

POL 345: Quantitative Analysis and Politics

Precept 5 (Week 6)

1 Schwarzenegger's Veto Message

1. We calculate the probability that the “coincidence” in Governor Schwarzenegger’s veto message occurs by chance under various probability models (see page 10 of the Probability lecture slides which contains the URL link to the message). According to a study, the relative frequencies of the relevant initial letters of English words are as follows:

letter	c	f	k	o	u	y
frequency	0.0351	0.0378	0.0069	0.0626	0.0149	0.0162

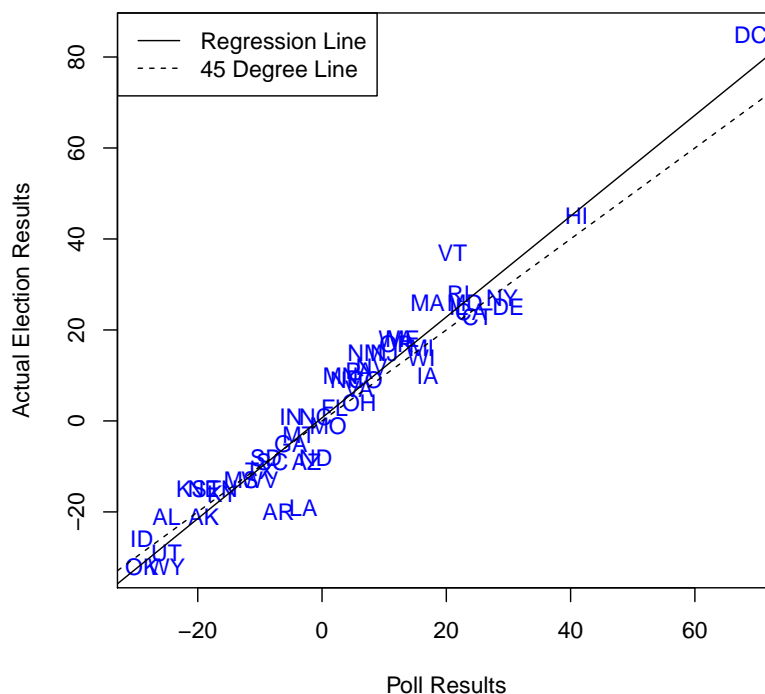
Suppose that seven words were chosen at random, independently, to start the seven lines and that the initial letters of these words follow the above distribution. What is the probability of the coincidence happening?

2. Suppose that the Governor gave his veto message to his secretary who then typed it in her computer but hit the return key at random. That is, the 85 words (from ‘For’ to ‘time’) were divided by (random) linebreaks into seven lines, each with at least one word. Assume that every way of breaking the lines was equally likely and the total number of lines is fixed at seven. What is the probability of the coincidence happening?

2 Predicting U.S. Presidential Elections

We return to the analysis of the 2008 presidential election begun with last week’s precept materials. We again rely on the file **e08.RData**, which is available on Blackboard, as well as the variables created in answering the precept questions to conduct the analysis. Recall that last week we began with Obama’s poll predicted margin of victory using the mean of polls taken from the most recent polls in each state. The following figure, we created last week, summarizes the resulting predictions.

Poll Results versus Actual Election Results



Based on these poll predictions obtained for each state, we then allocated the electoral college votes to each candidate. We predicted that Obama would receive 349 electoral votes, as compared to the 364 electoral votes Obama actually received in the election. Of the 51 states (districts) predicted, we incorrectly predicted three: Indiana, Mississippi, and North Carolina.

We now modify the prediction procedure in the following way and see if the predictions can be improved.

1. Within each state, regress the margin of victory for Obama on the days to the election variable and then obtain the predicted margin of victory on the election day using the resulting regression model. Calculate and summarize the errors of the predicted margins.
2. Create a graph similar to the one you made last week and examine the accuracy of these new predictions. How many electoral votes is Obama predicted to win? Which states are we calling wrong?