Sustainable economic growth and comparative advantage: Britain's late nineteenth century decline

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Historical Perspectives on Economic Growth

Questions of this Lecture

- How did Britain's economy perform during the second half of the 19th century?
- Can the Victorian era explain Britain's disappointing growth of the 20th century?

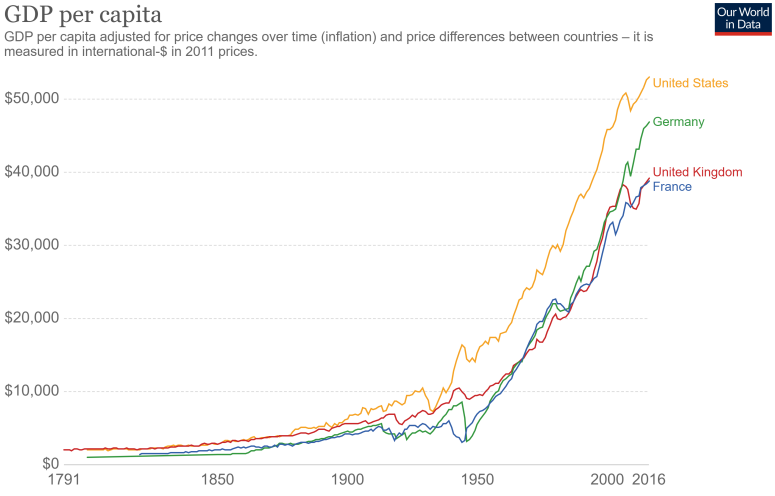
GDP per capita
GDP per capita adjusted for price changes over time (inflation) and price differences between countries – it is measured in international-$ in 2011 prices.
Our World in Data
United States
Germany
United Kingdom
France
$50,000
$40,000
$30,000
$20,000
$10,000
$0
1791
1850
1900
1950
2000
2016
Source: Maddison Project Database (2018)
Note: These series are adjusted for price differences between countries using multiple benchmark years, and are therefore suitable for cross-country comparisons of income levels at different points in time.
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Table 1: National shares of world manufacturing output 1860–1913 from Magee (2004, p. 81)

	1860	1880	1900	1913
UK	19.9	22.9	18.5	13.6
France	7.9	7.8	6.8	6.1
Germany	4.9	8.5	13.2	14.8
Italy	2.5	2.5	2.5	2.4
Japan	2.6	2.4	2.4	2.7
USA	7.2	14.7	23.6	32

Table 2: Levels and rate of growth of real GDP per capita from Crafts (2004)

	1870 GK$ 1990	1913 GK$ 1990	Growth 1870–1913
UK	3,191	4,921	1
Germany	1,913	3,833	1.6
US	2,445	5,301	1.8

Absolute vs. relative decline

- While Britain was well ahead of Germany and US, it's growth was slower
- Britain is overtaken by US and Germany between 1870–1914
- Contemporaries already debated over reasons

Figure 1: Manufacturing output per person employed 1869–1907 (UK=100) from Broadberry (2005, p. 36)

(a) 1869–1989	US/UK	Germany/UK
1869	203.8	
1871		92.6
1875		100.0
1879	187.8	
1889	195.4	94.7
1899	194.8	99.0
1907	190.0 (201.9)	106.4
1913	212.9	119.0
1920	222.8	
1925	234.2	95.2
1929	249.9	104.7
1935	207.8	*102.0 (102.0)
1937	*208.3 (208.3)	99.9
1950	262.6 (273.4)	96.0 [99.5]
1958	250.0	111.1
1968	242.6 (272.7)	120.0 (130.4)
1975	207.5 (224.7)	132.9
1980	192.8	140.2
1985	182.3	121.5
1987	188.8 (186.6)	107.8 (112.7)
1989	177.0	105.1

Figure 2: A contemporary cartoon[1]

A late victory of of feudalistic culture?

- Wiener (1981) argues that Britain lost it's 'industrial spirit' and the bourgeois turned to feudal values
- Rubinstein (1994) toots into the same horn, adding that British financiers had a fetish with investment in tropical empires and were too attached to old technology

McCloskey's Revision

McCloskey (1970) argues that Victorian Britain did not 'fail'

- It was rational to allocate capital where its dearest, and therefore abroad, where its rents are therefore highest
- British growth was as high as possible, and not an outcome of bad decisions or bad culture

The two first Industrial Revolutions

- **First Industrial Revolution** built on steam and coal: Britain is leading
  - Main inventors and entrepreneurs (Watts, Newcomen) were British
  - Due to high wages and low energy costs, replacing labor by coal paid off in Britain and nowhere else (Allen 2009)
  - This lead to a slow, but steady higher growth in UK than abroad. However, technology diffuses
- **Second Industrial Revolution** built on electricity and combustion engines (Smil 2005)
  - Britain had large capital stock in 'old' technology. Even today railroad network hardly electrified
  - Other countries could directly invest in new technology

A Toy Model

- Assume that there are three input factors of the economy: Land, labor, and capital
- Initially, UK has most capital, Germany has most labor and US most land
- As capital is the most mobile among these factors, the initial advantage of UK will perish

So no part for culture?

Still there is some evidence for regulation prohibiting innovation

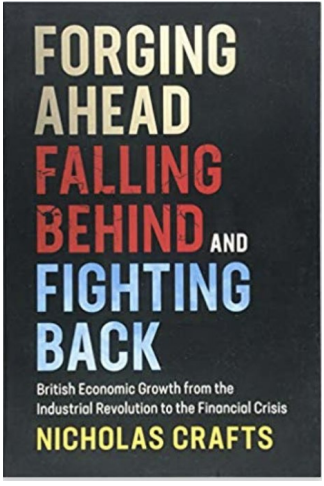
- Red Flag Act of 1865. All mechanically powered vehicles to be
  - Accompanied by three persons
  - Not to exceed 4 mph on the open road and 2 mph in towns
  - Be preceded by one man waving a red flag to warn other road users
  - This act was withdrawn in 1896 and speed increased to 14 mph
- Electric Lighting Act 1882

Figure 3: Electric Lighting Act 1882 Ch. 27

27. Where any undertakers are authorised by a provisional order or special Act to supply electricity within any area, any local authority within whose jurisdiction such area or any part thereof is situated may, within six months after the expiration of a period of twenty-one years, or such shorter period as is specified in that behalf in the application for the provisional order or in the special Act, from the date of the passing of the Act confirming such provisional order, or of such special Act, and within six months after the expiration of every subsequent period of seven years or such shorter period as is specified in that behalf in the application for the provisional order or in the special Act, by notice in writing require such undertakers to sell, and thereupon such undertakers shall sell to them their undertaking, or so much of the same as is within such jurisdiction, upon terms of paying the then value of all lands, buildings, works, materials, and plant of such undertakers suitable to and used by them for the purposes of their undertaking within such jurisdiction, such value to be in case of difference determined by arbitration ...

Nick Craft's Synthesis

- Crafts (2018) argues that the core of the 20th century British decline do not lie in the 19th.
- The reason for American overtaking lie in idiosyncratic American factors
- The nucleus of later failure might be seen in
  - Britain was locked in in 'low tech' industries, like mining and textiles, which were regionally concentrated
  - Other governments were more active in promoting education, and Britain will fall behind both in years of schooling and university attendance
  - A strong and de-centralized industrial relationship system



The Hold-up of industrial Relationship

- There are two players, managers and trade union
- Both simultaneously decide
  - Managers decide whether they reinvest a high or a small share of revenues in company
  - Trade unions decide on a high, or small wage increase
  - This is a prisoner's dilemma. Assume that the optimal would be low wage increase and high investment, which would allow a stable employment with constant growth
  - If there is no cooperation, then both parties divert, which is sup-optimal, especially for R&D

Conclusion

- Britain fell into relative decline around 1870
- Cultural reasons yield plausible anecdotes, but more complex
- Given technology diffusion, there should be a catch-up of latecomer economies
- Germany and US were better endowed, and benefited from Second Industrial Revolution

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