

Notes for 129 Social Savings (09-01-13)

These have been corrected from the hand out.

1) A bit of background in Transactions costs

Back to $y=f(k)$

Private entrepreneur maximizes profits by choosing k

$\text{Max } f(k)-rk \Rightarrow f'=r_1$

suppose there are transactions costs (so that the entrepreneur only gets

$(1-t)y \Rightarrow \text{then } \text{Max } (1-t)f(k)-rk \Rightarrow f'=r_2/(1-t) \Rightarrow k_2 < k_1$

suppose there are transactions costs (so that the entrepreneur has to pay a risk premium

$(1+t)r \Rightarrow \text{then } \text{Max } f(k)-(1+t)rk \Rightarrow f'=r_3(1+t) \Rightarrow k_3 < k_1$

So transactions costs reduce total output by reducing capital accumulation

More general rule?

2) Social Savings in the Transport sector

Erie Canal

Completed in 1825, pays for itself as it is being built (revenue from operating sections is larger than the cost of interest on investment).

Massive effect because it connects the great lakes to NY without the detour of the St Lawrence (and the falls).

Canal boom and bust

When the mid west (Ohio to Illinois) opens up, states try to replicate the Erie canal effects, but returns low because hinterland is sparse (return high to canal that connects great lakes to Mississippi but that one is quite short)

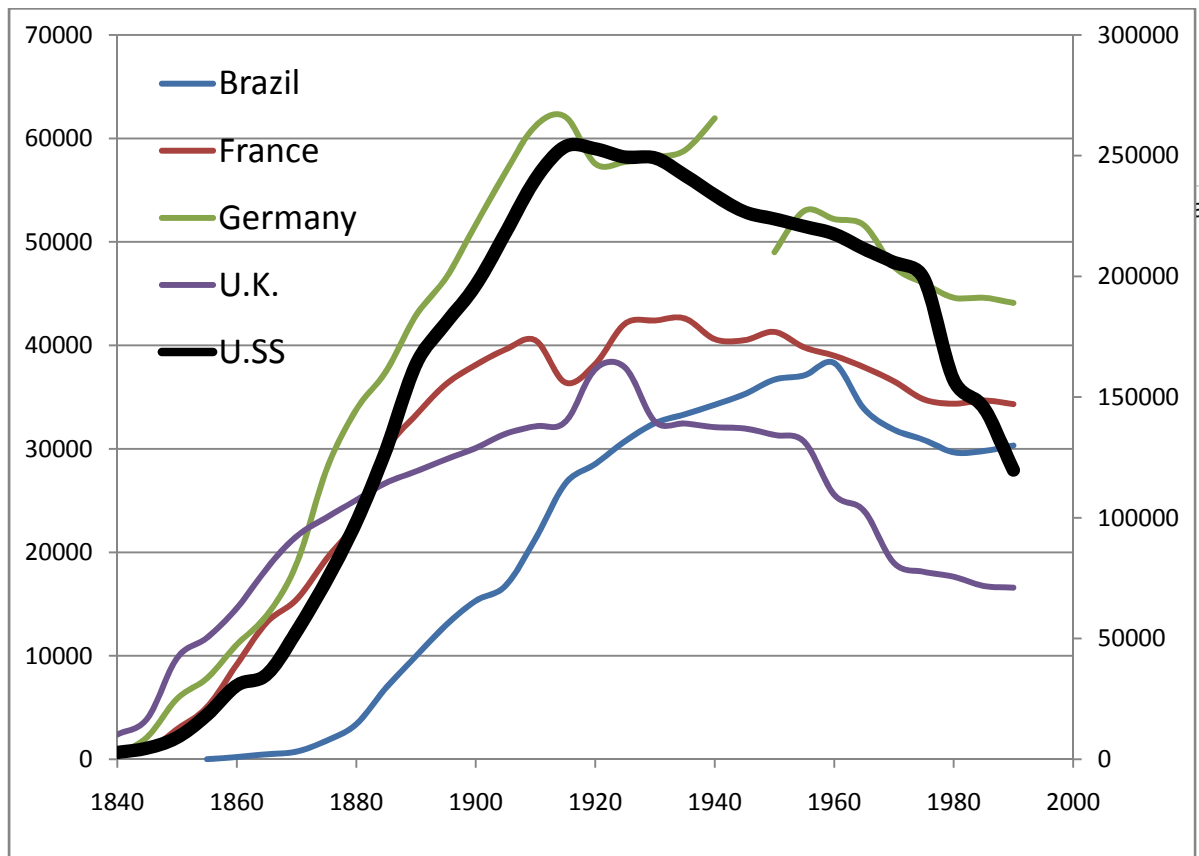


Figure is railroad miles for each of the countries, (US on the left axis, all others on right)

Fogel

This is Fogel's presidential address where he takes on his early results and then deals with questions raised by the discipline

What are social Savings? Who gets them; why can't we compute changes in returns to the transport sector?

So what does Fogel actually measure? Roughly $(p_w - p_r)Q_{1890}$.

Why does that make sense?

How much of the debate is about adjustment to the idea or the idea itself.

He argues that social savings from railroads were small, so why did the U.S. have more railroads than any other country?

Are the elements of what makes railroads valuable that Fogel has overlooked?
Would these be economically large?

Long run effects

Andrew Carnegie

Regional specialization and economies of scale

3) Summerhill

What makes Brazil different?

Endowments, or institutions

He argues that social savings were large from adopting railroads, yet in 1914 Brazil was still quite poor. Does that matter?

In Brazil railroads are largely used to link the agricultural sector with the world economy. Does that have consequences for the growth process that are different from a country where they link agriculture to a region with a lot of manufacturing?

4) Note

You now have been introduced to the key elements of studying long term growth.

- a. Input price \Leftrightarrow marginal product
- b. Output price \Leftrightarrow marginal cost
- c. TFP change (growth of inputs relative to outputs)
- d. Social savings

Think through why each of these affects either K (or any other endogenous input), Technology, or the choice of output.

5) Introduction to technological change

- a. What is technology
- b. What is a technology
- c. Technology as a machinery,
 - i. Steam engine is a steam engine is a steam engine
 - 1. Here the object depreciated but not the technology
- d. Technology as process
 - i. Learning and forgetting
- e. Biological technology
 - i. Self depreciating

6) Factor endowments and technology

- a. Specialization and comparative advantage
 - i. Comparative advantage comes from technology
 - ii. Heckscher-Olin comparative advantage comes from factor intensity
 - iii. Factor intensity may come from endowments
- b. The latitude hypothesis
- c. The latitude regularity
- d. Agriculture
- e. Manufacturing

7) Class grading

- 1) 15% on turning in paragraph typed before end of class. (you get 1 pt out of 100 for turning one in; that allows you to miss 3)
- 2) 10% on class participation
- 3) 25% on mid term (will post a sample mid term next week)
- 4) 50% on final or term paper

Note: term paper topics must be approved by March 5 (so submit by March 3). Final papers are due the last day of finals week, and there will be a 10% penalty for any late paper.