



## Inter-University Research Seminar

### Registration

- The participation in this seminar is **free of charge**. The seminar costs will be covered by the Institute of Business Economics and Industrial Sociology as well as the Faculty of Mechanical Engineering and Economic Sciences of TU Graz.
- **Registration** is open from **now until November 30<sup>th</sup> 2021**.
- The number of on-site participants is limited to the max. of **12 persons**. The „first registration - first serve“ principle will be applied, as long as the participants fit into the target group.
- **Registration** is managed by Rudolf Grünbichler, BA. MA.  
E-mail: [rudolf.gruenbichler\(at\)tugraz.at](mailto:rudolf.gruenbichler(at)tugraz.at)

### Venue

The seminar will take place in a hybrid form. When registering, include information whether you would like to participate online (via Webex) or on site (a 3-G certificate is required).  
Graz University of Technology, Room HS01030  
Inffeldgasse 18, 1st floor  
8010 Graz, Austria  
A notebook is required. The freeware gretl must be installed on it.

### Organisation

Graz University of Technology  
Institute of Business Economics and Industrial Sociology

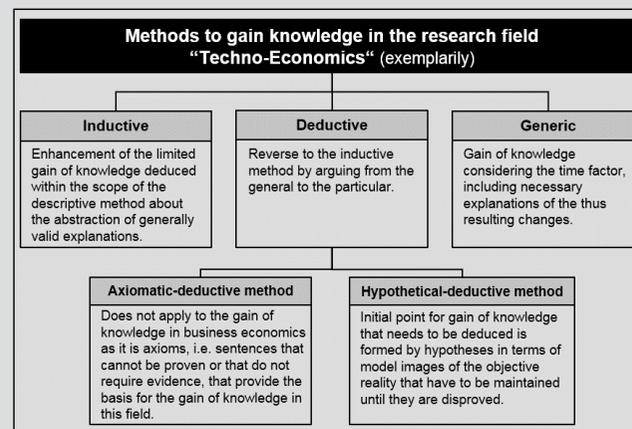
For any questions regarding the seminar please do not hesitate and contact

Prof. Dr. Bernd M. Zunk  
E-Mail: [bernd.zunk\(at\)tugraz.at](mailto:bernd.zunk(at)tugraz.at)

## Techno-Economic Research Methods

Methods are considered crucial to every scientific discipline as they **ensure rationality and verifiability of scientific findings**.

At a glance, the following figure illustrates a selection of the **key methods** within Business Economics (and, thus, of Techno-Economics and Management Science). Of course, in Business Economics/Techno Economics/Management Science not only abstract methods but also models that reproduce complex economic realities in a simplified way are indispensable.



This might give you a short impression on why this research seminar could be useful for your future research career.



### Applied Econometrics: Overview and Key Concepts

Date: 13. & 14.12.2021

## Goal of this Seminar

This seminar delivers knowledge and skills that are necessary for performing a detailed and systematic **econometric analysis** successfully.

The workshop includes theoretical lectures as well as hands on exercises by using real data and econometric software. The participants will be able to **develop regression models for different purposes** like **forecasting or classification and hypothesis testing**. Furthermore, they will be aware of **limitations and assumptions of different methods**. The participants will learn how to deal with situations where data is limited, or where large amount of data is available („big data problems“).

## Target Group

The seminar is designed for **master students/ PhD students/early stage researchers** who are planning to use regression models in their research projects. The participants should be familiar with basic statistical theory and matrix algebra. Note: No prior knowledge of econometric software is required!

This seminar is an initiative on an **European level** in cooperation with **EPIEM** - European Professors of Industrial Engineering and Management ([www.epiem.org](http://www.epiem.org)).

## Schedule

**Day 1:** Monday, December 13<sup>th</sup> 2021

**Session 1** (10am to noon)

- First steps in economic modelling
- Basic statistical concepts
- Data types and how to handle different problems regarding data
- OLS method, properties, and assumptions

**Session 2** (2pm to 4pm)

- „Goodness of fit measures“
- Statistical inference: Estimation and Hypothesis Testing
- Model selection – criteria and tests

**Day 2:** Tuesday, December 14<sup>th</sup> 2021

**Session 3** (10am to noon)

- Normal distribution
- Multicollinearity
- Heteroscedasticity
- Autocorrelation

**Session 4** (2pm to 4pm)

- Practical examples of modelling
- What is next?
- Q&A

## Lecturer

**Prof. Timotej Jagric** is a full professor of applied economics, econometrics and finance and the Head of the Institute for Finance and Banking at the University of Maribor. Prof. Jagric was visiting researcher at the Humboldt University of Berlin, the chairman of the supervisory board of the largest re-insurance company in Slovenia, member of the strategic council of the government of the Republic of Slovenia, and advisor for many governmental and other public institutions in the CEE region. In addition, he is a consultant in the field of risk management and artificial intelligence, member of the steering committee of the Slovenian risk association and an active expert for the World Health Organization.



## Teaching Experience

Timotej Jagric teaches courses such as Econometrics, Risk Management, Risk Management in Financial Institutions, Corporate Finance, Financial Markets, Financial Management of Insurance Companies, Monetary Economics and Quantitative Finance.