

Chapter 17

Tools of Monetary Policy

The Market for Reserves and the Federal Funds Rate

- *federal funds rate* (i_{ff}) = interest rate on overnight loans of reserves from one bank to another
- Demand curve for reserves
 - reserves are composed of required reserves and excess reserves:
$$R = RR + ER$$
 - if $i \downarrow$, the opportunity cost of excess reserves falls, hence $ER \uparrow$
 - thus, the demand curve slopes down

The Market for Reserves and the Fed Funds Rate

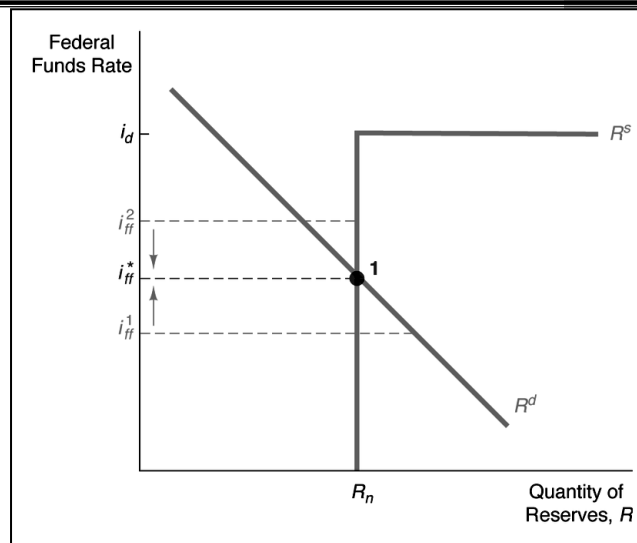
- Supply curve for reserves
 - banks can get loans from the nonborrowed reserves R^n of other banks or from the Fed (discount loans DL):

$$R^s = R^n + DL$$
 - if i_{ff} is below i_d (the interest rate charged by the Fed), then there is no discount borrowing:

$$R^s = R^n$$
 - also, the supply curve is flat (infinitely elastic) at i_d : if $i_{ff} > i_d$, banks get only discount loans
- Market equilibrium
 - $R^d = R^s$ at i_{ff}^*

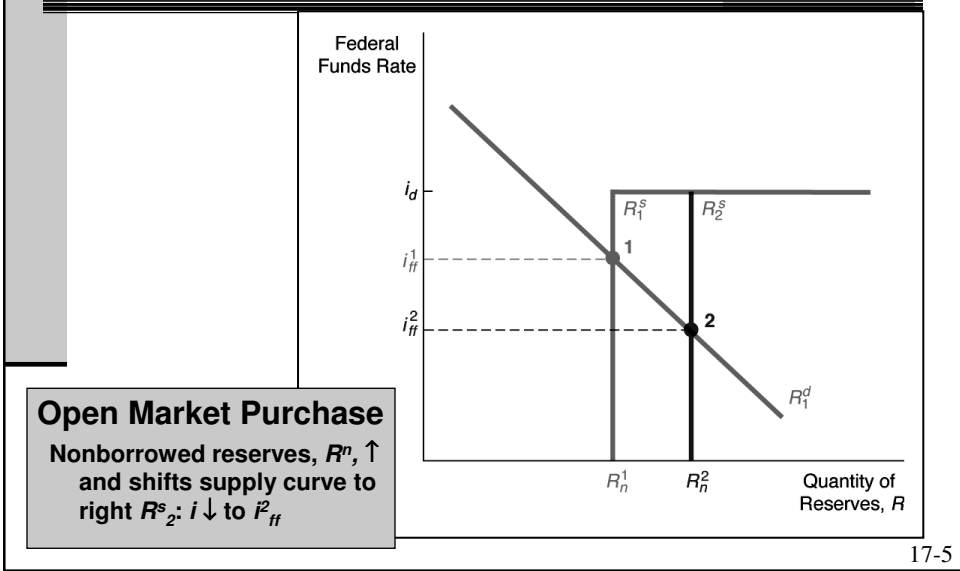
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Supply and Demand for Reserves

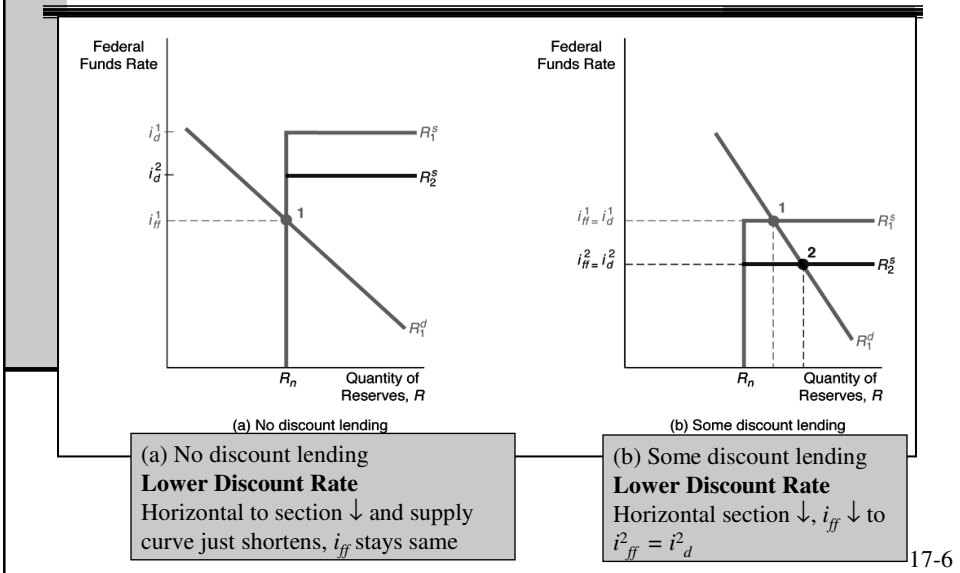


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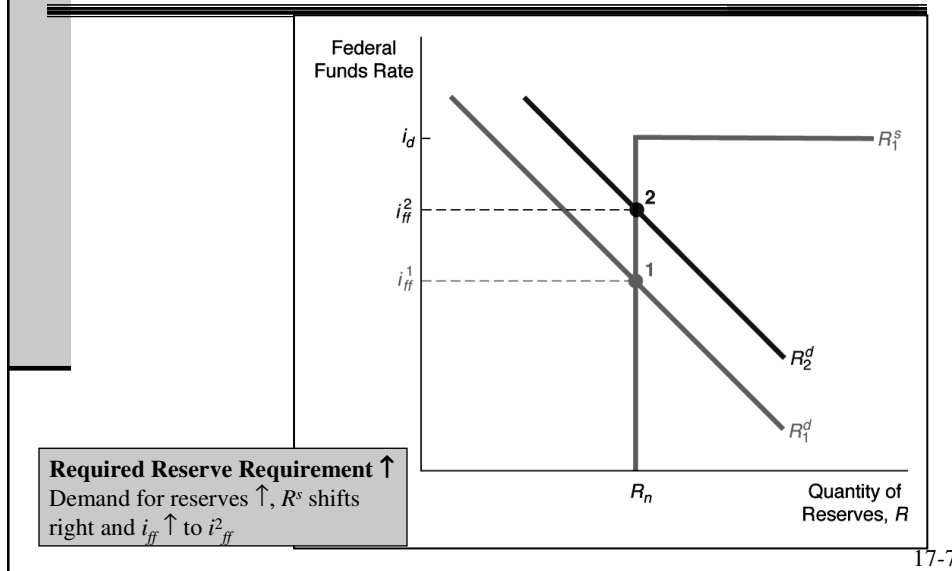
Response to Open Market Operations



Response to a Change in the Discount Rate



Response to Change in Required Reserves



Open Market Operations

- *open market purchases*: $R \uparrow$ and $MB \uparrow \Rightarrow M^s \uparrow \Rightarrow$ short-term $i \downarrow$
- *open market sales*: $R \downarrow$ and $MB \downarrow \Rightarrow M^s \downarrow \Rightarrow$ short-term $i \uparrow$
- two types of operations:
 - dynamic – meant to change the monetary base
 - defensive – meant to offset other factors affecting the monetary base (typically uses repos)
- advantages of open market operations
 - Fed has complete control
 - flexible and precise
 - easily reversed
 - implemented quickly

Discount Loans

- *discount window* = Fed allowing banks to take discount loans
- Types of discount loans
 - *primary credit* = backup source of funds for healthy banks (the interest rate i_d , called *discount rate*, is usually 100 basis points=1% higher than i_{ff})
 - *secondary credit* – given to banks in financial trouble (interest rate = $i_d + 0.5\%$)
 - *seasonal credit* – given to small banks in vacation or agricultural areas

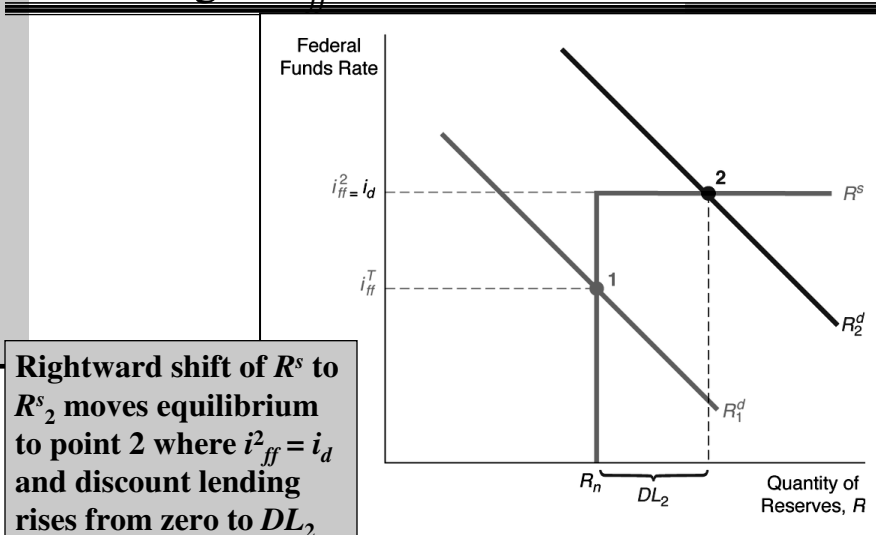
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Discount Loans (cont.)

- Lender of Last Resort function
 - to prevent banking panics, since the FDIC fund might not be big enough and large deposits are not fully covered (for example, the case of Continental Illinois)
 - to prevent nonbank financial panics (for example, the 1987 stock market crash, or the September 11 terrorist incident)
 - but this also causes moral hazard problems

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How Primary Credit Facility Puts a Ceiling on i_{ff}



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Discount Policy

- Advantages
 - role of lender of last resort
- Disadvantages
 - confusion interpreting discount rate changes
 - fluctuations in discount loans cause unintended fluctuations in money supply
 - not fully controlled by Fed

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Reserve Requirements

- Advantages
 - powerful effect (both on reserves/money supply and on the federal funds rate)

- Disadvantages
 - small changes have very large effect on money supply
 - raising them causes liquidity problems for banks
 - frequent changes cause uncertainty for banks
 - they are effectively a tax on banks

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Channel/Corridor System for Setting Interest Rates in Other Countries

- some countries (Canada, Australia, New Zealand) eliminated required reserves, but the central bank still has control over overnight interbank interest rates
- the channel-corridor system at work:
 - the central bank sets up a lending facility: stands ready to lend overnight any amount at the *lombard rate* i_l (usually 0.25% higher than the target rate)
 - the central bank pays a fixed interest rate i_r (usually 0.25% lower than target rate) on any reserves banks decide to keep at the central bank
- thus, the federal funds rate i_{ff} lies between i_r and i_l

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Channel/Corridor System for Setting Interest Rates in Other Countries (cont.)

In the channel/corridor system standing facilities result in a step function supply curve, R^s . If demand curve shifts between R_1^d and R_2^d , i_{ff} always remains between i^r and i^l

