Government Debt and Deficits
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Government debt is the stock of outstanding IOUs issued by the government at any time in the past but not yet repaid. Governments issue debt whenever they borrow from the public; the magnitude of the outstanding debt equals the cumulative amount of net borrowing that the government has done. The deficit is the addition in the current period (year, quarter, month, etc.) to the outstanding debt. The deficit is negative whenever the value of outstanding debt falls; a negative deficit is called a surplus.

When the government borrows, it gives its creditors government securities stating the terms of the loan: the principal being borrowed; the interest rate to be paid on the principal; and the schedule for making the interest payments and principal repayment. The amount of outstanding securities equals the amount of debt that has not yet been repaid; that amount is called “the government debt.”

Governments issue several types of debt, which can be classified in various ways. One classification is by the type of government that issued the debt. In the U.S., the main divisions are federal, state, and local debt; local debt can be divided further by type of locality, such as county or city. (See BONDS.) A second classification of government debt is by maturity at the time of issue. When we talk about a ten-year bond or a 30-year bond, we are talking about the length of time between the date when the bond was first issued and the date on which the principal will be repaid. Federal debt is divided into three convenient maturity categories. Treasury bills have initial maturities of one year or less (“three month bills,” “year bills,” etc.); Treasury notes have initial maturities between one and ten years; and Treasury bonds have initial maturities longer than ten years. State and local government securities generally are just called bonds, irrespective of the initial maturity. A perpetuity is a bond with an infinite maturity, which means the principal is never repaid and interest payments are made forever. The British government once issued some perpetuities, calling them “consols.” A third way of classifying government securities is by the source of the revenue to repay them. “General obligation bonds” will be repaid with revenue collected by taxing the public; “revenue bonds” will be repaid with revenue collected from specific user fees, such as bridge or highway tolls. This way of classifying debt is used only for state and local debt.

In early 2004, there was about $7.1 trillion of federal debt outstanding. About half ($3.6 trillion) was held by federal agencies and trust funds, which means that the government owed half the debt to itself. Such internal debt has no implications for the economy or public welfare. The important number is the amount of federal debt held by private investors, which, in early 2004, was about $3.5 trillion. Foreigners held about $1.7 trillion of that amount. State and local government debt outstanding was another $1.6 trillion, most of which was held by private investors. Thus, the total amount of privately held government debt was about $5.1 trillion. As a fraction of gross domestic product (GDP) of the U.S. economy, government debt is not especially large. As of the end of 2003, GDP was about $11.1 trillion, a little more than twice the size of the privately held government debt. In contrast, at the end of the Second World War, outstanding federal debt alone was slightly larger than GDP. Another interesting comparison is between government debt and private debt. Corporate debt outstanding was about $5.0 trillion at
the end of 2003, almost exactly the same amount as privately-held government debt. Household
debt is even larger. At the end of 2003, household credit market debt stood at $9.5 trillion,
nearly twice the size of privately-held government debt. For some reason, attitudes toward these
different stocks of debt are somewhat inconsistent. Commentators regularly express concern
that the sizes of government and household debt represent a risk to the economy, yet no one
seems to worry much about the size of corporate debt. In fact, household and corporate debt
may represent a risk in some circumstances, but government debt essentially never does. In a
deep recession, debtors may become unable to repay their debts and choose to default on them.
That, in turn, can make financial institutions insolvent, leading to a collapse of the financial
system and a cessation of the intermediatio functions that they perform. Indeed, such a
mechanism was the proximate cause for the recession of 1929 turning into the Great Depression
of 1932. (See GREAT DEPRESSION). Rarely, however, does any government in the United
States default on its debt; the federal government has never defaulted.

The size of the outstanding government debt is a topic of perennial interest. The obvious
measurement of the debt's size is the sum of all the individual outstanding government securities.
That number often is reported in newspaper accounts and political debates, but, to be useful, it
must be adjusted.

The most important adjustment is for inflation. (See INFLATION.) The nominal value
of a bond is the price in dollars that it would fetch on the open market. The real value of that
same bond is the number of units of output that it can buy. If chocolate bars cost 25 cents
apiece, then the real value of a $10 bond is 40 chocolate bars. If, however, the prices of all
goods double, so that chocolate bars now cost 50 cents each, then the real value of the same $10
bond is cut in half, and the bond now buys only 20 chocolate bars. The bond's nominal value is
unchanged by inflation, but its real value is changed. Real, not nominal, values are what matter
because people are interested in how many goods they can buy with the wealth that their bonds
represent, which is precisely what the real value measures. Adjusting official debt and deficit
figures for inflation can make a big difference to measurements of the debt's size. For example,
for 1947, the official statistics report a federal surplus of $6.6 billion. However, inflation that
year was nearly 15 percent; this inflation reduced the value of the huge outstanding debt by
about $11.4 billion. That reduction was equivalent to a further surplus; it reduced the real value
of what the federal government owed its creditors. The true surplus, therefore, was about $18
billion, nearly three times as high as the official figure. Throughout the 1970s, while the official
federal deficit was positive every year, the inflation-corrected deficit was negative (that is, there
was a real surplus) in exactly half those years.

Another adjustment is for changes in interest rates. The value of outstanding debt
changes as market interest rates change, but newspaper accounts usually confine attention to par
values, which do not adjust for interest rate changes. Market values do account for interest rate
changes and can be quite different from par values. To see what is involved, suppose that you
buy a one-year $5000 municipal bond (equivalently, you make a loan of $5000 to the city that
issued the bond) at 11:00 am. The bond carries an interest rate of ten percent, which means you
will be paid $500 in interest when the bond matures one year from now. At 11:05 am, the
Federal Reserve announces a change in monetary policy that causes one-year interest rates to fall
to nine percent. Your bond now is worth more than when you bought it five minutes ago; that is,
you could now sell the bond to someone else for more than $5000. The reason is that anyone who wants to lend $5000 for one year now will find that new bonds pay only nine percent, meaning an interest payment in one year of $450. Your “old” bond, however, has a ten-percent rate locked in and will pay $500 interest for sure. That makes your bond's market value higher than its par value of $5000. Conversion to market value can raise or lower the size of the outstanding debt. The market value of outstanding debt will be greater than the par value if interest rates have fallen on average since the debt was issued and will be smaller than the par value if rates have risen. The difference between par and market value of the outstanding debt is typically a few percentage points. Unfortunately, market values for the total outstanding government debt are not readily available. Governments do not report them, which is why newspaper reports rarely mention them.

More important than the sheer size of government debt are the debt's effects on the economy, but economists do not fully agree on what those effects are. When the government borrows, it promises to repay the lender. To make those repayments, the government ultimately will have to raise extra taxes, beyond what it needs to pay for its other activities. The economic effect of government debt depends heavily on how taxpayers perceive those future taxes. Perceptions are difficult to measure, and neither economists nor others understand exactly how people form their perceptions.

To see what is at issue, look at a simple example. Suppose that every year the government buys $100 billion worth of goods and services and pays for them entirely by collecting taxes. Households pay the government $100 billion in tax revenue, and the government uses the revenue to buy goods and services. Revenue equals expenditure, so the government's budget is balanced. Suppose that the government suddenly decides to change the way it finances its expenditures, but not the amount spent. In the first year, the government reduces taxes by $10 billion and replaces the lost revenue by selling $10 billion worth of bonds that mature in one year and carry an interest rate of ten percent a year. In the second year, the bonds mature, and the government pays the $10 billion principal and the $1 billion of interest. Taxes in the first year are $10 billion lower, but in the second year are $11 billion higher. How does this temporal rearrangement of tax collections affect people? In the first year, people hand over the same revenue to the government as they did when they paid taxes; the difference is that $10 billion of it is now in the form of a loan that will be repaid in the second year with an extra $1 billion in interest. On this account, people may feel richer because they seem to be paying less in total taxes over the two periods. When the second year arrives, however, people will find that they have nothing extra at all because, to pay the $11 billion in principal and interest, the government must raise taxes by exactly $11 billion, which cancels the payment of the principal and interest. The government giveth with one hand and taketh away with the other. The net result is that people don't get back the $10 billion they lent the government, and the loan is equivalent to having paid the $10 billion in taxes in the first year. This same result emerges from any maturity of debt, whether it is a one-year bond, as in the previous example, a ten-year bond or even a perpetuity.

The crucial factor in determining how bond finance affects the economy is whether people recognize what is going to happen over time. If everybody foresees that future taxes will nullify future payments of principal and interest, then bond finance is equivalent to tax finance,
and government debt has no effect on anything important, a property known as “Ricardian equivalence,” after David Ricardo, the economist who first discussed it. If people do not foresee all the future taxes implied by government debt, then they feel wealthier when the debt is issued but poorer in the future when, unexpectedly, they have to pay higher taxes to finance the principal and interest payments. So, what do people expect? Unfortunately, there is no reliable way to discover people's expectations about taxes, and we have to use other methods to learn the effect of government debt on the economy. Even though economists have been studying this issue for more than 20 years, they have not yet reached a consensus. Direct measures of the effect of debt on economic activity are straightforward in principle, but difficult to construct in practice. Overall, though, the evidence favors approximate Ricardian equivalence.

If government debt is equivalent to taxation, then most of the public discussion of the “deficit problem” is misplaced. Under equivalence, government deficits merely rearrange the timing of tax collections in a way that people can anticipate and offset; no important economic effects arise. With incomplete equivalence, deficits affect the economy, but the effects are complicated. For example, suppose that people do not recognize any of the future taxes implied by current deficits. Then, partially replacing current tax collections with borrowing makes people feel wealthier today, which induces them to spend more. However, the taxes needed to repay the debt will eventually have to be collected. Because no one anticipated them, they will come as a surprise, inducing people unexpectedly to spend less in whatever period the taxes are levied. A deficit or surplus, thus, has effects not just in the period when the deficit or surplus occurs, but also in subsequent periods. Predicting the magnitude and timing of the sequence of effects is difficult.

A related issue is the desirability of deliberately using deficits to influence the path of the economy. Under full equivalence of deficit and tax finance, no such thing can be done, of course, because deficits don’t affect anything important. Under incomplete equivalence, though, deficits do have effects, as we have just seen. Therefore, it might seem desirable to run up deficits in recessions to encourage people to spend more and run up surpluses in booms to restrain spending. One problem is that these seemingly desirable effects arise only because people fail to perceive the future taxes implied by deficits; that is, deficits have effects only when they fool people into thinking they suddenly have become wealthier (and conversely for surpluses). Is it desirable to influence the path of the economy by using a policy that is effective only because it deliberately misleads the public? Such a proposition seems difficult to justify. Another problem is that any desirable effects are accompanied by other effects that might not be deemed desirable. When equivalence is incomplete, changing the stock of debt outstanding also changes the interest rate in the same direction. In particular, running a deficit in a recession would raise interest rates, which would reduce investment and economic growth, which in turn would reduce output in the future. Thus using deficits to stimulate the economy now to ameliorate a recession comes at the cost of reducing output later. Whether that is a good exchange is not obvious and requires justification.

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REFERENCES


