APPLIES TO ACADEMIC YEAR 2016/2017

DRE 7024 Factor Models in Macroeconomics

Programme
Finance, Economics

Responsible for the course
Hilde C Bjørnland

Department
Department of Economics

Term
According to study plan

ECTS Credits
3

Language of instruction
English

Introduction
This couse provides an overwiew of and user`s guide to dynamic factor models, their estimation and their uses in empirical macroeconomics.

The student will first be introduced to dynamic factor models and the associated statistical tools, both parametric (state space forms) and nonparametric (principal components and related methods). Then, the course lays out the use of dynamic factor models for analysis of structural shocks, a special case of which is factor-augmented vector autoregressions.

Throughout the course, emphasize will be made on reviewing mature applications of dynamic factor models.

The course is designed for students in the following programmes:
Ph.D. specialisation in Economics
Ph.D. specialisation in Finance

Learning outcome
After completing the course, the course participants will gain exposure to the basic ideas and approaches for building and estimating factor models and use them for structural analysis.

Prerequisites
Admission to a PhD Programme is a general requirement for participation in PhD courses at BI Norwegian Business School.

External candidates are kindly asked to attach confirmation of admission to a PhD programme when signing up for a course with the doctoral administration. Candidates can be allowed to sit in on courses by approval of the course leader. Sitting in on courses does not permit registration for courses, handing in exams or gaining credits for the course. Course certificates or confirmation letters will not be issued for sitting in on courses.

Compulsory reading

Articles:
Stock, James H and Warson, M.W.. 2016. Factor Models and Structural Vector Autoregressions in Macroeconomics. forthcoming Handbook of Macroeconomics. http://scholar.harvard.edu/files/stock/files/stock_watson_dfm_hom_030916.pdf. eds. John B. Taylor and Harald Uhlig.

Recommended reading

Course outline
The course will be based around the following topics:
- Time series
- Factor models
- Factor augmented VAR models
- Macroeconomics

Computer-based tools
MATLAB

Learning process and workload
There will be 15 teaching hours in the course. The course is taught through lectures and problem assignments.

Examination
Individual term paper.
The course is grades pass/fail

Examination code(s)
DRE 70241 paper accounts for 100% of the final grade in the course DRE 7024.

Examination support materials
A bilingual dictionary and BI-approved exam calculator. Examination support materials at written examinations are explained under examination information in the student portal @bi. Please note use of calculator and dictionary in the section on support materials.

Re-sit examination
Re-takes are only possible at the next time a course will be held. When the course evaluation has a separate exam code for each part of the evaluation it is possible to retake parts of the evaluation. Otherwise, the whole course must be re-evaluated when a student wants to retake an exam.

Additional information
Honour Code
Academic honesty and trust are important to all of us as individuals, and represent values that are encouraged and promoted by the honor code system. This is a most significant university tradition. Students are responsible for familiarizing themselves with the ideals of the honor code system, to which the faculty are also deeply committed.

Any violation of the honor code will be dealt with in accordance with BI's procedures for cheating. These issues are a serious matter to everyone associated with the programs at BI and are at the heart of the honor code and academic integrity. If you have any questions about your responsibilities under the honor code, please ask.