General Equilibrium Theory – Historical and Analytical Approaches

Summer term 2019
Students in the Ph.D. and MSQ Programs

Lecture: Fridays 10 a.m. – 1 p.m. in RuW 4.203
Requirements: Attendance, participation in discussions, term paper or oral exam

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Aims of the lecture

The module covers the history and actual developments of General Equilibrium Theory (GET). It traces the development of GET from Walras' “Éléments d'Économie Politique” to more recent approaches. The relation of GET and capital theory, as well as Keynesianism will be of special interest.

Lecture and Exercises provide a profound knowledge in economic theory which is the basis of modern research in Micro- and Macroeconomics. The theoretical foundations presented will enhance and encourage students to develop their own scientific research activities.

Lecture description

General Equilibrium Theory (GET) is still the basis of modern economic theory. The intertemporal GET according to Arrow and Debreu will in this lecture be treated as a reference model, together with an extensive discussion of proofs of existence and of stability properties. The analysis of the equilibrium concept is to be deepened by a reconstruction of its historical evolution, passing from classical economics via the first neo-classical revolution to Walras and to the second neo-classical revolution (which is controversial among historians of economic thought) and to intertemporal theory (Hicks, Lindahl, Hayek). Within this framework, Sraffa and capital theory also are to be treated. This will involve an introduction to the theory of non-negative matrices as a mathematical foundation, the analysis of long-period prices, the application to the aggregation of capital, the critique of the aggregate production function and a report on my present research on the extent to which the production function may be rescued, using a statistical approach and random matrices. If time permits, it will be shown further how GET was changed under neo-keynesian influence (Malinvaud, Drèze) to include the problem of effective demand. Another path of development leads via the results of the turnpike theorems back to the theory of natural prices. The contrast between the failures (stability) and the successes (existence theorems) of GET from a theoretical and an applied point of view (Keynesians and Monetarists) may stimulate own research.
Outline

1 Introductory remarks and some mathematical tools
   a) Long-run prices in GET: an overview
   b) Fixed point theorems

2 The main pillar of economic theory after 1945: Arrow-Debreu GE
   a) Assumptions
   b) Existence
   c) First applications

3 The modern alternative, classical revival
   a) Theory of non-negative matrices
   b) Theory of single production systems
   c) First applications and the problem of capital theory

4 Walras' "Éléments d'Économie Politique", their prehistory and rivals
   a) Historical introduction
   b) An overview of the model
   c) The problem of capital in Walras (Morishima – Eatwell debate)
   (d) Pareto: extensions and restrictions
   e) Böhm-Bawerk and Wicksell: Accumulation and interest

5 Dilemmas and new ventures of the interwar period
   a) The debate on returns to scale and imperfect competition
   b) Return to the classical notion of the long period
   c) Viennese contributions: Walras-Wald-model, von Neumann (with an addendum on
      the theory of linear programming)
   (d) Hicks and Lindahl: temporary and intertemporal equilibrium)
6 Keynes and GE
   (a) Clower and Leijonhufvud)
   (b) Marshallian interpretation)
   c) The Malinvaud school
   d) The critique by Kahn

7 Classical theory: deepening long-period analysis
   (a) Ricardo and his school on Value and Accumulation)
   (b) Some models of joint production)
   c) The surrogate production function
   d) Statistical approach: is the production function to be rescued on the basis of theory of random matrices?

(8 General equilibrium: some more recent developments)
   (a) Stability and uniqueness of equilibrium)
   (b) The Hahn – Garegnani debate)

(9 A critical synthesis)
   (a) An intertemporal model of general equilibrium with a linear technology)
   (b) Long period analysis and infinite horizon ('turnpike')
   (c) Another reappearance of the problem of capital theory)*

* - subjects in brackets were covered only in some semesters and are optional
Basic Literature


Additionally first editions of


and of

Sessions in GET – Historical and Analytical Approaches
(2 SWS, RuW 4.203)

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