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The Changing Economic Role of Defense

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The Changing Economic Role of Defense

by Murray Weidenbaum

*Contemporary
Issues Series 36*



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The Changing Economic Role of Defense

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Introduction

The perennial debate in the United States over the impact of defense spending on the economy has been heating up. Those who favor smaller military budgets cite the high "opportunity cost" of diverting vital scientific and technological resources from productive civilian pursuits -- a diversion, they argue, that undermines productivity at home and competitiveness abroad. Advocates of this view also try to show that a dollar (or rather a billion dollars) for defense produces fewer jobs than the same amount of money devoted to non-military expenditures. High levels of defense spending, they conclude, are economically unsound and sap the nation's prospects for growth.

Another widely circulated criticism is that of historian and best-selling author Paul Kennedy. In *The Rise and Fall of the Great Powers* he warns that too large a proportion of a nation's resources allocated to military purposes rather than "wealth creation" is likely to lead to "a weakening of national power over the longer term." Kennedy specifically raises the specter of "global overstretch" on the part of the United States. (On occasion, he refers to his concern as "imperial overstretch.")

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For their part, the proponents of larger military budgets cite what they believe to be the signal advantages of defense spending. Chief among these, they argue, are the favorable "spinoffs" of defense technology into high-growth electronics, instruments, and aerospace industries. These advocates also focus on the large number of high-paying industrial jobs created by military outlays (35,000 jobs for each \$1 billion of defense spending, according to former Secretary of Defense Caspar Weinberger).

It is fascinating to compare these two sets of self-serving arguments, for they are literally mirror images of each other. Both camps are united by the idea that defense spending has powerful impacts on the economy, whether for good or ill. Yet the truth seems to be quite different. The economic experience of the period since World War II shows that both critics and supporters of defense spending have seriously overestimated its importance.

Defense spending does generate broader benefits than the obvious national security benefits. Military research and development produces important technological "spillovers" into the civilian sector. The education, training, and physical conditioning that young men and women obtain in the armed forces are of obvious benefit to society as well as to themselves -- especially when those skills are applied to civilian occupations. However, military outlays are rarely the most efficient way of securing these desirable side effects. A new treatment for AIDS, to take one example of obvious importance, is more likely to come from medical research than from work on the strategic defense system.

The naysayers on defense have likewise overstated their case. Despite high levels of defense spending, new civilian jobs are being created rapidly in the United States -- far more rapidly than the nations in Western Europe who devote much smaller shares of their GNP to defense. Since the end of World

War II, in fact, the relative importance of defense to the economy of the United States has been declining. Different ways of gauging resource use over the past half century support this statement. Defense outlays have accounted for a declining share of the GNP (see Figure 1), a declining portion of the federal budget, and a diminishing portion of the nation's research and development funding. Defense manpower has represented a declining fraction of the nation's work force. Military outlays now represent only one-fifteenth of the GNP and an even smaller proportion of the nation's work force.

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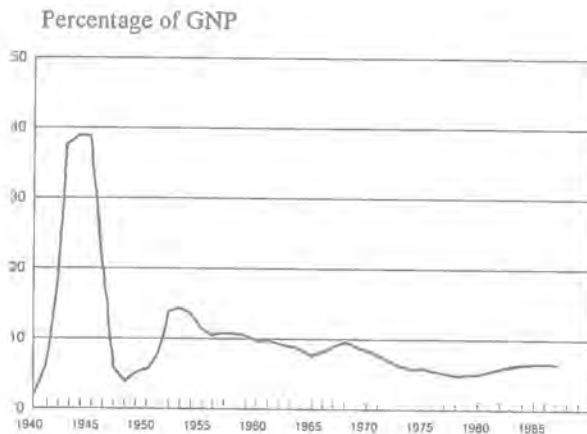
Few of the largest industries produce significant portions of their output for the military. Many of the major defense contractors sell the bulk of their products in civilian markets. Moreover, long periods of relative decline in the military's use of research and development and other high-powered resources have not resulted in comparable increases in civilian demand, much less a pick-up in U.S. productivity and growth rates. The decade from the mid-1960s to mid-1970s provides a striking case in point.

More recently, an analysis of the economic impact of the military buildup of the early 1980s found no evidence of any "major disruptive effect" of defense expenditures. No substantial bottlenecks were encountered. If anything, defense spending served as an unplanned counter-recessionary force in the 1981-82 downturn.¹

The economy of the United States is both complex and massive. It is not readily propelled or retarded by the relatively small

Figure 1

DEFENSE OUTLAYS AS A PERCENTAGE OF GNP



Source: U.S. Office of Management and Budget, *Historical Tables, Budget of the United States Government, Fiscal Year 1989*.

share of GNP devoted to military outlays. And the power of the U.S. economy to adjust is substantial.

Changing Trends in U.S. Military Outlays

What then has been the *actual* impact of military spending on the United States and its position in the world? From a modest level of about \$1 billion in fiscal year 1938, the outlays of the Department of Defense rose to approximately \$285 billion in fiscal year 1988 (see Table 1). That, of course, was a far more rapid increase than occurred in the population of the country or the size of the economy, or both. A similar upward trend is visible if the data are corrected for inflation -- or if manpower levels are used instead of dollar figures, although the annual fluctuations are quite different in some time

Table 1

INDICATORS OF U.S. DEFENSE OUTLAYS, 1940-1988

Year	In Billions of Current Dollars	In Billions of Constant FY 1982 Dollars
1940	1.7	15.1
1945	83.0	591.3
1950	13.7	83.9
1955	42.7	211.0
1960	48.1	192.1
1965	50.6	181.4
1970	81.7	225.6
1975	86.5	159.8
1980	134.0	164.0
1985	252.7	229.4
1988 ^a	285.4	243.5

^aEstimated.

Source: U.S. Office of Management and Budget.

periods. Because the overall American economy was expanding during the same period, it is useful to focus on the changing relative position of military outlays.

The most substantial absolute and relative expansion in U.S. defense expenditures occurred during World War II. In the years since the deep and rapid postwar demobilization, two limited-war expansions occurred (Korea and Vietnam), plus a buildup in the early and middle 1980s.

The most important fact that emerges from the historical record is that the relative importance of defense to the American economy has been declining since the end of World War II. To be sure, the pattern is uneven. Nevertheless, the Korean peak of 14 percent of GNP was far below the World

War II high of 39 percent, and Vietnam War outlays were proportionately lower (less than 10 percent of GNP) than during the Korean period.

To a large extent, the decline in the military share of the federal budget during the 1970s resulted from the more rapid growth in civilian program outlays.

The high reached in the Reagan administration was a comparatively modest 6.5 percent in 1986 and 1987 -- a ratio that was exceeded in many peacetime years in the 1950s and 1960s. Declines in that ratio are almost inevitable in the near future because of the substantial reductions in defense appropriations, and hence in the ability to make forward commitments, that Congress has enacted during the last several years. Thus, over a very significant time period, military activities have been a gradually smaller factor in the American economy. In the 30-year period from 1958 to 1988, the military share of the U.S. GNP declined in 17 years, was stable in 1, and rose in 12 years. In striking contrast, civilian spending has been the growth area of this nation's economic activity.

It is also instructive to evaluate the changing role of defense in national priorities. The most widely used measure of that relationship is to estimate the share of federal government outlays directed to defense. The trend here is basically similar to that for the ratio of defense spending to the GNP. The large portion of the federal budget directed to defense outlays during World War II -- over 90 percent -- has not been equalled since. A secondary peak occurred during the Korean War, when defense spending accounted for almost 70 percent of the budget.

Since then, the defense share of the fed-

eral budget has declined to a low of less than 23 percent in 1980. It reversed to a high of 28 percent in 1987 and is now declining. Account should be taken of the substantial expansion in the scope of federal civilian responsibilities during the 1960s, especially the Great Society programs. To a large extent, therefore, the decline in the military share of the federal budget during the 1970s resulted from the more rapid growth in civilian program outlays.

It is ironic to note that the administration's staunchness in preserving the defense budget in the early 1980s made it politically difficult to make deep cuts in non-military expenditures. Proponents of civilian spending raised the issue of "fairness" in limiting reductions to non-defense programs. During the 1980s, federal civilian expenditures continued to rise in real terms and also tended to maintain a relatively constant share of the GNP. This experience runs counter to the common belief that expansions in defense spending invariably come at the expense of civilian government outlays.

Nevertheless, military outlays are now under considerable pressure because of general budgetary trends in recent years. A combination of rapid expansions in both military and civilian spending programs in the early 1980s, coupled with substantial reductions in income tax rates, led to unparalleled large budget deficits. The persistence of these triple-digit deficits beyond the 1981-82 recession led to institutional restraints on federal spending (the Gramm-Rudman-Hollings legislation). The military budget was a major target of Gramm-Rudman-Hollings and increases in appropriations for the Department of Defense by the mid-1980s were less than the amount necessary to keep up with inflation.

Surely, the absolute size of defense purchases of goods and services looms large by all available statistical measures. The Department of Defense is a major "customer" of American business. Nevertheless, the overall

pattern is clear: the economic impact of defense activities in the United States peaked decades ago and has been declining -- albeit irregularly -- ever since.

Military Use of Key Resources

What should we make of the concern over the American military's supposed ill use of key resources? An analysis of the changing importance of the military demand for key factors of production is revealing; it hardly supports the contention of a society "depleted" by a military establishment hogging the vital resources of the nation.

The armed forces now represent only 1.7 percent of the total U.S. labor force, down from a post-World War II peak of 4.3 percent in 1955, but also down from 2.2 percent in 1975 (see Table 2). During the same general period, the proportional decline in the military share of funding for research and development has been dramatic. In 1960, the Department of Defense obtained the lion's share of the nation's scientific and technological resources -- 62 percent. By 1980, the ratio had plummeted to 25 percent. In 1987, the preliminary data show a 30 percent share for the military -- less than one-half the 1960 proportion.

On the other hand, whatever their relative or absolute size, the resources allocated to national defense are not available for civilian purposes. Especially in a fully employed economy, it is reasonable to assume that, in the absence of the military's demand, much of those resources would have gone to meet civilian needs (or wants). The question then arises as to which areas of the civilian economy would use the resources that would become available following a reduction in military budgets. To an economist, the "opportunity cost" of expenditures for defense is the opportunity forgone to use the people, machinery, and materials in other ways.

Table 2

CHANGING MILITARY USE OF RESOURCES, 1940-1988

Year	Military Manpower Percentage of Labor Force	Military R&D Percentage of U.S. R&D
1940	.8	-
1945	18.3	-
1950	2.3	-
1955	4.3	39.0
1960	3.5	61.6
1965	3.4	46.2
1970	3.6	37.6
1975	2.2	30.5
1980	1.9	24.6
1985	1.8	28.3
1986	1.8	30.7
1987	1.8	30.3
1988	1.7	-

Source: Department of Defense and National Science Foundation.

Investment versus Consumption

Do increases in defense spending come primarily out of resources that otherwise would be devoted to investment (a primary ingredient in economic growth)? To the extent that such is the case, the "opportunity cost" of defense spending is high. Every dollar devoted to defense would mean a dollar less invested in the future of the economy.

However, if the money spent for defense would otherwise go for current consumption -- for items that generate little or no future benefit -- then the true cost of defense is transitory and much lower. Researchers who

have looked into the matter are not in universal agreement. The possibility of defense demands crowding out private investment rests on the notion that a large and growing federal deficit forces the Treasury to expand its presence in capital markets, putting upward pressure on interest rates. Rising interest rates, in turn, inhibit capital formation.² The empirical evidence on the causal relationship between budget deficits and interest rates is not very impressive, however.³

Increases in the share of GNP devoted to defense are accompanied by reductions in the proportion going to consumption, rather than to investment.

It turns out that, in most cases in the United States, increases in the share of GNP devoted to defense are accompanied by reductions in the proportion going to consumption, rather than to investment. Kenneth Boulding has obtained such results using an analytical approach based on national income accounts.⁴ The substantial rise in personal income tax collections in the period since World War II helps to explain this trend.

Civilian versus Military R&D

Another charge one often hears is that military spending on research and development "crowds out" civilian R&D. Let us examine the period between 1949 and 1988, for which detailed data are available. In only 16 of those 39 years did the military and civilian shares of the federal budget move in opposite directions. In 18 of those years, the shares of the federal budget devoted to civilian R&D and to military R&D moved in the same direction -- the civilian R&D portion rising when the military R&D share rose, and

falling when the military share fell. In 5 other years, the civil sector registered no change in its share of the federal budget.

The "depletion" thesis does not hold up. Expanding military R&D is at least as likely to have a positive effect on civilian R&D as the negative impact that is so often envisioned. Moreover, *reducing* the military R&D share of the federal budget is as likely to have a negative effect on civilian R&D as a positive effect.

The U.S. and the Global Economy

There is no shortage of studies that purport to show a close relationship between the concentration of a nation's economy on defense and its poor economic performance. Thus, the argument goes, the United States spends proportionately more on defense than Japan and, therefore, we have a consistently lower rate of economic growth. Yet South Korea, which devotes a larger share of its GNP to defense than Japan, boasts a more rapid growth rate. To jump to a heroic conclusion from either comparison is surely simple-minded.

Other factors -- such as the national saving rate -- are important influences on a nation's growth rate. Still, since it has become fashionable to equate the comparatively large percentage of U.S. GNP devoted to defense with the slippage in the U.S. share of world trade and global economic activity, let us pursue that point.

It is easy to show that the United States has lost its supremacy in the global economy in the four decades since the end of World War II. In 1950, the gross national product of the United States represented approximately 45 percent of the world's gross product. In the last few years, in striking contrast, the U.S. share has dropped to about one-fourth of the global total.

Again, some historical perspective is use-

ful. In 1950, the economies of Western Europe and Japan were still recovering from the devastation of World War II. Under those circumstances, the American economic giant had little difficulty dominating world markets. But such a powerful position was bound to be transitory, as the economic competitors regained their traditional strength -- with much help from the United States. The current relative position of the United States is little different from what it was in 1938.

It is intriguing to note that the Soviet Union did not take such a benign attitude. It shackled the economies of defeated nations within the sphere of its control. The poor economic performance of the Soviet bloc economies in the period since World War II, however, is hardly a tribute to that approach.

Statistical comparisons, favorable or unfavorable, have their limitations. Thus, in the 1950s and 1960s -- when the economic power of the United States was rarely questioned -- a rapid spread of collectivist and anti-market policies occurred in many parts of Western Europe and Asia. In the 1980s, however, during the period of supposed U.S. decline, this trend has been reversed. In many parts of the world a dramatic expansion has occurred in the role of market forces, economic incentives, price competition, and the privatization of economic activity. Great Britain and China provide two very different but equally impressive examples of this powerful change.

The doom peddlers always seem to have a field day in competing for public attention. Yet the United States remains the leading power in the world. In 1988, America's farms, mines, factories, and offices produced almost \$5 trillion of goods and services -- a record high and more than double second-place Japan's GNP of just over \$2 trillion.

New Factors on the World Stage

Any realistic assessment of the position of the United States in the world economy must

take account of important new factors in the economic equation. To a substantial degree, the impact of domestic considerations such as defense spending is overshadowed by the new competition from an array of developing countries that have joined, or are about to join, the club of advanced industrial nations.

Changes in the economic power of individual nations make for a stronger international commercial system.

Economic history provides a useful perspective. In the nineteenth century, European investors financed much of the canals, railroads, and heavy industry that enabled the United States to become a global economic power. But that also eliminated the European monopoly over the world economy. Nevertheless, Europe's international trade continued to rise substantially in absolute terms. Something similar is underway today. Investment funds provided by the United States and the other developed nations have helped to create a new set of actors on the world economic stage, mainly in the Asian rim. Once again, the return to the *status quo ante* is not in the cards. In the short run, the adjustments are painful to many established sectors of the more advanced societies.

Over the long run, these changes in the economic power of individual nations make for a stronger international commercial system. Our best customers today are the other advanced economies. The resulting expanded flow of international trade and investment yields higher living standards for consumers in general. That was the experience of the nineteenth century, and it is being repeated as we approach the twenty-first century.

Conclusion

None of the foregoing discussion should be taken to minimize the importance of fiscal prudence. Of course the portion of our national resources devoted to military purposes should be carefully scrutinized; of course the serious shortcomings in the military procurement process should be dealt with promptly.

But the U.S. position in future international rankings will depend in large measure on matters quite independent of the military. These include controlling production costs, enhancing productivity, improving the education of our work force, and promoting national competitiveness in other ways. The outcome, given some tough decisions on public budgets and private productivity, is not likely to be as dismal as the doom peddlers would have us believe.

One experienced observer, Zbigniew Brzezinski, predicts that in the year 2010 the United States and the European Economic Community will be the two dominant forces in the world economy. In "America's New Geostrategy," an article that appeared in *Foreign Affairs* last spring, he estimated that each will generate in that time period an annual GNP of approximately \$8 trillion -- double or more that of Japan, China, or Russia. That result would not be too shabby for a nation so heavily criticized for "overstretch." If anything, it is the Soviet Union -- which both devotes a far larger share of its national resources to military purposes and suffers from a combination of low productivity, slow growth, and great pressures of unmet civilian needs -- that should be concerned about "overstretch," to say nothing of "imperial" overstretch.

In sum, the U.S. military budget could vary over a considerable range without raising the specter of economic harm or national decline. This is not a plea for adopting the high end of that range, or for otherwise as-

saying the desirable size of the military budget. But the amount of resources that the United States devotes to defense programs should be determined primarily on non-economic, and essentially political -- that is, national security -- grounds, with little fear of undermining this nation's position in the world.

Notes

1. Ishaq Nadiri, "Increase in Defense Expenditure and Its Impact on the U.S. Economy," in David Denoon, ed., *Constraints on Strategy* (New York: Pergamon, 1986), p. 53.
2. See Martin Feldstein, *Budget Deficits, Tax Rules and Real Interest Rates*, Working Paper 1970 (Cambridge: National Bureau of Economic Research, 1986).
3. William Niskanen, "Uneasy Relations Between Budget and Trade Deficits," *Cato Journal*, Fall 1988, pp. 507-520.
4. Kenneth Boulding, "The Impact of the Defense Industry on the Structure of the American Economy," in Bernard Udis, ed., *The Economic Consequences of Reduced Military Spending* (Lexington: Lexington Books, 1973), pp. 225-252.