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TABLE 1-3 U.K. POUND / $ EXCHANGE RATE BETWEEN U.K. POUND AND U.S. DOLLAR AND THE CPI IN THE UNITED STATES AND THE U.K., 1985–2007

Period	£ / $	CPI U.S.	CPI U.K.
1985	1.2974	107.6	111.1
1986	1.4677	109.6	114.9
1987	1.6398	113.6	119.7
1988	1.7813	118.3	125.6
1989	1.6382	124.0	135.4
1990	1.7841	130.7	148.2
1991	1.7674	136.2	156.9
1992	1.7663	140.3	162.7
1993	1.5016	144.5	165.3
1994	1.5319	148.2	169.3
1995	1.5785	152.4	175.2
1996	1.5607	156.9	179.4
1997	1.6376	160.5	185.1
1998	1.6573	163.0	191.4
1999	1.6172	166.6	194.3
2000	1.5156	172.2	200.1
2001	1.4396	177.1	203.6
2002	1.5025	179.9	207.0
2003	1.6347	184.0	213.0
2004	1.8330	188.9	219.4
2005	1.8204	195.3	225.6
2006	1.8434	201.6	232.8
2007	2.0020	207.3	242.7

Source: Economic Report of the President, 2008. U.K. Pound/ $ from Table B-110; CPI (1982–1984 = 100) from Table B-108.

1.7. Table 1-3 gives you data on the exchange rate between the U.K. pound and the U.S. dollar (number of U.K. pounds per U.S. dollar) as well as the consumer price indexes in the two countries for the period 1985–2007.
- **a.** Plot the exchange rate (ER) and the two consumer price indexes against time, measured in years.
- **b.** Divide the U.S. CPI by the U.K. CPI and call it the relative price ratio (RPR).
- **c.** Plot ER against RPR.
- **d.** Visually sketch a regression line through the scatterpoints.

1.8. Table 1-4 on the textbook Web site contains data on 1247 cars from 2008.[14] Is there a strong relationship between a car's MPG (miles per gallon) and the number of cylinders it has?
- **a.** Create a scatterplot of the combined MPG for the vehicles based on the number of cylinders.
- **b.** Sketch a straight line that seems to fit the data.
- **c.** What type of relationship is indicated by the plot?

[14]Data were collected from the United States Department of Energy Web site at **http://www.fueleconomy.gov/**.