FEDERAL EXPENDITURES FOR NATIONAL SECURITY

MILITARY EXPENDITURES, ECONOMIC GROWTH, AND STABILITY

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It is difficult to fit military expenditures into the "growth and stability" pattern currently being studied by the Joint Economic Committee. Although military outlays are not necessarily inconsistent with the objective of stability and growth, they may be and at times have been. During war and periods of tension such as the present, the national security objective is paramount. Expenditure levels and patterns are not likely to be greatly influenced, or influenced at all, by considerations of growth or stability. Other instruments of policy are usually required to assume a measure of stability.

The impact of military expenditures on growth and stability depends on many thing besides the level, rate of change, duration, and pattern of such expenditures. The source of funds is obviously important. Heavy reliance on deficit financing during World War II, in contrast to the tax financing of the Korean war, produced different results from the stabilization point of view. Differences in tax structures to finance any given level of expenditures are likely to alter the impact of military outlays. Consumer and business expectations may differ from one period to another. The levels of employment and plant utilization clearly affect the impact on prices, production, and growth. And, obviously, so do governmental policies which affect the responses of the system. These and other variables play a part in determining the effects of military expenditures on the growth and stability of an economy.

Moreover, a distinction between short-run and long-run consequences of military outlays, particularly on the matter of economic growth, throws light on the problem. It is important, also, to go behind the military expenditures to the indirect consequences that may flow from them. Under some circumstances these consequences may be highly stimulative to employment, output, and income. The "stirring up" impact of World War II on the depressed American economy helps to account for the growth of the last decade. Many technical developments and new products developed for military purposes have a high transfer value to the civilian economy. Again this reflects itself in growth potential. These indirect consequences help reduce the real cost of the military to the economy as a whole over time.

One of the striking fiscal facts of the present and recent past is the size of military expenditures. Large-scale military outlays seem destined to remain in the Federal budget for an indefinite period. This

constitutes a sharp break with past experience, and bears obviously on the question of future economic stability and growth. A short review of military expenditures up to World War II brings out the changed role of military expenditures in the American economy.

HISTORICAL REVIEW

Throughout the 19th century total Federal expenditures moved upward, from about $10 million annually to some $400 million annually at the close of the century. During the 1920's they averaged about $3 billion, and in the late 1930's some $9 billion. The wars of 1812 and 1861–65 boosted Federal expenditures greatly; postwar outlays for both war-connected outlays [1] and civil purposes remained permanently above prewar levels. Compared with prewar expenditure levels postwar outlays following the War of 1812 approximated 150 percent; following the Civil War the percentage was 230. Following World War I the postwar expenditures were about 260 percent of prewar.

Wars not only increase total expenditures but they seem to exert a permanent outlay-increasing effect on the postwar periods. This effect shows up more strongly in civil than in war-connected expenditures. Up to World War II, the war-connected component showed a persistent decline (except in war years) as a percentage of total Federal outlays. To be sure, war-connected outlays have exceeded civil expenditures in all years except a few during the 1850's and again during the 1930's. But the war-connected share trended downward; it was a smaller percentage of total outlays during the 1930's than at any other time in United States history.

The great growth in Federal expenditures, both military and civil, throughout United States history was accompanied by a rapid rise in population. Less than $2 per capita per year [2] in the first decade of the 19th century, they rose to $10 in the 1890's, and to $25 in the 1920's. Depression spending policies brought a further threefold increase by the end of the 1930's. War-connected expenditures per capita per year accounted for only one-third of the per capita Federal expenditures just before World War II, in contrast to four-fifths in the first decade of the 19th century.

Wartime per capita expenditure changes are of course substantial. The percentage increase over prewar per capita outlays shows a high degree of uniformity. During the Civil War, World War I, and World War II, the percentage increases are 733, 776, and 630. The high level of depression spending by the Federal Government during the second half of the 1930's moderated the percentage increase in per capita outlays in World War II.

COSTS PER SERVICEMAN

The long-term changes in military expenditures per serviceman are of particular importance for the problem at hand. Estimates prepared by M. Slade Kendrick (in 1926 prices) place the cost per

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[1] Costs of the military services, veterans, and interest on the public debt. See M. Slade Kendrick, A Century and a Half of Federal Expenditures, Occasional Paper No. 48, National Bureau of Economic Research, New York, 1955.
[2] In 1926 prices, as shown in Kendrick, op. cit.

serviceman per year at somewhat less than $1,000 during the 1820's. Fifty years later they had increased on the average only 50 percent. Military technology had changed, but not in a revolutionary manner. In the years preceding World War I the annual average approximated $2,400; the increase came largely from changes in naval ship construction. In nearly a century before World War I the average annual outlay per serviceman had risen somewhat less than 300 percent.

United States participation in World War I was of such short duration that cost figures are somewhat unreal. They averaged $3,300 per serviceman in 1918 and $6,000 2 years later. Between 1922 and 1938 they ranged from $2,300 to $4,000 per year, averaging about half again as high as pre-World War I. World War II costs averaged nearly $9,000 per serviceman for the years 1941–45. In contrast the 1861–65 costs averaged somewhat under $1,000 per year. Between World War II and the Korean war costs per man came to $5,000 annually, about twice the cost per man of 20 years earlier. Korea cost more per man per year than did World War II.

The enormous and rapid changes in military technology explain a large measure of the increased cost per serviceman per year during the present century. Compared with the last 2 or 3 decades, the 19th century was technologically quiescent in the military sphere. Not only have costs per man increased but the present era keeps a larger percentage of men of military age under arms. The high levels of military outlays and their dominating position in the Federal budget reflects these facts.

MILITARY EXPENDITURES AND NATIONAL OUTPUT

Until recently military expenditures as a percentage of gross national output have always been of relatively small importance. The Kuznets estimates beginning with 1869 range from 1.3 percent for that year down to 0.4 percent for most of the 1880's and 1890's.

From 1900 until World War I the average is 0.8 percent. This went up to 16 percent in 1918 but by 1923 the percentage was back to 0.8, the prewar average. From 1931 to 1939 military outlays averaged 1.3 percent of the depressed gross national product of those years.

World War II changed matters abruptly. By 1943 some 40 percent of gross national product went into the military. The extensive demobilization after that war brought military outlays down to 5 percent in 1948–49. With Korea the percentage rose to 14; since then military outlays have averaged 9 to 10 percent of gross national product.

The recent period is thus unique. The complexity and scale of military operations during 1941–45 caused an unprecedented commitment of output to war purposes. Since then rapid changes in military technology, the maintenance of large armed forces, and the extensive deployment of these forces contribute to the present large commitment of resources to military purposes.

The attached table shows for 5-year intervals the volume of Federal outlays and the war-connected outlays since the beginning of the present century. From 1936–40 to 1941–45, total expenditures rose $56 billion per year, of which $50 billion is military. While civil expenditures in the aggregate have risen from pre-World War II

to the present, there has been little or no real per capita growth in such expenditures over this period of time.

Thus, the budget problem is mainly caused by World War II, Korea, and the world tensions summed up as the cold war. To the extent that growth and stability are affected by Federal expenditures, it is the military component of such expenditures that dominates the picture.

MILITARY EXPENDITURES, GROWTH, AND STABILITY

It was pointed out above that one of the unique features of the present era in American history is the tremendous amounts spent since 1940 on the military. In terms of the military absorption of gross national product, the present peacetime rate or percentage is 8 to 10 times that of the 1930's, about 12 times that of the 1920's, and more than 20 times that of the 1880's, and 1890's.

The resources thus committed to the support of the military are not available for other purposes, i. e., to achieve increased productive capacity and a growth in consumption levels. A comparison of recent rates of gross national product absorption by the military with the rates of earlier periods raises some searching and disturbing questions about the prospects of long-term growth in productive capacity and consumption levels. These questions frequently bring forth gloomy answers.

Federal expenditures

[Millions]

Years	Average annual Federal expenditures	Average annual war-con-nected expenditures	Percent war-con-nected
1901–5	$536	$388	72
1906–10	639	456	71
1911–15	720	520	73
1916–20	8, 065	4, 657	58
1921–25	3, 579	2, 186	61
1926–30	3, 183	1, 707	54
1931–35	5, 215	1, 792	34
1936–40	8, 192	2, 661	32
1941–45	64, 038	52, 415	82
1946–50	42, 335	30, 900	71
1951–55	63, 216	47, 100	74

Source: Statistical Abstract of the United States, 1956, p. 355.

While the comparison of rates of absorption seems to justify deep concern, several points need consideration as possible offsetting influences.

1. Resources diverted to military support may not be entirely diverted from civilian alternatives. For any given increment of output absorbed by the military, the civilian alternatives sacrificed in the time period might range from zero to the full amount. Some or all of the resources diverted to the military might have remained unemployed but for the expansion of military expenditures. If there is sacrifice in the time period, and if the loss is in investment, additional sacrifices will accrue beyond the time period.

2. The value of the output absorbed by any given increase in military expenditures does not necessarily measure the value of output diverted from the civilian sector. As noted above, some of the diverted

resources might have remained unemployed. But the point holds even where resources diverted to the military are diverted from the civilian sector. For example, when resources shift from low-valued products—e. g., agriculture—to high-valued products—e. g., radar equipment for the military—increment of gross national product absorbed by the military exceeds in value the output denied to the civilian sector. Structural shifts in output are a characteristic of the development of the economy over time; they have special significance for the particular problem at hand.

3. Comparison of rates of absorption of gross national product by the military over long periods of time may be deceptive. Seventy years ago the military absorbed 0.5 percent of gross national product; today the rate is 20 times greater. However, the stimulative effects per dollar spent have probably changed. It was noted above that military technology changed slowly during most of the 19th century when compared with the last several decades. While it produced something of transfer value to the civilian sector in the metallurgical field, the contribution to collateral civilian industry appears small compared to recent contributions. Research and development for the military during the last two decades have created new industries, new products, transformed older industries, and introduced innumerable changes in methods. The twentyfold increase in the rate of absorption of gross national product by the military now, compared with the 1880's, does not mean a twentyfold increase in the military burden to the economy.

The indirect consequences of net value to the civilian economy are not limited to such fields as atomic energy, the electronics industry, synthetics, food processing, and the like. Asian flu vaccine is a product of Army research which might spare the loss of a substantial amount of gross national product.

The first two points may be brought out by reference to the increases in military outlays and gross national product caused by the Korean war. Here the short-run implications of an increase in military outlays are discussed.

THE MILITARY PROGRAM, 1950–53

The Korean war broke out in mid-1950 at a time when the economy was recovering from the relatively mild recession of 1949. The fighting stopped in mid-1953. Military expenditures rose sharply from 1950 to 1953, and wth them production, employment, and income. The tabulation below shows production changes, by military and civilian uses, in 1952 prices, at annual rates for the first 6 months of 1950 and 1953.

[In billions]

	Gross national product		
	Total	For national security	For civilian use
1st half 1950	$302	$19	$283
1st half 1953	367	52	315
1950–53 change	+65	+33	+32

At the first-half 1953 rate, the military absorbed some 14 percent of gross national product compared with 6 percent in 1950. The increment to total output over this period was quite evenly shared by the military and civilian sectors.

Along with the rise in output went an increase in employment, from 59 million to 62 million, and hours worked per week in nonagricultural employment increased from under 40 to 41. Combining the increase in people at work and the increase in the workweek suggests an 8- to 10-percent rise in total time worked. For this added time worked the economy obtained a 21-percent growth in gross national product. The civilian sector by itself increased 11 percent.

Gross national product per person employed rose from $5,100 in 1950 to $5,900 in 1953, or 16 precent. The disparity in changes in output and in hours worked may be explained, in part, by the shifts in employment, from lower value products to higher value products. Farm employment declined from 1950 to 1953, while industrial employment rose some 2 million, virtually all in the durable-goods industries. Of the latter, spectacular increases occurred in the aircraft, ordnance, and other war-related industries characterized by high-valued end products.

Over this period, personal income increased; approximately half this increment was taken in higher Federal taxes, which increased $32 billion. After all additional taxes, the public at large had $30 billion more income in early 1953 than in early 1950.

Taxing, spending, and savings patterns in this period are of interest. The immediate increase in Federal taxation brought in more cash receipts than cash expenditures for the 3-year period. The aggregate cash surplus was in excess of $2 billion. This is the first sizable war the United States financed fully from taxation.

With the outbreak of war, consumers and business engaged heavily in forward buying before military procurement began making its • added demands on the economy. The civilian spurt in forward buying came to an end early in 1951. The consumption ratio dropped as consumer fears of shortages abated. Meanwhile, the forward buying produced a quick 10-percent increase in price indexes. By the second quarter of 1951, the inflationary pressure eased; in fact, many price lines declined. Personal savings increased, and consumer expenditures gradually expanded with production as the war progressed. Civilian and military buying coordinated themselves well during this period, bringing about a high degree of stability for a war period.

By the end of the war, in 1953, consumer savings were at a post-World War II high. Per capita consumption was at its highest level. In real terms, residential housing had declined, but all other construction and business investment in durable equipment increased. Credit restraints curbed consumer durable-goods purchases to some extent, and allocations restrained the growth of business investment somewhat.

The Question of Real Cost

The facts outlined above show the main features of the military impact on the national economy during Korea. That impact was clearly stimulative. A big military effort was supported and, at the same time, the civilian economy advanced to new high ground in all important respects.

In terms of the earlier discussion, to what extent did this increased military program involve a diversion from the civilian economy, and, therefore, a real cost or burden?

Although no conclusive answer is possible, the facts do not point to a major diversion from the civilian economy in the buildup of the military program. The civilian gross national product expanded. But the real question is: Would the civilian sector have had more than the $32 billion increase it in fact had in 1953 over 1950 in the absence of the Korean conflict? That is, would 1953's gross national product have exceeded $334 billion without the stimulus of rearmament?

Some indication might be had from the percentage changes in production over the period 1946–56. The average annual rate of increase in civilian gross national product over this 10-year period is 3.5 percent. In only 1949 and 1954—both moderate recession years—did civilian gross national product decline. From the period immediately before the outbreak in Korea, through the end of that war, civilian gross national product increased an average of 3.5 percent. In 1951 it was above, and in 1952 below the trend: in 1953 it was back on the 3.5-percent trend line. Again, from 1953 to the high levels of 1956, civilian gross national product increased at an average annual rate of 3.5 percent—down in 1954, but up in 1955 and 1956.

The figures suggest that the expansion in the military program beginning in 1950 was superimposed on the growth curve (in real terms) of 3.5 percent per annum. So far as the civilian sector is concerned, the plus and minus figures during the 3 years of the Korean war just about cancel out, give or take a few billion dollars of output.

It can always be argued, of course, that civilian gross national product could have increased at a rate in excess of 3.5 percent over the years of the Korean war. But there is no compelling reason to believe that gross national product would have exceeded by much the 1953 total (give or take a few billion). There was no great backlog of consumer demand or of private investment (or both) in 1950 to support any unusual spurt in output. The mild recession of 1949 indicated that World War II backlogs were largely worked off, and the increase in voluntary savings after 1950 suggests that consumers were buying all they wanted. By any reasonable standard, a $334 billion gross national product and 62 million employment would have represented a very prosperous state of affairs in 1953.

The main point is that the actual 1953 level of gross national product was high when related to the trend from 1946 to 1956. The bulge can be largely explained by the special shift in production and employment due to war orders. Much of this bulge ($33 billion in 1953 over 1950), and perhaps most of it, does not seem to have entailed a shift from the civilian sector of the economy. From the facts available, it seems that the added gross national product absorbed by the increased defense program from 1950 to 1953 was an increment to output that might not have been produced in the absence of the military buildup.

It is true, of course, that consumers would probably have spent even more than they did in 1952 and 1953 had taxes not increased. But the data seem to suggest that the increment to consumer income taken by the increase in taxation is that portion of income that consumers would not have had in the absence of the military buildup. In

a financial sense, the program was self-financing; the increased income taxed away was created in the production of gross national product that would not have been produced but for the program.

A general statement of the problem may be made as follows: Should the stimulus provided by an expanded military program lead to an increase in the total output sufficient (a) to satisfy the normal expectations of the public and (b) to provide for expanded military requirements, then the program in real terms is self-financed, in the sense described above. In monetary terms, should the program create an excess of money income over normal expectations, and added taxes take only this excess, then no income anticipated is lost and no real cost incurred. The 1950–53 experience seems to have approximated this condition.

The Korean war has been used as an illustration. A fuller use of resources was probably achieved during this period in consequence of military procurement. And production shifted toward higher value end products. Thus, the increment to gross national product absorbed by the military entailed no corresponding loss to the civilian economy; on the contrary, there appeared to be, at most, a relatively small diversion from the civilian economy.

This argument is limited to a particular short-run period. Under other circumstances, such as those prevailing from 1955 to the present, a comparable expansion of military expenditures would probably have caused a considerable diversion from the civilian economy.

SOME LONG-RUN CONSIDERATIONS

Over a long period of time, the problem is more complex. A prolonged commitment of resources at the present rate to military purposes cannot avoid the problem of diversion. If military outlays bring about a somewhat fuller and more stable level of output than would otherwise occur, this would be a partial offset. And the stimulus of research and development having transfer value would constitute another offset. More needs to be known about these possible effects of a sustained and dynamic military program.

On the long-run problem, some interesting estimates have been prepared by Dr. John W. Kendrick, as part of a forthcoming publication of the National Bureau of Economic Research. Dr. Kendrick broke down gross national product totals (measured in 1929 dollars) into (1) that portion required for the maintenance of population and capital stock, and (2) the margin over maintenance. The margin over maintenance, in turn, is allocated to (1) national security, (2) provision for the growth in population (both consumer goods and capital), and (3) the margin for economic growth, both consumption and capital.

The accompanying table shows the percentage distribution of gross national product, by time periods, for each of these uses.

For present purposes, columns 3 and 5 are most important—and disturbing. The margin over maintenance of population is, in the absence of major war and major depression, relatively inflexible. Excluding World War II and the great depression, it has ranged within 16.6 and 14.6 percent of gross national product. As the national-security component of this margin increases, the growth component is squeezed, with the major squeeze applied to capital growth.

Percentage of gross national product for—

	1	2	3	4	5	
	Real gross national product	Maintenance of population (including consumer and capital goods)	Maintenance of national security	Provision for growth of population (consumer and capital)	Margin for economic progress	
					Consumption	Capital
1889–98	100	83.1	0.5	6.7	1.2	8.5
1899–1908	100	83.5	.8	6.9	1.6	7.2
1909–18	100	85.1	3.3	6.0	1.3	4.3
1919–28	100	85.4	1.7	5.2	2.0	5.7
1929–36	100	97.7	.9	3.5	.1	−2.2
1937–47	100	76.9	17.5	3.1	2.2	.3
1948–53	100	83.4	9.2	4.5	.9	2.0

The estimates bring out the possible impact of war and depression on long-term growth. But there is a difference: War helps to finance its own extravagances, but prolonged depression never does. Even though sudden spurts in military expenditures may involve some, and perhaps a large, element of self-financing (in both real and monetary terms), sizable and prolonged military expenditures probably do so to a lesser extent, and conceivably might not at all. In the long run the growth outcome may depend upon the extent to which military research and development adds back to gross national product a stimulus that offsets in part the real cost of the military. Over a long enough period there might be a complete offset.

In any event, the impact of military expenditures on both growth and stability involves far more than consideration of the expenditures themselves. Revenue sources are vital. Faced with the long-run prospects of large-scale military outlays, revenue sources based on nongrowth considerations—emergency war needs, social-reform policies, and simple ease of collection—need constant reexamination. Economic growth may be regarded as an economic, political, and military necessity. To the extent that a large-scale military establishment also continues as a necessity, growth needs may require that it be increasingly a charge against consumption.