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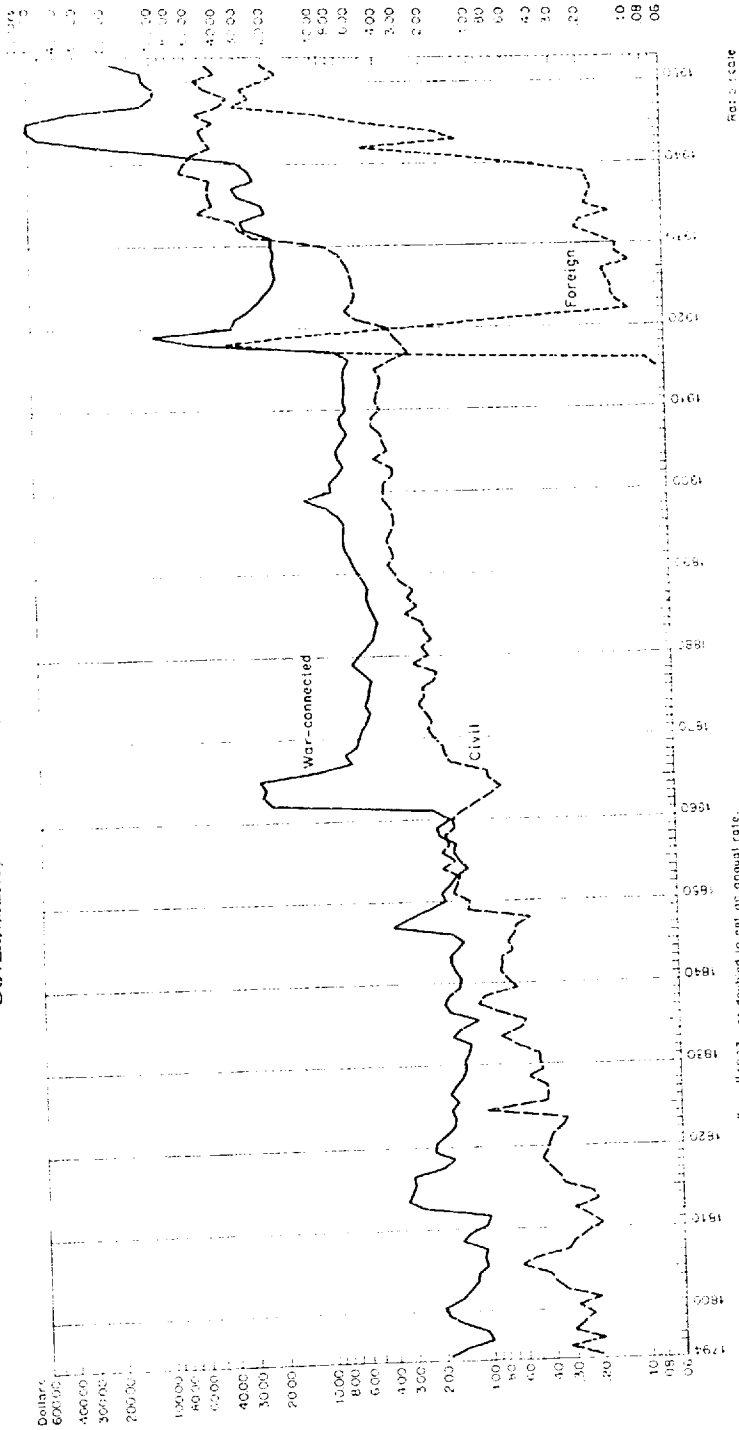
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Long-Term Growth of War-Connected and Civil Expenditures Compared

Expenditures by the federal government for military purposes, interest, and veterans have been closely related over our history. Nearly all interest payments, with the exception of those on the Panama Canal bonds and on loans obtained during the depression of the 1930's, have been on wartime borrowing. Pensions, readjustment allowances, or other benefits to veterans have followed from the veterans' participation in some earlier war. For this reason these expenditures were grouped as "war-connected" in Chart 11 for comparison with outlays for civilian purposes. Foreign expenditures might have been included with the war-connected group, but since practically all of them were for assistance to other countries, a function that is both new and large, a separate presentation was thought best, both to give emphasis and to permit more accurate comparisons with earlier data.

With the exception of a few years before 1860 and of most of the depression period of the thirties, war-connected expenditures have always exceeded civil. Surely this is the first striking fact that emerges from Chart 11. The second is that both civil and war-connected expenditures have increased greatly over the period shown, though with significant differences in rates of growth. Thus, for the interval 1794 to 1840 considered as a whole, civil expenditures grew more rapidly than war-connected, and then, after a short decade of decline, they advanced once more to surpass war-connected outlays. After the close of the Civil War, war-connected expenditures declined until 1885, while civil, on the other hand,

CHART 11
 WAR-CONNECTED, CIVIL, AND FOREIGN EXPENDITURES OF THE FEDERAL GOVERNMENT, PER CAPITA, IN 1926 PRICES, 1794-1952



Note: Expenditure for the 6-month "year" 1863 was doubled to get an annual rate.
 Source: Appendix Table B-1, Panel C "War-connected" is the sum of military, veterans, and interest

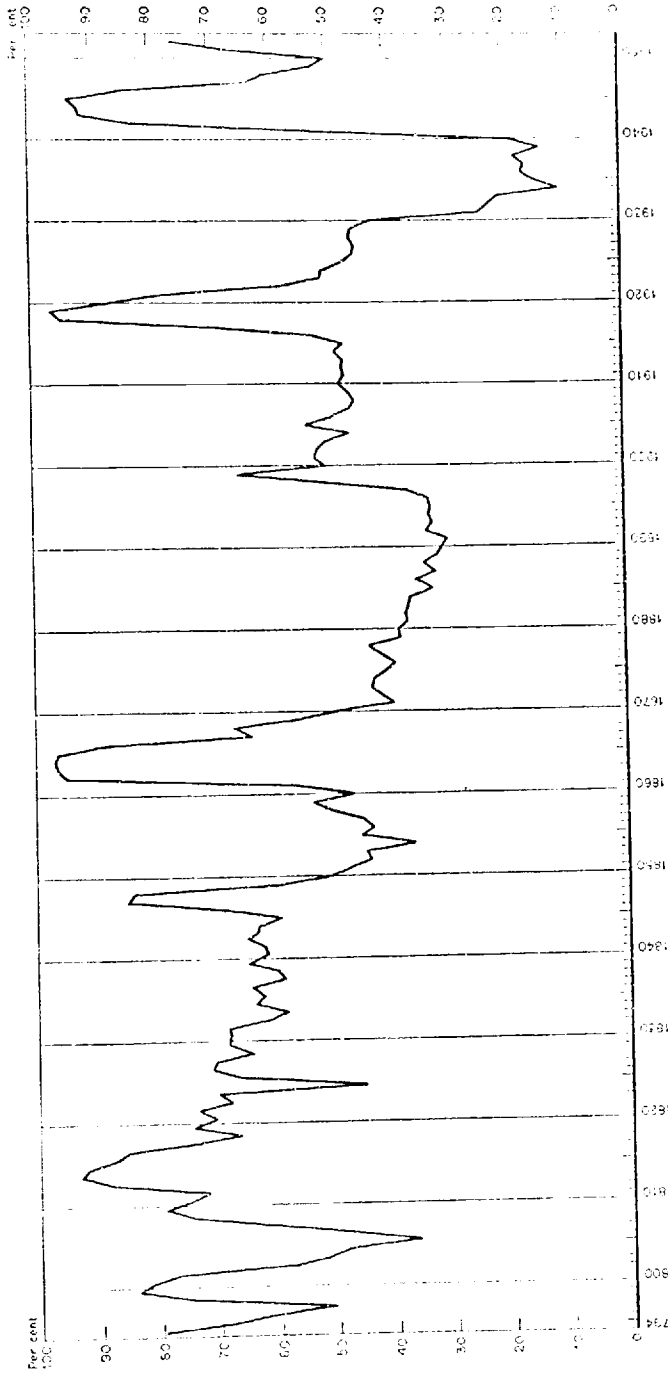
increased. From 1885 until 1916 the rates of increase of the two groups were about the same; but from 1921 until 1940 civil expenditures grew rapidly, and war-connected expenditures, after declining for half the period, rose, though more slowly than civil. The Second World War caused a great upheaval of the military group, but over the century and a half as a whole, civil expenditures increased more rapidly than military.

Foreign expenditures, large in the First World War on account of loans to our allies, dwindled afterward to a small and comparatively stable sum; but with the initiation of lend-lease they mounted rapidly during the Second World War and continued to rise after the close because of various forms of aid, the chief of which was given through the Economic Cooperation Administration. Although, as has been said, the amount of this assistance or a substantial portion might have been included with war-connected expenditures, because it was designed to oppose the expansion of Russian-sponsored communism, much of the content was economic. The problem of containment was regarded not only as a problem of erecting an armed barrier to invasion, but also as one of rebuilding the economic strength of the threatened lands to the end that internal communist parties and other dissident elements would be weakened and dissipated. Here was the appearance of a different and broader concept of military reinforcement and also—it may be added—of civil or peacetime aid. For truly both ends were served. It appeared best, therefore, to include in Chart 11 a curve of foreign expenditures.

The war-connected expenditures shown in Chart 11 include the amounts spent for veterans and interest as well as for military purposes. When military costs are expressed as a percentage of the sum of military and civil expenditures (Chart 12), it is seen that the peaks made by the great wars are high, as would be expected: all are in excess of 90 per cent. The minor wars with Mexico and Spain also made a significant difference in the proportion expended for military purposes.

The most striking feature of Chart 12, however, is the fundamental division marked by the Civil War. Before that war military expenditures in time of peace were much larger in relation to civil

CHART 12
 FEDERAL MILITARY EXPENDITURES AS PERCENTAGE OF MILITARY PLUS CIVIL,
 1794-1952



Source: Appendix Table B-1, Page A.

than afterward. With the restoration of peace they declined rapidly at first, and then from about 1870 slowly until the Spanish-American War. Following the close of that struggle some recovery appeared, but the level reached was lower than that existing from the close of the War of 1812 to the Mexican War. After the First World War the share of military expenditures again declined, and with particular rapidity during the late 1920's and early 1930's. From 1934 to 1940 military expenditures were lower in relation to civil than in any other period of peace in our history. The chart as a whole shows that except in time of war federal expenditures have increasingly been made for civil goods and services rather than for military.

Factors Underlying the Growth of Military Expenditures

Nevertheless, military expenditures, whether grouped with the related payments of benefits to veterans and of interest (Chart 11) or compared with civil plus military expenditures (Chart 12), have been of great significance in the financial history of the national government. They have, moreover, increased immensely, even after adjustment for changes in the price level and for the growth of population. In 1794 per capita military expenditures expressed in 1926 prices were 82 cents; in 1952 they were \$143.03.¹ During peacetime years such expenditures ranged as follows: for the period 1801-1811, from 38 to 92 cents; 1818-1830, from 72 cents to \$1.29; 1831-1846, from 94 cents to \$1.63; 1850-1860, from \$1.03 to \$1.74; 1870-1895, from \$1.19 to \$1.90; 1900-1916, from \$3.40 to \$4.23; 1923-1938, from \$4.87 to \$9.63; and finally, 1948-1950, from \$50 to \$53.39.² In the peak year of the War of 1812, military expenditures in stable dollars per person were \$2.96; in the Civil War, \$23.38; in the First World War, \$96.02; and, finally, in the Second World War, \$585.39.

The growth in military expenditures is all the more notable because it is expressed in stable dollars per member of the population: the dollars remained the same in purchasing power, and full

¹ See Appendix Table B-1, Panel C.

² The cold war was undoubtedly in progress from 1948 through 1950, but there was no actual, or "hot," fighting.

allowance was made for the increase in the number of people in the country. Yet military expenditures were enormously larger in the latter years of the period than in the earlier. What explains this great increase?

The number of servicemen may have increased more than the number of men of an age eligible for military service. In order to test this possibility, Chart 13 was prepared. For comparison between segments, two values are plotted for 1861 and again for 1865. Before the Civil War, with only white men included, the percentage of the total number of eligible males who were serving in the armed forces tended to decline slowly. After the Civil War, with all men of the same age bracket included, the decline was renewed. Following the Spanish-American War a change appeared. The proportion in the military service increased greatly as compared with prewar and remained comparatively stable until 1916. A further though smaller increase, and again stability, emerged from 1922 to 1940. But the percentage, even in that period, remained low, ranging from 1.23 to 2.19.

The greatest increase of all came in the three postwar years 1948 to 1950. During that short interval the number in military service was equivalent to 6.46 to 7.20 per cent of the total of eligible men. Thus only in that brief period does the increase in the relative size of the armed forces in time of peace explain more than an exceedingly small fraction of the growth in military expenditures. And even in those years the fraction so accounted for is not large.

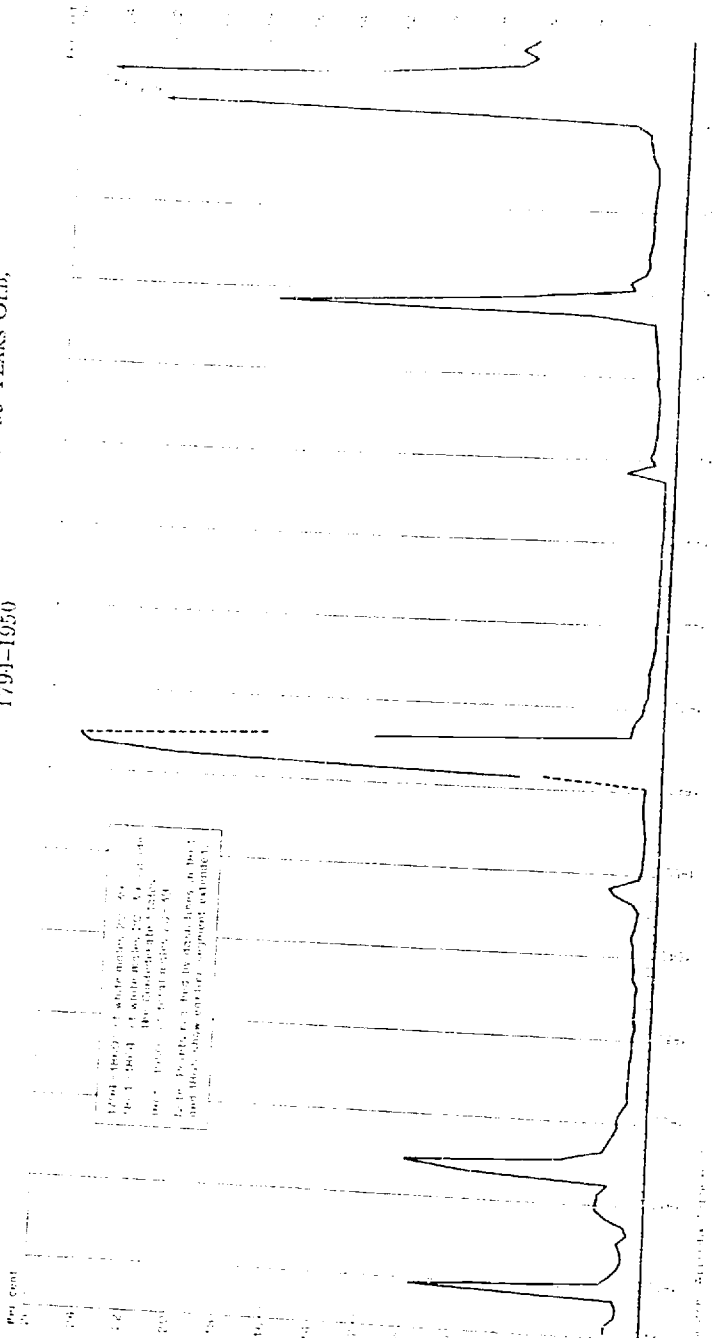
There has, however, been a tendency from major war to major war for an increased proportion of the eligible male population to serve in the armed forces. A much higher percentage was in the Civil War than in the War of 1812, and in the Second World War³ than in the Civil War. The apparent exception of the First World War may be attributed to the shorter duration of American participation in that struggle. Part, therefore, of the increased cost of major wars over our history is accounted for by this factor.

Perhaps the most important expression of the growth of military

³ The relatively few women serving in this war were included in the aggregate of the military forces, which was then related to the number of eligible males.

CHART 13

ARMED FORCES AS PERCENTAGE OF MALE POPULATION 20-39 YEARS OLD,
1793-1950

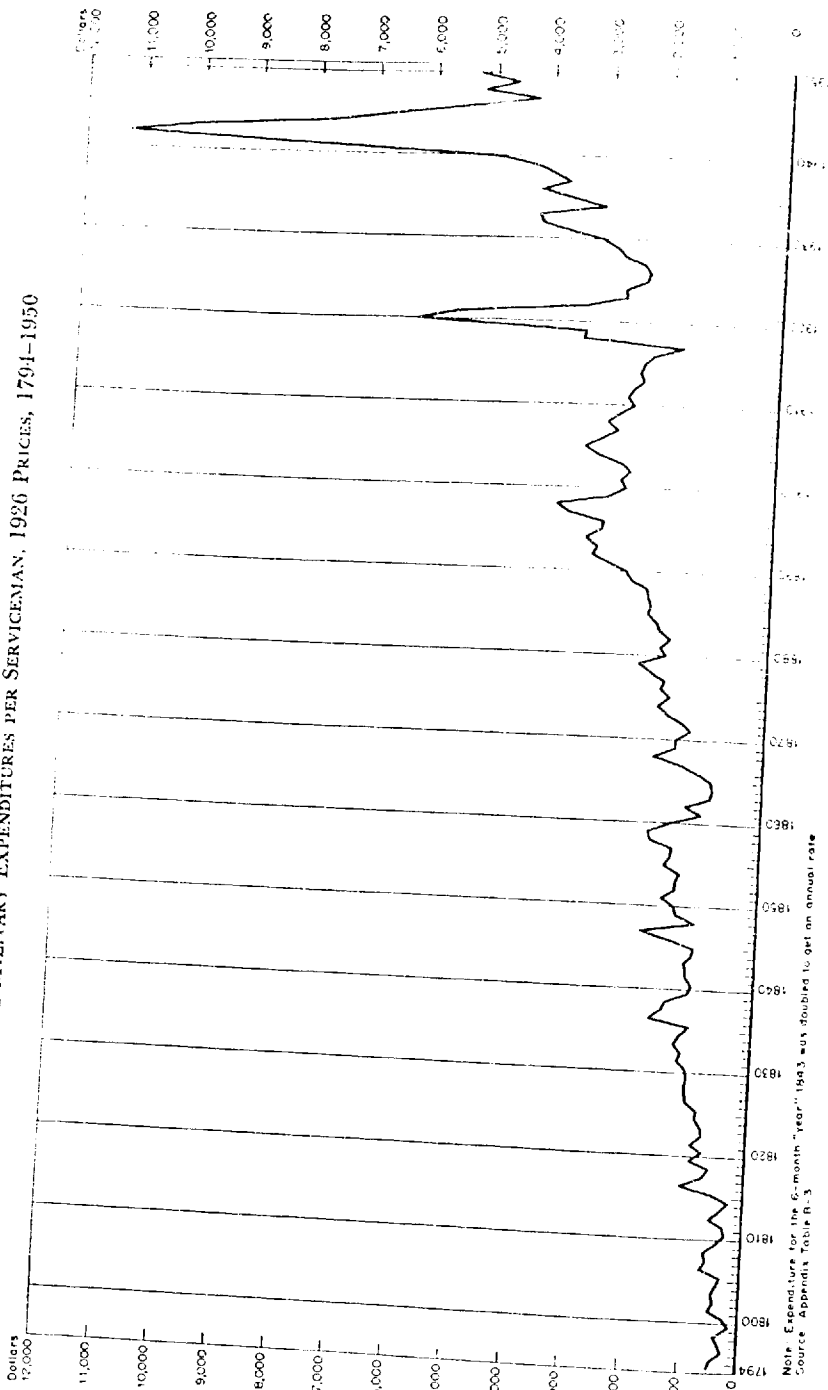


expenditures during the life of the nation is the rising cost per serviceman. Charts 14 and 15 show the marked upward trend of this expense, with a particularly great increase since the First World War. A feature of Chart 14 is the difference in the behavior of the cost per serviceman during wars. In the War of 1812 and the Civil War this cost declined, but during the First and the Second World Wars it increased greatly. In Chart 15, the Army and the Navy expenses per serviceman are shown separately. In two major wars, the War of 1812 and the Civil War, the cost of the Army per member declined and that of the Navy increased.

As already stated, the great increase shown by both charts in the cost per serviceman over the century and a half cannot be explained by rising prices. Doubtless part of the upward movement is accounted for by a trend toward higher pay and better clothing, food, and medical care. But by no means all the increase can be so explained, and certainly not the spread, beginning in 1888 (Chart 15), between the cost per soldier and that per sailor. Rather, the chief reason lies in the mounting and ultimately immense technological advance in the weapons and equipment of the armed forces. This technological advance was very slow at first but gained momentum after the Civil War and became exceedingly rapid after the turn of the century. Thus we find almost no progress made in the means of warfare between 1800 and 1860 save for some improvements in the muskets of the foot soldiers and the adoption of steampower by the Navy. Between 1860 and 1900, however, both the Army and the Navy adopted the rifled steel cannon, and the Navy began to build armor plated ships, and submarines. In the relatively short period from 1900 to 1919 the airplane, the machine gun, the motorization of heavy artillery, and the tank were added to the arsenal of the armed forces. The latest period, 1919-1952, has brought so many advances that war has truly become a matter of operating machines. We need only mention the jet propulsion of aircraft, the guided missile, radar, and the exploitation of nuclear fission and fusion.

The effect on costs of this accelerating development of military technology has been striking. For example, the expense of equipping an infantry division rose over the short period from the Sec-

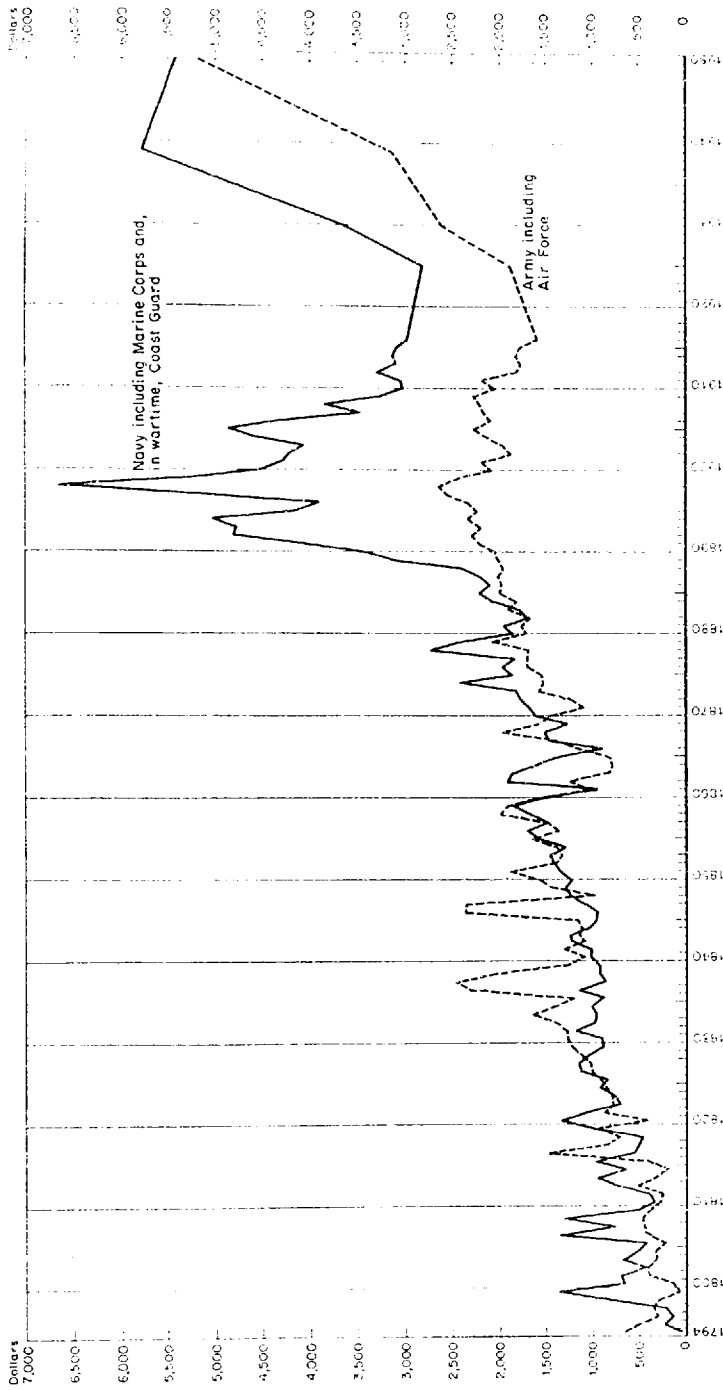
CHART 14
FEDERAL MILITARY EXPENDITURES PER SERVICEMAN, 1794-1950



Note: Expenditure for the 6-month "year" 1943 was doubled to get an annual rate.
Source: Appendix Table B-3

CHART 15

MILITARY EXPENDITURES PER SERVICEMAN FOR THE ARMY AND NAVY,
1926 PRICES, 1794-1916, 1925, 1930, 1939, AND 1950



Note: Expenditures for military equipment, year to year, was divided to get the annual rate.
Source: Appendix Table 1-2

ond World War to 1950 from \$19 million to \$80 million, and the outlay for an armored division from \$40 million to \$200 million.¹ It is clear that an important, and probably the major, explanation of the rising cost per serviceman over our history has been the continuing increase in the quality, kinds, and quantity of weapons and equipment, and of ammunition and supplies. The rate of this increase, slow at first, has mounted from period to period with the rising tempo of research and invention. And as the improved and more expensive military goods have been adopted, the old have been discarded. Thus not only has the cost of the original equipment been increasing but the useful life of the units acquired has been becoming shorter. Military expenditures have increased on both counts.

With the increase in the ratio of weapons and equipment to personnel, will fewer men be needed in the armed forces, and therefore will economies be possible on that score? As a result of the so-called "new look" that has been made at the military establishment, some reductions in the number serving are planned. The first and basic part of the question, however, is whether a significant decrease can be made. The historical answer, given in Chart 13, is clear. The period since 1900 has been characterized by mounting technological advances in the matériel of military preparation. Yet the number of service personnel in relation to the male population of military age has increased.

Even assuming that this experience will not hold, another factor is to be weighed in determining the outcome. As advances are made in military technology, more is required of the operators of the new weapons and equipment. Training expenses increase. The mounting costs of technological improvements cannot be confined to materials but extend to the personnel of the military forces.

Factors Underlying the Growth of Civil Expenditures

Wars have had a great influence on the secular increase of federal expenditures, and military costs have therefore received much

¹The significance of the technological advances in weapons and equipment of the armed forces over the past century and a half is discussed in detail in Appendix A.

emphasis in this study. At the same time civil expenditures have increased more rapidly over the entire course of our history than military (Charts 11 and 12), and accordingly the causes of their growth should receive some attention.

Perhaps the dominant characteristic of our social and economic order is change. Conditions of life and work have been in a continual process of alteration since the founding of the nation. The sum of these changes is immense. The territory has increased from a small group of states located mostly along the Atlantic seaboard to a substantial part of the entire continent and to Alaska and the Hawaiian Islands.⁵ The population has grown immensely, and production per capita is now far larger than in the beginning. In addition, there have been changes from a predominantly rural to a predominantly urban civilization, from living in relative isolation to the contacts that arise from highly developed communications, from small handicraft shops to huge plants and mechanical operations, from personal to impersonal relations in industry, from a largely self-sufficient to a commercial agriculture, and from an overflowing abundance of natural resources to limited supplies or scarcity.

These principal changes of an obvious character, only a few of which are mentioned, have been accompanied, preceded, or succeeded by others that are intangible but equally important. Knowledge and education have grown, not only in science but in the social studies, in philosophy, and indeed in all fields of human interest. As a consequence, we have become more aware of our collective troubles, and more sensitive to social evils. We recognize difficulties where none would have been seen before, injustices that would not have been questioned a century ago.

The combination of these alterations in the social and economic order and in our mental outlook has over the years created many problems that have been regarded as the occasion for federal expenditures. Thus the problems of labor arising from work in large factories have led to the establishment of a Department of Labor in the Cabinet; and the growth of trade-unions and indus-

⁵In addition, of course, to our smaller possessions, Puerto Rico, American Samoa, Guam, the Panama Canal Zone, and the Virgin Islands.

trial disputes, to a mediation agency. The increase in medical knowledge has brought a problem of public health to the fore and, therefore, a response in the form of the federal public health service. The rapid and often careless exploitation of natural resources has emphasized the need for their preservation or restoration. As a result, large sums are spent to control flood waters, to check soil erosion, and to bring dry lands under cultivation. The invention of the automobile brought a demand for hard-surfaced highways much more costly than the dirt roads over which horse-drawn vehicles traveled. Part of this response was a grant-in-aid from the federal government. The commercialization of agriculture has subjected the farmer to the hazards of the market and thereby has led to demands for nonrecourse loans or other subsidies. Earlier, the need for improved methods of production resulted in expenditures for agricultural research and education. The increasing number of penniless aged persons and the risks of unemployment to which active workers are subjected explain the various social security programs and taxes.

But this is not to say that all increases in the number of federal functions and all expenditures on them have been in the national interest. Irrespective of the importance of the public problems that these additions to government functions were designed to solve, private interests were also to be served. So pressure groups were formed to bring about and to shape the enacting legislation. As a result, some expenditures have furthered individual or group rather than social ends.

The growth of federal civil functions has resulted in a greatly increased ratio of expenditures for such purposes to the aggregate of state and local expenditures. The comparison between the ratio in recent years and that in the period before 1930 is particularly striking. In 1948, for example, the civil expenditures of the federal government were equivalent to 52 per cent of state and local expenditures, while in 1929 they were equivalent to only 10 per cent.⁶

⁶ The aggregate of state and local expenditures used for this computation was obtained from R. A. Musgrave and J. M. Culbertson, "The Growth of Public Expenditures in the United States, 1890-1948," *National Tax Journal*, June 1953, pp. 112, 113. Civil expenditures are from Appendix Table B-1, Panel A.

The increase in the civil functions and expenditures of the national government has been reflected in the larger number of civilian employees and of administrative agencies. In 1900 the federal government had 186,000 civilian employees;⁷ in 1920 the number had increased to 613,000; and in 1949, to 1,966,000. Ten new governmental agencies were established from 1900 to 1910; seventeen from 1911 to 1920; ten from 1921 to 1930; and sixty from 1931 to 1939. All these agencies were in existence in 1939. Thus in this period of thirty-nine years, ninety-seven new agencies were founded, two-thirds of them in the last nine years.⁸

⁷ Solomon Fabricant, *The Trend of Government Activity in the United States since 1900*, National Bureau of Economic Research, 1952, pp. 196, 197. Chapter 7 of that study gives an account of the factors underlying the rising trend of governmental activity.

See also M. Slade Kendrick, *Public Finance*, Houghton Mifflin, 1951, Chap. 4, "The Causes of the Increase in Public Expenditures."

⁸ Fabricant, *op. cit.*, pp. 69, 70 (table).