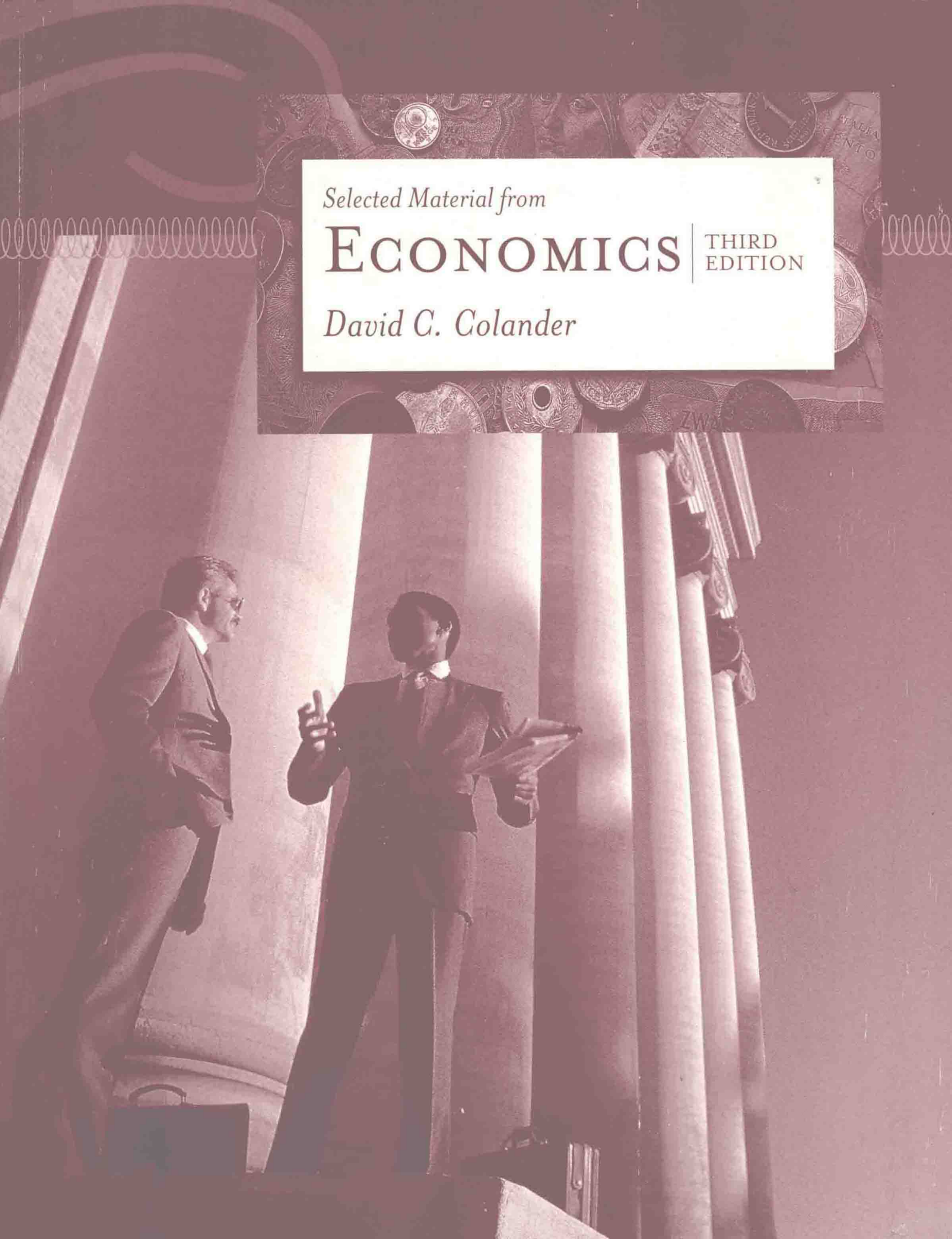

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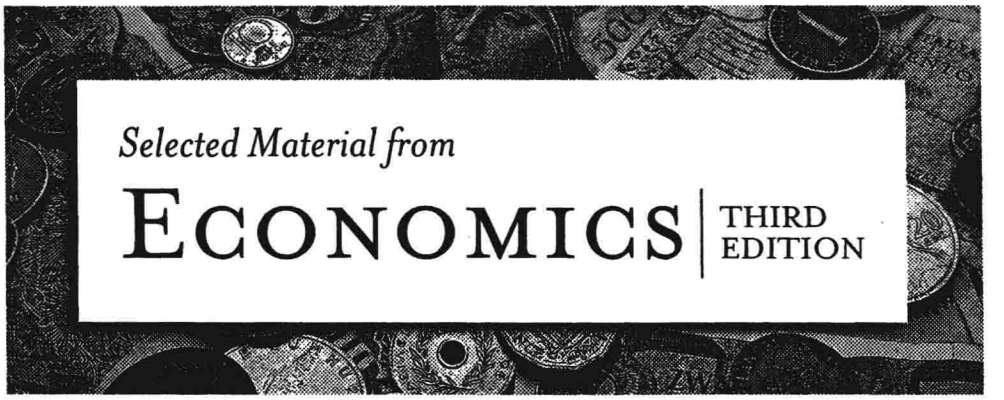

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Economic Report of the President
National Income or Expenditure
Gross Domestic Product, 1959–96
(Billions of dollars, except as noted; quarterly data at seasonally adjusted annual rates)

Year or Quarter	Gross Domestic Product	Personal Consumption Expenditures				Gross Private Domestic Investment						
							Fixed Investment					
								Nonresidential				
		Total	Durable Goods	Nondurable Goods	Services	Total	Total	Total	Structures	Producers' Durable Equipment	Residential	Change in Business Inventories
1959	507.2	318.1	42.7	148.5	127.0	78.8	74.6	46.5	18.1	28.3	28.1	4.2
1960	526.6	332.2	43.3	152.9	136.0	78.8	75.5	49.2	19.6	29.7	26.3	3.2
1961	544.8	342.6	41.8	156.6	144.3	77.9	75.0	48.6	19.7	28.9	26.4	2.9
1962	585.2	363.4	46.9	162.8	153.7	87.9	81.8	52.8	20.8	32.1	29.0	6.1
1963	617.4	383.0	51.6	168.2	163.2	93.4	87.7	55.6	21.2	34.4	32.1	5.7
1964	663.0	411.4	56.7	178.7	176.1	101.7	96.7	62.4	23.7	38.7	34.3	5.0
1965	719.1	444.3	63.3	191.6	189.4	118.0	108.3	74.1	28.3	45.8	34.2	9.7
1966	787.8	481.9	68.3	208.8	204.8	130.4	116.7	84.4	31.3	53.0	32.3	13.8
1967	833.6	509.5	70.4	217.1	222.0	128.0	117.6	85.2	31.5	53.7	32.4	10.5
1968	910.6	559.8	80.8	235.7	243.4	139.9	130.8	92.1	33.6	58.5	38.7	9.1
1969	982.2	604.7	85.9	253.2	265.5	155.0	145.5	102.9	37.7	65.2	42.6	9.5
1970	1,035.6	648.1	85.0	272.0	291.1	150.2	148.1	106.7	40.3	66.4	41.4	2.2
1971	1,125.4	702.5	96.9	285.5	320.1	176.0	167.5	111.7	42.7	69.1	55.8	8.5
1972	1,237.3	770.7	110.4	308.0	352.3	205.6	195.7	126.1	47.2	78.9	69.7	9.9
1973	1,382.6	851.6	123.5	343.1	384.9	242.9	225.4	150.0	55.0	95.1	75.3	17.5
1974	1,496.9	931.2	122.3	384.5	424.4	245.6	231.5	165.6	61.2	104.3	66.0	14.1
1975	1,630.6	1,029.1	133.5	420.6	475.0	225.4	231.7	169.0	61.4	107.6	62.7	−6.3
1976	1,819.0	1,148.8	158.9	458.2	531.8	286.6	269.6	187.2	65.9	121.2	82.5	16.9
1977	2,026.9	1,277.1	181.1	496.9	599.0	356.6	333.5	232.2	74.6	148.7	110.3	23.1
1978	2,291.4	1,428.8	201.4	549.9	677.4	430.8	403.6	272.0	91.4	180.6	131.6	27.2
1979	2,557.5	1,593.5	213.9	624.0	755.6	480.9	464.0	323.0	114.9	208.1	141.0	16.9
1980	2,784.2	1,760.4	213.5	695.5	851.4	465.9	473.5	350.3	113.9	216.4	123.2	−7.6
1981	3,115.9	1,941.3	230.5	758.2	952.6	556.2	528.1	405.4	164.6	240.9	122.6	28.2
1982	3,242.1	2,076.8	239.3	768.8	1,050.7	501.1	515.6	409.9	175.0	234.9	105.7	−14.5
1983	3,514.5	2,283.4	279.8	830.3	1,173.3	547.1	552.0	399.4	152.7	246.7	152.5	−4.9
1984	3,902.4	2,492.3	325.1	883.6	1,283.6	715.6	648.1	468.3	176.0	292.3	179.8	67.5
1985	4,180.7	2,704.8	361.1	927.6	1,416.1	715.1	688.9	502.0	193.3	308.7	186.9	26.2
1986	4,422.2	2,892.7	398.7	957.2	1,536.8	722.5	712.9	494.8	175.8	319.0	218.1	9.6
1987	4,692.3	3,094.5	416.7	1,014.0	1,663.8	747.2	722.9	495.4	172.1	323.3	227.6	24.2
1988	5,049.6	3,349.7	451.0	1,081.1	1,817.6	773.9	763.1	530.6	181.3	349.3	232.5	10.9
1989	5,438.7	3,594.8	472.8	1,163.8	1,958.1	829.2	797.5	566.2	192.3	373.9	231.3	31.7
1990	5,743.8	3,839.3	476.5	1,245.3	2,117.5	799.7	791.6	575.9	200.8	375.1	215.7	8.0
1991	5,916.7	3,957.1	455.2	1,277.6	2,242.3	736.2	738.5	547.3	181.7	356.6	191.2	−2.3
1992	6,244.4	4,219.8	488.5	1,321.8	2,409.4	790.4	783.4	557.9	169.2	388.7	225.6	7.0
1993	6,553.0	4,454.1	530.7	1,368.9	2,554.6	871.1	850.5	598.8	171.8	427.0	251.7	20.6
1994	6,935.7	4,700.9	580.9	1,429.7	2,690.3	1,014.4	954.9	667.2	180.2	487.0	278.7	59.5
1995	7,253.8	4.924.9	606.4	1,485.9	2,832.6	1,065.3	1,028.2	738.5	199.7	538.8	289.8	37.0
1996[3]	7,616.3	5,165.4	630.5	1,546.5	2,988.5	1,156.2	1,119.6	807.0	213.5	593.5	312.6	36.6

Contents

Gross Domestic Product, 1959–96—Continued

(Billions of dollars, except as noted; quarterly data at seasonally adjusted annual rates)

Net Exports of Goods and Services			Government Consumption Expenditures and Gross Investment					Final Sales of Domestic Product	Gross Domestic Purchases[1]	Addendum: Gross National Product[2]	Percent Change from Preceding Period	
				Federal			State and Local					
Net Exports	Exports	Imports	Total	Total	National Defense	Non-defense					Gross Domestic Product	Gross Domestic Purchases[1]
−1.7	20.6	22.3	112.0	67.2	55.7	11.5	44.8	503.0	508.9	510.1	—	—
2.4	25.3	22.8	113.2	65.6	54.9	10.8	47.6	523.3	524.1	529.8	3.8	3.0
3.4	26.0	22.7	120.9	69.1	57.7	11.4	51.8	541.9	541.5	548.4	3.5	3.3
2.4	27.4	25.0	131.4	76.5	62.3	14.2	55.0	579.1	582.8	589.4	7.4	7.6
3.3	29.4	26.1	137.7	78.1	62.2	15.9	59.6	611.7	614.1	621.9	5.5	5.4
5.5	33.6	28.1	144.4	79.4	61.3	18.1	65.0	658.0	657.6	668.0	7.4	7.1
3.9	35.4	31.5	153.0	81.8	62.0	19.7	71.2	709.4	715.3	724.5	8.5	8.8
1.9	38.9	37.1	173.6	94.1	73.4	20.7	79.5	774.0	785.9	793.0	9.5	9.9
1.4	41.4	39.9	194.6	106.6	85.5	21.0	88.1	823.1	832.2	839.1	5.8	5.9
−1.3	45.3	46.6	212.1	113.8	92.0	21.8	98.3	901.4	911.8	916.7	9.2	9.6
−1.2	49.3	50.5	223.8	115.8	92.4	23.4	108.0	972.7	983.4	988.4	7.9	7.8
1.2	57.0	55.8	236.1	115.9	90.6	25.3	120.2	1,033.4	1,034.4	1,042.0	5.4	5.2
−3.0	59.3	62.3	249.9	117.1	88.7	28.3	132.8	1,116.9	1,128.4	1,133.1	8.7	9.1
−8.0	66.2	74.2	268.9	125.1	93.2	31.9	143.8	1,227.4	1,245.3	1,246.0	9.9	10.4
.6	91.8	91.2	287.6	128.2	94.7	33.5	159.4	1,365.2	1,382.0	1,395.4	11.7	11.0
−3.1	124.3	127.5	323.2	139.9	101.9	38.0	183.3	1,482.8	1,500.0	1,512.6	8.3	8.5
13.6	136.3	122.7	362.6	154.5	110.9	43.6	208.1	1,636.9	1,617.1	1,643.9	8.9	7.8
−2.3	148.9	151.1	385.9	162.7	116.1	46.6	223.1	1,802.0	1,821.2	1,836.1	11.5	12.6
−23.7	158.8	182.4	416.9	178.4	125.8	52.6	238.5	2,003.8	2,050.5	2,047.5	11.4	12.6
−26.1	186.1	212.3	457.9	194.4	135.6	58.9	263.4	2,264.2	2,317.5	2,313.5	13.0	13.0
−24.0	228.7	252.7	507.1	215.0	151.2	63.8	292.0	2,540.6	2,581.5	2,590.4	11.6	11.4
−14.9	278.9	293.8	572.8	284.4	174.2	74.2	324.4	2,791.9	2,799.1	2,819.5	8.9	8.4
−15.0	302.8	317.8	633.4	284.1	202.0	82.2	349.2	3,087.8	3,130.9	3,150.6	11.9	11.9
−20.5	282.6	303.2	684.8	313.2	230.9	82.3	371.6	3,256.6	3,262.6	2,273.2	4.1	4.2
−51.7	277.0	328.6	735.7	344.5	255.0	89.4	391.2	3,519.4	3,566.2	3,546.5	8.4	9.3
−102.0	303.1	405.1	796.6	372.6	282.7	89.9	424.0	3,835.0	4,005.5	3,993.5	11.0	12.3
−114.2	303.0	417.2	875.0	410.1	312.4	97.7	464.9	4,514.5	4,294.9	4,201.0	7.1	7.3
−131.5	320.7	452.2	938.5	435.2	332.4	102.9	503.3	4,412.6	4,533.7	4,435.1	5.8	6.0
−142.1	365.7	507.9	992.8	455.7	350.4	105.3	537.2	4,668.1	4,834.5	4,701.3	6.1	6.2
−106.1	447.2	553.2	1,032.0	457.3	354.0	103.3	574.7	5,038.7	5,155.6	5,062.6	7.6	6.6
−80.4	509.3	589.7	1,095.1	477.2	360.6	116.7	617.9	5,407.0	5,519.1	5,452.8	7.7	7.0
−71.3	557.3	628.6	1,176.1	503.6	373.1	130.4	672.6	5,735.8	5,815.1	5,764.9	5.6	5.4
−20.5	601.8	622.3	1,225.9	522.6	383.5	139.1	703.4	5,919.0	5,937.2	5,932.4	3.0	2.1
−29.5	639.4	669.0	1,263.8	528.0	375.8	152.2	735.8	6,237.4	6,274.0	6,255.5	5.5	5.7
−62.7	657.8	720.5	1,290.4	522.6	362.7	159.9	767.8	6,532.4	6,615.7	6,563.5	4.9	5.4
−94.4	719.1	813.5	1,341.7	516.4	352.0	164.3	798.4	6,876.2	7,030.1	6,931.9	5.8	6.3
−94.7	807.4	902.0	1,358.3	516.6	345.5	171.0	841.7	7,216.7	7,348.4	7,246.7	4.6	4.5
−120.2	844.3	964.5	1,414.8	525.5	348.8	176.7	889.3	7,579.6	7,736.5	7,598.9	3.8	4.9

[1]Gross domestic product (GDP) less exports of goods and services plus imports of goods and services

[2]GDP plus net receipts of factor income from rest of the world.

[3]3rd quarter estimates

Source: Department of Commerce, Bureau of Economic Analysis

Hours and Earnings in Private Nonagricultural Industries, 1959–96[1]

[Monthly data seasonally adjusted, except as noted]

Year or Month	Average Weekly Hours			Average Hourly Earnings			Average Weekly Earnings, Total Private			
				Total Private			Level		Percent Change from Year Earlier[3]	
	Total Private	Manufacturing		Current Dollars	1982 Dollars[2]	Manufacturing (Current Dollars)	Current Dollars	1982 Dollars[2]	Current Dollars	1982 Dollars[2]
		Total	Overtime							
1959	39.0	40.3	2.7	$ 2.02	$6.69	$ 2.19	$ 78.78	$260.86	4.9	4.2
1960	38.6	39.7	2.5	2.09	6.79	2.26	80.67	261.92	2.4	.4
1965	38.8	41.2	3.6	2.46	7.52	2.61	95.45	291.90	4.5	2.9
1970	37.1	39.8	3.0	3.23	8.03	3.35	119.83	298.08	4.6	−.9
1975	36.1	39.5	2.6	4.53	8.12	4.83	163.53	293.06	5.7	−3.0
1980	35.3	39.7	2.8	6.66	7.78	7.27	235.10	274.65	6.9	−5.8
1985	34.9	40.5	3.3	8.57	7.77	9.54	299.09	271.16	2.1	−1.3
1990	34.5	40.8	3.6	10.01	7.52	10.83	345.35	259.47	3.3	−1.8
1991	34.3	40.7	3.6	10.32	7.45	11.18	353.98	255.40	2.5	−1.6
1992	34.4	41.0	3.8	10.57	7.41	11.46	363.61	254.99	2.7	−.2
1993	34.5	41.4	4.1	10.83	7.39	11.74	373.64	254.87	2.8	−.0
1994	34.7	42.0	4.7	11.12	7.40	12.07	385.86	256.73	3.3	.7
1995	34.5	41.6	4.4	11.44	7.40	12.37	394.68	255.29	2.3	−.6
1996[4]	34.4	41.6	4.5	11.82	7.43	12.78	406.61	255.73	3.0	.2

[1]For production or nonsupervisory workers; total includes private industry groups shown in Table B–44.

[2]Current dollars divided by the consumer price index for urban wage earners and clerical workers on a 1982 = 100 base.

[3]Percent changes ae based on data that are not seasonally adjusted.

[4]Early figures—subject to revision.

Business Formation and Business Failures, 1955–96

Year or Month	Index of Net Business Formation (1967 = 100)	New Business Incorporations (Number)	Business Failures[1]					
			Business Failure Rate[2]	Number of Failures			Amount of Current Liabilities (Millions of Dollars)		
				Total	Liability Size Class		Total	Liability Size Class	
					Under $100,000	$100,000 and Over		Under $100,000	$100,000 and Over
1955	96.6	139,915	41.6	10,969	10,113	856	449.4	206.4	243.0
1960	94.5	182.713	57.0	15,445	13,650	1,795	938.6	327.2	611.4
1965	99.8	203,897	53.3	13,514	11,340	2,174	1,321.7	321.7	1,000.0
1970	108.8	264,209	43.8	10,748	8,019	2,729	1,887.8	269.3	1,618.4
1975	109.9	326,345	42.6	11,432	7,504	3,928	4,380.2	298.6	4,081.6
1980	129.9	533,520	42.1	11,742	5,682	6,060	4,635.1	272.5	4,362.6
1985	120.9	664,235	115.0	57,253	36,551	20,702	36,937.4	423.9	36,513.5
1990	120.7	647,366	74.0	60,747	40,833	19,914	56,130.1	735.6	55,394.5
1991	115.2	628,604	107.0	88,140	60,617	27,523	96,825.3	1,044.9	95,780.4
1992	116.3	666,800	110.0	97,069	68,264	28,805	94,317.5	1,096.7	93,220.8
1993	121.1	706,537	109.0	86,133	61,188	24,945	47,755.5	947.6	46,807.9
1994	125.5	741,249	86.0	71,558	50,814	20,744	28,977.9	845.0	28,132.9
1995	(3)	767,996	90.0	71,128	49,495	21,633	37,283.6	866.1	36,417.4
1996	(3)	—	—	71,811	49,547	22,264	34,021.1	913.1	33,108.0

[1]Commercial and industrial failures only through 1983, excluding failures of banks, railroads, real estate, insurance, holding, and financial companies, steamship lines, travel agencies, etc.

Data beginning 1984 are based on expanded coverage and new methodology and are therefore not generally comparable with earlier data.

Data for 1996 are subject to revision due to amended court filings.

[2]Failure rate per 10,000 listed enterprises.

[3]Series discontinued in 1995.

Sources: Department of Commerce (Bureau of Economic Analysis) and The Dun & Bradstreet Corporation.

Gross Domestic Product by Industry, 1947–94
(billions of dollars)

Year	Gross Domestic Product	Private Industries												Government
		Agriculture, Forestry, and Fishing	Mining	Construction	Manufacturing			Transportation and Public Utilities	Wholesale Trade	Retail Trade	Finance, Insurance, and Real Estate	Services	Statistical Discrepancy[1]	
					Total	Durable Goods	Nondurable Goods							
Based on 1972 SIC														
1947	243.3	20.8	6.8	9.1	66.2	33.5	32.7	21.0	16.6	27.5	24.0	20.2	20.2	1.8
1948	260.3	24.0	9.4	11.5	74.7	38.2	36.6	32.7	18.3	30.1	27.2	21.9	20.9	−1.2
1949	259.3	19.4	8.1	11.5	72.3	37.2	35.1	23.9	17.6	30.3	29.4	22.6	23.1	1.0
1950	287.0	20.7	9.3	13.2	84.1	45.9	38.2	26.6	19.8	31.7	32.3	24.2	24.2	1.0
1951	331.6	23.8	10.2	15.6	99.1	55.6	43.5	30.1	22.5	34.3	35.8	26.4	30.9	2.9
1952	349.7	23.2	10.2	16.9	103.4	59.0	44.3	32.1	22.7	36.3	39.4	28.2	35.6	1.8
1953	370.0	21.1	10.8	17.5	112.4	66.1	46.4	34.1	23.2	37.2	43.7	30.2	36.8	2.8
1954	370.9	20.7	11.0	17.7	106.8	61.0	45.8	33.7	23.5	38.1	47.5	31.6	37.9	2.4
1955	404.3	19.8	12.5	19.0	121.4	70.8	50.5	36.7	26.6	40.5	51.4	35.2	40.0	1.2
1956	426.2	19.7	13.6	21.2	127.4	74.0	53.5	39.5	29.0	42.4	55.0	38.7	42.5	−2.8
1957	448.6	19.6	13.7	22.1	132.0	78.0	54.0	41.5	30.5	44.6	59.2	41.8	45.4	−1.9
1958	454.7	21.9	12.7	21.8	124.6	70.1	54.5	41.7	31.1	45.3	63.9	44.1	48.9	−1.1
1959	507.2	20.3	12.5	23.7	140.3	81.7	58.6	45.0	36.1	49.1	69.0	48.4	−2.1	64.8
1960	526.6	21.3	12.9	24.2	142.5	82.6	59.9	47.3	37.7	50.4	73.6	51.6	−3.7	68.9
1961	544.8	21.7	13.0	25.2	142.9	81.7	61.3	48.8	38.8	51.7	78.1	55.0	−3.3	73.0
1962	585.2	22.1	13.2	27.0	156.7	92.1	64.6	51.9	41.4	55.4	82.6	59.3	−2.4	78.2
1963	617.4	22.3	13.5	28.8	166.1	98.3	67.8	54.8	43.1	57.9	87.1	63.4	−3.5	83.9
1964	663.0	21.4	13.9	31.5	177.9	105.9	72.0	58.3	46.4	63.5	93.0	69.1	−2.1	90.1
1965	719.1	24.2	14.0	34.6	196.3	118.8	77.5	62.4	50.0	68.0	100.0	74.7	−1.4	96.3
1966	787.8	25.4	14.7	37.7	215.3	131.1	84.3	67.3	54.4	72.7	108.1	82.7	2.7	106.9
1967	833.6	24.9	15.2	39.5	220.8	134.1	86.7	70.5	57.8	78.2	117.4	90.8	.6	117.9
1968	910.6	25.7	16.3	43.3	241.1	146.3	94.8	76.4	63.4	86.6	127.0	99.4	.2	131.2
1969	982.2	28.5	17.1	48.4	254.4	154.4	100.0	82.7	68.5	94.2	136.6	110.8	−2.2	143.3
1970	1,035.6	29.8	18.7	51.1	249.6	146.2	103.4	88.3	72.2	100.2	146.6	120.5	1.0	157.6
1971	1,125.4	32.1	18.9	56.1	263.0	154.2	108.9	97.4	78.0	109.2	163.4	130.4	5.1	171.7
1972	1,237.3	37.0	19.7	62.5	290.4	172.6	117.8	108.6	87.4	118.8	176.9	144.9	3.2	187.8
1973	1,382.6	54.4	23.8	69.7	323.4	195.7	127.7	119.4	98.2	130.9	193.5	163.1	2.4	203.8
1974	1,496.9	53.2	37.1	73.6	337.3	202.2	135.1	130.1	111.1	136.7	209.3	179.3	4.5	224.8
1975	1,630.6	54.5	42.8	75.1	354.7	207.0	147.7	142.6	121.5	152.8	227.1	199.1	11.2	249.3
1976	1,819.0	53.6	47.6	84.9	405.3	239.9	165.4	161.6	129.2	172.2	250.4	223.9	18.9	271.2
1977	2,026.9	54.3	54.1	93.8	462.4	277.6	184.7	179.5	142.3	190.2	283.7	255.5	17.5	293.5
1978	2,291.4	63.2	61.5	110.6	516.9	316.9	200.0	202.5	161.0	215.6	328.1	294.6	17.6	319.8
1979	2,557.5	74.5	71.2	124.7	571.3	343.5	227.8	219.2	182.4	234.2	370.6	333.2	27.8	348.2
1980	2,784.2	66.7	112.7	128.6	584.4	348.7	235.7	242.3	195.3	245.9	418.2	377.3	27.4	385.5
1981	3,115.9	81.1	151.7	129.6	652.0	388.1	263.9	276.3	216.4	270.4	470.9	462.2	14.6	426.5
1982	3,242.1	77.1	149.5	129.8	649.8	377.4	272.3	293.2	219.6	288.1	504.2	471.8	−2.9	461.9
1983	3,514.5	62.6	127.5	138.9	690.1	397.3	292.7	328.3	229.2	321.9	565.6	521.5	36.5	492.4
1984	3,902.4	83.6	134.2	165.0	780.5	469.5	311.0	358.0	264.4	362.2	626.1	590.4	4.2	533.8
1985	4,180.7	84.5	132.8	185.5	802.9	477.1	325.9	376.8	280.8	395.0	691.3	651.1	1.3	578.6
1986	4,422.2	82.1	86.3	207.3	833.1	487.0	346.1	394.0	293.6	415.2	761.3	712.2	22.1	615.0
1987	4,692.3	88.6	88.3	217.0	889.0	514.4	374.6	420.7	300.3	436.5	830.3	785.1	−16.6	653.2
Based on 1987 SIC														
1987	4,692.3	88.6	88.3	217.0	889.0	513.3	375.7	420.7	301.0	435.8	830.7	784.6	−16.6	653.2
1988	5,049.6	88.9	99.9	233.4	971.3	556.6	414.7	443.6	336.5	459.3	892.4	877.8	−48.6	694.9
1989	5,438.7	101.9	96.3	242.2	1,013.4	574.9	438.5	461.1	356.4	490.2	960.6	965.5	11.6	739.2
1990	5,743.8	108.7	112.3	245.2	1,031.4	572.8	458.5	482.3	367.3	503.5	1,025.2	1,059.4	16.1	792.5
1991	5,916.7	102.9	101.1	228.8	1,028.1	558.3	469.8	511.8	388.2	517.4	1,082.7	1,107.6	8.8	839.5
1992	6,244.4	112.4	92.2	229.7	1,063.6	573.4	490.2	528.8	406.5	544.3	1,148.8	1,200.8	43.7	873.6
1993	6,550.2	105.3	89.0	243.6	1,116.5	612.3	504.3	566.2	423.1	571.1	1,214.0	1,266.1	55.1	900.2
1994	6,931.4	117.8	90.1	269.2	1,197.1	673.1	524.0	606.4	461.9	609.9	1,273.7	1,342.7	31.3	931.3

[1]Equals gross domestic product (GDP) measured as the sum of expenditures less gross domestic income.

Note.—Data in this table after 1959 incorporate the results of the comprehensive revision to the national income and product accounts (NIPA) released in January 1996. See *Survey of Current Business*, August 1996 for details. Data do *not* reflect the limited annual NIPA revisions released in August 1996.

Source: Department of Commerce, Bureau of Economic Analysis.

CHAPTER

One

Economics and Economic Reasoning

In my vacations, I visited the poorest quarters of several cities and walked through one street after another, looking at the faces of the poorest people. Next I resolved to make as thorough a study as I could of Political Economy.

~ Alfred Marshall

After reading this chapter, you should be able to:

1. List three coordination problems that any economic system must solve and explain how they relate to scarcity.
2. State five important things to learn in economics.
3. Explain how to make decisions by comparing marginal costs and marginal benefits.
4. Define opportunity cost and explain its relationship to economic reasoning.
5. Explain real-world events in terms of three "invisible forces."
6. Differentiate between microeconomics and macroeconomics.
7. Distinguish among positive economics, normative economics, and the art of economics.

When an artist looks at the world, he sees color. When a musician looks at the world, she hears music. When an economist looks at the world, she sees a symphony of costs and benefits. The economist's world might not be as colorful or as melodic as the others' worlds, but it's more practical. If you want to understand what's going on in the world that's really out there, you need to know economics.

I hardly have to convince you of this fact if you keep up with the news. Unemployment is up; inflation is down; interest rates are up; businesses are going bankrupt. . . . The list is endless. So let's say you grant me that economics is important. That still doesn't mean that it's worth studying. The real question then is: How much will you learn? Most of what you learn depends on you, but part depends on the teacher and another part depends on the textbook. On both these counts, you're in luck; since your teacher chose this book for your course, you must have a super teacher.[1]

[1]This book is written by a person, not a machine. That means that I have my quirks, my odd sense of humor, and my biases. All textbook writers do. Most textbooks have the quirks and eccentricities edited out so that all the books read and sound alike—professional but dull. I choose to sound like me—sometimes professional, sometimes playful, and sometimes stubborn. In my view, that makes the book more human and less dull. So forgive me my quirks—don't always take me too seriously—and I'll try to keep you awake when you're reading this book at 3 A.M. the morning of the exam. If you think it's a killer to read a book this long, you ought to try writing one.

THE ECONOMY AND ECONOMICS

Economics *The study of how human beings coordinate their wants.*

Let's begin with some definitions. An **economy** is the *institutional structure through which individuals in a society coordinate their diverse wants and desires.* An **economic system** is *the system by which the economy is organized.* For example, if an economy is organized through markets, it is a market economic system. **Economics** is *the study of economies.* That is, economics is the study of how human beings coordinate their wants and desires, given the institutional structures of the society. By "institutional structures" I mean decision-making mechanisms, social customs, and political realities of that society.

One of the key words in the above explanation of the term "economics" is *coordination.* Coordination can mean many things. In the study of economics, coordination refers to how the three central problems facing any economy are solved. These central problems are:

1 Three central coordination problems any economic system must solve are what to produce, how to produce it, and for whom to produce it.

1. What, and how much, to produce.
2. How to produce it.
3. For whom to produce it.

In answering these questions, economies generally find that individuals want more than is available, given how much they're willing to work. That means that in our economy there is a perceived problem of **scarcity**—*the goods available are too few to satisfy individuals' desires.* This is a *perceived* problem because if individuals could be encouraged to work more and want less, that scarcity problem could be reduced and perhaps even eliminated. No known society, however, has ever managed to eliminate perceived scarcity.

Wants are changeable and partially society-determined.

Scarcity is so prevalent in economies that many economists begin with scarcity when defining economics. They define *economics* as the study of the allocation of scarce resources to satisfy individuals' wants or desires. There are two reasons I don't use that definition. The first reason is that wants are changeable and partially society-determined. The scarcity definition of economics makes it sound to some as if wants are unchangeable. But they change all the time, and the way we fulfill wants can affect those wants. For example, if you work on Wall Street you will probably want upscale and trendy clothes. Up here in Vermont, I wear Levis and flannel, but if I worked on Wall Street I'm sure I'd want those ritzy clothes too (although for the life of me I cannot understand anyone wanting to wear anything but Levis and flannel).

The quantity of goods, services, and usable resources depends upon technology and human action.

The second reason I avoid the allocation of scarce resources definition is that I want to emphasize that the quantity of goods, services, and usable resources depends on technology and human action which underlie production; production is an important element of economics. Individuals' imagination, innovativeness, and willingness to do what needs to be done can greatly increase available goods and resources. Who knows what technologies are in our future—Nannites or micro machines that change atoms into whatever we want could conceivably eliminate scarcity of goods as we know it. But would that eliminate economics? No; the economy would still face a coordination problem—society would have to allocate the jobs and activities to individuals. Thus, in my view, the definition of economics centering on coordination includes the scarcity definition since it does not deny the existence of perceived scarcity. It does not, however, make a judgment about whether that perception is correct or not, and hence the coordination definition is more general.

In all known economies, coordination has involved coercion—limiting people's wants and increasing the amount of work individuals are willing to do to fulfill those wants. The reality of our society is that many people would rather play than help solve society's problems. So the basic economic problem involves inspiring people to do things that other people want them to do, and not to do things that other people don't want them to do. Thus, an alternative definition of economics is that it is the study of how to get people to do things they're not wild about doing (such as studying)

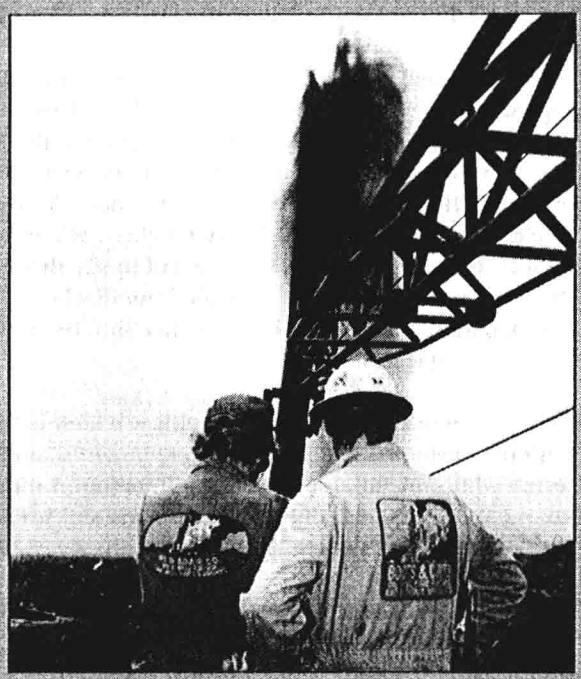
RESOURCES, INPUTS, TECHNOLOGY, AND OUTPUT

ADDED DIMENSION

One of the important jobs of an economy is production. Production involves transforming *inputs* into *outputs*. For example, seeds, soil, and labor (inputs) combine to produce wheat (output). Many introductory economics texts call inputs *resources* and divide those inputs into three resources: land, labor, and capital. Economists in the 1800s, often called *Classical economists*, discussed production as a means of transforming land, labor, and capital into outputs. Classical economists divided all inputs into those three categories because they were interested in answering the question: How is income divided among landowners, workers, and capitalists? The three divisions helped them focus on that question: landowners' income was rent, workers' income was wages, and capitalists' income was profit.

Modern advanced analysis of production doesn't follow this threefold division. Instead, the modern analysis is more abstract and tells how inputs in general are transformed into outputs in general. Modern economic theory has moved away from the traditional division because the division of income among these three groups isn't central to the questions economists are now asking.

But that leaves open the problem: What division of resources makes the most sense? The answer depends on what question you're asking. In the most abstract categorization, the ultimate resources are space (represented by land), time (represented by labor), and matter (represented by capital). Thus, in one way of looking at it, the traditional distinction is still relevant. But in another way, it isn't. It directs our focus of analysis away from some important inputs. For example, one of the inputs that economists now focus on is *entrepreneurship*, the ability to organize and get something done. Entrepreneurship is an important input that's distinct from labor. Most listings of general resources today include entrepreneurship.



In the 1990s oil has remained an important natural resource.
Bettman Newsphotos

Here's another important point about resources. The term *resource* is often used with the qualifier *natural*, as in the phrases *natural resources*. Coal, oil, and iron are all called *natural resources*. Be careful about that qualifier *natural*. Whether something is or isn't a natural resource depends on the available technology. And technology is unnatural. For example, at one time a certain black gooey stuff was not a resource—it was something that made land unusable. When people learned that the black gooey stuff could be burned as a fuel, oil became a resource. What's considered a resource depends on technology. If solar technology is ever perfected, oil will go back to being black gooey stuff.

and not to do things they are wild about doing (such as eating all the lobster they like), so that the things some people want to do are consistent with the things other people want to do.

Five important dimensions of economic learning are:

1. *Economic reasoning.*
2. *Economic terminology.*
3. *Economic insights* economists have about issues, and theories that lead to those insights.
4. Information about *economic institutions.*
5. Information about the *economic policy options* facing society today.

By no coincidence this book discusses economic reasoning, economic terminology, economic insights, economic institutions, and economic policy options.

Let's consider each in turn.

WHAT ECONOMICS IS ABOUT

2 Five important dimensions of economic learning are:

1. Economic reasoning.
2. Economic terminology.
3. Economic insights.
4. Economic institutions.
5. Economic policy options.

Economic Reasoning

Economic reasoning *Making decisions on the basis of costs and benefits.*

The most important dimension of economics that you'll learn is **economic reasoning**—*how to think like an economist, making decisions on the basis of costs and benefits.* People trained in economics think in a certain way. They analyze everything critically; they compare the costs and the benefits of every issue and make decisions based on those costs and benefits. For example, say you're trying to decide whether protecting baby seals is a good policy or not. Economists are trained to put their emotions aside and ask: What are the costs of protecting baby seals, and what are the benefits? Thus, they are open to the argument that the benefits of allowing baby seals to be killed might exceed the costs. To think like an economist is to address almost all issues using a cost/benefit approach.

Economic reasoning, once learned, is infectious. If you're susceptible, being exposed to it will change your life. It will influence your analysis of everything, including issues normally considered outside the scope of economics. For example, you will likely use economic reasoning to decide the possibility of getting a date for Saturday night, and who will pay for dinner. You will likely use it to decide whether to read this book, whether to attend class, whom to marry, and what kind of work to go into after you graduate. This is not to say that economic reasoning will provide all the answers. As you will see throughout this book, real-world questions are inevitably complicated, and economic reasoning simply provides a framework within which to approach a question.

Economic Terminology

Second, there's economic terminology, which is tossed around by the general public with increasing frequency. *GDP, corporations,* and *money supply* are just a few of the terms whose meaning any educated person in modern society needs to know. If you go to a party and don't know these terms and want to seem intelligent, you'll have to nod knowingly. It's much better to actually *know* when you nod knowingly.

Economic Insights

Economic theory *Generalizations about the workings of an abstract economy.*

Third, you'll learn about some general insights economists have gained into how the economy functions—how an economy seems to proceed or progress without any overall plan or coordinating agency. It's almost as if an invisible hand were directing economic traffic. These insights are often based on **economic theory**—*generalizations about the workings of an abstract economy.* Theory ties together economists' terminology and knowledge about economic institutions and leads to economic insights.

We're so used to an economy that's functioning smoothly that we may not realize how amazing it is that the economy coordinates the diverse wants of 266 million people so well. Imagine for a moment that you're a visitor from Mars. You see the U.S. economy functioning relatively well. Stores are filled with goods. Most people have jobs. So you ask, "Who's in charge of organizing and coordinating the economic activities of the 266 million people in the United States?" The answer you get is mind boggling: "No one. The invisible hand of the market does it all." Economic theory helps explain such mind-boggling phenomena.

Economic Institutions

Economic institutions *Physical or mental structures that significantly influence economic decisions.*

Fourth, you'll learn about economic institutions: how they work, and why they sometimes don't work. An **economic institution** is *a physical or mental structure that significantly influences economic decisions.* Corporations, governments, and cultural norms are all economic institutions. Many economic institutions have social, political, and religious dimensions. For example, your job often influences your social standing. In addition, many social institutions, such as the family, have economic functions. If any institution significantly affects economic decisions, I include it as an economic institution because you must understand that institution if you are to understand how the economy functions.

Differences in economic institutions can help explain differences in economies among countries.

Economic institutions differ significantly among countries. For example, in Germany banks are allowed to own companies; in the United States they cannot. This contributes to a difference in the flow of resources into investment in Germany as compared to the flow in the United States. Or alternatively, in Japan, antitrust laws

FIVE IMPORTANT DIMENSIONS OF ECONOMICS

A REMINDER

To understand the economy, you need to learn:

1. *Economic reasoning.*
2. *Economic terminology.*
3. *Economic insights* economists have gained in thinking about economics.
4. Information about *economic institutions.*
5. Information about *economic policy options* facing society today.

(laws under which companies can combine or coordinate their activities) are loose; in the United States they are more restrictive. This causes differences in the nature of competition in the two countries.

Besides helping you understand the economy, knowledge of economic institutions also directly benefits you. How do firms decide whom to hire? How do banks operate? How does unemployment insurance work? What determines how much a Japanese car will cost you? How much does the government require your boss to deduct from your paycheck? Knowing the answers to these real-world questions will make your life easier.

Economic Policy Options

Fifth, you'll learn about economic policy options facing our country. An **economic policy** is *an action (or inaction) taken, usually by government, to influence economic events.* Examples of economic policy questions are: How should the government deal with the next recession? (Alas, we can be sure that there will be a next recession.) What should the government do about the budget deficit? Will lowering interest rates stimulate the economy? Should government allow two large companies to merge? You won't get specific answers to these questions; instead, you'll simply learn what some of the policy options are, and what advantages and disadvantages each option offers.

Economic policy *Action to influence the course of economic events.*

A GUIDE TO ECONOMIC REASONING

Let's now look at each of these five dimensions more carefully. We'll start with economic reasoning. In the economic way of thinking, every choice has costs and benefits, and decisions are made by comparing the two. The **economic decision rule** is simple:

If the relevant benefits of doing something exceed the relevant costs, do it.
If the relevant costs of doing something exceed the relevant benefits, don't do it.

3 If the relevant benefits of doing something exceed the relevant costs, do it. If the relevant costs of doing something exceed the relevant benefits, don't do it.

Marginal Costs and Marginal Benefits

While the economic decision rule is simple, applying it is not. What are the relevant costs and relevant benefits? It is the expected *incremental* or additional costs incurred and the expected *incremental* benefits of a decision that matter. Economists use the term *marginal* when referring to additional or incremental. Marginal costs and marginal benefits are key concepts.

A **marginal cost** is *the additional cost to you over and above the costs you have already incurred.* That means eliminating **sunk costs**—*costs that have already been incurred and cannot be recovered*—from the relevant costs when making a decision. Consider, for example, attending class. You've already paid your tuition; it is a sunk cost. So the marginal (or additional) cost of going to class does not include tuition.

Marginal costs *Additional costs above what you've already incurred.*

Similarly with marginal benefit. A **marginal benefit** is *the additional benefit above what you've already derived.* The marginal benefit of reading this chapter is the *additional* knowledge you get from reading it. If you already knew everything in this chapter before you picked up the book, the marginal benefit of reading it now is zero. The marginal benefit is not zero if by reading the chapter you learn that you are prepared for class; before, you might only have suspected you were prepared.

Marginal benefits *Additional benefits above what you've already derived.*

ADDED DIMENSION ECONOMIC KNOWLEDGE IN ONE SENTENCE: TANSTAAFL

Once upon a time, Tanstaafl was made king of all the lands. His first act was to call his economic advisers and tell them to write up all the economic knowledge the society possessed. After years of work, they presented their monumental effort: 25 volumes, each about 400 pages long. But in the interim, King Tanstaafl had become a very busy man, what with running a kingdom of all the lands and everything. Looking at the lengthy volumes, he told his advisers to summarize their findings in one volume.

Despondently, the economists returned to their desks, wondering how they could summarize what they'd been so careful to spell out. After many more years of rewriting, they were finally satisfied with their one-volume effort, and tried to make an appointment to see the king. Unfortunately, affairs of state had become even more pressing than before, and the king couldn't take the time to see them. Instead he sent word to them that he couldn't be bothered with a whole volume, and ordered them, under threat of death (for he had become a tyrant), to reduce the work to one sentence.

The economists returned to their desks, shivering in their sandals and pondering their impossible task. Thinking about their fate if they were not successful, they decided to send out for one last meal. Unfortunately, when they were collecting money to pay for the meal, they discovered they were broke. The disgusted delivery man took the last meal back to the cook, and the economists started down the path to the beheading station. On the way, the delivery man's parting words echoed in their ears. They looked at each other and suddenly they realized the truth. "We're saved!" they screamed. "That's it! That's economic knowledge in one sentence!" They wrote the sentence down and presented it to the king, who thereafter fully understood all economic problems. (He also gave them a good meal.) The sentence?

There Ain't No Such Thing As A Free Lunch—TANSTAAFL

Q–1: Say you bought stock A for $10 and stock B for $20. The price of each is currently $15. Assuming taxes are not an issue, which would you sell if you need $15?

Comparing marginal (additional) costs with marginal (additional) benefits will often tell you how you should adjust your activities to be as well off as possible. If the marginal benefit of engaging in an activity exceeds the marginal cost of doing so, you should do it. But if the marginal benefit is less than the marginal cost, you should do something else.

As an example, let's consider a discussion I might have with a student who tells me that she is too busy to attend my classes. I respond, "Think about the tuition you've spent for this class—it works out to about $30 a lecture." She answers that the book she reads for class is a book that I wrote, and that I wrote it so clearly she fully understands everything. She goes on:

> I've already paid the tuition and whether I go to class or not, I can't get any of the tuition back, so the tuition is a sunk cost and doesn't enter into my decision. The marginal cost to me is what I could be doing with the hour instead of spending it in class. I value my time at $75 an hour [people who understand everything value their time highly], and even though I've heard that your lectures are super, I estimate that the marginal benefit of your class is only $50. The marginal cost, $75, exceeds the marginal benefit, $50, so I don't attend class.

I would congratulate her on her diplomacy and her economic reasoning, but tell her that I give a quiz every week, that students who miss a quiz fail the quiz, that those who fail all the quizzes fail the course, and that those who fail the course do not graduate. In short, she is underestimating the marginal benefits of attending my course. Correctly estimated, the marginal benefits of attending my class exceed the marginal costs. So she should attend my class.

Remember the economic decision rule: If relevant benefits exceed relevant costs, do it. If relevant costs exceed relevant benefits, don't do it.

There's much more to be said about economic reasoning, but that will come later. For now, all you need remember is that, in economic thinking, *all actions have a cost—and a benefit,* and decisions are made on the basis of the economic decision rule: *If relevant benefits exceed relevant costs, do it. If relevant costs exceed relevant benefits, don't do it.*

Economics and Passion

Recognizing that everything has a cost is reasonable, but it's a reasonableness that many people don't like. It takes some of the passion out of life. It leads you to consider possibilities like these:

- Saving some people's lives with liver transplants might not be worth the additional cost. The money might be better spent on nutritional programs that would save 20 lives for every 2 lives you might save with transplants.
- Maybe we shouldn't try to eliminate all pollution, because the additional cost of doing so may be too high. To eliminate all pollution might be to forgo too much of some other good activity.
- Buying a stock that went up 20 percent wasn't necessarily the greatest investment if in doing so you had to forgo some other investment that would have paid you a 30 percent return.
- It might make sense for the automobile industry to save $12 per car by not installing a safety device, even though without the safety device some people will be killed.

Economic reasoning is based on the premise that everything has a cost.

You get the idea. This kind of reasonableness is often criticized for being cold-blooded. But, not surprisingly, economists first reason *economically*; the social and moral implications of their conclusions are integrated later.

Q–2: Can you think of a reason why a cost/benefit approach to a problem might be inappropriate? Can you give an example?

Economists' reasonableness isn't universally appreciated. Businesses love the result; others aren't so sure, as I discovered some years back when my then-girlfriend told me she was leaving me. "Why?" I asked. "Because," she responded, "you're so, so . . . reasonable." It took me many years after she left to learn what she already knew: There are many types of reasonableness, and not everyone thinks an economist's reasonableness is a virtue. I'll discuss such issues later; for now, let me simply warn you that, for better or worse, studying economics will lead you to view questions in a cost/benefit framework.

Opportunity Cost

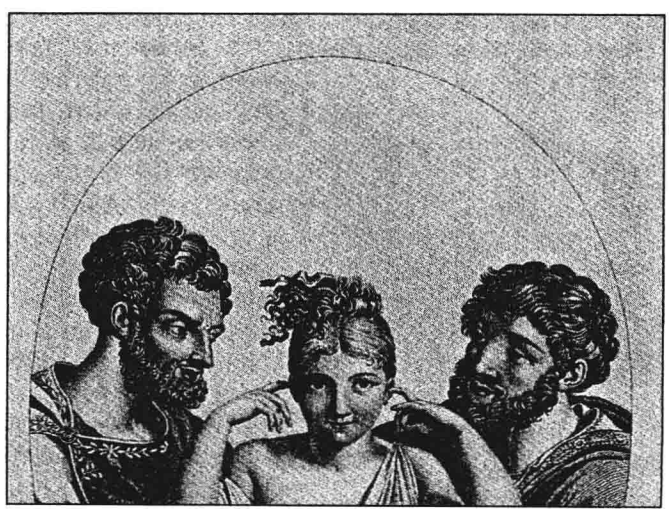
4 Opportunity cost is the basis of cost/benefit economic reasoning; it is the benefit forgone, or the cost, of the next-best alternative to the activity you've chosen. In economic reasoning, that cost is less than the benefit of what you've chosen.

Putting economists' cost/benefit rules into practice isn't easy. To do so, you have to be able to choose and measure the costs and benefits correctly. Economists have devised the concept of opportunity cost to help you do that. The **opportunity cost** of undertaking an activity is *the benefit forgone by undertaking that activity.* The benefit forgone is the benefit that you might have gained from choosing the next-best alternative. To obtain the benefit of something, you must give up (forgo) something else—namely, the next-best alternative. All activities that have a next-best alternative have an opportunity cost.

Let's consider some examples. The opportunity cost of going out once with Natalia (or Nathaniel), the most beautiful woman (attractive man) in the world, might well be losing your solid steady, Margo (Mike). The opportunity cost of cleaning up the environment might be a reduction in the money available to assist low-income individuals. The opportunity cost of having a child might be two boats, three cars, and a two-week vacation each year for five years.

Examples are endless, but let's consider two that are particularly relevant to you: your choice of courses and your decision about how much to study. Let's say you're a full-time student and at the beginning of the term you had to choose four or five courses to take. Taking one precluded taking some other, and the opportunity cost of taking an economics course may well have been not taking a course on theater. Similarly with studying: you have a limited amount of time to spend studying economics, studying some other subject, sleeping, or partying. The more time you spend on one activity, the less time you have for another. That's opportunity cost.

Notice how neatly the opportunity cost concept takes into account costs and benefits of all other options, and converts these alternative benefits into costs of the decision you're now making. This conversion helps you to compare marginal costs and marginal benefits and to select the activity with the largest difference between marginal benefits and marginal costs.



Opportunity costs have always made choice difficult, as we see in the early 19th-century engraving, "One or the Other." *Bleichroeder Print Collection, Baker Library, Harvard Business School.*

Q–3: John, your study partner, has just said that the opportunity cost of studying this chapter is about 1/40 the price you paid for this book, since the chapter is about 1/40 of the book. Is he right? Why or why not?

The relevance of opportunity cost isn't limited to your individual decisions. Opportunity costs are also relevant to government's decisions, which affect everyone in society. A common example is the guns-versus-butter debate. The resources that a society has are limited; therefore, its decision to use those resources to have more guns (more weapons) means that it must have less butter (fewer consumer goods). Thus, when society decides to spend $50 billion more on an improved health care system, the opportunity cost of that decision is $50 billion not spent on helping the homeless, paying off some of the national debt, or providing for national defense.

The opportunity cost concept has endless implications. It can even be turned upon itself. For instance, it takes time to think about alternatives; that means that there's a cost to being reasonable, so it's only reasonable to be somewhat unreasonable. If you followed that argument, you've caught the economic bug. If you didn't, don't worry. Just remember the opportunity cost concept for now; I'll infect you with economic thinking in the rest of the book.

Economics and the Invisible Forces

Economic forces are the necessary reactions to scarcity.

The opportunity cost concept applies to all aspects of life and is fundamental to understanding economic forces. **Economic forces** are *the necessary reactions to scarcity.* When goods are scarce, those goods must be rationed. **Rationing** is *a structural mechanism for determining who gets what.* The society must determine what that rationing mechanism will be; society must deal with the scarcity, thinking about and deciding how to allocate the scarce good. For example, economic forces might be embodied in a variety of rationing methods: by lottery, by putting prices on goods, or by some other mechanism.

Q–4: Ali, your study partner, states that rationing health care is immoral—that health care should be freely available to all individuals in society. How would you respond?

Let's consider some specific real-world rationing mechanisms. Dormitory rooms are often rationed by lottery, and permission to register in popular classes is often rationed by a first-come, first-registered rule. Food in the United States, on the other hand, is generally rationed by price. If price did not ration food, there wouldn't be enough food to go around. All scarce goods or rights must be rationed in some fashion. These rationing mechanisms are examples of economic forces in action.

One of the important choices that a society must make is whether to allow these economic forces to operate freely and openly or to try to rein them in. A **market force** is *an economic force that is given relatively free rein by society to work through the market.*

When an economic force operates through the market, it becomes a market force.

5 Economic reality is controlled by three invisible forces:

1. The invisible hand (economic forces);
2. The invisible handshake (social and historical forces); and
3. The invisible foot (political and legal forces).

Market forces ration by changing prices. When there's a shortage, the price goes up. When there's a surplus, the price goes down. Much of this book will be devoted to analyzing how the market works like an invisible hand, guiding economic forces to coordinate individual actions and allocate scarce resources. The **invisible hand** is *the price mechanism, the rise and fall of prices that guides our actions in a market.*

Societies can't choose whether or not to allow economic forces to operate—economic forces are always operating. However, societies may choose whether to allow market forces to predominate. Other forces play a major role in deciding whether to let market forces operate. I'll call these other forces the **invisible handshake**—*social and historical forces*—and the **invisible foot**—*political and legal forces.* Economic reality is determined by a contest among these three invisible forces.

Social and cultural forces—the invisible handshake—can play a significant role in the economy.

Let's consider an example in which the invisible handshake prevents an economic force from becoming a market force: the problem of getting a date for Saturday night. If a school (or a society) has significantly more people of one gender than the other (let's say more men than women), some men may well find themselves without a date—that is, men will be in excess supply—and will have to find something else to do, say study or go to a movie by themselves. An "excess supply" person could solve the problem by paying someone to go out with him or her, but that would probably change the nature of the date in unacceptable ways. It would be revolting to the person who offered payment and to the person who was offered payment. That unacceptability is an example of the invisible handshake in action—the complex of social and