

Economic History

Week 8: Explaining the Industrial Revolution

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1st Semester 2023-24

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Plan for the Class

1. What caused the Industrial Revolution?
2. Exercises

What caused the Industrial Revolution?

Materialistic approach

- The origin of the IR is a **set of economic conditions** set out in the **XVIII century**

1. High wages

- increasing exports
- urban development (high agricultural productivity)

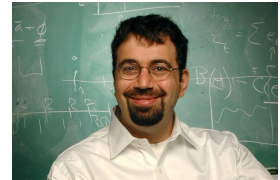
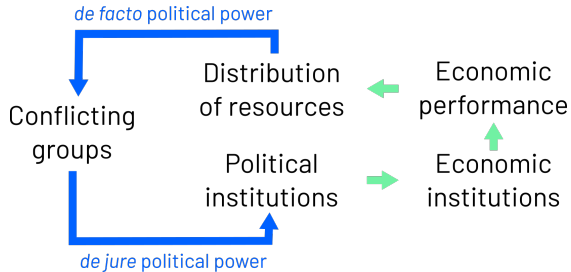
2. Cheap energy (coal and iron abundant)

- There were **incentives for technological evolution**
 - **Labor-saving** inventions
 - **R&D was profitable** in Britain



ROBERT C. ALLEN

Institutions approach



DARON ACEMOGLU

- Both political and economic institution can be **extractive** or **inclusive**
- The UK had very inclusive institutions earlier (e.g. *Magna Carta*, 1215)

Culture and Rhetoric approach

- **Disagrees with materialistic approaches** (several *not*)
- **Ideas** are the source of innovation and economic growth
- UK vs. Continental Europe: **appreciation for bourgeois** (and economic activity)
- **Problems:** unclear **policy implications** (how to change ideas?), unclear **mechanism for innovation, counterfactual** (growth in cultures against bourgeois/liberal values)



DEIRDRE N.
MCCLOSKEY

Human Capital approach

- **Human Capital:** education as an asset
- **Measurement Puzzle:** hard empirical link between education and Human Capital
- First Stages of the Industrial Revolution relied on unskilled labor
- But: basic literacy has been proven crucial (Protestant culture), as well as primary education; maybe the link is only relevant in the elites
- UK: apprenticeship system, specially prone to innovation (learning-by-doing incremental process)



CLAUDIA GOLDIN

Exercises


Exercise 10.1 (Luck, *aeolipile* and human capital)

Consider the argumentation by Robert Allen on why the Industrial Revolution was British (e.g., Allen (2006, 2009, 2011)).

a) *Based on which main element of his argumentation could we say that Britain's success was partially due to luck?*

- The **luck** element: cheap coal was readily available
- It also helped the fact that **international trade** pulled wages up

Exercise 10.1 (Luck, aeolipile and human capital)

b) *Heron of Alexandria (c. 10 AD – c. 70 AD) is credited with the invention of the first-recorded steam engine, the aeolipile . This latter happened to perform some useful tasks such as opening temple doors. Following Allen, what main element explains why this invention did not trigger, not even contribute to trigger, an industrial revolution?*

- **Slavery** turns labor a cheap and abundant input
- **No economic incentives** for labor-saving technology adoption

Exercise 10.1 (Luck, *aeolipile* and human capital)

c) *Consider engineering skills as a part of British human capital. Why does Allen say that this human capital made Britain lose its initial advantage compared to other European nations?*

- The human capital of the workers made it possible to greatly **improve the inventions**
- Improvements made inventions **profitable** even in countries that had expensive coal

Exercise 12.1 (Why don't Jews Farm?)

Jews took up urban occupations (finance, law, medicine,...) in proportions that no other group did and this from as early as the first century C.E. and in all places.

a) *In the Middle Ages Europe, Jews were often not allowed to own land. Could this discrimination explain the fact that the Jewish community was concentrated and working in the cities? Was it because Christians could not lend money with interest in the medieval period?*

Exercise 12.1 (Why don't Jews Farm?)

- Not indeed, according to evidence¹ of 15 centuries: 70 C.E. to 1492
- The **destruction of the Temple** spread the religious leadership (rabbis and scholars)
- Every **Jewish man was required to read** and to study the Torah in Hebrew
- Synagogues built **primary schools**

¹Botticini, M. and Eckstein, Z. (2015). *"The Chosen Few: : How education shaped Jewish history, 70-1492"*. Princeton University Press.

Exercise 12.1 (Why don't Jews Farm?)

Travel back in time to a village in the Galilee around the year 200.

What would the reader see?

They would see Jewish farmers, some rich, some poor who have to decide whether to send their children to primary school as their rabbis tell them to do. Some farmers are very attached to Judaism and willing to obey the norms of their religion, others are not very devout and consider whether or not to convert to another religion. In this rural economy, educating the children as Judaism requires is a cost, but brings no economic benefits because literacy does not make a farmer more productive or wealthier.

— Maristella Botticini and Zvi Eckstein (2013)

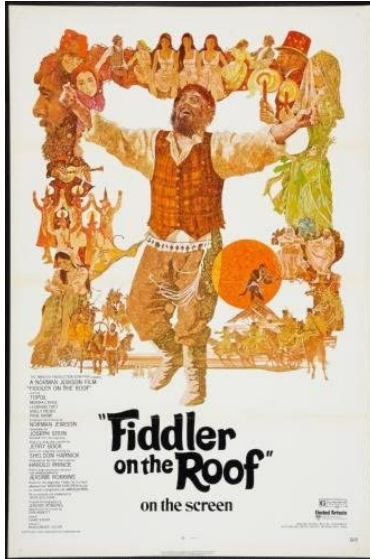


MARISTELLA
BOTTICINI



ZVI ECKSTEIN


Exercise 12.1 (Why don't Jews Farm?)



Exercise 12.1 (Why don't Jews Farm?)

b. *Suppose you investigate about whether or not Jews were restricted in their occupations and in land ownership in the Muslim world, and in particular when this latter was at its peak, say in the centuries following the death of Mohammed (in 632). You discover that they were not but, there too, they took these occupations. How will this piece of information fit in your argumentation about this particularity of the Jewish community?*

Exercise 12.1 (Why don't Jews Farm?)

- During **Muslim empire**: agricultural productivity grew, new industries developed, commerce greatly expanded, and new cities and towns developed 
- This required **skilled workers**
- Investment in **education became profitable**
- Transition from the agricultural sector
- But **no legal or economic restrictions**

Exercise 12.1 (Why don't Jews Farm?)

c. What are the assets that a group individuals needs in order to perform in the finance/credit sector?

- Capital accumulated
- Literacy
- Networking
- Contract-enforcement institutions

Exercise 12.1 (Why don't Jews Farm?)

d. *Among the elements that we saw in our classes, what would you suggest could explain the economic success of the Jewish community through the high paying occupations in the cities? Explain.*

Human Capital

Exercise 13.1 (Schumpeter, Capitalism and Economic Process)

Consider the following quote by the famous economist.

«A society is called capitalist if it entrusts its economic process to the guidance of the private businessman.» — Joseph Schumpeter (1946)

*What Schumpeter leaves aside in the definition, though his life's work embodied it, is that the society— or at any rate the people who run it— must **XXX** businesspeople.»*

— McCloskey (2019)

*What is the word behind the **XXX**? Explain why and how that relationship is seen by McCloskey (and Schumpeter) as the source of economic success.*

Exercise 13.1 (Schumpeter, Capitalism and Economic Process)

- **XXX** stands for **admire**
- If business people are admired, they will deliver their part of the bourgeois deal: ***“Leave me alone, and I’ll make you rich”***
- **Liberty** triggered **investment and innovation** that are the keys for long term growth