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Fiscal Planning for Total War

CHAPTER 1

Size and Scope of the Financial Task

THE BOMBING of Pearl Harbor by the Japanese on the morning of December 7, 1941 catapulted the United States into the second World War as a full scale participant. This climactic event provided the occasion for our formal declarations of war in rapid succession against Japan, Germany, and Italy. Nevertheless, in the perspective of history it will probably be viewed not as an isolated incident, but rather as the final link in a long chain of events that had drawn this country steadily closer to the center of the vortex. Such a perspective seems especially appropriate for a study of the financial problems arising from our participation in the war. To find a logical starting point for an analysis of this kind, we must turn back, not to December 1941, but to May 16, 1940, when the defense program was formally launched by President Roosevelt.

At that time, public attention in the United States was focused largely upon the tremendous events taking place on the Continent of Europe, and Japanese aggression appeared to most citizens as neither immediate nor serious. The rapid succession of German military victories in the spring and early summer of 1940 brought a quickening sense of national danger to the United States. With the collapse and capitulation of France in June, it dawned on most Americans that instead of being safe and distant witnesses to a 'phony' war, they were confronted by a mighty German army in actual control of a major portion of the Atlantic seaboard of Europe directly opposite their own shores. At the same time it became pain-

fully clear that the sole remaining bulwark between the United States and a direct struggle for the control of the Atlantic Ocean was British seapower.

From the outset, the defense program was viewed as a crisis program, not a long-run plan for the gradual strengthening of our defenses. War was no longer considered a remote contingency, but an imminent possibility. The great majority of the American people had become convinced that our great wealth and productive capacity would be of little value in a major military emergency if modern implements of warfare in huge quantities were not actually on hand when needed.

During the next eighteen months the United States moved step by step in the direction of involvement in the war, and each successive step was marked by the progressive amplification and elaboration of the defense program. One notable step was the transfer, in early autumn 1940, of fifty over-age destroyers to Great Britain in exchange for a string of naval and air bases. Another was the passage of the Lend-Lease Act in March 1941, when we announced our intention of providing armaments and supplies without limit to all opponents of Axis aggression. Still another was our military occupation of Iceland in July 1941, and the subsequent start of an undeclared naval war against Germany in the North Atlantic. When the Neutrality Act was amended in early autumn 1941, in order to permit the arming of our merchant vessels and the free movement of our ships into belligerent waters, it was apparent that only a fine line separated the United States from formal participation in the war.

Although the threat of Japanese aggression was growing steadily throughout this period, public consciousness of the danger was slight. When the sudden and treacherous attack on December 7 actually occurred, the American people as a whole were still mentally unprepared. The shock was so great that the declarations of war against the United States two days later by Germany and Italy came almost as an anticlimax.

1 ECONOMIC MAGNITUDE OF OUR MILITARY PROGRAM

The original defense program was an armament plan of immense proportions. In addition to providing for a two-ocean navy, Congress showed itself ready and willing to vote appropriations for airplanes, guns, tanks, and other armaments practically without limit. As depicted in Chart 1, these sums rose markedly during the succeeding months as the United States was drawn ever closer to the brink of war. By December 1, 1941, even before our actual entry into the war, Congress had authorized defense expenditures and contract commitments amounting to some $64 billion, a sum almost twice as great as the three year total of federal civil and military outlays during the fiscal years 1917, 1918, and 1919. Some expenditures, such as those for battleships, were scheduled to be spread over five years, but most were expected to be spent in a much shorter period.

After our declarations of war in December 1941, the defense program at once became a war program. Congress authorized vast new expenditures and every effort was made to expedite and expand our military production. By May 1, 1942 total Congressional authorizations had reached $165 billion, and the end was very far from being in sight. Actual military outlays in the fiscal year 1942 amounted to about $26 billion (Table 1, for data to May); while revised estimates for the fiscal year 1943, published by the Bureau of the Budget on April 24, 1942, call for total military expenditures of about $70 billion. American military outlays in 1918, the peak year of our first World War effort, did not exceed $14.6 billion, and the purchasing power of the dollar at wholesale in June 1918 was only two-thirds as great as at the end of 1941.

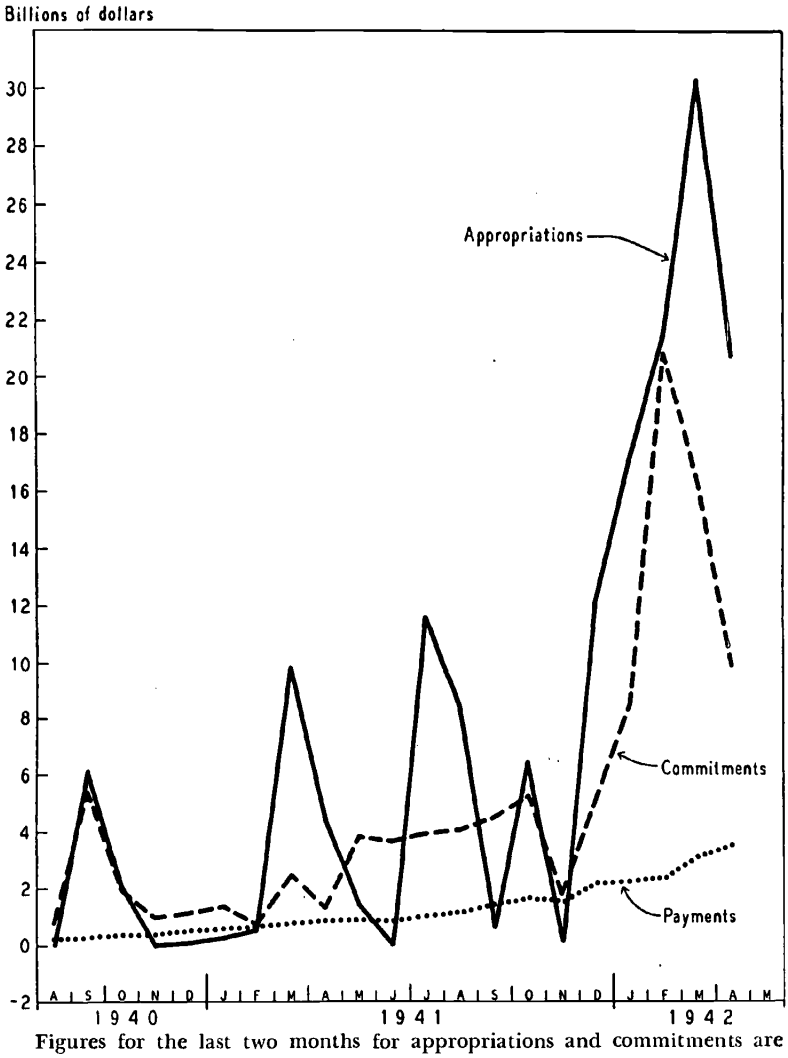
Radical Redirection of Economic Activity Needed

The primary economic problem posed by a major military emergency is fundamentally the same in any country not organized for war: to bring about a speedy, wholesale, even

radical redirection of economic activity. In no fiscal year between 1922 and 1935 did the combined expenditures for the United States army and navy reach $1 billion. They rose

CHART 1

American Military Outlays, 1940-1942



Figures for the last two months for appropriations and commitments are preliminary.

TABLE 1

American Military Outlays, 1940–1942 (millions of dollars)

	CONGRESSIONAL APPROPRIATIONS		COMMITMENTS		PAYMENTS	
	Monthly	Cumulative	Monthly	Cumulative	Monthly	Cumulative
1940						
July and earlier	12,325	12,325	4,026	4,026	187	187
Aug.	0	12,325	775	4,801	213	400
Sept.	6,155	18,480	5,467	10,268	234	634
Oct.	2,054	20,534	1,932	12,200	312	946
Nov.	−19	20,515	990	13,190	390	1,336
Dec.	80	20,595	1,160	14,350	483	1,819
1941						
Jan.	228	20,823	1,372	15,722	589	2,408
Feb.	544	21,367	745	16,467	607	3,015
March	9,891	31,258	2,472	18,939	797	3,812
April	4,413	35,671	1,349	20,288	823	4,635
May	1,404	37,075	3,838	24,126	904	5,539
June	0	37,075	3,675	27,801	892	6,431
July	11,653	48,728	3,967	31,768	1,019	7,450
Aug.	8,392	57,120	4,084	35,852	1,191	8,641
Sept.	612	57,732	4,501	40,353	1,423	10,064
Oct.	6,471	64,203	5,262	45,615	1,658	11,722
Nov.	126	64,329	1,782	47,397	1,532	13,254
Dec.	12,196	76,508	5,093	52,529	2,170	15,251
1942						
Jan.	17,164	93,672	8,414	60,943	2,229	17,480
Feb.	21,591	115,263	20,932	81,875	2,391	19,871
March	[p]30,373	145,636	[p]16,395	98,270	3,131	23,002
April	[p]19,037	[p]164,673	[p]9,899	[p]108,196	3,571	26,507
May	0	[p]164,673	[p]9,731	[p]117,900	3,880	30,387

The war activities of all United States government agencies (including Lend-Lease) plus the war activities of government owned corporations, but not foreign orders, are included.

[p] Only preliminary data available, but April 1942 figures in the table are more recent than those on which Chart 1 is based. May figures are omitted from the chart.

gradually from 1936 to 1940, but their total in the fiscal year 1940 was only $1.8 billion. To effect quickly a manifold expansion of such expenditures requires a redirection of a major fraction of the country's productive resources. Bombing and fighter planes, ships, tanks, guns, shells, and countless other implements of modern war are very special and very expensive kinds of goods, which require elaborate and specifically designed equipment for their production. Only a tiny proportion of the enormous quantities suddenly required can be supplied by existing factories which have previously specialized in the making of these goods. To accelerate production, other factories must be diverted from their normal products; and to assure ample future increases in output, many new factories must be built and equipped. The emergency likewise stimulates demand for the principal materials from which military products are made, for steel, aluminum, rubber, chemicals, etc., and for the various kinds of labor needed to produce them. Military demand for such materials and labor competes with civilian.

The start of such a program is necessarily slow. Technical experts in the War and Navy Departments and in private industry must make detailed specifications for thousands of separate items of materials and equipment, many of which must be designed or redesigned to incorporate new inventions and improvements suggested by most recent experience. During the fiscal year 1941, only $6 billion were actually disbursed by the federal government for national defense; but $27 billion of commitments were entered into, and military expenditures advanced to a level of approximately $1 billion per month. In June 1942 military outlays were running at a monthly rate of about $4 billion, and were expected to reach a rate of about $6 billion before the end of the calendar year.

In the early stages of the program, the speed with which economic resources in the United States could be turned to the defense effort was limited primarily by the time required

to design, let contracts for, and actually produce and assemble the materials and products required; and by the political and social inertia that impede rapid change. The retarding influence of these factors tended to diminish, however, with the passage of time. Even before we entered the war, the American defense program, in magnitude and urgency, had become a gigantic economic effort.

The War Effort Likely to Absorb about One-half of the Gross National Product [1]

The absolute magnitude of our war effort is nominally governed by Congressional appropriations. These, in turn, are likely to follow closely the estimates of needs prepared by the military authorities. But for some time, at least, the needs so estimated are likely to exceed substantially current capacity to supply them. During the eighteen months prior to December 1941 our military authorities properly measured our needs by the maximum requirements of a prolonged and devastating major war. They sought a tremendous expansion of the plant capacity for making munitions and similar goods, as well as the maximum immediate output of munitions. And now, under conditions of an all-out global war, Congress, in effect, has given to the military requirements a 'blank check' on the country's productive resources.

The extent to which this 'blank check' will be 'good' in any single year, the limits of our economic effort on behalf of a successful prosecution of the war, will be determined by the practical capacity of our political and economic institutions to divert productive resources from civilian to military uses, and by the physical limitations upon the transferability of resources from peacetime to military production. The difficulties of bringing about such diversion are doubtless greater in a democracy than under a totalitarian regime. The degree in which they are overcome will be strongly influenced by many factors. The speed and ease of diversion can be greatly increased by vigorous and intelligent political leadership and

well designed and well executed financial policies, by the cooperative action of leaders in industry, labor, and government, and by enthusiastic support of the program in the newspapers, radio broadcasts, motion pictures, and other organs of public opinion.

During former periods of peaceful international relations, the people of the United States, relying upon the protection afforded by their two ocean barriers, have not seen fit to build up military strength. In wartime intensified sentiments of patriotism make them willing to sacrifice their standard of living. During 1918, the American people devoted approximately 25 per cent of their aggregate national output to military purposes; during 1917–19, about 18 per cent.[2]

It seems highly probable that we shall devote a considerably greater proportion of our aggregate national output to this war effort than we did in 1918. As already mentioned, revised budget estimates for the fiscal year 1943 call for military outlays of about $70 billion. Such a level of expenditures, if actually achieved, will mean that we shall probably be devoting to the war half of the gross national product. The expected relations between the gross national product and military outlays are discussed in detail in Chapters 2 and 6.

2 TO VIEW WAR FINANCING SOLELY IN TERMS OF MONEY IS SUPERFICIAL

All who give the matter even a moment's consideration will recognize that financing a war is merely superficially a problem of money. Money is a highly useful instrument for measuring economic values, exchanging goods and services and organizing and regulating our economic activity; but it must not be confused with the underlying goods and services. Airplanes, guns, tanks, shells, and ships, and the clothing, food, and other supplies needed for the men who make and use them, can be produced with real resources alone. We can obtain them only by applying our labor, factories, and machines to materials supplied by mines, forests, and farms,

except to the very small extent that we can get some of them from abroad in exchange for gold and securities, and to the extent that we can draw on accumulated stocks of goods. Money is of great value in the prosecution of the war effort, but only as an instrument for organizing and obtaining control over these real resources. Whatever technical methods of finance we use, the primary objective is to mobilize and divert these real resources to military purposes.

3 CURRENT OUTPUT, NOT PAST OR FUTURE, THE MAIN SOURCE OF WAR GOODS

The economic requirements of the war must be met in the main from *current* national output, from the day by day and month by month products of our labor, our land, and our capital equipment. The accumulated wealth of the past and the wealth and income of the future can be drawn on only by using up stocks of materials and finished goods, and by failing to repair or replace durable capital equipment.

Although the aggregate man-made and natural wealth of the United States amounts to several hundred billion dollars, very little of it can be 'spent' quickly. Only a small part of our accumulated wealth is in inventories of finished goods for immediate use. The bulk of it, other than land, consists of durable goods, such as factories, machinery, houses, railroads, which cannot be 'used up' except over a fairly long period. Ordinarily they yield net incomes, in the form of consumable products, in any single year equal to merely a small fraction of their capital values.

Nevertheless, beyond this net income, we may increase our current gross income from them significantly, though at the expense of the capital wealth to be bequeathed to the future, by failing adequately to repair, maintain, and replace existing plant and machinery. The physical condition of most items of capital equipment, and of consumer durable goods, such as automobiles, commonly makes it possible to postpone usual replacements for shorter or longer periods. To the ex-

tent that such postponement is effected, labor and other resources can be released for the military effort.

Likewise, many of the net *additions* ordinarily made to capital equipment can be deferred for shorter or longer periods: various kinds of public construction, commercial office buildings, residential construction, and expansion of productive facilities for the manufacture of various types of consumer goods.

The aggregate annual outlays of the American people for capital goods of all kinds, including maintenance, repairs, and replacements, usually run into large sums and account for a considerable fraction of the gross output of goods and services. During 1921–38 these outlays, including net capital exports, are estimated to have averaged over $17 billion annually, and to have accounted for about 23 per cent, on the average, of the yearly gross output of goods and services.[3] To the extent that the needs of the war are met from these sources, they can be said, in a sense, to be supplied at the expense of the future.

In a somewhat different sense, a great war effort may cause hardships in the future by the distortions and dislocations created in the productive organization of the country. The wholesale diversion of economic activity from civilian to military production may disorganize whole industries and cause numerous enterprises to lose their established markets and goodwill. The result is likely to be similar when violent dislocations occur in international trade. Although not reflected by the direct money costs of the war, such losses are none the less important. In these ways, as well as by reductions in the capital equipment which would otherwise be available, a major military effort may leave an unfortunate heritage to the future.

But we cannot borrow from the future in any other sense. We cannot feed soldiers with wheat not yet grown, arm them with guns not yet made, or transport them in trucks and ships not yet built. Although the forms of financing may include

long term loans, the *present* generation, in a *real* sense, must inevitably bear most of the burden of the war.

Foreign Loans, Gifts, and Loot

Germany and Great Britain have been able to make substantial use of several further means of meeting the economic demands of war. Loot from conquered territories has been conspicuous in the case of Germany, although it cannot be estimated. Germany not only appropriated stocks of foodstuffs and similar consumption goods, but also took over and operated munitions and other factories, and imported large numbers of workers from conquered countries to till her farms and work in her factories on terms suggesting slave labor. The Under-Secretary of Foreign Affairs reported to the British House of Commons in March 1941 that the countries under German domination, exclusive of Poland, Czechoslovakia, Rumania, and Bulgaria, were then contributing the equivalent of $4.6 billion annually to maintain the German war machine. Of this sum, $3.3 billion were estimated to come from France, $300 million from Belgium, $272 million from Norway, $216 million from Holland, and $104 million from Denmark.[4]

Great Britain has received large gifts of munitions and food from the United States, and has purchased additional supplies with the proceeds from sales of stocks and bonds of American corporations and governmental obligations formerly held by British nationals. As in the first World War, though in much smaller amounts, she has also borrowed in the United States, using the proceeds of her loans to purchase American supplies.

By borrowing from other countries and their citizens, and by selling securities and other properties to them and taking the proceeds in goods or in claims on goods, a country may shift a significant part of the current burden of a military effort to others. Later generations in the borrowing country will have to shoulder the burden of paying interest and repaying

the principal of the foreign loans, and of foregoing the income from the securities and other assets liquidated abroad. In such a case, which is different from that of an internal loan, it may be proper to speak of 'shifting the cost to the future'.

The possibilities in this connection for the United States seem remote, or at best extremely limited in this war. There are no remaining non-belligerent nations in the world with highly developed industrial organizations that might be able to furnish this country with a large supply of modern armaments. We may obtain part of our raw materials from abroad by means of foreign borrowing, the liquidation of securities, or in exchange for some of our vast monetary gold holdings of approximately $23 billion. Nevertheless, it seems most unlikely that the United States will be able to meet any large part of the cost of the war in this manner.

4 PAYING FOR THE WAR THROUGH AN INCREASE IN THE NATIONAL OUTPUT

With the exceptions just noted, there are only two means of providing the goods and services needed for a major military effort. One is to bring about an increase in the aggregate national output through a fuller use of existing productive resources, part or all of the increase taking the form of military goods. The other is to curtail civilian use of productive resources and to divert the portion released to military purposes. To the extent that the first alternative is achieved, the second will be unnecessary.

If our total national production of goods and services could be expanded instantaneously and indefinitely, our military needs could be obtained entirely from the increased national output while the consumption of goods and services for non-military or civilian purposes could continue unrestricted. The basic limitations to such an ideal achievement are physical—functions of men, materials, and machines. Thus, when the entire man-power of a nation is fully and most effectively

employed in the production of goods and services, using materials and machines most efficiently, that nation can be said to have achieved its maximum national output possible within the framework of the then current industrial technique. Better machines and more efficient methods of production would tend, of course, to lift the ceiling of maximum output, but to introduce them is usually a slow process and for practical purposes has little influence in any given situation.

The national output may increase substantially in the short run, however, if large amounts of idle productive resources can be brought into utilization. To the extent that this slack is general, rather than concentrated in a few special lines, and to the extent that the types of resources and skill are well suited to the kinds of product that are in greater and greater demand, the national output may be expanded rapidly without adding materially to the physical potential.

But when the kinds of goods to be produced change radically, time is of the essence. To build additional plants and machines, to increase the supply and direct the flow of all essential materials, and finally to train and find employment for unskilled and other workers in positions where their skills can be most efficiently utilized takes time. The very creation of a national defense plan and the building of a central organization to direct it are in themselves time consuming. If sufficient time is allowed to accomplish these several necessary steps, a nation may approximate the theoretical maximum of its productive capacity.

The difficulty is that the inexorable urgency of war rarely grants a country enough time. If the emergency is sufficiently grave and immediate, such as an invasion by the enemy, it will be necessary merely to utilize existing facilities to the best advantage. Plants and machines producing goods for civilian consumption will be rapidly converted into the manufacture of war equipment, and civilian consumption will decline as military production increases. Under such circumstances, maximum speed takes precedence over maximum output, and

national output, instead of rising rapidly, may actually show a net decline.

Hence there is an inevitable conflict between the alternative goals of maximizing total national output and of achieving the desired military result within the shortest possible time. The tendency to compromise between these two extremes will be continuous, and the final choice in each instance will be by governmental leaders. They must judge the gravity of the emergency and the willingness of the people to concur in any intended course of action.

This tendency to compromise was clearly evident throughout the prewar phase of our armament program. It seems correct to state that during the first year of the defense effort methods that tended toward maximum production were emphasized rather than maximum speed. By summer 1941, however, when the urgency of the general situation became apparent, the emphasis was reversed. With our entry into the war, speed became, of course, the paramount consideration.

In the next two chapters, we attempt to estimate the effects of our war effort on national output. These estimates will serve in turn as the basis for later judgments on all aspects of financing the war. Only by actual forecasts of the probable future level, composition, and distribution of the national product can we hope to judge the extent of the sacrifices which must be made and be in a position to analyze intelligently the many fiscal problems in connection with an efficient achievement of the national goal.

Study of national income levels in the leading belligerent countries in this war, and a review of our own experience in the first World War [5] would be helpful but we have space merely to point out a few of the more important highlights that are relevant to our own immediate problem.

German Rearmament Experience

Looking first at the German experience, we find an outstanding example of a nation which started its vast rearmament

program at the bottom of a great depression when profits and wages were very low and unemployment was widespread, and had six and one-half years in which to work out a carefully organized and coordinated plan of expansion while the rest of the world slept. Germany, according to Hitler, spent in that period over 90 billion marks on armaments. This colossal total was made possible chiefly by a steady and substantial increase in the national income. In fact, it has been claimed that not only was the entire armament program paid for out of the increment to national income, but also that civilian consumption actually increased 15 to 20 per cent. Although such claims are probably exaggerated by ignoring the inferior quality of goods due to widespread reliance upon substitute or *Ersatz* products, there was apparently no appreciable decline in aggregate civilian consumption before the war started in September 1939.[6]

It has been estimated that approximately 6,000,000 workers were unemployed in 1933. Almost immediately the Nazi regime launched a vast public works program, which was converted rapidly into an armament program. Government expenditures, together with the drastic methods applicable under a totalitarian regime alone, gave employment rapidly to idle workers. In addition, the entire population worked more hours a week. As an integral part of the program, wages were frozen at the depression levels and prices were progressively controlled. The great increment in national income which occurred as the expansion program became effective was then skimmed off by means of drastic taxation and forced loans. Although resort was had to considerable bank credit borrowing, especially in the earlier phases of this period, actual price inflation was held in check by rigid restrictions and progressive rationing. As a result, the level of wholesale prices rose only about 15 per cent between 1933 and 1939.

The estimated course of German national income between 1929 and 1940, together with the growth of military expendi-

tures and governmental revenue is set forth in Table 2.[7] By 1938 Germany was faced with a severe shortage of labor and for a while it looked as though the ceiling for national income had been reached. This situation was alleviated to some extent by a better coordination and rationalization of industry, but chiefly by an influx of workers from Italy, Austria, and Czechoslovakia, and later by the forced labor of a large army of war prisoners from Poland, the Low Countries, and France. By these and other means the national income was raised from a level of 79 billion marks in 1938 to approximately 100 billion in 1940.

TABLE 2

German Military Outlays, 1929–1940
(billions of Reichsmarks)

FISCAL YEAR BEGINNING APRIL 1	NATIONAL INCOME	MILITARY OUTLAYS	GOVERNMENTAL REVENUES	RATIO OF MILITARY OUTLAYS TO NATL. INCOME %
1929	75.9	.7	9.0 (*1928*)	1
1933	46.6	3.0	6.8	6
1934	52.7	6.0	8.2	11
1935	58.4	10.0	9.7	17
1936	63.1	11.0	11.5	17
1937	71.0	16.0	14.0	23
1938	79.0	25.0	17.7	32
1939	88.0	45.0	23.6	51
1940	100.0	49.0	34.0	49

Since September 1939 the claim cannot be made that the German war program was achieved without curtailing civilian consumption, despite the rise in national income. At the end of 1940 only about half of Germany's war expenditures was estimated as being derived from the national income increment, approximately a quarter from the curtailment in civilian consumption, and the balance from a reduction of inventories and the failure to replace worn-out capital goods.[8]

The belief has been widespread that there was something mysterious, or even miraculous about the German armament achievement. The above analysis should make clear that it was nothing of the sort. In short, the achievement was rendered possible by holding civilian consumption at or very close to the minimum levels of the 1932 depression and diverting to armament production nearly all of the increment to national income which resulted from the full employment of men, materials, and equipment.

British Experience Since 1939

In the experience of Great Britain we have a very different development. Although British military expenditures increased gradually during the years just before the war, the total in 1938, the year of the Austrian annexation and the Munich settlement, amounted to only 7 per cent of the estimated national income. Meanwhile, Germany was spending almost one-third of her total national income on armaments. Consequently, the outbreak of war the next year found Britain woefully unprepared from the standpoint of modern military requirements. Although she was faced with the necessity of a rapid reorganization of her industrial machine on a wartime basis, evidence is slight that the urgency was fully appreciated by spring 1940 when the Churchill government took office. Thereafter, the war effort was pushed intensively and military expenditures were estimated, for the fiscal year ended April 1, 1941, at about one-half of the immediate prewar national income.[9]

According to estimates prepared by the British Treasury, the British national income in 1940 amounted to £5,586 million compared with £4,415 million in 1938, the last prewar year.[10] These figures are based on current pounds sterling and have not been deflated to a common price level. Since the British cost of living index rose more than 25 per cent between 1938 and 1940, as compared with a rise of 16.6 per cent in the national income as shown above, no substantial

increase in real national income occurred during the period, and perhaps an appreciable net decline took place.

Although the publication of British indexes of industrial activity stopped in the autumn of 1939, considerable external evidence supports the above conclusion. Despite a total of approximately 1,200,000 unemployed workers in the summer of 1939,[11] industrial activity in Great Britain was at a high level. The index of industrial production averaged 123.1 (1929 = 100) for the first six months of the year, and the level of national income was estimated at almost 20 per cent above that of 1929. Partly because of the absence of slack in plant and equipment, and partly because of much delay and confusion after the start of hostilities, idle workers were reemployed very slowly. In fact, the number out of work on December 11, 1939 was actually 130,000 greater than on August 15, and it was stated that "the expansion in the military sector of industry was considerably smaller than the decline in the civil sector".[12] Unemployment dropped slowly thereafter but only in the spring of 1941 could substantially full employment be said to have been achieved.

After August 1940 industrial production was unquestionably hampered seriously by the intensive German airraids, although the extent of the damage has not been reported. Heavy shipping losses of raw materials added to the difficulties by reducing imports. All in all, real national income in Britain in 1940 and 1941 was apparently little if any higher than in 1938, although national income in terms of current monetary units was higher because of the rapid rise in prices during the first year of the war. The conclusion is that the British war effort, except for gifts from abroad, is being paid for very largely by a curtailment of civilian consumption and liquidation of assets.

American Experience in World War I

The course of national income in the United States during the first World War is shown in the accompanying table. All

figures have been deflated to the level of 1913 prices in order to represent the changes in real national income. In current dollars, national income gained tremendously in 1917 and 1918 as a result of the great rise in prices but national income must be expressed in terms of a common price level before it can indicate changes in the actual production of goods and services.

ESTIMATED NATIONAL INCOME
(millions of 1913 dollars)

1913	*1914*	*1915*	*1916*	*1917*	*1918*
35,600	33,600	35,300	41,300	41,900	39,100

W. I. King, *Income in the United States* (National Bureau of Economic Research, 1922), II, 234.

Between 1914 and 1916, with the business revival set in motion very largely by the steadily growing demand from the warring nations of Europe, real national income rose approximately 23 per cent. Huge shipments of grains, meats, cotton, and other raw materials swelled exports and by 1916 many manufacturing plants were actively producing shells and other munitions for Great Britain and France. These factors induced an unusually high level of industrial activity in 1916 which assumed the proportions of a boom.

Despite the earlier production of certain war equipment for the Allies, we were poorly prepared when we entered the war in the spring of 1917. Little slack existed in our plant capacity and in our labor supply. We need not repeat the well known details of the remarkable war achievement; it is sufficient for our purposes merely to point out that it was accompanied by no perceptible increase in our real national income, which rose little more than 1 per cent from 1916 to 1917, and declined approximately 7 per cent in 1918.

Present Situation in the United States

So much for the general background. What of our present situation? At the outset it should be clear that our situation

is quite different from the German. We started the defense program with a fairly high level of business activity, with a reluctance to regiment capital and labor, and under the necessity of completing our armament program quickly. Nevertheless, at the time of Pearl Harbor our situation with respect to the outlook for national output seemed more favorable than that faced by Great Britain in the summer of 1939, and more favorable than our position in 1917 and 1918. On the asset side of our ledger we still had a considerable reserve of unemployed, estimated at about four million. Also, we had great and diverse natural resources, and an understanding of the technique of mass production probably unequaled elsewhere in the world. On the debit side of the ledger, however, serious obstacles to further expansion were present.

First, national output had already increased substantially since the defense program was launched. As compared with approximately $88 billion for 1939, the gross national product for 1941 is estimated at about $113 billion (in 1940 dollars), an increase of over 28 per cent.

The simple fact is that, since we did not feel the necessity of immediately converting our facilities to military purposes, national output expanded smoothly and rapidly between spring 1940 and autumn 1941. In most lines of industry excess plant capacity was considerable, supplies of essential materials were ample, and large numbers of skilled workers were still unemployed. While the slack in our economic machine was being absorbed under the stimulus of defense orders, many new plants and machine tools were being constructed solely to manufacture military equipment. The purchasing power thereby created quickly spilled over into a demand for non-defense goods, and the production of civilian, as well as military, goods was tremendously stimulated. Thus, throughout the first full year of our defense effort, one could say that military production was being achieved entirely from the increment to the national product, not from any net reduction in civilian consumption.

Good reasons exist for believing, however, that this period of easy expansion had drawn to a close by the autumn of 1941, even before our entry into the war. Many of our basic industries, outstanding examples of which were steel and aluminum, had been operating at capacity for many months. Defense demands for such materials were rising almost daily as new plants for the manufacture of military equipment came into operation. It was also clear that further expansion of our productive capacity for many such essential materials would be slow and inadequate. This situation created the first, and perhaps the most important, of the so-called 'bottlenecks' in industry and necessitated the establishment early in 1941 of priorities for rationing most metals, many chemicals, and some other essential materials. By summer 1941 we were already painfully aware of shortages in many such items.

Another important bottleneck had become more and more apparent in the labor supply. Although the total of unemployed was still considerable at the time of Pearl Harbor, despite the absorption of almost six million workers into industry, the army, and the navy during 1940 and 1941, a shortage of skilled workers was already evident. No adequate means of overcoming this shortage appears other than by giving extensive training to unskilled workers, which is necessarily time consuming. The possibilities of increasing output through lengthening the work week also seem limited. So firmly established is the forty hour week in such a wide segment of industry that a substantial lengthening of the work week would be resisted strenuously.

Although some further expansion in national output seems probable in 1942–43, the rate is likely to be considerably lower than during the first eighteen months of the defense effort, and further growth of our military production must be accompanied by curtailment in the production of civilian goods. This situation was clearly evident by autumn 1941, when the output of automobiles and other consumer durable goods was cut drastically. Immediately after the outbreak of

war further severe curtailments in many lines of civilian production were announced in order to make way for a more rapid expansion of military production.

5 SUBSTANTIAL DIVERSION OF RESOURCES TO MILITARY USE COMPATIBLE WITH LITTLE IMMEDIATE PRIVATION

Substantial diversion of economic resources to war purposes does not mean that a commensurate reduction must follow immediately in the living standard of the American people. As previously indicated, some part of these resources will come from additions to our total national production arising from the fuller use of productive resources. Some part will come from a reduction in new capital facilities for civilian use, and a postponement of customary maintenance and replacement of capital facilities. Still another part may be derived from a liquidation of business inventories, as well as from an increase in imports. Civilian consumption will clearly be curtailed considerably, but so far curtailment has been mainly in consumer durable goods, such as automobiles and refrigerators, rather than in such nondurables as food and clothing.

6 OBJECTIVES OF FINANCIAL POLICIES

The primary task of financial measures and of various measures of direct compulsion in connection with the war may be said to be fourfold:

1) To bring about the fullest practicable use of our productive resources;
2) To facilitate a prompt and adequate diversion of the necessary resources to military needs;
3) To distribute the sacrifices among our citizens in ways that most nearly accord with publicly accepted ideas of fairness;
4) To leave as a postwar legacy as little disorder as possible in the economic structure.[13]

Although alternative financial methods and policies should

be judged primarily in the light of the first three of these objectives, the public official, the professional student of public affairs, and the intelligent layman cannot afford to ignore the various longer run considerations involved in the fourth. If the war could be financed with equal facility by taxation or borrowing, the problems associated with a tremendous growth of the public debt might properly influence us in the direction of depending more upon taxation than upon borrowing. Similarly, it would be intelligent to mold financial policies with some regard to the problems of economic readjustment which will arise when the military emergency is over. In this study, more than passing attention is given to considerations of this character. On the other hand, no attempt is made to appraise alternative financial policies in terms of remoter and more comprehensive goals, such as fundamental changes in the economic structure of our society. This is not to say that appraisal in these terms may not properly command the attention of others. We are concerned, however, with the narrower problem of examining and appraising alternative methods of war financing within the framework of our existing institutions, save for such modifications in the latter as seem inseparably associated with today's military emergency.

NOTES

[1] The gross national product is a measure, in dollar terms, of the total output of the national economy, and should not be confused with the widely used term national income (whether gross or net). The *net national income* is a highly useful measure of the performance of a national economy in peacetime, when the dominant objective may properly be regarded as the provision of goods for current civilian consumption and the maintenance and increase of productive equipment to ensure and expand the future flow of such goods.

The *gross national income* differs from the net in that the former is reckoned without the deductions from output—allowances for depreciation and depletion—estimated as needed for replacing wornout productive facilities and thus maintaining the future flow.

The *gross national product,* as here used, differs from both concepts: not only is it stated without allowance for depreciation and depletion, but it in-

cludes also certain important items—business taxes and provision of certain reserves from business earnings—which are excluded from national income estimates as they are customarily made. Calculation of the gross national product in this way provides a result with which government expenditures on military account can appropriately be compared, whereas they cannot properly be compared with either net or gross national income. Such a measure of the performance of a national economy in wartime recognizes that the dominant objective is no longer provision of goods for civilian consumption. Needless to say, the figure for gross national product runs larger, perhaps very much larger, in any one year than the figure for net national income or even gross national income.

[2] J. M. Clark has estimated that "during the calendar year 1918 we devoted to the War some 16 billions' worth of goods and services out of a total national income of something over 60 billions, or over one-fourth of our total income" (*The Costs of the World War to the American People,* Yale University Press, 1931, p. 122). W. I. King has estimated the proportion at 23.5 per cent: see *Income in the United States* (National Bureau of Economic Research, 1922), II, 336.

The above comparison is in terms of national income rather than gross national product; and the same is true of the comparisons for various nations given in the text toward the end of this chapter. Corresponding data for gross national product, as a basis of comparison, are not satisfactory for other countries or for the United States in World War I. The reader will understand that, as gross national product necessarily exceeds national income, a military expenditure running to one-fourth of national income is a somewhat smaller fraction, but still a very important fraction, of the corresponding gross national product.

[3] Data are from Simon Kuznets' *National Income and Its Composition,* I; *Commodity Flow and Capital Formation, 1919–1938,* and *Bulletin 74,* Commodity Flow and Capital Formation in the Recent Recovery and Decline, 1932–1938 (National Bureau of Economic Research, 1941, 1938, and June 25, 1939).

[4] Cf. *Commercial and Financial Chronicle,* March 29, 1941, p. 1972.

[5] As noted above, these comparisons are in terms of national income, not, as would be more appropriate, gross national product. While some estimates of gross national product, or an approximately similar measure of wartime economic performance, have been made for certain other countries, they have not been subjected to extensive criticism and verification. For the kind of rough comparison needed in the accompanying text, we have therefore relied upon the national income as a basis of reference.

[6] This statement is made only in comparison with the consumption level in 1933 at the nadir of the great depression, a level which probably could not be lowered much further. Nevertheless, a considerable shift in the German consumption pattern is known to have occurred after 1933. Because of the urgent need for foreign exchange to purchase armament supplies from abroad, the importation of semi-luxury items, such as butter, cheese, and meats, was

sharply curtailed. This gave rise to the slogan, 'guns instead of butter'. Although there may have been no general decline in the level of consumption as a whole, the obvious shift from such imported items to staple foods produced domestically undoubtedly lowered the consumption level of certain groups within the national economy.

[7] All figures are from a memorandum by Paul Studenski, 'How Nations Procure Their Means of Defense or War', presented before the Conference on Research in Income and Wealth, May 1941. We note that the national income estimate of 100 billion RM for 1940, quoted in the foregoing table, is probably somewhat exaggerated and the real ratio of military expenditures to the national income for that year is probably higher than indicated.

For obvious reasons, the reliability of all German national statistics since the advent of Hitler is open to serious question.

[8] Hettlage 'Wer Bezahlt den Krieg?' (Who is Paying for the War?), *Der Deutsche Volkswirt,* Dec. 20, 1940.

[9] Studenski, *op. cit.*

[10] British White Paper, An Analysis of the Sources of War Finance and an Estimate of the National Income and Expenditure in 1938 and 1940, presented by the Financial Secretary of the Treasury to Parliament, April 1941.

[11] Cambridge Economic Service, Report for November 1940, p. 8.

[12] *Economist,* Jan. 13, 1940.

[13] While the avoidance of inflation is not mentioned explicitly as a primary objective, the entire analysis stresses the principle that the achievement of all the above objectives will be much more difficult if inflation is marked.