ACADEMIA DE STUDII ECONOMICE DIN BUCUREȘTI

FACULTATEA DE CIBERNETICĂ, STATISTICĂ ȘI INFORMATICĂ ECONOMICĂ

Calea Dorobanți, 15-17, Sector 1, București, 010552, tel.: +4021 319 19 00, ext. 119, 281, 331, fax: +4021 319 19 09, email:www.csie.ase.ro

DEPARTMENT OF STATISTICS AND ECONOMETRICS

DISCIPLINES FOR POSITION NO. 31, ASSOCIATE PROFESSOR: Econometrics

1. ECONOMETRICS

1.1. Simple regression model

- Defining simple regression model and parameter estimation writing the model by presenting concrete examples; assumptions; parameter estimation by the method of least squares (review)
- Testing parameters parameter estimator and estimate; properties of estimators; significance testing parameters estimation intervals for the parameters
- Validation of regression model
- Analysis of variance - ANOVA
- And determining the correlation test report
- Testing the correlation coefficient
- Using economic analysis model
- Testing normality of errors; predicting variable explained: point and confidence interval; examples evidence the simple regression model using

1.2. The multiple regression

- The presentation and parameter estimation writing using an example model;
- assumptions; parameter estimation
- Statistical tests, selecting the best model of nonlinear regression models properties of estimators, significance testing and confidence intervals; test the validity of the model choice of regression model

1.3. Regression model assumptions and verification

- Homoscedasticity analysis (causes, consequences of the heteroscedasticity; presence of errors, statistical tests, correction)
- Autocorrelation analysis errors (causes, consequences presence of autocorrelation errors, statistical tests, correction)
- Multicollinearity analysis (causes, consequences of multicollinearity, statistical tests, correction)
- Simultaneous equations models (model definition from one example; conditions identification parameter estimation)

ACADEMIA DE STUDII ECONOMICE DIN BUCUREŞTI

FACULTATEA DE CIBERNETICĂ, STATISTICĂ ŞI INFORMATICĂ ECONOMICĂ

Calea Dorobanţi, 15-17, Sector 1, Bucureşti, 010552, tel.: +4021 319 19 00, ext. 119, 281, 331, fax: +4021 319 19 09, email:www.csie.ase.ro

1.4. The econometric analysis of time series

- Characteristics of time series; Definition of the series; Types of series; Components of the series; Smoothing techniques of time series; Estimating the trend
- The Seasonal component: Identification; Estimation; Forecasting phenomena affected by seasonality
- Stationary time series: Definition; Models: MA, AR, ARMA, ARIMA

Bibliography

1. Andrei, T., Statistică şi econometrie, Ed. Economică, Bucureşti, 2004
2. Andrei, T., Bourbonais, R, Econometrie, Ed. Economică, Bucureşti, 2008
3. Tănasoiu, OE, Iacob, AI,, Introduction a l'econometrie, Ed. ASE, Bucuresti, 2008
4. Voineagu, V., Ţiţan, E., Ţerban, R., Ghiţă, S., Todose, D., Boboc, C., Pele, D., Teorie şi practică econometrică, Ed. METEOR PRESS, Bucureşti, 2007