

## CHAPTER 15: Multiple Regression

### Learning Objectives

After reading this chapter and doing the exercises you should be able to:

1. Understand how multiple regression analysis can be used to develop relationships involving one dependent variable and several independent variables.
2. Be able to interpret the coefficients in a multiple regression analysis.
3. Know the assumptions necessary to conduct statistical tests involving the hypothesized regression model.
4. Understand the role of computer packages in performing multiple regression analysis.
5. Be able to interpret and use computer output to develop the estimated regression equation.
6. Be able to determine how good a fit is provided by the estimated regression equation.
7. Be able to test for the significance of the regression equation.
8. Understand how multicollinearity affects multiple regression analysis.
9. Know how residual analysis can be used to make a judgement as to the appropriateness of the model, identify outliers, and determine which observations are influential.
10. Understand how logistic regression is used for regression analyses involving a binary dependent variable.