2EL2170 – Economics of growth and innovation

Instructors: Mehdi SENOUCI
Department: DÉPARTEMENT SCIENCES HUMAINES ET SOCIALES
Language of instruction: FRANCAIS
Campus: CAMPUS DE PARIS - SACLAY
Workload (HEE): 60
On-site hours (HPE): 35,00
Elective Category : Business Sciences
Advanced level : Yes

Description

Economic growth, in a broad sense, is a concept that refers to all economic changes over time. One of the strongest consensuses in economics is that which links growth to innovation. The first objective of the course is to make students aware of the study of economic growth, both long and short term, by trying to convince them that the regularities as well as the paradoxes of growth justify an analytical approach combining the exploration of facts, empirical analyses and theory-building. The second objective is to present the great economic evolutions of the world from the origins to the present day, with greater importance given to the modern era, as well as the theories related to each era and each transition. The third and more diffuse objective is to push students to question the future consequences of innovations currently underway or in the making. The course will combine theory and empirical studies following the red thread of history.

The course, demanding and research-oriented, is reserved for an audience willing to get involved. Apart from the final exam, two reports will be required (one in tutorials) which will be based on the critical reading of research papers.

Quarter number

SG6

Prerequisites (in terms of CS courses)

Economics compulsory course. Basics of econometrics (ordinary least squares).

Syllabus

1 - Economic growth as a historical phenomenon: the major trends
2 - A detour: the neoclassical model of perfect markets
3 - Neoclassical analysis of growth: successes and failures
4 - Growth, energy and the environment

5 - Growth, labor market and inequality
6 - Economic growth over the very long run
7 - The future of economic growth

Class components (lecture, labs, etc.)
Lectures (24h), Tutorials (9h), Exam (2h)

Grading
One mandatory assignment in tutorials: 3/8
One other mandatory assignment: 3/8
Final exam: 3/8

Course support, bibliography

- Slides and lecture notes
- The course will not rely on a specific textbook, but students can refer to:
    - Hal R. Varian (2014) *Intermediate microeconomics - A modern approach,* W. W. Norton & Company, 9th edition
    - Robert J. Barro & Xavier Sala-i-Martin (2003) *Economic Growth*, MIT Press, 2nd Edition
    - David N. Weil (2012) *Economic Growth,* Pearson Education
    - Charles I. Jones & Dietrich Vollrath (2013) *Introduction to economic growth,* W. W. Norton & Company, 3rd edition
- Many articles and books will be covered, including:
    a. Acemoglu, Johnson, and Robinson (2001) "The Colonial Origins of Comparative Development: An Empirical Investigation." American Economic Review.
    b. Acemoglu, Johnson, and Robinson (2002) "Reversal of Fortune: Geography and Institutions in the Making of the Modern World Income Distribution." Quarterly Journal of Economics.
    c. Aghion, Dechezleprêtre, Hémous, Martin and Van Reenen (2016) ‘‘Carbontaxes, path dependency, and directed technical change: Evidence from the auto industry,’’ Journal of Political Economy.
    d. Ashraf and Galor (2013) "The `Out of Africa' Hypothesis, Human Genetic Diversity, and Comparative Economic Development," American Economic Review.
    e. Clark (2007) *A Farewell to Alms: A Brief Economic History of the World*, Princeton University Press.
    f. Comin and Mestieri (2014) ‘‘Technology Diffusion: Measurement, Causes and Consequences,’’ Handbook of Economic Growth.

g. Diamond (1997) *Guns, Germs and Steel: The Fates of Human Societies,* W. W. Norton & Company.
h. Galor (2005) "From Stagnation to Growth: Unified Growth Theory," in Handbook of Economic Growth.
i. Galor and Ozak (2016) "The Agricultural Origins of Time Preference," American Economic Review.
j. Greenwood Hercowitz and Krusell (1997) "Long-Run Implications of Investment-Specific Technological Change," American Economic Review.
k. Habakkuk (1962) *American & British Technology in the 19th Century: The Search for Labour-Saving Inventions*; Cambridge University Press [2nd edition: 1967].
l. Kaldor (1961) "Capital Accumulation and Economic Growth," in The Theory of Capital (F. A. Lutz & D. C. Hague, eds.); Macmillan, St. Martin's.
m. Mankiw, Romer, and Weil (1992) "A Contribution to the Empirics of Economic Growth." Quarterly Journal of Economics.
n. Nordhaus (1973) "The Allocation of Energy Resources," Brookings Papers on Economic Activity.
o. Piketty and Zucman (2014) "Capital is Back: Wealth-Income Ratios in Rich Countries 1700-2012," Quarterly Journal of Economics.
p. Romer (1990) "Endogenous Technological Change." Journal of Political Economy.
q. Solow (1956) "A Contribution to the Theory of Economic Growth," Quarterly Journal of Economics.
r. Solow (1957) "Technical Change and the Aggregate Production Function," Review of Economics and Statistics.

Resources
Lectures (Mehdi Senouci)
Tutorials

Learning outcomes covered on the course
At the end of this course, students will be able to:
- Model consumption, production, exchange and technical change with neoclassical models;
- Know, manipulate and interpret different theoretical models of economic growth;
- Discuss the issues of growth in an analytical logic and in knowledge of the history and facts of economic growth.

Description of the skills acquired at the end of the course

Model consumption, production, exchange and technical change with neoclassical models; is included in skills C1.3 "Apply problem-solving through approximation, simulation and experimentation. / Solve problems using approximation, simulation and experimentation", and C2.3 "Rapidly identify and acquire the new knowledge and skills necessary in applicable / relevant domains, be they technical, economic or others."
Know, manipulate and interpret different theoretical models of economic growth; is included in skills C1.1 "Examine problems in their entirety and beyond their immediate parameters. Identify, formulate and analyse the scientific, economic and human dimensions of a problem", and C2.3 "Rapidly identify and acquire the new knowledge and skills necessary in applicable / relevant domains, be they technical, economic or others."
Discuss the challenges of growth in an analytical logic while being aware of the history and facts of economic growth; is included in skill C7.1 "Persuade at core value level; to be clear about objectives and expected results. To apply rigour when it comes to assumptions and structured undertakings, and in doing so structure and problematise the ideas themselves. Highlight the added value".