

## [Summary]

**Specification Errors** 

Subject:

**Course:** 

Paper No. & Title:

Unit No. & Title:

**Business Economics** 

B. A. (Hons.), 5<sup>th</sup> Semester, Undergraduate

Paper – 531 Elective Paper Q1 – Advanced Econometrics

Unit – 1 Relaxing the Assumptions of The Classical Linear Model

Lecture No. & Title:

Lecture – 6 Specification Errors

## Summary

This study is specially devoted for the specification errors that occur while analysing the data. Generally this becomes unknowingly when we deal with data. Different types of specification errors appear which may be due to the following reasons (1) omission of a relevant variable (this is called under fitting the model) (2) inclusion of an unnecessary variable (this is called over fitting the model) (3) Adopting wrong functional form (4) errors of measurements in dependent as well as explanatory variable.

Due to such reasons there exists specification errors and specification bias. While under fitting a model the estimators are generally biased and inconsistent. Hence usual tests and confidence interval give misleading results.

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While overfitting the model, we get unbiased estimators using OLS method, but due to correlation between the variables in original model and new model (by including other variables) the variance of estimators become larger and hence less efficient.

The phenomena of specification error can be detected by means of certain tests like Durbin Watson test, Ramsey's (RESET) test, Lagrange's Multiplier test etc. Due to mistakes in the measurement of dependent as well as independent variables there exists the error of measurement. Hence we get biased estimators which are not consistent using OLS method. There are different methods like Wald's grouping method, Bartlett's grouping method, instrumental Variables method etc. Which are illustrated by means of two variables method.