

Imperialism and the Great Divergence

Imperialism and the Industrial Revolution

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Outline

Questions

Haiti case

Controversies and Methods

Bairoch

IR Basic Facts

Counterfactuals

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Questions for the past

(A) Did the West develop at the expense of the Rest?

(B) Did the West underdevelop the Rest?

- Thanks to imperialism & colonialism
- i.e. various forms of political/economic violence
- Including slavery, forced, indentured labor

Ambitious programs:

- (A) → Rise of West question
- (B) → Development question
- Hence controversial (perhaps forever)

(C) Who within societies benefited / lost from imperialism?

Timeline of imperialism / colonialism

- 1450-1815: Mercantile Era
 - ↑ British dominance
 - European colonies: New World. Settlers + Slaves
 - Monarchic states + Charter companies. Tropical imports
- 1815-1945: Imperial Era
 - Informal imperialism + Colonialism
 - European Colonies: Old World. Few settlers + Slavery abolished
 - Industrial states. Markets for exports + raw materials for industry
- 1750-1850: Industrial Revolution turning point

Road Map

1. Imperialism and Industrial Revolution 1750-1850

- Triangular (or Diamond-shaped) trades
- Slavery, Cotton and Textile

2. Colonialism and Divergence 1850-1950

- Acquired advantage 'unfolds'
- Under free trade or even colonial monopoly

Mostly questions (A) and (C)

Ad! Economic history of development (S2, 24 hours), for (B)

Questions for the present

- Global heating and the historical contribution of the West
- Demands for reparation: odious debts, slavery, other damages
- Development aid as reparation?
- Neo-mercantilism: mine rush, land grabbing and others
- Extractive capitalism: bad for planet, peace... development?

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Haiti's double debt (1)

Perhaps the worst example of odious debt in modern times

- 1780s: Most profitable colony in the world, 470,000 slaves
- 1780s: Profits from sugar and cotton = 150 m. / year
- 1791: Haitian revolution
- 1794: Slavery abolition confirmed by French Convention
- 1804: Napoleonian troops defeated, independence
- 1825: In exchange of independence recognition:
 - Commercial privilege (-50% tariffs)
 - 150 million francs indemnity (renegotiated to 90 m. in 1838)
 - Obligation to borrow from French banks

→ Compensation of slave owners or their heirs

Project Repairs: <https://esclavage-indemnitees.fr/public/Base/1>

NYT: <https://github.com/nytimes/haiti-debt?tab=readme-ov-file>

Haiti's double debt (2)

Debt burden:

- 1823: Profits sugar and cotton down to 15 m. $\times 10$ years = 150 m.
- As of 1888: 112.5 m. repaid $\approx 200\%$ Haiti GNI, 1% France GNI
- Compar. 1: War with Prussia (1871) $\approx 18\%$ France GNI
- Compar. 2: Kabylia rebellion (1871) $\approx 20\%$ local income

How much to restitute? Counterfactual income flows

- 112.5 m. ≈ 33 tons of gold ≈ 3 billion € today
- Invested in France at $r =$ state bonds ≈ 3 b. € again
- Invested at $r = g \approx 30$ b. (1% of France GNI)
- Invested in Haiti with Solow model : 5 to 40 b. €
 - depending on prod. of K , saving rate s and deprec. rate δ
- French aid to Haiti 1974-2024 = 1.7 b. €

<https://www.youtube.com/watch?v=gUqgq87fi7o>

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Old and New controversies (1)

Slavery and Capitalism

- E. Williams, *Capitalism and Slavery*, 1944
- J. Inikori, *Africans and the IR in England*, 2002
- S. Beckert, *Empire of Cotton*, 2014
- E. Baptist, 2014; W. Johnson, 2013; R. Blackburn, 2013

IR in England: many emphasize internal forces

- Institutions (Greif), Culture (McCloskey), Ideas (Mokyr)
- Wars and Fiscal States (Tilly, Hoffman)

IR in US: NHC is at odds with mainstream EH

- E. Hilt, 2017; A. Olmstead & P. Rhode, 2018
- Why not compare with Brazil? N. Palma et al., 2021

Old and New controversies (2)

Dependentist and neo-marxist schools:

- A. Gunder Frank, 1966; S. Amin, 1976: Disconnect doctrines
- I. Wallerstein, *The Modern World System*, 1974
- E. Wolf, *Europe and the People Without History*, 1982
- I. Habib, *Essays in Indian Hist.: Tow. a Marxist Percep.*, 1995

Criticisms

- Again: internalist histories of IR or development (institutionalism)
- Non-marxist EH of India: T. Roy, 2000

Emerging syntheses = External + Internal forces combined?

- Institutions + Atlantic trade (Acemoglu & Robinson, 2005)
- New EH of India: B. Gupta, 2025

Methodology

- Events that happened only once
 - IR in Britain, Extinction of Dinosaurs, Big Bang
 - Role of theory...or ideology?
- Which counterfactuals?
 - No slavery? No cotton? No textile? No trade?
- Unicausal explanations?
 - Protestantism, Property rights, Bourgeois values, Imperialism...
- More humble approaches: just tick wrong
 - Wrong = no impact? Or = too partial?
 - For ex. [Pomeranz, 2000](#); [Mc Closkey, 2010](#)... (see later)
 - ...Yet they also have their preferred explanations

Data

- Macro / Meso
 - Trade
 - Public Finance: tax revenue, expenditure by type
 - Urbanization, industrialization, GDP
 - Social tables, income tax tabulations
 - ...
- Micro
 - Slave traders / owners, colonial firms, shareholders (estate)
 - Boards, colonial administrators: networks
 - ...

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Paul Bairoch's Assessment (1)

Economics and World History. Myths and Paradoxes, 1993

- The West did not depend on the Rest for inputs
 - Until 1960, 80-95% raw materials came from the West
 - Except tropical crops: sugar, spices, rubber, drinks
 - Except jute. Cotton: US cotton is West cotton
- The West did not depend on the Rest for selling its products
 - 1800-1938: 17% exports (X) to Rest, $X=8\%$ GNP $\rightarrow 1.4\%$
 - Higher for UK: 40% to Rest, $X/\text{GNP}=12\%$ $\rightarrow 5\%$ GNP
 - Western powers w/o colonies caught up with colonial powers
- Profits from trade with the Rest cannot explain IR
 - British empire was small in 1750 (compare with Spain)
 - 1720-90: 36% X out Europe, $X/\text{GNP} = 6\%$ $\rightarrow 2\%$ GNP
 - Trade of France and Germany remained more Europe-centered
 - IR triggered second colonial expansion, not reverse

No zero-sum game: Even if the West did not need colonialism, it severely damaged the Rest's economic prospects

Paul Bairoch's Assessment (2)

Economics and World History. Myths and Paradoxes, 1993

- Very general overview
 - 'Third World' standpoint: more on colonies after 1850 than IR
 - Specificity of Britain + US North/South + West Indies
 - Specificity of cotton and textile
- Counterfactual computations
 - Too much focus on exports
 - Size of material flows \neq critical inputs (cotton, rubber, cobalt)
 - Colonial land + slavery + monopolies \rightarrow low input prices

Mixing IR take-off and post-1850 colonialism can be misleading

1750-1850: Out of Malthusian Trap

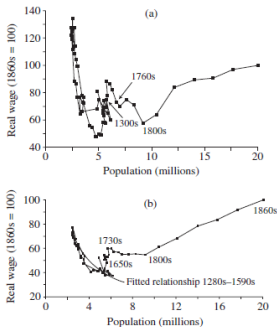


FIGURE 6.1. Population and wages in England, from the 1280s to the 1860s: (a) Phelps-Brown and Hopkins (1981) wages; (b) Clark (2005) wages. *Source:* Clark (2005, figures 3 and 5, pp. 1310, 1312).

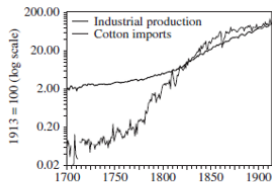
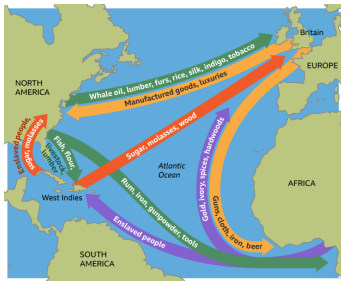


FIGURE 6.3. British industrial output and cotton imports, 1700–1913 (1913 = 100). *Source:* Crafts and Harley (1992, table A3.1, pp. 725–27) and Mitchell (1988, pp. 330–31, 334–35).

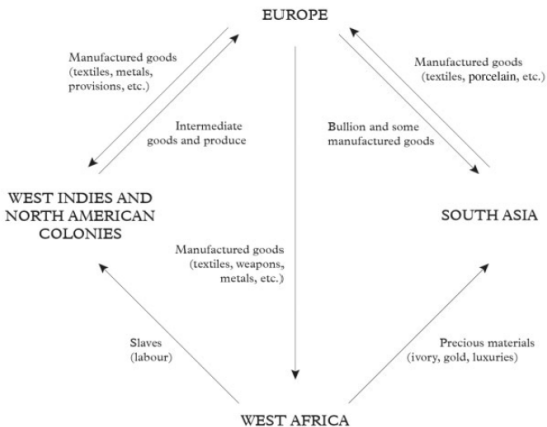
R. Findlay & K. O'Rourke, 2007. *Power and Plenty*, chapter 6: Trade and the IR.

Triangular: Sugar and Cotton



Quadriangular

FIGURE 1b
THE ASIAN-ATLANTIC DIAMOND-SHAPED TRADE AS AN ALTERNATIVE MODEL



G. Riello, "Cotton Textiles and the Industrial Revolution in a Global Context", *Past & Present*, 255(1): 87–139, 2022.

British trade

TABLE 6.2. British exports, 1784–1856, by product group (percent).

Period	1784–86	1794–96	1804–6	1814–16
Cotton goods	6	15.6	42.3	42.1
Woolen goods	29.2	23.9	16.4	17.7
Other textiles	10.6	10.6	7.4	8.2
Other manufactures	38.3	37.4	23.8	17.5
Foodstuffs and raw materials	15.9	12.5	10	14.5
Total (£000)	12,690	21,770	37,535	44,474
Period	1824–26	1834–36	1844–46	1854–56
Cotton goods	47.8	48.5	44.2	34.1
Woolen goods	16.3	15.2	14.2	10.5
Other textiles	9.1	9.8	10.9	12.7
Other manufactures	19.2	17.6	18.7	23.8
Foodstuffs and raw materials	7.6	8.9	12	18.9
Total (£000)	35,298	46,193	58,420	102,501

Source: Davis (1979, table 2, p. 15).

TABLE 6.5. British imports, 1784–1856, by product group (percent).

Period	1784–86	1794–96	1804–6	1814–16
Manufactures	10.5	7.1	3.4	1.1
Raw materials	47.0	44.7	54.2	56.2
Temperate foodstuffs	2.6	6.4	5.7	3.2
Wines spirits	7.5	8.3	6.3	5.8
Tea, coffee, cocoa	13.5	12.0	12.7	11.4
Sugar	12.8	17.3	13.6	17.2
Other foodstuffs	6.1	4.1	4.1	5.0
Total (£000)	20,386	34,326	50,619	64,741
Period	1824–26	1834–36	1844–46	1854–56
Manufactures	1.6	2.7	4.3	5.1
Raw materials	62.3	67.8	62.3	59.0
Temperate foodstuffs	4.2	2.9	10.3	15.4
Wines spirits	6.8	5.7	3.9	3.7
Tea, coffee, cocoa	9.0	6.9	4.6	4.5
Sugar	11.8	10.1	9.9	7.2
Other foodstuffs	4.3	3.8	4.8	5.1
Total (£000)	56,975	70,265	81,963	151,581

Source: Davis (1979, tables 23 and 24, pp. 36–37).

Britain + West Indies + US (1)

Sugar: profitable staple with increasing returns → large plantations with slave labor. Yet few consumers → 'industrious' revolution?

Cotton fabric: desirable good for basic need (clothing). Cotton not produced in Europe (India, Egypt, Brazil)

- 1700-1776: Sugar imports and woolen draperies exports
 - And Americas manufactured exports share: ↑ 15% to 45%
 - And sugar imports × 4, despite high tariffs
 - (Britain imports Indian cotton fabric)
- 1776-1833: Shift to cotton imports and cotton fabric exports
 - Import substitution: prohibition of cotton fabric imports
 - Export promotion: textile ≈ 40% manuf. output in 1800
 - Slave trade (1807) then slavery (1833) abolition (W. Indies)
- 1833-1865: Slavery abolition and shift to free trade
 - Raw cotton from US still > 50% imports
 - US Civil War: Cotton from other sources, but break in exports
 - After 1865: former Black slaves become sharecroppers

Britain + West Indies + US (2)

Originality of British empire (e.g. [C. Knick Harley, 2013](#))

- West Indies
 - Slaves = more than 80% population
 - Sugar, tobacco, coffee, cotton
- US South
 - Tobacco, rice, then cotton
 - Engine of growth = Smithian vent-for-surplus via trade:
 - Land extension, slave labor, crop varieties improvements
 - Self-sufficient in food and as rich as US North in 1860?
- US North & Canada
 - Wheat, other food, timber, shipping services
 - Sold to West Indies and US South
 - Engine: high natural pop. gr. (2.5%) (0 immig. 1640-1840)
 - Additional market for UK manufacture

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Counterfactuals (2)

- No slaves
 - Indentured labor from poor Europe (Ireland)?
 - Migration of farmers from the North to the South?
- No Americas
 - Cotton from India or Egypt?
 - Market for textile?
- No cotton fabric
 - Expand sheep wool instead? (K. Pomeranz, 2000, below)
 - Other sectors than textile?
- No intercontinental trade
 - No tropical luxury goods : sugar, tobacco, pepper, coffee, tea
 - No cotton

Counterfactuals (2)

1. O'Brien 1982: No intercontinental trade 1780-1820
2. Mc Closkey 2010: No cotton textile industry
3. Pomeranz 2000: No Americas → No cotton, no silver
4. Allen 2009: No intercontinental trade 1300-1800
5. Acemoglu et al. 2005: No Atlantic trade in Europe
6. Finlay & O'Rourke 2007: No Atlantic trade, no slave trade
7. Heblich et al. 2023: No slave holdings

Super profits from sugar and IR: Patrick O'Brien

"European Econ. Dev.: The Contrib. of the Periphery," *Econ. Hist. Rev.* 35(1), 1982

- Counterfactual marginal contribution to investment 1780-1820:
 1. No trade btw core and periphery, i.e. England and Americas
 2. Alternative uses had half the rate of return

→ Marginal returns represented only 7% of gross investment

Table 2. *Marginal Returns to British Capitalists from Commerce with the Periphery.**

	1780s	1820s
1. Actual flows of profits	5.49	15.68
2. Incremental flow from commerce with the Periphery (50% of row 1)	2.75	7.84
3. Reinvestment rate of 30%	0.80	2.30
4. Row 3 as a proportion of gross investment expenditure	7%	7%.

- Furthermore:
 - Super-profits? ↓ Prices for sugar, pepper, coffee, tobacco, tea
 - Reinvestment rates? + Capital acc. was not all (TFP = 1/3?)
 "If these speculations are correct, then for the economic growth of the core, the periphery was peripheral" (p.19); "only a simplistic growth model with cotton as a leading sector and British innovation as the engine of Western European growth could support that the Lancashire cotton industry was vital for the industrialization of the core" (p. 12)

Contribution of cotton to growth: Deirdre Mc Closkey

Bourgeois Dignity, Why Economics Can't Explain the Modern World, 2010

Dynamic counterfactual: Displace resources from cotton to other sectors
 Even if cotton textile had highest productivity, growth would remain solid

AND EVEN THE DYNAMIC EFFECTS OF TRADE WERE SMALL 219

Table 2. Crude approximations of productivity change by sector U.K. 1780-1860 (annual %)

SECTOR	PRODUCTIVITY GROWTH	VALUE OF OUTPUT DIVIDED BY NATIONAL PRODUCT	CONTRIBUTION TO THE NATIONAL GROWTH OF PRODUCTIVITY
Cotton	1.90	.070	0.1330
Worsteds	1.30	.035	0.0455
Woolens	0.60	.035	0.0210
Iron	0.90	.020	0.0180
Canals & railways	1.30	.070	0.0910
Shipping	0.05	0.06	0.0300
Agriculture	0.70	.270	0.1900
All others implied as residual	[0.02]	.850	0.0200
TOTAL (from Crafts/Harley)		1.41	0.5485

New world and IR: Kenneth Pomeranz (1)

The Great Divergence: China, Europe and the Making of the Modern World Economy

- Little differences btw England and Yang Tse China in institutions, technology, demographics, market development, up to 18th c.
- Both Europe and China were in "proto-industrial cul de sac":
 - Land and energy scarcity
 - Prod. of food, fiber, fuel and building supplies competed for scarce land → deforestation
 - Smithian growth: ↑ commercialization + ↑ division of labor
 - Europeans mercantile gains in Asia were limited and erratic
 - Chinese merchants were everywhere in Asia, yet Asian goods were already found in mainland
- Cheap Coal + New World Resources unlocked growth possibilities
- New World Resources = Inputs + Precious metals
- It is where the mercantilist model paid off: monopsony power allowed financing settlements, while diseases made conquest easier

Silver of the Americas

Anonymous, La Virgen del Cerro, 1770. Potosi, Bolivia



New world and IR: Kenneth Pomeranz (2)

The Great Divergence: China, Europe and the Making of the Modern World Economy

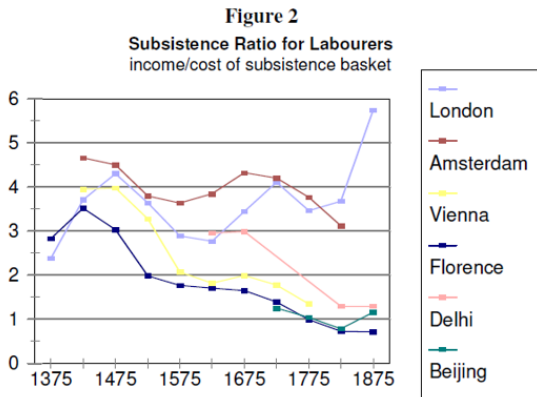
- Slave-based mode of production: low cost and efficient
 - Markets for UK manufacture and North America (to W. Indies)
 - Circum Caribbean was the first Third World: importing capital and consumer manufactured goods, with monoculture exports. Ever expanding land frontier and population
 - Gold and Silver allowed buying other raw materials in East Europe or Scandinavia, fabric from India to buy slaves, Chinese manuf. goods

- Ghost acres: No New World → No textile industry
 - "New world resources were more crucial than New world profits: there were clearly alternate investments that could yield money, but it is less clear that there were alternate ways to get large amounts of land-intensive goods" (p. 279)
 - How much land would have had to be freed in Britain to get: (1) same n. of calories as sugar plantations; (2) same amount of timber from Nth Am. or Baltic sea (bought with silver); (3) **cotton replaced by wool yarn**. Circa 1830, Cotton, sugar and timber = 25-30 millions acres (**cotton = 23 m.**), while Britain total arable land was 17 m.

- "The examples of core regions like China, Japan, and certain parts of Europe itself (such as Denmark) provide plausible examples of how societies lacking these advantages might have looked" (p. 280)

Intercontinental trade and IR in England: Robert Allen (1)

The British Industrial Revolution in Global Perspective, 2009



Trade factors fuelling high wages in Britain and Netherlands:

- 17th c.: Woolen draperies outcompeting Italy in European markets
- 18th c.: Atlantic trade (mostly Britain, not Netherlands)

Intercontinental trade and IR in England: Robert Allen (2)

Old-style macroeconomic model with 4 simultaneous equations: wage rate, proto-industry, agric. productivity, urbanization. Estimated from a panel dataset with 9 countries: England & Wales, Belgium, France, Netherlands, Spain, Italy, Germany, Poland and Austria-Hungary. Years 1300, 1400, 1500, 1600, 1700, 1750, 1800.

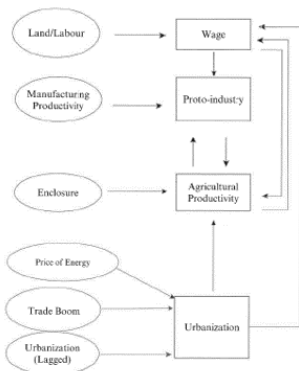


Figure 5.1 Flowchart (one period) of the model

[There should be an arrow from agric. prod. to urbanization]

Intercontinental trade and IR in England: Robert Allen (3)

- Counterfactual simulations of the macroeconomic model:
 - No new draperies: cancel out prod. growth in textile (wrt 1500)
 - No intercontinental trade (wrt 1500)
- New draperies have the largest impact, similar to cheap coal
- Intercontinental trade impacts urbanization after 1775
- Political institutions and enclosure have little bite

“The success of the British economy was, thus, due to long-haired sheep, cheap coal and the imperial foreign policy that secured a rising volume of trade” (p. 130)

Atlantic trade & Institutions: Acemoglu et al.

D. Acemoglu, S. Johnson and J. Robinson, "The Rise of Europe: Atlantic Trade, Institutional Change, and Economic Growth", *Amer. Econ. Rev.* 95(3), 2005

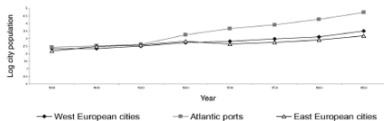


FIGURE 4A. AVERAGE OF LOG CITY POPULATION IN ATLANTIC PORTS, WEST EUROPEAN CITIES THAT ARE NOT ATLANTIC PORTS, AND EASTERN EUROPE (BALANCED PANEL), 1300-1850

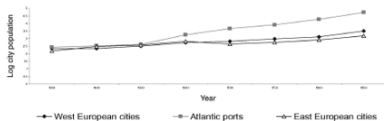


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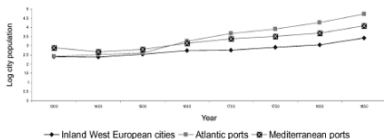


FIGURE 4B. AVERAGE OF LOG CITY POPULATION IN ATLANTIC PORTS, MEDITERRANEAN PORTS, AND WEST EUROPEAN CITIES THAT ARE NOT PORTS (BALANCED PANEL), 1300-1850

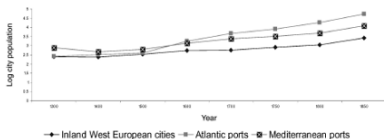


FIGURE 4B. AVERAGE OF LOG CITY POPULATION IN ATLANTIC PORTS, MEDITERRANEAN PORTS, AND WEST EUROPEAN CITIES THAT ARE NOT PORTS (BALANCED PANEL), 1300-1850

Cities connected to Atlantic grew more in population, especially in non-absolutist England and Low-Countries, 1300 to 1850. Atlantic Trade increased merchant's power and fuelled institutional change → indirect channel to IR. (Econometrics: the effect seems to stem from London and Amsterdam)

Trade models: O'Rourke

Power and Plenty, 2007

- CGE trade model with 3 regions: Europe, America, Africa
 - no migration of free labor, constant returns
 - Growth shocks: (i) tech. in Europe; (ii) land in America
 - \uparrow (i) / \downarrow (ii) of ToT of America
 - Both (i) & (ii): \uparrow pr. of slaves + end-18th c. peak in sl. trade
 - \uparrow Profitability of slave plantations and slave trade

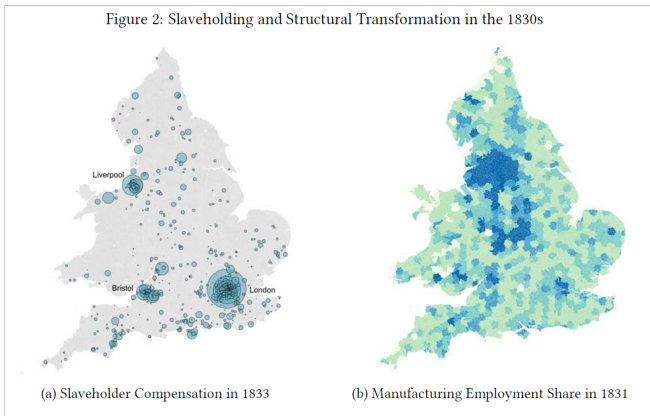
G. Clark, K. O'Rourke, A. Taylor, "The growing dependence of Britain on trade during the Industrial Revolution", *Scand. Econ. Hist. Rev.* 62(2), 2014

- Similar CGE model: England/Britain, America, Rest of World
 - No trade simulations: No Am., No RoW, No both
 - 1760: -2%, -2%, -3% — 1850: -2%, -10%, -27%
 - \neq btw periods: Endowments (cap. to lab. ++, land to lab. -)
 - Export-oriented sectors with higher TFP (textiles, iron & steel)
 - Taking 1760 for an assessment is misleading (cg. Bairoch)

"... by the mid-nineteenth century the maintenance of an open international trading system was of vital strategic importance to Britain." Hence shift to free trade

Slavery and the British IR: Heblich et al. (1)

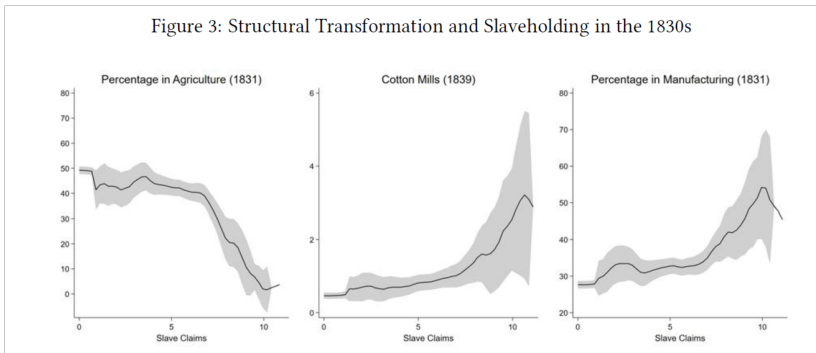
S. Heblich, S. Redding, J. Voth, NBER WP 30451, 2023



Relate localized slave claims, i.e. claims for compensation on slave holdings after abolition, to industrialization after 1833

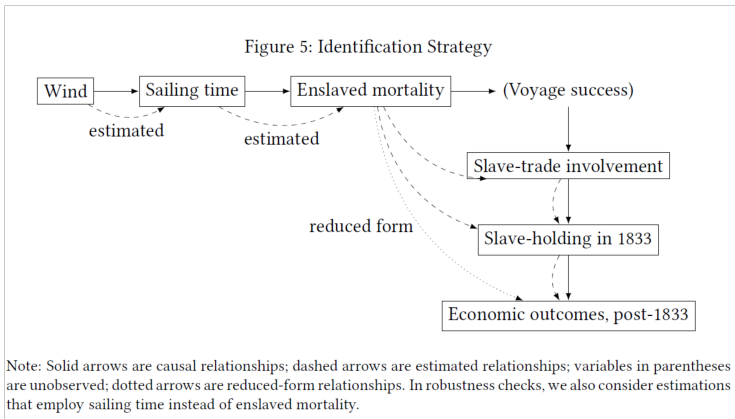
Slavery and the British IR: Heblich et al. (2)

Figure 3: Structural Transformation and Slaveholding in the 1830s



Relate localized slave claims, i.e. claims for compensation on slave holdings after abolition, to industrialization after 1833

Slavery and the British IR: Heblich et al. (3)



IV strategy with slave voyages successes (mortality of slaves) linked to favorable winds

Slavery and the British IR: Heblich et al. (4)

General equilibrium model where opportunities for slave holdings increase returns to capital, and capital accumulation

- Access to slave plantations opportunities allowed banks or owners to lend money to people who wanted to invest in manufactures (whose returns were lower to start with)
- Simulation of the model suggests that slave holdings brought 3.5% of additional real income, i.e. the equivalent of a decade of growth (when growth of income per capita was 0.3% a year, 1800-1830)
- “Middle-ground” aggregate conclusion, accompanied by large redistribution effects across space (North and West vs. rest of UK) and social classes (capital owners vs. land owners).

Conclusion: Imperialism and IR

- IR in Britain had an important trade component
 - Raw cotton imports using slave labor + Textile exports
 - US North as an addition to export markets
- New World Resources and slave labor played their role
 - Low cost raw cotton, wood etc. Otherwise more expensive
 - Profits? 7% of *gross* invest. (O'Brien) makes more of *net* (Pomeranz)
 - Plantations and financing of manuf. invest. (Heblich et al.)
- Can we have IR w/o slave labor, cotton, textile? Speculative
- Anyways, this how it happened:
 - Amerindians decimated by small pox, African slaves
 - European merchant class rose then opposed abolition of slavery
 - Slave owners were compensated

After industrialization was settled in the West, trade forces also contributed to the preservation of advantage, under free trade and informal imperialism, and to the colonization of the World...

To be followed next week!