



Course and Examination Fact Sheet: Spring Semester 2021

8,314: Time Series Econometrics

ECTS credits: 4

Overview examination/s

(binding regulations see below)

Central - Written examination (60%, 60 mins.)

Examination time: inter-term break

Decentral - Group examination paper (all given the same grades) (40%)

Examination time: term time

Attached courses

Timetable -- Language -- Lecturer

[8.314.1.00 Time Series Econometrics](#) -- Englisch -- [Fengler Matthias Reginald](#)

Course information

Course prerequisites

Knowledge of data analytics I.

Learning objectives

Students learn how to analyze, appropriately model and predict time series data.

Course content

The course offers an introduction to time series analysis with applications to macroeconomic and financial data.

The course is relevant for students planning to work professionally with economic time series data, such as macro-economic or financial data. The class covers the most important linear times series models, discusses their properties and estimation strategies.

Course structure

Main Topics

1. Background and introduction to Time series modelling in the time domain.
2. Fundamental concepts in time series analysis
3. ARMA modelling, identification, estimation and forecasting
4. Non-stationary series, unit roots and testing for unit roots
5. Vector auto regressions, structural modelling and causality
6. Co-integration and error correction

Course literature

Reading Material

- Lecture notes
- Walter Enders, Applied Economic Time Series, Wiley, New York, 2nd edition 2004.
- Shumway, Robert H., Stoffer, David (2017): Time Series Analysis and Its Applications

Further Reading Material



- James D. Hamilton, Time Series Analysis, Princeton University Press, 1994.
- Brockwell and Davis, Introduction to Time Series and Forecasting, 2nd edition, Springer Texts in Statistics 2002

Additional course information

In the case of the President's Board having to implement new directives due to the SARS-CoV-2 pandemic in SpS2021, the course information listed above will be changed as follows:

- The course is conducted online via the platform zoom;
- The recordings of the course are available for 30 days;
- The lecturer informs via StudyNet or e-mail on the changed implementation modalities of the course; There are no changes necessary to the course information.

The examination information listed below would be changed as follows:

- The oral examination (for eligible exchange students) are conducted online and are not recorded.
- Otherwise there are no changes necessary to the examination information.

Examination information

Examination sub part/s

1. Examination sub part (1/2)

Examination time and form

Central - Written examination (60%, 60 mins.)

Examination time: inter-term break

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 mono- or bilingual dictionaries (no subject-specific 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, mobile telephones and others, are inadmissible.
- Students are themselves responsible for the procurement of examination aids.

Supplementary aids

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Examination languages

Question language: English

Answer language: English

2. Examination sub part (2/2)

Examination time and form

Decentral - Group examination paper (all given the same grades) (40%)

Examination time: term time

Remark



Assignments (2-3 students collaborate)

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 which is a published template in StudentWeb.

The documentation of sources (quotations, bibliography) has to be done throughout and consistently in accordance with the chosen citation standard such as APA or MLA.

For papers in law, the legal standard is recommended (by way of example, cf. FORSTMOSER, P., OGOREK R. et SCHINDLER B., Juristisches Arbeiten: Eine Anleitung für Studierende, newest edition respectively, or according to the recommendations of the Law School).

The indications of the sources of information taken over verbatim or in paraphrase (quotations) must be integrated into texts 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., Lern- und Arbeitsstrategien, newest edition respectively).

For any work written at the HSG, the indication of the page numbers is mandatory independent of the chosen citation standard. 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.

Supplementary aids

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Examination languages

Question language: English

Answer language: English

Examination content

- Fundamental concepts in time series analysis
- ARMA modelling, identification, estimation and forecasting
- Non-stationary series, unit roots and testing for unit roots
- Vector auto regressions, structural modelling and Causality
- Co-integration and error correction.

Examination relevant literature

Lecture notes, assignments. All examination relevant literature will be published by end of term.



Please note

Please note that only this fact sheet and the examination schedule published at the time of bidding are binding and takes precedence over other information, such as information on StudyNet (Canvas), on lecturers' websites and information in lectures etc.

Any references and links to third-party content within the fact sheet are only of a supplementary, informative nature and lie outside the area of responsibility of the University of St.Gallen.

Documents and materials are only relevant for central examinations if they are available by the end of the lecture period (CW21) at the latest. In the case of centrally organised mid-term examinations, the documents and materials up to CW 12 are relevant for testing.

Binding nature of the fact sheets:

- Course information as well as examination date (organised centrally/decentrally) and form of examination: from bidding start in CW 04 (Thursday, 28 January 2021);
- Examination information (regulations on aids, examination contents, examination literature) for decentralised examinations: in CW 12 (Monday, 22 March 2021);
- Examination information (regulations on aids, examination contents, examination literature) for centrally organised mid-term examinations: in CW 12 (Monday, 22 March 2021);
- Examination information (regulations on aids, examination contents, examination literature) for centrally organised examinations: two weeks before the end of the registration period in CW 14 (Thursday, 8 April 2021).