

Lecture 18:

5.1. Western Europe, North America, and South America

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Original course by Melissa Dell (Harvard Econ 1342), revised by Brad DeLong

<<https://github.com/braddelong/public-files/blob/master/econ-135-lecture-18.pptx>>

< <https://www.icloud.com/keynote/0F9iiyQX0pkEnYMjqj3rIXhsQ>>

Roadmap for the Next Two Weeks...

5. Touring the Continents

18. Th Apr 2: 5.1. Western Europe, North America, and South America

- **Read Before:** Joel Mokyr (1990): *Lever of Riches*, chapter 10 Britain and Europe <<https://delong.typepad.com/files/mokyr-lever-europe.pdf>>
- **Read Before:** John Coatsworth (2008): Inequality, Institutions and Economic Growth in Latin America <<https://delong.typepad.com/files/coatsworth-institutions.pdf>>
- **Slides:** <<https://github.com/braddelong/public-files/blob/master/econ-135-lecture-18.pptx>>

19. Tu Apr 7: 5.2. Behind the Iron Curtain, and East Asian Miracles

- **Read Before:** Peter Evans (1995): *Embedded Autonomy: States and Industrial Transformation*, chapter 1 <<https://delong.typepad.com/files/evans-embedded-i.pdf>>
- **Read Before:** Yingyi Qian (2001): How Reform Worked in China <<https://delong.typepad.com/files/qian-reform.pdf>>
- **Read Before:** Richard Ericson (1991): The Classical Soviet-Type Economy: Nature of the System and Implications for Reform <<https://delong.typepad.com/files/ericson-soviet.pdf>>
- **Slides:** <<https://github.com/braddelong/public-files/blob/master/econ-135-lecture-19.pptx>>

20. Th Apr 9: 5.3. Asia and Africa

- **Read Before:** Nathan Nunn (2008): The Long Term Effects of Africa's Slave Trades <https://dash.harvard.edu/bitstream/handle/1/3710252/Nunn_Long-TermEffects.pdf>
- **Read After:** Sevkut Pamuk (2014): Institutional Change and Economic Development in the Middle East, 700-1800 <<https://delong.typepad.com/files/pamuk.pdf>>
- **Slides:** <<https://github.com/braddelong/public-files/blob/master/econ-135-lecture-20.pptx>>

6. Policy Issues

21. T Apr 14: 6.1. "Deep Roots" vs. Path Dependence

- **Read Before:** Nathan Nunn (2012): Culture and the Historical Process <<https://delong.typepad.com/files/nunn-culture.pdf>>
- **Read After:** Melissa Dell (2015): Path Dependence in Development: Evidence from the Mexican Revolution <<https://scholar.harvard.edu/files/dell/files/revolutiondraft.pdf>>
- **Slides:** <<https://github.com/braddelong/public-files/blob/master/econ-135-lecture-21.pptx>>

Roadmap Following: 6. Policy Issues...

Th Apr 16: 6.2. Growth and Fluctuations; Trade and Development, Foreign Aid

- **Read After:** Barry Eichengreen (2015): *Hall of Mirrors: The Great Depression, The Great Recession, and the Uses-and Misuses-of History*, selections <<https://delong.typepad.com/files/eichengreen-mirrors.pdf>>
- **Read After:** David Atkin (2014): Endogenous Skill Acquisition and Export Manufacturing in Mexico <<https://delong.typepad.com/files/atkin-skill.pdf>>

T Apr 21: 6.3. Populism, Plutocracy, Kleptocracy, & Neo-Fascism

- **Read Before:** Ernest Gellner (1973): *Nations & Nationalism*, selections <<https://delong.typepad.com/files/gellner-nations.pdf>>
- **Read Before:** Barry Eichengreen (2018): *The Populist Temptation Economic Grievance & Political Reaction in the Modern Era*, selections <<https://delong.typepad.com/files/eichengreen-populist.pdf>>

Th Apr 23: 6.4. Global Warming

- **Read After:** Melissa Dell *et al.* (2012): Temperature Shocks & Economic Growth: Evidence from the Last Half Century <https://scholar.harvard.edu/files/dell/files/aej_temperature.pdf>
- **Read After:** Melissa Dell *et al.* (2014). What Do We Learn from the Weather? The New Climate-Economy Literature, selections <<https://economics.mit.edu/files/9138>>

T Apr 28: 6.5. The Pace and Meaning of Economic Growth

- **Read Before:** William Nordhaus: Do Real-Output and Real-Wage Measures Capture Reality? <<https://www.nber.org/chapters/c6064.pdf>>
- **Read Before:** John Maynard Keynes: Economic Possibilities for Our Grandchildren<<<https://delong.typepad.com/files/keynes-persuasion.pdf>>
- **Read Before:** Edward Bellamy (1887): *Looking Backward 2000-1887*, selections <<https://delong.typepad.com/files/bellamy-backward.pdf>>

Roadmap Following: 7. Conclusion...

7. Conclusion

Th Apr 30: 7. Conclusion: The Future?

- **Read After:** Robert Allen (2011): *Global Economic History: A Very Short Introduction*, selections <<https://delong.typepad.com/files/allen-geh.pdf> >

W May 13 11:30-14:30: FINAL PAPER/PROJECT DUE

Coronavirus!

Members of the public were told to avoid gatherings of 10 or more



ABC News



Trump warns coronavirus crisis could stretch into summer

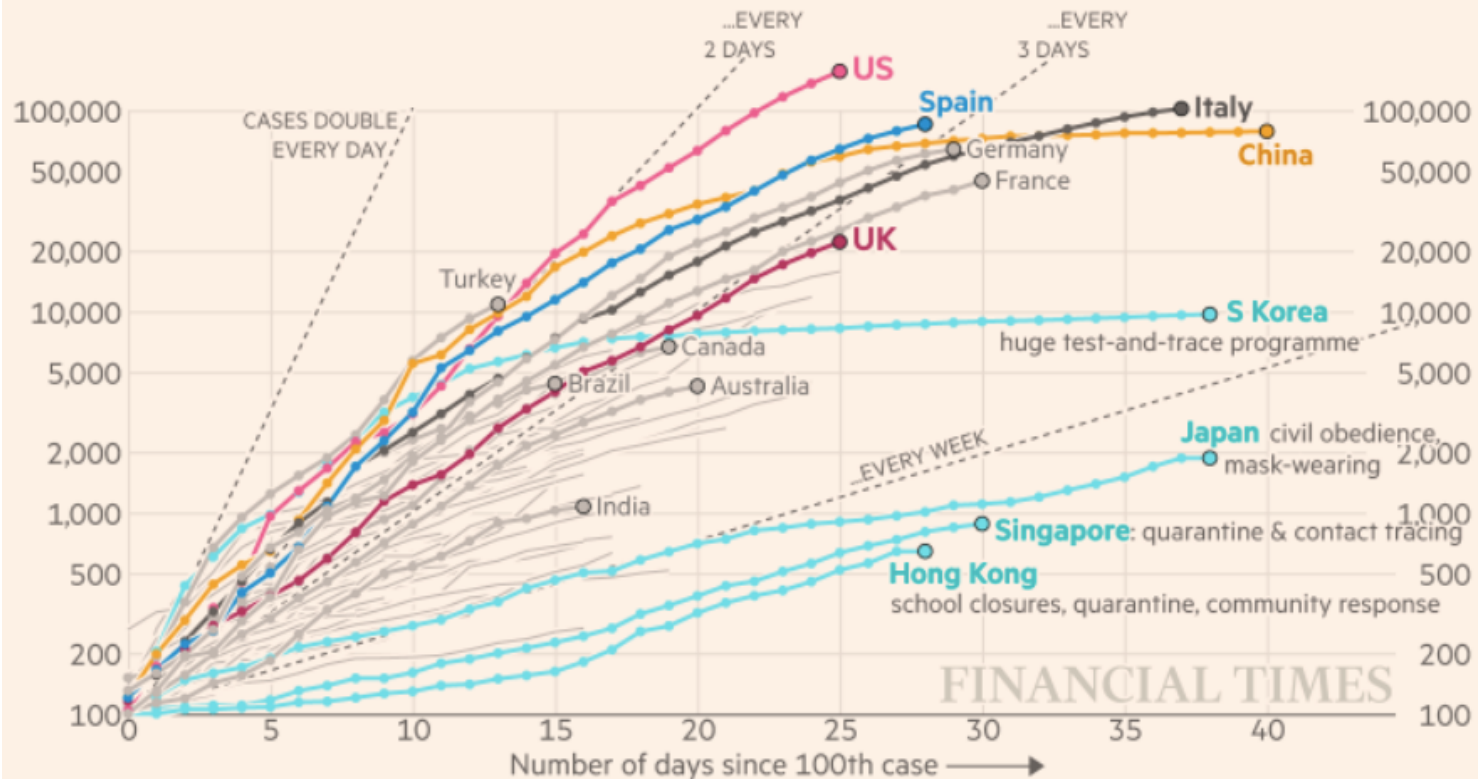
Watch

Members of the public were told to avoid gatherings of 10 or more and older people and those with underlying condition were asked to stay home.

Coronavirus!

Country by country: how coronavirus case trajectories compare

Cumulative number of confirmed cases,
by number of days since 100th case



FT graphic: John Burn-Murdoch / @jburnmurdoch

Source: FT analysis of Johns Hopkins University, CSSE; Worldometers; FT research. Data updated March 30, 19:00 GMT

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Discussion

Touring the Continents: Western Europe, North America, and South America

- What strikes you as important here?

Touring the Continents: Western Europe, South America, & North America

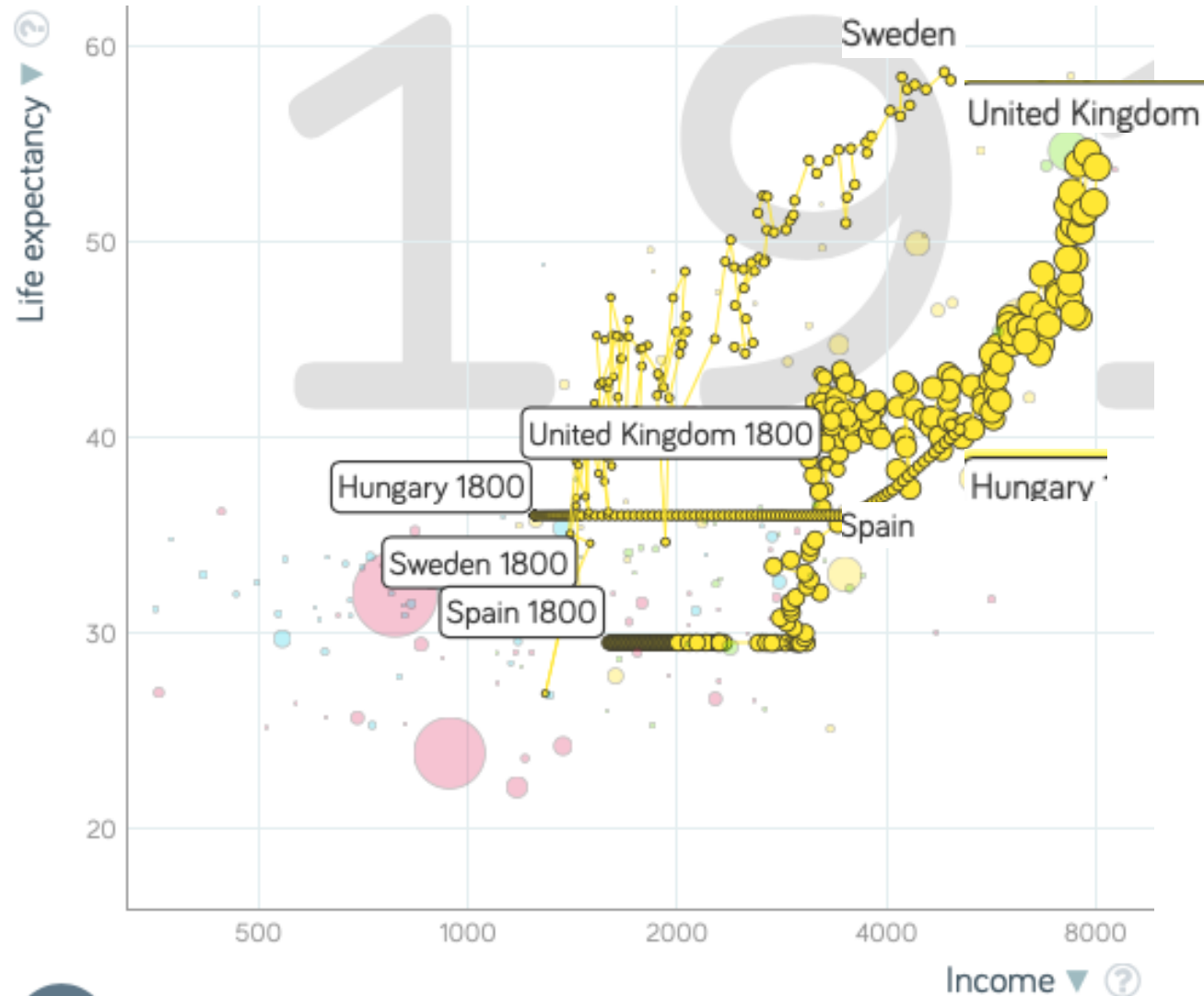
Three discrete regions—or four, if you want to break off the southern cone of Latin America:

- Two do very well indeed:
 - Western Europe converges to the world's productivity frontier
 - America surpasses what had been thought to be the world's technological and industrial pace cars—Britain and Germany—to become the “furnace where the future is forged”
- Latin America does not do well
 - Even with favorable resource-to-population ratios
 - “Extractive institutions”: How created? How maintained? Why the very long shadow of history?
- The puzzle of the southern cone of South America: many explanations that work for tropical economies do not work to explain its failure to catch up and convert

Western Europe, 1800-1914

Spread of incomes of 2.5-1 in 1800:

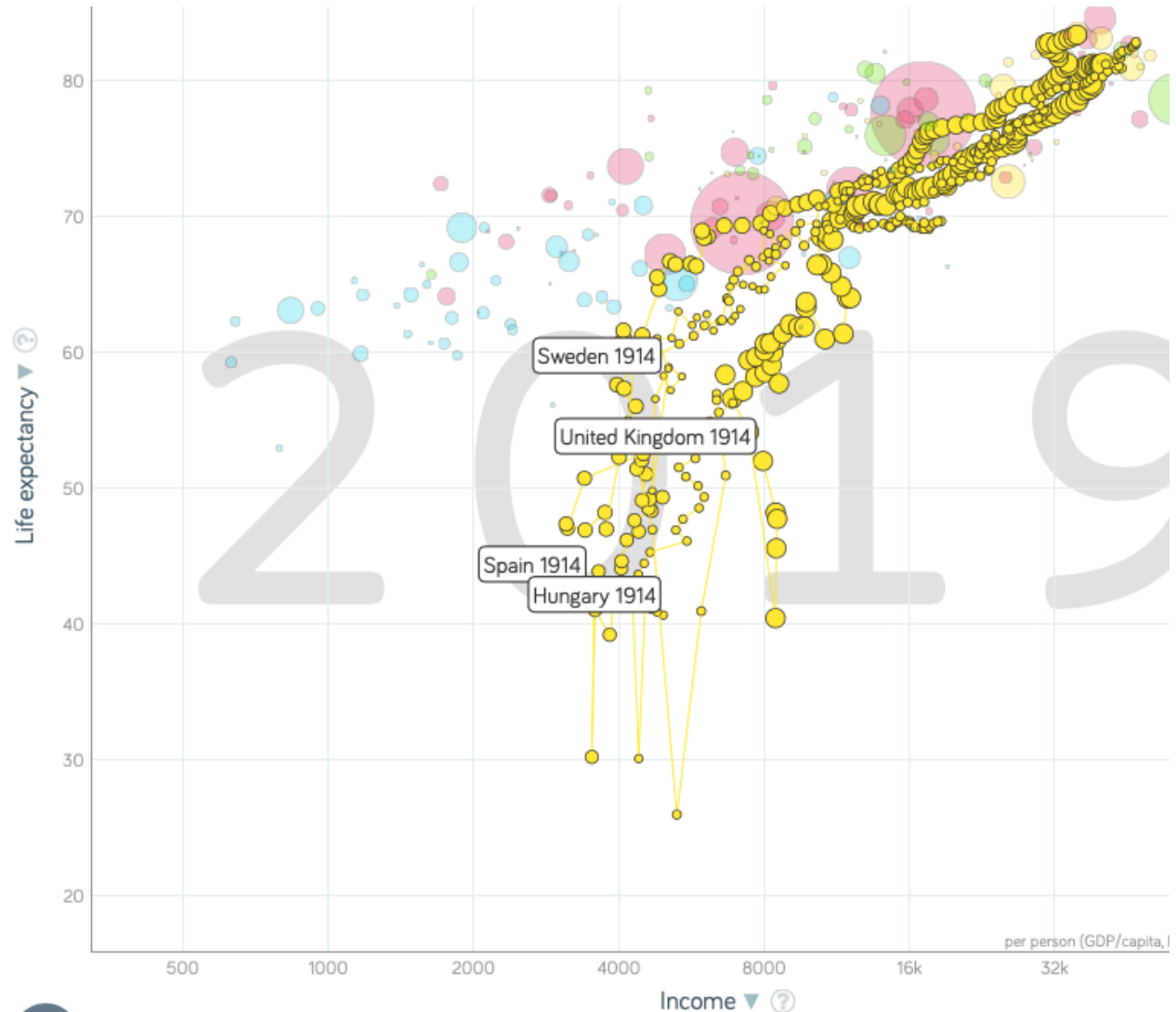
- Spread of incomes of 2.5-1 in 1914
- No signs of catch-up within western Europe
- But also no signs of divergence either
- As if political institutions impelled constant relative income levels
- Save for Sweden among these four
 - Which becomes much more democratic and open
 - And which does converge
 - Cause or effect



Western Europe, 1914-2020

Spread 3-2 by 2020:

- Hungarian catchup after 1990
- Spanish catchup after 1975
- Political democracy
- Mixed (market heavy) economy
- Strong convergence as institutions—political and economic—converge
- Hungary now a dictatorship—it will be interesting to see what happens next

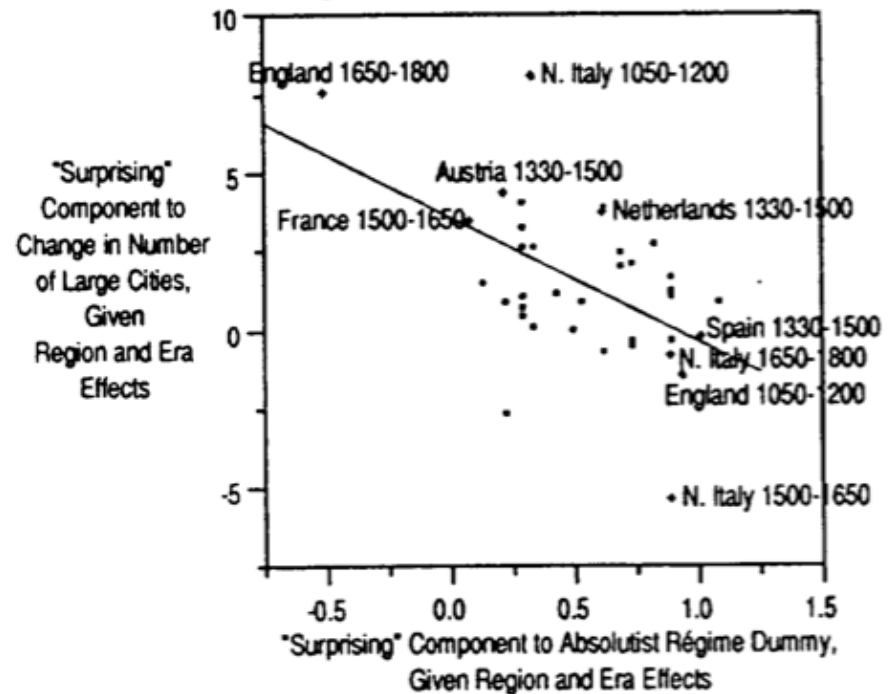


We Can See This, Earlier, in Princes & Merchants

Importance of régime type even in agrarian & feudal eras:

- DeLong & Shleifer:
 - “The total population living in western European cities of 30,000 or more in 1650 was 4.7 million. Had each of the nine regions experienced an additional century and a half of absolutist rule before 1650, this urban population would have been reduced by two million...”
 - “Conversely, had all of western Europe been free of absolutist rule over 1050–1650, then the regression in line 1 of table 3 predicts that Europe in 1650 would have had a total urban population of nearly 8 million...”
- How did western Europe establish democracy—and avoid central planning/aristocratic rent-seeking?

Figure 1
Partial Scatter of Change in Number of Cities Against Absolutist Régime



Virtuous Circles

Western European institutions—until the 1920s—moved only forward, never backward:

- Needed endpoint:
 - secure property rights and a level playing field
 - political power constrained and distributed
 - far fewer rents from holding power
 - fewer power struggles & greater stability
- Franchise extension
 - To draw the fangs of revolution
 - To boost your share of the vote
 - Because it was the right thing to do to create a strong & prosperous nation
- Bismarckian socialism in Germany...

Bismarckian Socialism

Germany, 1884, Reichstag Speech on the Law for Workers' Compensation:

- “Does the state have the responsibility to care for its helpless fellow citizens, or does it not? I maintain that it does have this duty.... Those goals that the community can fulfill with justice and profit should be relinquished to the community... the help of persons in distress and the prevention of such justified complaints as in fact provide excellent material for exploitation by the Social Democrats.
- “That is the responsibility of the state from which the state will not be able to withdraw in the long run.
- “If one argues against my position that this is ‘socialism’, then I do not fear that at all.
- “The question is, where do the justifiable limits of state socialism lie?... Each law for poor relief is socialism....
- “I remind you of France... the remarkable social politician, Léon Say*... expresses the French view that every French citizen has the right to starve, and that the state has no responsibility to hinder him in the exercise of his right...”

*Grandson of Jean-Baptiste Say

Why Not Repression?

Sometimes the answer is repression:

- Especially when the rich can find a charismatic rabble-rouser who they think can serve as their frontman: cf. Germany, 1933; Italy, 1921...
- Dell cites: Acemoglu & Robinson:
 - A shock that momentarily raises the power of the poor
 - The rich can:
 1. promise a less unequal distribution in the future
 2. share power via franchise extension
 3. repress
 - (1) is not credible
- First Lord of the Treasury Earl Grey on the Great Reform Bill of 1831:
 - “There is no-one more decided against annual parliament[ary elections], universal suffrage and the [secret] ballot than I am. My object is not to favor, but to put an end to such hopes and projects ... The principal of my reform is to prevent the necessity of revolution ... reforming to preserve and not to overthrow...”

Eliminating Sinecures & Advancing Good Government

Western European elites were subject—relatively & also absolutely—to being creatively destroyed:

- But they responded not by trying to repress opponents and retract pluralism
- They responded by further liberalizing the system
- In some places, change was more radical:
 - France became the first country to adopt universal male suffrage, in 1792
 - France was one of the last Western Europe countries to grant women the right to vote, in 1944

Eliminating Sinecures in England

Table 1.2. Selected administrative reforms, 1780–1850

	No. of MPs with places/pensions/sinecures ^a	Cost p.a. (£)
1714	c.271	—
1727	c.257	—
1809	84	164,000
1822	89	170,000
1833	60	86,000
	No. of unregulated sinecures ^b	Cost p.a. (£)
1780	c.600	—
1810	242 (excluding most colonial ones)	297,000
1834	28 (domestic establishment only)	17,000
1835	10 (colonial establishment only)	—
1840	0	—
	No. of reversions ^c	Cost p.a. (£)
1809	100	133,500
1815	No returns available, but numbers gradually reduced as reversion holders die and no further reversions are granted.	—
	Cost of pensions on the Civil Lists p.a. (£) ^d	
1809	190,600	
1830–	75,000	

Source: Harling, Philip (1996) *The Waning of 'Old Corruption'*, Clarendon Press, p. 21.

The Legacy of the French Revolution & Napoleon's Conquests

Acemoglu, Cantoni, Johnson, & Robinson use the variation within present day Germany as a result of French rule in the Napoleonic era:

- More institutional reforms
- Guilds were more likely to be abolished
- Civil legal code more likely to be implemented.
- Faster urbanization, which ACJR use as a proxy for economic growth.
- ACJR argue that the imposition of French institutions in some places but not others was exogenous to growth potential:
 - France decided where to conquer based primarily on military concerns
 - ACJR claim we can interpret these estimates as causal evidence that institutional reform promoted growth
- Regression discontinuity, yes; but among those “military concerns” is “was it close to France?”



Reaction in Eastern Europe Pre-1939

Alexander Gerschenkron: *Europe in the Russian Mirror: Four Lectures in Economic History*:

- “Economic progress began to be viewed with great suspicion and the railroads came to be regarded, not as welcome carriers of goods and persons, but as carriers of the dreaded revolution. Then the State clearly became an obstacle to the economic development of the country...”
- Cf.: Jerome Blum: Transportation and Industry in Austria, 1815-1848:
 - “These living forces of the traditional economic system were the greatest barrier to development. Their chief supporter was ... Emperor Francis. He knew that the advances in the techniques of production threatened the life of the old order of which he was so determined a protector. Because of his unique position as final arbiter of all proposals for change he could stem the flood for a time. Thus when plans for the construction of a steam railroad were put before him, he refused to give consent to their execution ‘lest revolution might come into the country’...”
- Eastern European elites saw what was happening in the West, and recognized that structural change could cause them to lose power
 - As opposed to: “if things are to stay the same, everything must change...” *Il Gattopardo*

The Great Divergence in the Americas

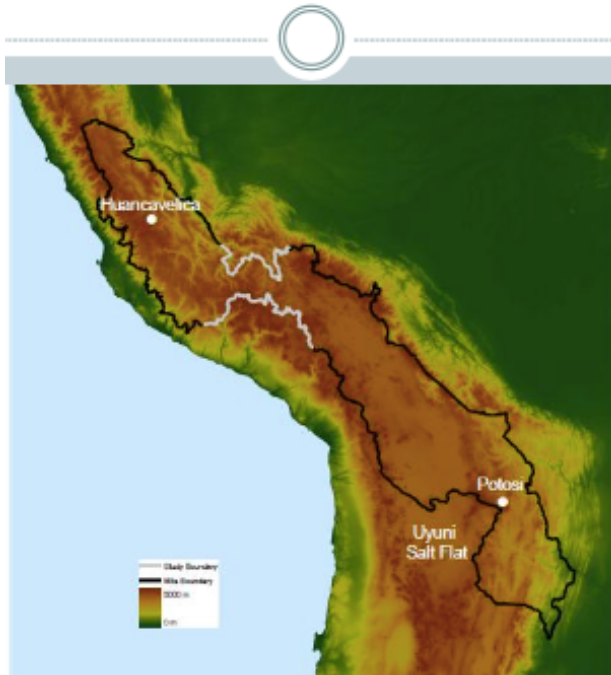
Popular wisdom emphasizes high rates of inequality and poverty in Latin America:

- In Latin America, between-municipality differences are twice between-country differences
 - (the reverse if the United States is included in the sample)
- Causes of differences:
 - Historical institutions
 - Historical inequality
 - Geographic/ecological factors (climate)
- Education explains half
- What about the rest?
 - Other public goods?
 - Geography?



Some Maps

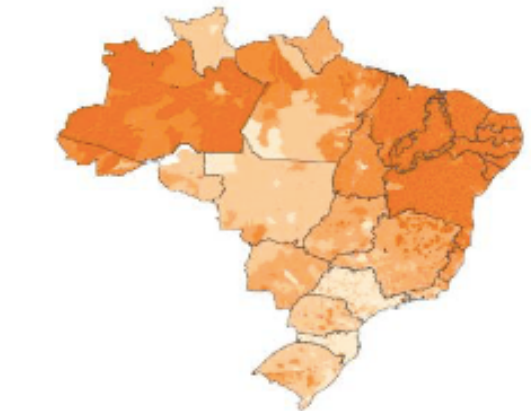
The Mita's Extent



Brazil - Temperature



Brazil - Labor Income



Temperature - Mexico



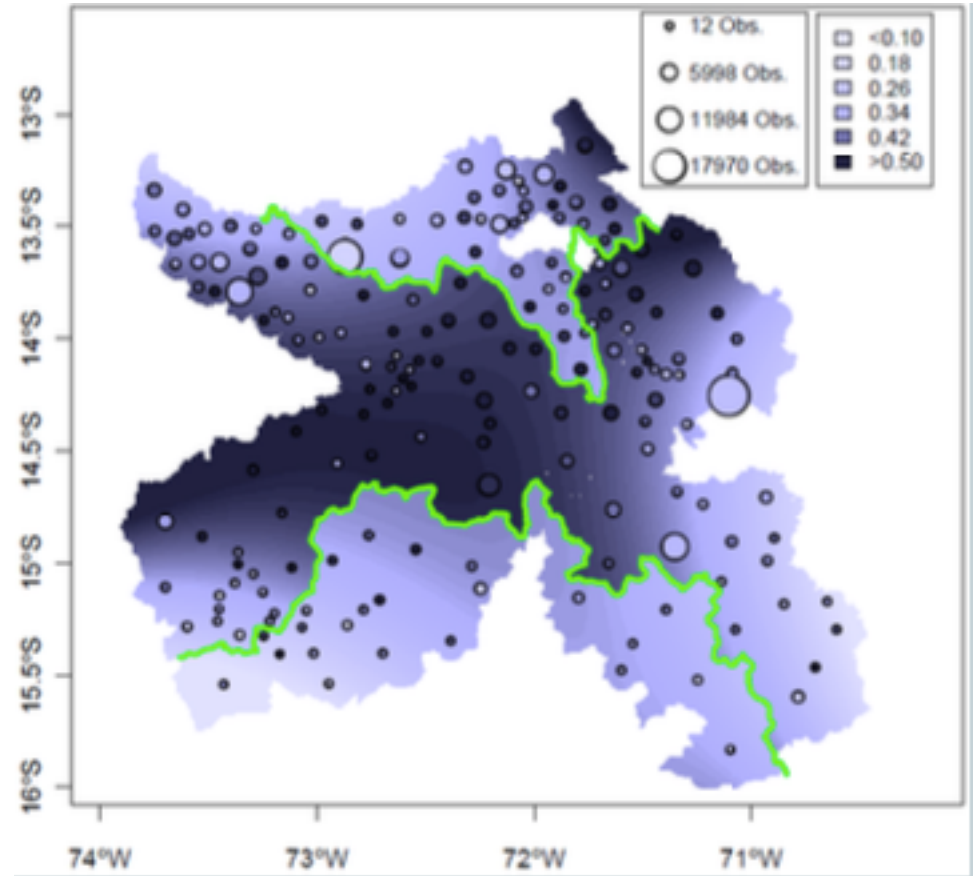
Labor Income - Mexico



Pitosi and the Mita

A forced labor system to supply the silver mines:

- Mita communities 25% poorer today...
- Channels
 - Few large landowners in mita districts—but this meant no property rights at all
 - Public goods: fewer roads, lower education
 - Interruption of careers meant mita residents were subsistence farmers
- The remarkable and screwy thing is that these effects *persist*
- Edgar Gonzales:
 - “It’s certainly not geography, it’s government... some provinces have been favored, with the government—particularly during the large road building campaign in the early 1950’s—choosing to construct roads in some provinces and completely ignore others...”
- Regression discontinuity...



Reversal of Fortune in the Americas

Arthur Young: *Political Essays Concerning the Present State of the British Empire*:

- “It appears on the whole, that the staple productions of our colonies decrease in value in proportion to their distance from the sun. In the West Indies, which are the hottest of all, they make to the amount of 81£.12s.1d per head... In the northern settlements, to that of 2s. 6d. This scale surely suggests a most important lesson—to avoid colonizing in northern lands...”
- After 1800 the United States industrialized and grew rapidly. By 1910 it was the richest country in the World and it sustained this achievement throughout the 20th century.
- After independence, many Latin American countries, for instance Mexico, underwent sustained economic decline, while others, such as Brazil and Colombia, experienced stagnation:
 - Life expectancy in Latin America in 1900 was around 60% of the level in the United States
 - Transitory catch-up: Brazil in the 1960s, Venezuela between the 1930s and 1960s, or Chile since 1985.
 - Sustained divergence: Argentina after the 1920s and Venezuela since 1980.

Iron Law of Oligarchy

German sociologist Robert Michels: *The Iron Law of Oligarchy*:

- ‘Society cannot exist without a “dominant” or “political” class, and that ruling class, while its elements are subject to frequent partial renewal, nevertheless constitutes the only factor of sufficiently durable efficacy in the history of human development.
- ‘The government, or, .. the state, cannot be anything other than the organization of a minority. It is the aim of this minority to impose upon the rest of society a “legal order” which is the outcome of the exigencies of dominion and of the exploitation of the mass.... Even when the discontent of the masses culminates in a successful attempt to deprive the bourgeoisie of power, this is... effected only in appearance; always and necessarily there springs from the masses a new organized minority which raises itself to the rank of a governing class...”
- Latin America:
 - For idiosyncratic reasons, tied to the nature and distribution of pre-colonial societies 500 years ago (which don’t have a lot to do with what causes economic growth today), and the ability to use slave labor, Latin America ended up with extractive economic and political institutions which created poverty and inequality
 - The influence of these have persisted over time, despite definite gains in terms of income per-capita, education, life expectancy and even political rights like democracy
 - Even after Latin American economies started to grow in the 1870s-1880s they never managed to close the relative gap with the US
 - Colombia was 18% of US GDP per-capita in 1900 and 100 years later it was.... 18% of GDP per-capita

Engerman and Sokoloff: Very Long Run Consequences of Being Ruled by Slave- or Serf-Masters

- Different labor systems as the result of the luck of history and “factor endowments”
- How do you establish an unfree labor system?
- How do you maintain an unfree labor system?
- What does having an unfree labor system do to elite incentives?
- Does the elite control the economy? If so, does it control it in its long-run interest?

TABLE 4
The Record of Gross Domestic Product
Per Capita in Selected New World Economies:
1700-1989

	<u>GDP per capita in 1985 U.S. \$</u>				
	<u>1700</u>	<u>1800</u>	<u>1850</u>	<u>1913</u>	<u>1989</u>
Argentina	-	-	\$874	\$2,377	\$3,880
Barbados	\$736	-	-	-	5,353
Brazil	-	\$738	901	700	4,241
Chile	-	-	484	1,685	5,355
Mexico	450	450	317	1,104	3,521
Peru	-	-	526	985	3,142
Canada	-	-	850	3,560	17,576
United States	490	807	1,394	4,854	18,317

North American Ascendancy

From Carl Sandburg: Chicago (1916)

- Hog Butcher for the World,
Tool Maker, Stacker of Wheat,
Player with Railroads and the Nation's Freight Handler;
Stormy, husky, brawling,
City of the Big Shoulders:
They tell me you are wicked and I believe them, for I have
seen your painted women under the gas lamps luring the
farm boys.
And they tell me you are crooked and I answer: Yes, it is true I
have seen the gunman kill and go free to kill again.
And they tell me you are brutal and my reply is: On the faces
of women and children I have seen the marks of wanton
hunger
And having answered so I turn once more to those who sneer at
this my city, and I give them back the sneer and say to them:
Come and show me another city with lifted head singing so
proud to be alive and coarse and strong and cunning....
Laughing the stormy, husky, brawling laughter of Youth, half-
naked, sweating, proud to be Hog Butcher, Tool Maker,
Stacker of Wheat, Player with Railroads and Freight Handler to
the Nation.

Longest-Run Global Economic Growth (2019)

Date	ideas Level H	Total Real World Income Y (billions)	Average Real Income per Capita y (per year)	Total Human Population L (millions)	Rate of Population and Labor Force Growth n	Rate of Efficiency-of-Labor Growth g	Rate of Ideas-Stock Growth h
-1000	16.8	\$45	\$900	50	0.060%	0.000%	0.030%
0	30.9	\$153	\$900	170	0.122%	0.000%	0.061%
800	41.1	\$270	\$900	300	0.071%	0.000%	0.035%
1500	53.0	\$450	\$900	500	0.073%	0.000%	0.036%
1770	79.4	\$825	\$1,100	750	0.150%	0.074%	0.149%
1870	123.5	\$1,690	\$1,300	1300	0.550%	0.167%	0.442%
2020	2720.5	\$90,000	\$11,842	7600	1.177%	1.473%	2.061%

Global Growth: The Advanced West (2019)

Date	ideas Level H	Total Real Income Y (billions)	Average Real Income per Capita y (per year)	Total "West" Population L (millions)	Rate of Population and Labor Force Growth n	Rate of Efficiency-of-Labor Growth g	Increasing Resources p	Rate of Ideas-Stock Growth h
-1000	15.0	\$1.80	\$900	2	0.069%	0.000%	0.000%	0.035%
0	23.7	\$4.50	\$900	5	0.092%	0.000%	0.000%	0.046%
800	30.0	\$7.20	\$900	8	0.059%	0.000%	0.000%	0.029%
1500	58.9	\$25.00	\$1,000	25	0.163%	0.015%	0.000%	0.096%
1770	101.0	\$105.00	\$1,400	75	0.407%	0.125%	0.257%	0.200%
1870	252.0	\$490.00	\$2,800	175	0.847%	0.693%	0.405%	0.914%
2020	8439.5	\$40,000.00	\$50,000	800	1.013%	1.922%	0.175%	2.341%

The 1870 Growth Inflection Point

Growth in global living standards 1870-1914 came largely as a surprise:

- Over 1870-1914, year by year, real wages rose across the globe
- Structural transformation
- The diffusion of industrial technologies—to Des Moines IO & Birmingham AL, but also to Vienna, Cracow, and Barcelona
 - And demand from the growing industrial North Atlantic core for “tropical” commodities
- Five factors in play:
 - Invention of invention: industrial research lab
 - Routinization and bureaucratization of technology diffusion: the modern corporation
 - Globalization
 - In goods trade
 - In communication
 - In migration
- Fair to say this half-century was not foreseen, and was viewed at the time and in retrospect as miraculous. (Cf.: Keynes, Economic Consequences of the Peace.)

The Industrial Revolution Did Not Light Off the Rocket

Key was that the British Industrial Revolution led to the invention of invention

- The technologies of steam, textile machinery, ironworking, & railroads were great
- They were not transformative
- World in 1870 still desperately poor
- Not at all clear world in 1870 would see technology outrun fecundity
- Any slowdown in further technological development would return humanity to its Malthusian prison
- And there had been other largely-local “efflorescences” before that had ended in jumps in population rather than in living standards and labor productivity
- 1870 as the watershed
 - The invention of invention: the industrial research lab
 - The routinization and bureaucratization of technology diffusion: the modern corporation
 - After 1870, technology outruns fecundity and then fecundity gives up the race

The Creation of Engineering & Management, & the 1870-1914 *Belle Époque*

Economic historians Robert Allen and Arthur Lewis on the secret byproduct of the British Industrial Revolution

- Allen: “The great achievement of the British Industrial Revolution was... the creation of... engineering.... Machinery production was the basis of three developments... (1) the general mechanization of industry; (2) the railroad; and (3) steam-powered iron ships. The first raised productivity... the second and third created the global economy and the international division of labor.... All three... depended on...: the steam engine and cheap iron.... Technologies invented [elsewhere—for example]... paper production, glass, and knitting [in France]—were not [transformative].... The British were... simply luckier in their geology.... [T]here is no reason to believe that French technology would have led to the engineering industry, the general mechanization of industrial processes, the railway, the steamship, or the global economy...”
- Lewis: “[Invention] added a new twist—that of making new commodities: telephones, gramophones, typewriters, cameras, automobiles, and so on, a seemingly endless process whose latest twentieth-century additions include aeroplanes, radios, refrigerators, washing machines, television sets, and pleasure boats. Thus a rich man in 1870 did not possess anything that a rich man of 1770 had not possessed; he might have more or larger houses, more clothes, more pictures, more horses and carriages, or more furniture than say a school teacher possessed, but as likely as not his riches were displayed in the number of servants whom he employed rather than in his personal use of commodities...”

Britain's Relative Decline

The U.S. could become “the forge of the future” only because of Britain’s alarmingly rapid relative decline

- Great Britain had been the first industrial nation:
 - Empire
 - Coal
 - Tinkering
 - Science
 - Market economy
- Richest country in the world (save Austgralia) in 1870
 - And the most industrialized
 - Productivity growth sped up around 1870
- But elsewhere—and in the world as a whole—productivity growth quadrupled
- Why only a small acceleration? A focus on technologies that made heavy use of unskilled workers?
- Lewis again: “In the last years of the nineteenth and the first years of the twentieth century Britain lost its leading position in new, modern industry after new, modern industry. Organic chemicals became German (and American), British railroads became smaller and slower than those on the continent, the development of the automobile lagged behind France and the United States, the electric power grid was put into place slowly, the telephone network was rudimentary, and so on...”

It Is a Mystery

Why did British industrial productivity growth not accelerate with German and American?

- Crafts: An unsuitable starting structure for industrial development
- But the most industrialized nation with the most and best engineers would seem to have a very strong comparative advantage in developing the new industries of the future
- Clark: In 1910 more profitable to combine British capital and British labor in Fall River, MA than in Lancashire
- German organic chemical firms: creation of large corporations
 - Those large corporations then dominated the market. Britain did not work at similar scale.

Investment, Education, Bloody-Mindedness

Industrial decline has 1000 parents

- Low rate of investment?
- Deficiencies in natural resources?
- British labor relations?
- The British educational system?
- People close according to their politics
 - Labor bloody-mindedness?
 - Or class structure?
 - And selfish ruling class
- The lag in general education
- The lag in technical education

Global Investment and British Relative Decline

Bankers preferring to divert funds outside of Britain

- 1914 saw 40% of Britain's net national capital stock located overseas: a number never matched before or since
- Britain did not do well out of these investments: perhaps 2%/year
- Yet it looks as though the marginal product of capital at home was 10%/year—admittedly risky, but so was loaning to the Buenos Aires waterworks
- Failure of venture capital to grow?
- Failure of proper investment banking to grow?
- Causes or effects?

Libertarianism

Britain before 1914 was close to the ultimate libertarian utopia:

- Its falling behind over 1870-1914 should have led libertarians to rethink much more than they have
- Apparently, economic preeminence in the twentieth century appears to have required much more than an initially-rich country and a laissez-faire economic policy
 - A government willing to invest in education
 - A government willing to invest to create a skilled labor force
 - A government willing to invest to create a solid corps of technologically-trained engineers
 - Financial institutions to channel savings into the domestic accumulation of the machines that embody industrial technology
 - A labor movement eager to share in and not to block economic reorganization and technological change
 - Modern business enterprises to take advantage of economies of scale and to translate scientific knowledge into productive engineering applications.
- In all of these Britain was deficient.
- In all of these the United States was—by luck—abundant.

Britain Responds to the Rise of the U.S.A.

Draw the rising superpower closer

- Make all kinds of ties: economic, cultural, social, and familial.
- Rhodes Scholarship
- Consider a migrant: Jennie Jerome (1854-1921)
 - Daughter of New York financier Jennie Jerome,
 - A reverse migration: from Brooklyn, New York, United States to Westminster, England to marry Lord Randolph Spencer-Churchill
 - They became engaged in 1873 three days after their first meeting at a sailing regatta on the Isle of Wight.
 - Marriage was then delayed for seven months while her father Leonard the financier and speculator and his father, John Winston, the seventh Duke of Marlborough, fenced...
- Jennie and Randolph's son Winston Leonard Spencer Churchill (1874-1965) was born eight months after their marriage.
- The enfant terrible of British politics when young
- A disastrous British Chancellor the Exchequer
- Quite possibly a decisive factor in defeating the Nazis as British Prime Minister during World War II.
- Not least of Winston's excellences as a wartime prime minister was that he was half-American.

Accounting for American Growth

In 1870 the focus of economic growth crossed the Atlantic to America

- In 1869 the United States had 35 million people in it, at an average measured economic standard of living of some \$1,600 year-2008 dollars per year
- At least two-thirds farmers or other small-town rural dwellers.
- By 1929 farming and other small-town rural dwellers were down to one-eighth of the population
- America had 122 million people in it
- The average measured economic standard of living was some \$6,000 year-2008 dollars per year.
- These give us growth rates of 1.9% per year for the population of the country and of 2.1% per year for output per capita
- Sources of America's twentieth-century exceptionalism:
 - The scale of the country
 - The rise of modern management.
 - Mass production: the continent-wide market.
 - Gavin Wright and others have stressed the crucial role played by natural resources
 - The links between a resource-rich economy and the “American system” of manufactures, relying on standardization, attempts to make interchangeable parts, heavy use of machinery—and wasteful use of natural resources like materials and energy.
 - In the twentieth century this American system was to lead straight to the possibilities of mass production
 - Myopic choices lucky enough generate further technological externalities.
- All of these flowed together. And the end result was a United States that had a remarkable degree of technological and industrial dominance over the rest of the world for much of the twentieth century.

America: Settlement to Civil War

The United States in its first century: conquering natural resources:

- European settlement of the region that was to become the United States started in earnest around 1650 as three groups—religious fanatics, canny traders, and simple conquistadores—converged on the region
- The American colonists soon found themselves rich by pre-industrial standards—perhaps twice as rich as their predecessors and compatriots back in northwestern Europe
- Between 1790 and 1860 the population of the United States grew from 4 million to 31 million
- Average living standards roughly doubled
- A rate of growth of real production per worker of 1.0% per year from 1790 to 1860
- Accompanied by a rate of population growth of 3.0% per year

What If the U.S.A. Had Been Penned East of the Appalachians?

Britain back then had the fastest labor efficiency growth: perhaps 0.6% per year

- Let's assume it was equal in America.
- Then available natural resources per worker must have been growing at 1.8% per year.
- With a 3% per year population growth rate
- Available natural resources were growing at 5% per year.
- How? Westward expansion
 - Suppose that the U.S. had been penned up behind the Appalachians from independence on
 - As in some counterfactual alternate-history novel in which Britain arms the trans-Appalachian Amerindians with firearms and tactical advisors
 - With a -3.0% per year for the growth rate of resources per capita, American living standards would have fallen at 0.6% per year throughout the first two-thirds of the nineteenth century.
 - That's a lot like the nineteenth-century experience of China (although starting from a higher living-standard base)
 - The history of the United States in the years up to the Civil War is a history of transportation improvements, of westwards settlement, and of conquest, genocide, and Amerindian removal

American Growth: Civil War to 1929

Come 1870: the frontier is closed

- The focus of American growth shifted from expansion and resources to industrialization
- Movement to the factory rather than the westward farm frontier
- Even farming became an industrial occupation
- it was not innovation all by itself that made American prosperity increase so rapidly from 1870 to 1929.
 - It took enormous habits of thrift and thus of capital accumulation as well.
 - The inventions mattered
 - So did the culture among the rich of saving for a rainy day.
 - Perhaps, though, invention was necessary if not sufficient.
 - In the absence of the new, modern, industrial technologies, where could you have invested your savings—in what enterprises and capital goods could they have found a place?

American Growth: Inclusion

Even poor children went to school in America

- Fundamental equality of citizenship
- Making the creation of a literate, numerate citizenry a high priority
 - Encouraging those with richer backgrounds, better preparations, and quicker or better trained minds to go on to higher education
 - Land grant colleges
 - Industrialists and others soon found the higher quality of their workforce more than making up for the taxes to support mass secondary and higher education.
 - The U.S.'s edge in education was a powerful factor in giving the U.S. an edge in productivity
 - Germany's edge in education was a powerful factor in giving Germany an edge in industrial competitiveness also.
 - In the United States in 1910 some 355,000 were attending college, making up nearly five percent of their age cohort.
 - In Germany in 1910 some 1,000,000 students were enrolled in post-elementary education.

American Growth: Immigration

America very good at turning people into Americans

- Consider: In 1860 the United States had a full-citizen population—i.e., Caucasian English speakers whom the government regarded as worth educating—of 25 million,
- Britain and its Dominions had a full-citizen population of 32 million.
- By 1940 things had changed: 117 million full-citizen Americans; 76 million full-citizens in Britain and the Dominions.
- But if we look at the pro-rata descendants of the full citizens of 1860, we see numbers of roughly 50 and 65 million, advantage Britain and the Dominions.
- Up to 1924 New York welcomed all comers from Europe and the Middle East
- London and the Dominions were only welcoming to northern European Protestants.
- There is a counterfactual in which the British Empire of the late 1800s is more interested in turning Jews, Poles, Italians, Romanians, and even Turks into Britons or Australians or Canadians.
- That world would have been a much more London-centered world for much, much longer

American The Forge of the Future

The United States in the twentieth century was the country where people looked to see the shape of the future:

- Lev Bronstein in New York
 - “Rented an apartment in a workers’ district, and furnished it on the installment plan. That apartment, at eighteen dollars a month, was equipped with all sorts of conveniences that we Europeans were quite unused to: electric lights, gas cooking-range, bath, telephone, automatic service-elevator, and even a chute for the garbage. These things completely won the boys over to New York. For a time the telephone was their main interest; we had not had this mysterious instrument either in Vienna or Paris.....
 - “The children had new friends. The closest was the chauffeur of Dr. M. The doctor’s wife took my wife and the boys out driving... the chauffeur was a magician, a titan, a superman! With a wave of his hand, he made the machine obey his slightest command. To sit beside him was the supreme delight...”
 - “I was leaving for Europe, with the feeling of a man who has had only a peek into the furnace where the future is being forged...”

This Week's Readings

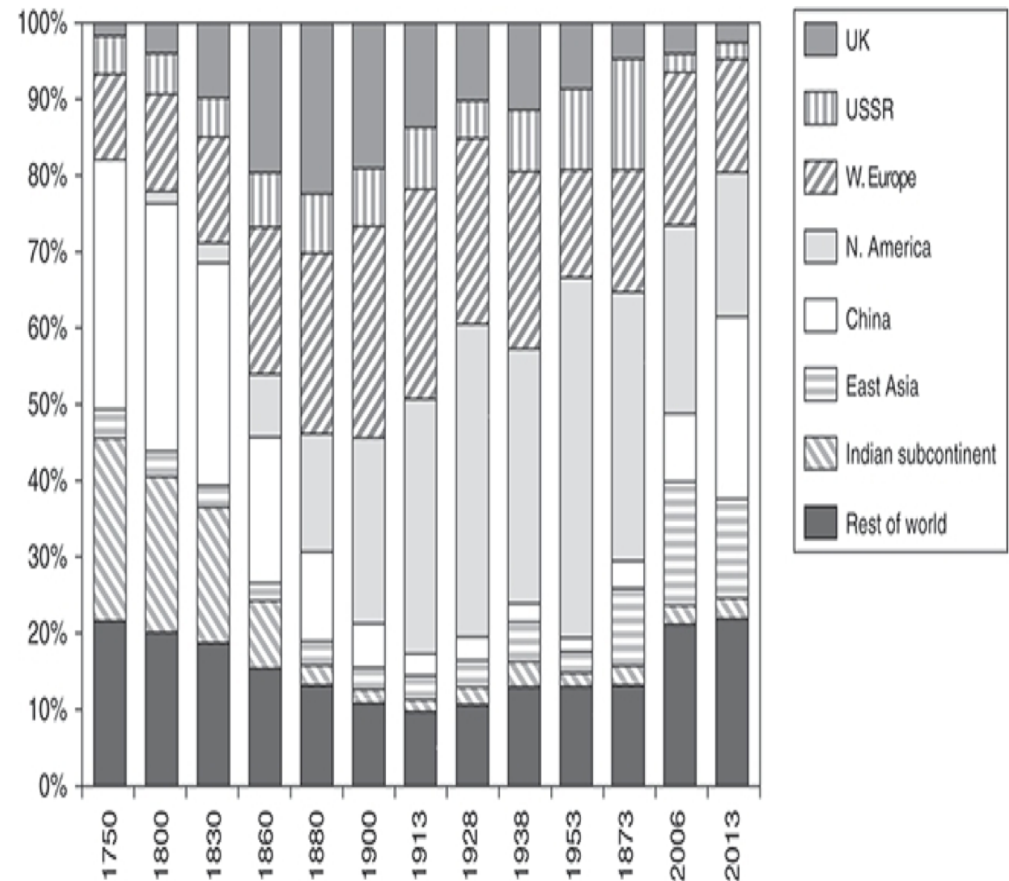
One on Western Europe, and One on the Americas:

- **Read Before:** Joel Mokyr (1990): *Lever of Riches*, chapter 10
Britain and Europe <<https://delong.typepad.com/files/mokyr-lever-europe.pdf>>
- **Read Before:** John Coatsworth (2008): *Inequality, Institutions and Economic Growth in Latin America* <<https://delong.typepad.com/files/coatsworth-institutions.pdf>>
- What were your reactions?

Allen: Spread of Industrialization

Robert Allen (2017): *The Industrial Revolution: A Very Short Introduction*
<<https://delong.typepad.com/files/allen-industrial.pdf>>, chs. 3, 5-6:

- Western Europe: 12% in the 18th century to 28% in 1913
- North America: Less than 1% in the 18th century to 47% in 1953
- The Pacific Rim share dropped from 4 per cent to 2 per cent in the early 19th century, but then increased to 5 percent in the first half of the 20th century. By 2006, these countries were producing 17 per cent of the world's manufactures
- China in 1953 at 2% of manufacturing was at its all time low. 9 per cent in 2006. 25 per cent in 2013
- The Indian subcontinent: 2% of the world's manufactures in 1973 and only 3% in 2013



16. Percentage shares of world manufacturing output, 1750–2013.

Big Ideas: Lecture 18: Touring the Continents: Western Europe, South America, & North America

Takeaways from this class:

Catch Our Breath...

- Ask a couple of questions?
- Make a couple of comments?
- Any more readings to recommend?



Notes, etc....

