Government and the Economy: The World Wars

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U.S participation in the world wars gave rise to massive increases in the extent of government involvement in economic life and brought about many important, enduring changes in the government's relations with private economic actors. In both wars, the federal government expanded enormously the amount of its expenditure, taxation, and regulation as well as its direct participation in productive activities, creating what contemporaries described during World War I as "war socialism." Each of these great experiences left a multitude of legacies—fiscal, institutional, and ideological—many of which continue to shape the country's political economy. As William Graham Sumner wisely observed, "it is not possible to experiment with a society and just drop the experiment whenever we choose. The experiment enters into the life of the society and never can be got out again" (Sumner 1934, II, 473). The world wars certainly are among the greatest "experiments" that American society ever endured.

World War I

The outbreak of war in Europe in the fall of 1914 surprised nearly everybody in the United States, a country with little desire and no significant preparation to enter such a war. President Woodrow Wilson declared the nation's neutrality and urged all Americans to "be neutral in fact, as well as in name, during these days that are to try men's souls"—a position from which he himself began to retreat before long, especially after a German U-boat sank the (munitions-laden) British liner *Lusitania* on May 7, 1915, causing the deaths of 128 Americans.

Notwithstanding the official neutrality, some Americans, especially among the well-heeled financial and business elites of the Northeast, had no doubt whose side they favored. As Morgan partner Thomas W. Lamont said, "we wanted the Allies to win, from the outset of the war. We were pro-Ally by inheritance, by instinct, by opinion" (qtd. in Chernow 1990, 186). J. P. Morgan and Company soon became the sole purchasing agent for the French and British governments in the United States and also helped to steer some $1.5 billion in private credits to the Allies (Chernow 1990, 200). With the bellicose National Security League and former president Theodore Roosevelt beating the war drums on Wilson's right flank, the president moved steadily closer to his ultimate decision to seek a U.S. declaration of war.

Meanwhile, various advocates of "preparedness" undertook to survey the nation's resources and to empower the government to mobilize those resources for war. The National Defense Act of 1916 authorized the president to place obligatory orders for munitions at prices set by the government. The Army Appropriations Act of 1916 authorized the president to take control of transportation systems during wartime and to create a high-level Council of National Defense charged with determining how the economy might best be mobilized for war.

As the war proceeded, the belligerent European nations diverted many of their ships from commercial service to military purposes. In addition, some ships were sunk by enemy action, interned in foreign ports, or confined to home ports. As the supply of shipping services constricted, shipping rates skyrocketed. In response, the Shipping Act of 1916 was enacted, creating the U.S. Shipping Board and authorizing it to regulate the rates and practices of waterborne common carriers in foreign and interstate commerce and, through a subsidiary, to acquire, construct, and operate merchant vessels. In 1917, the subsidiary, known as the Emergency Fleet Corporation, began operation, and between 1917 and 1922 it built more than 2,350 ships (hundreds of them nearly worthless wooden vessels) at a cost of more than $3 billion—approximately one-tenth of the entire financial cost of the war (Day 1920, 592-93; Sicotte 1999, 861, citing U.S. Shipping Board reports).

Meanwhile, the Shipping Board commandeered 431 steel ships of more than 2500 deadweight tons under construction in U.S. yards, and it took control of all existing U.S. steel cargo vessels of more than 2500 deadweight tons and all existing U.S. passenger vessels of more than 2500 deadweight tons suitable for ocean service (Hurley 1927, 32, 42).

Even before the U.S. declaration of war on April 6, 1917, military leaders and the president had decided to rely on conscription to fill the ranks of the wartime army. In Congress, great opposition arose to a military draft. Missouri Senator James A. Reed warned that "the streets of our American cities [will be] running red with blood on Registration day" (qtd. in Higgs 1987, 132). Despite such grave apprehensions, a draft law ultimately was enacted on May 18, 1917. The government mounted a massive propaganda campaign to whip up support for the draft, and the registration of some ten million men aged 21 through 30 took place on June 5 without major incident. Not content to rely on moral suasion and hoopla, the government also provided penalties of a year in prison for failure to register and a fine of as much as $10,000 and imprisonment for as long as twenty years for obstruction of the draft—draconian punishments that were imposed later on hundreds of people who had the temerity to speak out against conscription (Linfield 1990, 43-45).

By employing thousands of local civilian boards rather than the military to administer the draft, the government operated the system with considerable success. As Provost Marshall General Enoch H. Crowder, who headed the system, observed with rare frankness, the local draft boards served as "buffers between the individual citizen and the Federal Government, and thus they attracted and diverted, like local grounding wires in an electric coil, such resentment or discontent as might have proved a serious obstacle to war measures, had it been focussed on the central authorities" (qtd. by Kennedy 1980, 152). All told, the draft snared 2,820,000 men, or some 72 percent of all those who served in the army in 1917 and 1918, and no doubt many of those who volunteered for military or naval service did so only because of the looming threat of the draft (the rate of evasion, however, was 11 percent, which showed that not everybody was intimidated) (U.S. Bureau of the Census 1975, 1140; Farrell 1985, 18-19, 206).

Although the government could draft men for war, it could not simply conscript the vast resources needed to feed, clothe, shelter, train, and transport these men and to equip them with modern arms and ammunition, and therefore it had to find ways to obtain sufficient cash to purchase the requisite goods and services. Federal outlays, which had been considerably less than a billion dollars per year in the period just before the war, jumped to $12.7 billion in fiscal year 1918 and $18.5 billion in fiscal year 1919 (see table 1); hence the government needed to acquire an unprecedented amount of revenue.

To do so, it imposed a variety of new taxes, including many excise taxes and steep taxes on "excess" corporate profits, and it raised both individual and corporate income-tax rates enormously. Before the war, the highest individual income-tax rate had been 7 percent on taxable income in excess of $500,000. In 1918, in stark contrast, the highest rate stood at 77 percent on income in excess of $1,000,000 (U.S. Bureau of the Census 1975, 1095). More important, before the war the lowest rate had been 1 percent on income in excess of $20,000, but in 1918, it was 6 percent on income in excess of $4,000. Thus, a substantial portion of the middle class found itself liable for payment of a tax that had been touted originally as aimed exclusively at extracting money from the very rich. Owing to the new taxes and the increased rates of existing taxes, federal revenues rose from well under a billion dollars in fiscal year 1916 to $6.6 billion in fiscal year 1920 (see table 1).

Still, the tax revenue the government obtained fell far short of its expenditure, and the rest had to be borrowed. The Treasury mounted a series of Liberty Bond drives, accompanied by considerable propaganda and hoopla, to stir the public's desire to lend at what would turn out to be

(owing to unanticipated inflation) substantially negative real rates of interest. As the government's borrowing proceeded apace, the national debt climbed steeply, from a little more than $1 billion before the war to more than $25 billion at the end (see table 1). Thus, the public came to be saddled with the burden of servicing a government debt destined never again to be paid off, although some debt reduction did take place as the Treasury ran budget surpluses during the 1920s (see table 1).

To ease the Treasury's task of selling its huge bond issues, the newly created Federal Reserve System ("the Fed") swung into action, adopting low lending rates and setting other conditions that encouraged commercial banks to borrow reserves from the Fed. Flush with reserves, the commercial banking system then flooded the economy with an outpouring of new credit and money (Friedman and Schwartz 1963, 213-20). As table 1 shows, the money stock (narrowly defined as currency held by the public plus all deposits in commercial banks) doubled between 1915 and 1920. The upshot of this doubling illustrated perfectly the quantity theory of money: the purchasing power of money fell precisely by half, as shown by the doubling of the GDP deflator (see table 1).

Because of the rapid inflation that the Treasury/Fed policies caused, the economy had a spuriously prosperous appearance during the war: money incomes were soaring, but the real value of civilian output was falling. Between 1916 and 1920, nominal GNP increased by 79 percent, but real GNP increased by only 6 percent. More important, real *private* GNP (that is, real GNP minus real government purchases of final goods and services) increased by just 5 percent—less than the rate of population growth—and nearly all of that small increase was wiped out in the postwar depression of 1921. During the U.S. war years 1917 and 1918 themselves, real private GNP actually fell substantially, by 6 percent in each year (see table 2)—a classic illustration of guns displacing butter (as concluded also by Romer 1988, 107-08).

Just as the government declined to pay free-market prices to lure men into military service, so it displaced free markets elsewhere as it sought to hasten the rapid reallocation of many other resources deemed essential to its prosecution of the war. Although public opinion obstructed outright conscription of food, fuel, and many other goods and services, the government promoted its war program by means of various interventions in the markets. These controls quickly proliferated and penetrated deeply into the operation of the market economy, which soon became more rigged than free in countless ways.

A major step in this direction was the enactment of the Food and Fuel Control Act (usually called the Lever Act) on August 10, 1917, giving sweeping statutory authority to the U.S. Fuel Administration and the U.S. Food Administration, the latter of which the president had created earlier by executive order in May, appointing Herbert Hoover as its head. The law empowered the government to exert a panoply of controls over the production, distribution, consumption, and pricing of food, feed, fuel, fertilizer, and the equipment used to produce these goods. The agencies proceeded to wield their vast powers on a wide scale, dictating the prices of wheat, sugar, and coal and imposing a variety of "conservation" orders to stimulate greater production of basic commodities and to steer them toward war uses, including the subsistence of European allies (according to a contemporary slogan, "Wheat Will Win the War"). The Lever Act also forbade the production of "distilled spirits for beverage purposes," a wartime concession to the prohibitionists that presaged the ratification of the Eighteenth ("Prohibition") Amendment of the U.S. Constitution just two months after the Armistice ended the war.

To control industrial raw materials, components, and finished products, President Wilson created the War Industries Board by executive order in July 1917, then strengthened it substantially in March 1918, appointing Wall Street speculator Bernard M. Baruch as its chairman. The WIB sought to steer goods to uses the government favored for its war-production program, primarily by

issuing priority ratings that established the sequence in which sellers were to fill various customer orders. As the WIB exerted, in Baruch's words, "the power to determine who gets what and when" (Baruch 1960, 55), the price system lost its essential rationale as a signaling and allocation system. Thinly veiled threats that other government agencies might withhold fuel or transportation services or even confiscate production facilities outright served to enforce the WIB's ostensibly voluntary agreements with industrialists.

A WIB price-fixing committee, which reported directly to the president, undertook to fix at low levels the prices of scores of goods in especially keen demand for the government's war-production program (such as metals, chemicals, construction materials, textiles, and leather goods), thus keeping the financial costs of that program artificially low and concealing its true economic cost (Taussig 1919, 210; see Haney 1919, 105-06, for a list of products affected). These price controls were not intended to contain overall price inflation; nor did they do so inadvertently to any appreciable degree.

Many other wartime government agencies also sought to shape the allocation of goods and services in support of the government's war-production program: the War Trade Board, the War Finance Corporation, the War Labor Administration, and thousands of others, including a multitude that operated at the state and local levels of government (Paxson 1920, 76, refers to a War Department General Staff guide to "nearly three thousand separate agencies"). To call the whole apparatus "central planning" would be to suggest a greater degree of coherence than it actually possessed. (Of course, central planning as practiced later in places such as the USSR and China never had the coherence it purported to have, either.) Nevertheless, "war socialism" as practiced in the United States during World War I definitely constituted a massive departure from the market-oriented system in operation prior to the war, and sloughing off every vestige of this emergency contrivance after the war had ended would prove to be impossible.

The railroad industry, perhaps as much as any, came out of the war permanently altered. Of course, the government had already become deeply engaged in regulating the interstate railroads decades before the war, and legislation in the early twentieth century had strengthened the Interstate Commerce Commission's powers substantially. Indeed, the faulty exercise of those powers had put the industry into a tight price-cost squeeze, and as a result it had entered the war period poorly equipped to provide the services it was then called upon to provide in connection with the government's wartime economic and military mobilizations (Martin 1971).

Actions taken by the railroad labor unions made matters even worse. Just prior to U.S. entry into the war, in 1916, a nationwide strike of the operating brotherhoods had been averted only after President Wilson intervened and gained congressional approval of the Adamson Act, which effectively raised wage rates by 25 percent by reducing the standard workday from ten to eight hours with no change in daily pay (Higgs 1987, 116-21). Toward the end of 1917, the unions again threatened a nationwide strike unless their further demands were met, this time jeopardizing the entire war-production program, which the government had rendered especially vulnerable by concentrating its munitions orders and its use of ports of embarkation in the northeastern part of the country.

When severe winter weather brought an already shaky railroad system near a standstill in December 1917, the Wilson administration chose to resolve the matter by nationalizing the interstate railroad companies and placing them under the control of the U.S. Railroad Administration, headed by the Treasury secretary (who was also Wilson's son-in-law) William Gibbs McAdoo. The Railroad Administration proceeded in effect to cartelize the railroad industry, operating the various companies as a single economic unit. To assuage the restive unions, McAdoo soon approved a substantial wage

increase, retroactive to January 1, 1918, shifting the cost of this increase onto shippers and taxpayers. Although the government promised to pay the owners of the commandeered railroads an annual rent equal to each company's average net operating income during the three years ending June 30, 1917, the real value of this payment declined steadily as the purchasing power of the dollar fell continually during the time of the government's possession—the GDP deflator rose 55 percent between 1917 and 1920 (see table 1). When the government finally returned the railroad properties to their private owners under the terms of the Transportation Act of 1920, it did so only with many strings attached, shifting vital aspects of managerial discretion from the owners to the ICC. As a legal historian observed, the 1920 law "stopped only short of nationalization" (Murphy 72, 6).

Wartime labor disputes also prompted the government to nationalize other industries, including the telephone, the domestic telegraph, and the international telegraphic cable industries. In addition, for various reasons, it took over eleven specific industrial plants and in effect nationalized the ocean-shipping industry. Exercising its wartime censorship powers, the government shut down more than a hundred publications, taking an especially heavy toll on the foreign-language press (Linfield 1990, 34, 46-47).

Although U.S. participation in World War I lasted just nineteen months, the experience affected the society, the polity, and the economy deeply and permanently. Fiscal, institutional, and ideological effects loomed large.

The war effected a permanent shift in the federal government's sources of revenue away from consumption taxes such as the tariff and domestic excise taxes and toward individual and corporate income taxes. Never again, however, would the federal income tax be a forthright "class tax" laid only on the well to do. Instead, henceforth, it would bring substantial portions of the middle class within its reach (in this respect, World War II soon proved to be even more significant). Never again would individual income-tax rates range from 1 to 7 percent. Even in 1929, after a series of tax cuts during the Harding and Coolidge administrations, the top rate stood at 24 percent on income in excess of $100,000—more than three times the top prewar rate (U.S. Bureau of the Census 1975, 1095).

Armed with a strengthened capacity to collect taxes, the federal government kept its spending at a substantially higher level even after the war bulge itself had come and gone. In the seven prewar fiscal years 1910-16, federal outlays averaged $707 million per year; in the seven postwar fiscal years 1923-29, they averaged $2,978 million per year, or 321 percent greater (an increase of 73 percent would have been sufficient to compensate for the reduced purchasing power of the dollar) (outlay data from U.S. Office of Management and Budget 2002, 21; GDP deflator from Johnson and Williamson 2002). In this respect, among many others, the war produced a "ratchet effect" on the growth of government.

The institutional legacies of World War I loomed even larger than the fiscal legacies. "The Administrative Revolution in Government," observed Sir John Hicks, "can (almost) be precisely dated. . . . . [I]t was during [World War I] that governments discovered—to their astonishment and sometimes to their dismay—what power, what economic power, what power over their own peoples had come into their hands. Some, when the war was over, endeavoured to forget it; only to be driven to resurrecting it, bit by bit, as the easiest way of coping with one after another of the emergencies, political and economic, which they encountered" (1969, 162). In the United States, scarcely more than a decade had elapsed before this resurrection took place with a vengeance:

> In the depths of the Great Depression, the federal government employed the wartime measures as models for dealing with what Franklin Roosevelt called "a crisis in our national life comparable to war." Hence the War Finance Corporation came back to life as the Reconstruction Finance Corporation, the War Industries Board as the National Recovery Administration, the Food Administration as the Agricultural Adjustment Administration, the Capital Issues Committee as the Securities and Exchange Commission, the Fuel Administration as the Connolly Act apparatus for cartelizing the oil industry and the Guffey Act apparatus for cartelizing the bituminous coal industry. The military mobilization of young men came back as the quasi-military Civilian Conservation Corps. The Muscle Shoals hydroelectric munitions facility became the germ of the Tennessee Valley Authority. The wartime U.S. Housing Corporation reappeared first as part of the Public Works Administration in 1933 and then as the U.S. Housing Authority in 1937. The New Deal's federal social security program harked back to the wartime servicemen's life insurance and the payments made to the soldiers' dependents. The temporary wartime abandonment of the gold standard became permanent in 1933-34, when the government nationalized the monetary gold stock and abrogated all contractual obligations, both public and private, to pay gold. Along with the revived agencies came many of the wartime planners, including Baruch, Felix Frankfurter, George Peek, Hugh Johnson, John Hancock, Leon Henderson, and John Dickerson, not the mention FDR himself, as advisers or administrators. Obviously the wartime precedents were crucial in guiding the New Dealers and helping them to justify and gain acceptance of their policies. (Higgs 1997, 314)

Less visibly, though ultimately perhaps most significantly, the war's ideological legacies continued to shape the thinking of policy makers and the public for decades. "It was from this type of experience," George Soule observed of World War I, "that the possibilities of governmental planning were first learned in the United States" (1947, 32). Soule made reference especially to the engineers and economists who had participated in the wartime government planning operations (62-63); other observers noted the same effect on businessmen and government officials. "We helped inter the extreme dogmas of laissez faire," concluded Bernard Baruch, the wartime industrial czar. "Our experience taught that government direction of the economy need not be inefficient or undemocratic, and suggested that in time of danger it was imperative" (1960, 74). Baruch was scarcely a disinterested historian of the wartime planning (and these "lessons" that he and others drew from the experience were erroneous), yet no one can deny that the wartime collectivism had a profound effect in "softening up" the middle classes for an eventual acceptance of a big, active, interventionist central government. Collectivists of various stripes, unable to maintain the full panoply of wartime programs after peace returned, bided their time, awaiting the next national emergency, when they would be poised to propose—and much of the public would be predisposed to accept—programs similar to those employed in managing the war economy.

World War II

Soon after World War I ended, a revulsion against the war and its then-seemingly-pointless sacrifices set in, and during the 1920s and 1930s, the public for the most part supported measures to preserve U.S. neutrality and to keep the armed forces on a near-starvation diet. In the Senate the Nye

Committee hearings of 1934-36 cast an accusing light on the "merchants of death," the financiers and industrialists whom in those days many people blamed for the ill-fated U.S. engagement in the Great War. To preclude foreign entanglements that might drag the country into a future war, Congress passed strict neutrality laws in 1935, 1936, and 1937, and a less strict law in 1939. Therefore, despite some interwar planning by the War Department, the Navy Department, and a handful of big businessmen, the nation possessed scant preparation for engagement in a great war when the conflagration broke out in Europe in 1939. The U.S. Army had only 190,000 officers and men (U.S. Bureau of the Census 1975, 1141), making it the world's sixteenth largest. Nor did the United States possess anything that deserved to be called a substantial munitions industry.

Whereas Woodrow Wilson in 1914 had urged his fellow citizens to remain neutral in thought as well as deed, Franklin D. Roosevelt in 1939 declared: "This nation will remain a neutral nation, but I cannot ask that every American remain neutral in thought as well." Roosevelt himself, however, had no intention of remaining neutral in either thought or deed, and he worked deviously but relentlessly for more than two years to push the United States ever closer to outright belligerency, finally gaining his objective when U.S. economic sanctions against—and an unacceptable ultimatum to—the Japanese provoked them to make a desperate gamble by attacking U.S. forces in Hawaii and the Philippines (Kennedy 1999, 426-515; Garrett 2003).

Meanwhile, the government had begun to mobilize and organize resources for war much more seriously after France and the Low Countries fell to Hitler's forces in the spring of 1940. A series of makeshift planning agencies guided these preparations: the National Defense Advisory Commission, the Office of Production Management, the Office of Price Administration and Civilian Supply, and the Supply Priorities and Allocations Board, all of which drew their authority from presidential directives and operated under FDR's tight control within the Executive Office of the President. Only after the attack on Pearl Harbor did Congress enact war-powers laws that created a firm statutory foundation for the War Production Board and the other agencies that would direct the wartime command economy during the next four years.

Of all the measures taken during the eighteen-month "defense period" that preceded the formal U.S. declaration of war, none loomed larger than the reestablishment of military conscription. A proposal to reinstitute the draft ignited a fierce national debate in 1940. In the Senate, Arthur Vandenberg described a peacetime draft as "repugnant to the spirit of democracy and the soul of Republican institutions," Henry F. Ashurst opposed "riveting shackles of militarism upon the American people," and Walter F. George worried that Congress could not grant the president such power "and convince the American people that we are not ready and resigned and reconciled to the final, inevitable, short step of actually entering the war" (qtd. in Higgs 1987, 200). Ultimately, however, the nation's first peacetime national conscription law was enacted on September 16, 1940. Still, the draft remained a contentious measure, and when the law came up for extension in the summer of 1941, with a provision to retain the existing draftees in service beyond the twelve months originally stipulated, the House passed it by the narrowest possible margin, 203 to 202.

After the United States formally entered the war, the draft laws received periodic amendment. The ages of men subject to induction were extended at both ends to cover the span 18-45 inclusive, and the period of service became the duration of the war plus six months. Deferments remained controversial, especially the general exemption of agricultural workers. Naturally, many men joined the Navy or the Army Air Forces to escape the draft and the consequent likelihood of assignment to the dreaded infantry. Once again, local civilian boards rather than the military itself administered the draft system, which contributed greatly to its acceptance by the draftees and their

families. Secretary of War Henry L. Stimson praised the system as "a triumph of decentralization" (Stimson and Bundy 1947, 162).

Of the sixteen million who served in the armed forces at some time during the war, more than ten million, or some 63 percent, were drafted outright (Chambers 1987, 254-55; Higgs 1987, 200-202). The buildup of this enormous conscription-fed armed force has a crucial bearing on the claims made during and since the war that U.S. participation in World War II "got the economy out of the Great Depression." The explanation that has usually accompanied this claim is a species of vulgar Keynesianism: the "wartime prosperity" is said to have resulted from massive government spending financed for the most part by borrowing and the creation of money. Although the government's fiscal policies during the war certainly had major importance in many respects, the core of the claim about elimination of the depression relates to the reduction of unemployment, not to the increase of national output (an increase that consisted entirely of military outputs, not of civilian goods and services [Higgs 1992, 44-49]). The truth, however, is simple: overwhelmingly, the reduction of unemployment occurred because of the buildup of the armed forces.

As table 3 shows, the uniformed, active-duty ranks of the armed forces increased by 11.6 million persons between mid-1940 and mid-1945. That increase alone was more than sufficient to account for the simultaneous reduction of unemployment by 7.9 million persons. However, during those five years, the armed forces also increased their civilian employment by 2.3 million persons, and "private" employment in military-supply industries increased by 10.7 million (the increase had been even greater during the peak war-production years 1943 and 1944). While this gigantic diversion of labor to military purposes was proceeding, however, total *nonmilitary* employment actually fell by 7 million persons (again, the drop had been even greater in 1943 and 1944).

Nobody needs a macroeconomic model to understand these events—not Keynesianism, not monetarism, not any modern refinements of those theories. The government forced millions of men into the armed forces, paid millions of others to equip those men with guns and ammunition, and hence unemployment disappeared—end of story, so far as the elimination of unemployment is concerned. None of this, however, had anything to do with the creation of genuine prosperity, and in no way does it support the oft-repeated claims that the war brought about a "carnival of consumption" (Blum 1976, 90) and that "economically speaking, Americans had never had it so good" (Melman 1985, 15). It would have been more than miraculous had the U.S. economy managed to improve the well-being of consumers (either currently or, via investment, subsequently) while reducing civilian employment by more than 10 million persons, or some 15 percent (22 percent between 1940 and 1943), and no such miracle occurred.

The government did spend gargantuan amounts of money to prosecute the war; never before or since did the government's fiscal activities so dominate the nominal economy. As table 4 shows, federal outlays increased from $9.5 billion in fiscal year 1940 to $92.7 billion in fiscal year 1945, at which time those outlays amounted to almost 44 percent of officially measured GNP (U.S. Bureau of the Census 1975, 224).

To get the wherewithal to pay for this huge gush of spending, the government proceeded, as it had during 1917 and 1918, to impose new taxes, to increase the rates of existing taxes, and to lower the boundaries above which people became liable for the payment of taxes. Annual excise-tax revenue more than trebled between 1940 and 1945. Employment-tax revenue more than doubled. The major sources of increased revenue, however, were individual and corporate income taxes. The latter zoomed from $1.0 billion in 1940 to $16.4 billion in 1945 (the greater part representing an "excess-profits" tax), while individual income taxes jumped from $1.1 billion to more than $18.4 billion (U.S. Bureau of the Census 1975, 1105). Before the war, fewer than fifteen million

individuals filed an income-tax return; in 1945, approximately fifty million did so (ibid., 1110). And not only did most income earners have to pay; they also had to pay at much higher rates: the bottom bracket rose from 4.4 percent on income in excess of $4,000 in 1940 to 23 percent on income in excess of $2,000 in 1945. The top rate reached a virtually confiscatory rate of 94 percent on income in excess of $200,000 (ibid., 1095). In one mighty push, the government had completed the transformation of the income tax from a "class tax" to a "mass tax," which it would remain ever afterward. Moreover, the payroll withholding of income taxes, which the government imposed midway through the war, also remained an essential component of the great federal revenue-reaping machine.

Notwithstanding the stupendous increase in taxation, the government's revenues amounted to less than half of its outlays (see table 4), and it had to obtain the rest by borrowing. Therefore, the national debt swelled from $54 billion in 1940 to $260 billion in 1945. The Federal Reserve System bought some $20 billion of government bonds itself, thereby acting as a de facto printing press for the Treasury, and it aided the government's bond sales indirectly by adopting policies that dramatically expanded the volume of commercial-bank reserves and thereby contributed to the rapid increase of credit and money, which pumped up the demand for government bonds. As table 4 shows, the money stock increased by 171 percent between 1940 and 1948 (the latter being first year almost completely free of the effects of wartime price controls), while the GDP deflator rose 68 percent—this time the simple quantity theory of money was an imperfect predictor, although its core relationship (more money —> higher price level) still applied.

The reader will note that table 4 lists no figures for the GDP deflator from 1942 through 1947. Such figures have been computed, to be sure; and all too many economists and historians have taken them seriously. In truth, however, the operation of a massive military-procurement system combined with a shrunken civilian economy subject to comprehensive price controls renders all such price-index calculations so problematic that for most purposes it is best not to use them at all (Higgs 1992, 49-52). The government began to dictate selected prices in 1941; it expanded and tightened the controls considerably in 1942 after the enactment of the Emergency Price Control Act in January and the Economic Stabilization Act in October. Not until late 1946 did the government abandon the price controls, and not until 1948 had the economy shaken off the direct effects of those controls nearly completely.

A massive bureaucracy, the Office of Price Administration, administered the maze of controls and—because the price controls gave rise to pervasive shortages—the related rationing of a number of important consumer goods, including gasoline, tires, canned foods, meats, fats, sugar, clothing, and shoes. Although many people evaded the price controls and rationing restrictions and a black market flourished for many items, the OPA controls of basic consumer markets proved a major nuisance to civilians from 1942 through 1946 (Rockoff 1984, 85-176).

Consumers might well have counted their blessings that the rationed goods were available at all, because many other goods were not. Early in 1942 the War Production Board forced the cessation of civilian automobile production, compelling this great industry to turn its factories and managerial talents to the production of war goods such as army tanks and bomber planes. Many other consumer durable goods, including most household appliances, were either unavailable or available only in tightly limited quantities during the war. New construction of private residential housing came to a halt as the government diverted construction materials to the building of military bases and other war-related facilities and to the construction of housing for munitions workers at places where existing living accommodations could not shelter the influx of Rosies seeking to rivet.

Closure of the civilian automobile industry was only one of thousands of measures taken by the War Production Board, the central agency of the government's wartime command economy (for many details, see U.S. Civilian Production Administration 1947). In 1940 and 1941, the WPB's predecessor agencies had begun to issue priority ratings similar to those the WIB used during World War I, to give precedence to orders placed by critical munitions producers. Although the WPB inherited this system, expanded and refined it, and to some extent continued to use it throughout the war, the system proved highly unsatisfactory in practice. Excessive issuance of high priority ratings gave rise to "priorities inflation" and thus rendered the system incapable of serving its intended purpose. In 1943 the WPB implemented a Controlled Materials Plan for allocating three critical metals—steel, copper, and aluminum—to the major procurement agencies (Army, Navy, Army Air Forces, Maritime Commission, and Lend-Lease), which in turn allocated their quotas down the chain of their contractors and subcontractors. The idea was that the tail composed of these three materials would wag the dog of the entire war-production program. Although the authorities claimed success for this plan, they continued to supplement it with an array of other controls besides priorities, including spot allocations and production scheduling. Like any system of central planning, the entire apparatus was pervaded by conflicts, inconsistencies, and misdirections. The authors of one of the most careful studies of the system made liberal use of terms such as "administrative chaos," "administrative anarchy," "chasm between plan and operation," and "trial-and-error fumbling" (Novick, Anshen, and Truppner 1949, 110, 140, 219, 291, 394, 395, 400, 403), and they concluded that the successes of the wartime planned economy were "less a testimony to the effectiveness with which we mobilized our resources than they are to the tremendous economic wealth which this nation possessed" (ibid., 9).

Amid the sound and fury of the wartime command economy, no area proved more troublesome than labor. Owing to the massive withdrawal of prime workers from the civilian labor force by the draft and voluntary enlistments, labor grew ever scarcer, and the civilian labor force consisted increasingly of youths, elderly people, and inexperienced women who were drawn to seek employment, especially in the relatively high-paying munitions industries such as aircraft manufacturing and shipbuilding. The War Manpower Commission attempted to steer labor to the occupations and locations where it would make the greatest contribution to the war-production program, but labor proved difficult to steer. Toward the end of the war the president proposed that a national-service law be enacted that in effect would make all workers subject to an industrial draft, but powerful opponents of this idea, including the labor unions and the major business associations, blocked its congressional approval.

Labor unions, which had prospered after passage of the National Labor Relations Act in 1935 and had become leading players in the New Deal coalition, continued to flex their muscles during the war. They finagled constantly to push wages and other compensation above the limits the government had set in an effort to restrain the wage-price spiral that its inflationary monetary policy was causing. In general, the government enforced a "maintenance of membership" rule, which helped the unions to add some four million new members to their ranks—an increase of approximately 40 percent—during the war years. Some powerful unions, most prominently the railroad operating brotherhoods (as usual) and the United Mine Workers (UMW), took advantage of their choke-hold on the production of critical war services and materials to demand large wage increases, striking when their demands were not met. Twice in 1943 the government seized the bituminous coal mines and threatened to draft the striking miners, but the miners eventually achieved their objectives for the most part. (Roosevelt, who despised the UMW's charismatic leader John L. Lewis, promised that he would resign from the presidency if Lewis would just commit

suicide, but the president got no satisfaction in that regard, either.) Altogether, the government took over more than forty production facilities—sometimes entire industries—during the war, and half that many during the immediate postwar years, to settle union-management disputes and thus to avoid protracted work stoppages (see the detailed information about wartime seizures in Justice Frankfurter's concurring opinion in *Youngstown Sheet & Tube Co. et al.* v. *Sawyer*, 343 U.S. 679, at 621-27).

Not content with the regimentation of workers and capitalists in the private sector, the government undertook to build enormous industrial facilities on its own account, thus embracing war socialism in its pure form. Of the $25.8 billion invested in new manufacturing plants and equipment between mid-1940 and mid-1945, $17.2 billion, or precisely two-thirds, was federally financed, much of it directly by the armed forces and the rest for the most part by the Defense Plant Corporation, a wartime subsidiary of the Reconstruction Finance Corporation (Higgs 1993, 180, citing WPB data). As RFC head Jesse Jones observed, "At the close of World War II, Defense Plant Corporation's investment alone embraced 96 per cent of the nation's synthetic rubber capacity, 90 per cent in magnesium metal, 71 per cent in the manufacture of aircraft and their engines, 58 per cent in aluminum metal, and nearly 50 per cent of the facilities for fabricating aluminum" (Jones 1951, 316). The Navy and the Maritime Commission plowed some $2.2 billion into the construction of shipyards and of plants for the production of ship components (Lane 1951, 397). Much of the government's wartime capital formation had little or no value for civilian production, and the government received only pennies on the dollar for the plants and equipment it sold to private purchasers in the latter 1940s (Higgs 2004).

Like the previous world war, World War II left a multitude of fiscal, institutional, and ideological legacies. Having lived through this unprecedented experiment in government control of economic life, Americans would never be the same and, in ways both direct and indirect, the government's role in the economy would be permanently enlarged.

The fiscal effects of World War II loomed large. In fiscal year 1940, when the depression still lingered and the government was spending heavily for a number of relief programs, federal outlays amounted to $9.5 billion, but in fiscal year 1948, after the wartime command system had come and gone and the economy was once again enjoying genuine prosperity, outlays amounted to $29.7 billion, or 212 percent more (see table 4), even though a 68 percent increase would have been sufficient to compensate for the fallen purchasing power of the dollar. Relative to GNP, federal outlays amounted to 10 percent in fiscal year 1940 and 12.2 percent in fiscal year 1948 (computed from data from table 4 and U.S. Bureau of the Census 1975, 224). Federal receipts had grown much more, however: by 535 percent between fiscal years 1940 and 1948. (In the former year the budget had a large deficit, in the latter year a much larger surplus [see table 4].)

The huge increase in federal revenues testified to the power of the wartime tax system, which the government retained when the war ended. Although some taxes were terminated, and some reductions were made in tax rates, many of the wartime changes remained, including the capture of the masses in the income-tax net and the payroll withholding of taxes to prevent employees from avoiding payment. In 1940 the lowest individual tax rate was 4.4 percent on income in excess of $4,000; in 1948 it was 16.6 percent on income in excess of $2,000 (equivalent to little more than half that amount in 1940 dollars) (U.S. Bureau of the Census 1975, 1095). In 1948, 11.5 million of the persons who paid individual federal income tax, or some 55 percent, had the tax withheld by employers (ibid., 1091). With this war-spawned tax system, the federal government possessed the fiscal engine it would use to propel the postwar warfare-welfare state.

Despite the huge increase in taxation during the war, the government had borrowed more than half of the funds it expended; hence, the national debt had ballooned from $51 billion in mid-1940 to $271 billion in mid-1946. Although a small amount was paid down in the late 1940s, the huge debt was destined to remain forever, and later to be bulked up even more, especially during the Reagan and (both) Bush administrations. Thus, debt management became an important aspect of federal fiscal affairs in a way that it never had been before World War II except during wartime.

The misleadingly named Lend-Lease program, whereby the government had transferred some $50 billion worth of goods and services to allied nations during the war, clearly prefigured the adoption of the postwar Marshall Plan, whereby some $12.5 billion was transferred to European governments during 1948-51 to aid their recovery from the war's devastation. The way was then clear for the U.S. government to undertake a permanent foreign-aid program, which has continued to the present, to the benefit of favored foreign governments and connected U.S. exporters—foreign aid is basically a combination of foreign-policy bribery and corporate welfare, the latter serving to ensure special-interest and congressional support for the program at home despite widespread public opposition to it.

The postwar foreign-aid program was but one aspect of the nation's new commitment to "internationalism." As the war ended, the United States and the USSR transformed their wartime alliance seamlessly into outright enmity, and forty-five years of global Cold War ensued, a conflict with far-reaching political, social, cultural, and economic consequences (Higgs 1994, Leebaert 2002), including the outbreak of devastating regional wars in Korea and Vietnam. World War II had shattered the nation's traditional commitment to noninterventionism—a policy smeared as "isolationism" and "appeasement" by the proponents of war during 1940-41 and subsequently—and the U.S. triumph in 1945 suggested to many Americans the desirability of their nation-state's acting as a global policeman henceforward. Among the many costs of this commitment was the devotion of 7.5 percent of annual GNP, on average, to purchases of military goods and services between 1948 and 1989 (Higgs 1994, 292).

On the receiving end of much of this spending was the conglomeration of military contracting companies, universities, consultants, labor unions, and other recipients who formed one vertex of the iron triangle known as the military-industrial-congressional complex. The contractual arrangements that tied the parties of this arrangement together had been forged into their modern form first during the "defense period" prior to World War II (Higgs 1993), and the dimensions of the system had swelled hugely during the war. When the government's spending for military purposes plunged after 1945, the system endured a few lean years, but the outbreak of fighting in Korea in 1950 served as a catalyst for a big rebound, and the major participants have continued to prosper despite alternating ups and downs of the defense budget ever since (Trevino and Higgs 1992, Higgs 2001). The military-industrial-congressional complex constitutes perhaps the most consequential of all the institutional legacies of World War II.

Perhaps even more auspicious, however, was the war's ideological legacy. On the one hand, the war shattered the remaining remnants of serious opposition to government interventionism among business people. The war, observed Calvin Hoover, "conditioned them to accept a degree of governmental intervention and control after the war which they had deeply resented prior to it" (Hoover 1959, 212). Hence, even during the pro-business Eisenhower administration, no attempt was made to get rid of the pervasive interventionist programs that the government had created during Franklin D. Roosevelt's presidency. On the other hand, the general public's prevailing interpretation of the wartime experience gave unprecedented ideological support to a big federal government actively engaged in a wide range of domestic and international tasks:

> After all, the wartime central planners had just carried out successfully a complex undertaking of enormous dimensions. They had waged a global war, marshaling, organizing, and allocating the requisite resources to defeat two mighty adversaries while leaving American civilian consumers relatively well off, at least by comparison with the suffering populations of the Soviet Union, Japan, Germany, or Great Britain. Surely this great accomplishment testified to the planners' knowledge, abilities, and devotion to the public interest. Surely a central government capable of winning the greatest war in human history could carry out such relatively mundane tasks as stabilizing the business cycle, guaranteeing all citizens a good job and a high standard of living, and regulating the industrial life of the nation to achieve greater fairness than the unfettered market. Surely. (Higgs 1997, 318)

Passage of the Employment Act of 1946 formally committed the federal government to ongoing responsibility for the successful operation of the economy. While the government undertook to perform its newly authorized role as economic savior, the Veterans Administration carried out the wide-ranging responsibilities stipulated in the GI Bill of 1944, overseeing the operation of a vast welfare state within the welfare state.

In the six decades that followed the end of the war, the welfare state grew stupendously and assumed a multitude of specific forms. Although the public did not always approve of this sprawling system's operation, and sometimes its miscarriages were too obvious to deny, no amount of contradictory evidence seems to have dented the public's post-World War II faith in the government's ability somehow—usually by spending vast sums of money—to create personal and social security and to remedy the full range of human problems and pathologies.

Postscript

Students of the growth of government have sometimes treated the world wars as nearly irrelevant to the explanation they seek, viewing them as aberrations or even as "random" deviations from a long-term trajectory determined by more persistent structural changes. This way of viewing them is profoundly mistaken. In truth, nothing had greater importance than the world wars in determining the long-term growth of government in the United States in the twentieth century. Although direct belligerent participation in the first war lasted less than two years and in the second war less than four years, each of those brief periods brought about more extreme, pervasive, and consequential changes than several decades of normal peacetime development would have brought about. Not only did the wars provide auspicious occasions for a variety of ideological, political, and economic special-interest groups to achieve their long-cherished ends, but they brought about additional changes that no group could have effected in their absence, such as the validation of government-business planning "taught" by World War I and the "internationalist" transformation of U.S. foreign and defense policy occasioned by World War II, among many others. History follows a path-dependent course: what is likely to happen on any given day depends heavily on what has happened previously; hence, even seemingly "abnormal" events have the potential to alter the subsequent course of events substantially. The long run is indeed a series of short runs in which the potentialities of each short run are contingent on its inheritance from the past. "Experiments" so vast and traumatic as U.S. participation in the world wars undoubtedly entered deeply into the life of the society, with manifold consequences, and they continued to affect the economic, political, and social life of the nation even at the dawn of the twenty-first century.

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Table 1

Federal Receipts, Outlays, and Surplus (fiscal years), Federal Debt and Money Stock (mid-year), and GDP Deflator, 1913-26
(billions of current dollars, except deflator)

Year	Federal receipts	Federal outlays	Surplus or or deficit (-)	Federal debt	Money stock	GDP deflator (1996=100)
1913	0.714	0.715	---	1.2	15.4	7.2
1914	0.725	0.726	---	1.2	16.1	7.3
1915	0.683	0.746	-0.063	1.2	17.1	7.5
1916	0.761	0.713	0.048	1.2	20.4	8.1
1917	1.101	1.954	-0.853	3.0	23.9	9.7
1918	3.645	12.677	-9.032	12.5	25.8	11.4
1919	5.130	18.493	-13.363	25.5	30.3	13.0
1920	6.649	6.358	0.291	24.3	34.7	15.0
1921	5.571	5.062	0.509	24.0	32.2	13.1
1922	4.026	3.289	0.736	23.0	33.6	12.1
1923	3.853	3.140	0.713	22.3	36.4	12.5
1924	3.871	2.908	0.963	21.3	38.0	12.5
1925	3.641	2.924	0.717	20.5	41.7	12.7
1926	3.795	2.930	0.865	19.6	43.5	12.8

Sources: Cols. 1-3, U.S. Office of Management and Budget 2002, 21; col. 4, U.S. Bureau of the Census 1975, 1104; col. 5, Friedman and Schwartz 1963, 707-11 (currency held by the public plus all commercial bank deposits); col. 6, Johnson and Williamson 2002.

Table 2
Gross National Product, Government Purchases,
and Gross Private Product, 1913-26
(billions of current and 1929 dollars)

Year	GNP (cur. $)	GNP (1929 $)	Gov't. (cur. $)	Gov't. (1929 $)	GPP (cur. $)	GPP (1929 $)
1913	39.1	63.5	2.5	4.5	36.6	59.0
1914	36.4	58.6	2.7	4.8	33.7	53.8
1915	38.7	60.4	2.8	5.0	35.9	55.4
1916	49.8	68.9	2.9	4.7	45.9	64.2
1917	59.9	67.3	5.4	7.0	54.5	60.3
1918	76.2	73.4	16.2	16.5	60.0	56.9
1919	78.9	74.2	9.5	9.7	69.4	64.5
1920	88.9	73.3	5.9	5.6	83.0	67.7
1921	73.9	71.6	6.3	6.5	67.6	65.1
1922	74.0	75.8	6.0	6.4	68.0	69.4
1923	86.1	85.8	6.2	6.4	79.9	79.4
1924	87.6	88.4	6.7	6.9	80.9	81.5
1925	91.3	90.5	7.3	7.4	84.0	83.1
1926	97.7	96.4	7.3	7.4	90.4	89.0

Sources: Cols. 1-4, Kendrick 1961, 294, 297; cols. 5-6, computed from cols. 1-4.

Table 3
Employment, Unemployment, and Labor Force, 1940-48
(millions of persons at mid-year)

Year	Uniformed military on active duty	Civilian military employees	Military supply industry employees	Total non-military employees	Unemployed	Total labor force
1940	0.5	0.3	0.3	46.1	8.8	55.9
1941	1.8	0.6	2.5	45.2	6.8	56.9
1942	3.9	1.3	10.0	39.6	4.1	58.9
1943	9.0	2.2	13.4	36.0	1.9	62.5
1944	11.5	2.2	12.6	38.1	0.9	65.3
1945	12.1	2.6	11.0	39.1	0.9	65.7
1946	3.0	1.4	1.2	55.9	1.7	63.1
1947	1.6	0.9	0.8	55.4	2.3	61.0
1948	1.4	0.9	1.0	56.4	2.4	62.1

Source: U.S. Department of Defense, Office of the Assistant Secretary of Defense (Controller) 1987, 126.

Table 4
Federal Receipts, Outlays, and Surplus (fiscal years), Federal Debt
and Money Stock (mid-year), and GDP Deflator, 1940-48
(billions of current dollars, except deflator)

Year	Federal receipts	Federal outlays	Surplus or deficit (-)	Federal debt	Money stock (1996=100)	GDP deflator
1940	6.548	9.468	-2.920	50.7	54.3	10.3
1941	8.712	13.653	-4.941	57.5	61.3	11.0
1942	14.634	35.137	-20.503	79.2	69.0	---
1943	24.001	78.555	-54.554	142.6	90.4	---
1944	43.747	91.304	-47.557	204.1	104.6	---
1945	45.159	92.712	-47.553	260.1	124.7	---
1946	39.296	55.232	-15.936	271.0	139.3	---
1947	38.514	34.496	4.018	257.1	146.0	---
1948	41.560	29.764	11.796	252.0	146.9	17.3

Sources: Cols. 1-3, U.S. Office of Management and Budget 2002, 21; col. 4, U.S. Bureau of the Census 1975, 1105; col. 5, Friedman and Schwartz 1963, 716-18; col. 6, Johnson and Williamson 2002.