Budget Balance

To avoid large and unsustainable budget deficits, the nation will ultimately have to choose among higher taxes, modifications to entitlement programs such as Social Security and Medicare, less spending on everything else from education to defense, or some combination of the above.

- Ben Bernanke, Former Chairman of the Federal Reserve Bank

Balanced Budget definition

Every government must grapple with important decisions about its budget. Depending on the health of the economy and the budget balance, policymakers need to make certain decisions on taxes, spending, and borrowing. But before we get into that, we first need to know what the budget balance is.

> Definition
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> The **budget balance** is the difference between government revenue and government spending.

Government revenue comes from the taxes it collects from its citizens. Government spending is the money the government spends on goods, services, and transfer payments, such as unemployment insurance and Social Security. Because revenue and spending rarely balance out, the budget balance is usually either in surplus or deficit.

> Definition
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> A **budget surplus** occurs when government revenue is higher than government spending.

> Definition
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> A **budget deficit** occurs when government revenue is lower than government spending.

> Definition
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> A **balanced budget** occurs when government revenue is equal to government spending.

Now that we know the definitions of budget balance like the one in Figure 1, budget surplus, budget deficit, and balanced budget, let's take a look at the formula to calculate the budget balance.

Fig 1. - Balanced Budget

Budget Balance formula

The formula for calculating the budget balance is as follows:

S = T - G - TR

Where:
S = Government Savings (Budget Balance)
T = Tax Revenue
G = Government Purchases of Goods and Services
TR = Transfer Payments

Budget Balance and Fiscal Policy

When the budget balance (S) is positive, it is called a surplus. When the budget balance is negative, it is called a deficit. If the government engages in expansionary fiscal policies (reducing taxes, increasing government purchases, or increasing transfer payments) the budget balance will decline, either from a surplus to a deficit or from a deficit to a larger deficit. On the other hand, if the government conducts contractionary fiscal policies (increasing taxes, reducing government purchases, or reducing transfer payments) the budget balance will increase, either from a deficit to a surplus or from a surplus to a larger surplus.

What happens to the *budget balance* if the government does nothing? Budget deficits, or shrinking budget surpluses, generally occur during recessions as a decline in employment leads to lower income tax revenue and a decline in demand leads to lower corporate tax revenue, while rising unemployment leads to an increase in transfer payments like unemployment insurance and food subsidies (see Figure 2 below). In contrast, during expansions, budget surpluses, or shrinking budget deficits, generally occur as rising employment leads to higher income tax revenue and an increase in demand leads to higher corporate tax revenue, while falling unemployment leads to a decline in transfer payments (see Figure 3 below). These changes in the budget balance that occur largely outside of fiscal policy are known as **automatic stabilizers**. Thus, the budget balance can go up or down without policymakers even getting involved.

The bigger question though is, what happens to the *economy* if the government does nothing? That really depends on how fast and how much the economy is either expanding or contracting. During the 2007-2009 Global Financial Crisis, economies all over the world were deteriorating rapidly. Some say doing nothing would have allowed the economy to "self-correct", as prices would fall so much that eventually, people would start spending again, and as production would fall so much that eventually, companies would start producing again. That may be true, but it may have taken a very long time for this to happen, which may have led to even more jobs lost, further declines in the stock market, and possibly even a second Great Depression. At some point, the government needs to step in if the economy is in freefall. Faster and bigger economic changes require faster and bigger fiscal policies to bring the economy closer to equilibrium, and that's exactly what happened during this period as both central banks and governments around the world took drastic measures to save their economies from disaster.

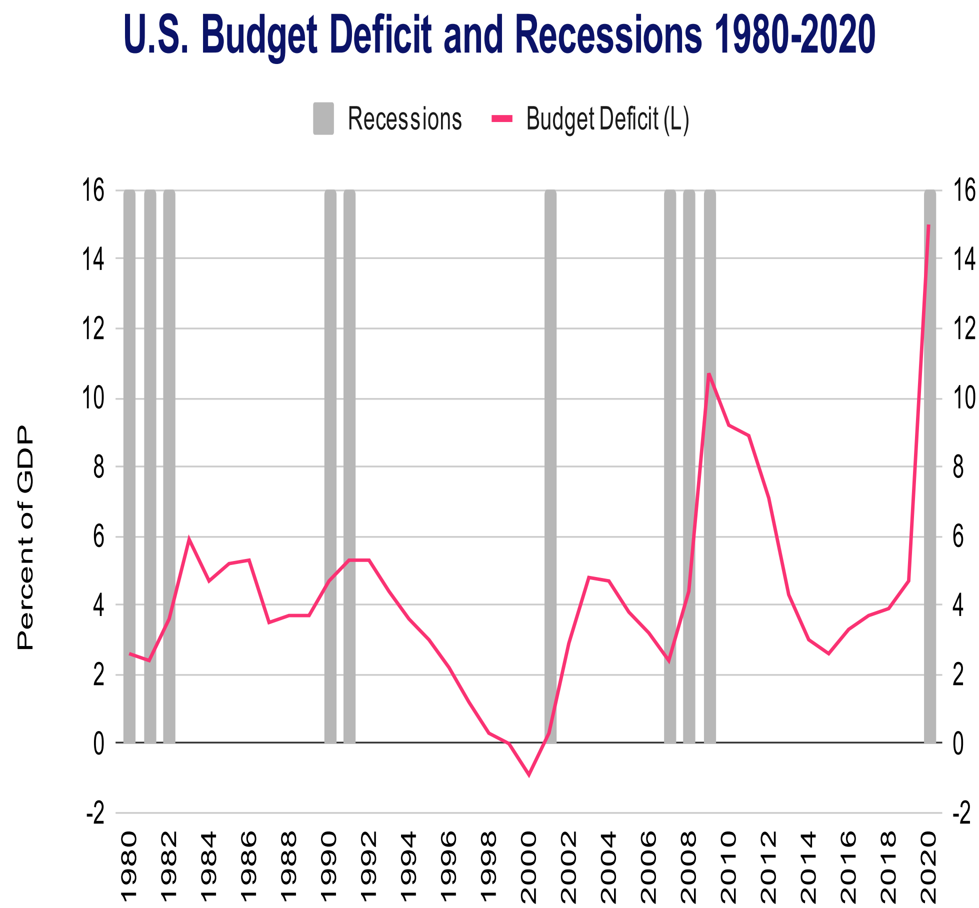

Fig 2. - U.S Budget Deficit and Recessions - Source: Congressional Budget Office, National Bureau of Economic Research

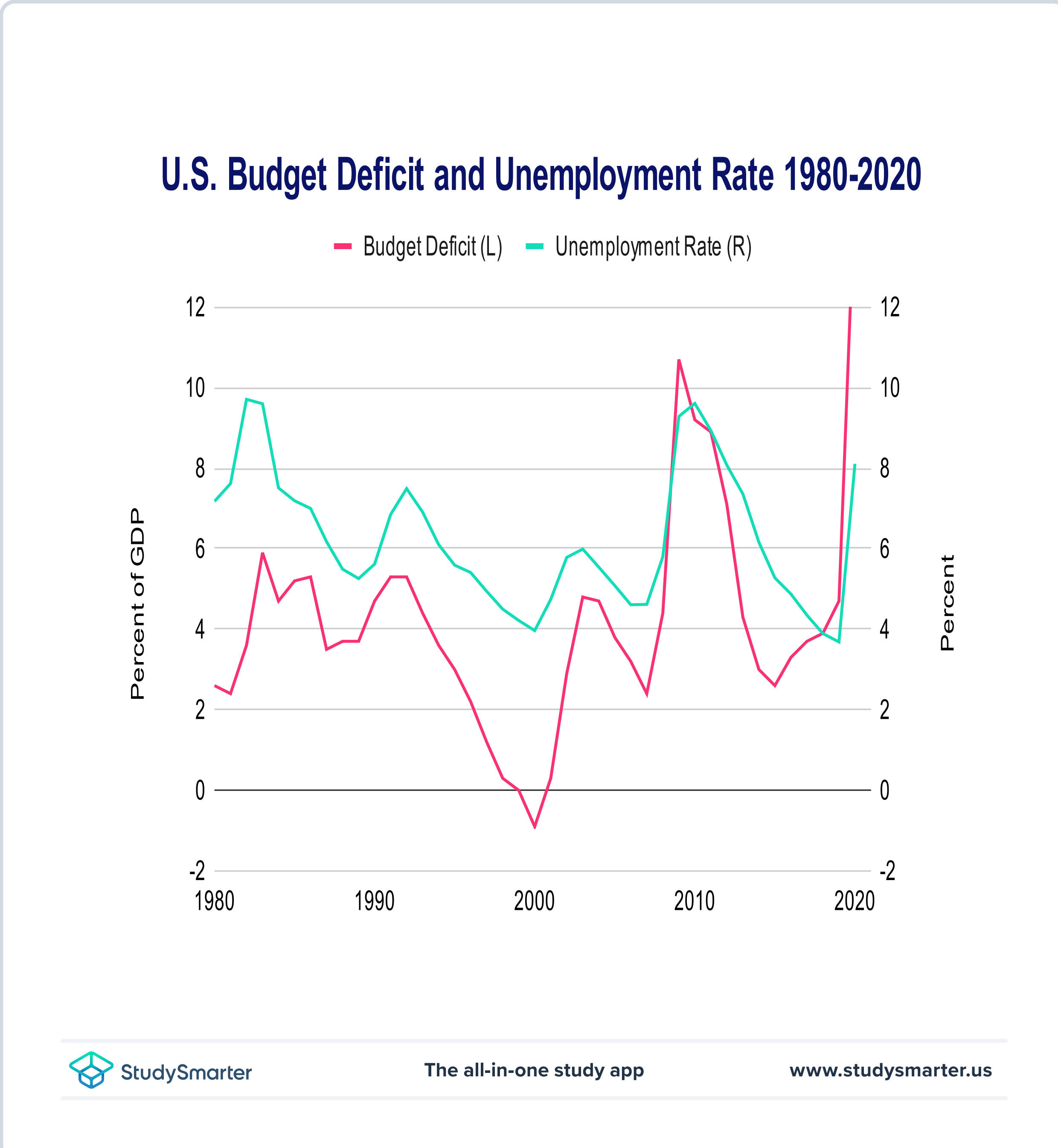

Fig 3. - U.S. Budget Deficit and Unemployment. Source: Congressional Budget Office

Budget Balance and the Business Cycle

Business cycle effects on the budget balance do not last very long. Over time, recessionary gaps (real GDP below potential output) and inflationary gaps (real GDP above potential output) are eliminated. However, that may not be enough to bring the economy back to equilibrium. In those cases, the government cannot sit idly by and must make decisions on taxes, spending, and borrowing to either lift the economy out of recession or cool it down if it is overheating during an expansion. However, as we shall see shortly, whether the government can fund its spending in the long run is more important than whether it is running a surplus or deficit in the short run.

> Definition
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> **Potential output** is what an economy can feasibly produce if all of its resources were being fully used at normal levels

It is useful to determine what the budget deficit would be if real GDP was equal to potential output. How much more revenue would the government collect and how much less would it spend on transfer payments if a recessionary gap were eliminated (real GDP rose to match potential output)? How much less revenue would the government collect and how much more would it spend on transfer payments if an inflationary gap were eliminated (real GDP fell to match potential output)? This is known as the cyclically-adjusted budget balance, and it doesn't fluctuate as much as the actual budget balance.

> Definition
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> The **cyclically-adjusted budget balance** is the budget balance that would occur if there were no recessionary or inflationary gaps; in other words, what the budget balance would be if real GDP were equal to potential output.

Balanced Budget example

Let's take a look at an example budget, what the government can do to bring it back into balance, and how a balanced budget rule would impact the government's actions.

Example

Let's say we have the following for a government:

T = $1 trillion
G = $1.5 trillion
TR = $0.2 trillion

Then S = T - G - TR = $1 trillion - $1.5 trillion - $0.2 trillion = -$0.7 trillion

Since S is negative, this is an example of a budget deficit. How can the government balance out its budget? In practice, there are endless possibilities, as there are endless combinations of increases and decreases they can undertake. But for simplicity, let's just consider two.

1. The government can increase tax revenue by $0.7 trillion:

Then S = $1.7 trillion - $1.5 trillion - $0.2 trillion = $0

2. The government can also reduce spending by $0.7 trillion:

Then S = $1 trillion - $0.8 trillion - $0.2 trillion = $0

If this government was currently in the midst of a recession, raising taxes or reducing spending would only make matters worse. What else can be done? In order to cover the $0.7 trillion deficit, the government can borrow $0.7 trillion by issuing debt. However, that comes

> with the cost of paying interest on that debt. If this government was persistently in debt or was considered high risk, the interest payments could be substantial.
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> If there was a rule mandating a balanced budget for this country, the recession would worsen in the present. If there was no such rule, the government could spend more than it collects by borrowing, but that could threaten future economic growth if interest payments are exceptionally high. These are the tradeoffs governments must consider when making taxing, spending, and borrowing decisions.

Components of a Balanced Budget

Politicians tend to gravitate toward budget deficits in order to attract voters and satisfy their constituents without having to raise taxes or cut spending. Raising taxes reduces workers' take-home pay while cutting spending can negatively impact their voters, their friends, or themselves. The budget balance is far less of a concern to those with the power to improve it, so very few politicians favor a balanced budget rule.

Most economists don't think a balanced budget rule is a good idea either because it prevents automatic stabilizers (tax revenue and transfer payments) from limiting the severity of recessions or the overheating of expansions. If the budget is in a deficit in the middle of a recession, the only way to get it back to a balanced budget would be to raise taxes, reduce government spending or reduce transfer payments, all of which would make the recession even worse.

The big question is, what is more important, limiting the size of recessions or limiting the size of budget deficits? If government revenue is less than government spending, then to raise the extra revenue needed the government usually borrows the money by issuing debt, which is purchased by investors. The total outstanding federal debt is the accumulation of past federal deficits. If the federal debt continues to rise over time, the burden to pay it off falls to future generations of taxpayers. Thus, when considering what is more important, policymakers have to take current consequences, as well as future consequences, into account.

Problems with Persistent Negative Budget Balances

There are two main problems with persistent negative budget balances. First, when the government borrows, it **crowds out** private issuers who are looking to raise funds for investment projects to grow their businesses. The more government debt that is issued, the less demand there is for private debt or the higher interest rates private debt must offer in order to attract investors. Less demand for, or higher interest rates on, private debt leads to lower **investment spending** and a weaker economy.

To learn more, check out our articles on - Investment Spending and Crowding Out.

Second, the government needs to pay interest on its debt, at a minimum. Failure to make interest payments on time is known as a **default**, which can have disastrous consequences for a nation's currency and economy. A default will lead investors to lose faith in the government's ability to pay its debt obligations, which leads to a decline in demand for government debt, thereby a decline in the price and an increase in the interest rate for that debt. It can also lead to a depreciation of the nation's currency as investors flee for safer pastures. This often leads to inflation. As you can imagine, an economy characterized by slowing investment, rising interest rates, and high inflation is not a desirable place to be.

> Definition
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> A **default** occurs when a government fails to repay its debt interest on time

To make matters worse, high debt levels and interest payments crowd out investing in other things the nation needs like infrastructure, education, healthcare, and defense. The standards of living for a nation can be severely curtailed with such heavy borrowing. If the nation prefers instead to keep its spending at current levels, it must then borrow even more to make up for what it had to pay in interest payments, and the vicious cycle continues. This is why it is so important to keep the future in mind when making decisions in the present. Today's mistake can be tomorrow's disaster.

Deep dive

Rolling over the debt

Some nations, like the United States, are currently borrowing just to pay the interest on their debt. Meanwhile, their overall federal debt continues to soar because, instead of paying off the principal, they are simply issuing new debt in lieu of the principal; this is known as rolling over the debt. For example, if the nation has a $100 million principal payment coming due, if it can't afford to pay it off, the government can simply issue another $100 million bond, on which they would also have to pay interest. If the principal is never paid off, the federal debt will continue to rise with each round of borrowing.

Keeping High Debt Levels in Perspective

Even though a nation has very high debt levels, it must be kept in perspective. The way to do this is to compare the outstanding debt with the size of the economy.

Definition

The **debt-to-GDP ratio** is the ratio of a nation's debt to its GDP.

Since GDP growth largely determines tax revenue growth, the debt-to-GDP ratio is a measure of a nation's ability to service its debt. In order to reduce the debt burden, a nation can either reduce its debt level or increase its GDP. However, even if the debt is rising, its debt burden will still fall if GDP is rising faster.

There is another way to reduce the debt burden, and that is by printing money. Why worry about your outstanding debts if you can just print enough money to pay it all off? The answer is inflation. If there is too much money circulating in the economy without a corresponding increase in production, then demand will rise faster than supply and create inflation. Here again, we are back to an undesirable circumstance.

To learn more check our explanations on National Debt and on GDP!

Features of a Good Balanced Budget

The features of a good balanced budget would be tax revenue that is enough to cover government purchases of goods and services and transfer payments. The real problem lies in the fact that *actual* tax revenue is not known at the time when spending plans are laid out, so policymakers need to use *estimated* tax revenue in order to formulate their spending plans. Politicians generally favor a larger budget over a smaller budget, so spending plans tend to be larger than estimated tax revenue.

While the amount of tax revenue collected depends on tax rates, the size of the tax base (number of tax-paying workers), and how fast the economy is growing, the amount the government spends depends on policymakers, their constituents, and their lobbyists. Because policymakers have both little control over and little knowledge of what the actual amount of tax revenues collected will be, there is little incentive to be conservative in their spending plans. At least in the United States, policymakers know that they can always borrow to make up the difference because United States debt is considered the safest in the world. Thus, at least in the United States, there will most likely never be a balanced budget rule, because, in the eyes of most politicians, it is simply not necessary.

Budget Balance - Key takeaways

- The budget balance is the difference between government revenue and government spending. A negative budget balance is called a deficit and a positive budget balance is called a surplus.
- The budget balance equation is S = T - G - TR, where S = Government Savings (Budget Balance), T = Tax Revenue, G = Government Purchases of Goods and Services, and TR = Transfer Payments.
- To balance a budget that is in deficit, the government can raise taxes, reduce government purchases, reduce government transfers, or some combination of these actions. However, these actions would slow the economy and worsen a recession.
- Changes to the budget balance that happen outside of fiscal policy are known as automatic stabilizers. These include changes in tax revenue and transfer payments.
- Most economists don't think a balanced budget rule is a good idea because it prevents automatic stabilizers from limiting the severity of recessions or the overheating of expansions. Most politicians don't favor a balanced budget rule because it would prevent them from being able to sway voters with lavish spending.

References

1. Fig 2. - U.S Budget Deficit and Recessions - Source: Congressional Budget Office Source: Congressional Budget Office Historical Budget Data Feb 2021,https://www.cbo.gov/data/budget-economic-data#11 , National Bureau of Economic Research, U.S. Business Cycle Expansions and Contractions, https://www.nber.org/research/data/us-business-cycle-expansions-and-contractions
2. Fig 3. - U.S. Budget Deficit and Unemployment. Source: Congressional Budget Office, Congressional Budget Office Historical Budget Data Feb 2021,https://www.cbo.gov/data/budget-economic-data#11