TIØ4317 project proposal

Morten Risstad, 25.02.2005

This document serves as a template for the project proposal.

Submit your proposal to morten.risstad@ntnu.no when you are ready. Final submission deadline is **03.03.2025 08:00**.

Parts of the lecture on Friday 28.02.2025 will be devoted to Q&A on the project assignment.

Note that the proposal should be limited to 2 A4 pages, and the final report max 10 A4 pages. The proposal should contain the following sections:

Research question

Explain briefly how your research question relates to the time-series section of TIØ4317.

TIØ4317 - Empirical and Quantitative Methods in Finance

Lecture plan, spring 2025

Updated: **25.02.2025**

Week	Date	Weekday	Time	Room	Teacher	Topic	Brooks	Tsay	Hult
Part I: Empirical finance									
2	10.01.2025	Friday	13:15-16:00	GL-RFB R9	Morten	Introduction	1; 15	1	
3	17.01.2025	Friday	13:15-16:00	GL-RFB R9	Maria	Statistical inference | Descriptive statistics | Cross-sectional data	2; 3		
4	24.01.2025	Friday	13:15-16:00	GL-RFB R9	Maria	Linear regression	3; 4		
5	31.01.2025	Friday	13:15-16:00	GL-RFB R9	Morten	Post estimation diagnostic tests	5		
6	07.02.2025	Friday	13:15-16:00	GL-RFB R9	Morten	Introduction to time series data and models	6; 8	2	
7	14.02.2025	Friday	13:15-16:00	GL-RFB R9	Morten	Univariate time series models |Forecasting | Guest lecture: Hafslund	6		
8	21.02.2025	Friday	13:15-16:00	GL-RFB R9	Morten	Volatility models	9.1-9.18	3.1-3.9; 10	
9	27.02.2025	Thursday	14:15-16:00		#N/A	Guest lecture: NBIM			
9	28.02.2025	Friday	13:15-16:00	GL-RFB R9	Morten	Multivariate time series models	7.10-7.16	8.2; 9.4	
10	07.03.2025	Friday	13:15-16:00	GL-RFB R9	#N/A	Winter holiday			
11	14.03.2025	Friday	13:15-16:00	GL-RFB R9	Maria	Panel data | Q&A Part 1	11		
Part II: Financial optimization and risk management									
12	21.03.2025	Friday	13:15-16:00	GL-RFB R9	Stein-Erik	Risk Measures I			6
13	28.03.2025	Friday	13:15-16:00	GL-RFB R9	Stein-Erik	Risk Measures II		7	7
14	04.04.2025	Friday	13:15-16:00	GL-RFB R9	Stein-Erik	Portfolio optimization			4; 5
15	11.04.2025	Friday	13:15-16:00	GL-RFB R9	#N/A	Ind-øk trip break			
16	18.04.2025	Friday	13:15-16:00	GL-RFB R9	#N/A	Easter break			
Student project presentations									
17	25.04.2025	Friday	13:15-16:00	GL-RFB R9	Morten	Presentations and peer-review			
18	02.05.2025	Friday	13:15-16:00	GL-RFB R9	Morten	Presentations and peer-review			

Data

Describe briefly the data and how you plan to retrieve the data. Note that the data should be publicly available, or at least, you must be in a position to share the data.

Some relevant sources were described in the introductory lecture of the course.

Code

You are free to use either *R* or *Python.* In either case, you might be interested in looking at

- Nixtla
- timetk
- tidymodels

Empirical design

Provide a brief sketch of you empirical design:

- what models will you use
- how will the models be estimated
- performance evaluation

Feel free to use more advanced models in combination with the models we have covered in the lectures.

Contribution

Describe how each of the group members will contribute to the project

- data retrieval
- empirical analysis
- preparation of written report
- preparation of recorded ppt-presentation
- peer-review report