Answers to Questions: Chapter 6

1. No definitive conclusion on the government's fiscal policy can be made with the information given in the question because the actual deficit can change due to either a change in fiscal policy or a change in the level of output. To determine whether fiscal policy is expansionary or restrictive, the level of the natural employment deficit must be examined.

2. The *cyclical deficit* occurs because of a business cycle. It is the difference between the *actual budget deficit* and the *natural employment deficit*. The *structural deficit* is the deficit that remains after the effect of the business cycle is separated out. A *structural deficit* is the deficit that exists when the economy is at the natural level of output; it is identical to the *natural employment deficit*. The *actual budget deficit* is the deficit that exists given the actual tax receipts and the actual level of government spending. It is the sum of the *natural employment deficit* and the *cyclical deficit*.

3. Government spending and taxes rise over time as the economy's output increases. Therefore, to make legitimate comparisons of budget deficits or surpluses at different points in time, it is important to express them in terms of the size of the economy's output. Finally, because output can rise and fall relative to the economy's productive capacity, expressing the budget deficits or surpluses as percents of natural GDP allows for the best comparisons.

4. Both statements indicate confusion between a cyclical deficit increase and a structural one. The increase in the budget deficit is a cyclical increase resulting from the recession. It indicates neither that policymakers have implemented expansionary fiscal policies nor that they have been irresponsible. Enactment of discretionary restrictive fiscal policies could plunge the economy even deeper into recession and result in an even larger budget deficit rather than a smaller one.

5. a. The cut in the tax rate reduces the amount of tax revenues at natural real GDP. Therefore, it increases the size of that natural employment deficit. On the other hand, since the tax cut results in a rise in real GDP relative to natural real GDP, it reduces the size of the cyclical deficit.

   b. The rise in taxes that occurs during an expansion is due to an increase in output relative to natural real GDP. That is a reduction in the cyclical deficit.

   c. The rise in defense spending increases the government spending. That increases the natural employment deficit. Other things being equal, the increase in defense spending would increase output relative to natural real GDP, which would reduce the cyclical deficit. But if the Fed raised interest rates enough to offset the fiscal expansion, then there would be no change in the cyclical deficit.

d. The rise in the unemployment rate means that real GDP is falling relative to natural real GDP. Thus, the rise in unemployment compensation results in a fall in the cyclical deficit.

6. Tax receipts tend to fall and transfers tend to rise as real output falls. Starting from the natural level of output, a declining level of output will lead to a growing deficit. Then, the actual budget deficit will be larger than the natural employment deficit.

7. The decisions to increase taxes and impose spending controls were a use of discretionary fiscal policy, which shifted the budget line upward and reduced the natural unemployment deficit. The effects of the strong economy represent automatic stabilization. Rising income levels produce higher levels of tax revenues, reducing the cyclical deficit, illustrated by a movement up along the budget line.

8. If the government has a budget deficit in the current year, then it has to borrow the amount of the difference between its purchases of goods and services and the amount of its net taxes. Therefore the government's debt increases in any year that it runs a deficit and decreases in any year that it runs a surplus; the increase in the government's debt equals the amount of the deficit and the decrease in its debt equals the amount of its surplus.

9. The recession of 2001 and the subsequent weakness of the economy was one of two reasons why the government's budget went from surplus to deficit during 2002-05. The weak economy caused tax revenues to fall and transfer payments such as unemployment compensation to increase, which increased the cyclical deficit. The second set of reasons for the rise in the budget deficit from 2002 to 2005 consisted of the Bush administration's cuts in taxes on income and capital gains and higher defense spending on the wars in Afghanistan and Iraq; these reflected increases in the natural employment deficit. The government budget deficit again rose during the Global Economic Crisis. The recession of 2007-09 resulted in a rise in the cyclical deficit as falling income and rising unemployment resulted in less tax revenues and more transfer payments. The budget deficit also rose due the ways in which Global Economic Crisis caused a rise in the natural employment deficit. The Crisis caused the Bush and Obama administrations to cut taxes in an effort to stimulate the economy. In addition, the Crisis resulted in increases in spending to bailout failing financial firms and car companies, plus additional spending aimed at stimulating the economy.

10. The gross public debt is the total government debt, including any debt held by government agencies such as the Federal Reserve or in the Social Security trust funds. The net public debt subtracts from the gross public debt the amount that the government

owes itself. The gross public debt increases by the amount of newly issued securities that the Treasury sells to the Fed, but net public debt is left unchanged.

11. In 1990, Japan's and Germany's debt-to-GDP ratios were about half of that of the United States. Over the next 20 years, Japan's ratio rose tenfold due a combination of stagnant nominal GDP and large and continuing budget deficits. As a result, Japan's debt-to-GDP ratio is now about twice as large as that of the United States. Germany's debt-to-GDP ratio rose steadily from 1991–2005; in fact from 2000 to 2008, Germany's ratio exceeded that of the United States as the surpluses in the U.S. budget caused its debt-to-GDP ratio to fall over the last half of the 1990s. Italy's debt-to-GDP ratio was about 50 percent higher than that of the United States in 1990. That gap widened over the next few years as Italy's ratio increased more rapidly that than of the United States did. The gap between the two nations' ratios did not change much over the next 15 years as they followed similar patterns. However, the United States adopted a much more aggressive fiscal stimulus program than did either Germany or Italy, so that from 2008 on, the debt-to-GDP ratio of the United States rose relative to those of Germany and Italy.

12. Because private companies are profit-seeking institutions, they will attempt to issue debt and undertake investment projects only if the estimated rate of return is greater than the interest rate. In that case, the returns of the projects are enough to cover the interest and principal on the debt. Similarly, if the government spends the proceeds of its bond issue on investment projects with rates of return greater than the interest rate, no future burden is associated with the debt. It is only when government deficit spending pays for goods with future benefits that are less than future costs that a burden on future generations is created.

13. a. The answers to parts (b) and (c) explain first, the conditions under which the ratio of government to GDP will not change, and second, why keeping that ratio constant also means that the government remains solvent.
    b. The debt-to-GDP ratio will remain constant if the growth rate of debt and nominal GDP are equal. In this case, the numerator and denominator of the ratio are growing at the same rate, so the ratio does not change.
    c. If nominal GDP grows at a rate equal to, or greater than, the nominal interest rate, the government can continue to issue bonds to pay the interest on previous bond issues. Otherwise, the government will face a solvency problem.

14. A helicopter drop is a combination of expansionary monetary and expansionary fiscal policies in which the government pays for the fiscal stimulus by selling its debt to the Fed. The maximum effect of the stimulus is felt because the Fed's purchase of the Treasury securities prevents any rise in the interest rate. A helicopter drop is appropriate

whenever the increase in income that it causes does not result in real GDP exceeding natural real GDP, which would cause a rise in inflationary pressures. A helicopter drop does not result in any change in the net public debt because the Treasury is selling its securities to the Fed, another government agency.

15. The largest multipliers were for expenditures, ranging from a high of 1.74 to a low 1.41. The spending associated with these multipliers provided assistance for low-income people or the construction industry, hurt by the downturns in housing and commercial real estate, in the from of infrastructure spending or cash-strapped state governments.

    The tax cuts that had the largest multipliers, ranging from 1.30 down to 1.01, would either provide help for employers to hire workers or reduce taxes for most people by either cutting the payroll tax or income taxes for everyone.

    The lowest multipliers, ranging in size from 0.37 to 0.32, were for tax cuts that would benefits primarily high income.

    Note that the largest multipliers provided help for people in the most precarious economic situation in the form of either food stamps or unemployment benefits. Because this assistance would be almost fully spent by its recipients, it would lead to the largest increase in spending and output. The least effective forms of fiscal stimulus, as indicated by the smallest multipliers, is for tax cuts that would add little to spending because the recipients of the tax cuts would save large portions of them.

16. Real disposable income never fell below its pre-recession peak during the 2007-09 recession because of tax rebates, tax cuts, and increases in transfer payments that were part of the fiscal stimulus, or reductions in tax revenues and increases in transfers that automatically stabilize real disposable income during an economic downturn.

17. The behavior of government spending as a percent in natural GDP behaved quite similarly during FDR's New Deal starting in 1933 as it has since the start of the Obama Stimulus Program. In both cases, there were slight declines in the ratio as any increases in the ratio of Federal spending to natural GDP was more than offset by the declines in state and local government spending as a percent of natural GDP.

    On the other hand, there was a marked difference between the behavior of transfer payments as a percent of natural GDP since the start of the Obama Stimulus Program when compared to the New Deal era. While transfer payments less payroll taxes were a smaller percent of natural real GDP at the end of the 1930s than they were at the start of the New Deal, due mostly the rise in Social Security payroll taxes in 1937-38, transfer payments less payroll taxes roses from 5.2 percent of natural GDP to 8.0 percent between the end of 2007 and the middle of 2010, due to a combination of the automatic stabilizers and the extension of how long people could receive unemployment benefits.

18. The Troubled Asset Relief Program (TARP) succeeded first in reducing risk in financial markets as evidence by the sharp decline in the risk premium following its initiation (see Figure 5-10 on page 143 of the text). Second, a careful study of the TARP and other government bailouts estimated that they prevented the loss of five percent of real GDP and that the unemployment rate in 2010 would have been 12.5 percent instead of the 9.8 percent that it actually was.

    There are three main reasons why the TARP and other similar programs are viewed as failures. First, for the most part people are unaware of the economic analysis showing the losses of output and employment that they prevented. Second, they are perceived as rewarding those who created the crisis in the first place. Third, they are perceived as being unfair in the sense that they allowed large financial institutions to become even larger when they absorbed other financial institutions that were failing and the top executives at both types of firms got to keep their high salaries and bonuses, while at the same time millions of Americans were losing their jobs and homes.