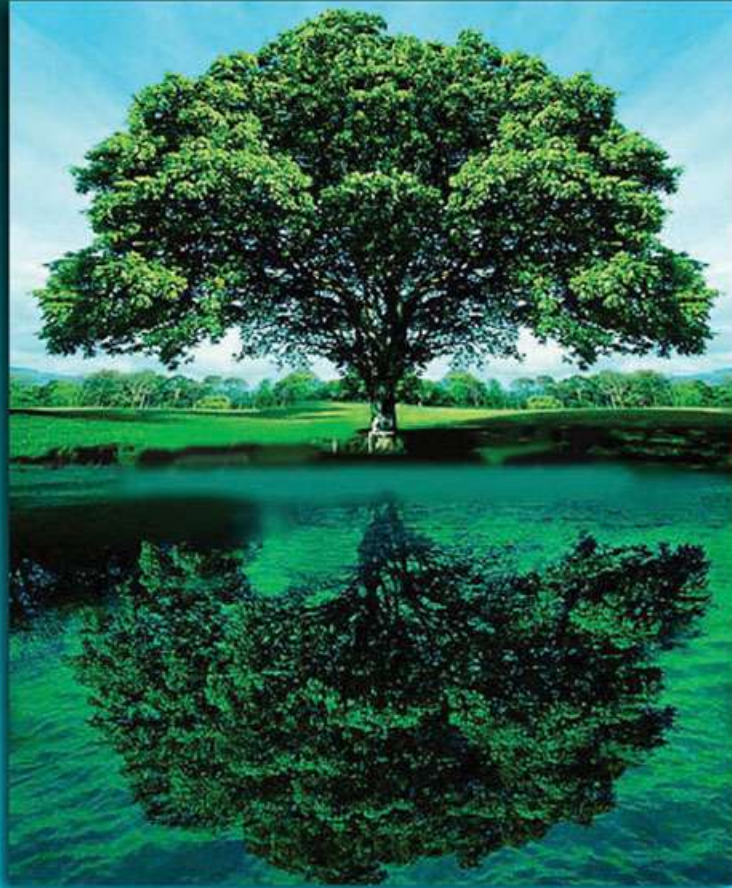


13 A Real Intertemporal Model with Investment

MACROECONOMICS

second edition



STEPHEN D. WILLIAMSON

Chapter 9

A Real Intertemporal Model with Investment

Figure 9.1 The Representative Consumer's Current Labor Supply Curve

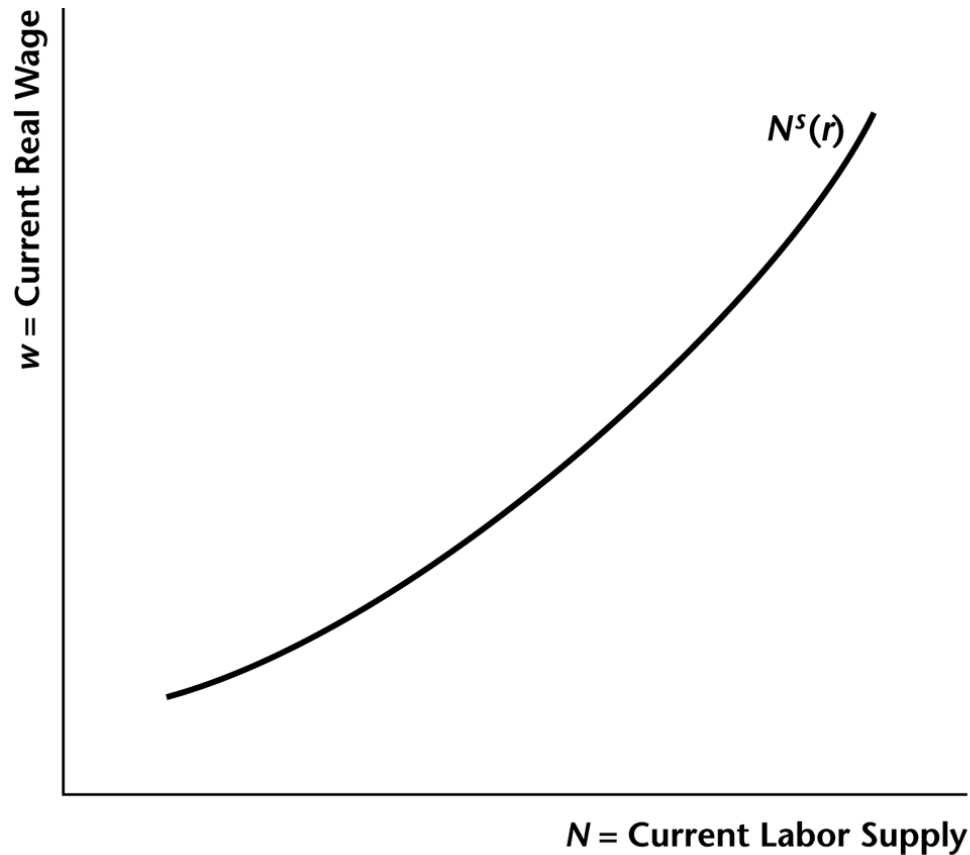


Figure 9.2 An Increase in the Real Interest Rate Shifts the Current Labor Supply Curve to the Right

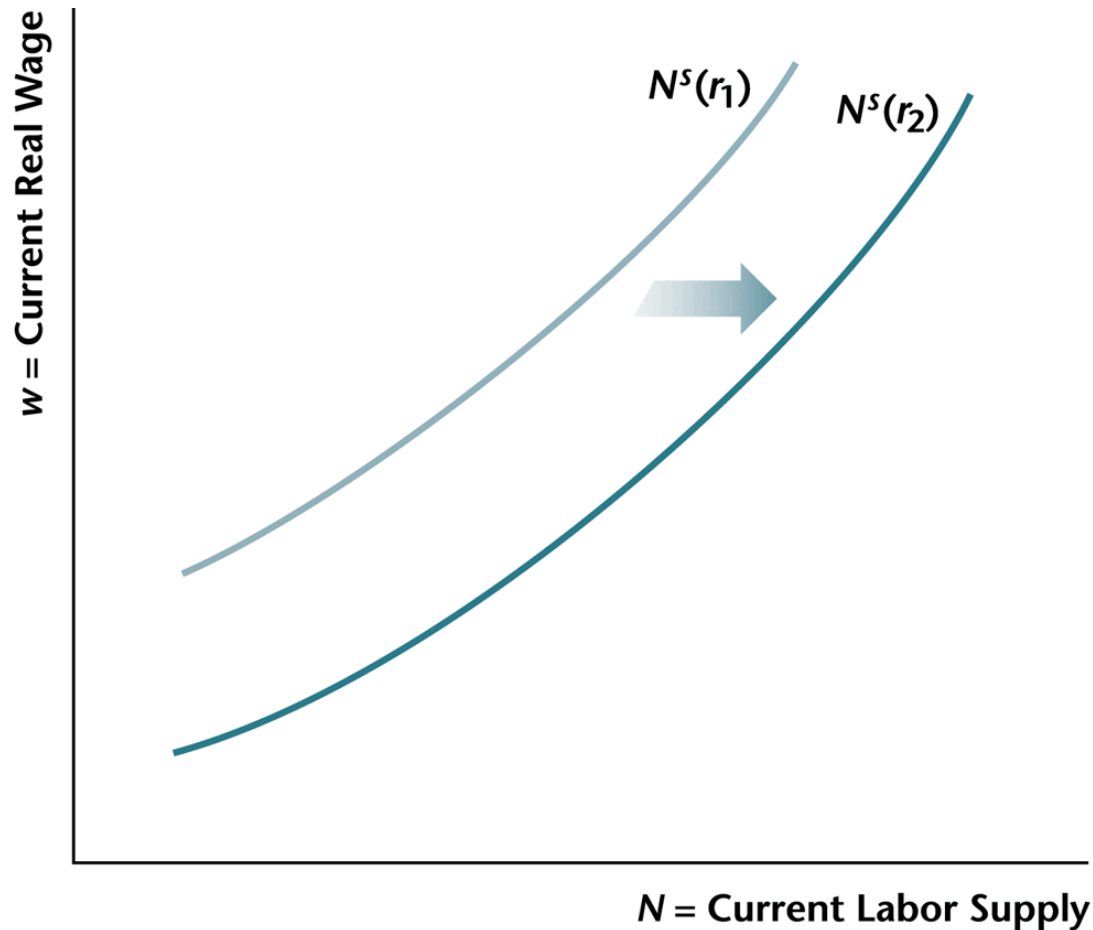


Figure 9.3 Effects of an Increase in Lifetime Wealth

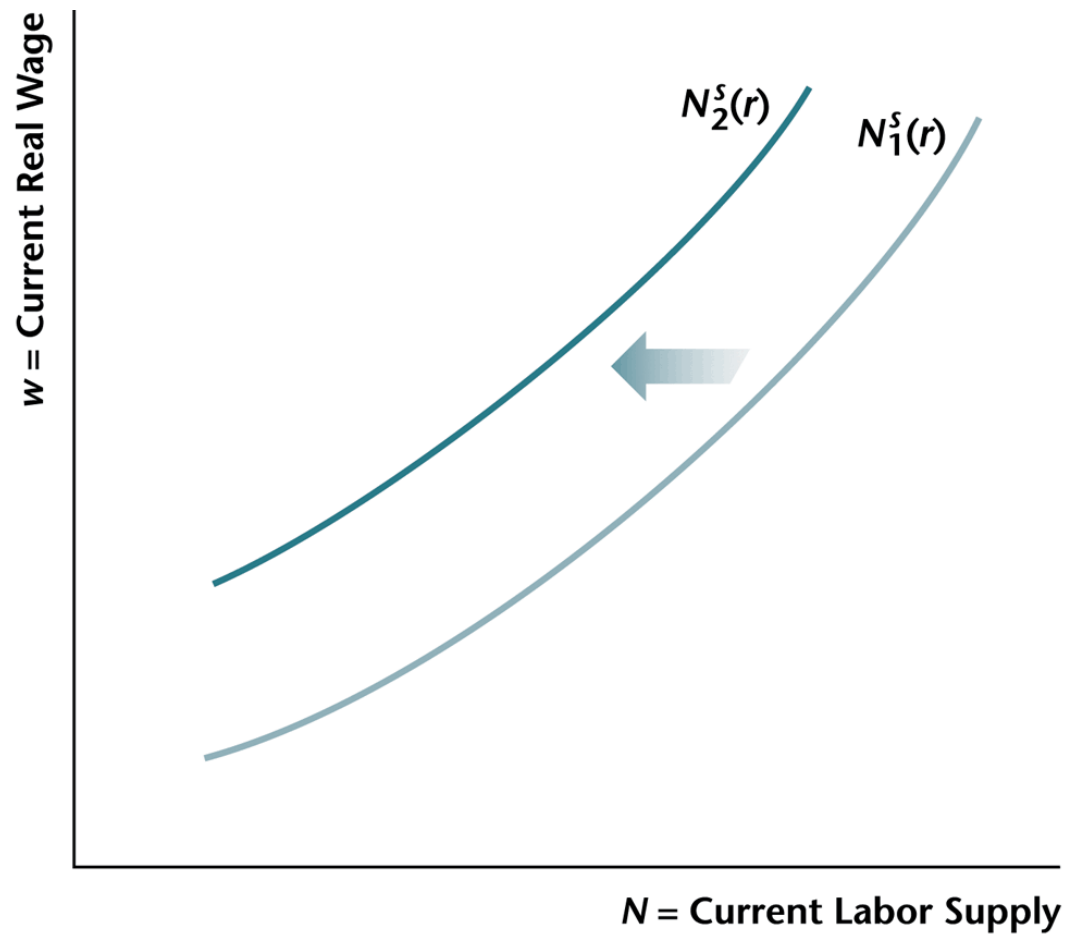


Figure 9.4 The Representative Consumer's Current Demand for Consumption Goods Increases with Income

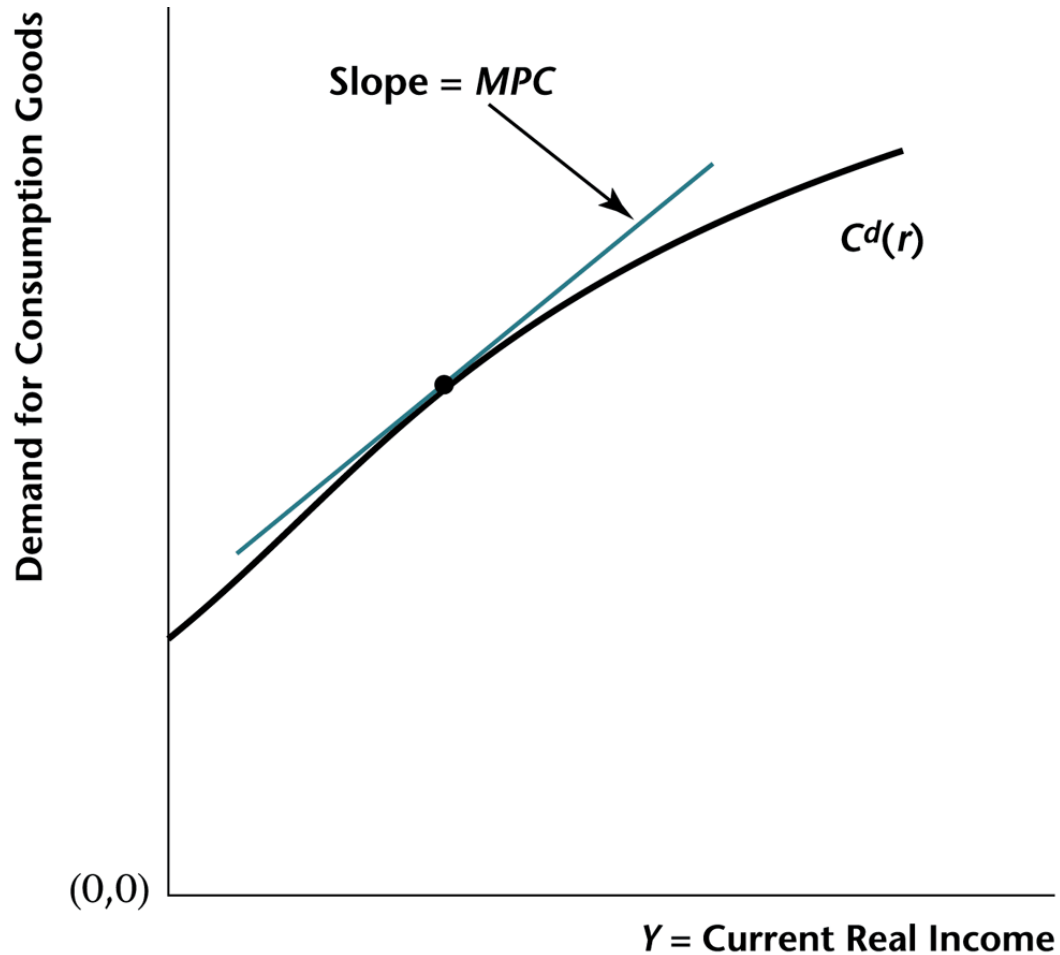


Figure 9.5 An Increase in the Real Interest Rate from r_1 to r_2 Shifts the Demand for Consumption Goods Down

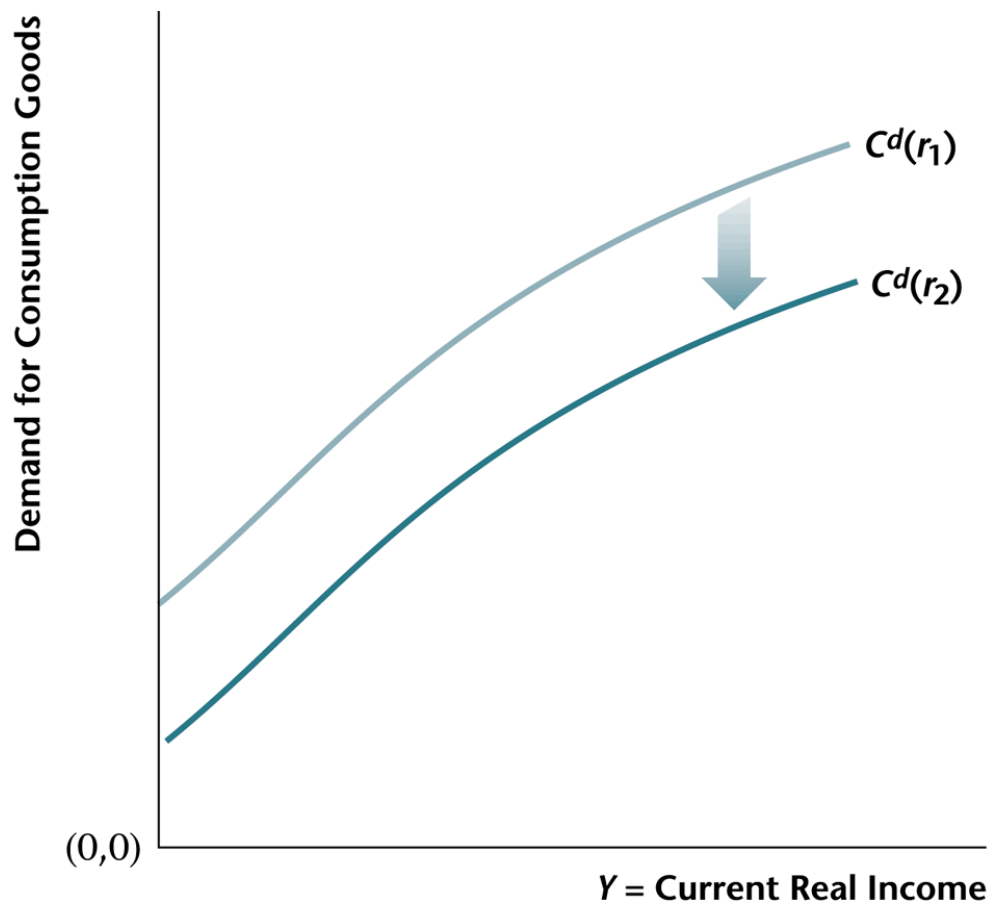


Figure 9.6 An Increase in Lifetime Wealth for the Consumer Shifts Up the Demand for Consumption Goods.

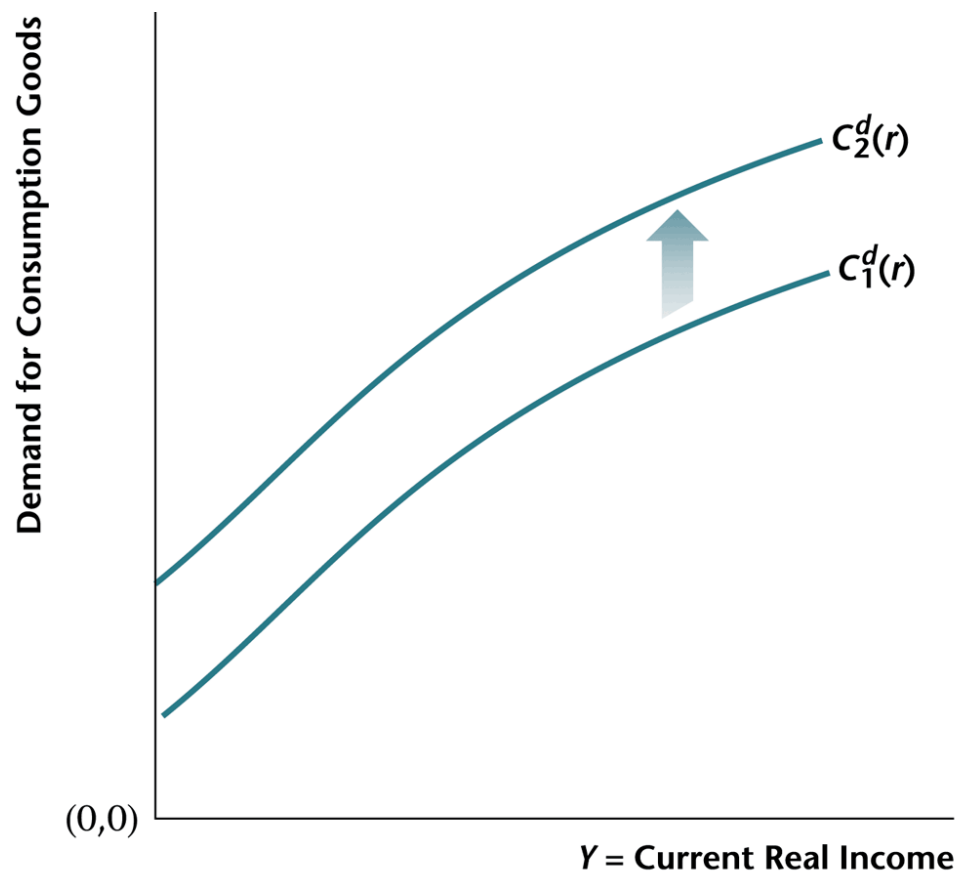


Figure 9.7 The Demand Curve for Current Labor Is the Representative Firm's Marginal Product of Labor Schedule

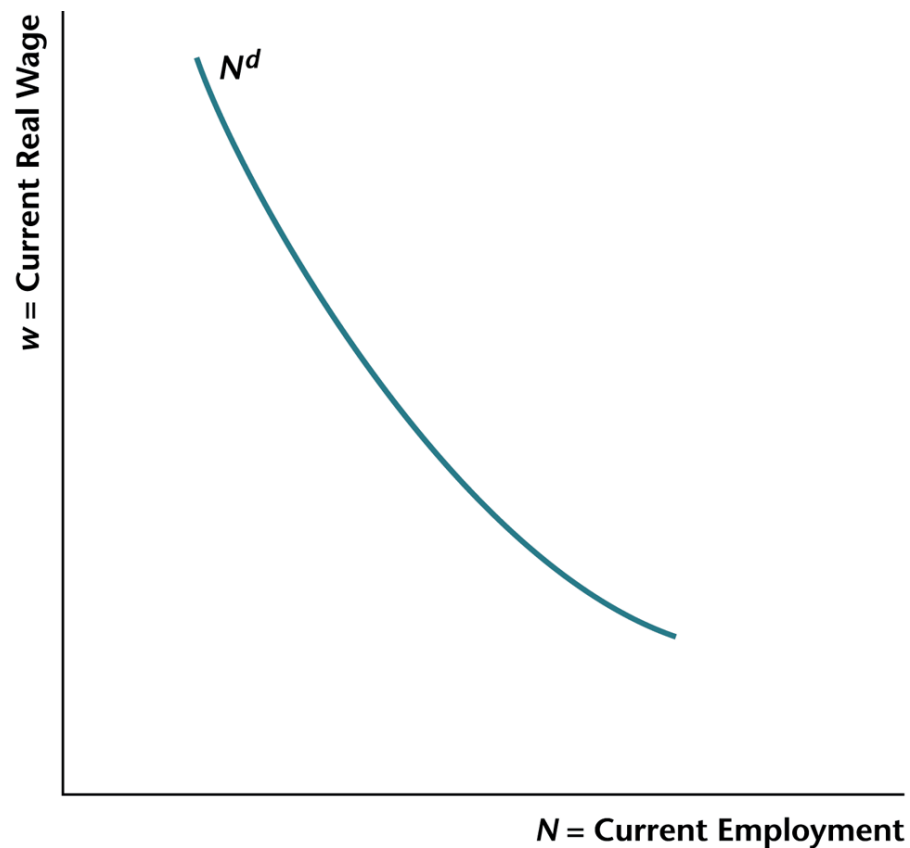


Figure 9.8 The Current Demand Curve for Labor Shifts Due to Changes in Current Total Factor Productivity z and in the Current Capital Stock K

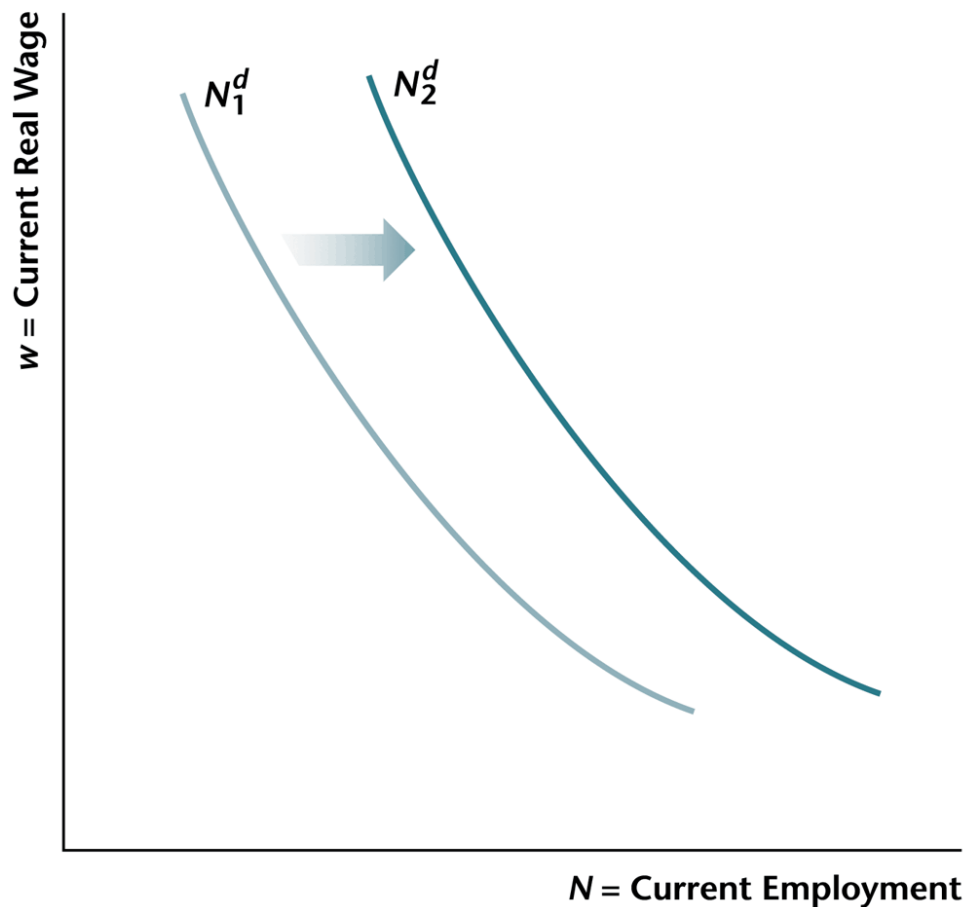


Figure 9.9 Optimal Investment Schedule for the Representative Firm

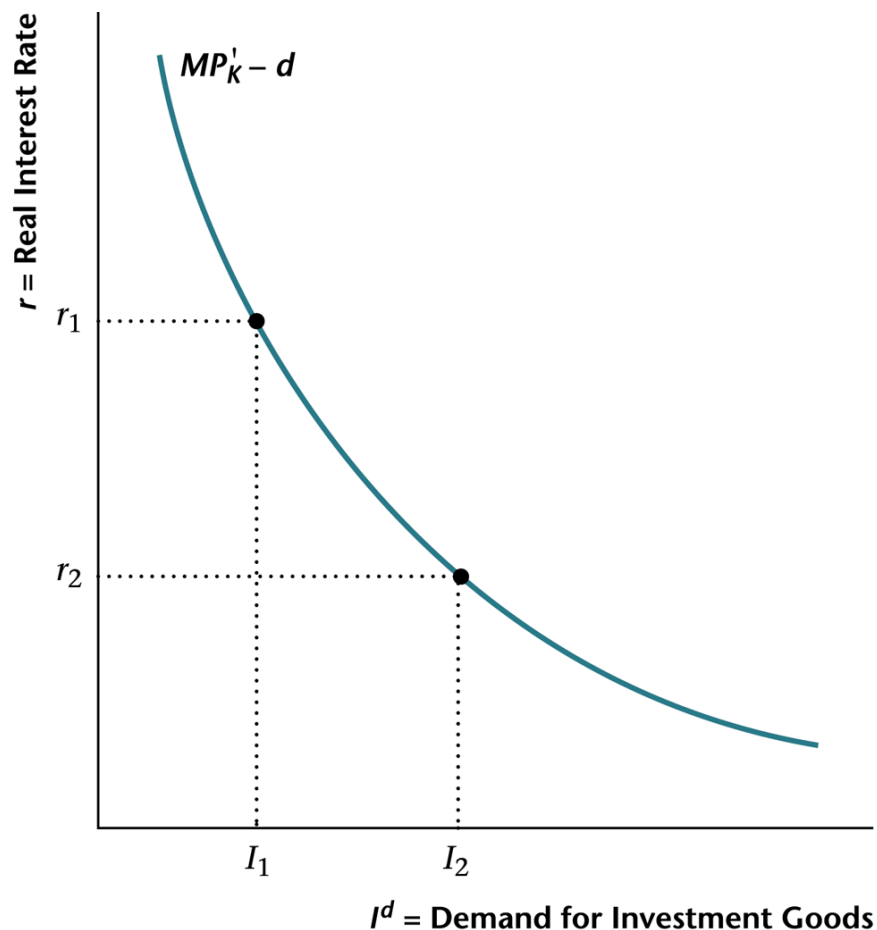


Figure 9.10 The Optimal Investment Schedule Shifts to the Right if Current Capital Decreases or Future Total Factor Productivity Is Expected to Increase

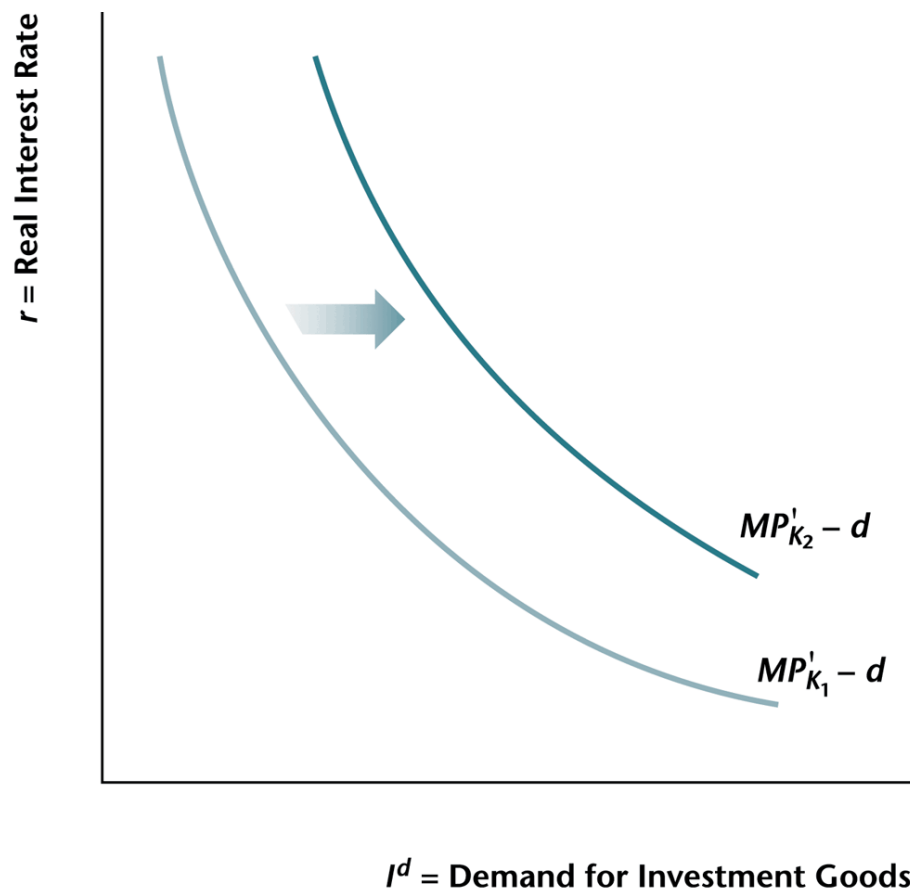
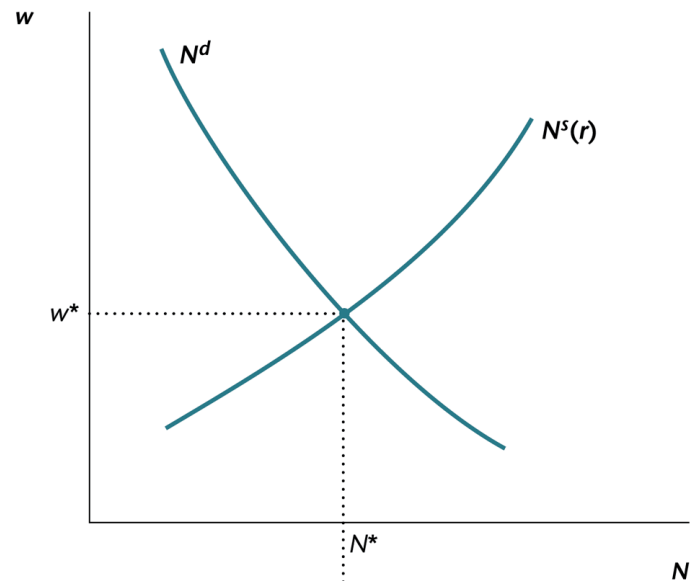


Table 9.1 Data for Paula's Orchard

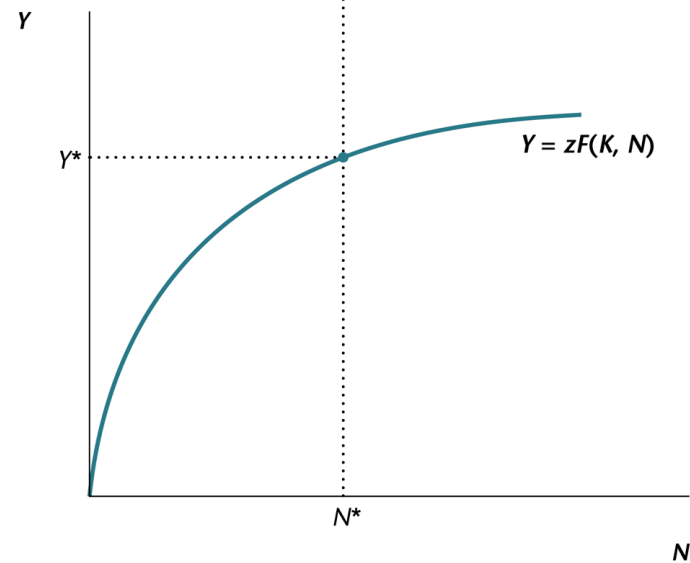
$K' = \text{trees in future}$	I	Y'	V	$MP'_K - d$
8	0	95	196.6	—
9	1	98	199.2	2.8
10	2	100	200.9	1.8
11	3	101	201.6	0.8
12	4	101.5	201.8	0.3
13	5	101.65	201.7	-0.05
14	6	101.75	201.6	-0.1
15	7	101.77	201.4	-0.18

Figure 9.11

Determination of Equilibrium in the Labor Market Given the Real Interest Rate r



(a)



(b)

Figure 9.12 Construction of the Output Supply Curve

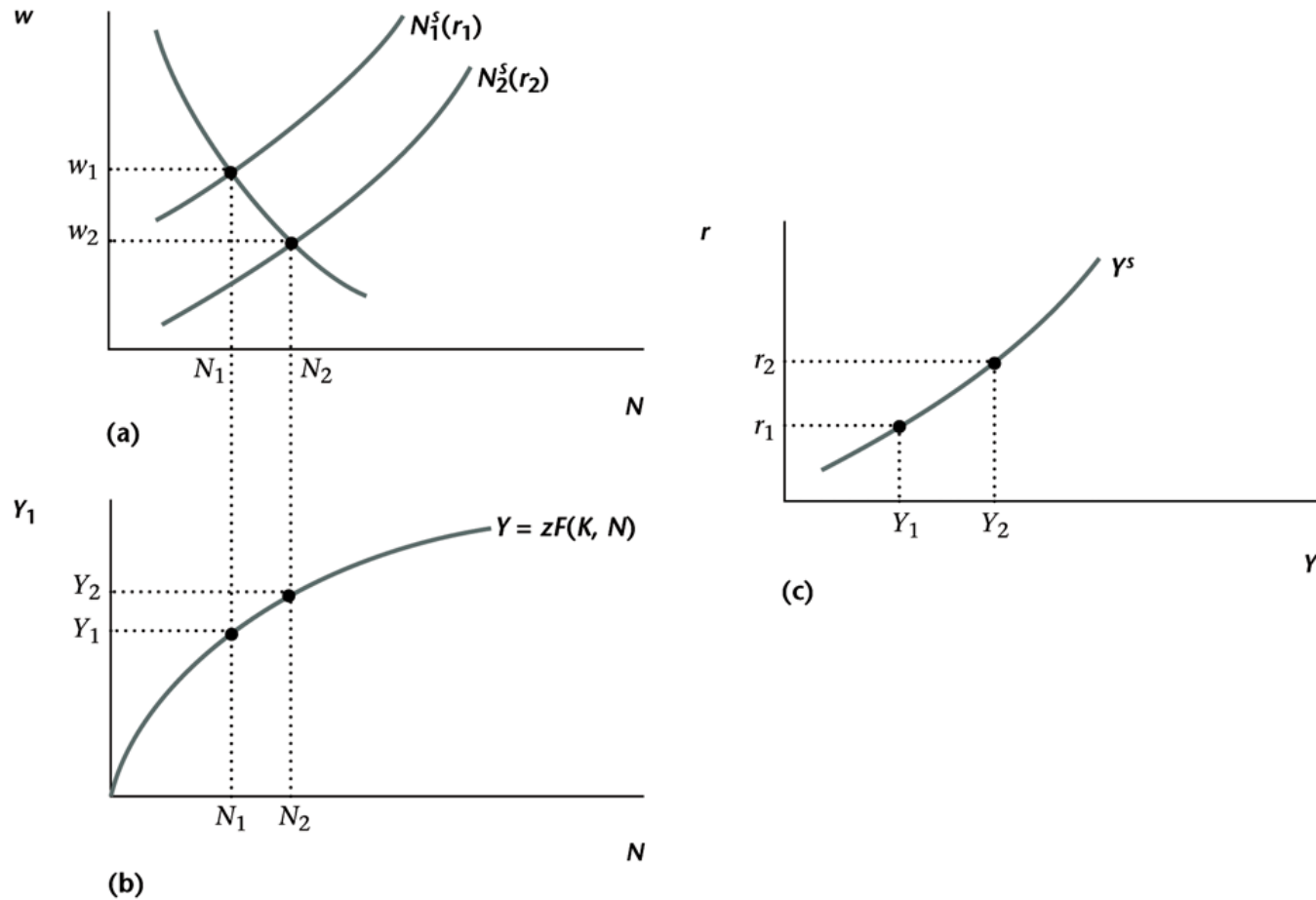


Figure 9.13 An Increase in Current or Future Government Spending Shifts the Y^s Curve

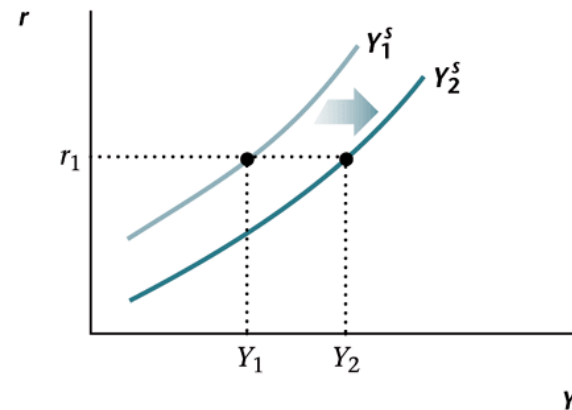
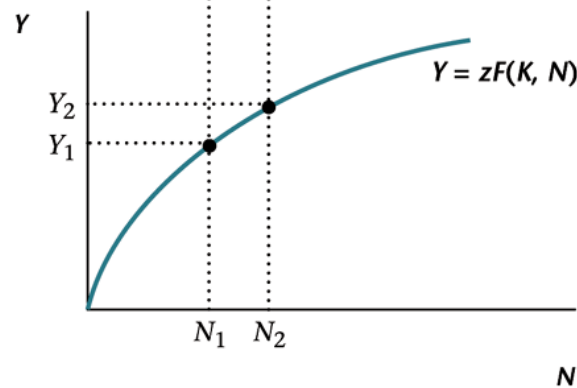
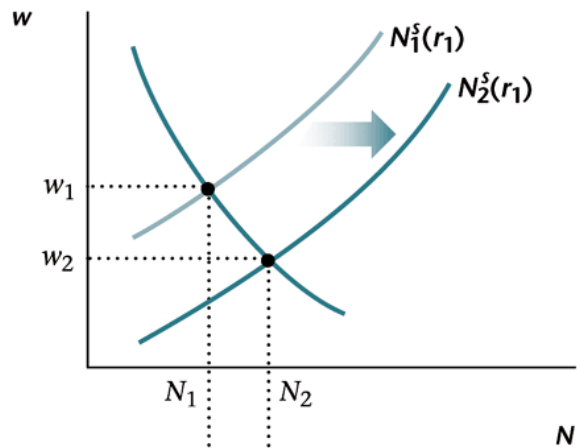
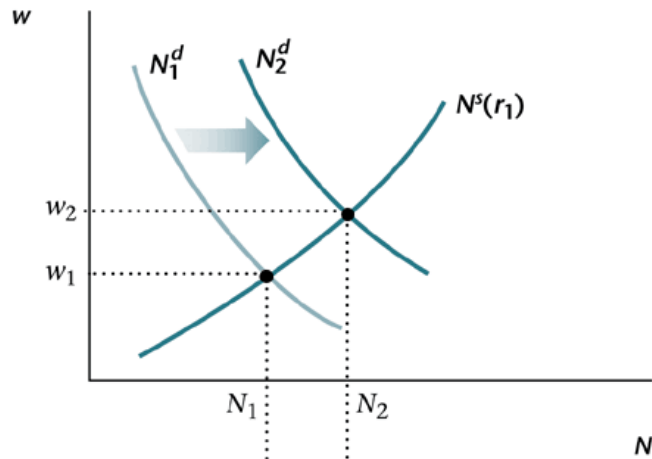
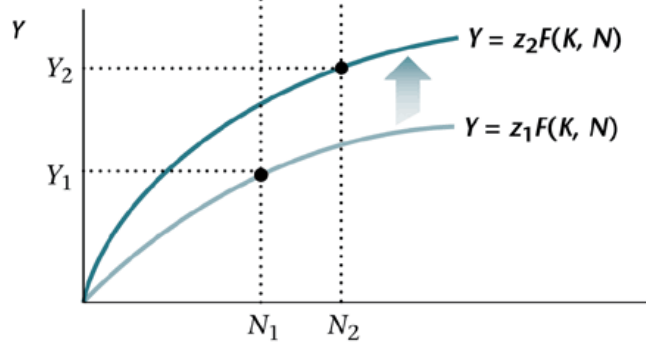


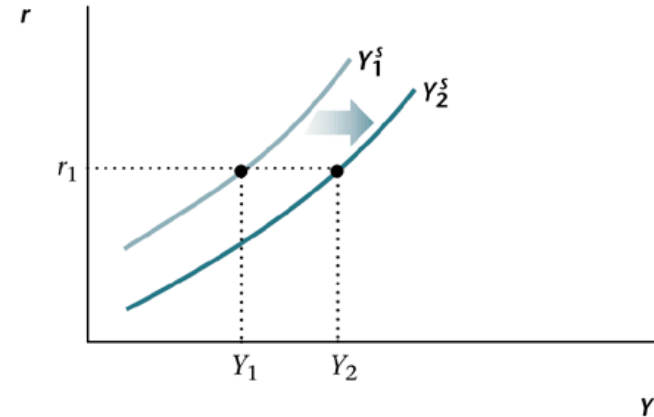
Figure 9.14 An Increase in Current Total Factor Productivity Shifts the Y_s Curve



(a)



(b)



(c)

Figure 9.15 The Demand for Current Goods

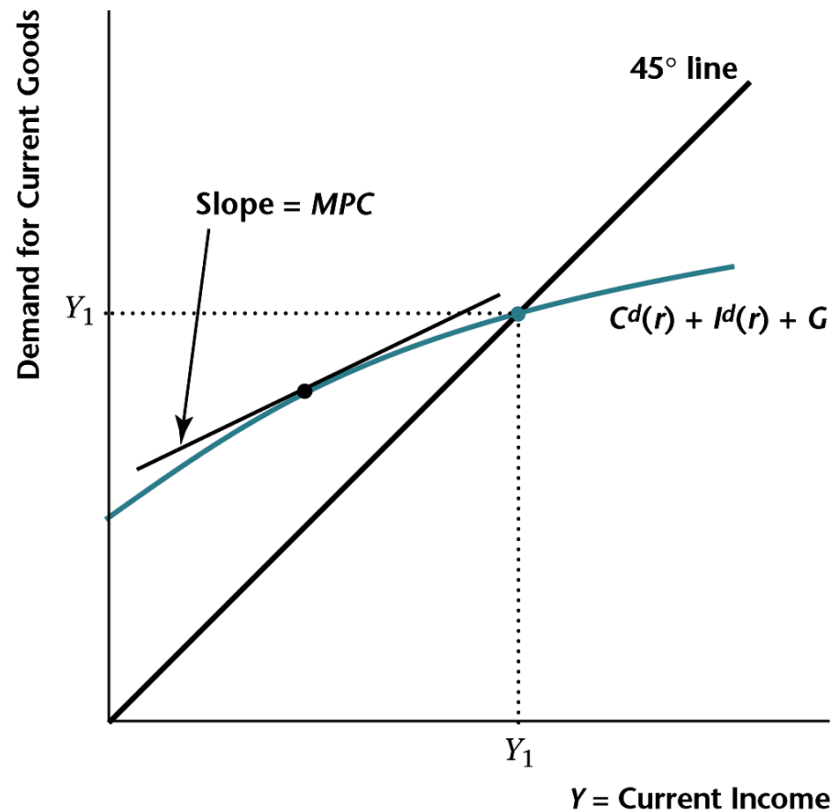
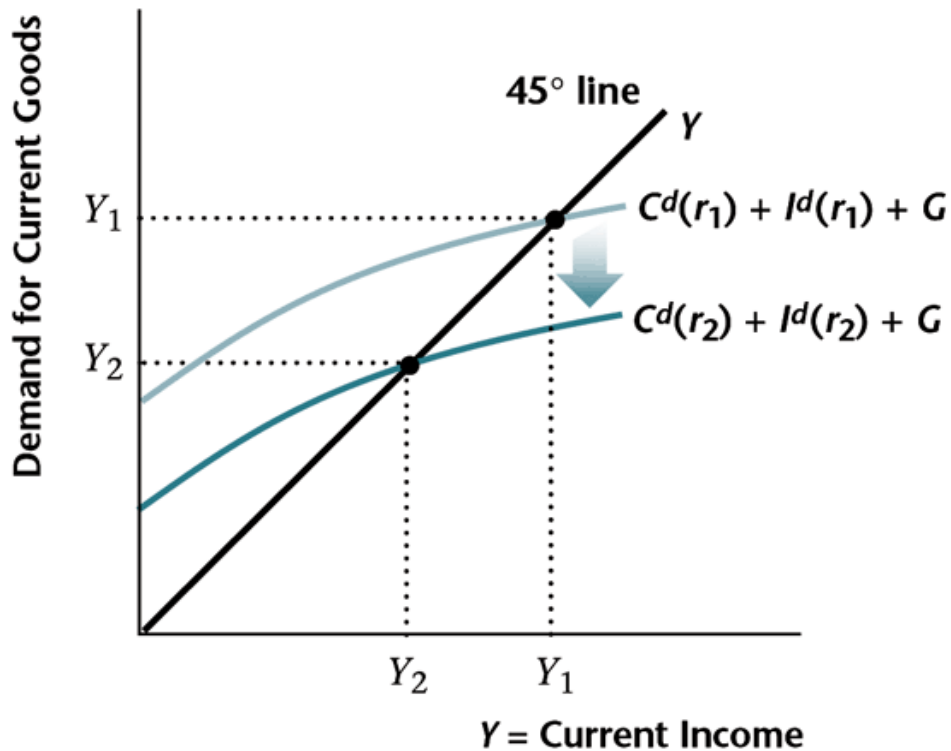
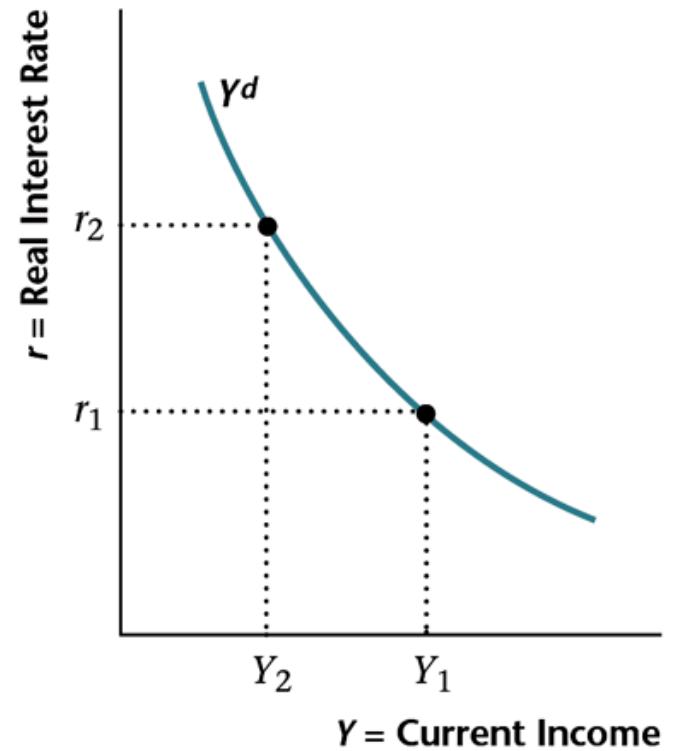


Figure 9.16 Construction of the Output Demand Curve



(a)



(b)

Figure 9.17 The Output Demand Curve Shifts to the Right if Current Government Spending Increases

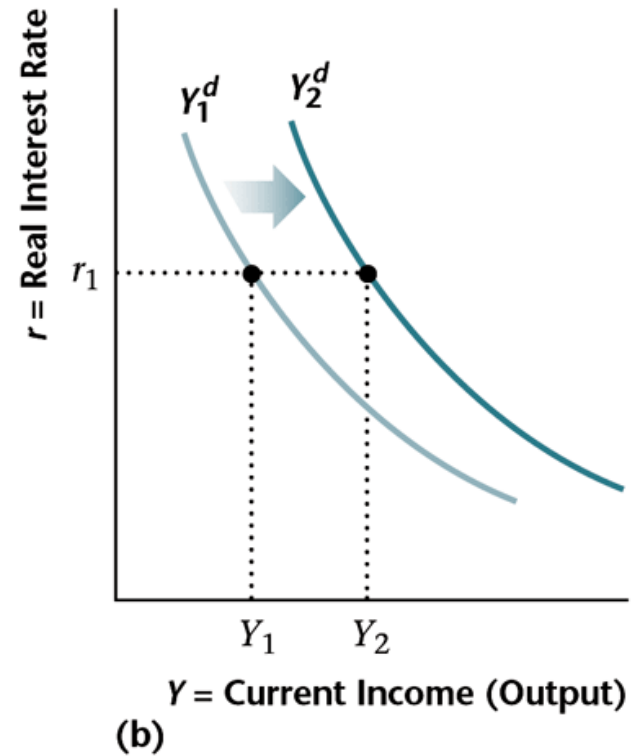
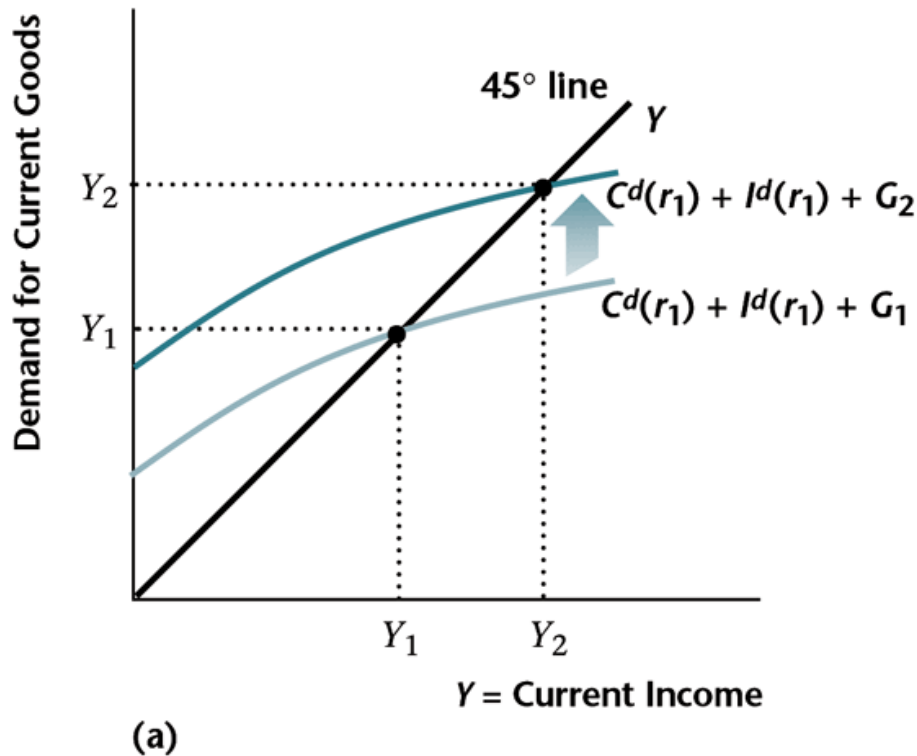


Figure 9.18 The Complete Real Intertemporal Model

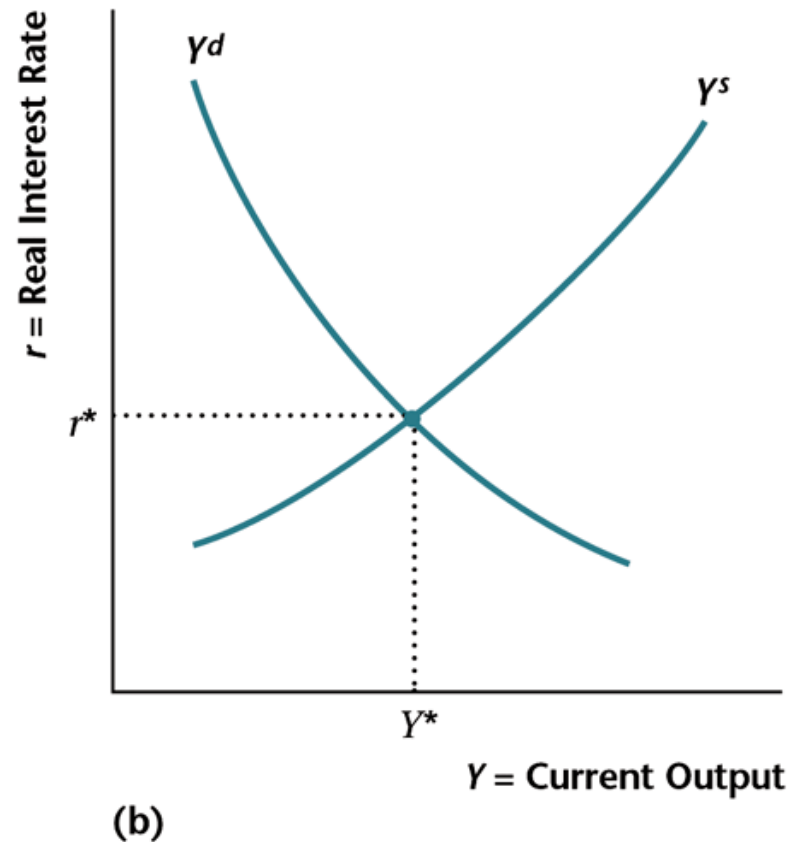
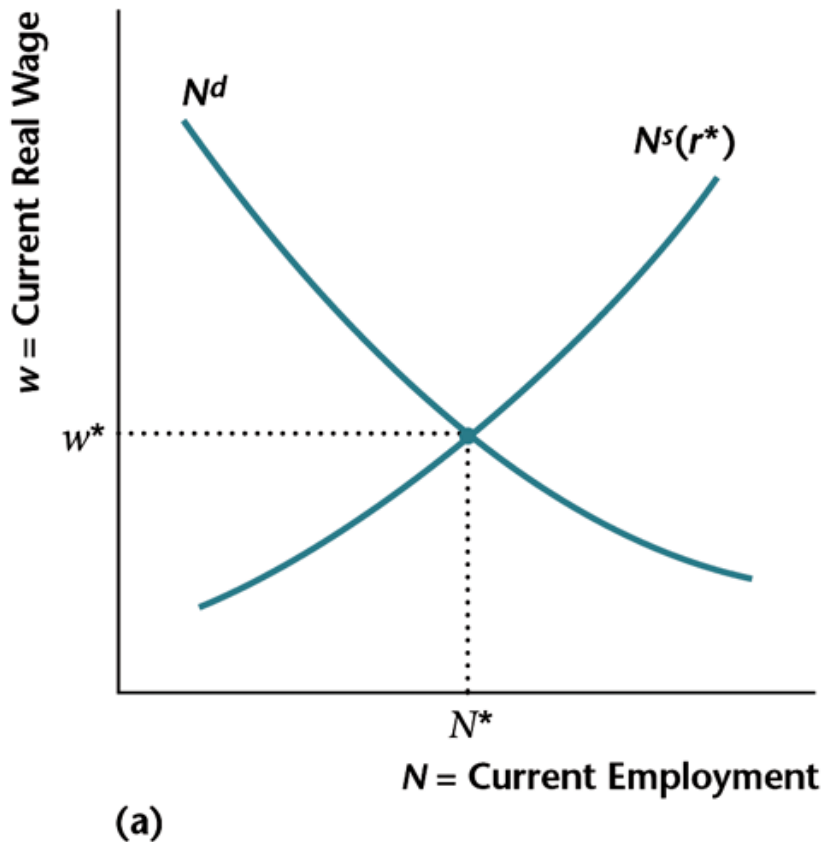
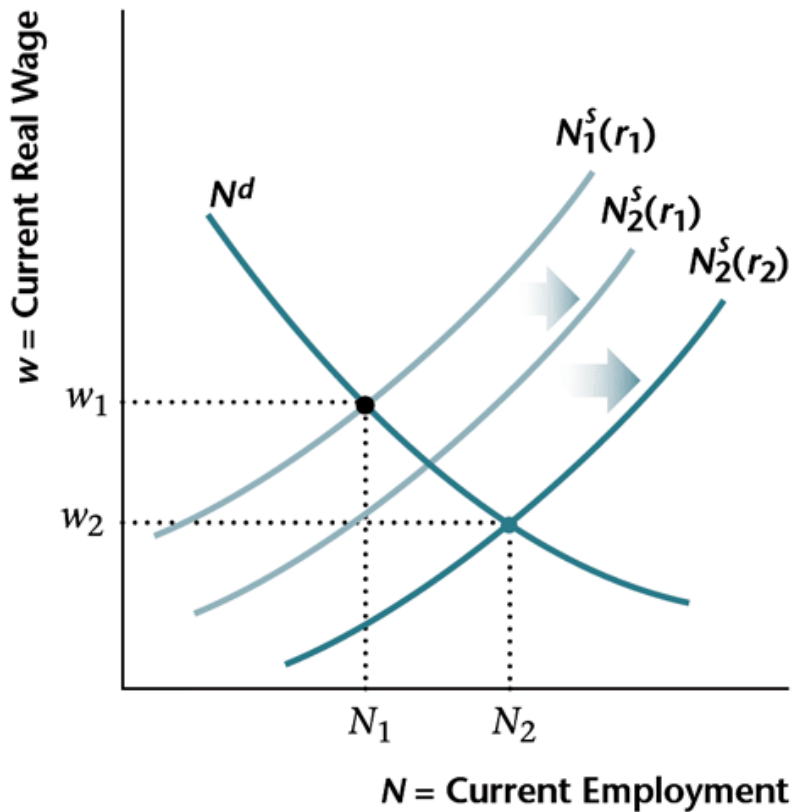
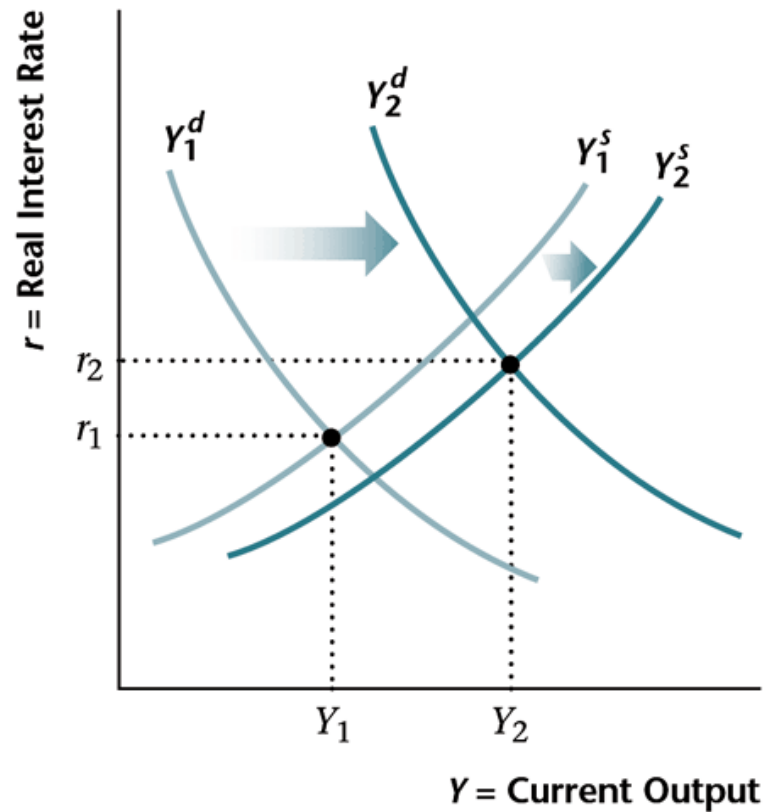


Figure 9.19 A Temporary Increase in Government Purchases

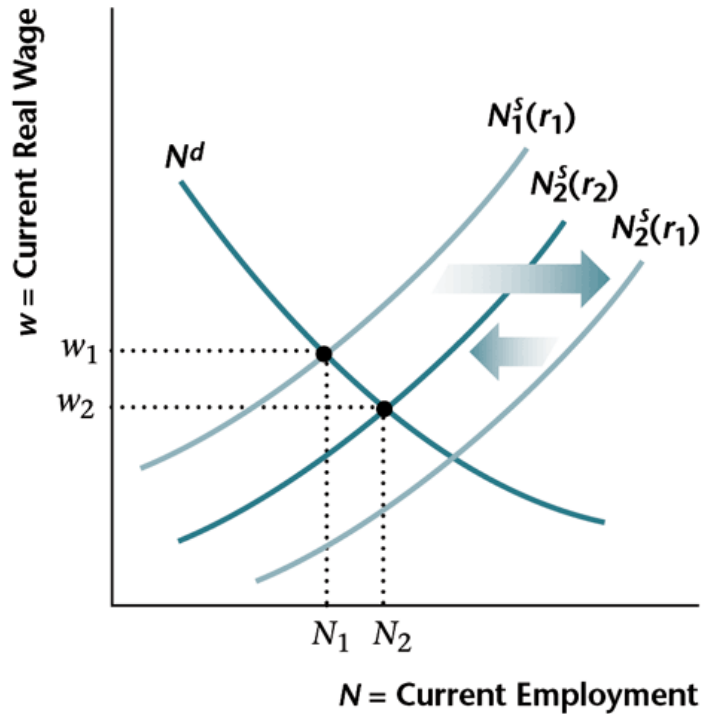


(a)

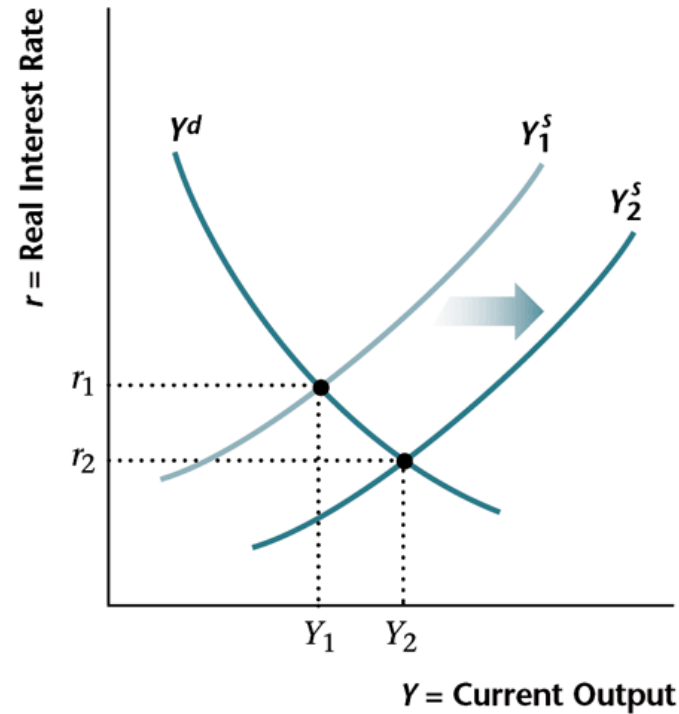


(b)

Figure 9.20 A Permanent Increase in Government Purchases



(a)



(b)

Figure 9.21 Natural Log of Real Investment, 1929–2002

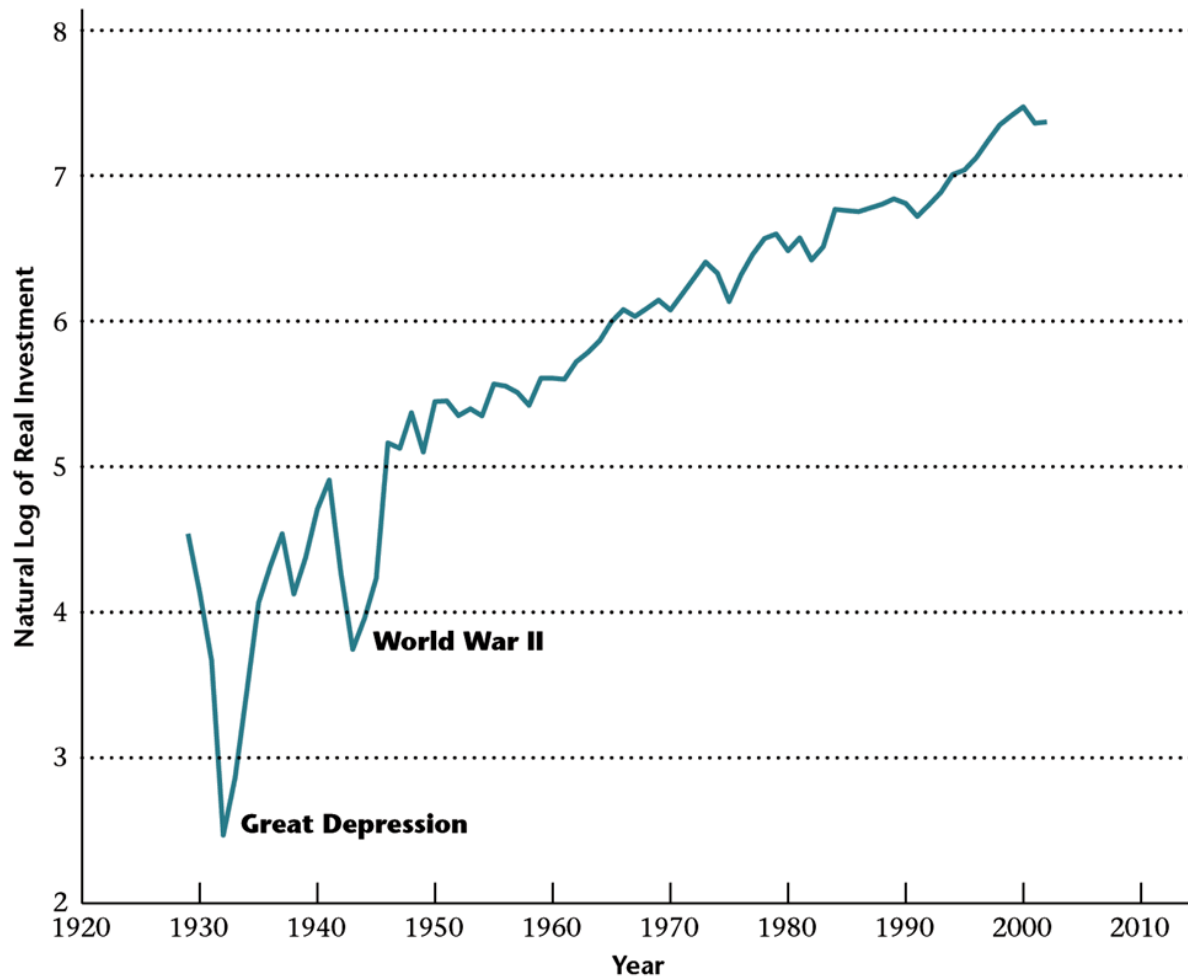
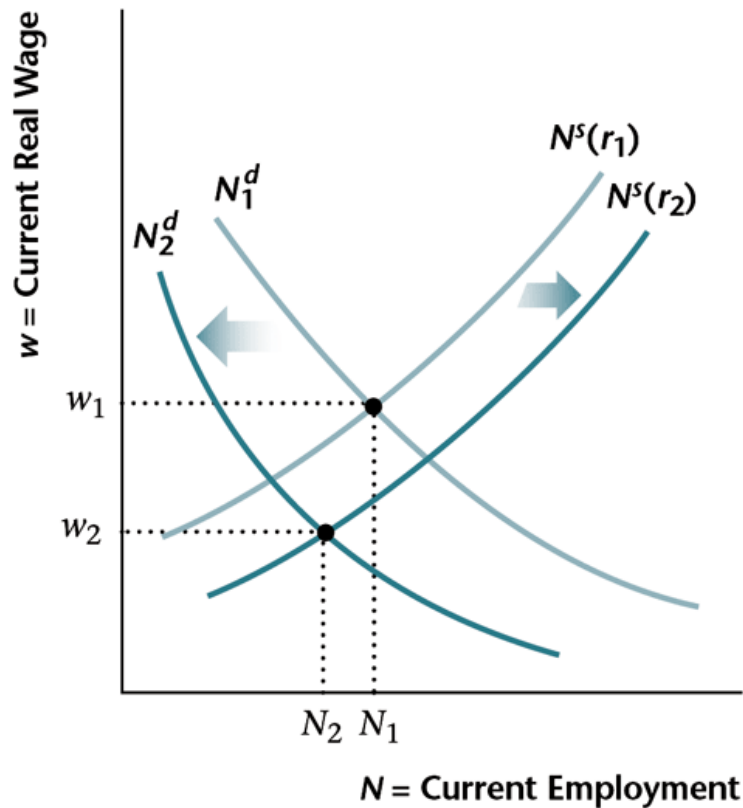
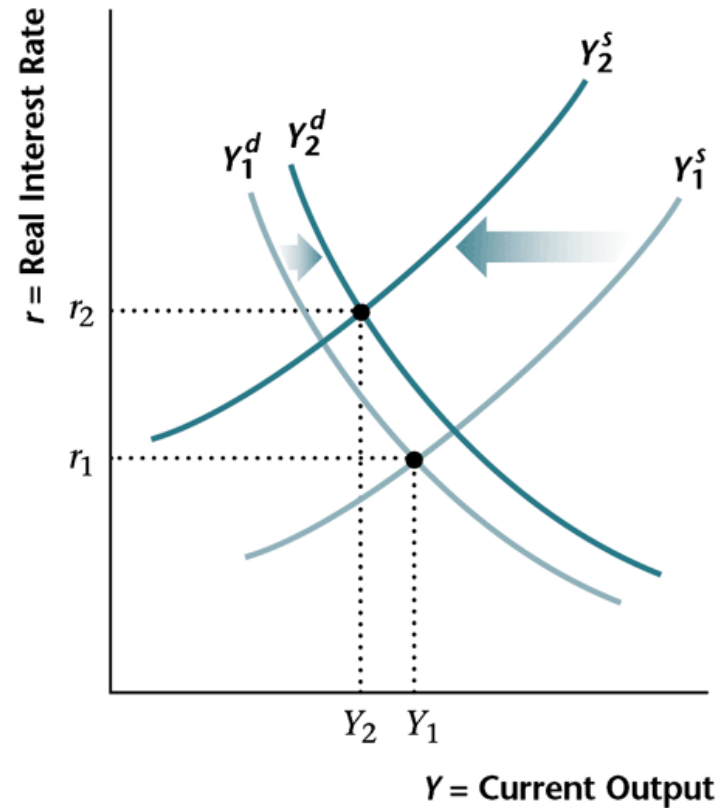


Figure 9.22 The Equilibrium Effects of a Decrease in the Current Capital Stock

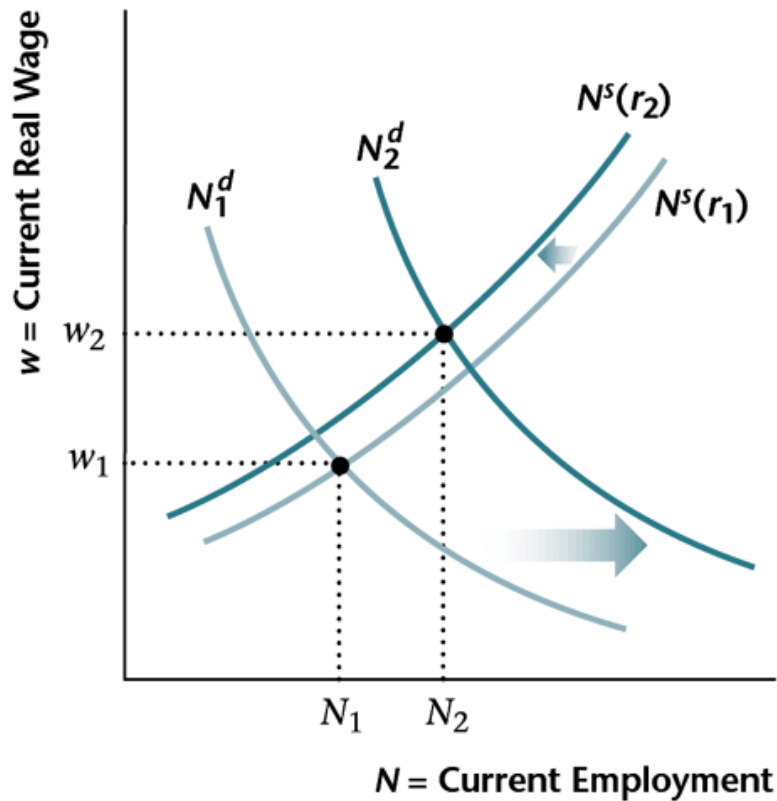


(a)

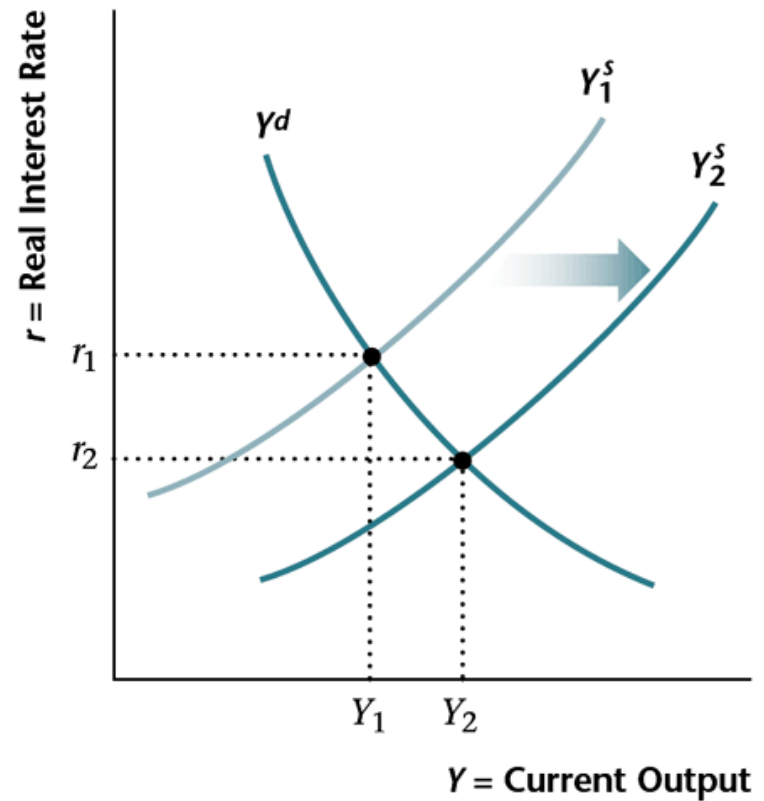


(b)

Figure 9.23 The Equilibrium Effects of an Increase in Current Total Factor Productivity

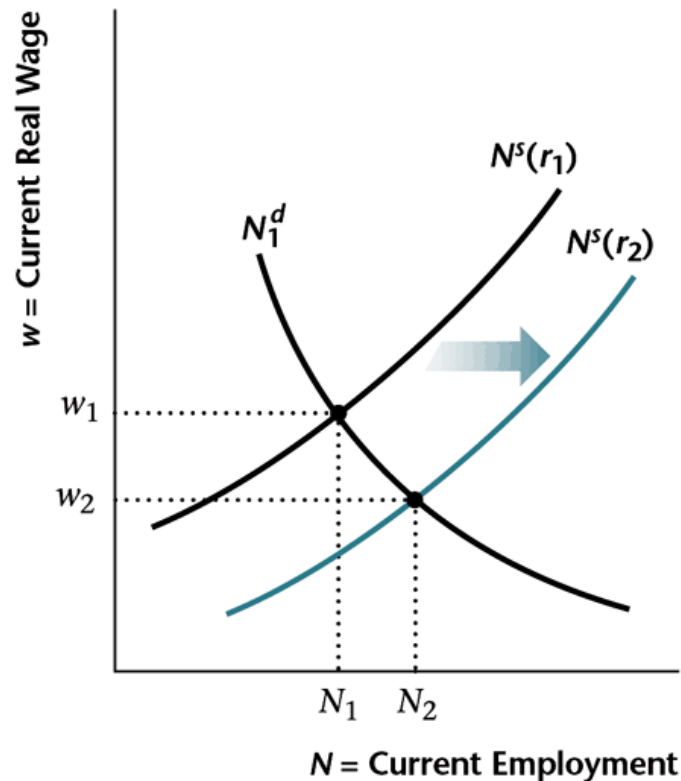


(a)

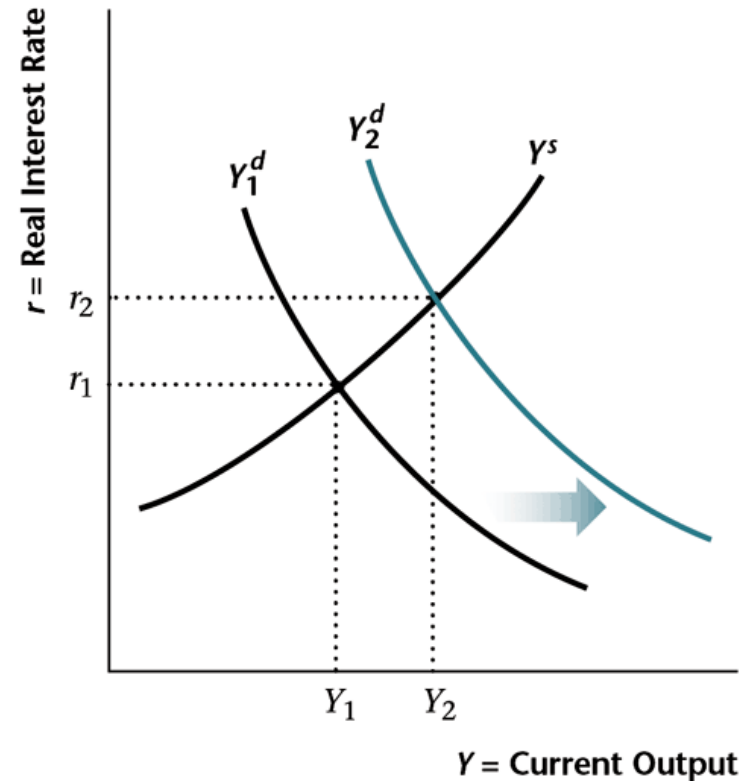


(b)

Figure 9.24 The Equilibrium Effects of an Increase in Future Total Factor Productivity



(a)



(b)

Figure 9.25 Percentage Deviations From Trend in GDP and Investment, 1990–2003

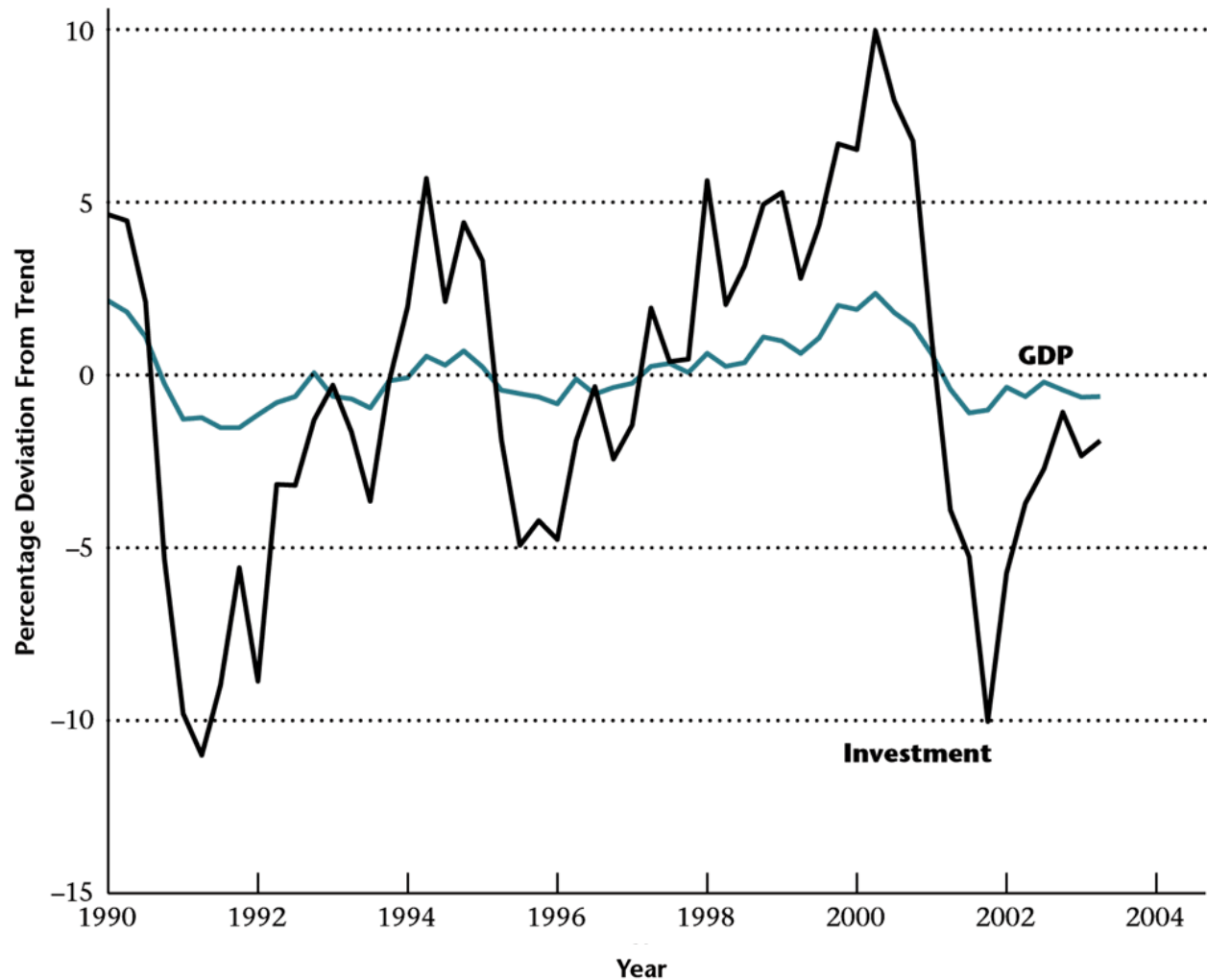


Figure 9.26 Investment as a Percentage of GDP, 1990--2003



Figure 9.27 Standard and Poor's 500 Stock Price Index, 1990--2003

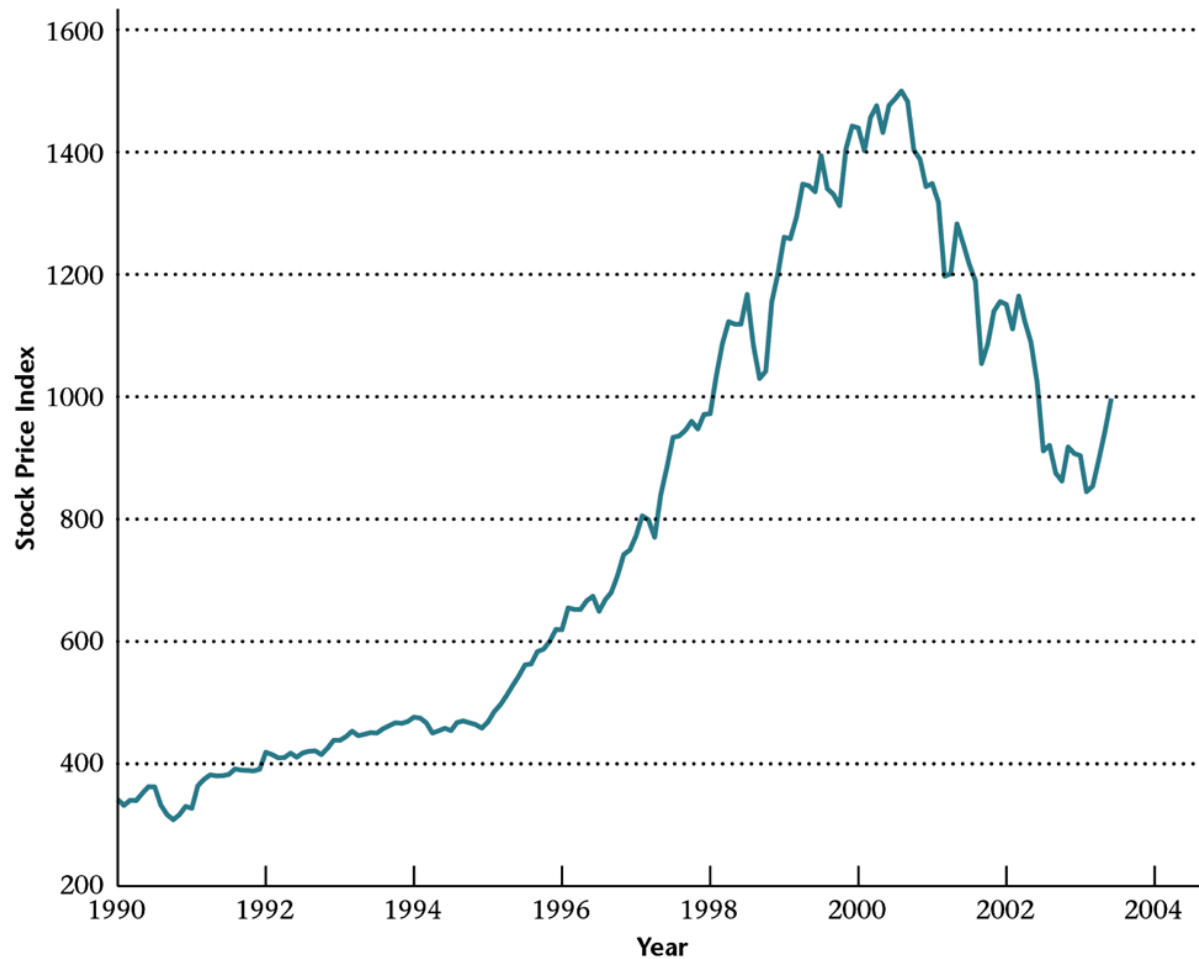
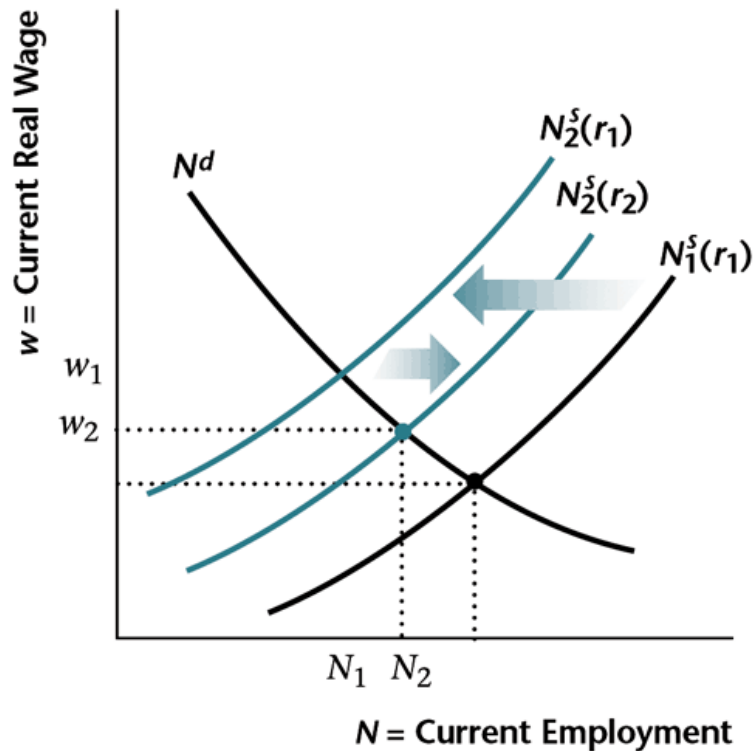
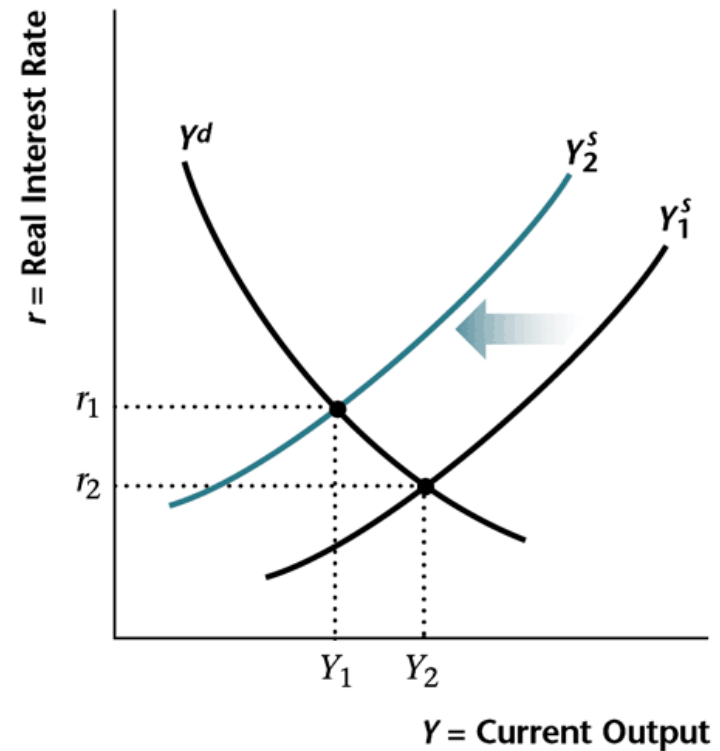


Figure 9.28 The Effects of a Sectoral Shock



(a)



(b)

Figure 9.29 Percentage Deviations From Trend in GDP and Employment, 1990–2003

