**Estimating Demand**

**Provide an example when it would be appropriate to conduct a time-series or cross sectional data. Evaluate the potential problems that may arise with your example and identify strategies for minimizing the impact of the potential problems.**

Cross-sectional data talks about the data collected by observing many subjects at the same point of time, or without regard to differences in time. Analysis of cross-sectional data usually consists of comparing the differences among the subjects. Knowing that these tasks could not be done within existing range or imputation algorithms, so they cannot handle as many variables as needed even in the simpler cross-sectional data for which they were designed, then the need to also develop a new algorithm that substantially expands the range of computationally feasible data types and sizes for which multiple imputation can be used. Cross-sectional, time series, or especially “time-series cross-section” (TSCS) data sets (i.e., those with T units for each of N cross-sectional entities such as countries, where often T < N), as is common in comparative politics and international relations; or for when qualitative knowledge exists about specific missing cell values. The new methods greatly increase the information researchers are able to extract from given amounts of data and are equivalent to having much larger numbers of observations available. Under normal circumstances, researchers can impute once and then analyze the imputed data sets as many times and for as many purposes as they wish (Honaker, 2010).

**Discuss the meaning of the regression coefficient of the independent variable(s) and how it could be used to estimate the elasticitys of each of these variables. Discuss how managers use the elasticities measurements to make managerial decisions.**

It is important to take into account the uncertainty in the estimation of the regression coefficient. Regression analysis is used when you want to predict a continuous dependent variable from a number of independent variables. If the dependent variable is dichotomous, then logistic regression should be used. (If the split between the two levels of the dependent variable is close to 50-50, then both logistic and linear regression will end up giving you similar results.)in let the "X," "Y," "dependent," "independent" be associated with the magnitude of the regression coefficient ( ) with the change in the dependent variable that results from the unit increase in the independent variable, X. This magnitude does not tell you how much X changes. X always increases by one unit to get Y to change by units. The sign associated with tells us whether Y increases or decreases by units when X increases by one unit. (If you begin your interpretation with a unit decrease in X, then remember to reverse the direction indicated by the sign when you describe the change in Y.) . A positive coefficient means X and Y change in the same direction. If X increases, then Y increases. If X decreases, then Y decreases. A negative coefficient means X and Y change in opposite directions. If X increases, then Y decreases. If X decreases, then Y increases.

So when you think about it the regression coefficient is not what excel calls them both coefficients, but people should then be concerned and talk about the intercept or constant. Remember that we are talking about changes in X and changes in Y, not levels of either. This is like the idea of a marginal change. It can be stated that the regression line is linear (y = ax + b) the regression coefficient is the constant (a) that represents the rate of change of one variable (y) as a function of changes in the other (x); it is the slope of the regression line (Osgood, 2000).

Reference

Honaker, J. (2010). What to Do about Missing Values in Time-Series Cross-Section Data. American Journal of Political Science, Vol. 54, No. 2, Pp. 561–581 http://gking.harvard.edu/files/gking/files/pr.pdf

Osgood, D.W. (2000). Poisson-Based Regression Analysis of Aggregate Crime Rates.Journal of Quantitative Criminology 16:21-43.