



Lecture in “Economics of Technical Change“ (V2/Ü2,13ss-19317)

Description

Economics of technical change addresses the core of economic growth, i.e. technical improvements. The notion of technical change has found a completely new dimension in the era of computers and Internet. In this course, we will shed light on how traditional economic theories and methods can help to analyze the information age and where we can find parallels to earlier developments. An overview of the main interests and some more recent developments in research will be given. Special focus will be on the impact of information and communication technologies (ICT) for innovation and productivity development, which incorporates network effects in particular. Further topics encompass knowledge as a public good, path dependence and lock-in effects, standardization, competition, intellectual property and patent statistics, general purpose technologies, software licensing as well as policy aspects.

Organization

Date and place: Tuesdays, 14:00 – 15:30 p.m., SG 413 (Seminargebäude, Wüllnerstr. 5-7). Successful participation in this course requires registration via CAMPUS and passing of the written exam (60 minutes) at the end of the course¹. Exercise units will accompany the lecture (Wednesdays, 13:15-14:45 p.m., SFO 9, Eilfschornsteinstr. 15, Germanistisches Institut). Powerpoint slides will be provided via the e-Learning platform (L2P).

Time schedule and contents

Unit	Date	Topic	Recommended literature
1	09 April	Introduction and overview	[1] Ch. 1; [6] Ch. 1, 3
2	16 April	Public goods character of knowledge ('knowledge commons')	[6] Ch. 4, [8] Ch. 12
3	23 April	Technology diffusion	[1] Ch. 16; [6] Ch. 7
4	30 April	Localized technological change (by Oberst)	will be announced later
5	07 May	Financing aspects	[6] Ch. 8
6	14 May	Standardization and competition	[7];[8] Ch. 3-4, 14
7	28 May	Path dependence and lock-in	[1] Ch. 3, 5
8	04 June	General purpose technologies	[1] Ch. 14; [3]; [4]
9	25 June	Policy aspects	[6] Ch. 12
10	09 July	Intellectual property and patent statistics	[5]
11	16 July	Open technology	[1] Ch. 9

Learning goals

- Getting to know basic topics and approaches of the economics of technical change
- Being able to economic theories and concepts
- Recognize differences between conventional and network industries

Group of participants

The course addresses students of business administration, economics, and double-degree students in economics and industrial engineering.

Prerequisites: Basic knowledge in microeconomics

¹ Dates: Aug. 2, 2013 from 13:00 to 15:00 hrs, and Sep. 24, 2013 from 14:00 to 16:00 hrs.



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Key literature

- [1] Antonelli, C. et al. (Eds.) (2006). New Frontiers in the Economics of Innovation and New Technology. Essays in Honor of Paul A. David, Edward Elgar, Cheltenham, UK and Northampton, Mass., USA.
- [2] Antonelli, C. (2006). Localized technological change and factor markets: constraints and inducements to innovation. Structural Change and Economic Dynamics 17, 224-247.
- [3] Bresnahan T.F., Trajtenberg M. (1995). General purpose technologies, Journal of Econometrics 65, 83-108.
- [4] Jovanovic B., Rousseau P.L. (2005). General purpose technologies, NBER Working Paper No. W11093, January.
- [5] Popp, D. (2005). Lessons from patents: Using patents to measure technological change in environmental models. Ecological Economics 54, 209-226.
- [6] Stoneman, P. (Ed.)(1995). Handbook of the Economics of Innovation and Technological Change, Blackwell, Oxford, UK and Cambridge, USA.
- [7] Tassef (2000). Standardization in technology-based markets. Research Policy 29, 587-602.
- [8] Blind (2004). The Economics of standards: theory, evidence, policy. Edward Elgar, Cheltenham, UK; and Northampton, Mass., USA, Ch. 3-4, 12,14.

Information

Further information can be obtained from the FCN Website (www.eonerc.rwth-aachen.de/fcn) For more specific questions please contact Dr. Christian Oberst (coberst@eonerc.rwth-aachen.de; Office hours: by appointment only).