Macroeconometrics (Lent Term 2006)
Syllabus

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1 Outline

1. Business cycles [1 week]
   ⇒ Burda and Wyplosz (2001, chapter 14), Abel and Bernanke (2003, chapter 8)
   (a) Time series evidence
   (b) Macroeconomic theories and concepts
   (c) Empirical modelling approaches

2. Difference equations [2 weeks]
   ⇒ Enders (2003, chapter 1), Hamilton (1994, chapters 1, 2), Chiang (1984, chapters 16, 17)
   (a) Definition and economic examples
   (b) Solving difference equations by iteration
   (c) A general method for solving difference equations

3. Stationary time series models [2 weeks]
   ⇒ Enders (2003, chapter 2), Hamilton (1994, chapters 3, 4)
   (a) ARMA models
   (b) Stationarity and invertibility
   (c) Autocorrelation and partial autocorrelation functions
   (d) Box-Jenkins model selection procedure
   (e) Forecasting

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4. Trends and seasonality in time series [2 weeks]
   (a) Deterministic and stochastic trends
   (b) Testing for unit roots
   (c) Seasonality

5. Multivariate time series models [2 weeks]
   ⇒ Enders (2003, chapter 5), Hamilton (1994, chapters 10, 11)
   (a) Vector autoregression analysis
   (b) Estimation and identification
   (c) Impulse response functions and variance decompositions
   (d) Hypothesis testing
   (e) Structural vector autoregressions
   (f) Examples of structural decompositions

6. Cointegration and error-correction models [2 weeks]
   ⇒ Enders (2003, chapter 6), Hamilton (1994, chapter 19)
   (a) Cointegration of macroeconomic time series
   (b) Cointegration and common trends
   (c) Cointegration and error correction
   (d) Testing for cointegration

7. Time series in the frequency domain [1 week]

8. Nonlinear time series models [1 week]
   ⇒ Enders (2003, chapter 7), Hamilton (1994, chapter 22)
   (a) Switching regimes
   (b) Threshold autoregressions

2 Literature

The main textbook for this course is Enders (2003). The book provides a very accessible introduction to time series analysis. It contains many examples and economic applications. The emphasis is on econometric intuition and matrix algebra and mathematical proofs are kept to a minimum. The author has also written a handbook with instructions on how time series can be estimated with the RATS software package (Enders, 1996); however, since we use EViews in this course, the handbook will be of limited use for us.

A useful reference for the topics covered in this course is Hamilton (1994); students might in particular wish to consult the mathematical appendix of the book, which explains in simple terms
the mathematical concepts used in time series analysis. The book is written in a very clear and concise style. However, students should be aware that the individual chapters of the book tend to go into more detail than is required for this course.

3 Software

There will be computer sessions after the topics 3, 4, 5, 6, in which we will analyze time series data using the EViews software package. Instructions on how to use EViews will be given during the lectures and computer sessions.

4 Problem sets and written assignments

There will be seven problem sets, one for each topic. In addition, students will have to hand in two written assignments, in which they apply time series methods to economic data using EViews.

References


Course on Macroeconometrics (graduate level). Contribute to wmutschl/macroeconometrics development by creating an account on GitHub. Teaching material for a course on Macroeconometrics on a graduate level. Please feel free to use this for teaching or learning purposes, however, taking into account the license. If you spot mistakes, let me know. General. The course is aimed at advanced students of economics, especially master students who are interested in basic methods and current developments in modern macroeconometrics. The course is also suitable for PhD students. KEYWORDS: Macroeconometric Models, Policy Rate, Policy Simulations, Malawian Economy. JOURNAL NAME: Open Journal of Modelling and Simulation, Vol.4 No.4, September 6, 2016.

ABSTRACT: This study tries to develop and use a small macroeconometric model to capture the main short-term macro dynamics and to forecast major macroeconomic variables of the Malawian economy. The results show that a reduction in the policy rate leads to a fall in the lending rate, but with an increase in money supply, and with an insignificant impact on output growth. The results suggest that monetary authorities in Malawi have to make a choice between the objectives of maintaining lower money supply and lowering the lending rate. Introduction to Structural Macroeconometrics [Structural Macroeconometrics]. Chetan Dave. David Dejong. Original applications of this exercise sought to determine whether models designed and parameterized to provide an empirically relevant account of long-term growth were also capable of accounting for the nature of short-term fluctuations that characterize business-cycle fluctuations, summarized using collections of sample statistics measured in the data. Macroeconometric modelling is one of the 'big' projects in economics, dating back to Tinbergen and Frisch. This introductory chapter rst discusses the state of the project. We advocate the view that, despite some noteworthy setbacks, the development towards more widespread use of econometric models, is going to continue. However, models change as research progresses, as the economy develops, and as the demand and needs of model users change. We point to evidence of this kind of adaptive changes going on in current day macroeconometric models. We then discuss the aspects of the macroeconometric... Models and Assumptions Used for Simulating Student Debt Cancellation Introduction to the Moody's model Introduction to the Fair model Assumptions for the simulated student debt cancellation Baseline values and macroeconometric simulation. 36 36 37 37 38. Simulation Results Conclusions from simulations.