Research Methods in Banking and Finance (BNFN 504)

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(Ph.D in Economic Development and International Economics)
Prerequisite to BNFN 504

- Undergraduate Level of Statistics I and II
  - Descriptive Statistics
  - Estimation Techniques in Confidence Intervals
  - Hypothesis Tests
  - Basics in Correlation and Regression Analysis
Outline

- The Nature of Statistics and Econometrics
- Two-Variable Regression Analysis: Some Basic Ideas
- Two-Variable Regression Analysis: The Problem of Estimation
- The Normality Assumption: Classical Normal Linear Regression Model (CNLRM)
- Two Variable Regression: Interval Estimation and Hypothesis Testing
- Extensions of the Two-Variable Linear Regression Model
- Multiple Regression Analysis: The Problem of Estimation
- Multiple Regression Analysis: The Problem of Inference
- Deviations from Classical Linear Regression Models
- Time Series Econometrics I: Stationarity, Unit Roots and Cointegration
- Introduction To Social Statistics
- Questionnaire Data Analysis
- Thesis Writing Formats and Techniques
Research Method

- Research Question
- Literature Review
- Research Methodology
- Obtaining Data
  - Quantitative Data
  - Qualitative Data
- Analyzing Data
- Research and Policy Implications
About Data

- Qualitative Data
  - Qualitative Surveys

- Quantitative Data
  - Primary Data: Questionnaire Research
  - Secondary Data: Existing Data from records
On Data More!

- Time Series Data
  - Monthly, Annually, Quarterly, Weekly, Daily

- Cross Sectional Data
  - Questionnaire Data
  - Data for variables based on a single period

- Panel Data
  - As a combination of time series and cross-sectional data
On the types of Data More!

<table>
<thead>
<tr>
<th>Years</th>
<th>GDP (m.$)</th>
<th>M2/GDP</th>
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<tbody>
<tr>
<td>1996</td>
<td>115.2</td>
<td>0.55</td>
</tr>
<tr>
<td>1997</td>
<td>116.4</td>
<td>0.56</td>
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<tr>
<td>1998</td>
<td>117.8</td>
<td>0.55</td>
</tr>
<tr>
<td>1999</td>
<td>115.4</td>
<td>0.60</td>
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<tr>
<td>2000</td>
<td>119.5</td>
<td>0.70</td>
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<td>2001</td>
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<td>2002</td>
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<tr>
<td>2003</td>
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<td>0.72</td>
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<tr>
<td>2004</td>
<td>132.4</td>
<td>0.74</td>
</tr>
</tbody>
</table>

Time Series Data for a particular country
On the types of Data More

<table>
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<th></th>
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<tr>
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<td>Ireland</td>
<td>150,9</td>
<td>0,72</td>
</tr>
<tr>
<td>Lituania</td>
<td>132,4</td>
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Crosssectional Data for GDP and M2 by country for 2004
## On the types of Data More

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INTRODUCTION

What is Econometrics?

Econometrics → Economic Measurement

Mathematical Economics → Economics → Mathematical Statistics

Statistics → Statistical Economics

Mathematics → Econometrics
Methodology of Econometrics

1. Statement of theory or hypothesis
2. Specification of the mathematical model of the theory
3. Specification of the econometric model of the theory
4. Obtaining the data
5. Estimation of the parameters of the econometric model
6. Hypothesis Testing
7. Forecasting or Prediction
8. Using the model for control or policy purposes
Types of Econometrics

Anatomy of Econometrics

- Economic Theory
- Mathematical Model of Theory
- Econometric Model of Theory
- Data
- Estimation of Econometric Model
- Hypothesis Testing
- Forecasting or Prediction
- Using the Model for Control or Policy Purposes
Econometrics

Theoretical
  Classical
  Bayesian

Applied
  Classical
  Bayesian
Role of Computer Technology in Econometrics

- Can you run econometrics by Calculator?

- Important Software Packages
  - Econometric Views (EVIEMS)
  - LIMDEP
  - TSP
  - MINITAB
  - SPSS
  - SAS
  - PC-GIVE, PC-WIN