THE BUCHAREST UNIVERSITY OF ECONOMIC STUDIES

C. S. U.D

Doctoral School Cybernetics and Statistics

ESTIMATING METHODS IN TOBIT REGRESSION MODEL WITH APPLICATIONS

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Abstract

The Tobit regression model of linear models that falls within the scope of censored regression models, it is often called Limited regression model. The aim of this thesis is to develop new methodologies in the field of Tobit regression model and estimate coefficients of censored data without bias.

In order to obtain consistent and unbiased estimates, our applications include some methods for estimating the coefficients of the Tobit regression model and of these methods, maximum likelihood method, two-stage estimation method (Heckman) and asymptotic least squares estimation, we adopted in our applications on real data when the response variable (limited) in the censored data.

To achieve our goals, the study is divided into five chapters. The first chapter includes the most important previous literature review related to the subject, so as to benefit from the information to enrich this dissertation. Chapter II deals with basic concepts representing the definition of the theoretical approach of limited dependent variable (Tobit regression model) and censored truncated regression relevant. Chapter III discusses in detail some estimate methods and analysis for limited dependent variables (Tobit regression model) when censored data. Chapter IV presents the analytical aspect that include the application of methods to estimate the coefficients of the censored data in various fields (Financial Analysis, Social sciences and Economics). Chapter V includes the most important conclusions and recommendations that the researcher believes need to be introduced.

The most important conclusions reached are to adapt some methods to estimate the coefficients of censored data when (limited dependent variable), its efficiency when applied to real data in various fields has been proved by the results of consistent, unbiased and highly efficient analysis estimates.

Keywords:

- Censored Data
- Tobit Regression
- Limited Dependent Variable
- Maximum Likelihood Method
- Two-Stage Estimation Method
- Asymptotic Least Squares Estimation