



Course and Examination Fact Sheet: Autumn Semester 2014

5,260: Further Topics in Regression Analysis

ECTS credits: 3

Overview examination/s

(binding regulations see below)

Decentral - Oral examination (individual examination) (70%, 15 mins.)

Decentral - Group examination paper (30%)

Attached courses

Timetable -- Language -- Lecturer

[5,260,1.00 Further Topics in Regression Analysis](#) -- English -- [Buncic Daniel](#)

Course information

Course prerequisites

Empirische Wirtschaftsforschung (4.220)

Course content

This course extends the basic econometric course '*Empirische Wirtschaftsforschung (4.220)*' by focusing in greater detail on a number of common topics in regression analysis. This course will be beneficial to students wanting to carry out empirical research in the fields of economics and finance. The course builds on the knowledge obtained in '*Empirische Wirtschaftsforschung (4.220)*' by initially reviewing the topics of regression, non-linear regression functions and the impact of heteroskedasticity and autocorrelation on the regression estimator. The primary focus of the course will be on the following topics: i) Regression with binary dependent variables, ii) Instrumental Variable Regression, iii) Regression with Simultaneous equation models and iv) Regression with Panel data models. The objective of the course is to get the students proficient in estimating (and interpreting the results of) the estimated models using actual, "real world" data. Standard computer packages will be used throughout the course.

Course structure

Topics:

A) Review of Regression fundamentals

Properties of OLS, non-linear regression functions, impact of heteroskedasticity and autocorrelation the regression estimator, detecting and correcting for heteroskedasticity and autocorrelation, weighted regress, robust standard errors.

B)Regression with binary dependent variables

Binary dependent variables and the linear probability model, Probit and Logit regression, maximum likelihood, estimation and inference.

C)Instrumental Variable (IV) Regression

The IV estimator with a single Regressor, The general IV regression model; Checking instrument validity, Hausman Test for Endogeneity.

D) Regression with Simultaneous equation models

Supply and Demand models, Identification problems, Reduced form equations, Failure of OLS, Two-stage least squares estimation.



E) Regression with Panel data models

Introduction to Panel data, Seemingly unrelated regression, Fixed Effects regression, Regression with Time Fixed Effects, Random Effects Model.

Course literature

Hill, R.C., W.E. Griffiths, and Lim, G.C. (2011). *Principles of Econometrics 4th Edition*, John Wiley & Sons, Inc., ISBN: 978-0-471-72360-8.

Wooldridge, J.M. (2009). *Introductory Econometrics: A Modern Approach 4th Edition*, Thomson South-Western, ISBN: 0-324-66054-5.

Stock, J.H. and M.W. Watson (2007). *Introduction to Econometrics 2nd Edition*, Pearson International Edition, ISBN: 0-321-44253-9.

Additional course information

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Examination information

Examination part/s

1. Examination part (1/2)

Examination time and form

Decentral - Oral examination (individual examination) (70%, 15 mins.)

Remark

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Examination-aid rule

Extended Closed Book

The use of aids is limited; any additional aids permitted are **exhaustively** listed under "Supplementary aids". Basically, the following is applicable:

- At such examinations, all the pocket calculators of the Texas Instruments **TI-30** series and bilingual dictionaries without hand-written notes are admissible. Any other pocket calculator models and any electronic dictionaries are inadmissible.
- In addition, any type of communication, as well as any electronic devices that can be programmed and are capable of communication such as notebooks, tablets, PDAs, mobile telephones and others, are inadmissible.
- Students are themselves responsible for the procurement of examination aids.

Supplementary aids

None

Examination languages

Question language: English

Answer language: English

2. Examination part (2/2)

Examination time and form

Decentral - Group examination paper (30%)

Remark

Assignments

Examination-aid rule



Term papers

- Term papers must be written without anyone else's help and in accordance with the known quotation standards, and they must contain a declaration of authorship.
- The documentation of sources (quotations, bibliography) has to be done throughout and consistently in accordance with the APA or MLA standards. The indications of the sources of information taken over verbatim or in paraphrase (quotations) must be integrated into the text in accordance with the precepts of the applicable quotation standard, while informative and bibliographical notes must be added as footnotes (recommendations and standards can be found, for example, in METZGER, C. (2010), *Lern- und Arbeitsstrategien* (11. Aufl.). Aarau: Sauerländer).
- For any work written at the HSG, the indication of the page numbers both according to the MLA and the APA standard is never optional.
- Where there are no page numbers in sources, precise references must be provided in a different way: titles of chapters or sections, section numbers, acts, scenes, verses, etc.
- For papers in law, the legal standard is recommended (by way of example, cf. FORSTMOSER, P., OGOREK R. und VOGT H. (2008, *Juristisches Arbeiten: Eine Anleitung für Studierende* (4. Auflage), Zürich: Schulthess, or the recommendations of the Law School).

Supplementary aids

None

Examination languages

Question language: English

Answer language: English

Examination content

Assignments (Individual Exam Papers)

The exact details of the assignment will be outlined in the lectures. It will focus on applied work where students will be given individual tasks of performing regression based analysis.

The Final Oral Exam

The final oral exam will require knowledge of all the topics that are covered in the course.

Examination relevant literature

Same as for the course

Hill, R.C., W.E. Griffiths, and Lim, G.C. (2011). *Principles of Econometrics 4th Edition*, John Wiley & Sons, Inc., ISBN: 978-0-471-72360-8.

Stock, J.H. and M.W. Watson (2007). *Introduction to Econometrics 2nd Edition*, Pearson International Edition, ISBN: 0-321-44253-9.

Wooldridge, J.M. (2009). *Introductory Econometrics: A Modern Approach 4th Edition*, Thomson South-Western, ISBN: 0-324-66054-5.

Lecture notes



Please note

We would like to point out to you that this fact sheet has absolute priority over other information such as StudyNet, faculty members' personal databases, information provided in lectures, etc.

When will the fact sheets become binding?

- Information about courses and examination time (central/decentral and grading form): from the start of the bidding process on 21 August 2014
- Information about decentral examinations (examination-aid rule, examination content, examination relevant literature): after the 4th semester week on 13 October 2014
- Information about central examinations (examination-aid rule, examination content, examination relevant literature): from the start of the enrolment period for the examinations on 3 November 2014

Please look at the fact sheet once more after these deadlines have expired.