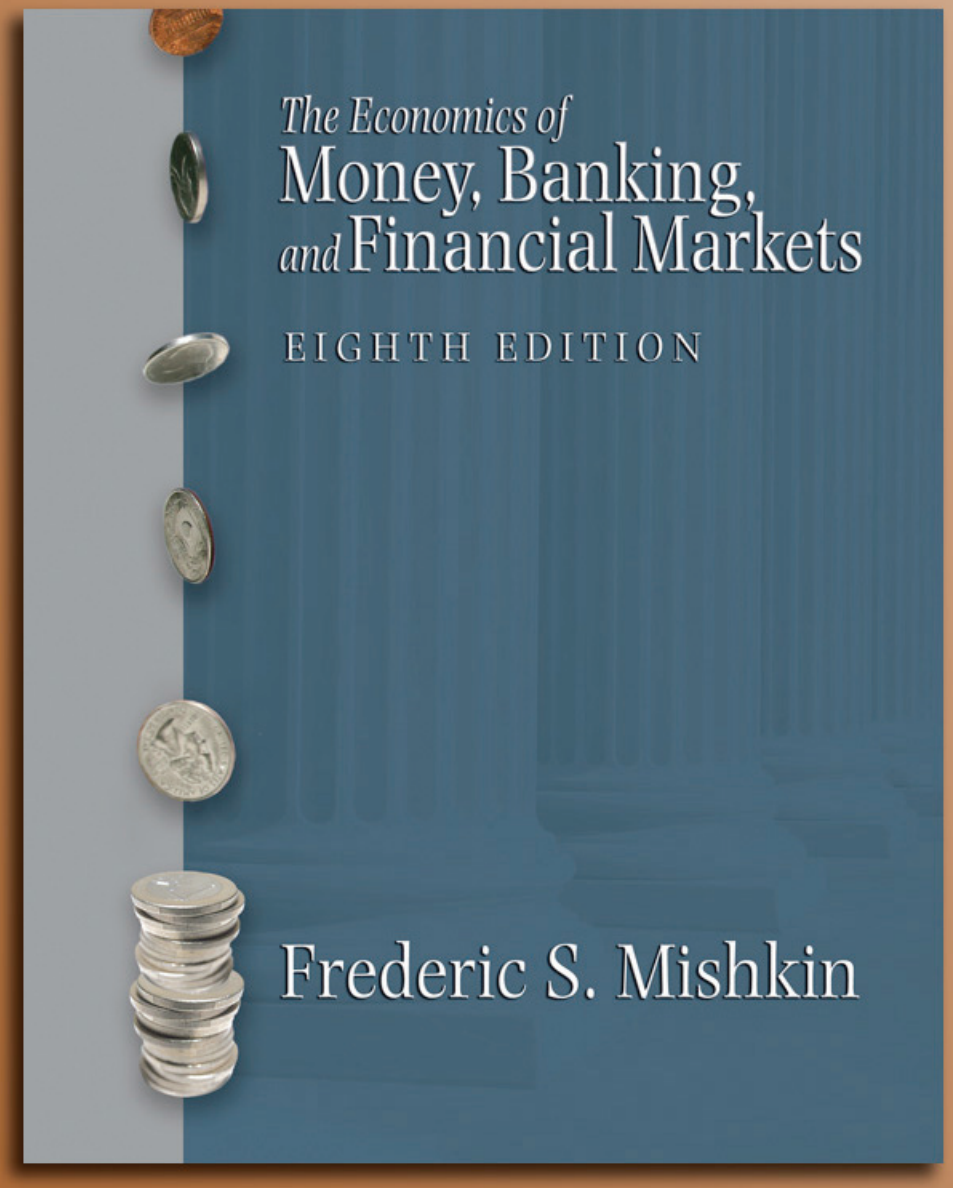

Chapter 15

Tools of Monetary Policy

Tools of Monetary Policy

- Open market operations
  - Affect the quantity of reserves and the monetary base
- Changes in borrowed reserves
  - Affect the monetary base
- Changes in reserve requirements
  - Affect the money multiplier
- Federal funds rate—the interest rate on overnight loans of reserves from one bank to another
  - Primary indicator of the stance of monetary policy

Demand in the Market for Reserves

- What happens to the quantity of reserves demanded, holding everything else constant, as the federal funds rate changes?
- Two components: required reserves and excess reserves
  - Excess reserves are insurance against deposit outflows
  - The cost of holding these is the interest rate that could have been earned
- As the federal funds rate decreases, the opportunity cost of holding excess reserves falls and the quantity of reserves demanded rises
- Downward sloping demand curve

Supply in the Market for Reserves

- Two components: non-borrowed and borrowed reserves
- Cost of borrowing from the Fed is the discount rate
- Borrowing from the Fed is a substitute for borrowing from other banks
- If $i_{ff} < i_d$, then banks will not borrow from the Fed and borrowed reserves are zero
- The supply curve will be vertical
- As i_{ff} rises above i_d, banks will borrow more and more at i_d, and re-lend at i_{ff}
- The supply curve is horizontal (perfectly elastic) at i_d

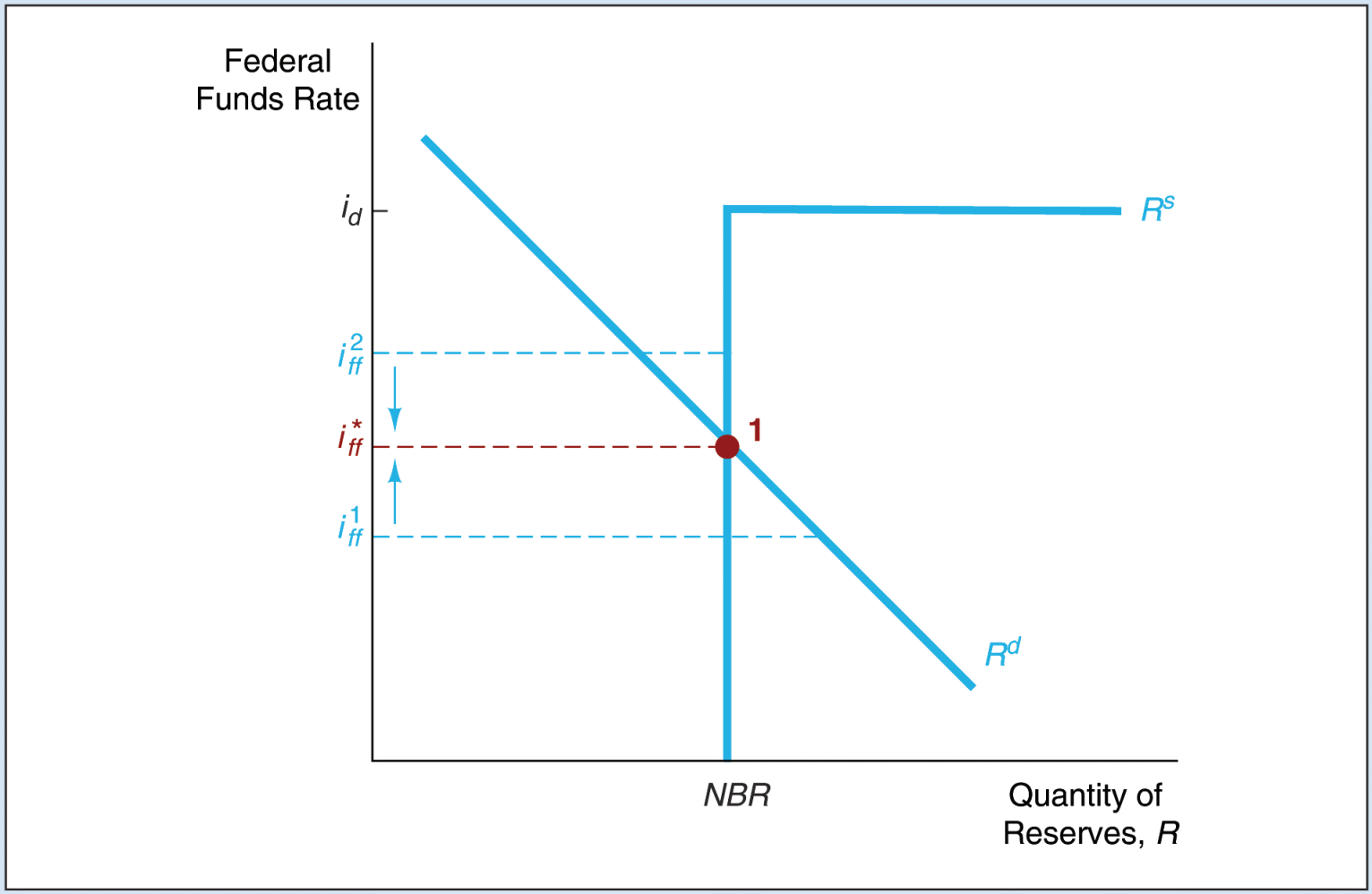

FIGURE 1 Equilibrium in the Market for Reserves

Affecting the Federal Funds Rate

- An open market purchase causes the federal funds rate to fall; an open market sale causes the federal funds rate to rise $\Rightarrow$ shifting the supply curve
- If the intersection of supply and demand occurs on the vertical section of the supply curve, a change in the discount rate will have no effect on the federal funds rate

Affecting the Federal Funds Rate (cont'd)

- If the intersection of supply and demand occurs on the horizontal section of the supply curve, a change in the discount rate shifts that portion of the supply curve and the federal funds rate may either rise or fall depending on the change in the discount rate
- When the Fed raises reserve requirement, the federal funds rate rises and when the Fed decreases reserve requirement, the federal funds rate falls⇒ shifting the demand curve

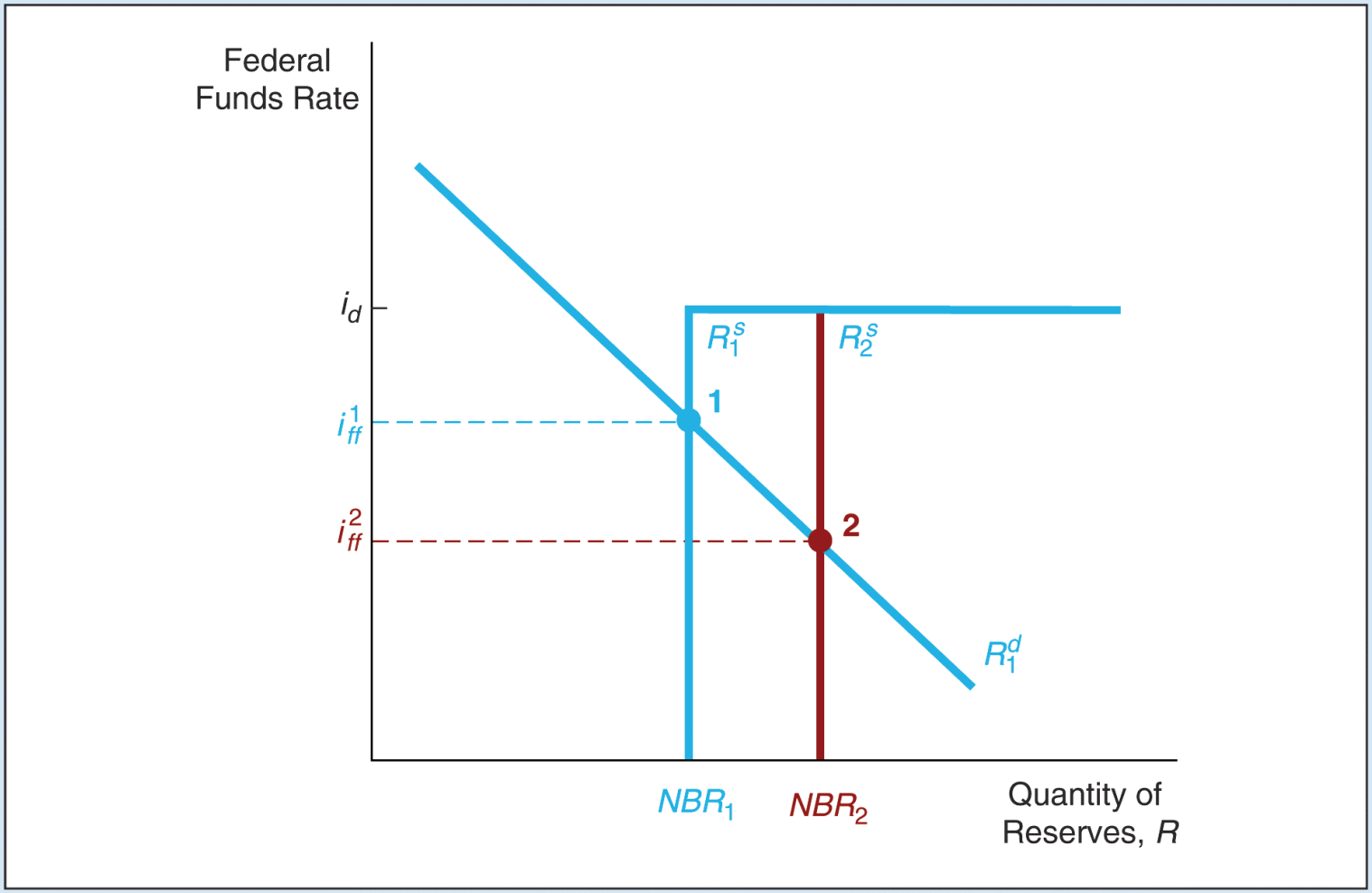

FIGURE 2 Response to an Open Market Operation

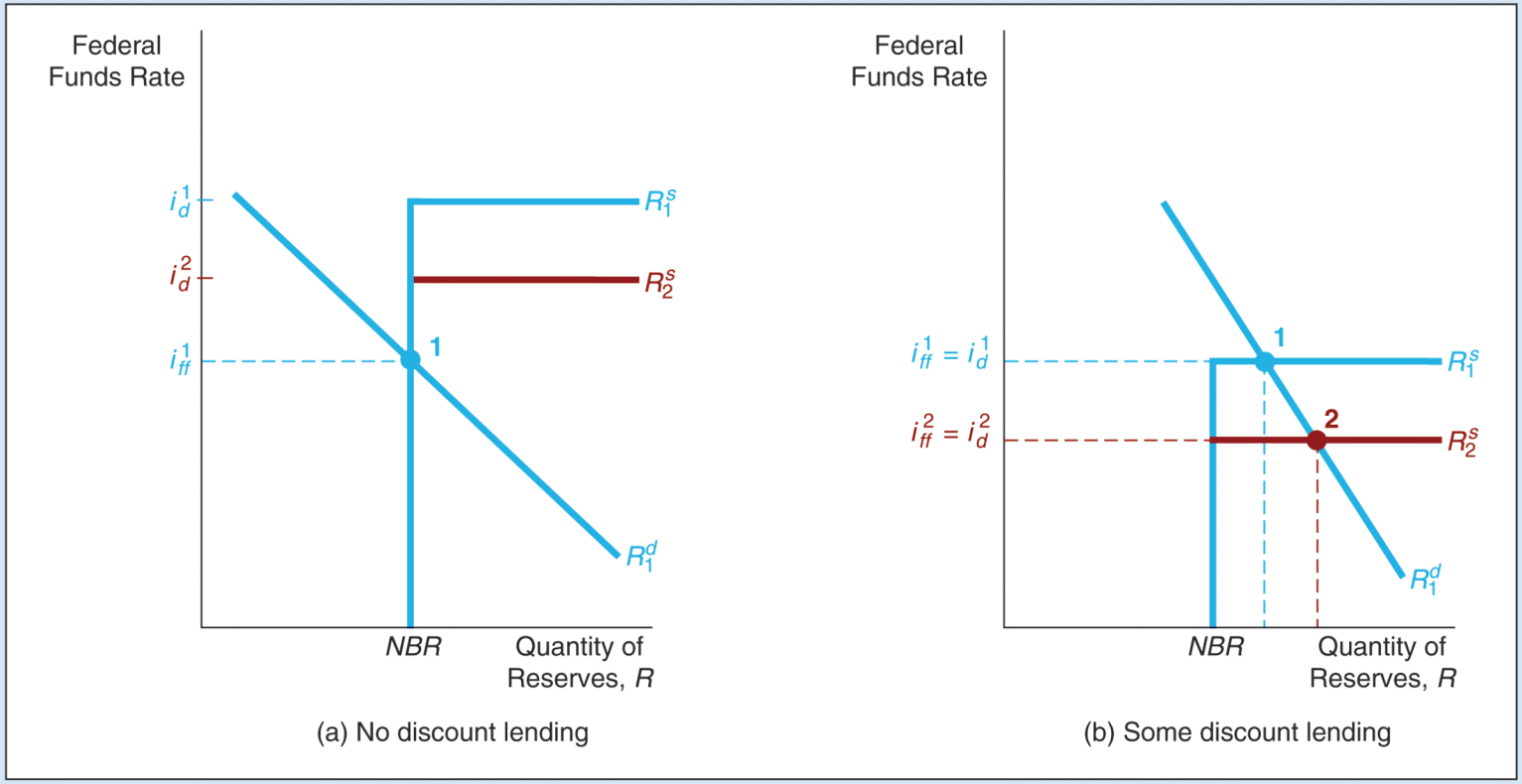

FIGURE 3 **Response to a Change in the Discount Rate**

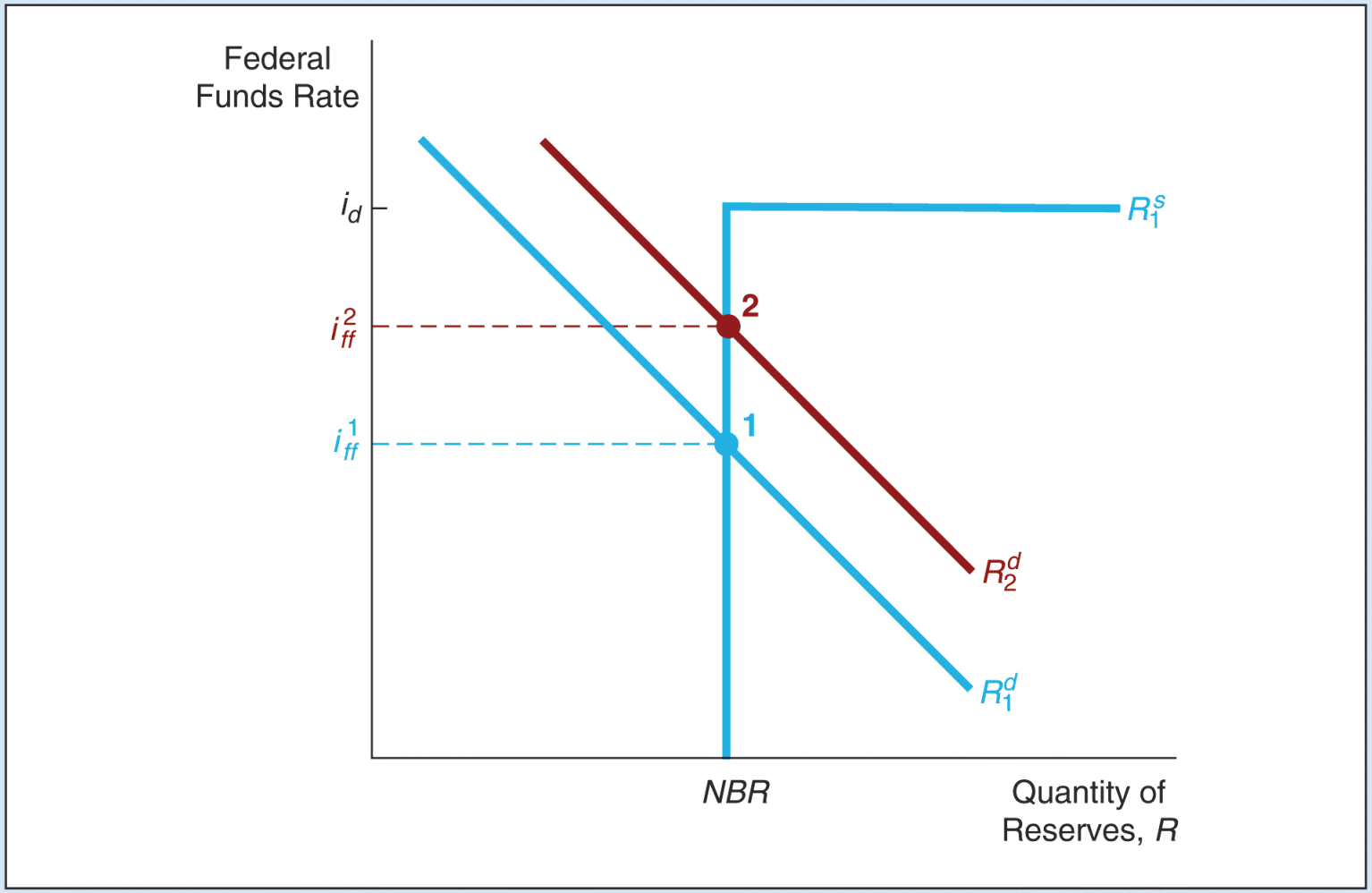

FIGURE 4 **Response to a Change in Required Reserves**

Open Market Operations

- Dynamic open market operations
- Defensive open market operations
- Primary dealers
- TRAPS (Trading Room Automated Processing System)
- Repurchase agreements
- Matched sale-purchase agreements

Advantages of Open Market Operations

- The Fed has complete control over the volume
- Flexible and precise
- Easily reversed
- Quickly implemented

Discount Policy

- Discount window
- Primary credit—standing lending facility
- Secondary credit
- Seasonal credit
- Lender of last resort to prevent financial panics
  - Creates moral hazard problem

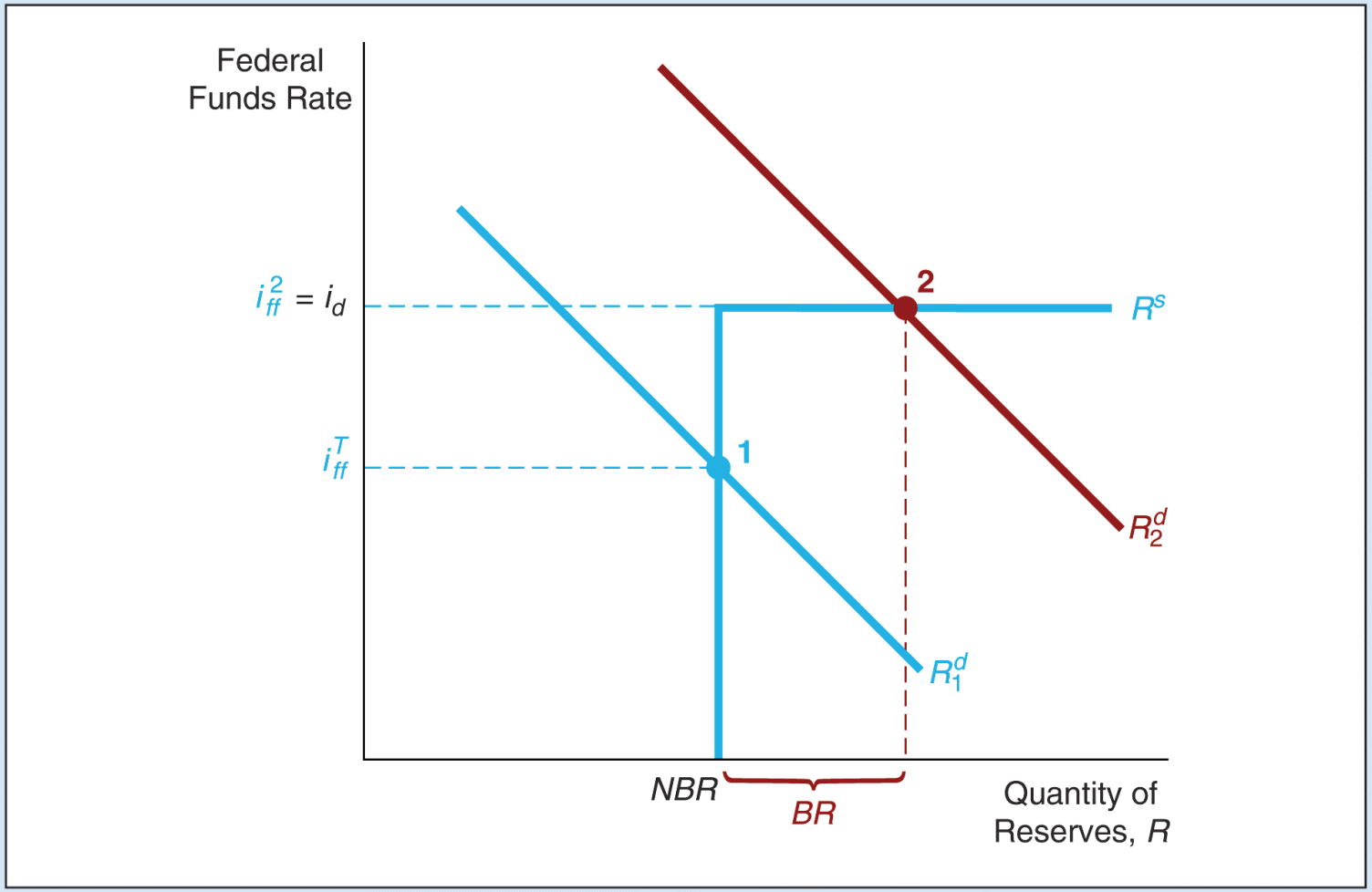

FIGURE 5 **How the Primary Credit Facility Puts a Ceiling on the Federal Funds Rate**

Advantages and Disadvantages of Discount Policy

- Used to perform role of lender of last resort
- Cannot be controlled by the Fed; the decision maker is the bank
- Discount facility is used as a backup facility to prevent the federal funds rate from rising too far above the target

Reserve Requirements

- Depository Institutions Deregulation and Monetary Control Act of 1980 sets the reserve requirement the same for all depository institutions
- 3% of the first $48.3 million of checkable deposits; 10% of checkable deposits over $48.3 million
- The Fed can vary the 10% requirement between 8% to 14%

Disadvantages of Reserve Requirements

- No longer binding for most banks
- Can cause liquidity problems
- Increases uncertainty
- Recommendations to eliminate

The Channel/Corridor System

- Sets up a standing lending facility (lombard facility) and stands ready to loan overnight any amount banks ask for at a fixed interest rate (lombard rate)
- The supply of reserves is infinitely elastic at this interest rate
- Another standing facility is set up that pays banks a fixed interest rate on any deposits they would like to keep at the central bank

The Channel/Corridor System (cont'd)

- The supply of reserves is also infinitely elastic at this interest rate
- In between these two interest rates the quantity supplied is equal to the non-borrowed reserves
- The demand curve has its usual downward slope

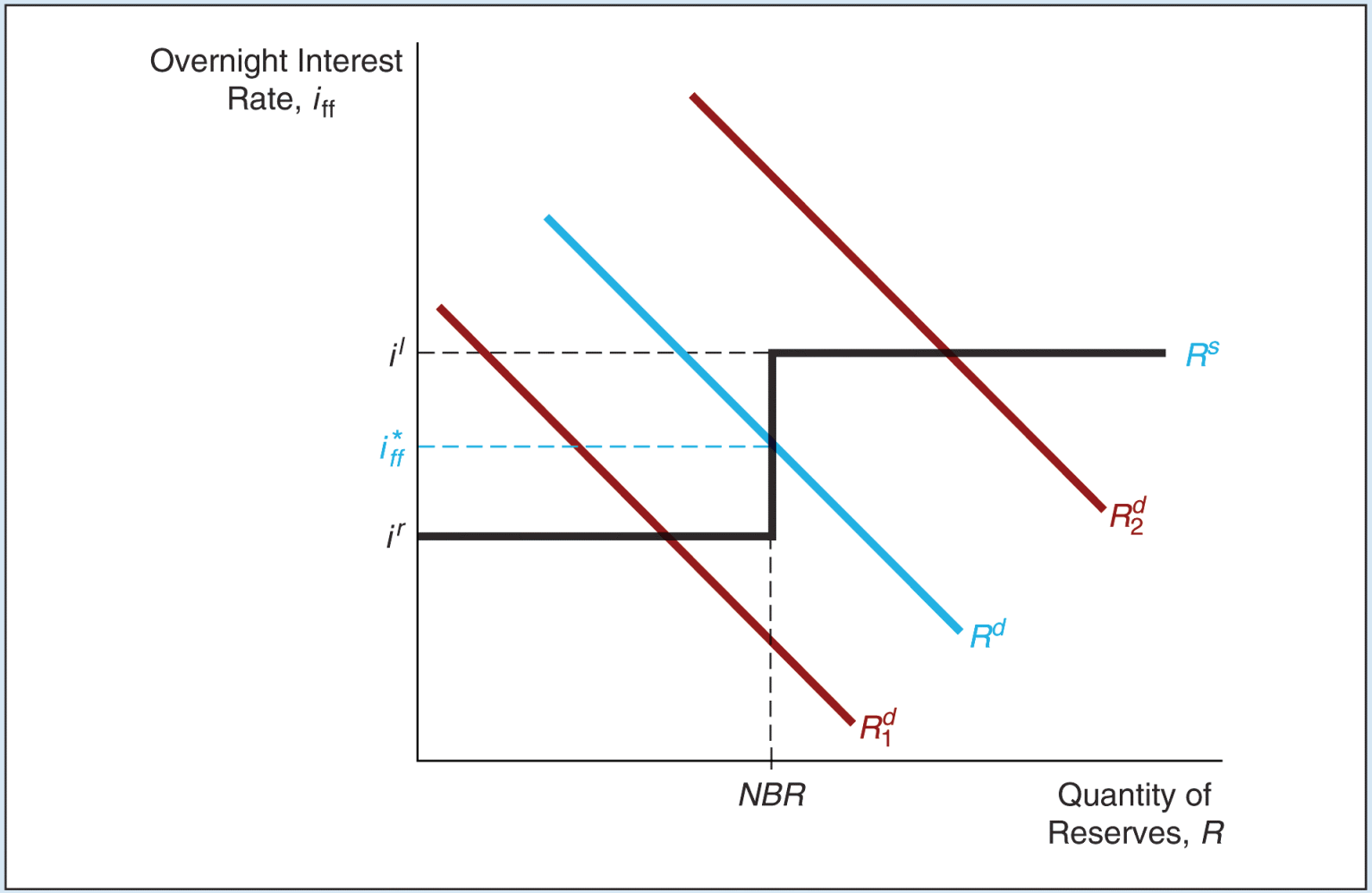

FIGURE 6 The Channel/Corridor System for Setting Interest Rates

Monetary Policy Tools of the European Central Bank

- Open market operations
  - Main refinancing operations
    - Weekly reverse transactions
  - Longer-term refinancing operations
- Lending to banks
  - Marginal lending facility/marginal lending rate
  - Deposit facility

Monetary Policy Tools of the European Central Bank (cont'd)

- Reserve Requirements
  - 2% of the total amount of checking deposits and other short-term deposits
  - Pays interest on those deposits so cost of complying is low