

Questions for Review

1. What is unusual about U.S. fiscal policy since 1980 is that government debt increased sharply during a period of peace and prosperity. Over the course of U.S. history, the indebtedness of the federal government relative to GDP has varied substantially. Historically, the debt–GDP ratio generally increases sharply during major wars and falls slowly during peacetime. The 1980s and 1990s are the only instance in U.S. history of a large increase in the debt–GDP ratio during peacetime.
2. Many economists project increasing budget deficits and government debt over the next several decades because of changes in the age profile of the population. Life expectancy has steadily increased, and birth rates have fallen. As a result, the elderly are becoming a larger share of the population. As more people become eligible for “entitlements” of Social Security and Medicare, government spending will rise automatically over time. Without changes in tax and expenditure policies, government debt will also rise sharply.
3. Standard measures of the budget deficit are imperfect measures of fiscal policy for at least four reasons. First, they do not correct for the effects of inflation. The measured deficit should equal the change in the government’s real debt, not the change in the nominal debt. Second, such measures do not offset changes in government liabilities with changes in government assets. To measure the government’s overall indebtedness, we should subtract government assets from government debt. Hence, the budget deficit should be measured as the change in debt minus the change in assets. Third, standard measures omit some liabilities altogether, such as the pensions of government workers and accumulated future Social Security benefits. Fourth, they do not correct for the effects of the business cycle.
4. Public saving is the difference between taxes and government purchases, so a debt-financed tax cut reduces public saving by the full amount that taxes fall. The tax cut also increases disposable income. According to the traditional view, since the marginal propensity to consume is between zero and one, both consumption and private saving increase. Because consumption rises, private saving increases by less than the amount of the tax cut. National saving is the sum of public and private saving; because public saving falls by more than private saving increases, national saving falls.
5. According to the Ricardian view, a debt-financed tax cut does not stimulate consumption because it does not raise permanent income—forward-looking consumers understand that government borrowing today means higher taxes in the future. Because the tax cut does not change consumption, households save the extra disposable income to pay for the future tax liability that the tax cut implies: private saving increases by the full amount of the tax cut. This increase in private saving exactly offsets the decrease in public saving associated with the tax cut. Therefore, the tax cut has no effect on national saving.
6. Which view of government debt you hold depends on how you think consumers behave. If you hold the traditional view, then you believe that a debt-financed tax cut stimulates consumer spending and lowers national saving. You might believe this for several reasons. First, consumers may be shortsighted or irrational, so that they think their permanent income has increased even though it has not. Second, consumers may face binding borrowing constraints, so that they are only able to consume their current income. Third, consumers may expect that the implied tax liability will fall on future

generations, and these consumers may not care enough about their children to leave them a bequest to offset this tax liability.

If you hold the Ricardian view, then you believe that the preceding objections are not important. In particular, you believe that consumers have the foresight to see that government borrowing today implies future taxes to be levied on them or their descendants. Hence, a debt-financed tax cut gives consumers transitory income that eventually will be taken back. As a result, consumers will save the extra income they receive in order to offset that future tax liability.

7. A budget deficit might be good policy for the following reasons. First, it can help stabilize the economy if output is below full employment. Second, it can allow the country to keep tax rates relatively smooth despite fluctuations in government spending (e.g., temporary wars) or in output (namely, in recessions). Third, it can shift a tax burden from current to future generations. For example, some expenditures might benefit future generations, and some economists argue that those generations should bear some of the costs of financing the expenditures.
8. The level of government debt might affect the government's incentives regarding money creation because the government debt is specified in nominal terms. A higher price level reduces the real value of the government's debt. Hence, a high level of debt might encourage the government to print money in order to raise the price level and reduce the real value of its debt.

Problems and Applications

1. The budget deficit is defined as government purchases minus government revenues. Selling the Liberty Bell to Taco Bell would raise revenue for the U.S. government and, hence, reduce the deficit. A smaller budget deficit would lead the government to borrow less, and as a result the measured national debt would fall.

If the United States adopted capital budgeting, the net national debt would be defined as the assets of the government (its schools, armies, parks, and so forth) minus the liabilities of the government (principally outstanding public debt). By selling the Liberty Bell the government would be reducing its assets by the value of the Liberty Bell and reducing its liabilities by its purchase price. Assuming Taco Bell paid a fair price, these reductions would be the same amount and the net national debt would be unchanged.

Before you worry too much about the Taco Liberty Bell, you might want to notice that this ad appeared on April Fools Day.

2. Here is one possible letter:

Dear Senator:

In my previous letter, I assumed that a tax cut financed by government borrowing would stimulate consumer spending. Many economists make this assumption because it seems sensible that if people had more current income, then they would consume more. As a result of this increase in consumption, national saving would fall.

Ricardian economists argue that the seemingly sensible assumption that I made is incorrect. Although a debt-financed tax cut would increase current disposable income, it would also imply that at some point in the future, the government must raise taxes to pay off the debt and accumulated interest. As a result, the tax cut would merely give consumers a transitory increase in income that would eventually be taken back. If consumers understand this, then they would know that their permanent, or lifetime, resources had not changed. Hence, the tax cut would have no effect on consumption, and households would save all of their extra disposable income to pay for the future tax liability. Because there would be no effect on consumption, there would also be no effect on national saving.

If national saving did not change, then as pointed out by the prominent economist you heard from yesterday, the budget deficit would not have the effects I listed. In particular, output, employment, foreign debt, and interest rates would be unaffected in both the short run and the long run. The tax cut would have no effect on economic well-being.

There are several reasons the Ricardian argument may fail. First, consumers might not be rational and forward-looking: they may not fully comprehend that the current tax cut means a future tax increase. Second, some people may face constraints on their borrowing: in essence, the tax cut would give these taxpayers a loan that they are unable to obtain now. Third, consumers may expect the implied future taxes to fall not on them, but on future generations whose consumption they do not care about.

Your committee must decide how you think consumers would behave in response to this debt-financed tax cut. In particular, would they consume more, or not?

Your faithful servant,
CBO Economist.

3. a. We will assume that the life-cycle model of Chapter 16 holds and that people want to keep consumption as smooth as possible. This implies that the effect on consumption of a temporary change in income will be spread out over a person's entire remaining life. We will also assume for simplicity that the interest rate is zero.

Consider a simple example. Let T be the amount of the one-time, temporary tax levied on the young, and let B be the amount of the one-time benefit paid to the old, where $B = T$. If a typical elderly person has 10 years left to live, then the temporary benefit increases the present consumption of the elderly by $B/10$. If a typical worker has 30 years left to live, then the increase in taxes decreases their present consumption by $T/30$. Aggregate consumption changes by an amount

$$\begin{aligned}\Delta C &= B/10 - T/30 \\ &= B/15.\end{aligned}$$

The transfer of wealth to the elderly causes a net increase in consumption and, therefore, a decrease in saving. This happens because the elderly increase consumption by more than the workers decrease it, because the elderly have fewer years left to live and thus have a higher marginal propensity to consume.

- b. The answer to part (a) does depend on whether generations are altruistically linked. If generations are altruistically linked, then the elderly may not feel any better off because of the Social Security benefit, since the tax and benefit increase has no effect on a typical family's permanent income; it simply transfers resources from one generation of the family to another. If the elderly do not want to take advantage of this opportunity to consume at their children's expense, they may try to offset the effect of the tax increase on the young by giving them a gift or leaving a bequest. To the extent that this takes place, it mitigates the impact of the tax change on consumption and saving.
4. A rule requiring a cyclically adjusted balanced budget has the potential to overcome, at least partially, the first two objections to a balanced-budget rule that were raised in this chapter. First, this rule allows the government to run countercyclical fiscal policy in order to stabilize the economy. That is, the government can run deficits during recessions, when taxes automatically fall and expenditures automatically rise. These automatic stabilizers affect the deficit but not the cyclically adjusted deficit. Second, this rule allows the government to smooth tax rates across years when income is especially low or high—it is not necessary to raise tax rates in recessions or to cut them in booms.

On the other hand, this rule only partially overcomes these two objections, since the government can only run a deficit of a certain size, which might not be big enough. Also, a cyclically adjusted balanced budget does not allow the government to smooth tax rates across years when *expenditure* is especially high or low, as in times of war or

peace. (We might take account of this by allowing an exemption from the balanced budget rule in special circumstances such as war.) This rule does not allow the government to overcome the third objection raised in the chapter, since the government cannot shift the burden of expenditure from one generation to another when this is warranted.

Finally, a serious problem with a rule requiring a balanced cyclically adjusted budget is that we do not directly *observe* this budget. That is, we need to estimate how far we are from full employment; then we need to estimate how expenditures and taxes would differ if we were at this full-employment level. None of these estimates can be made precisely.

5. The Congressional Budget Office (www.cbo.gov) regularly provides budget forecasts. One excellent CBO publication that summarizes these forecasts is the “The Budget and Economic Outlook.” For example, in the March 2009 update of this publication, the CBO projected that the debt held by the public would rise from 41 percent of GDP at the end of 2008 to a peak of 62 percent by the end of 2011 and then decline to 56 percent at the end of 2019. Under current rules for producing baseline projections of the debt, the CBO makes several assumptions.

First, the CBO assumes that so-called discretionary government spending (items such as defense, administration, and the like, amounting to about one-third of federal spending) will grow at only the rate of inflation. Since nominal GDP generally grows faster than inflation, this implies that the CBO builds in a steady decline in discretionary government spending relative to GDP.

Second, the CBO assumes that the growth of both Medicare and Medicaid averages about 7 percent per year under the rate setting system that constrains fees paid for physician’s services. But if Congress overrides these limits in the future, as it has every year since 2003, federal spending on these health programs will be much greater than projected.

Third, the CBO assumes that the taxes in the future will be whatever legislation currently says they will be (i.e., the CBO does not take a stand on what changes legislators might pass in the future).

Fourth, the CBO makes educated guesses about future potential economic growth, now projected at 2.3 percent over the next decade, and other economic indicators. As discussed in the January 2009 issue of the “Budget and Economic Outlook,” the CBO justifies these assumptions by noting “CBO’s baseline projections are not intended to be a forecast of future budgetary outcomes; rather, they serve as a neutral benchmark that legislators and others can use to assess the potential effects of policy decisions. As such, CBO’s baseline budget projections, like its economic projections, do not incorporate potential changes in policy.”

These assumptions, which serve the purpose of providing a neutral benchmark, are unlikely to hold in practice. Policymakers probably will increase real spending on discretionary programs as the economy grows over time. They may also change taxes, although the direction is harder to predict. If the United States experiences a productivity slowdown, this will reduce output growth and hence growth in tax revenue. As a consequence, future government debt likely will be somewhat different than currently projected.