Anuradha.

3. a. Would decrease the effect of inflation on real tax revenues.

   b. Would decrease the effect of inflation on real tax revenues.

   c. Would decrease the effect of inflation on real tax revenues, but would also have other effects. The income tax can tax the rich at a higher rate than the poor, but the sales tax rate is the same for rich and poor.

Dig Deeper

4. i. The end to the crisis depends on shifting the composition of taxes. Workers are already paying an inflation tax.

   ii. The central bank must make a credible commitment that it will no longer automatically monetize the government debt. Although a currency board would do this, it is a drastic and perhaps unnecessary step.

   iii. Price controls may help, but price controls without other policy changes only cause distortions and are a recipe for failure.

   iv. A recession is not needed, but it may happen. Although nominal rigidities are less important during hyperinflations—which implies that the sacrifice ratio is small—the issue of credibility remains. Unless firms and workers believe in the stabilization program, a severe recession may be the result.

   v. The problem has two parts: (i) there is an ongoing fiscal deficit that the government is unable or unwilling to finance from nonmonetary sources and (ii) the central bank is willing to monetize the debt. The order in which these issues are resolved ultimately depends on the political realities. The fiscal authority could eliminate the deficits. If it does not do so, the central bank could commit not to monetize government debt. However, this could drive the government into default on its bonds.

5. max $(0.9-\Delta M/M)(\Delta M/M)$=45%.

Explore Further

6. Answers may vary depending upon when the website is accessed, but it is clear that a fall in oil prices would tend to increase the budget deficit in Venezuala. This would create the possibility of a hyperinflation if the government is unwilling or unable to finance itself and the central bank finances the deficit through money creation.

CHAPTER 24

Quick Check

1. a. False.
   b. True/Uncertain.
   c. False.
   d. False.
   e. True.
   f. Uncertain. It may be wise for a government to commit not to negotiate with hostage takers as a means to deter hijackings, even recognizing that after a hijacking has taken

place, there is a strong incentive to negotiate. However, the phrase "under no circumstances" is categorical. There may some circumstances under which a government might wish to violate its commitment. This statement, of course, illustrates the difficulty of precommitment. Can a government really commit not to negotiate, no matter what the circumstances, even if these circumstances may not have been imagined at the time the commitment was made?

g. False.

2. a. Inflation will increase in the fourth year.

b. The President should aim for high unemployment early in the administration, to reduce inflation before the fourth year.

c. The policies are likely to achieve the desired inflation rates, but not the increase in output desired in the fourth year. If inflation equals expected inflation, unemployment equals the natural rate.

3. Answers will vary.

4. New Zealand wants to eliminate fears that the central bank might try to reduce unemployment below the natural rate with expansionary monetary policy and higher inflation. See Chapter 25 for a discussion of inflation targeting.

Dig Deeper

5. a. $0.5(\pi_D + \pi_R)$

b. The unemployment rate will be less than the natural rate. Inflation will be higher than expected.

c. The unemployment rate will be greater than the natural rate. Inflation will be lower than expected.

d. Yes, if one looks at the first two years of each administration, not just the first.

e. Unemployment equal to the natural rate, because $\pi = \pi^e$, and high inflation.

6 a. If the Republicans cut military spending, the Democrats get 1 if they cut welfare, but 3 if they do not. So their best response is to vote against welfare cuts. The Republicans will get –2 in this case.

b. If the Republicans do not cut military spending, the Democrats get –2 if they cut welfare, but only –1 if they do not. So their best response is not to cut welfare. The Republicans will get –1 in this case.

c. Given the answers above, the Republicans do better when they do not cut military spending, so they will not cut. The Democrats will not cut either. The two parties are locked in a bad equilibrium. They could make a deal: both vote for cuts. If they do, they will both be better off.

Explore Further

8. Answers will vary.

CHAPTER 25

Quick Check

1. a. False.
   b. False.
   c. False.
   d. False/Uncertain. Evidence suggests that people have money illusion, when would seem to imply that inflation would distort decision making.
   e. False.
   f. True/Uncertain. True to the extent the tax code is not indexed to inflation.

2. a. Demand for M1 falls while demand for M2 is unchanged. People shift funds from savings accounts to time deposits.

   b. Demand for M1 increases as people transfer funds from money market funds to checking accounts. Demand for M2 remains unchanged.

   c. Shift in the composition of M1 (and consequently M2) as people hold more currency and make fewer trips to the bank while holding smaller checking account balances.

   d. The demand for M2 increases as the benefit of holding government securities falls.

3. a. 4%-0%=4%; 14%-10%=4%

   b. 4% * (1-0.25)-0%=3%; 14% * (1-0.25)-10%=10.5%-10%=0.5%

   c. Yes, given the deductibility of nominal mortgage interest payments in the United States.

4. a. The unemployment rate will remain equal to the natural rate.

   b. No, there surprises, lags in policymaking, and uncertainty in policymaking.

   c. The changes in the natural rate will make it more difficult for the Fed to hits its target. It will be harder to distinguish changes in the actual rate of unemployment from changes in the natural rate of unemployment.

Dig Deeper

5. Discussion question.

6. c. The MP relation slopes up. An increase in government spending shifts IS right, so output and the real interest rate rise.

   d. The MP relation shifts up. Output falls and the real interest rate increases.

7. a. The MP relation shifts up. Output falls and the real interest rate increases.

b. Since $Y<Y_n$, π^e falls. Inflation tends to returns to its target level.

c. The MP relation shifts down. Output increases and the real interest rate falls.

d. Since $Y>Y_n$, π^e rises. Inflation tends to move away from its target level. A value of $a<1$ makes no sense as part of the policy rule, because inflation would tend to move away from its target

Explore Further

8. Answers will depend upon current Fed policy.

CHAPTER 26

Quick Check

1. a. True.
   b. False.
   c. False.
   d. False.
   e. False.
   f. False

2. First, even a temporary deficit leads to an increase in the national debt, and therefore to higher interest payments. This, in turn, implies continued deficits, higher taxes, or lower government spending in the future. Second, the evidence does not support the Ricardian equivalence proposition. Third, if Ricardian equivalence did hold, then government spending would have the same effect on output regardless of whether it was financed by bonds (i.e., with a deficit) or taxes. Thus, a deficit, per se, would not be needed to stimulate output. Fourth, war-time economies are already low-unemployment economies. There is no need for further stimulation by using deficits rather than tax finance. The only correct part of the statement is the first sentence. A deficit can be preferable to higher taxes during a war, but not for the reasons stated here.

3. a. Interest payments are 10% of GDP, so the primary surplus is 10%-4%=6%.

   b. Real interest payments are (10%-7%)*100%=3% of GDP. So the inflation-adjusted surplus is 6%-3%=3%.

   c. Output is roughly two percent lower than it would have been. Using the rule of thumb in the text, the surplus is lower by 0.5*2%=1%. So, the cyclically-adjusted, inflation-adjusted surplus is 2%. 0.4

   d. -6% -5%
   The change in the debt to GDP ratio = (3%-2%)*100% - 3% = -2%. The debt to GDP ratio falls by 2% a year.

Dig Deeper

4. a. The domestic interest rate increases from 10% to 20%.

   b. The real interest rate increases from 3% to 13%. The high real interest rate is likely to decrease growth.

   c. The official deficit increases from 4% to 14% of GDP. The inflation-adjusted deficit increases from –3% (a surplus) to 7% (a deficit).

d. The change in the debt ratio = (13%-(~~-2%~~ 0))*100%-~~3%~~ 6=~~12%~~ 7%. It goes up very quickly.

e. In this example, the worries were self-fulfilling.

5. a. The IS curve shifts right and output increases in the short run. The increased in government spending is financed by borrowing, i.e., with bonds.

b. IS shifts to the right, because the government spending multiplier is bigger than the tax multiplier. The output effect is smaller than in part (a).

c. The effect is the same as in part (b).

d. The effect is the same as in parts (b) and (c).

e. Government spending affects output, but taxes do not. If taxes are not levied to finance government spending, households will simply save the present value of the required taxes themselves.

Explore Further

6. a. The debt-to-GDP ratio is 80% in 10 years.

b. The debt-to-GDP ratio is 93% in 10 years.

c. The answer is the same as in part (b). What matters is r-g, which is the same in parts (b) and (c).

d. The required primary surplus is .5*(r-g)=1% of GDP.

e. The required primary surplus is 2% of GDP per year.

f. The required reduction in the primary deficit will be larger if growth is lower.

g. The policy in part (e) is more dangerous. Waiting to reduce the debt ratio requires a larger change in fiscal policy. Larger policy changes have more uncertainty associated with their outcomes. Thus, the larger change in policy in part (e) is more likely to have extreme effects on output (lower growth), which could set off a vicious cycle. Lower growth means larger surpluses are required to reduce the debt to safe levels, larger surpluses lead to lower growth, which mean larger surpluses, and so on.