

CP.4.1.10, Sauer3

The following data, collected by the US Bureau of Economic Analysis, lists the year-over-year percent change in mean disposable personal income in the United States during 15 election years. Also, the proportion of the U.S. electorate that voted for the incumbent party's presidential candidate is listed. The first line of the table says that income increased by 1.49% from 1951 to 1952, and that 44.6% of the electorate voted for Adlai Stevenson, the incumbent Democratic party's candidate for president. Find the best least squares linear model for incumbent party vote as a function of income change. Plot this line along with the 15 data points. How many percentage points of vote can the incumbent party expect for each additional percent of change in personal income?

year	% income change	% incumbent vote
1952	1.49	44.6
1956	3.03	57.8
1960	0.57	49.9
1964	5.74	61.3
1968	3.51	49.6
1972	3.73	61.8
1976	2.98	49.0
1980	-0.18	44.7
1984	6.23	59.2
1988	3.38	53.9
1992	2.15	46.5
1996	2.10	54.7
2000	3.93	50.3
2004	2.47	51.2
2008	-0.41	45.7