Tools of Monetary Policy
ECON 4673
Dr. Keen

Answers

1. *During the holiday season, the public typically increases its currency holdings. How do you think the open-market operations manager responds to this change? Briefly explain.*

   When the public's holding of currency increases during holiday periods, the currency-to-deposits ratio increases and the money supply falls. To counteract this decline in the money supply, the Federal Reserve will conduct open-market purchases of securities

2. *Why is it important for the Federal Reserve to be able to pay interest on reserves when managing a crisis?*

   During a crisis, the Federal Reserve may need to provide a large amount of liquidity to the banking and financial system, which would reduce the federal funds rate. If the Federal Reserve needs to sterilize these effects, it would have to conduct open-market sales of securities to maintain a given federal funds rate target. If the liquidity provision is large, then offsetting the liquidity could eventually result in the Federal Reserve running out of securities to sell. In this case, the interest rate on reserves can be raised to push the federal funds rate up without having to conduct offsetting open-market sales that decrease the Federal Reserve's holdings of government securities.

3. *Briefly explain the difference between borrowed and nonborrowed reserves. Which type is controlled by the Federal Reserve and which type is controlled by banks?*

   Nonborrowed reserves are inelastically supplied by the Federal Reserve via open-market operations and are directly controlled by the Federal Reserve. Borrowed reserves are reserves banks borrow directly from the Federal Reserve's discount window and the amount is controlled by the banks.

4. *Name and briefly describe the three distinct types of discount window lending. Which type of discount window lending usually has the highest interest rate?*

   The three distinct types of discount window lending are primary credit secondary credit, and seasonal credit. Primary credit is loans made to healthy banks at very short-term maturities (usually overnight). The discount rate is the interest rate on those loans. Secondary credit is loans made to banks suffering severe liquidity problems. The interest rate on those loans is the discount rate plus 50 basis points. Seasonal credit is loans to small banks in vacation and agricultural areas that have a seasonal pattern of deposits. The interest rate charge on those loans is the average of the federal funds rate and certificate of deposit rates and is the highest of the three discount window interest rates.

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5. *Briefly describe two reasons why conventional monetary policy might not work.*

   One reason conventional monetary policy might not work is that the financial system might seize up causing sizable declines in investment and output by preventing the efficient allocation of capital to the most productive investment opportunities. The second reason conventional monetary policy might not work is traditional open-market operations will become ineffective if a negative shock to the economy pushes short-term interest rates to zero.

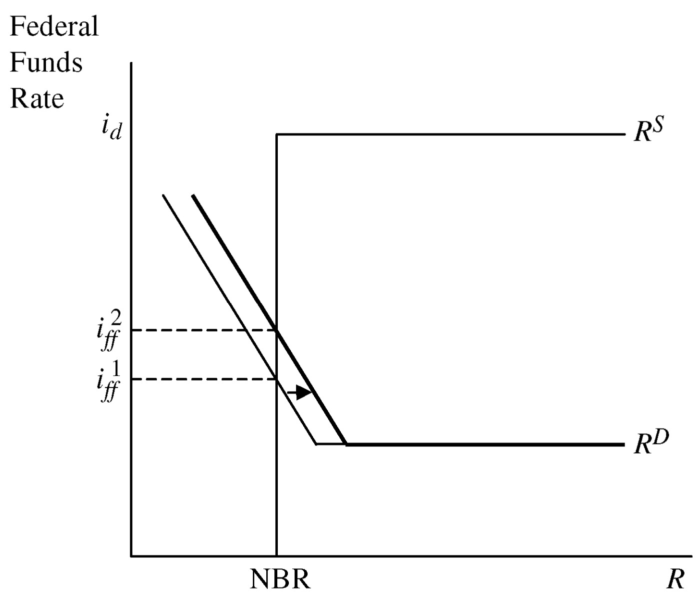
6. *What is the main advantage and the main disadvantage of unconditional forward guidance?*

   The main advantage of unconditional forward guidance is that it should have a larger stimulative effect than conditional forward guidance because the Federal Reserve is pledging not to abandon its future policy. The main disadvantage of unconditional forward guidance is that it may force the Fed to follow through on a commitment that is no longer optimal.

7. *Using the supply and demand analysis of the market for reserves, indicate what happens to the federal funds rate, borrowed reserves, and nonborrowed reserves, holding everything else constant, under the following situations.*

   a. *The economy is surprisingly strong, leading to an increase in the amount of checkable deposits.*

      An increase in checkable deposits pushes up required reserves at any given interest rate, and thus, shifts the demand curve for reserves to the right. If the federal funds rate is initially below the discount rate, this increase causes the federal funds rate to rise (see graph below). As for borrowed and non-borrowed reserves, they do not change. If the federal funds rate is initially at the discount rate, then the federal funds rate will just remain at the discount rate, borrowed reserves will increase, and nonborrowed reserves will remain unchanged.

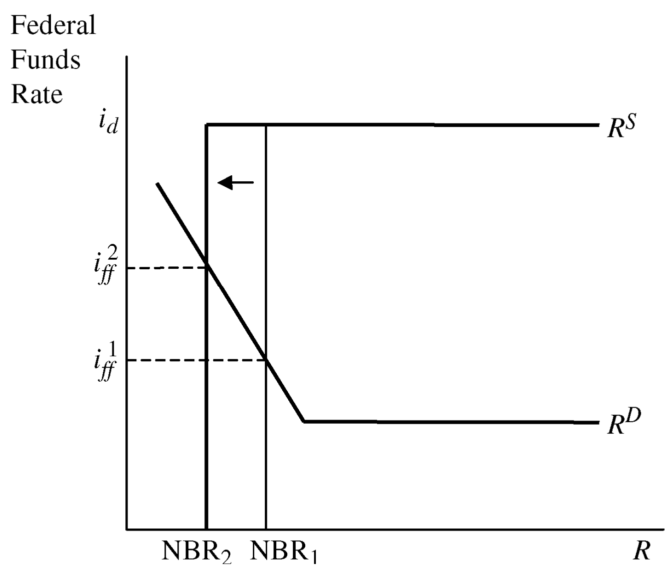


b. *Banks expect an unusually large increase in withdrawals from checking deposit accounts in the future.*

If banks expect that an unusually large increase in withdrawals will occur in the future, they will want to hold more excess reserves today, meaning the demand for reserves will increase at any given interest rate. That increase will push up the federal funds rate but have no effect on borrowed and nonborrowed reserves, as in part (a) above.

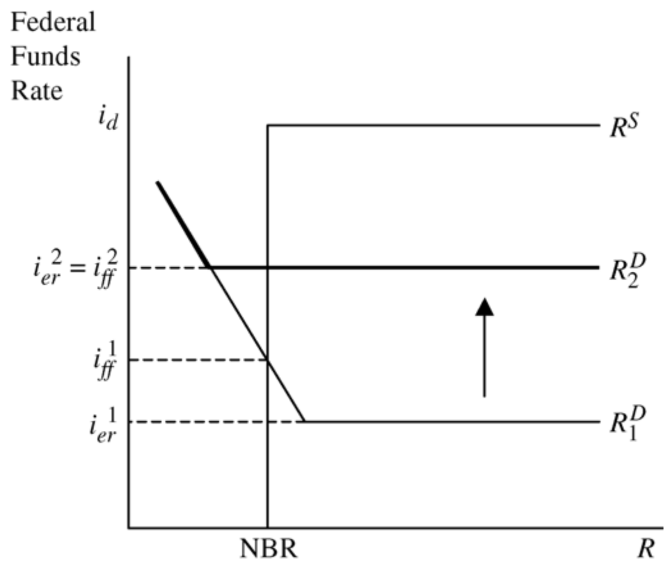
c. *The Federal Reserve raises its federal funds rate target.*

To raise its federal funds rate target, the Federal Reserve will conduct an open-market sale of securities, which will decrease nonborrowed reserves and shift the supply curve for reserves to the left. Thus, the federal funds rate will increase, and as long as the equilibrium federal funds rate remains below the discount rate, borrowed reserves will remain the same.



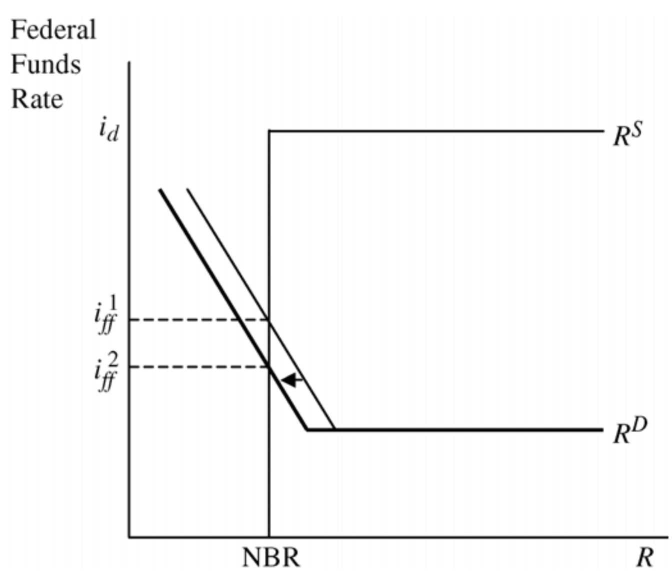
d. *The Federal Reserve raises the interest rate on reserves above the current equilibrium federal funds rate.*

Increasing the interest rate on reserves above the current federal funds rate raises the floor on the demand for reserves, which then pushes up the equilibrium federal funds rate along with the interest rate on reserves. Both borrowed reserves and nonborrowed reserves will remain the same.



e. *Banks reduce the reserves-to-deposits ratio.*

A decrease in reserves-to-deposits ratio shifts the demand for reserves line to the left, at any given interest rate. The result is that the federal funds rate decreases, while borrowed and nonborrowed reserves remain unchanged.



f. *Banks reduces the reserves-to-deposits ratio and then the Federal Reserve offsets this action by conducting an open-market sale of securities to keep the federal funds rate unchanged.*

A reduction in the reserves-to-deposits ratio decreases the demand for reserves, which lowers the equilibrium federal funds rate. In order to keep the federal funds rate unchanged, the Federal Reserve conducts an open market sale of securities, which shifts the supply of reserves to the left. The end result is that nonborrowed reserves will decrease while the federal funds rate and borrowed reserves will remain unchanged.