



Tárgytematika

EÖTVÖS LORÁND TUDOMÁNYEGYETEM

TÁTK Közgazdaságtudományi Tanszék
(TÁTK-KOZGAZ-TANSZ)

2019/20/1

Tárgynév:	Analysis of economic data
Tárgykód:	ECBA004
Tárgyfelelős neve:	Horváth Áron Botond
Tárgy követelménye:	Kollokvium (5)
Tárgy heti óraszám:	0/4/0

Oktatás célja:

This subject is an intuitive introduction to the analysis of economic data. The precise definition of the notions used will be the duty of Probability Theory, Statistics and Econometrics. This subject is taught parallel to Informatics. We will use some of the skills/knowledge learnt there.

Tantárgy tartalma:

- 1) **week:** Introduction of economic data, examples, data sources. Basic computer skills in Excel. Chapter 2 in GK.
 - 2) **week:** Overview of data types: time series, cross-sectional data, panel data. Descriptive statistics (mean, mode, median, percentiles, measures of dispersion), graphical representations. Descriptive statistics in Excel. Chapter 2 in GK.
 - 3) **week:** Index numbers, concentration measures. Auxiliary material in Chapter 2.
 - 4) **week:** Correlation: definition, interpretation of the square of correlation, properties. Correlation vs causation. Chapters 3-4.
 - 5) **week:** Simple regression: goodness of fit, definition and interpretation of R-squared. Non-linearity, logarithmic form, elasticity. Factors affecting the accuracy of estimation. Confidence interval. Simple regression in Excel. Chapter 4.
 - 6) **week:** Hypothesis testing: null hypothesis and alternative hypothesis, t-test, p-value. Relationship between hypothesis testing and confidence intervals. F-test. Multiple regression. Estimation, interpretation of the coefficients, confidence intervals, hypothesis testing. Multiple regression in Excel. Chapter 5-6.
 - 7) **week:** Omitted Variables Bias. The problem of too many and too few explanatory variables. Multicollinearity. Regression with Dummy Variables. Chapter 6-7.
 - 8) **week:** Binary variables – interaction: different intercept and different slope within groups. Binary dependent variable. Constraints of OLS. Chapter 7.
 - 9) **week:** Practice for exam and exam.
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Tantárgy tartalma:

- 10) **week:** Time-series variables in economics. Differences, indices, lagged variables and seasonality. Practice: de-seasoning in Excel. Chapter 8.
- 11) **week:** Univariate time-series regressions – trend, autocorrelation, stationarity, AR(1) model. Practice: de-trending in Excel. Chapter 9.
- 12) **week:** Time-series regression – cointegration and error correction model. Prediction. Practice: prediction in Excel. Chapter 10.
- 13) **week:** Summing up and exam.

Számonkérési és értékelési rendszere:

- Two term exams – $45\% + 25\% = 70\%$
- Seven takehome group assignments – $7 * 2\% = 14\%$
- Individual takehome research – 16%

In all of these, at least 50% must be achieved. All takehome assignments must be handed in, otherwise no grade is given. Late assignments receive 0 points.

Kötelező irodalom:

8. **Book:** Gary Koop (2005): Analysis of economic data. John Wiley & Sons 2nd edition.
9. **Infrastructure:** Computer and projector for the lectures and practice sessions for the lecturer and computer for the practice sessions for the students. Software: Excel.