Gutenberg School of Management and Economics
Johannes Gutenberg-Universität Mainz (JGU) 55099 Mainz

Gutenberg School of Management and Economics

Chair of Applied Statistics and Econometrics

Prof. Dr. Thorsten Schank

Johannes Gutenberg-Universität Mainz (JGU)

Jakob-Welder-Weg 4
55128 Mainz

Tel. +49 6131-39 26007

sekretariat.schank@uni-mainz.de

http://www.statistics.economics.uni-mainz.de/

Bachelor Seminar
SoSe 2025
in Applied Statistics and Econometrics
Empirical Labor Economics

General Description

The bachelor seminar serves as a preparation for the bachelor thesis, which is written directly after the seminar. During the processing period, students are expected to write an exposé of their bachelor thesis and to present it at the seminar. The aim of the seminar and of the bachelor thesis is to enable students to conduct an empirical analysis applying the statistical and econometric skills obtained throughout the bachelor program.

In the course of the seminar, students are expected

- to become familiar with the literature from the relevant field
- to precisely define the research question to be analysed in the bachelor thesis
- to prepare the data for the bachelor thesis
- to present first regression estimates
- to present an outlook for the bachelor thesis (i.e., students specify which further analysis they intend to carry out)

Requirements

While knowledge from the obligatory lectures *Statistik I, Statistik II,* and *Empirische Wirtschaftsforschung* is required, further statistical skills are not necessary. Instead, general interest in statistics and empirical economics and the willingness to conduct one's own empirical analysis as well as basic knowledge of Stata are essential.

Please note that the seminar will be held in English.

Contact

Prof. Dr. Thorsten Schank (schank@uni-mainz.de)

Alexander Moog (amoog@uni-mainz.de)

Topics Overview

Students are expected to investigate empirically the following topics, based on the cited references:

1. The union wage premium in Germany
2. Determinants of east-west migration in Germany
3. Working hours mismatch and job mobility
4. Overeducation and career mobility
5. Gender differences in training participation
6. Gender differences in multiple job holding

Detailed Topics and Literature

1 The union wage premium in Germany

Though the share of workers in unions is declining over years the German labor market is still heavily influenced by unions and collective bargaining. But does it pay off to be a union member? The union wage premium measures the share of income earned by solely being a union member in comparison to the income of non-union members. Bonaccolto-Töpfer & Schnabel (2023) find a union wage premium for Germany of 3%. After deducting fees the union wage premium still persists, however, differing by occupational and educational groups. They find no differences by gender. Students are expected to, firstly, replicate the authors' analysis using OLS and, secondly, extend the analysis by either conducting further relevant heterogeneity analysis and/or using methods different to OLS.

Literature

Bonaccolto-Töpfer, M., & Schnabel, C. (2023). Is There a Union Wage Premium in Germany and Which Workers Benefit Most? Economies, 11(2), 50

2 Determinants of east-west migration in Germany

Though, the reunification of Germany dates back more than a quarter of a century, economic disparities between both regions are still viable. One reason is probably that more people left

East- for West-Germany which may have weakened respective labor market and economic performance. In addition, Fuchs-Schündeln & Schündeln (2009) found that migrants to West-Germany are mainly young, educated people while people who return to East-Germany are mainly old or single. However, a recent shift in moving behaviour is observable, resulting in net migration gains for eastern Germany since 2017. Therefore, it is interesting to re-evaluate determinants for leaving and/-or returning to Eastern Germany in the manner of Fuchs-Schündeln & Schündeln (2009). To estimate respective determinants students are expected to use the GSOEP by facilitating OLS and Fixed Effects regression. Extensions are possible by either using Probit or, if interested in migration flows, OLS or Poisson regressions.

Literature

Fuchs-Schündeln, N. & Schündeln, M. (2009), Who stays, who goes, who returns? East-West Migration within Germany since reunification. Economics of Transition, 17, 703-738.

3 Working hours mismatch and job mobility

Working hours mismatch exists if there is a difference between an employee's preferred number of working hours and the actual working time. In the seminar thesis, students are expected to analyze descriptively the extent of working hours mismatch in the German population, distinguishing between underemployment and overemployment. In a further step, students should investigate the determinants of working hour mismatch using OLS or logit regressions or possibly multinomial logit regressions. For instance, parents might have more working hour constraints than single persons. Finally, it should be analyzed if working hour mismatch increases job mobility. For that aim, several OLS or logit models or possibly multinomial logit models are estimated for the transition between employment and five labor market states: employment in the same job, within employer mobility, between employer mobility, unemployment, inactivity.

Literature

Böheim, R., Taylor, M. (2004): Actual and preferred working hours, British Journal of Industrial Relations 42(1), 149-166.

Borjas, J. (2010), Labor Economics, Fifth Edition, Mc Graw Hill, Boston, Chapter 2 (the relevant parts).

4 Overeducation and career mobility

Overeducation refers to an education-job mismatch where the worker obtains a level of education in excess of that which is required for their particular job. Some previous studies

showed that overeducated workers might change their jobs more frequently than their adequately matched counterparts. On the one hand, according to occupational mobility theory, labor market entrants may treat overeducation as an investment in exchange for work experience and training which provides greater promotional opportunities in the future. On the other hand, overeducation might be a signal of relative lower productivity and results in downward occupational mobility. In this topic, students study the relationship between overeducation and occupational mobility and are expected to use LPM regressions and Logit regressions to conduct the analysis.

Literature

Rubb, S. (2013). Overeducation, undereducation and asymmetric information in occupational mobility. Applied Economics, 45(6), 741-751.

5 Gender differences in training participation

Work-related training may enhance productivity, resulting in wage increases and lower unemployment risk for workers. Therefore, less investment in further training may lead to a wage disadvantage for workers. The economic literature has often found that women invest less in work-related training than men because they anticipate career breaks for childbearing, reducing the returns to training. As possibilities for childcare have improved in the last several years, career breaks have become shorter, which should lead to higher investment by women in further training. The seminar topic analyses gender differences in the probability of participating in training measures and how they evolve over time. It uses OLS and Fixed Effects regressions.

Literature

Arulampalam, W., Booth, A. L., & Bryan, M. L. (2004). Training in Europe. Journal of the European Economic Association, 2(2-3), 346-360.

6 Gender differences in multiple job holding

Determining individuals' motives to follow multiple job holding (MJH) became more and more relevant in labor market research over the past decades. Possible determinants differ across labor markets and labor market regimes. However, studies for the German labor market are scarce despite an observable increasing trend of MJH-rates over the last 20 years. MJH-rates for women increased faster than for men, resulting in an average gap of c. 1.3 pp in MJH-rates between gender for the years 2016 to 2019 (Eurostat). Hence, it is interesting whether determinants, which are commonly used in MJH literature, can explain the difference

of MJH-rates between gender. Therefore, Preston & Wright (2020) tried to understand important determinants to follow MJH for the Australian labor market, firstly, by estimating a Probit Model based on the HILDA survey separately for women and men. Secondly, they used an Oaxaca-Blinder Decomposition to show which determinants might explain the gap in MJH rates between gender. Students are expected to do a similar analysis using GSOEP data, by estimating OLS with a binary dependent variable (Stock & Watson, 2014; ch. 11) and subsequently decomposing the results by gender – Borjas (2016) provides a good introductory example for the Oaxaca-Blinder Decomposition in chapter 9-8.

Literature

Borjas, G.J. (2016), Labor Economics, Seventh Edition, McGraw-Hill Education, p. 382-387

Preston, A. and Wright, R.E. (2020), Exploring the gender difference in multiple job holding, Industrial Relations Journal, Wiley Blackwell, vol. 51(4), p. 301-328

Stock, J.H. and Watson, M.M. (2019), Introduction to Econometrics, 4th Edition, Pearson, p. 392-426

Organisation of the Seminar

You can apply for the seminar via Jogustine. Further information on the registration procedure and the registration period is provided by the *Studienbüro.* You will receive final admission to the seminar from the *Studienbüro.*

All topics will be assigned to groups of two or three students directly after the first meeting (Wednesday, April 30th). Please send a transcript from Jogustine to

sekretariat.schank@uni-mainz.de prior to the first meeting in order to inform us of which courses you have participated in.

Group members present their results jointly on Thursday, June 5th. However, note that each student writes her / his exposé independently. The bachelor thesis will be written in the eight weeks following the seminar.

Time Schedule for the Bachelor Seminar and Bachelor Thesis

Events	Date	Time	
Introduction of the topics, topic assignment and beginning of the processing period	Wednesday, April 30th 2025	14:00-16:00	Rote Infobox (in front of building ReWi I)
Deadline for exposés submission	Thursday, May 29th 2025	until 12:00	Via e-mail to: sekretariat.schank@uni-mainz.de.
Presentation of the exposés	Thursday, June 5th 2025	9:00-18:00	Rote Infobox (in front of building ReWi I)
Beginning of processing time of the bachelor thesis	Friday, June 6th 2025	–	–
Deadline for bachelor thesis submission	Friday, August 1st 2025	until 23:59	Official submission to the Studienbüro. Supplementary material via e-mail to sekretariat.schank@uni-mainz.de

The attendance of the introductory session (first session) and the presentation of the exposés are mandatory. In the case of non-attendance (without presenting valid reasons to the Exam Office), the seminar will not be passed.