

Fiscal Debts and Deficits – A Quick Look

In this short summary, I look at government debts and deficits. I will confine myself to the US debts and deficits because (1) the data is very complete, and (2) I am familiar with the data and issues involved. However, everything I say will be applicable to other countries, as well. The reasons why the debts are incurred may be very different across countries, but the movements in the debt follow very clear channels and are affected by the same variables.

First, we need a set definition for debt. Debt is the sum of all borrowing by the government that has yet to be paid back. A government has three main ways in which it can finance its spending. It can **tax**; it can **print money**; and it can **borrow**. Some people think that printing money is also a type of debt incurred where the debt pays no interest. However, money is a special type of thing, different from bonds. It can be used to pay taxes, whereas governments will not accept bonds as payment for taxes. It is legal tender and must be accepted for the payment of debts and for transactions (except in Sweden). Bitcoin is a private money, but it cannot be used to pay taxes and it is not legal tender. Money is different from bonds, but sometimes they act the same way when interest rates are very low. This makes things confusing – even to economists.

To borrow, governments can print bonds and sell them. These bonds are a promise that if you give the government money now, it will give you money in the future, along with a fixed amount of interest paid every six months. Sometimes the borrowing is for a period less than a year. In this case, interest is paid at the beginning of the borrowing period and there are no periodic payments of interest during the course of the holding of the debt. The government can also negotiate loans from banks and this is something each of you should be very familiar with since it is like buying a car on time or getting a mortgage loan to buy a house.

In all cases, government is borrowing money for some definite period time and will pay the money back in the future. It may be 30 years before the debt matures, or it may be 30 days. When the debt is still out there and has not been paid off we say the debt is outstanding. Bond debt is preferable to bank loans because bank loans are not liquid. They cannot be sold on a secondary market. If you buy a bond this week, next week you can sell it on the bond exchange. Someone else then becomes the bondholder and you get money.

Federal government debt is simply outstanding debt – bonds and bank loans. The aggregate, gross amount that the US Treasury can borrow is limited by the United States debt ceiling. As of April 30, 2018, ***debt held by the public*** was \$15.3 trillion and ***intragovernmental holdings*** were \$5.7 trillion, for a total or "National Debt" of \$21 trillion. The intragovernmental holdings refer to something like the social security trust funds holding US Treasury bonds as investments. The debt held by the public includes banks

and foreign entities. However, whoever holds these bonds, the interest on the debt must be paid, whether it is a foreigner, a bank, the Fed, or the SS Trust Funds who holds the bonds. The interest and principal payments must be made. For this reason, the US government cannot default on its bond payments. Some other expenditure will be cut to provide the money to pay the debt service. This money will come from so-called discretionary spending and not mandated spending. Interest and principal payments on the national debt are mandatory, not discretionary.

As an aside, there are many people pushing a narrative about enormous “unfunded liabilities”. This means the government has made a contract to pay you benefits, but it has not contracted to get the money in the future to pay you the benefits. Essentially this concept appears to be that government has amassed trillions of dollars of expenditures in the future that it is legally bound to pay, but it has not similarly ensured legally bound revenue streams that will pay for such things. However, our life is full of such contingencies. For example, the future payments on a student loan are legally contracted and you MUST pay them in the future. Note that you similarly have no legally contracted revenue stream to cover these payments. So, you have contracted payments for which you do not have contracted income to pay your debts. That means you have unfunded liabilities when you take out a student loan! Is something wrong here? Is this a bad thing? No, of course not. Like everyone else, you will have a job in the future and you will make those loan payments, but right now you have a huge unfunded liability when you went to school paying for it with a loan from a bank. (note that the interest rate you pay adds a risk premium to cover the risks involved in loaning you the money). The same can be true for the national debt as it grows over time. If our incomes grow over time, and taxes and benefits can be adjusted, there is no need to fear that that the revenue side is not equally balanced. Think for a moment. The people who will pay those taxes have not even been born yet. How can you legally contract a revenue stream from people who have yet to be born? The whole idea is silly. By contrast, what we look at below is not silly.

Now, suppose that we consider the change in outstanding debt from one year to the next. This gives us the fiscal deficit. That is

$$\text{Fiscal Deficit} = \Delta \text{ National Debt.}$$

Another way to say this is that the national debt is the accumulation of deficits after accounting for past debts being paid back. Fiscal deficits are the net change in the national debt. Debt is a stock of money that must be paid back, while a deficit is a flow of money being borrowed. So, if we have a debt of \$21,000,000,000,000 and the year before it was \$20,500,000,000,000, then the fiscal deficit for this year must have been \$500,000,000,000. These are big numbers involving billions and even trillions of dollars. How do we keep it all straight? One way is to divide by the nominal GDP.

Trading Economics has a website that draws graphs for all kinds of economic data. It graphs both the deficit to GDP ratio and the debt to GDP ratio of many countries. Here is what the US looks like.



The old rules of good fiscal policy were that in normal times the Deficit/GDP should be less than 0.03 or 3% and the Debt/GDP should be below 0.60 or 60%. Obviously, those guidelines have gone by the way. We are living in new times. Government debt is pervasive throughout the global economy. The reason for this is simple. The private debts that were amassed during the Financial Crisis and Economic Recession of 2008-2009 forced governments to shoulder an enormous amount of bad debt. Public debt was substituted for private debt in an unprecedented way. These private debts were then monetized by the central banks of the major economies and the commercial banking system was somewhat coerced to hold this new money that was switched for the debt by offering banks interest on holding the money at the central bank. Banks were re-vitalized

by handing them a riskless way to make profits. Now we are long past the Great Recession, but a large part of the debt still remains on the books. The crazy switch of money for bonds by the Federal Reserve has now led to a need to normalize the balance sheet of the Fed. This means that the bonds must be sold, and the money destroyed. Good luck on that enterprise. It will probably take decades, but we don't have that much time before the next recession hits.

What affects the debt to GDP ratio? Here we have some good theory and mathematical models. These models can help us predict the future of the debt/GDP ratio. Here is a short list of the simple direct effects. Note that many of these variables affect each other and therefore create indirect effects on the debt/GDP ratio.

- (1) an increase in real GDP growth will lower the debt/GDP ratio.
- (2) an increase in the real interest rate paid on bonds will raise the debt/GDP ratio
- (3) a rise in the ratio of government spending to GDP will increase the debt/GDP ratio.
- (4) a rise in the taxes/GDP ratio will reduce the debt/GDP ratio
- (5) an increase in the growth rate of nominal money will reduce the debt/GDP ratio
- (6) a rise in the velocity of money will increase the debt/GDP ratio.

Finally, an important stability condition for the issuance of debt by the government is that the growth of real GDP must be greater than the real interest rate paid on government debt. If this condition is not met, the debt will spin out of control and the system will not take long to destabilize. Debt will begin to grow without bound. Of course, long before this happens there will be a financial crisis and the economy will adjust back, so that the government emerges once again lean and efficient, although there will be much pain before this happens.

Answer these Questions:

- (1) Choose a country other than the US and discuss the trend in its Debt/GDP Ratio and Deficit/GDP Ratio using the information on TradingEconomics.com
- (2) "Unfunded liabilities in the US total over \$200 trillion, over 10 times as big as America's total GDP in a year. A financial crisis is just around the corner." Explain why this is a big exaggeration and not so serious as it seems.
- (3) What happened to the massive private debts that built-up because of the Great Recession?
- (4) The Fed must normalize its balance sheet. Explain what this means and why it is difficult to do.