To Serve or Not to Serve…

Can a Server Discriminate?

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Summary

Waiting tables has given the chance to millions of students to put themselves through college, help support a family, or given an individual the opportunity to make money and still have a life. This form of employment differs from all other means of employment, in that the majority of the employee's income is made through tips. As a student studying economics I have asked myself a particular question repeatedly, "What is the opportunity cost to me to get that person some butter?" Even a better question is; does service really matter?

I wonder if it's the service or the individual themselves that produce the amount of the tip? To answer that question I looked at various factors, other than service, that could influence tips. The factors are: age, gender, amount of the tab, and the number of people at the table. In order to make this analysis accurate, I had several servers including myself gather the data; totaling to 200 data points. Having several servers collecting the data, I was able to look at the tip percent of the servers and compare the mean tip percent amongst the servers. Since the tip percents didn't have any statistically significant differences, I inferred that service doesn't really matter.

After a linear regression was preformed on these variables it was found that one is able to estimate tips, and that one could maximize one's income by discriminating their service to certain types of people.

The Regression

To find a solution to the questions servers and actors alike have asked, I had to collect unbiased data from a restaurant. I collected the data from the restaurant I work at.

The servers that I had perform this collection looked at several factors. The customers were put into four different age groups: those under 25, over 50, between 25 and 50, and a mixture of ages. They were also categorized as male, female, or a mixture of gender. I also looked to see whether or not the amount of the bill mattered as well as the number of people at a table. I regressed tip percent on the age of the people, gender, the number of people at the table, and the amount of the bill. After some speculation in gender and even more speculation over age 200 data points were gathered and the regression could be preformed.

The Ability to Discriminate

In our society today we are taught to be politically correct and that discrimination is frowned upon. However, we do live in a capitalist society and being a student of economics we learn that it's our nature to maximize profit and look at what our opportunity costs are to the choices that we make. If a server can identify who is going to tip better they are able to use their time more efficiently. After running a least squares regression, I found that the mean value of tips with all other constant being zero is 16.4%. Men tip 2.6% better then women and the age of the person also effects the tips. People under the age of 25 will increase the mean value of the tip percent by 2.2%, while people over 50 raise it 2.6%, and the age range that tips the best are the people that are between the ages of 25 and 50 and they increase the average tip by 3.5%.Another factor that increased tip percent was the number of people at the table. For each additional person at the table the tip went up by .5%. If a table of four men between the ages of 25 and 50 come in at the same time as a table of four women come in over the age of 50, in order to

gain an edge up on one's pocket book, one is going to want to take the table with the four men. According to my regression the men will tip 19.9% while the ladies will leave you with 15.82%.

The Short Comings

The model I have presented does have some flaws. I did assume that tips weren't reflected by service, although I tried to distinguish potential service fluctuations by having several wait persons help gather the data. Also, this is only one restaurant out of hundreds in Seattle; and one restaurant doesn't necessarily reflect the entire population of people dining at restaurants. Another short coming in the model is the f-stat in the model. At a 99% confidence level we can fail to reject the null hypothesis that the estimated coefficients are zero. Only 11.7% of the data is explained by the regression according to the R-squared.

The Conclusion

The results from my regression were not at all surprising. During my seven years working in restaurants I have found that older and younger people tend to tip less, and that men tip significantly better than women. Other servers have made similar conclusion about the patrons as I, prior to running the regression. I put my regression to the test and found that I was able to predict tip percent within 1.2%; despite the R-squared value. It appears that I was able to make an accurate model of how people tip; and if my boss would let me I could get more money by being selective over the tables I waited on.

Dependent Variable: TIPPERCENT
Method: Least Squares
Date: 12/04/03 Time: 18:10
Sample: 1 200
Included observations: 200

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	0.164290	0.014268	11.51486	0.0000
AGE1	0.021794	0.012856	1.695250	0.0916
AGE2	0.035102	0.011987	2.928299	0.0038
AGE3	0.025987	0.013845	1.877066	0.0620
SEX1	-0.006500	0.007982	-0.814298	0.4165
SEX2	0.020181	0.009280	2.174673	0.0309
TAB	-0.000863	0.000475	-1.814402	0.0712
NUMPEOP	0.005111	0.005486	0.931624	0.3527

R-squared	0.117067	Mean dependent var	0.181619
Adjusted R-squared	0.084876	S.D. dependent var	0.040673
S.E. of regression	0.038909	Akaike info criterion	-3.616019
Sum squared resid	0.290666	Schwarz criterion	-3.484087
Log likelihood	369.6019	F-statistic	3.636704
Durbin-Watson stat	2.127336	Prob(F-statistic)	0.001046