

Topic # 5: Technological change in the pre-modern world.

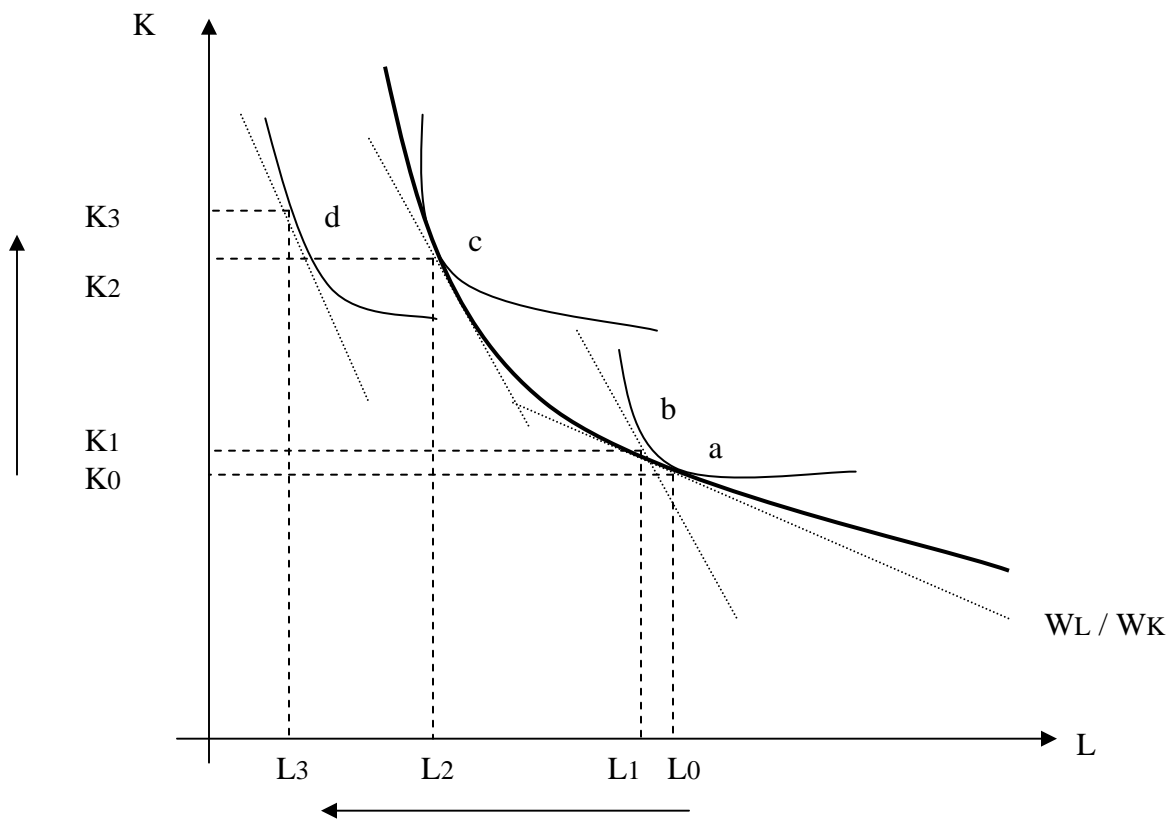
(*) Clark (2007), “Technological Advance”, in Farewell to Alms, Pg. 133-44.

(*) Mokyr (1990), “The Renaissance and Beyond: Technology, 1500-1700”, in The Lever of Riches, Pg. 57-80.

- Question: Was technological change endogenous before the first industrial revolution?
- Theory: Modeling technological change.
- Evidence: Population growth and density.

- Describing the process of technological change.
- Technological change as an investment project.
- Endogenous vs. exogenous technological change.

- Technological change is a multi-stage process:
 - o Invention
 - o Innovation
 - o Adoption
 - o Adaptation
- Micro vs. macro inventions
- Biased vs. neutral technological changes
- Intellectual property and patents



Changing Technique, Induced Adoption and Induced Innovation

- Measuring early technological change from population growth.
- Few examples of technological discontinuity, but the environment for technological change improves.
- Spillovers and externalities rare \Rightarrow low rate of serial correlation.

Rate of Technological Change

Clark (2007), Table 7.1

	Population Growth	γ	Technological Change
1250	0.102	0.25	0.025
1500	0.081	0.25	0.020
1750	0.181	0.25	0.045