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Costs of Major U.S. Wars

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Summary

This CRS report provides estimates of the costs of major U.S. wars from the American Revolution through current conflicts in Iraq, Afghanistan, and elsewhere. It presents figures both in "current year dollars," that is, in prices in effect at the time of each war, and in inflation-adjusted "constant dollars" updated to the most recently available estimates of FY2011 prices. All estimates are of the costs of military operations only and do not include costs of veterans benefits, interest paid for borrowing money to finance wars, or assistance to allies. The report also provides estimates of the cost of each war as a share of Gross Domestic Product (GDP) during the peak year of each conflict and of overall defense spending as a share of GDP at the peak.

Comparisons of war costs over a 230-year period, however, are inherently problematic. One problem is how to separate costs of military operations from costs of forces in peacetime. In recent years, the Department of Defense (DOD) has tried to identify the additional "incremental" expenses of engaging in military operations, over and above the costs of maintaining standing military forces. Figures used in this report for the costs of the Vietnam War and of the 1990-1991 Persian Gulf War are official DOD estimates of the incremental costs of each conflict. Costs of post-9/11 military operations in Afghanistan, Iraq, and elsewhere are estimates of amounts appropriated to cover war-related expenses. These amounts appear to reflect a broader definition of war-related expenditures than earlier DOD estimates of incremental Vietnam or Persian Gulf War costs.

Before the Vietnam conflict, the Army and Navy, and later the DOD, did not identify incremental expenses of military operations. For the War of 1812 through World War II, CRS estimated the costs of conflicts by calculating the increase in expenditures of the Army and Navy compared to the average of the three years before each war. The premise is that increases reflect the cost of a temporary buildup to fight each war. Costs of the Revolutionary War and of the Confederate side in the Civil War are from other published sources. Costs of the Korean War were calculated by comparing DOD expenditures during the war with a trend line extending from the average of three years before the war to the average of three years after the war.

Figures are problematic, as well, because of difficulties in comparing prices from one vastly different era to another. Inflation is one issue—a dollar in the past would buy more than a dollar today. Perhaps a more significant problem is that wars appear vastly more expensive over time as the sophistication and cost of technology advances, both for military and for civilian purposes. The estimates presented in this report, therefore, should be treated, not as truly comparable figures on a continuum, but as snapshots of vastly different periods of U.S. history.

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A Trillion Dollars for Wars Since 9/11

Since the terrorist attacks of September 11, 2001, Congress has appropriated more than a trillion dollars for military operations in Afghanistan, Iraq, and elsewhere around the world. The House and Senate are now considering an additional request for $33 billion in supplemental funding for the remainder of FY2010, and the Administration has also requested $159 billion to cover costs of overseas operations in FY2011. In the face of these substantial and growing sums, a recurring question has been how the mounting costs of the nation's current wars compare to the costs of earlier conflicts.

The following table provides estimates of costs of major wars from the American Revolution through conflicts in Korea, Vietnam, and the Persian Gulf in 1990-1991. It also provides updated estimates of costs of current operations. Estimates are in current year dollars that reflect values at the time of each conflict and in constant dollars that reflect today's prices. The table also shows estimates of war costs as a share of the economy.

Table 1. Military Costs of Major U.S. Wars, 1775-2010

(Updated to include appropriations enacted and requested through FY2010)

	Years of War Spending	Peak Year of War Spending	
	Total Military Cost of War in Millions/Billions of Dollars	**War Cost % GDP in Peak Year of War**	**Total Defense % GDP in Peak Year of War**
American Revolution	**1775-1783**		
Current Year $	101 million	NA	NA
Constant FY2011$	2,407 million		
War of 1812	**1812-1815**	**1813**	
Current Year $	90 million	2.2%	2.7%
Constant FY2011$	1,553 million		
Mexican War	**1846-1849**	**1847**	
Current Year $	71 million	1.4%	1.9%
Constant FY2011$	2,376 million		
Civil War: Union	**1861-1865**	**1865**	
Current Year $	3,183 million	11.3%	11.7%
Constant FY2011$	59,631 million		
Civil War: Confederacy	**1861-1865**		
Current Year $	1,000 million	NA	NA
Constant FY2011$	20,111 million		
Spanish American War	**1898-1899**	**1899**	
Current Year $	283 million	1.1%	1.5%
Constant FY2011$	9,034 million		

	Years of War Spending	Peak Year of War Spending	
	Total Military Cost of War in Millions/Billions of Dollars	War Cost % GDP in Peak Year of War	Total Defense % GDP in Peak Year of War
World War I	**1917-1921**	**1919**	
Current Year $	20 billion	13.6%	14.1%
Constant FY2011$	334 billion		
World War II	**1941-1945**	**1945**	
Current Year $	296 billion	35.8%	37.5%
Constant FY2011$	4,104 billion		
Korea	**1950-1953**	**1952**	
Current Year $	30 billion	4.2%	13.2%
Constant FY2011$	341 billion		
Vietnam	**1965-1975**	**1968**	
Current Year $	111 billion	2.3%	9.5%
Constant FY2011$	738 billion		
Persian Gulf War[b]	**1990-1991**	**1991**	
Current Year $	61 billion	0.3%	4.6%
Constant FY2011$	102 billion		
Iraq[a]	**2003-2010**	**2008**	
Current Year $	715 billion	1.0%	4.3%
Constant FY2011$	784 billion		
Afghanistan/Other[ac]	**2001-2010**	**2010**	
Current Year $	297 billion	0.7%	4.9%
Constant FY2011$	321 billion		
Total Post-9/11—Iraq, Afghanistan/Other[d]	**2001-2010**	**2008**	
Current Year $	1,046 billion	1.2%	4.3%
Constant FY2011$	1,147 billion		

Sources: All estimates are of the costs of military operations only and do not reflect costs of veterans' benefits, interest on war-related debt, or assistance to allies. Except for costs of the American Revolution and the Civil War costs of the Confederacy, all estimates are based on U.S. government budget data. Current year dollar estimates of the costs of the War of 1812 though World War II represent the increase in Army and Navy outlays during the period of each war compared to average military spending in the previous three years. For the Civil War costs of the Confederacy, the estimate is from the *Statistical Abstract of the United States*, 1994. For the American Revolution, the estimate is from an unofficial financial history of the United States published in 1895. For the Korean War, the estimate represents increased expenditures of the DOD during the period of the conflict compared to the projected trend from the average of three years before the war to three years after. For the Vietnam War and the Persian Gulf War, figures are DOD estimates of the incremental costs of operations, meaning the costs of war-related activities over and above the regular, non-wartime costs of defense. For operations since September 11, 2001, through FY2009, figures reflect CRS estimates of amounts appropriated to cover war-related costs. For FY2010, figures are DOD estimates of war-related appropriations. The current-year dollar estimates are converted to constant prices using estimates of changes in the consumer price index for years prior to 1940 and using Office of Management and Budget and DOD estimates of defense

inflation for years thereafter. The CPI estimates used here are from a data base maintained at Oregon State University. The data base periodically updates figures for new official CPI estimates of the U.S. Department of Commerce.

a. Totals for post-9/11 operations include all funds appropriated through the enactment of FY2010 appropriations plus $33 billion in requested additional supplemental appropriations for FY2010. Totals are for activities of the DOD only and do not include costs of reconstruction assistance, diplomatic security, and other activities by other agencies. Figures for post-9/11 costs are for budget authority—all other figures are for outlays.

b. Most Persian Gulf War costs were offset by allied contributions or were absorbed by DOD. Net costs to U.S. taxpayers totaled $4.7 billion in current year dollars. Source: "Department of Defense Annual Report to Congress for Fiscal Year 1994," January, 1993.

c. Reflects funding for "Operation Enduring Freedom," the bulk of which is for operations in Afghanistan but which also includes amounts for operations in the Philippines, the Horn of Africa, and other areas.

d. Based on data available from DOD, CRS is not able to allocate $5.5 billion, in current year dollars, in FY2003 by mission. That amount is included here in the total for all post-9/11 operations. The total also includes $28 billion, in current year dollars, for enhanced security at domestic U.S. military bases from FY2001-FY2009.

Comparisons of costs of wars over a 230-year period, however, are inherently problematic. One problem is how to separate costs of military operations from costs of forces in peacetime. In recent years, the DOD has tried to identify the additional "incremental" expenses of engaging in military operations, over and above the costs of maintaining standing military forces. Before the Vietnam conflict, however, the Army and the Navy, and later the DOD, did not view war costs in such terms.

Figures are problematic, as well, because of difficulties in comparing prices from one vastly different era to another. Inflation is one issue—a dollar in the past would buy more than a dollar today. Perhaps a more significant problem is that wars appear more expensive over time as the sophistication and cost of technology advances, both for military and for civilian activities. Adjusted for inflation, the War of 1812 cost about $1.6 billion in today's prices, which appears, by contemporary standards, to be a relatively small amount. But using commonly available estimates of gross domestic product, the overall U.S. economy 192 years ago was less than 1/1,400th as large as it is now. So at the peak of the conflict in 1813, the war consumed more than 2% of the nation's measurable economic output, the equivalent of more than $300 billion today. The data in the attached table, therefore, should be treated, not as truly comparable figures on a continuum, but as snapshots of vastly different periods of U.S. history.

Varying Definitions of War Costs

For the Vietnam War and the 1990-1991 Persian Gulf War, the figures reported here are DOD estimates of the "incremental" costs of military operations (i.e., the costs of war-related activities over and above the normal, day-to-day costs of recruiting, paying, training, and equipping standing military forces). Estimates of the costs of post-9/11 operations in Afghanistan, Iraq, and elsewhere through FY2009 are by Amy Belasco of CRS, based on (1) amounts appropriated by Congress in budget accounts designated to cover war-related expenses and (2) allocations of funds in reports on obligations of appropriated amounts by the DOD.[1] Data for FY2010 are DOD

[1] For a full discussion see CRS Report RL33110, *The Cost of Iraq, Afghanistan, and Other Global War on Terror Operations Since 9/11*, by Amy Belasco.

estimates of costs defined quite similarly. These figures appear to reflect a broader definition of war-related expenses than earlier DOD estimates of incremental costs of the Vietnam and Persian Gulf conflicts.

In years prior to the Vietnam War, neither the Army and Navy, nor the DOD, nor any other agency or organization attempted to calculate incremental costs of war-related operations over and above the costs of peace-time activities. In the absence of official accounts of war expenditures, CRS estimated the costs of most earlier wars—except for the American Revolution, the Confederate side of the Civil War, and the Korean conflict—by comparing war-time expenditures of the Army and the Navy with average outlays for the three years prior to each war. The premise is that the cost of a war reflects, in each case, a temporary buildup of forces from the pre-war level.

During the Korean War, however, the United States engaged in a large buildup of forces not just for the war, but for deployments elsewhere in the world as well. For the Korean conflict, therefore, CRS compared outlays of the DOD during the war with a trend line from average expenditures of the three years before the war to average expenditures of the three years after the war.

Estimated costs of most conflicts, from the War of 1812 through the Korean War, are based on official reports on the budgets of the Army, Navy, and, for Korea, the Air Force. No official budget figures are available, however, for the Revolution or for the confederate states during the Civil War. The estimated cost of the American Revolution is from a financial history of the United States published in 1895 and cited in a Legislative Reference Service memo prepared in 1956.[2] The estimated Civil War cost of the confederacy is from the *Statistical Abstract of the United States* 1994 edition.

Sources of Data

Military Expenditures and GDP

Data on Army and Navy outlays prior to 1940 are from the Department of Commerce, *Historical Statistics of the United States from Colonial Times to 1970, Part 2*, 1975. GDP estimates prior to 1940 are from Louis D. Johnston and Samuel H. Williamson, "The Annual Real and Nominal GDP for these United States, 1790 - Present." Economic History Services, October 2005, at http://www.measuringworth.org/usgdp/. Outlays and GDP figures from FY1940 on are from the Office of Management and Budget.[3]

[2] Raymond E. Manning, Senior Specialist in Taxation and Fiscal Policy, Legislative Reference Service, "Cost of U.S. Wars," October 1956, 34 p. The Legislative Reference Service was renamed the Congressional Research Service in 1970.

[3] Office of Management and Budget, *Historical Tables: Budget of the United States Government Fiscal Year 2011*, February 2010, Table 3.1 and Table 10.1.

Inflation Adjustments

For each conflict, CRS converted cost estimates in current year prices into constant FY2011 dollars using readily available inflation indices. For years since 1948, CRS used an index of inflation in defense outlays from the DOD. For years from 1940-1947, CRS used an index of inflation in defense outlays from the Office of Management and Budget.[4] For years prior to 1940, CRS used an index based on the Consumer Price Index (CPI) that the U.S. Department of Labor, Bureau of Labor Statistics (BLS) maintains and updates quarterly. That index extends back to 1913. For earlier years, CRS used an extension of the CPI by academic researchers that is maintained at Oregon State University.[5] That index also uses the official BLS CPI from 1913 forward and periodically updates both earlier and later figures to reflect new, official CPI estimates.

Inflation adjustments extending over a period of more than 200 years are problematic in many ways. The estimates used here are from reliable academic sources, but other experts might use alternative indices of prices or might weight values differently and come up with quite different results. In addition, over long periods, the relative costs of goods within the economy change dramatically. By today's standards, even simple manufactured goods were expensive in the 1770s compared, say, to the price of land. Moreover, it is difficult to know what it really means to compare costs of the American Revolution to costs of military operations in Iraq when, 230 years ago, the most sophisticated weaponry was a 36-gun frigate that is hardly comparable to a modern $3.5 billion destroyer. As a result, yesterday's wars appear inexpensive compared to today's conflicts if only because the complexity, value, and cost of modern technology are so much greater. Finally, a very technical and relatively minor point—the inflation indices used here are more specialized for more recent periods. Figures since 1940 are adjusted using factors specific to defense expenditures, but no such index is available for earlier years. At least in recent years, cost trends in defense have differed considerably from cost trends in the civilian economy. Contemporary inflation indices capture such differences, while older ones do not.

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[4] U.S. Department of Defense, Under Secretary of Defense (Comptroller), *National Defense Budget Estimates for FY2011*, March 2010, Table 5-8, "DOD Outlay Deflators by Title" for figures from FY1970 on, and Table 6-11 "Outlays by Appropriations Title—FY1948-FY2015" for calculated figures from FY1948 through FY1969. For figures from FY1940 to FY1969, Office of Management and Budget, *Historical Tables: Budget of the United States Government Fiscal Year 2011*, February 2010, Table 10.1 "Gross Domestic Product and Deflators Used in the Historical Tables: 1940-2015."

[5] Robert Sahr, Oregon State University, "Inflation Conversion Factors for Dollars 1665 to Estimated 2019," available on line at http://oregonstate.edu/cla/polisci/sahr/sahr. The data prior to 1913 are based on research reported in John J. McCusker, "How Much Is That in Real Money?," Proceedings of the American Antiquarian Society (2001). A number of alternative indices are provided at http://measuringworth.com/calculators/uscompare/, and at http://eh.net/hmit/.