

Homework for Chapter 12

- 12-2 (*Key Question*) Assume that a hypothetical economy with an MPC of .8 is experiencing severe recession. By how much would government spending have to increase to shift the aggregate demand curve rightward by \$25 billion? How large a tax cut would be needed to achieve this same increase in aggregate demand? Why the difference? Determine one possible combination of government spending increases and tax decreases that would accomplish this same goal. (See Figure 12-1 for illustration).

In this problem, the multiplier is $1/.2$ or 5 so, the increase in government spending = \$5 billion.

For tax cut question, initial spending of \$5 billion is still required, but only .8 (= MPC) of a tax cut will be spent. So $.8 \times \text{tax cut} = \5 billion or tax cut = \$6.25 billion. Part of the tax reduction (\$1.25 billion) is saved, not spent.

One combination: a \$1 billion increase in government spending and a \$5 billion tax cut.

- 12-3 (*Key Question*) What are government's fiscal policy options for ending severe demand-pull inflation? Use the aggregate demand-aggregate supply model to show the impact of these policies on the price level. Which of these fiscal policy options do you think a "conservative" economist might favor? A "liberal" economist?

Options are to reduce government spending, increase taxes, or some combination of both. See Figure 12-2. If the price level is flexible downward, it will fall. In the real world, the goal is to reduce inflation—to keep prices from rising so rapidly—not to reduce the price level. A "conservative" economist might favor cuts in government spending since this would reduce the size of government. A "liberal" economist might favor a tax hike; it would preserve government spending programs.

- 12-4 (*For students who were assigned Chapters 9 and 10*) Use the aggregate expenditures model to show how government fiscal policy could eliminate either a recessionary gap or an inflationary gap (Figure 10-8). Use the concept of the balanced budget multiplier to explain how equal increases in G and T could eliminate a recessionary gap and how equal decreases in G and T could eliminate an inflationary gap.

A recessionary gap could be eliminated by increasing government spending and/or decreasing personal taxes. Both of these policies have the effect of raising aggregate demand and shifting the aggregate expenditures schedule upward toward full-employment GDP.

An inflationary gap could be eliminated by pursuing the opposite policies: either decreasing government spending or raising taxes or both. This would reduce aggregate expenditures and would shift actual spending downward toward the full-employment level of real GDP.

Because the balanced budget multiplier essentially multiplies any change in government spending by a factor of 1, an increase in government spending and taxes would still have a positive effect on aggregate expenditures, increasing them by the amount of the initial increase in G . If G were large enough, the recessionary gap could be eliminated. Likewise, a balanced decrease in G and T could eliminate an inflationary gap, because the decline in aggregate expenditures would be equal to G . If the decrease in G were large enough to bring aggregate expenditures to the level of full-employment GDP, then the inflationary gap would be eliminated.

- 12-5 Designate each statement *true* or *false* and justify your answer.
- a. Expansionary fiscal policy during a depression will have a greater positive effect on real GDP if government borrows the money to finance the budget deficit than if it creates new money to finance the deficit.
 - b. Contractionary fiscal policy during severe demand-pull inflation will be more effective if government impounds the budget surplus rather than using the surplus to pay off some of its past debt.
- (a) The statement is false. The truth is the opposite because when government creates new money during a depression, there is little danger of inflation and all of the new expenditures will be felt through increased aggregate demand as government's net spending increases. If the government finances its deficit by borrowing, there is danger that this will crowd out some private borrowing and investment spending. The resulting reduction in private spending offsets the expansionary effect of the fiscal deficit.
- (b) The statement is true. When the government impounds the surplus, these funds are removed from the spending flow. If the government used the surplus to pay of some of its past debt, money is returned to the private sector and at least a portion of it will be pumped into the economy in new expenditures. These expenditures will offset the contractionary effect of the budget surplus.
- 12-6 Explain how built-in (or automatic) stabilizers work. What are the differences between a proportional, progressive, and regressive tax system as they relate to an economy's built-in stability?

In a phrase, "net tax revenues vary directly with GDP." When GDP is rising so are tax collections, both income taxes and sales taxes. At the same time, government payouts—transfer payments such as unemployment compensation, and welfare—are decreasing. Since net taxes are taxes less transfer payments, net taxes definitely rise with GDP, which dampens the rise in GDP. On the other hand, when GDP drops in a recession, tax collections slow down or actually diminish while transfer payments rise quickly. Thus, net taxes decrease along with GDP, which softens the decline in GDP.

A progressive tax system would have the most stabilizing effect of the three tax systems and the regressive tax would have the least built-in stability. This follows from the previous paragraph. A progressive tax increases at an increasing rate as incomes rise, thus having more of a dampening effect on rising incomes and expenditures than would either a proportional or regressive tax. The latter rate would rise more slowly than the rate of increase in GDP with the least effect of the three types. Conversely, in an economic slowdown, a progressive tax falls faster because not only does it decline with income, but it becomes proportionately less as incomes fall. This acts as a cushion on declining incomes—the tax bite is less, which leaves more of the lower income for spending. The reverse would be true of a regressive tax that falls, but more slowly than the progressive tax, as incomes decline.

- 12-7 (*Key Question*) Define the “full-employment budget,” explain its significance, and state why it may differ from the “actual budget.” Suppose the full-employment, noninflationary level of real output is GDP_3 (not GDP_2) in the economy depicted in Figure 12-3. If the economy is operating at GDP_2 instead of GDP_3 , what is the status of its full-employment budget? Of its current fiscal policy? What change in fiscal policy would you recommend? How would you accomplish that in terms of the G and T lines in the figure?

The full-employment budget (also call standardized) measures what the Federal deficit or surplus would be if the economy reached full-employment level of GDP with existing tax and spending policies. If the full-employment budget is balanced, then the government is not engaging in either expansionary not contractionary policy, even if, for example, a deficit automatically results when GDP declines. The “actual” budget is the deficit or surplus that results when revenues and expenditures occur over a year if the economy is not operating at full-employment.

Looking at Figure 12-3, if full-employment GDP level was GDP_3 , then the full-employment budget is contractionary since a surplus would exist. Even though the “actual” budget has no deficit at GDP_2 , fiscal policy is contractionary. To move the economy to full-employment, government should cut taxes or increase spending. You would raise G line or lower T line or combination of each until they intersect at GDP_3 .

- 12-8 As shown in Table 12-1, between 1990 and 1991 the actual budget as a percent of GDP grew more rapidly than the full-employment budget deficit. What could explain this fact?

The explanation must be that the economy entered a recessionary phase during those years (it did, in fact), and for that reason the deficit was greater than it would have been in a full-employment economic situation. During a recession, tax revenues are lower than they would be at full employment and government expenditures for entitlement programs rise more than they would at full employment. Therefore, the actual deficit is greater than the full-employment budget deficit.

- 12-10 (*Key Question*) Briefly state and evaluate the problem of time lags in enacting and applying fiscal policy. Explain the notion of a political business cycle. What is the crowding-out effect and why is it relevant to fiscal policy? In what respect is the net export effect similar to the crowding-out effect?

It takes time to ascertain the direction in which the economy is moving (recognition lag), to get a fiscal policy enacted into law (administrative lag); and for the policy to have its full effect on the economy (operational lag). Meanwhile, other factors may change, rendering inappropriate a particular fiscal policy. Nevertheless, discretionary fiscal policy is a valuable tool in preventing severe recession or severe demand-pull inflation.

A political business cycle is the concept that politicians are more interested in reelection than in stabilizing the economy. Before the election, they enact tax cuts and spending increases to please voters even though this may fuel inflation. After the election, they apply the brakes to restrain inflation; the economy will slow and unemployment will rise. In this view the political process creates economic instability.

The crowding-out effect is the reduction in investment spending caused by the increase in interest rates arising from an increase in government spending, financed by borrowing. The increase in G was designed to increase AD but the resulting increase in interest rates may decrease I . Thus the impact of the expansionary fiscal policy may be reduced.

The next export effect also arises from the higher interest rates accompanying expansionary fiscal policy. The higher interest rates make U.S. bonds more attractive to foreign buyers. The inflow of foreign currency to buy dollars to purchase the bonds drives up the international value of the dollar, making imports less expensive for the United States, and U.S. exports more expensive for

people abroad. Net exports in the United States decline, and like the crowding-out effect, diminish the expansionary fiscal policy.

- 12-11 In view of your answers to question 10, explain the following statement: “While fiscal policy clearly is useful in combating the extremes of severe recession and demand-pull inflation, it is impossible to use fiscal policy to ‘fine-tune’ the economy to the full-employment, noninflationary level of real GDP and keep the economy there indefinitely.”

As suggested, the answer to question 9 explains this quote. While fiscal policy is useful in combating the extremes of severe recession with its built-in “safety nets” and stabilization tools, and while the built-in stabilizers can also dampen spending during inflationary periods, it is undoubtedly not possible to keep the economy at its full-employment, noninflationary level of real GDP indefinitely. There is the problem of timing. Each period is different, and the impact of fiscal policy will affect the economy differently depending on the timing of the policy and the severity of the situation. Fiscal policy operates in a political environment in which the unpopularity of higher taxes and specific cuts in spending may dictate that the most appropriate economic policies are ignored for political reasons. Finally, there are offsetting decisions which may be made at any time in the private and/or international sectors. For example, efforts to revive the economy with more government spending could result in reduced private investment or lower net export levels.

Even if it were possible to do any fine tuning to get the economy to its ideal level in the first place, it would be virtually impossible to design a continuing fiscal policy that would keep it there for all of the reasons mentioned above.

- 12-12 Suppose that government engages in deficit spending to push the economy away from recession and that this spending is directed toward new “public capital” such as roads, bridges, dams, harbors, office parks, and industrial sites. How might this spending increase the expected rate of return on some types of potential *private* investment projects? What are the implications for the crowding-out effect?

Government spending which is directed toward the improvement of the infrastructure (roads, bridges, dams, and harbors) provides additional “public capital” which increases the “production possibilities” of the nation. Private business firms benefit from these improvements through more convenient and reliable transportation systems and other amenities that lower production costs and make their business locations more desirable. Business firms that benefit from these public projects are, in effect, being subsidized by the government spending. These firms are likely to find that the publicly funded improvements increase the expected rate of return on their own investment projects.

Some economists argue that little crowding out will occur if the deficit spending is carried out during a recession. In addition, if the increased government spending improves business profit expectations, as suggested above, private investment need not fall, even though interest rates rise.