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The U.S. government spent an estimated $572 billion on the military in 2007. This amounts to about $1,800 for every resident of the country. The level of military spending has risen dramatically since 2001, with the increases beginning even before September 11, 2001. In total dollar terms (after controlling for inflation), military spending has risen at an average rate of 10 percent per year from 2000 – 2006, the full years of the Bush presidency to date. By contrast, the overall U.S. economy grew at an average annual rate of 2.7 percent. As a share of GDP, the military budget rose from 3.0 to 4.4 percent of GDP during the Bush Presidency. At the current size of the economy, a difference between a military budget at 4.4 rather than 3.0 percent of GDP amounts to $134 billion.

The largest increases in the military budget during the Bush presidency have been associated with the Afghanistan and especially the Iraq wars. The Iraq war alone now costs an average of $360 million a day (according to the Congressional Research Service), or $138 billion over the 2007 fiscal year. Thus, the $138 billion spent on Iraq in 2007 was basically equal to the total increase in military spending resulting from moving the military budget from 3.0 to 4.4 percent of GDP.

Amid the debates on the political and strategic merits of the Iraq war, one aspect of the current level of military spending by the U.S. government that has been largely neglected is its effects on the U.S. economy. $600 billion is a vast sum of money—greater than the combined GDP of Sweden and Thailand, and eight times the amount of U.S. federal spending on education. It is therefore reasonable to ask what the benefits might be to U.S. taxpayers if some significant share of the $600 billion now going to the military were instead devoted to alternative domestic purposes, such as health care, education, or the environment.

A view is often expressed that the military budget is a cornerstone of the U.S. economy. The Pentagon is often said to be a major underwriter of, and stimulus to, important technical innovations. It is also often cited as a major employer, providing good jobs—jobs that are stable and at least decently paid—to millions of Americans.

At one level, these claims cannot help but be true. If the U.S. government is spending upwards of $600 billion on maintaining and strengthening the military, how could the necessary expenditures on building technologically sophisticated weapons, along with transportation and communications systems, fail to encourage technical innovations that are somehow connected to these instruments of warfare? It is true that investments in military technology have produced important spin-offs for civilian purposes, the Internet being the most spectacular such example. At the same time, channeling $600 billon into areas such as renewable energy, mass transportation and health care would also create a hothouse environment supporting new technologies.

Parallel considerations arise in assessing the impact of the military budget on employment in the U.S. The $600 billion military budget creates approximately five million jobs, both within the military itself and in all the civilian industries connected to the military. And precisely because of the high demands for technologically advanced equipment in the military, a good proportion of the jobs created by the military budget will be well-paying and professionally challenging. But again, this will also be true when funds are spent in other areas that entail using and developing new technologies, such as for health care, energy conservation, or renewable energy.

Thus, if we want to give a balanced account of the impact of military spending on the U.S. economy, including the employment situation, the only appropriate way to do this is to examine the issue in relative terms—i.e. what is the impact of spending a given sum of money on the military versus spending the same funds on some combination of non-military alternatives?

This study is focused on the employment effects of military spending versus channeling some significant part of the military budget into alternative purposes. We begin by introducing the basic input-output modeling technique for considering issues such as these in a systematic way. We also review the results of earlier efforts to compare the employment effects of military spending versus alternative government spending priorities.

We then present some simple alternative spending scenarios, namely devoting $1 billion to the military versus the same amount of money spent for five alternatives: tax cuts which produce increased levels of personal consumption; health care; education; mass transit; and construction targeted at home weatherization and infrastructure repair. We have included tax cuts/personal consumption in this list since it is the most straightforward alternative spending use—that the money freed up from a reduction in military spending goes back directly to taxpayers for them to use as they see fit. We have also, reluctantly, excluded a category for renewable energy investments. This is only because the data now available to us are not adequate to make reliable estimates as to the employment effects of investments in renewable energy projects.[1] As a provisional substitute, one can consider the categories of mass transit and construction on home weatherization as constituting investments in energy conservation.

[1] One of the ongoing projects at PERI is to create a reliable data base showing the employment effects of investments in renewable energy. We expect that we will have such data available by Spring 2008.

How many jobs are created by each of these alternatives and what is the quality of the jobs being created? Our first conclusion in assessing such relative employment impacts is straightforward: $1 billion spent on personal consumption, health care, education, mass transit, and construction for home weatherization and infrastructure will all create more jobs within the U.S. economy than would the same $1 billion spent on the military.

But this conclusion raises an obvious question: do we create more jobs through these non-military spending targets simply by substituting well-paying jobs associated with the military with poorly-paid jobs associated with the alternatives? In fact, spending on personal consumption does produce a preponderance of poorly-paid jobs, such that the total compensation flowing to workers will be lower than through $1 billion going to the military. However, the opposite is true with education as the spending target. Here, both the total number of jobs created as well as the average pay are both higher than with the military. The situations with health care, mass transit and home weatherization/infrastructure construction are less clear-cut. More jobs will be created than with military spending, and the total compensation will also be significantly higher than with military spending. But the average pay for a health-care worker or those engaged in mass transit or construction will be lower than with the military. After presenting these findings, we examine them in a broader context—i.e. assessing the overall welfare impacts of the alternative employment outcomes.

We conclude the study with a brief series of summary observations.

Previous Studies of Job Effects of Alternative Spending Priorities

The basic tool for estimating the net overall employment effects of alternative government spending priorities in the United States is the input-output model of the U.S. economy, produced every five years and updated annually by the Department of Commerce. The input-output analytic framework was first developed in the 1930s by Nobel Laureate economist Wassily Leontief, with many subsequent refinements by Leontief and others. An input-output model traces through all of the factors—i.e. inputs—that go into producing a given output. For example, we can observe through the input-output model of the U.S. economy how many and what types of workers, how much and what types of equipment, and how much energy (all inputs) are needed to produce a military fighter airplane, tank or warship (outputs). We can also observe what the equivalent requirements would be to keep an existing elementary school or hospital functioning or to build a new school or hospital.

To estimate the overall employment effects of any given spending target, such as a warplane or a school, we have to consider three factors within the overall the input-output model:

1. *Direct effects*—the jobs created by producing the warplane or school

2. *Indirect effects*—the jobs associated with industries that supply intermediate goods for building a warplane, school, or any other direct spending target. These would include the steel, glass, tire, and

electronic industries for building a warplane; and concrete, glass, and trucking industries for building a school.

3. *Induced effects*—The expansion of employment that results when people who are paid to build a warplane or school spend the money they have earned on other products in the economy.

How could one spending target create more jobs for a given amount of expenditure than another? If we compare, for example, military spending with education, there are only three possibilities:

1. The average pay for all of the industries associated with education—including direct, indirect, and induced effects—is lower than the average pay for the military-related industries.

2. The average "labor intensity" of the education-related industries—i.e. number of jobs created per dollar of spending, as opposed to the amount spent on machinery, buildings, energy, land and other inputs—is higher than the labor intensity of military-related industries.

3. The overall job creation effects within the U.S. economy—as opposed to the rest-of-the-world—are higher for education than the military. For example, we roughly estimate that U.S. military personnel spend only 43 percent of their income on domestic goods and services (including import purchases in this calculation) while the U.S. civilian population, on average, spends 78 percent of their income on domestic products.

To enable the input-output model to address specific questions both on the quantity of jobs created, the classification of these jobs by category, and the compensation levels associated with them, we have to then incorporate data from the U.S. labor force surveys into the input-output framework. Operating this kind of economic model clearly entails large numbers of technical manipulations and calculations. At the same time, the U.S. economy is a $13 trillion operation, involving millions of interactions, operations, and innovations on a daily basis. There is no model—input-output model or otherwise—that can capture with precision every detail of what is actually happening on the ground. Still, the input-output model can accurately capture broad parameters of economic reality, including those relating to the question on which we are focusing, the relative employment effects of military versus non-military spending initiatives.

In 1961, Professor Leontief himself used input-output modeling to study the effects of demilitarization on the economy. In his essay entitled, "The Economic Effects of Disarmament," Leontief estimated how employment and overall output would change as a result of a shift in spending from the defense industry to non-defense. He showed that while cutting military spending would eliminate a substantial number of jobs, twice as many jobs would be created in expanding spending on alternative domestic purposes.

Professor Seymour Melman, an industrial economist and engineer, also examined the employment and output effects of military versus non-military spending alternatives in a series of research projects over the 1960s – 1980s.[2] Melman demonstrated repeatedly that the net effects of

[2] See, for example, *The Demilitarized Society: Disarmament and Conversion*, 1988.

increasing the proportional share of non-military spending would be beneficial in terms of jobs and overall output. He also stressed that investment in non-defense industries would offer large benefits in terms of encouraging new technologies and raising average living standards in the United States.

In the 1990's, two separate studies were published which used input-output analysis and as well as supplemental modeling techniques to estimate the effects of conversion. One was a 1993 paper by Professor James Medoff, entitled "Smart Stimulus: More Good Jobs." The other was a 1990 study by Marion Anderson, Greg Bischak and Michael Oden entitled "Converting the American Economy."

Medoff used the 1987 input-output model of the U.S. economy to estimate the relationship between different types of spending—for example, military, state government, private investment and consumption—on employment, that is, focusing on the same questions that we are addressing here. Medoff created a number of indices to illustrate both the job quantity and job quality effects of alternative types of spending—looking specifically at the number of jobs created through alternative spending targets and the average compensation levels associated with the various types of jobs created.

Medoff found that personal consumption expenditures had the lowest positive impact on his index that combined both the number of jobs created and the wages and benefits of jobs. Defense spending was the next to last by this combined job quality/quantity index. Medoff found that spending for education, health care, transportation infrastructure and construction all performed substantially better than military spending by this combined job quantity/quality index.

Anderson et al. use a somewhat different technique than Medoff. They relied on a model developed by the Employment Research Associates and Regional Economic Models Incorporated (REMI) that combines an input-output model with other statistical techniques in estimating the relative employment effects of military spending versus spending on alternative domestic purposes.[3] This study was conducted in 1990, but offers projections of employment effects through 1994. It reports detailed projections of the net job impacts by occupation – both within the military and civilian sectors and also within branches of the military and sectors of the civilian economy. For example, they found that the impact of a gradual reduction in military spending, starting with $35

[3] In principle at least, the approach of the REMI model addresses a significant limitation of the input-output model. This limitation is that the input-output model assumes that the overall structure of the economy will remain the same despite any changes in the level of spending. For example, if spending on the military were to decline and construction spending increased, it is likely that, in reality, prices of construction materials would rise as a result. Wages for construction workers could also rise. Such effects are not incorporated into the input-output model. The input-output model rather works from a simplifying "fixed coefficient" assumption, meaning that the model assumes the basic price and wage relationships would stay fixed despite the changes in spending. The REMI model is among the type of models that tries to incorporate such effects. In principle, the REMI-type model provides a fuller picture of what actually happens when spending priorities in the economy change. In practice, these sorts of changes are very difficult to model accurately. As such, in many cases, the simpler input-output model provides as good as approximation of the overall effects as one is likely to generate from this sort of modeling exercise.

billion in 1990 and reaching $105 billion in 1994, would produce a net gain of 477,000 jobs within the U.S. economy.

Employment Effects of $1 Billion in Spending for Alternative Purposes

We present in Table 1 our estimate of the relative effects of spending $1 billion on alternative uses, including military spending, health care, education, mass transit, and construction for home weatherization and infrastructure repair. Our estimates are derived from the 2005 U.S. input-output model, along with other data sources on national income and employment within the United States. We show the full list of our data sources in the Appendix.

Table 1. Overall Employment Effects of Spending $1 Billion for Alternative Spending Targets in U.S. Economy, 2005

	(1) # of jobs created	(2) # of jobs relative to defense spending	(3) average wages and benefits per worker	(4) average wages and benefits relative to defense	(5) total wages and benefits from employment in millions	(6) total wages and benefits relative to defense
spending targets						
1. defense	8,555	---	$65,986	---	$564.5 million	---
2. tax cuts for personal consumption	10,779	+26.2%	$46,819	-29.1%	$504.6 million	- 10.7%
3. health care	12,883	+50.2%	$56,668	-14.2%	$730.1 million	+29.3%
4. education	17,687	+106.7%	$74,024	+12.2%	$1,309.3 million	+131.9%
5. mass transit	19,795	+131.4%	$44,462	-32.6%	$880.1 million	+55.9%
6. construction for home weatherization/ infrastructure	12,804	+49.7%	$51,812	-21.5%	$693.7 million	+22.9%

Sources: See Appendix

The table first shows in column 1 the data on the total number of jobs created by $1 billion in spending for alternative end uses. As we see, defense spending creates 8,555 total jobs with $1 billion in spending. This is the fewest number of jobs of any of the alternative uses that we present. Thus, personal consumption generates 10,779 jobs, 26.2 percent more than defense, health care generates 12,883 jobs, education generates 17,687, mass transit is at 19,795, and construction for weatherization/infrastructure is 12,804. From this list we see that with two of the categories,

education and mass transit, the total number of jobs created with $1 billion in spending is more than twice as many as with defense.

We next consider the differences in the compensation in the jobs associated with our alternative spending targets. If the only way that more jobs are created is by lowering pay levels, then we can question whether the net job impact of an alternative use of funds is superior to spending on defense. As we see in columns 3 and 4 of Table 1, the average wages and benefits from defense spending are higher than all the alternative uses other than education. The average overall compensation for defense, at $65,986, is almost 33 percent higher than for mass transit, 29 percent higher than for personal consumption, 22 percent higher than for home weatherization/ infrastructure construction, and 14 percent higher than health care. Education is the only spending target generating a higher average compensation level, at $74,024.

Is it better for overall economic welfare to generate more jobs, even if they are low-paying, or a fewer number of well-paying jobs? There isn't a single correct answer to this question. It would depend on the magnitude of these differences—i.e. how many low-paying jobs are being generated, and how bad are these jobs? How many high-quality jobs would be sacrificed through a transition out of the military, where, as we have seen, at least, the average wage is generally high?

One simple standard is to compare the total amount of compensation that is received by workers through these alternative end uses. This would simply be the figure generated by the total number of people employed by each of the end uses multiplied by the average total compensation package for each job.[4] We see these figures in columns 5 and 6 of Table 1. As we see, the total compensation from $1 billion in defense spending generates $564.5 billion in total compensation. Personal consumption is the only spending target that is lower than defense in overall compensation, at $504.6 million. In other words, with personal consumption spending, even though it creates 26 percent more jobs than defense, because the average compensation is 29 percent lower, the effect for the overall economy is 10 percent less in total compensation.

The picture is reversed with the other alternative spending targets. With all four of these, the total amount of compensation generated ranges between 23 – 132 percent more than the $1 billion spent on defense. Education has the strongest overall effect, generating $1.3 billion in total compensation from the 17,687 jobs created.[5]

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[4] This is the basic standard considered by Medoff in developing his "relative job quality" index. In fact, Medoff's terminology here is a bit misleading, since the relative job quality index is actually the product of multiplying total number of jobs created by total compensation—i.e. it combines a quantity and quality measure. It is not a quality measure alone.

[5] How is it possible for $1 billion in new spending to generated more than $1 billion in total compensation? The answer is that we have to recognize again that the overall employment effects combines three factors—the direct spending increases within the targeted industry itself; the indirect spending increases from industries that supply inputs to the target industry; and the induced increase in spending, generated by those who are newly employed spending their wages in the economy. It is through the combination of direct, indirect, and induced spending injections that, for the direct $1 billion increase in education spending, the overall effect on increased compensation will be $1.3 billion.

Beyond looking at average and total compensation for each spending category, it will also be useful to consider more fully the specific types of jobs that are linked to each of the spending areas and the proportions of poorly-paid and highly paid jobs in these various areas.

In Table 2, we show the breakdown of the distribution of jobs that will be generated through $1 billion in spending in each of the targeted areas. These job effects are broken down into 15 separate industries within the U.S. economy. We can also observe the same effects through a more fine-grained, 65-industry breakdown. But for our purposes here, the 15-industry categories are sufficient to show overall patterns. We will refer below to some of the more specific figures from the 65-industry breakdown.

Table 2. Jobs Created through $1 Billion in New Spending: Comparison of Alternative Spending Targets

	defense	tax cuts for personal consumption	education	healthcare	mass transit	construction for home weatherization/ infrastructure
TOTAL JOBS	**8,555**	**10,779**	**17,687**	**12,883**	**19,795**	**12,804**
agriculture, forestry, fishing, and hunting	24	237	32	52	18	172
mining	18	41	13	16	46	64
utilities	13	58	15	17	10	15
construction	193	83	192	69	27	7,715
manufacturing	1,240	1,219	396	537	675	1,700
wholesale trade	218	424	113	148	333	340
retail trade	38	1,391	50	52	76	651
transportation and warehousing	230	366	151	180	16,692	315
information	218	221	175	117	95	100
finance, insurance, real estate, rental, and leasing	203	846	309	282	244	224
professional and business services	1,748	1,361	1,237	1,380	1,102	1,059
educational services, health care, and social assistance	166	2,148	14,515	9,364	10	10
arts, entertainment, recreation, accommo-dation, and food services	171	1,364	147	325	92	115
other services, except government	172	870	201	179	262	247
government	3,902	151	141	165	114	77

Sources: See Appendix

We see in Table 2 that, with defense, by far the largest number of jobs created will be with the government—3,902 out of a total of 8,555 jobs (46 percent). The next largest area of job creation with defense is professional and business services, with 1,748 (20 percent).

Of the alternative spending areas, personal consumption has the largest dispersion of jobs created—with large numbers in retail, health care, education, professional services, and accommodations/food services. Education, health care, mass transit, and construction for home weatherization/infrastructure are all heavily concentrated in a few areas—education itself, health care itself, construction itself, and transportation/warehousing.

What about the distribution of wages in the various job areas? It is difficult to obtain a precise sense of this, because the detailed data on wages aren't categorized in the same ways as the input-output industry categories. Moreover, to obtain a clear sense of the wages in various activities, one needs a more detailed breakdown of industries than the 15-industry categories.

In Table 3, we present some relevant figures that draw selectively on the more detailed 65-industry occupational categories. Though we still do not have exact matching between the employment categories for wages and the industry categories for the input-output model, this table nevertheless provides some relatively accurate perspective on job quality related to the various spending priorities.

Table 3. Percentage of Low- and High-Paying Jobs in Activities Linked to Spending Targets

	percent of new employment	percent below $20,000/year	percent below $32,000/year	percent between $32,000 and $64,000/year	percent above $80,000/year
defense					
federal government	44.1	5.3	28.0	61.3	4.7
professional/business services	20.4	4.5	22.9	62.2	14.6
manufacturing	14.5	4.0	7.3	85.8	5.8
personal consumption expenditures					
retail trade	12.9	40.0	70.6	27.3	1.4
food services	8.9	68.1	95.3	4.3	0.3
hospitals and nursing care	8.2	15.3	46.3	43.2	4.8
education					
educational services	82.1	11.7	31.8	59.1	1.2
professional/business services	7.0	4.5	22.9	62.2	14.6
health care					
hospitals/nursing care/ambulatory care	72.5	15.3	46.3	43.2	4.3
professional/business services	7.0	4.5	22.9	62.2	4.8
mass transit					
transportation	76.4	5.8	36.5	60.2	1.0
professional/business services	10.6	4.5	22.9	62.2	4.8

weatherization and infrastructure repair					
construction	66.8	8.6	26.9	60.1	1.8
professional/business services	9.6	4.5	22.9	62.2	4.8

Sources: See Appendix

As the table shows, we present data for each of the job categories on the percentage of jobs paying annual incomes below $20,000 per year, below $32,000, between $32,000 and $64,000, and above $80,000. A wage below $20,000 would mean, on an hourly basis, less than $10 per hour for a full-time, year-round worker. This would be below any reasonable definition of a "living wage" in any community in the U.S.[6] The $32,000/ year would correspond to a $16 per hour wage for a full-time worker. This is a reasonable threshold wage for defining a minimally decent basic needs income standard. The $32,000 - $64,000 category incorporates a broad range of middle-class jobs. We finally present figures on the proportions earning above $80,000 per year. This will enable us to see the proportion of well-paying jobs in the different categories, and will therefore help address the issue of whether, if resources are moved out of the military, there would be a significant loss of good professional and technical job opportunities.

As the table shows, personal consumption spending is the only area where there are a substantially higher proportion of low-paying jobs relative to defense. In the cases of health care, mass transit, and construction for weatherization/infrastructure, our rough figures show about 5 – 10 percent more jobs paying below both $20,000 and $32,000 than with the military. Still, if we consider all the main categories of job expansion through spending on health care, mass transit and weatherization/infrastructure, a substantial majority of the jobs pay more than $32,000 per year, our threshold figure for a minimally decent income for a full-time worker. With education, the differences are smaller, reflecting the fact that, overall, education as a spending target will generate a higher average increase in compensation than defense in addition to creating more jobs.

How can spending on education generate both higher average wages as well as more new jobs per $1 billion in spending? The answer is straightforward. For one thing, the high average wage reflects the fact that a large proportion of people in the sector operate with relatively high credentials and skills, and their incomes reflect this. In addition, education is a relatively labor-intensive industry. This means that, compared with the other industries we are examining, for every $1 billion in new spending in education, proportionally more money is spent on hiring new people into the industry and relatively less is spent on supplies, equipment, buildings.

By contrast with respect to personal consumption, health care, mass transit or home weatherization/infrastructure, what is clear again in Table 3 is that part of the way that more jobs are created per dollar of spending in these industries is that a higher proportion of low-paying jobs will be created than through military spending. This situation is most serious with respect to personal consumption. This is a good reason for avoiding tax cuts as a means of promoting job creation. For

[6] See the discussions on living wage standards in Pollin 2007 and Pollin et al. 2008.

example, using the savings from a reduction in the military budget to lower taxes primarily for the wealthy—which has been a major domestic policy priority under the Bush Administration—would primarily produce more consumption for the well off along with a relatively weak payoff in terms of promoting decent jobs.

The situation is different with health care, mass transit and construction for home weatherization/infrastructure. All of these should be high public priorities independent of their employment effects. In all three areas, unlike personal consumption, shifting funds from the military will create both more jobs and an increase in overall income for workers. The overall level of compensation per job will fall, and a higher proportion of low-paying jobs will increase. But these effects can be counterbalanced through combining these spending priorities with education, where, as we have seen, the general level of pay is high. It will also be the case that wages are likely to rise somewhat in the areas that become targets for increased spending. For example, a rising demand for construction workers to work on home weatherization projects should lead to rising wages in that industry.

Conclusion

The U.S. government now operates with a military budget of nearly $600 billion per year. This is a 66 percent increase (in real dollars) relative to the level of spending in 2000. It amounts to 4.4 percent of GDP. An expenditure level of this magnitude will necessarily have a major impact in establishing the country's policy priorities and overall economic trajectory.

We have shown what are the employment effects of spending on the military in contrast with five domestic spending categories. Specifically, we have shown that spending on personal consumption, health care, education, mass transit, and construction for home weatherization and infrastructure repair all create more jobs per $1 billon in expenditures relative to military spending.

It is true that jobs generated by military spending tend to pay relatively well, which is part of the reason why fewer jobs are created per dollar of expenditure than through alternative spending targets. However, we have also seen that $1 billion in spending on education, on average, generates more than twice the number of jobs as military spending as well as higher-paying jobs. Spending on health care, mass transit, and home weatherization/infrastructure creates jobs at a lower average level of pay than military spending. But these three spending targets do create substantially more jobs than military spending, with an overall level of pay, combining all workers' paychecks and benefits, higher than the military. Moreover, a substantial majority of the jobs generated through a health care, mass transit or construction spending expansion will pay more than $32,000 per year, our rough threshold for a minimally decent income level. The majority of jobs pay between $32,000 - $64,000, a rough middle-income pay range. Health care, mass transit, home weatherization, and infrastructure repair are all also high priority areas for social spending. More spending in these areas could be combined with improving the average level of pay, while still creating more jobs per dollar of expenditure than the military.

Increased personal consumption resulting from tax cuts is the only alternative spending target that we examined that is inferior to military spending along two dimensions—both the average pay and the total amount of compensation per $1 billion in expenditures are lower. There is also no reason why expanding personal consumption expenditures—particularly of the already affluent, whose level of expenditures have risen sharply since the early 1990s—should be considered as a primary focus of social policy.

Overall then, there is a great deal at stake as policy makers and voters establish public policy spending priorities. As we have seen, by addressing social needs in the areas of health care, education, education, mass transit, home weatherization and infrastructure repairs, we would also create more jobs and, depending on the specifics of how such a reallocation is pursued, both an overall higher level of compensation for working people in the U.S. and a better average quality of jobs.

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Appendix: Data Sources

	Source	Table Name/Number	Location of Data Source
input-output tables	BEA	2005 Annual Industry Tables, Summary Level (65 industry)	http://www.bea.gov/industry/iotables/prod/table_list.cfm?anon=1650
employment	BEA	NIPA Table 6.8D, 2005	http://www.bea.gov/national/nipaweb/TableView.asp?SelectedTable=198&FirstYear=2004&LastYear=2005&Freq=Year
output	BEA	GDP by Industry: Gross Output by Industry, 2005	http://www.bea.gov/industry/gdpbyind_data.htm
wages and benefits	BLS	Employer Cost for Employee Compensation	http://data.bls.gov/cgi-bin/dsrv?cm
	Census Bureau	Federal Government Employment and Payroll data	http://ftp2.census.gov/govs/apes/05fedfun.pdf
	BLS	Current Employment Statistics	http://www.bls.gov/ces/home.htm
occupational data	BLS	May 2005 National Industry-Specific Occupational Employment and Wage Estimates	http://www.bls.gov/oes/2005/may/oessrci.htm

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