6/13/2011

The Job Opportunity Cost of War

Heidi Garrett-Peltier

Political Economy Research Institute

Military spending is a source of job creation. Wars stimulate demand for various outputs such as aircraft, ammunition, and uniforms. Domestic industries which produce these goods may thrive during wartime, employing people who might otherwise be unemployed. Defense spending by the federal government is therefore upheld not only as a source of national security but is also considered vital to economic recovery and employment. But what is the opportunity cost? Does military spending create more jobs than other pursuits? Funds that are channeled to the military could otherwise have been spent in industries such as healthcare, education, or clean energy. As we will see, public funds would have created more jobs in the past decade by supporting any of these domestic priorities rather than being spent on national defense.

Over the past decade, since the start of the wars in Iraq and Afghanistan, defense spending by the U.S. federal government has increased from about $300 billion per year to close to $700 billion per year. This amount represents the federal expenditures on military personnel, operations and maintenance, procurement, research, construction, and housing, as reported by the Office of Management and Budget[1]. This rise in defense spending was much more rapid than the rise in Gross Domestic Product over the same period. According to the Bureau of Economic Analysis, GDP rose approximately 50 percent from 2001 to 2010, from about $10.3 trillion to about $14.7 trillion. Meanwhile, defense spending grew by over 200 percent. In 2001, therefore, federal defense spending made up 2.96 percent of GDP and by 2010 that share rose to 4.73. This increase in defense spending has an opportunity cost. The difference in 2010 between 4.73 percent and 2.96 percent of GDP was $260 billion dollars. If defense spending had remained at 2.96 percent of GDP over the period 2001-2010, rather than continuing to rise each year, the cumulative savings to the federal government would have been close to $1.3 trillion, or an average of $130 billion per year.

Figure 1 about here

Were these $1.3 trillion wisely spent on wartime activities? Focusing strictly on the employment effects and leaving ethical questions aside, we find that military spending indeed posed an opportunity cost to the economy. Even though military spending created many jobs over the past decade, many more jobs could have been created if we had targeted this spending to other domestic programs rather than to war.

By using an input-output model, we can estimate the employment effects of military spending and compare that to spending the same amount of federal dollars on education, healthcare, or clean energy. This type of model traces supply and demand linkages throughout the economy and allows us to measure both the direct and indirect employment effects of any type of spending. When a given amount of money is spent on procuring aircraft, jobs are directly created in aircraft manufacturing and are indirectly created in other industries such as steel and electronics. Likewise, if spending increases in education, direct jobs

[1] U.S. Office of Management and Budget, "Budget of the United States Government, Historical Tables, Table 3.2 "

are created for teachers while indirect jobs are created in book publishing and school building construction. By using the I-O model to estimate both the direct and indirect effects of federal spending, we therefore measure the full employment impacts and can assess the true opportunity costs, in terms of jobs, of defense spending.[2]

For each million dollars, federal defense spending creates 8.3 jobs both directly and indirectly in the economy. These are jobs not only for the military personnel themselves, but also jobs in vehicle manufacturing, construction, ammunitions production, and other industries which supply goods and services to the military. As we see from the figure below, the same million dollars spent in other industries such as healthcare, education, or energy efficiency, creates a greater number of jobs than military spending.

Figure 2 about here

In contrast to the 8.3 jobs created by $1 million in defense spending, that same level of spending would create 15.5 jobs in public education, 14.3 jobs in healthcare, 12 jobs in home weatherization, or about the same number of jobs in various renewable energy technologies. Thus it is a fallacy to claim that we need war spending in order to bolster the economy. We see here that investments in renewable energy such as solar, wind, or biomass, would create just as many jobs as military spending. Efficiency programs such as weatherization of homes and public buildings would create about 1.5 times as many jobs, and federal support for healthcare and education would create twice as many as the same level of military spending.

The $1.3 trillion of war spending in the past decade averages out to $130 billion per year. While these funds did indeed create jobs in the military and in related sectors, the opportunity cost of this spending is the additional jobs that would have been created if we had spent these funds on other domestic programs. $130 billion per year could have created a net increase in of almost one million jobs in education or 780,000 jobs in healthcare.[3,4] Alternatively, the federal government could have increased its support for energy efficiency programs such as weatherization of homes and public buildings, or increasing the infrastructure and operations for mass transit. $130 billion per year in these efficiency programs would have created a net increase of about half a million jobs each year. Spending in renewable energy programs would have created approximately the same number of jobs as the military, but would have contributed to combating climate change and building a more sustainable energy infrastructure.

Why are more jobs created in one industry than another? The three reasons why the same amount of spending generates differences in employment creation are: (1) labor intensity; (2) domestic content; and (3) wages. Industries such as education and building weatherization are labor-intensive. For a given level of spending, more of those dollars go toward hiring workers and less on equipment and materials. Secondly, the domestic content of industries such as education, healthcare, and construction is much higher than the domestic content of military spending – a greater percentage of the spending in these industries stays within the U.S., to hire domestic workers and buy domestic materials. Military spending presents a much bigger leakage to the economy, as military personnel spend more of their earnings abroad

[2] The input-output model used for this analysis is the IMPLAN v3 model with the 2008 U.S. national data set.
[3] We assume here that the education funds are distributed to state and local governments to fund public education in primary, secondary, and higher education.
[4] These are net figures. For example, $130 billion in education (15.5 jobs per $1 million) versus the same amount in military spending (8.3 jobs per $1 million) is calculated as $130 * (15500-8300) = 936,000.

and more equipment and materials are procured from outside the U.S. Finally, all else equal, if worker compensation is lower in industry A than industry B, the same pot of money can hire more workers in industry A than in B. Since wages, and particularly benefits, are lower in education, healthcare, and energy efficiency than they are for the military, the employment effects are greater in these industries.[5]

The opportunity cost of the $130 billion per year spent on the Iraq and Afghanistan wars is represented in figure 3. The blue bars in this figure represent the jobs created, directly and indirectly, by actual federal defense spending. The purple bars represent the jobs that would have been created if we had maintained defense expenditures at 2.96 percent of GDP throughout the period and spent the balance on a combination of public education, healthcare, and energy efficiency.[6]

Figure 3 about here

In 2010, this alternative package of spending would have created 7.3 million jobs, of which 3.6 million would have been through military activities and 3.7 million in a combination of education, healthcare, and energy efficiency. However in reality the full amount of this spending was directed at wartime activities, and thus only 5.8 million jobs were created. While this represents a significant amount of employment creation, it is 1.5 million jobs fewer than the alternative and thus is a significant opportunity cost for the U.S. economy. On average over the decade, close to 800,000 permanent jobs could have been created if we had not spent an escalating share of our GDP on war.

Over the period 2001-2010 the federal government more than doubled its defense expenditures, from $300 billion to $700 billion, mainly attributable to the wars in Afghanistan and Iraq. Absent these wars, federal expenditures could instead have been channeled to other areas of domestic importance. These wars therefore led not only to the loss of life but also to lost opportunities. Spending federal funds on a combination of education, healthcare, and energy efficiency could have created 800,000 more jobs than spending on war.

[5] For a more complete discussion of these issues, see Pollin and Garrett-Peltier, 2010, "The U.S. Employment Effects of Military and Domestic Spending Priorities: An Updated Analysis" at www.peri.umass.edu

[6] The alternative package is a weighted average of 38.5% education, 38.5% healthcare, and 23% weatherization. This would be the equivalent of $50 billion education, $50 billion healthcare, and $30 billion weatherization spending in an average year of $130 billion spending diverted from war activities.

Figure 1

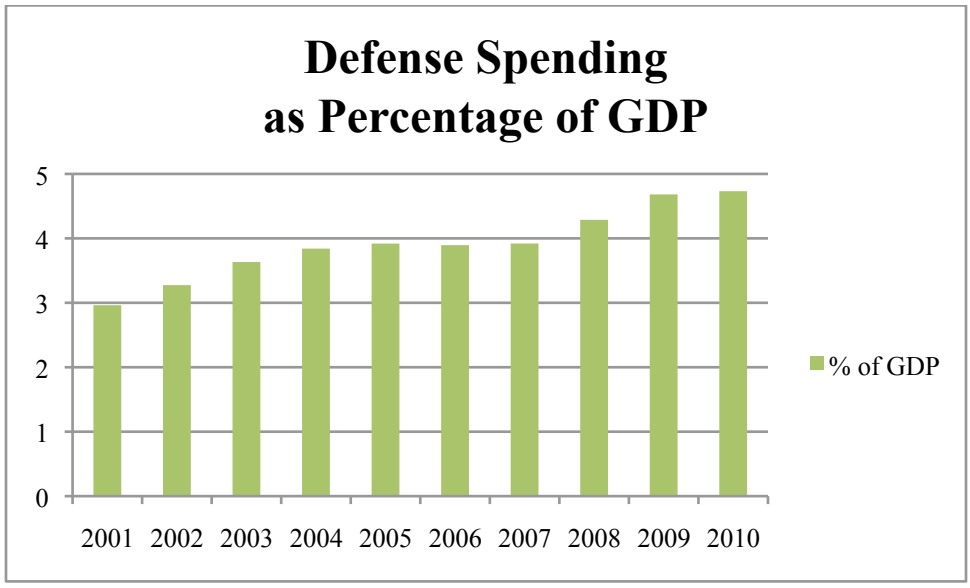


Figure 2

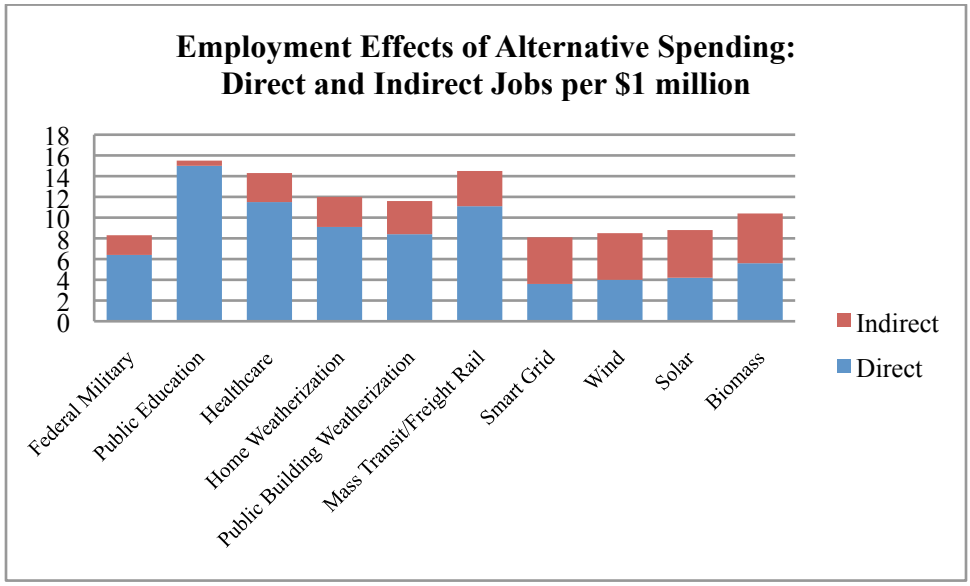
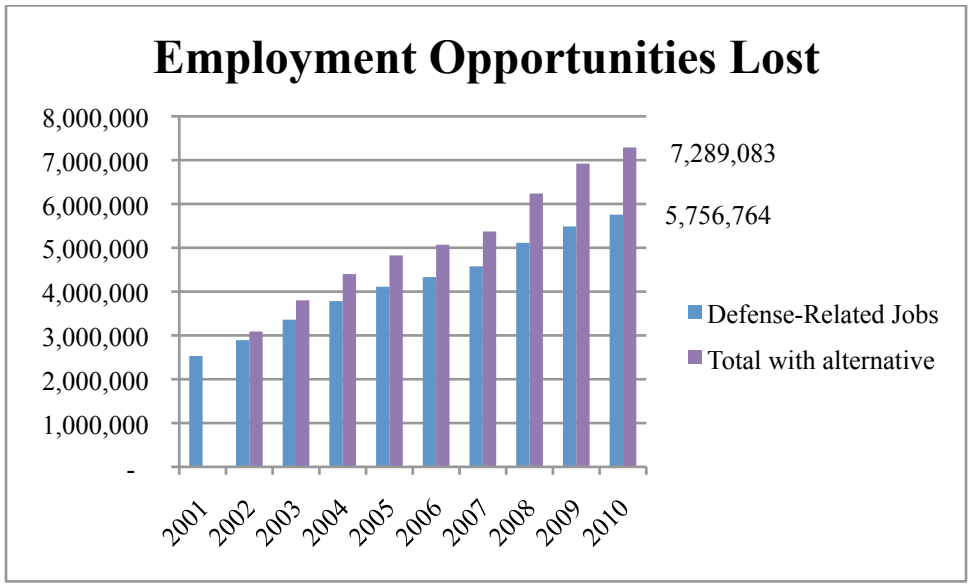


Figure 3


Employment Opportunities Lost
8,000,000
7,000,000
6,000,000
5,000,000
4,000,000
3,000,000
2,000,000
1,000,000
-
7,289,083
5,756,764
Defense-Related Jobs
Total with alternative
2001
2002
2003
2004
2005
2006
2007
2008
2009
2010