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Financing World War II, 1939–1945

> In a national emergency of this magnitude, sound banking principles, like many peacetime freedoms and immunities, are likely to be subordinated to the paramount national purpose.
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Between September 1, 1939, when World War II began with the German land and air assault on Poland, and December 7, 1941, when the Japanese attacked Pearl Harbor and the United States entered the war, monetary policy did not change significantly. During the period of active United States war participation of three years and nine months—V–E (Victory in Europe) Day was on May 8, 1945, and V–J (Victory over Japan) Day was on September 2, 1945—ordinary monetary policy was suspended as the Federal Reserve System volunteered to serve the war effort as a sort of financial supply corps for the Treasury. World War II required a much longer and greater national effort than World War I. In World War I the United States remained neutral for the first thirty-two months and participated as a belligerent for nineteen months, whereas in World War II the period of neutrality was twenty-seven months and that of active participation forty-five months.

When war broke out in 1939, the monetary gold stock of $16.6 billion was more than double what it was immediately ater the devaluation of the dollar on January 1, 1934 ($7.4 billion). War brought a more rapid inflow of gold, raising the gold stock to $22.7 billion by the end of 1941. Member bank excess reserves were more than $5 billion late in 1939, rose to an all-time peak of almost $7 billion at the end of 1940, and, even after a decline due partly to a rise in reserve requirements to the legal maximum in November 1941, were $3 billion at the time the United States entered the war. The M1 money stock grew rapidly from $35 billion in September 1939 to $48 billion at the end of 1941, due to the rise in the gold stock; Federal Reserve Bank credit was essentially flat. On the whole the open-market and gold policies begun in 1933 were continued until the attack on Pearl Harbor. There is similarity between the periods of neutrality in both world wars, for the bulk of the growth in the money stock during the neutrality period of World War I was also due to an increase in the gold stock.

Although the Federal Reserve System did not use open-market operations for the purpose of affecting member bank reserves to any important extent during the period of neutrality, it intervened in the market to prevent large fluctuations in the prices of government securities. The maintenance of an "orderly market" was not a new objective—it had been on the Federal Reserve's agenda since the mid-thirties, and some securities were purchased in 1937 for this purpose. With the threat of war growing stronger, the Federal Open Market Committee got ready to intervene to maintain orderly market conditions by authorizing its executive committee in April 1939 to buy as much as $500 million of government securities if there should be a severe market disturbance. Following the outbreak of war, the system did buy securities of nearly this amount during September to steady the market. The securities were sold off during the remainder of 1939. Similar but much smaller support operations were carried out in the spring of 1940 when German forces invaded Denmark, Norway, and the Low Countries, and again right after Pearl Harbor. The policy of maintaining orderly market conditions kept the bond portfolios of banks from falling very much and also helped to maintain a generally stable capital market in the interest of encouraging economic recovery.[2]

When the war started, the danger of inflation was minimal, for there were still nine million unemployed and real national output was only some 5 percent above 1929. Wholesale and consumer prices were stable and still well below the levels of a decade earlier. A huge amount of unutilized productive capacity was available waiting for increased demand to put it to use. The impact of the war on the economy was modest until the German attack on western Europe in the spring of 1940 and the subsequent fall of France in June. War orders then poured in, mainly from Britain, and at the same time the United States overcame its hesitation about rearming and set in motion a large defense program. With this strong increase in demand, industrial production and real national income rose rapidly as idle human and material resources were absorbed in the formation of what was to become, in Roosevelt's words, "the great arsenal of democracy." To pay for their imports from the United States the British used up over $2.5 billion of gold, dollar balances, and U.S. securities. To enable the British and allied governments to sustain their purchases, the United States began a program of lend–lease in March 1941 through which the United States government eventually paid for about $50 billion of exported war materiel. Unlike the government loans that met a similar need during World War I, lend–lease obviated the problem of war debt repayments that had embittered international relations after World War I. The start of lend–lease marked the end of the gold inflow to the United States. As productive capacity began to be approached in certain industries and as bottlenecks appeared in the supply of various factors of production, pressure on prices began to be felt; by 1941 price infla-

tion became a matter of concern. Inflation was not seen as a serious imminent threat, however, for the long depression has accustomed people to deflation, and the new "theory of secular stagnation" advanced by Professor Alvin H. Hansen, the influential American convert to the new economics of Keynes, held that a chronic lack of demand would make frequent artificial monetary/fiscal stimulants necessary in the future to keep the economy from running down. However, as the pace of inflation quickened, the large amount of excess monetary reserves posed a potential threat to central bank policy. In response to this situation the Federal Reserve took several steps. It absorbed a small amount of bank reserves in the second half of 1940 by selling securities. On September 1, 1941, the Board of Governors, acting under an executive order of the president, imposed Regulation W, a means of controlling consumer credit by applying minimum down payments and maximum maturities to installment loans on certain goods such as automobiles, refrigerators, and so on, the production of which would divert resources from military purposes. Then on November 1, 1941, the board raised reserve requirements to the maximum level under the existing law.[3] These actions by the Federal Reserve System did not appreciably restrict the expansionary monetary potential.

With the entry of the United States into the war, a new and fundamentally different monetary policy was adopted and then adhered to for the duration of the conflict. The theme was announced the day after Pearl Harbor by a statement of the Board of Governors:

> The System is prepared to use its powers to assure that an ample supply of funds is available at all times for financing the war effort and to exert its influence toward maintaining conditions in the United States Government security market that are satisfactory from the standpoint of the Government's requirements.[4]

The key step to implement the wartime support policy came in March 1942 when the Federal Open Market Committee, as a result of a conference with Treasury officials, agreed to provide the reserves necessary for financing the war. The chosen method of providing the reserves and thereby facilitating Treasury financing was open-market purchases of government securities sufficient to maintain "about the then existing curve of rates." In other words, the Federal Reserve System undertook to peg the market for government securities so that the market prices of securities could not fall below the desired level. By buying the securities, the Federal Reserve added to member bank reserves, enabling the banks to purchase government securities for their own account. Such purchases then added to bank deposits, thereby making funds available to nonbank investors for subscriptions to offerings of Treasury obligations.[5] In addition to open-market operations, the Federal

Reserve was authorized to make direct purchases from the Treasury up to a ceiling of $5 billion under legislation adopted in 1942 and subsequently extended. Unlimited authority to make such purchases, given in the original Federal Reserve Act, had been eliminated in the Banking Act of 1935.[6]

By committing itself to a policy of supporting the government securities market, the Federal Reserve System abandoned control of the money supply. The initiative in the open-market operations, no longer held by the system, was now in the hands of the holders of government securities. This meant that bank reserves would be created whenever the holders of government securities sold them to the Federal Reserve Banks, whose demand for them was perfectly elastic at the support price. Thus the process added a flow of excess reserves to the banking system, on the basis of which a multiple amount of bank deposits was created. The Federal Reserve System was well aware of the inflationary potential its policy was creating, but it gave first priority to meeting the financial needs of the Treasury. It could not have been otherwise, for the nation would hardly have accepted a policy that denied funds required to finance an all-out war seen as necessary for national survival. Inflation was an evil but clearly the lesser evil compared to a limited war effort and possible defeat. Although inflation could not be avoided, neither could it be ignored. The Board of Governors identified the principal weapons against inflation as taxation, savings, and direct controls over goods, prices, and wages.

The Treasury had a tremendous need for funds to carry out the war effort. To appreciate the magnitude of federal financial operations, it helps to related them, as Lester Chandler has done, to previous experience:

> During the six years following June 1940 the federal government spent $383,372 million. This was more than twice as much as it had spent during the preceding 150 years, nearly 100 times as much as it spent during the Civil War, and 10 times as much as it spent during World War I. Its annual spendings at the peak of the war effort were greater than total spendings for output during any year between 1929 and 1940.[7]

The extent to which war financing is inflationary depends on the methods used. The following list of sources of funds ranging from least to most inflationary provides the basis for the strategy underlying the approach taken by the Treasury in consultation with the Federal Reserve System.

1. Taxation. Spending by government replaces spending by the public, to the extent the public would have spent. No new money is created.
2. Borrowing of money income that the public would have spent. Similar to taxation except that lenders have a future claim for repayment.

3. Borrowing of money that would have remained idle. No new money is created but velocity rises.
4. Borrowing from commercial banks. New money is created.
5. Borrowing from the central bank. Bank reserves as well as new money are created.[8]

How did the Treasury raise the huge sums it needed? Of the total of roughly $380 billion, 40 percent was raised by taxes, 35 percent came through borrowing from nonbank sources, and 25 percent by borrowing from banks, including the Federal Reserve System. Between December 1939 and December 1945 Federal Reserve Bank credit expanded from $2.6 billion to $25.1 billion.[9]

Interest rates were kept low throughout the war. The Federal Reserve System maintained a pattern of yields on government securities ranging from ⅜ of 1 percent on ninety-day Treasury bills to 2½ percent on long-term bonds. The fact that these securities could be sold at the support price made them perfectly liquid and the equivalent of interest-bearing money. The rate of 2½ percent was agreed upon by the officials of the Treasury and Federal Reserve as the crucial rate in the pattern. Most of the officials wanted to have a public statement establishing the rate for the duration of the war, but Secretary of the Treasury Morganthau vetoed the idea.[10]

The discount rate at the Federal Reserve Bank of New York was left at 1 percent, with a special rate of ½ percent on advances secured by short-term government securities. This was of no importance; the banks could readily get reserves by selling off government securities and had no incentive or need to go into debt.

The M1 money stock increased from September 1939 to December 1941 by 37 percent and more than doubled (111 percent increase) during the period of active U.S. participation in the war. Over the six years from September 1939 to September 1945 the M1 money stock nearly tripled. Increases in M2 were not quite as pronounced for the six year period. Velocity of spending increased rather moderately between 1939 and 1942 as the money stock increased, but during the remaining war years it dropped steadily. In 1945 the M1 and M2 velocities were about 25 percent lower than in 1942. Money stock and velocity data are shown in table 5–1.

As in the first World War, during World War II the Federal Reserve System served as the Treasury's agent for selling newly issued securities and used its powers of money creation to insure its success. The tactics were different but the effect was the same in each case. During World War I the system provided reserves to the banks by discounting bills of the member banks (usually secured by government securities), but it held few government securities itself. During World War II the system increased its outstanding

Table 5–1
Money Stock and Velocity of Money, 1939, 1941, 1942, 1945

Money Stock	*September 1939*	*December 1941*	*September 1945*
M1	$35.1 billion	$48.2 billion	$101.8 billion
M2	$50.2 billion	$64.1 billion	$131.0 billion

Velocity[a]	*1939*	*1941*	*1942*	*1945*
M1	2.21	2.17	2.37	1.75
M2	1.52	1.61	1.84	1.37

Adapted from Milton Friedman and Anna Jacobson Schwartz, *A Monetary History of the United States 1867–1960,* a study by the National Bureau of Economic Research. Princeton: Princeton University Press, 1963, pp. 715–717, 774.

[a]Velocity refers to money income divided by the money stock.

debt primarily by purchasing government securities, with only small amounts of discounts. The result again was to expand the monetary base, providing the basis for a large rise in the money stock. In addition to adding to the reserves of the banking system, the increase in Federal Reserve credit served to meet the public's demand for more coin and currency and to offset a gold outflow of $2.7 billion. The excess reserves of the member banks fell to about $1 billion during the war. The desire of bankers to hold large amounts of excess reserves now ended. As the banks bought government securities they acquired income-earning assets which did not constitute legal reserves but which were as liquid as money and readily convertible into reserves.[11]

During the World War II years the deposit/reserve ratio rose, adding to the money stock, while the deposit/currency ratio fell, having the opposite effect. While the direction of movement in these ratios was the same as in World War I, their relative importance differed substantially. In World War II the deposit/reserve ratio was the much more significant factor.[12]

War is notorious for its inflationary effects, but these need not be concurrent with the period of hostilities. Prices rose more gradually during the war years than during the years immediately before and after. The inflationary impact of World War II as largely delayed until the postwar period. During the period of U.S. neutrality (1939–1941), wholesale prices rose 23 percent, compared to 14 percent for the longer period of war participation. On an annual rate basis the rise from August 1939 through November 1941 was 9 percent, or double the 4 percent annual rate for the period from November 1941 through August 1945.[13] Viewed in the context of the period from 1939 to mid–1948 when the war-induced inflation peaked, the rise in prices during the war was surprisingly modest. From May 1942 to the end of 1945, the cost-of-living index went up only sixteen points, or about a fifth of the total rise for the whole period. For wholesale prices the proportion was only about one-tenth.[14] The inflation that was building through the financing of massive deficits was repressed by wartime direct controls over

resources, rationing of scarce goods, and price and wage controls. Income receivers added to their liquid assets of money balances and securities because many consumer and producer goods were simply not available. Government price controls provided assurance that money would retain its value reasonably well throughout the dark night of wartime. Money balances accumulated during the war would be available to spend for all sorts of goods that would again become available when at last the sweet day of peace arrived. With life and liberty more secure, it would be most agreeable to have some money with which to pursue happiness. To some extent the price indexes understated the degree of the inflation, due to the lower quality of some goods and to practices designed to escape the price control rules either legally or illegally (black market).

In 1945 Congress reduced the monetary authority of the executive branch. It eliminated the extraordinary powers granted in 1933 to the president, acting through the Treasury, to change the value of gold and silver and to issue $3 billion of United States notes.