Exercise 2 (from Final 2007): Effect of flushot in preventing sickdays.
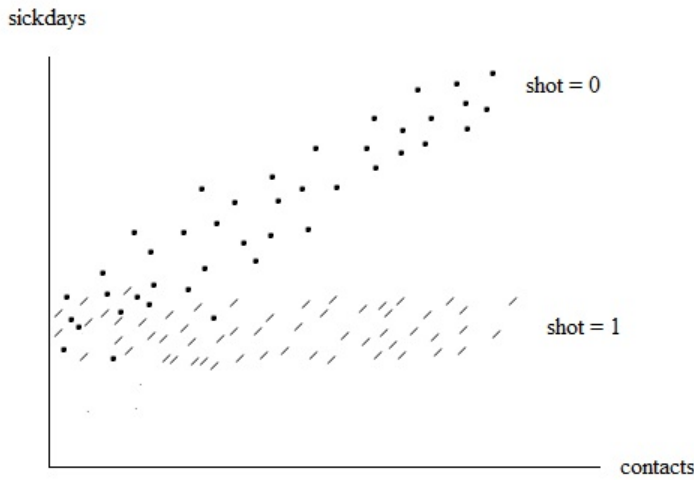
Suppose you have data for a sample of employees of a firm on the number of sick leave days taken in one year (*sickdays*), a rough estimate of how many people the employee comes in contact during his/her workday (*contacts*), and whether or not the they got a flu shot (*shot* = 1 for those who got a flu shot and *shot* = 0 for those who did not). The data give you the following plot:

1. Reading from the graph, explain in words the effect of flu shot on sick leave days.

2. You estimate the following model:

$$\widehat{sickdays} = \hat{\beta}_0 + \hat{\beta}_1 contacts + \hat{\beta}_2 shot + \hat{\beta}_3(contacts * shot)$$

   What do you expect to find for the sign and significance of $\hat{\beta}_0$, $\hat{\beta}_1$, $\hat{\beta}_2$, and $\hat{\beta}_3$ given the graph of your data above?

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Using the data from injury.dta, we estimate:

$$\widehat{ln(durat)} = 1.216 + .0077afchnge + .256highearn + .191afchnge * highearn$$

where $ln(durat)$ is the logged length of time (in weeks) that an injured worker receives workers' compensation, $afchnge$ is a dummy for observations after the policy change[1], and $highearn$ is a dummy for high earners.

(i) What is the estimated effect of the policy change on workers' compensation duration for high earners? What is the estimated effect of the policy change on workers' compensation duration for low earners?

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[1]On July 15, 1980, Kentucky raised the cap on weekly earnings that were covered by workers' compensation