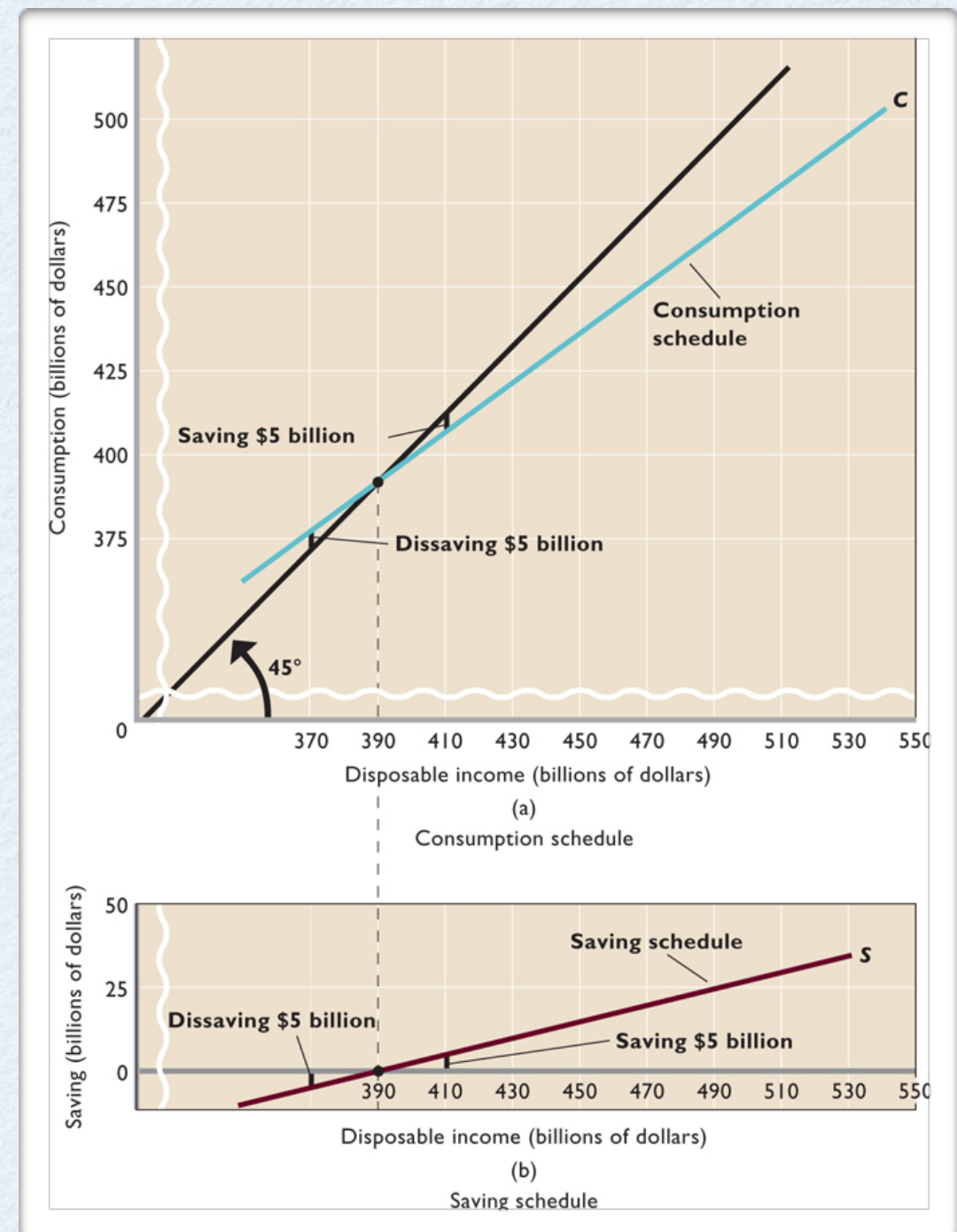# CHAPTER 28

The Income-Consumption-Saving Relationship

- **The Consumption Schedule**

- 45° line ➠ C = DI

- **Equilibrium** ➠ **C = DI**

- S = DI - C

- **The Savings Schedule**

Consumption (billions of dollars)

Saving $5 billion

Dissaving $5 billion

Consumption schedule

45°

Disposable income (billions of dollars)

(a)
Consumption schedule

Saving schedule

Dissaving $5 billion

Saving $5 billion

Saving (billions of dollars)

Disposable income (billions of dollars)

(b)
Saving schedule

Average and Marginal Propensities

- **Average Propensity to Consume & Average Propensity to Save - a fraction or %** of total income that is consumed/saved

- **APC** = $\dfrac{\text{consumption}}{\text{income}}$

- **APS** = $\dfrac{\text{savings}}{\text{income}}$

- **Marginal Propensity to Consume & Marginal Propensity to Save - the** proportion or fraction of any change in income that is consumed/saved (marginal = extra)

- **MPC** = $\dfrac{\Delta \text{ consumption}}{\Delta \text{ income}}$

- **MPS** = $\dfrac{\Delta \text{ savings}}{\Delta \text{ income}}$

- **MPC + MPS = 1**
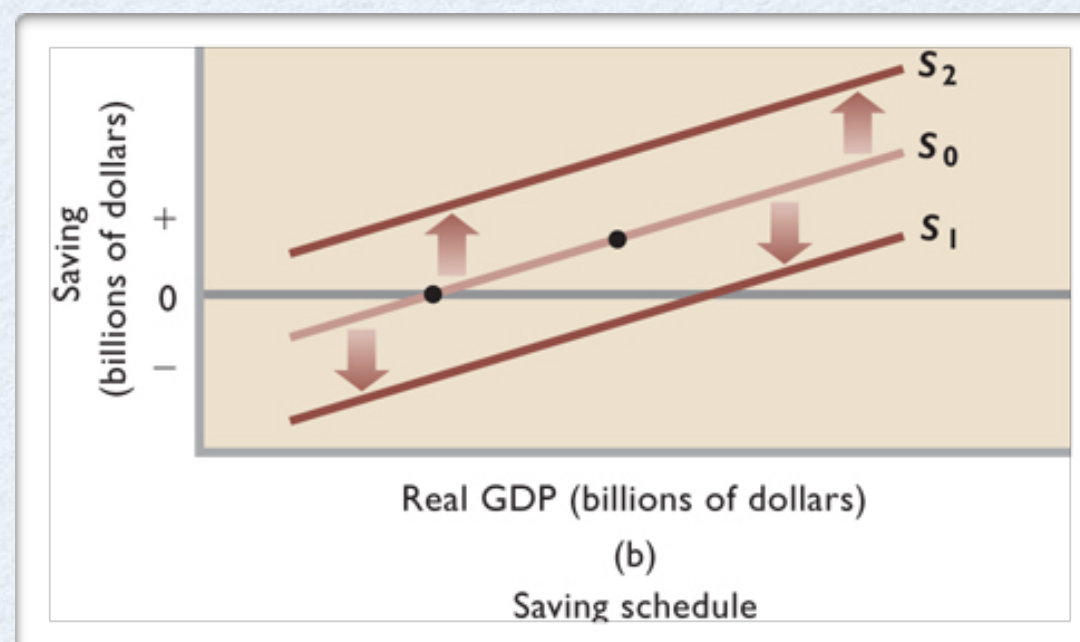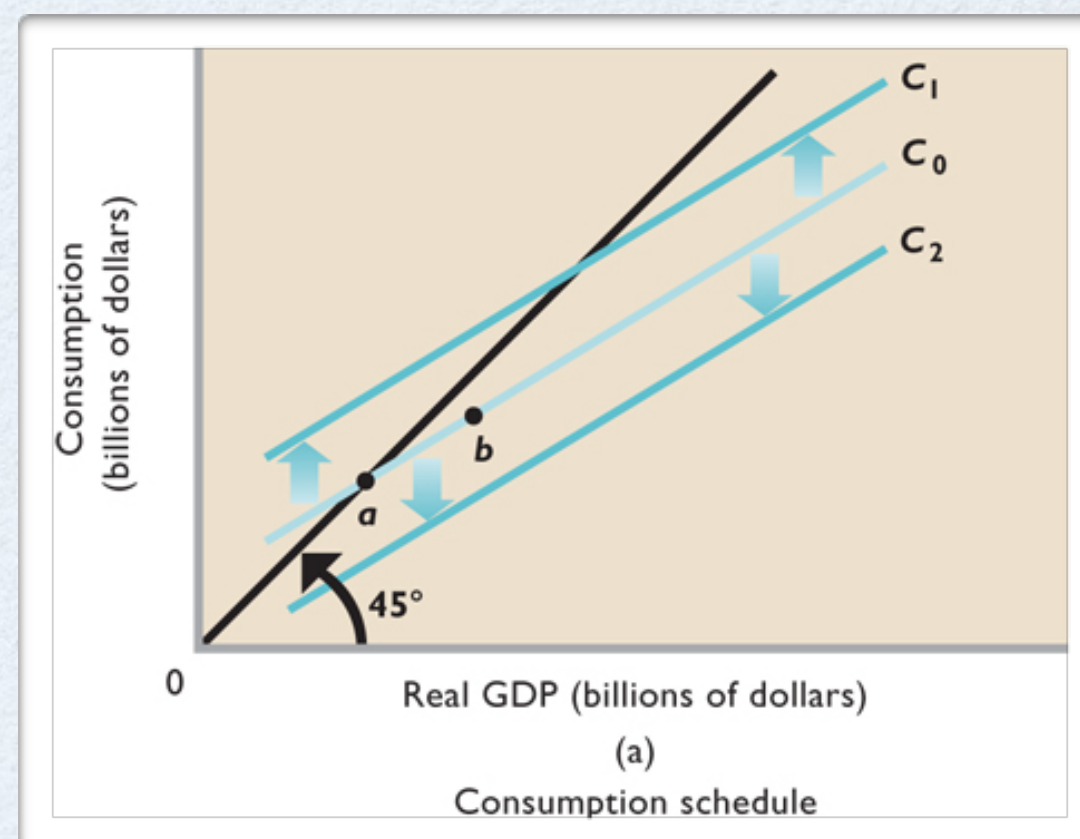
Average and Marginal Propensities

- **MPC and MPS as Slopes**

- **Nonincome Determinants of Consumption and Savings**

  1. Wealth

  2. Borrowing

  3. Expectations

  4. Real interest rates
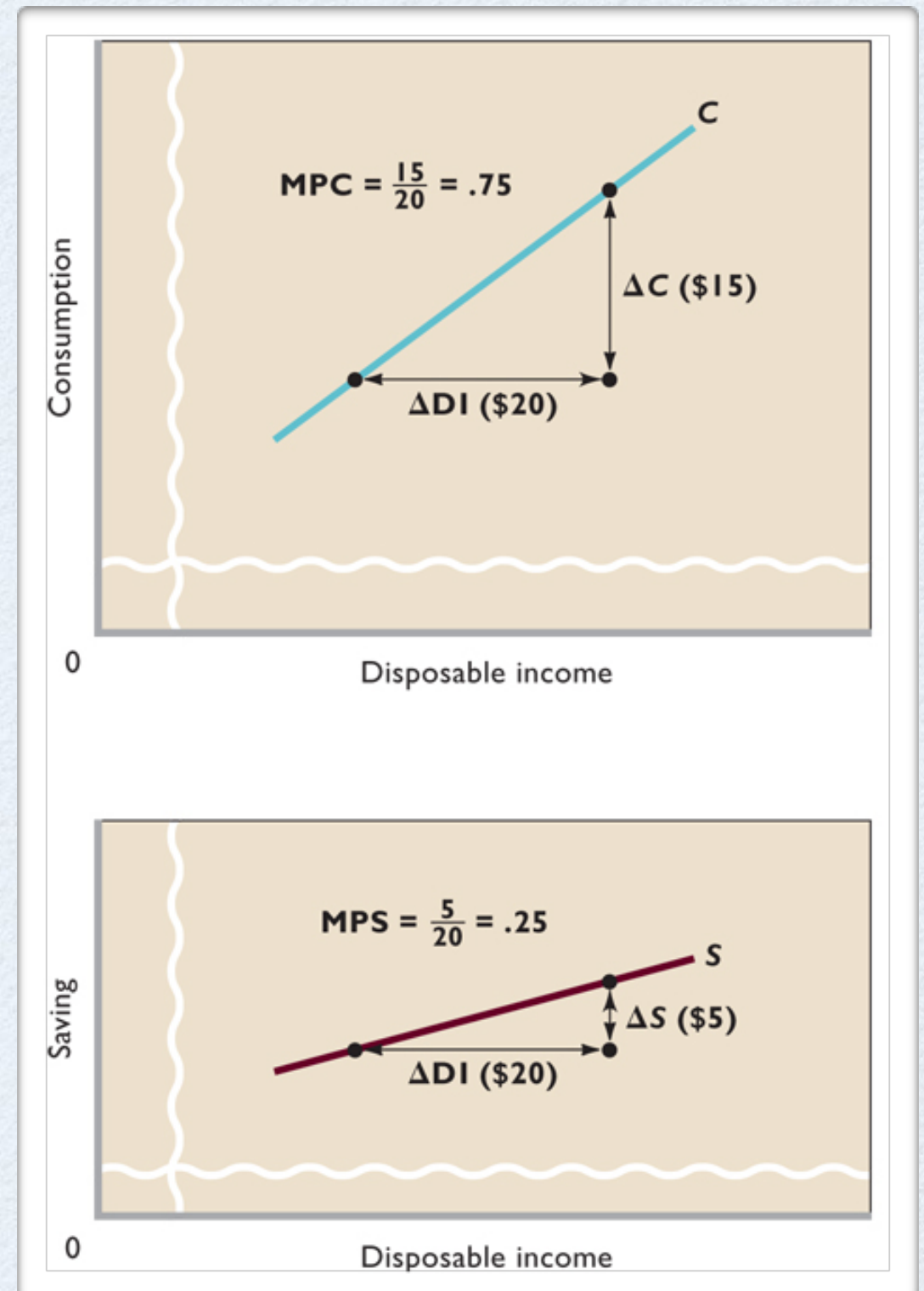
Consumption, Savings & GDP

- C & S schedules shift up or down

- Changes in wealth, expectations, interest rates, and household debt will shift the C & S curves

- For example, when interest rates fall, households tend to borrow more, consume more, and save less.

- Switch from DI to real GDP

- **Question to answer: If there is a change in spending (C, I, G, X_n) how much is the change in GDP?**
  GDP = C + I + G + X_n

Consumption (billions of dollars)

C_1
C_0
C_2

b

a

45°

0   Real GDP (billions of dollars)

(a)
Consumption schedule

Saving (billions of dollars)

+

0

–

S_2
S_0
S_1

Real GDP (billions of dollars)

(b)
Saving schedule

The Multiplier Effect

The relationship between changes in spending and changes in real GDP

- More spending results in a higher GDP

- A change in spending, changes output by more than the initial change in spending - the result is called **the multiplier effect**

- **The multiplier** determines how much larger the change in the GDP will be

- **Multiplier** = change in real GDP
    initial change in spending

- **Change in GDP = multiplier * initial change in spending** ➠ **m * ΔC = ΔGDP**
  ΔC = +$30B, m = 3 ➠ ΔGDP = ? ➠ ΔGDP = +$90B

The Multiplier Effect

The multiplier and the marginal propensities

- **Multiplier = $\dfrac{1}{MPS}$**

- **Also, because MPC + MPS = 1 ⇒ Multiplier = $\dfrac{1}{1 - MPC}$**

- Example: MPC = 0.8 ⇒ m = ?

- If MPC = 0.8 ⇒ MPC + MPS = 1 ⇒ MPS = 0.2
  $m = \dfrac{1}{MPS} = 1/0.2 = 5$

The Interest Rate - Investment Relationship

- **Investment**

- Investment decision: MB vs MC ➠ **MB >= MC**
  MB f(r), MC f(i)
  Expected rate of return (r ➠ ∏) and the interest rate (i) are the two basic determinants of investment spending

- In equilibrium **i = r**

- **Investment Demand Curve - shows the amount of investment forthcoming at each real interest rate**

- **Determinants of investment demand will shift the investment demand curve** - acquisition, maintenance, and operating cost, business taxes, technological change, expectations ...