

ADDITIONAL TOPICS CHAPTER 15

Economic impact of the budget deficit

What is the impact of the budget deficit on the economy? Because the budget deficit is equal to the difference between spending and taxes, the impact of the deficit is best understood by looking at the impact of spending and taxes, as we did in the previous section. Remember that a budget surplus is a negative deficit.

Short-run and long-run impact of the deficit

Suppose that we begin with equilibrium at potential GDP and the government decides to raise its spending share of GDP. Then the impact on the economy is precisely the same as our previous analysis of an increase in government purchases. The analysis of fiscal policy predicts that an increase in the budget deficit due to an increase in government purchases will cause real GDP to rise above potential GDP in the short run. Also, an increase in the budget deficit through a decrease in taxes will cause real GDP to rise temporarily above potential GDP.

In the long run, however, real GDP would return to potential GDP. If the increase in the deficit is caused by an increase in government purchases, investment and net exports would be lower as a share of GDP and interest rates would be higher. The higher interest rate and lower investment are the main harm of a long-lasting budget deficit. Moreover, the increase in government purchases would raise imports both because income rises and because the higher interest rate raises the exchange rate. The higher exchange rate would cause exports to fall. With imports rising and exports falling, net exports would decline, which means that the international trade deficit would be higher as a result of the increased budget deficit. Again, it should be emphasised that this prediction applies mostly to consumption spending as opposed to spending on, for example, infrastructure.

What if the budget deficit rises because of a cut in taxes? By raising disposable income, a cut in taxes will cause consumption to rise. Thus, in the long run, the sum of investment and net exports will be lower as a share of GDP. Again, lower investment means lower long-term real GDP growth.

Ricardian equivalence

However, economists disagree on the long-run effects of a deficit due to a cut in taxes. Some economists argue that a decrease in taxes will not increase consumption permanently. According to this view, people realise that the lower taxes will mean a higher budget deficit and, therefore, higher debt and higher interest payments by the government in the future. With higher interest payments in the future, people will figure that their future taxes, or at least their children's taxes, will be higher than they otherwise would be. Forward-looking consumers, therefore, may not increase their consumption because they realise they will have to pay more in taxes in the future. If they are concerned about their children, they will figure that they need to pass more on to the next generation because the burden of the future deficit on their children has been increased.

The view that increases in the budget deficit through tax cuts will not affect consumption or the other components of GDP is called Ricardian equivalence after the nineteenth-century economist David Ricardo. Robert Barro, an American economist at Harvard University, has done the most significant theoretical and

empirical research in support of Ricardian equivalence. Many economists, however, including Martin Feldstein, also of Harvard University, do not find the evidence in support of Ricardian equivalence convincing. They think that an increase in the budget deficit through tax cuts will raise consumption and lower investment in the long run.

In any case, there is little disagreement among economists that an increase in the deficit as a share of GDP through higher government purchases will have a long-run impact of lower private investment.

The burden of the debt

Our discussion of Ricardian equivalence has focused on the higher debt that future generations incur as a result of the tax cut. The higher debt means that interest payments become an increased spending requirement of government. The federal budget already has a large portion of spending going to interest payments on the debt. Future interest payments represent a *burden of the debt* on future generations. If Ricardian equivalence holds, however, then an increase in the debt is not a burden on future generations because their parents or grandparents would have passed on additional inheritance to offset the burden.

There is another view postulating that there is no such thing as a ‘burden’ of the debt. This view rests on the ‘we owe it to ourselves’ argument. Notwithstanding the possibility of some bonds held by foreigners and the fiscal nuisance of being locked into fixed commitments to pay interest, there is no burden. There is a redistribution of income to bond holders from the general taxpayer. This may be a source of concern but not a burden on our children. It is noteworthy that in some years following World War II, the debt to GDP ratio was much higher than in recent years. Yet, there do not seem to be major problems arising as a result.

Overall assessment

If we sum up the economic arguments about the deficit, we see that the main long-run harmful effect is due to a reduction of private investment in the economy. This effect is likely to arise if the deficit persists for a long time and if it is due to an increase in government purchases; the harmful effect is also likely to arise if the deficit is due to a decline in tax revenue, though there is more disagreement about the effects of a change in tax revenue than a change in government spending.

A reduction in investment is harmful to the economy because it lowers the growth of the capital stock and thereby lowers the growth of productivity. Lower productivity growth means a lower standard of living in the future.

Credible deficit reduction plans

Because of the harmful long-term effects of the deficit, many economists feel that lowering the deficit is a good idea. But just as an increase in the deficit can raise real GDP in the short run, a decrease in the deficit can reduce real GDP below potential GDP in the short run. Thus, even though there is a long-term benefit from deficit reduction, there is possible short-term harm. Is there any way this harm can be reduced?

In recent years economists have searched for ways to lessen the short-run impact of the budget deficit reductions on the economy. The idea of the *rational expectations assumption* has helped in the search. The idea of the rational expectations assumption is that people, like economic forecasters, try to figure out what government actions will be. People also take these expectations of government actions into

account in their personal decisions. Government policy makers have credibility if their announcements about future government actions are believable to people. If people's expectations are rational, then credibility can greatly influence how a change in the budget deficit affects the economy.

For example, if the government announces in advance its intention to reduce the deficit over a number of years in the future, and if the government's announcement is credible, then the negative short-run impact of the deficit reduction on the economy might be greatly reduced. Why?

We know that in the long run, the reduction in the budget deficit will lower interest rates. Thus, if the government announces plans to reduce the budget deficit in the future, people will expect that interest rates will decline in the future; this expectation of a future decline in interest rates may lower current interest rates.

Interest rates and expectations

Expectations of future declines in interest rates lower current interest rates because people have a choice between buying long-term bonds and short-term bonds. Consider the choice between a longer-term government bond with a maturity of two years and a shorter-term government bond that lasts one year. The choice is shown in table 15.1. When you are deciding to buy the two-year bond, your alternative is to buy the short-term bond. Rather than a two-year bond, you could buy a one-year bond and then buy another one-year bond next year. The average interest rate over the two-year period should be about the same as the interest rate on the two-year bond. Otherwise, no-one would buy the bond with the lower average interest rate. If you expect interest rates to rise sharply next year, you will not buy the two-year bond unless the current interest rate is higher. The interest rates on long-term bonds are thus affected by expectations of future interest rates. If people expect future interest rates to rise, then the interest rates on long-term bonds rise. If people expect future interest rates to fall, then interest rates on long-term bonds fall. The same analysis applies to five-, ten- as well as to two-year bonds.

Now, suppose that the government announces a credible deficit reduction plan to take place over a 10-year period. People who buy and sell bonds will reason that future short-term interest rates will be lower as a result of the lower budget deficit. If they expect future interest rates to be lower, then the current long-term interest rate on bonds will decline. Now, long-term interest rates as well as short-term interest rates affect investment decisions. Hence, the lower long-term interest rates will reduce borrowing costs, and firms will begin to invest more. Note that the increase in investment is occurring in the short run, not only in the medium run and the long run, because interest rates have declined in the short run.

In the ideal case, the increased investment and net exports would just offset the decline in government purchases in the short run, and there would be no negative effect on real GDP. However, the ideal case is very hard to realise because it depends on the government announcements being very credible and on people adjusting their expectations to take account of these government announcements. Moreover, the speed by which firms increase their investment must exactly match the speed of reduction in government purchases. Also, even if real GDP is unaffected, there may be different effects in different regions of the country because the lower government purchases and the increased investment would not necessarily occur in the same place.

The table shows the average interest rate for two alternatives:

- A two-year bond is held for two years and pays the current long-term interest rate of R per cent each year.
- A one-year bond is held for one year and pays the current short-term interest rate of 5 per cent; another one-year bond is bought at the end of the first year with an *expected* interest rate of r per cent.

TYPE OF BOND	INTEREST RATE IN FIRST YEAR	INTEREST RATE IN SECOND YEAR	AVERAGE INTEREST RATE
Long term (two years)	R	R	R
Short term (one year)	5	r	$\frac{5+r}{2}$

TABLE 15.1

Effect of a change in expected future interest rates

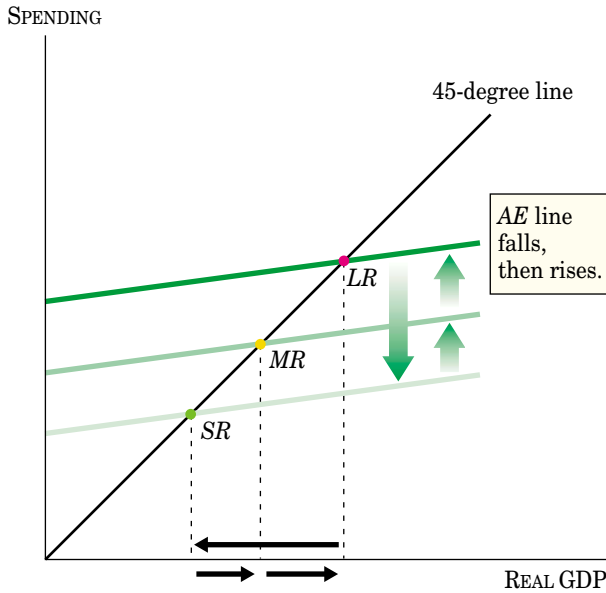
The average interest rate should be the same on the two so that:

$$R = \frac{5+r}{2}$$

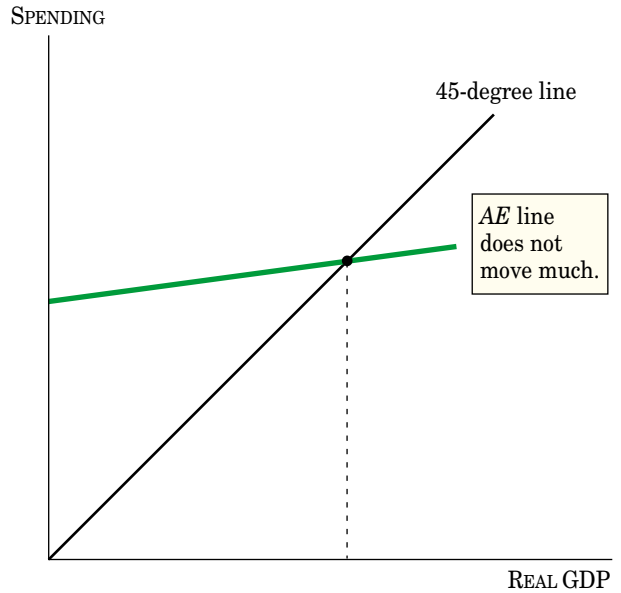
Hence, if the expected future short-term interest rate (r) rises, so does the current long-term interest rate (R).

Figure 15.1 illustrates the difference between such a credible deficit reduction plan and the more standard type of deficit reduction. The panel on the left is the standard case of deficit reduction through a cut in purchases that we have already analysed. The panel on the right is the case of a credible deficit reduction. On the right, the aggregate expenditure (AE) line does not move much; the lower government purchases are offset by increased investment through the decline in interest rates. The tables illustrate the key interest rate difference in the two cases. On the left, the interest rate does not decline in the short run; hence, investment stays put. On the right, the interest rate falls in the short run because people foresee the interest rate declining in the long run and, immediately, current interest rates fall.

Case of little credibility



Ideal case of credible deficit reduction



	Y	C	I	X	G	R
SR	↓	↓	↔	↑	↓	↔
LR	↔	↑	↑	↑	↓	↓

The interest rate (R) does not decline immediately.

	Y	C	I	X	G	R
SR	↔	↑	↑	↑	↓	↓
LR	↔	↑	↑	↑	↓	↓

Short-run output effects are mitigated by an immediate decline in the interest rate (R).

FIGURE 15.1

Benefits of credible budget deficit reduction

On the left, the budget deficit is reduced but the plan has no credibility. Interest rates do not change in the short run. On the right, a reduction in the interest rate in anticipation of budget deficit reduction stimulates investment and offsets the decline in government purchases.

The structural versus the cyclical deficit

We noted earlier that taxes and spending change automatically in recessions and booms. These automatic changes affect the budget deficit, so in order to analyse the deficit it is important to try to separate out these automatic effects. The *structural*, or *full-employment*, *deficit* was designed for this purpose. The definition of structural deficit is the answer to the question, ‘What would the deficit be if real GDP equalled potential GDP?’. Economists use the term *full-employment deficit* because full employment occurs when real GDP equals potential GDP; that is, the unemployment rate equals the natural rate, or the ‘full employment’ unemployment rate.

Figure 15.2 introduces a graph to help explain the structural deficit. On the horizontal axis is real GDP. On the vertical axis is the budget deficit. The budget is

balanced when the deficit is zero, which is marked by a horizontal line in the diagram. The region above zero represents a situation where taxes are less than spending and the government has a deficit. The region below zero is a situation where the government budget is in surplus. On the horizontal axis, letters *A*, *B* and *C* represent three different levels of real GDP.

The downward-sloping line in figure 15.2 says that as real GDP rises, the budget deficit gets smaller. More real GDP means a smaller deficit. Why? The automatic stabilisers are the reason. When real GDP rises, taxes rise and spending on social security falls. Because the deficit is the difference between spending and taxes, the deficit gets smaller. Conversely, when real GDP falls, tax receipts decline and spending on social security increases, so the deficit rises. The downward-sloping line in figure 15.2 pertains to a particular set of government programs and tax laws. A change in these programs or laws would *shift* the line. For example, an increase in tax rates would shift the line down.

FIGURE 15.2

The effect of real GDP on the deficit

The deficit equals spending minus taxes. When real GDP falls, the deficit rises because spending rises and tax receipts fall. When real GDP rises, the deficit falls. When real GDP is at point *A*, there is a deficit; at point *B* the budget is balanced; and at point *C* there is a budget surplus (negative deficit).

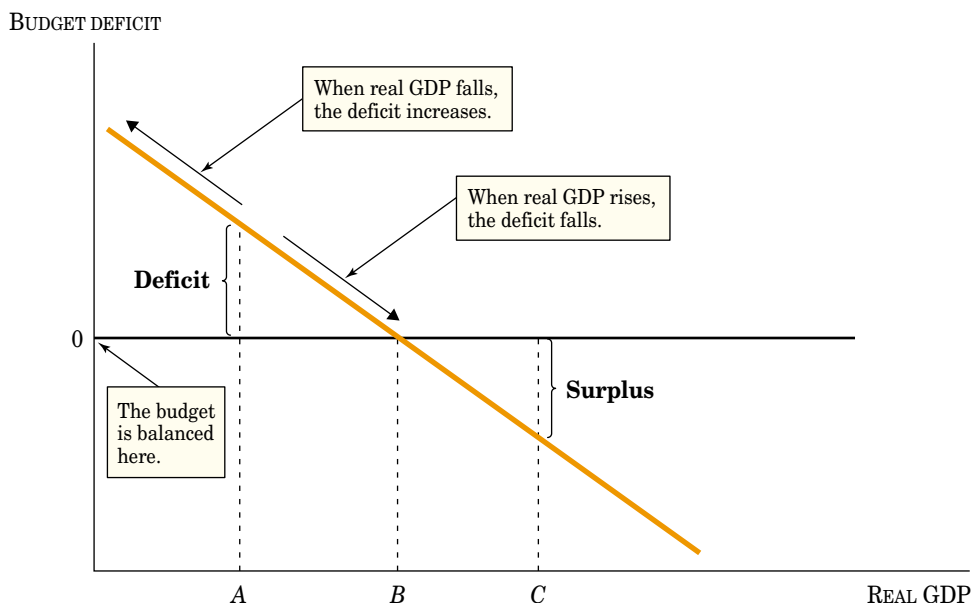


Figure 15.3, a similar diagram, shows potential GDP and real GDP in 1991, a recession year when real GDP was below potential GDP. Imagine raising real GDP up to potential GDP. We would predict that the deficit would go down, because tax revenue would rise as the economy grew and transfer payments would go down with fewer people unemployed, fewer people retiring and fewer people on welfare. As we move to the right in the diagram, the deficit gets smaller. The structural deficit occurs when real GDP equals potential GDP.

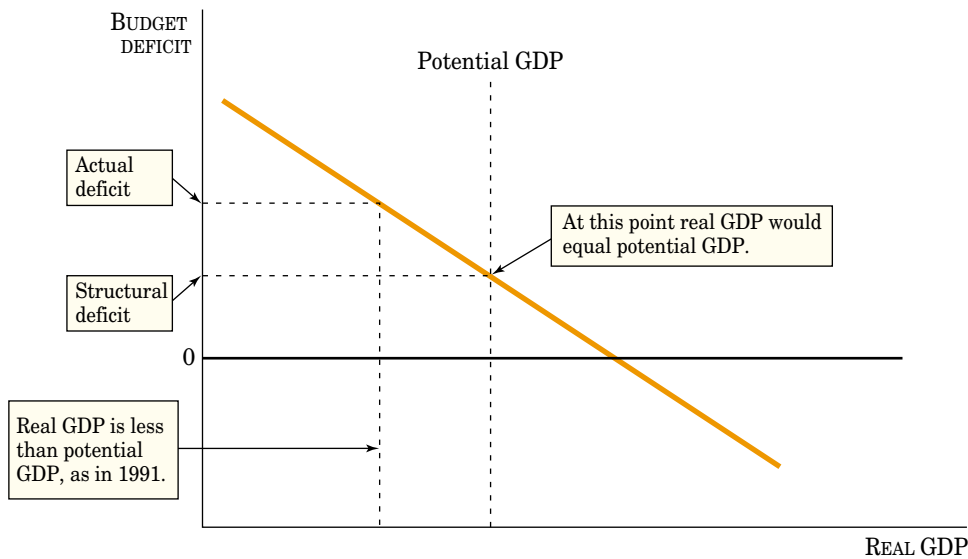


FIGURE 15.3
The structural deficit versus the actual deficit in a recession year

The deficit that would occur when real GDP is equal to potential GDP is called the structural deficit, as shown in the figure. The actual deficit rises above the structural deficit when real GDP falls below potential GDP, such as in 1991, a recession year.

The structural deficit provides a way to separate out cyclical changes in the budget caused by cyclical changes in the economy. The cyclical deficit is defined as the difference between the actual deficit and the structural deficit.

Figure 15.3 says that even if the Australian economy were at full employment, there would still have been a deficit in 1991. Reducing the structural deficit would require changes in government programs to reduce spending or changes in the tax law to increase tax revenue. Such changes in government programs or the tax laws would shift the negatively sloped line down to give budget balance at full employment.

Governments have since the early 1980s been preoccupied with the desire to reduce structural budget deficits. This desire is motivated by the belief that eliminating the structural deficit is good for the economy in the long run. Notice that the emphasis is on the structural rather than the cyclical deficit because the latter reflects the phase of the business cycle that the economy is passing through, rather than a long-term problem. In the following section, we examine the attempts made by the United States and Australian Governments to reduce and eliminate the structural budget deficit.

BUDGET REFORMS

In the United States, frustration with many failed attempts by the US Government to reduce the structural budget deficit to zero has led to proposals to reform the process under which the Congress and the president determine the budget.

The most widely discussed and popular proposal is the balanced budget amendment to the US Constitution. Such an amendment has been voted on by Congress several times but has yet to pass. The amendment would require that the budget be balanced, much like the requirement for many of America's state and local governments. The main advantage of the balanced budget amendment is that, if the law were adhered to, the budget deficit would be eliminated and the possible good long-term growth effects of a balanced budget would be reaped. However, there is some doubt that such a law could be enforced. What would the penalty be if the budget was not balanced? Another problem with a balanced budget amendment is

that it would not permit the deficit to expand in a recession as part of the automatic stabilisers. Hence, recessions could be worse. Some versions of the balanced budget amendment focus only on keeping government spending within a percentage of GDP, allowing taxes to decline temporarily in a recession even if the deficit would rise. Others have escape clauses if there is a recession.

In Australia, we seem to be trying to balance the budget over the cycle by having small deficits in recessions and small surpluses in booms, hoping that they cancel out on average. This kind of strategy is based on a lack of faith in the power of discretionary stabilisation.