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ABSTRACT

This is one of a series of essays adapted from articles in "On Reserve," a newsletter for economic educators published by the Federal Reserve Bank of Chicago. This pamphlet explains how public debt incurred by the federal government may not be necessarily bad from an economic perspective. The sections of the pamphlet include: (1) "Debt as an Asset"; (2) "Government Debt Instruments"; (3) "The Government in the Market"; (4) "The Auction"; and (5) "The Burden of Deficits." Contains a list of 11 additional readings. (EH)

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Government Debt and Its Role in the Economy

- Is government borrowing always bad?
- Are savings bonds debt or assets?
- How are interest rates established on United States debt?
- What types of debt instruments are issued by the United States, and how are they sold?

FEDERAL RESERVE BANK OF CHICAGO

Public Debt: Private Asset is one of a series of essays adapted from articles in *On Reserve*, a newsletter for economic educators published by the Federal Reserve Bank of Chicago. The original article was written by Keith Feiler and the latest revision was prepared by Tim Schilling.

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Public Debt: Private Asset

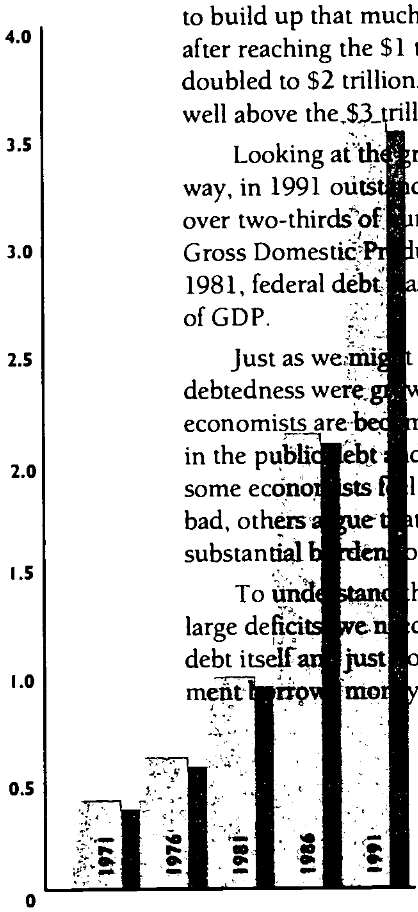
In 1981, the United States reached a dubious economic milestone—our federal debt surpassed the $1 trillion mark for the first time. It took us more than 200 years to build up that much debt. Remarkably, just five years after reaching the $1 trillion mark, our federal debt doubled to $2 trillion. And only five years later, it rose well above the $3 trillion level.

Looking at the growth of our federal debt another way, in 1991 outstanding federal debt amounted to just over two-thirds of our national income, as measured by Gross Domestic Product (GDP). Ten years earlier, in 1981, federal debt was only about 35 percent the size of GDP.

Just as we might be concerned if our personal indebtedness were growing faster than our income, many economists are becoming concerned about the increase in the public debt and the size of recent deficits. While some economists feel that federal debt is not necessarily bad, others argue that large federal budget deficits place substantial burdens on the economy.

To understand these concerns and the burdens of large deficits we need first to understand the nature of debt itself and just how and from whom the government borrows money.

U.S. federal budget deficit in trillions of dollars



Debt as an Asset

We all know what debt is when it is our own—we owe money to someone else. On the other hand, it may not be so easy to understand that many of our financial assets are someone else's debts. For example, to us a savings account at a bank is an asset. However, to the bank it is a debt.

The bank owes us the money that is in our account. We let the bank hold the money for us because it promises to pay us back with interest. The bank then uses our money to make loans and to invest in other debt, including the government's.

Like the savings account, most of us think of the $25 savings bond we received from grandma as a financial asset. However, it is also a debt our government owes us.

Just as there must be a buyer for every seller in a sales transaction, for every debt incurred someone acquires a financial asset of equal value. Debt, then, is both a part of the assets of the creditor, and a claim on the assets and earnings of the debtor.

In terms of the national debt—every dollar of the government's debt is someone's asset. Corporations, brokerage houses, bond-trading firms, foreign nationals, and U.S. citizens, both here and abroad—all are willing to loan money to the U.S. government, viewing the loan as an investment, an asset that increases their wealth.

Government Debt Instruments

When the federal government spends in excess of its revenues, it finances its deficit by selling debt instruments that compete for investors' money with instruments of other issuers of debt. The instruments the government sells are called Treasury securities. For many people, the most familiar of these securities are savings bonds, like the one from grandma. They are nonmarketable, meaning that the owner cannot sell them to anyone. Of course, savings bonds can be liquidated before maturity by redeeming them at a prescribed price.

Despite their familiarity, however, savings bonds do not account for most of the government's debt. That distinction goes to marketable Treasury securities: Treasury bills (T-bills), Treasury notes (T-notes), and Treasury bonds (T-bonds, not to be confused with savings bonds).

These marketable securities are distinguished from each other by their length of maturity and denominations. T-bills are issued with 3-, 6-, or 12-month maturities, and a minimum denomination of $10,000. T-notes have maturities from two to ten years, and minimum denominations of $5,000 for 2- and 3-year notes and $1,000 for longer maturities. T-bonds mature in more than ten years and have a minimum denomination of $1,000.

The Government in the Market

Although the U.S. government is only one of many debt issuers, it plays a significant role in our financial markets for several reasons.

First, it is significant simply because it issues so much debt. For example, in fiscal 1991, the Treasury issued over $6.5 trillion in debt, not only to finance the deficit but also to redeem close to $6.1 trillion in maturing debt. Principally because of such volume, it can structure the maturities, denominations, and interest payments on its debt instruments to provide something for everyone.

Second, most Treasury securities, unlike savings bonds, are marketable. Marketability means that after the government originally issues the securities, investors can turn around and sell them quickly and easily in the open market even before they mature. In fact, Treasury securities can be converted into money so easily that they are called "near money." Since people do not know when they may need cash, marketability is a desirable feature.

Marketable treasury securities

	Maturity	Denomination	Interest
T-bills	3 months, 6 months, 1 year	$10,000 minimum, thereafter in multiples of $5,000	Paid at time of purchase as discount from face value
T-notes	2-10 years	$1,000 (4-10 yrs. only), $5,000, $10,000, $100,000 and $1 million	Paid semi-annually
T-bonds	Over 10 years	$1,000, $5,000 $10,000, $100,000 and $1 million	Paid semi-annually

Third, because the United States government has never defaulted on its debt and because it has the power to tax, people are confident that the government will repay the loan with interest. In fact, public confidence in the government's ability and willingness to repay is so high that loans to the government are considered to be free from default risk, and as such carry a lower rate of return than securities of other issuers.

The Auction

In seeking to pay the lowest possible interest rate, the government sells its marketable securities at auctions conducted through Federal Reserve Banks and their branches. Since auctions of T-bills, T-notes, and T-bonds are similar, let's look at the most frequent Treasury borrowing—the weekly auctions of 3- and 6-month T-bills.

Buyers of T-bills (lenders to the government) range from large financial institutions and government securities dealers to individuals seeking a safe investment. To accommodate these different types of buyers, the Treasury permits two kinds of bids, or offers to purchase, called competitive and noncompetitive tenders.

Some buyers/investors want T-bills only if the investment produces a certain yield (interest rate) because at a different yield, they prefer to invest in some other security. These bidders, usually the professional dealers, submit competitive bids stating the interest rate they wish to receive. Just like any smart consumer shopping for a loan, the Treasury seeks to obtain credit at the lowest possible cost. Therefore, it first accepts bids from those willing to buy securities at a lower interest rate. Competitive bidders who seek too high a rate will be underbid and will not receive a T-bill.

Other investors who would rather have some guarantee of receiving a T-bill can submit noncompetitive bids. These people are almost always nonprofessional investors. The rate they receive is the average determined by the competitive bidders. In terms of the total dollar amount, noncompetitive bidders account for only about 5 percent of the average auction, but in terms of the numbers of bidders who will receive a debt instrument, they make up a large majority.

Competitive bids are accepted until 12 noon Central time, 1 p.m. Eastern time, every Monday of an auction. Noncompetitive bids are also accepted on the Monday of an auction, but must be submitted by 11 a.m. Central time, 12 noon Eastern time. Each Federal Reserve Bank ranks the competitive bids they receive by order of yield from the lowest to the highest. By 1:45 p.m. Central time the bids are sent electronically to the Bureau of Public Debt, a division of the Department of the Treasury, in Washington, D.C., where the Federal Reserve Bank listings are combined with bids received by the Treasury.

All noncompetitive bids are accepted first. Then the competitive bids with the lowest interest rate are accepted, followed by the next lowest, and so on until the Treasury has sold the amount of bills it wants to issue that week.

Since each noncompetitive bid is limited in size, there is little likelihood that the total amount wanted by noncompetitive bidders would be more than what the government wants to sell. In the unlikely event that noncompetitive bids should exceed the amount the government wants to issue, the Bureau of Public Debt would simply accept enough competitive bids to establish a yield.

T-bills are sold on a discount basis, meaning that they are purchased for less than face value, the amount the investor will receive at maturity. When submitting their bids, individual investors submit payment to the government for the full face value of the T-bill, but then the Treasury mails refund checks, called discount checks, to the successful bidders on the issue date, on the Thursday following the Monday auction for 3- and 6-month T-bills. The amount of the checks, determined by the auction process, represents interest on the bill. (In contrast, buyers of T-notes and T-bonds receive semi-annual interest payments.)

All T-bills, notes, and bonds are held in book-entry form, meaning ownership is recorded on a computerized ledger, with the buyers receiving a receipt rather than a certificate as evidence of the purchase. This method protects buyers against loss, theft, and counterfeiting. Securities can be electronically maintained in a book-entry account at commercial banks or other financial institutions, or in TREASURY DIRECT, the Treasury's book-entry system. TREASURY DIRECT is offered through Federal Reserve Banks and their branches.

The Burdens of Deficits

The government's method of financing its increasing debt through these auctions is clearly a smooth and efficient process. Nevertheless, many economists feel that the debt has grown so much in relation to GDP that it is placing severe burdens on the economy.

One of the burdens they cite is that large deficits tend to "crowd out" private investment. The federal government is competing for funds with private industries, state and local governments, and other borrowers. Despite this competition, the federal government has no difficulty borrowing as much as it needs, partially because it offers securities free from default risk, but principally because it is not constrained by interest rates. If Congress chooses to spend more than its revenues, the Treasury must make up the difference regardless of cost.

Therefore, as the government needs to borrow more and more, it tends to push up interest rates, while at the same time it takes a larger and larger portion of available investment funds.

To attract lenders, then, private industries are forced to offer securities at a higher rate of interest. This means higher costs to build new plants, buy new equipment, and develop new technologies. Because of these higher costs, some companies may decide to delay improvements or not make them at all. In effect, by raising interest rates, the federal government "crowds out" private borrowing, a result that, in the long run, tends to restrict economic growth.

As the government's heavy demand on available funds causes interest rates to rise, pressures can be placed on the Federal Reserve to reduce interest rates by increasing the money supply. Because the Federal Reserve expands the money supply by purchasing government debt securities in the open or secondary market, the process is referred to as "monetizing the debt."

This poses another potential burden—inflation. If the rate of money growth is greater than the economy's ability to produce additional goods and services, the result is inflation, too much money chasing too few goods. While in the short term more rapid rates of money growth could possibly reduce interest rates, the net long-term effect would be to foster higher rather than lower rates.

Another burden imposed by deficit spending is the government's increasing interest payments. As the government borrows more and more money, it is obligated to pay more and more interest. These interest payments are becoming an increasing percentage of total government spending, which in turn becomes harder to reduce. In 1980, for example, total interest payments amounted to 12.7 percent of government spending. In 1991, they amounted to 21.6 percent.

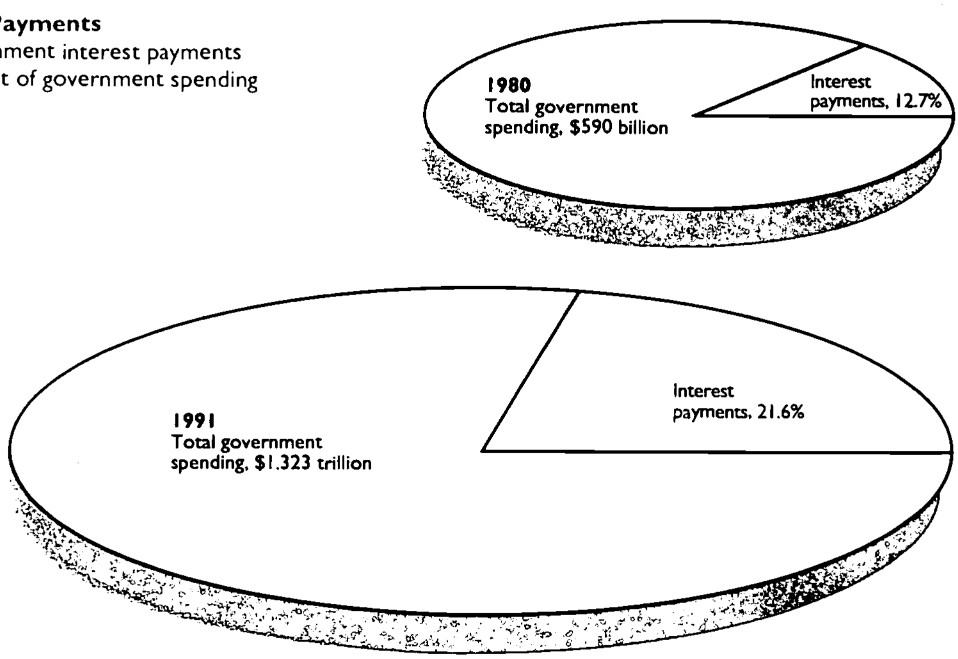
Another issue of concern is the role that foreign investors play in financing the debt. In the late 1970s and early 1980s, U.S. interest rates were high compared to rates in other countries, partially because of extensive U.S. government borrowing. Many foreigners were attracted to U.S. investments, including Treasury securities.

On the positive side, this foreign investment helped finance the huge U.S. federal budget deficits and worked to keep interest rates lower than they otherwise would have been. However, servicing the debt financed by foreign savings also has negative implications for our economy.

When we send principal and interest payments to foreign holders of our debt, we are transferring wealth away from this country. The net result is a reduction in our own standard of living.

In addition, an inflow of foreign savings tends to affect the strength of the dollar. Since Treasury securities can be purchased only with U.S. dollars, foreign demand for these securities increases the demand for dollars, raising the value of the dollar in foreign exchange markets. This more highly valued dollar, by

Interest Payments
U.S. government interest payments as a percent of government spending



raising the price of U.S. goods in international terms, places further burdens on the economy, particularly for domestic producers who compete with foreign producers for sales both here and abroad.

In recent years, foreign investors have been less likely to invest in Treasury securities. Since the mid-1980s, U.S. interest rates have fallen compared to those of many of our trading partners. And in the early 1990s, U.S. interest rates have been the lowest since the Vietnam era. Combined with weak economic performance in other countries, the result has been a decrease in demand by foreign investors for U.S. debt. This would tend to place a larger burden on domestic sources to finance the federal debt. All other things being equal, the result would be increased upward pressure on interest rates.

These and other burdens imposed by a large federal deficit have become a cause for concern among some economists. While economists do not totally agree on the need for a balanced federal budget, many feel that a sharp increase in the growth of the debt is not desirable. Most economists agree that we would be in a better position to sustain long-term expansion if the growth of the federal debt could be brought more in line with the growth of GDP.

Additional Readings

For more information about how to order these materials, consult the Federal Reserve Public Information Materials catalog, or write or call the Federal Reserve Bank of Chicago's Public Information Center, P.O. Box 834, Chicago, IL 60690-0834, 312-322-5111.

ABCs of Figuring Interest
Federal Reserve Bank of Chicago, 1992, 14 pp.

Big Government
Federal Reserve Bank of Philadelphia, 1985, 10 pp.

Buying Treasury Securities at Federal Reserve Banks
Federal Reserve Bank of Richmond, 1991, 88 pp. $4.50.

Debt and Deficits
Federal Reserve Bank of New York, 1992.

Strong Dollar, Weak Dollar
Federal Reserve Bank of Chicago, 1993, 10 pp.

Role of Government in the U.S. Economy—Fiscal Policy
Federal Reserve Bank of St. Louis, 1985, 24 pp.

Investing in Government Securities
Federal Reserve Bank of Richmond, pamphlet.

Two Faces of Debt
Federal Reserve Bank of Chicago, 1992, 34 pp.

United States Savings Bonds
Federal Reserve Bank of Dallas, 1984, 24 pp.

United States Treasury Securities
Federal Reserve Bank of Dallas, 1989, 20 pp.

Debt, Financial Stability, and Public Policy
Federal Reserve Bank of Kansas City, 1986, 235 pp.

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