EC1B5 | Chapter 13

Macroeconomic Policy

Additional Practice Questions:

Book Question 2

The following figures show the European Central Bank's (ECB) balance sheet as well as the balance sheet of a commercial bank in France, Crédit Paribas Bank. Suppose the ECB wants to raise bank reserves by €2 billion. Assuming that Crédit Paribas Bank is the only bank that is going to undertake these transactions with the ECB, show how ECB's as well as Crédit Paribas Bank's balance sheet will change.

The European Central Bank			
Assets		**Liabilities and Shareholders' Equity**	
Treasury Bonds	€3,000 billion	Reserves	€1,700 billion
Other bonds	€1,000 billion	Currency	€1,300 billion
Total assets	**€3,000 billion**	**Total liabilities**	**€3,000 billion**

Crédit Paribas Bank			
Assets		**Liabilities and Shareholders' equity**	
Reserves	€300 billion	Deposits and other liabilities	€1,100 billion
Bonds and other investments	€1,000 billion	**Shareholders' equity**	**€200 billion**
Total assets	**€1,300 billion**	**Liabilities + shareholders' equity**	**€1,300 billion**

Answer:

To raise bank reserves by €2 billion, the ECB engages in an open market operation with Crédit Paribas Bank. The ECB adds €2 billion to the reserves that Crédit Paribas Bank holds with the ECB and takes €2 billion in bonds from Crédit Paribas Bank in return. On the liability side of the ECB's balance sheet, the reserves (held by Crédit Paribas Bank) rise by €2 billion. On the asset side, the ECB has €2 billion more in bonds (bought from Crédit Paribas Bank).

The European Central Bank			
Assets		**Liabilities and Shareholders' Equity**	
Treasury Bonds	€3,002 billion	Reserves	€1,702 billion
Other bonds	€1,000 billion	Currency	€1,300 billion
Total assets	**€3,002 billion**	**Total liabilities**	**€3,002 billion**

Crédit Paribas Bank sells €2 billion in bonds to the ECB and is paid for them by an increase of €2 billion in the bank's reserve account at the ECB. Nothing changes on the liability (and shareholders' equity) side of Crédit Paribas Bank's balance sheet. On the asset side, total assets don't change, but the composition of assets does. After the trade, Crédit Paribas Bank has €2 billion less in bonds and €2 billion more in reserves.

Crédit Paribas Bank			
Assets		**Liabilities and Shareholders' equity**	
Reserves	€302 billion	Deposits and other liabilities	€1,100 billion
Bonds and other investments	€998 billion	**Shareholders' equity**	**€200 billion**
Total assets	**€1,300 billion**	**Liabilities + shareholders' equity**	**€1,300 billion**

Book Question 3

Indicate whether the following phenomena will lead to a shift in the reserves supply and demand curve for the Bank of England (BoE), where the horizontal axis indicates the quantity of reserves and the vertical axis the interest rate of the Bank of England. In your answer, use a graph of the money market to show how the Bank of England's action translates into a higher interest rate.

a. Economic contraction.

b. Increasing deposit base.

c. Selling governmental bonds.

d. If the demand curve shifts to the left, how should the BoE respond to keep the interest rate constant?

Answer:

a. In case of an economic contraction, firms are in less need of loans. Therefore, we will witness a shift to the left in the demand curve.

b. Banks are required to hold a certain amount of their customers' bank accounts in reserve deposits at the Fed. If the deposit base is increased (the Fed might do this to increase the safety of banks during a potential crisis), then banks will have to increase their holdings at the Fed. Therefore, the demand curve will shift to the right.

c. If the Fed decides to sell government bonds, then it is decreasing its reserves, moving the supply curve to the left.

d. If the demand curve shifts to the left, then the Fed should consider shifting its own supply curve to the left as well. As we have seen from the previous example, this can be done by selling government bonds, for instance.

Book Question 8

Two economists estimate the government taxation multiplier and come up with different results. One estimates the multiplier at 0.75, while the other comes up with an estimate of 1.25.

a. What do these different estimates imply about the consequences of government taxation (or transfers)?

b. If the current value of GDP is $20 trillion and the government is planning to make transfers to people of $1 trillion, what is the percentage increase in GDP for each of the two estimates for the multiplier? Assume the increase in spending occurs all in 1 year.

Answer:

a. The economist who estimates the multiplier at 1.25 is likely to be assuming that the increased government spending will lead to an increase in consumption. The increase in government spending can stimulate business activity, which will increase the income of workers and hence consumption spending in the economy. The other economist is likely to be assuming that the increase in government spending will lead to more government borrowing, which will divert resources away from consumption and investment. The resulting higher interest rates dampen consumption and investment spending. According to the economist who estimates the multiplier at 0.75, a $1 increase in government spending will not even generate a $1 increase in equilibrium GDP.

b. 3.75 percent, 6.25 percent

   If the multiplier is 0.75, an $1 trillion increase in government spending will result in an increase in GDP of 0.75 × $1 trillion ($1,000 billion) = $750 billion. GDP would increase from $20 trillion to $20.750 trillion, an increase of 3.75 percent.

   If the multiplier is 1.25, then an $1 trillion increase in government spending will result in a 1.25 × $1,000 billion = $1,250 billion increase in GDP. GDP would increase from $20 trillion to $21.250 trillion, which is an increase of 6.25 percent.

Book Question 11

The European Central Bank (ECB) manages monetary policy for the eurozone. In 2019, the ECB's policy rate (the ECB's version of the federal funds rate) was already at 0 percent, before the start of the 2020 recession.

a. Using the concept of the zero lower bound, explain how low interest rates (before a recession starts) could constrain countercyclical monetary policy.

b. Though fiscal policies are controlled by individual governments in the eurozone, the European Union's Stability and Growth Pact places strict limits on country-level deficit spending. Explain how the confluence of the zero lower bound and restrictions on the fiscal deficit might be problematic for countercyclical macroeconomic policy.

Answer:

a. As interest rates approach the zero lower bound, central banks become limited in their options. If the economy is in a recession, the bank would, ideally, want to lower the interest rate more to mitigate unemployment and deflation during the recession. However, because of the zero lower bound, that policy has a limit—at some point, the central bank will be unable to further lower the federal funds rate equivalent.

b. As we saw in part a, the zero lower bound limits countercyclical monetary policy during a recession. The alternative, generally, might be countercyclical fiscal policy—during a recession, that might include tax cuts or increased government spending. However, both of these policies increase spending without a compensating increase in government income. Deficit restrictions, then, could prevent central governments from enacting the appropriate countercyclical policies. Combined, then, deficit restrictions and interest rates close to the ZLB could severely limit a country's options during a recession.