**Chapter 2 Summary**

In this chapter we considered a variety of linear regression models – that is, models that are linear in the parameters or can be made linear with suitable transformations. Each model is useful in specific situations. In some applications more than one model may fi t the data. We discussed the unique features of each model in terms of slope and elasticity coefficients.

In comparing two or more models on the basis of *R*2 we pointed out that the dependent variable in these models must be the same. In particular, we discussed the choice between a linear and a log-linear model, two of the commonly used models in research.

Although we have discussed the various models in terms of two-variable or three-variable linear regression models for expository purposes, they can be easily extended to regression models involving any number of regressors. We can also have models in which some regressors are linear and some are log-linear.

We briefly discussed the role of standardized variables in regression analysis. A standardized variable has zero mean and unit standard deviation. Therefore, all the variables in the model are standard deviations units. However, we cautioned against using the magnitude of the standardized coefficients as a measure of the relative importance of the regressors. This is because the range of values of the regressors affects the standardized coefficients.

We can evaluate a model in terms of the expected signs of the regression coefficients, their statistical significance in terms of the *t* value of the coefficients, or the *F* test if we are interested in the joint significance of two or more variables. We can judge the overall performance of a model in terms of *R*2. If we are comparing two or more regression models, we can use the adjusted *R*2 or the Akaike or Schwarz information criteria.

We also discussed how we can incorporate linear restrictions in estimating regression models. Such restrictions are often suggested by economic theory.

Finally, we also discussed the *regression through the origin* model. Although useful in some situations, in general we should avoid dropping the intercept from the regression model.