

Advanced Econometrics for Finance

(28E34700, 6 cr.)

SYLLABUS

Instructor's contact information	Course information
Matthijs Lof matthijs.lof@aalto.fi Office Hours: After lectures or by appointment	M.Sc., Finance Period II (Fall 2021) Language of Instruction: English

1. OVERVIEW

The course starts with a review of the linear regression model and related concepts, including heteroscedasticity, autocorrelation and endogeneity. Next, we will cover concepts related to identification (e.g. instrumental variables, difference-in-difference regressions), time-series analysis (e.g. stationarity, predictive regressions) and tools for modeling market volatility (e.g. ARCH/GARCH, realized volatility). We conclude the course with a discussion of the state of empirical research in finance. All topics are illustrated by financial applications.

2. PREREQUISITES

An introductory econometrics course at the level of Econometrics for Finance (28C00200) or Econometrics (30C00200).

3. LEARNING OUTCOMES

By the end of the course, students will be familiar with various econometric methods for analyzing financial data; be able to implement these methods using the R language (<http://www.r-project.org/>); know how to interpret statistical results correctly and draw appropriate conclusions; be able to critically evaluate empirical academic research in finance.

4. STUDY MATERIALS

Readings, assignments, additional exercises, slides, and other materials will be provided by the lecturer through MyCourses.

5. LECTURES

Weekly classroom meetings are scheduled **each Wednesday at 10.15-11.45 AM in room V002** (ground floor of (ekonominaukio 1)). The meetings are streamed in zoom as well, but you will likely get more out of it by participating on campus. In the meetings, we will discuss assignments, look at examples, and there is opportunity for Q&A. Pre-recorded video lectures on selected topics are provided through MyCourses each week.

6. ASSESSMENT AND GRADING

Assignments + quizzes (50%) and Online Exam (50%). You can earn a maximum of 50 points for the exam, and a maximum of 50 point for the combined quizzes and assignments. In order to pass the course, you are required to obtain at least 40% of the final exam points (i.e. 20 points or more).

Provided that you pass the 40% benchmark for the final exam, your final grade on a 0-5 scale is determined by the total combined points for your assignment and exam result $x = (\text{points for assignments and quizzes}) + (\text{points for final exam})$:

$90 \leq x \leq 100$: Final grade = 5

$80 \leq x < 90$: Final grade = 4

$70 \leq x < 80$: Final grade = 3

$60 \leq x < 70$: Final grade = 2

$50 \leq x < 60$: Final grade = 1

$0 \leq x < 50$: Final grade = 0, Fail

There are two electronic exam opportunities. **The assignments and quizzes cannot be retaken or compensated.**

7. QUIZZES AND ASSIGNMENTS

There will be four Mycourses quizzes and one article summary (also to be submitted through MyCourses).

Working together on the quizzes is allowed, but **every student needs to submit the answers individually.**

The article summary assignment needs to be done individually.

You can earn a maximum of 10 points for each of the assignments (maximum 50 points in total)

The deadline for submitting the quizzes is each Tuesday 11 PM, starting in the third week of the course. The assignments with detailed instructions are made available on MyCourses latest on the prior Thursday.

Deadline Quiz 1: Tuesday 16 November 2021, 11 PM

Deadline Quiz 2: Tuesday 23 November 2021, 11 PM

Deadline Quiz 3: Tuesday 30 November 2021, 11 PM

Deadline Quiz 4: Tuesday 7 December 2021, 11 PM

Deadline Article Summary Assignment: Wednesday, 22 December 2021, 11 PM

The assignments cannot be retaken or compensated. Your obtained points count only during this academic year.

8. CODE OF CONDUCT

All students are expected to be familiar with the Aalto University Code of Conduct and the Aalto University Code of Academic Integrity and Handling Violations Thereof

<https://www.aalto.fi/en/aalto-university/code-of-conduct-values-into-practice>

<https://into.aalto.fi/display/ensaannot/Aalto+University+Code+of+Academic+Integrity+and+Handling+Violations+Thereof>