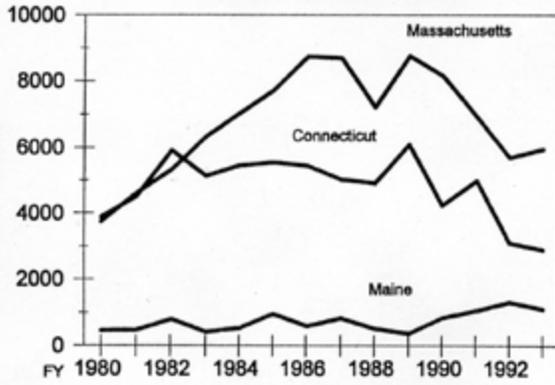


Defense Prime Contract Awards
(Indexed 1980=100) Figure 4



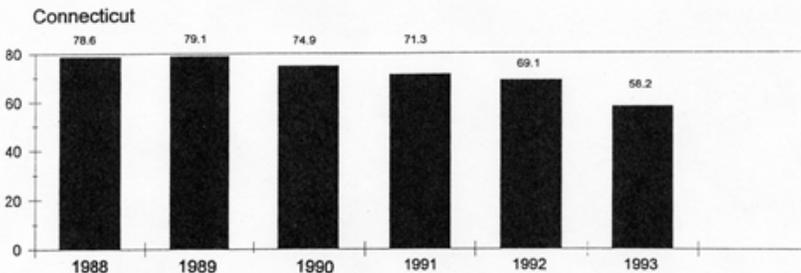
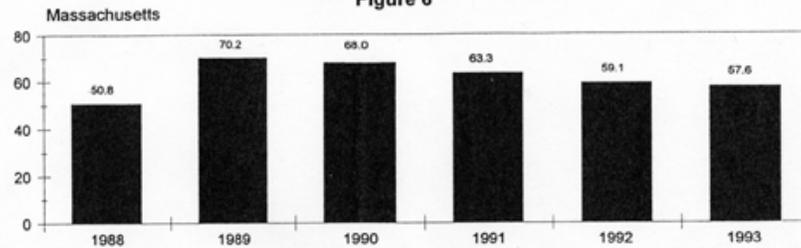
Source: Department of Defense, Prime Contract Awards by State

**Defense Prime Contract Awards
(Millions of Dollars) Figure 5**

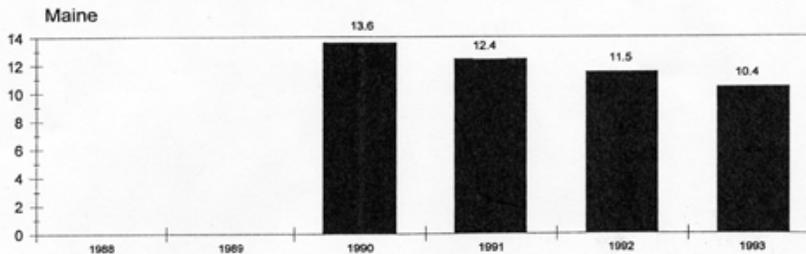


Source: Department of Defense, Prime Contract Awards by State

**New England Employment
in Defense Intensive Industries
Figure 6**

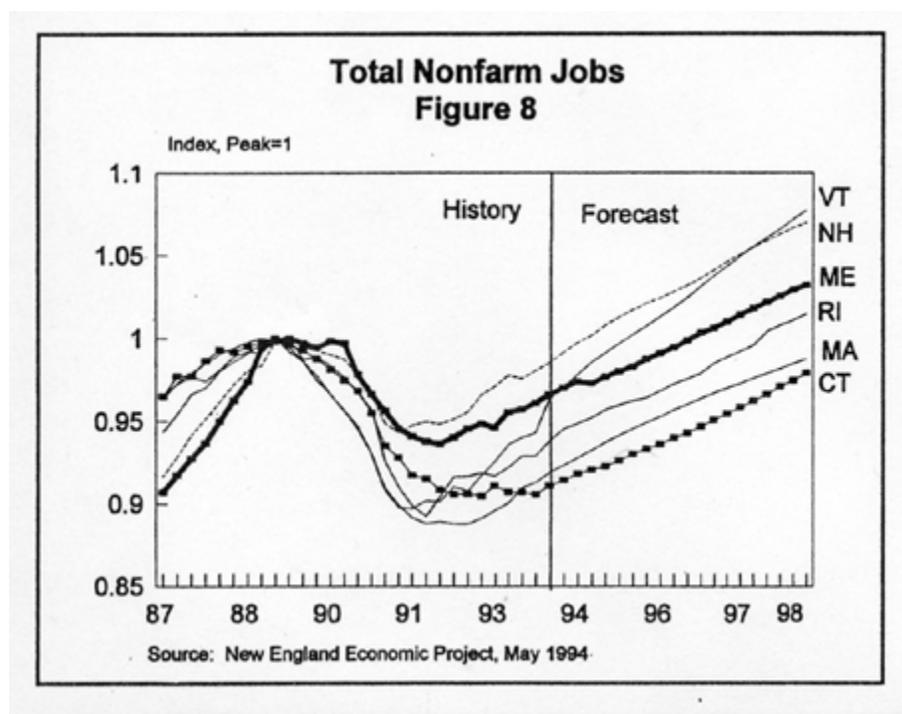
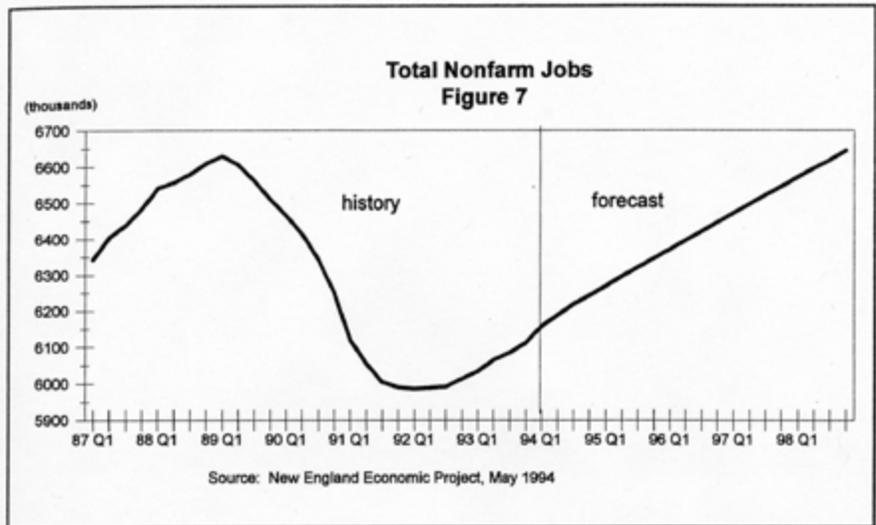


(Excludes Electric Boats because of disclosure restrictions)



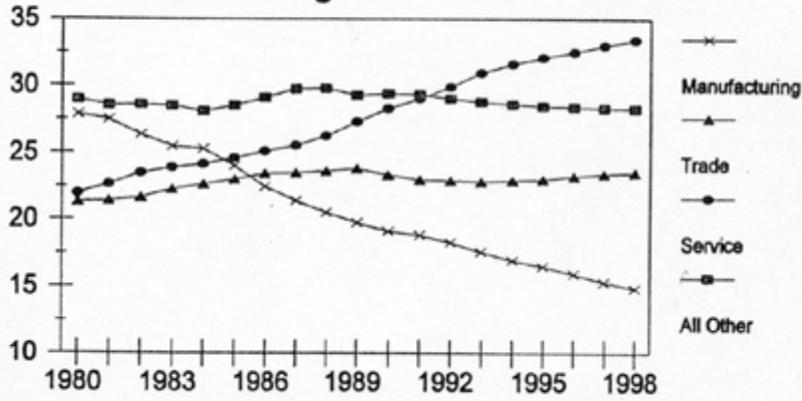
(Prior to 1990, ship Building and Repairing employment was not disclosed.)

Source: Estimates by the Federal Reserve Bank of Boston based on data from the Massachusetts Department of Employment and Training, Connecticut Department of Labor, and Maine Division of Economic Analysis and Research.



Industry Employment as a Percent of Total New England Employment

Figure 9



Source: New England Economic Project, May 1994

Tables

Table 1
Defense-Related Employment in the New England States and Nationally, FY 1992

	Total Defense-Related Employment Relative to 1992 Total State Employment		
	Thousands	Percent	Rank*
Connecticut	98.2	5.9	5
Maine	26.6	4.3	19
Massachusetts	143.4	5.0	13
New Hampshire	16.2	2.7	35
Rhode Island	19.4	4.0	23
Vermont	6.4	2.1	42
U.S. Total	4845.0	4.1	—

*1 = highest share among the 50 states.

Source: Steven Kosiak and Richard A. Bitzinger, "Potential Impact of Defense Spending Reductions on the Defense-Related Labor Force by State," Defense Budget Project, May 1993 and author's calculations.

Table 2
Defense-Related Employment in the New England States and Nationally, FY 1992

	Defense-Related Industry Employment Relative to 1992 Total State Employment		
	Thousands	Percent	Rank*
Connecticut	86.9	5.2	1
Maine	13.6	2.2	18
Massachusetts	125.2	4.4	2
New Hampshire	14.4	2.4	13
Rhode Island	11.4	2.4	13
Vermont	5.6	1.8	26
U.S. Total	2761.4	2.3	—

*1 = highest share among the 50 states.

Source: Steven Kosiak and Richard A. Bitzinger, "Potential Impact of Defense Spending Reductions on the Defense-Related Labor Force by State," Defense Budget Project, May 1993 and author's calculations.

Table 3

**Defense-Intensive Industries
(40 percent or greater dependency)**

- SIC 348: Ordnance & accessories
- SIC 372: Aircraft & parts
- SIC 3731: Ship building & repairing
- SIC 376: Guided missiles & space vehicles
- SIC 3795: Tanks & tank components
- SIC 381: Search & navigation equipment
- SIC 3663: Radio & TV communications
- SIC 3669: Communications equipment, not elsewhere classified
- SIC 2892: Explosives
- SIC 8731: Commercial physical research
- SIC 8732: Commercial nonphysical research
- SIC 8734: Testing laboratories