

# Final Exam Details

- Don't forget to fill out your course evaluation ([evals.wm.edu](https://evals.wm.edu))
- The final exam is May 8th from 2pm to 3:30pm (note the 1.5 hour length)
- The exam is in our regular classroom
- During exam weeks, I'll hold office hours on Wednesday (5/2), Thursday (5/3) and Monday (5/7) from noon to 2pm
- I'm hoping to have empirical project grades posted on Monday

# Final Exam Details

- The exam will be similar in format to the midterm
- Use the past exams to get a sense of the types of questions
- It will once again be open notes, you can use anything in hard copy but cannot use electronic devices
- The exam is not cumulative except to the extent some material from the midterm is relevant for understanding material since the midterm

# Final Exam Details

- In terms of lecture material, the exam covers everything starting with the 2/21 lecture (Institutions and Economic Development)
- The following readings are covered:
  - North and Thomas (1970)
  - Acemoglu, Johnson and Robinson (2001)
  - Diamond (2004)
  - Bleakly (2007)
  - Goldin and Katz (1998)
  - Long and Ferrie (2013)

# Review of the Course

- We are going to use the rest of today's lecture to review
- I want you to think critically about the limitations of the theories, data, and empirical techniques we've seen
- Remember, there are no silver bullets here: we have explored a lot of seemingly necessary but not sufficient things
- Throughout the review, I'll bring in some additional material from two books to help put our class in a broader context:
  - Easterly's *The Elusive Quest for Growth* (2001)
  - Deaton's *The Great Escape* (2013)
- Let's start with an animated economic history of the world (the hockey-stick graph in motion)

# Review of the Course



<http://www.youtube.com/watch?v=jbkSRLYSojo>

<https://www.gapminder.org/tools/>

# The Roots of Modern Growth

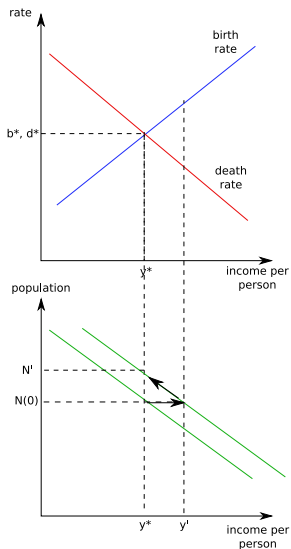
- To know what to look for in the past, we first began by looking at growth in the present
- The basics:

$$g_Y = g_A + a \cdot g_K + b \cdot g_L + c \cdot g_Z$$

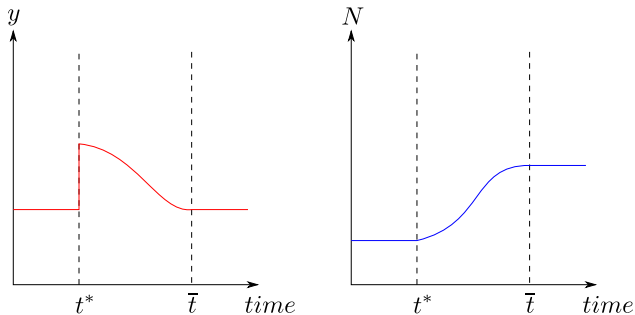
$$g_y = g_A + a \cdot g_k + c \cdot g_z$$

- In the modern world, growth in technology seems crucial to growth in output per capita
- This seems consistent with stylized facts, the (failure of) mid-century development aid, and with a basic Malthusian model

# The Malthusian World

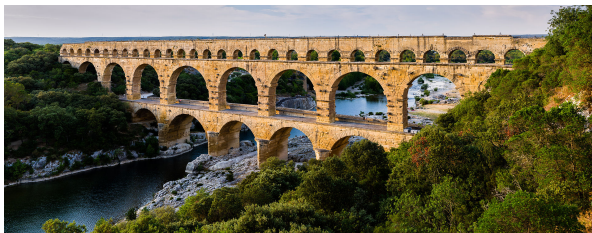


# The Malthusian World





# Technological Change in the Preindustrial World



# Technological Change in the Preindustrial World

- So the issue was not a lack of technological change (there are gigantic changes)
- The issue was a lack of sustained technological change in the preindustrial world
- However, keep in mind Abramovitz's definition of total factor productivity:

*“...a measure of our ignorance...”*

# Technological Change in the Preindustrial World

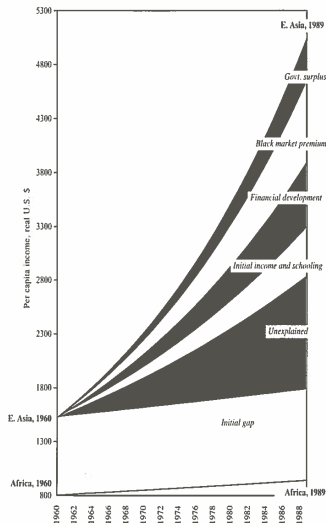


Figure 11.2  
Decomposing the growth gap between East Asia and Africa. Source: Easterly and Levine 1997

# Progress in the Preindustrial World

- Income may have been fairly stagnant in the preindustrial world (how do we measure this?)
- Nonetheless, there was plenty of long run change
- Population densities were rising
- Human capital was rising
- Trade networks, financial markets, and modern states were on the rise
- Security (personal and property) was on the rise
- There are also other aspects in which standard of living may have changed substantially

# Progress in the Preindustrial World

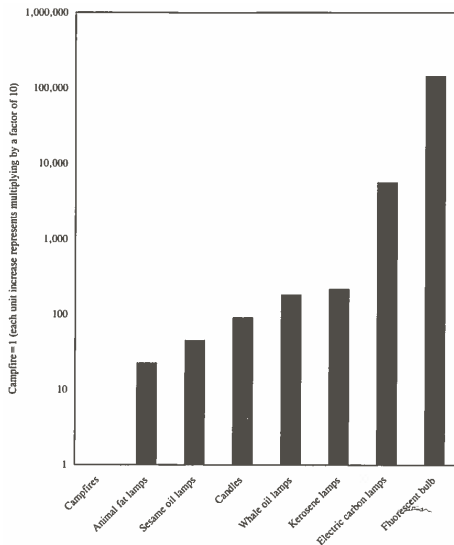
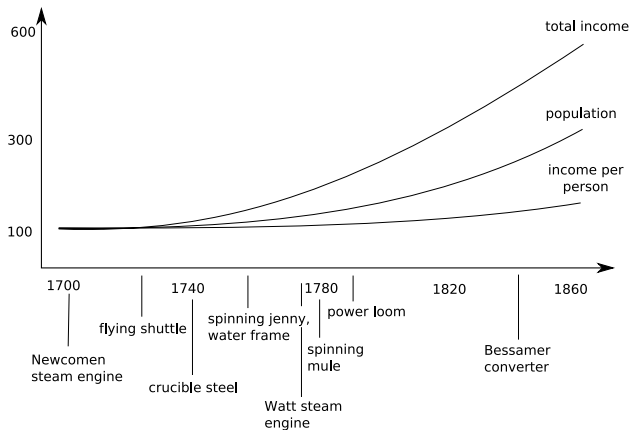


Figure 9.1  
Lighting power per unit of energy

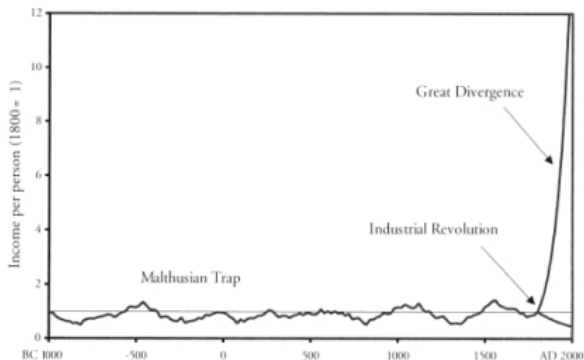
# A Revolutionary Cluster of Macroinventions

- The mechanization of tasks
- The switch from organic to inorganic/mineral energy
- The coupling of thermal and kinetic energy
- The organization of work
- Advances in metallurgy

# A Revolutionary Cluster of Macroinventions



# A Revolutionary Cluster of Macroinventions



**Figure 1.1** World economic history in one picture. Incomes rose sharply in many countries after 1800 but declined in others.



# When and Where of the Industrial Revolution

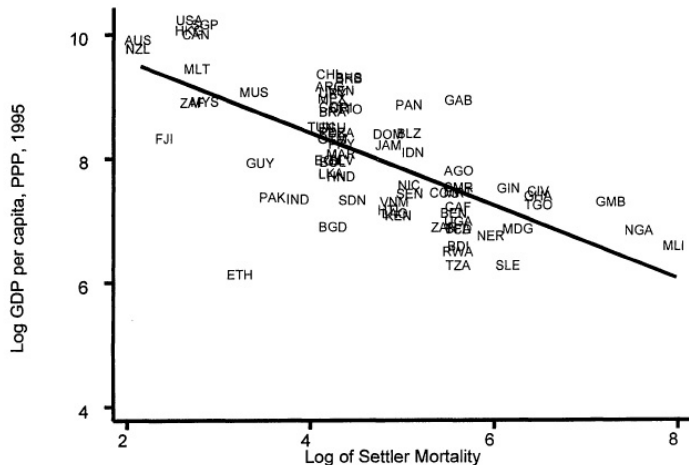
A big, big question: Without knowing what you are looking for, could you pinpoint 18th-century Britain as the break from the preindustrial world?

- How abrupt was the break from the Malthusian world?
- How revolutionary did the inventions seem?
- How different did the 1700s look than earlier centuries?
- How different did England look than China in the 1700s?

# Institutions as an Explanation

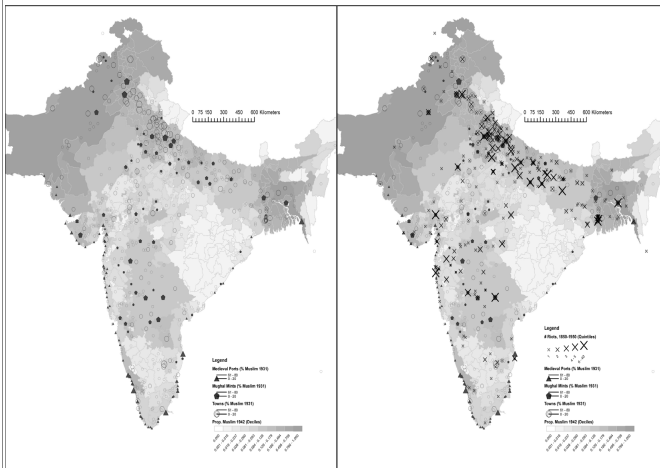


# Institutions as an Explanation



# The Persistence of Bad (or Good) Institutions

**FIGURE 2. Medieval Legacies: Religious Composition and Hindu-Muslim Riots**



(a) Religious Composition, 1931

(b) Hindu-Muslim Riots, 1850-1950

*Note:* The pattern of modern religious demography mimics patterns of Muslim rule, medieval trade, and political patronage. Medieval ports and major Muslim patronage centers (such as those that housed mints) continued to have greater Muslim populations relative to nearby areas in 1931. Medieval ports, however, experience fewer religious riots relative to towns nearby.

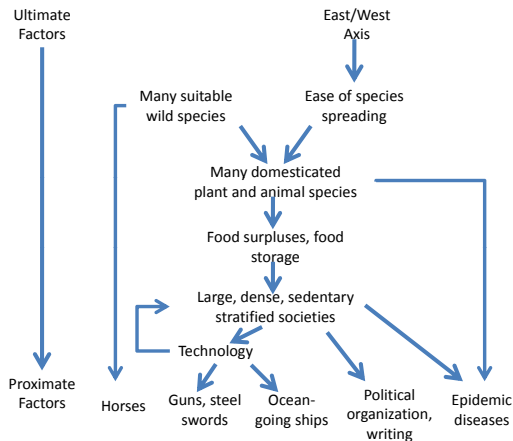
# The Persistence of Bad (or Good) Institutions

**Table 13.1**

Ethnic diversity, violence, and public services, 1960–1989

	Average, quarter of sample least ethnically diverse	Average, quarter of sample most ethnically diverse
Ethnic diversity (probability of two people speaking different languages)	5%	80%
<i>Violence</i>		
Probability of civil war	7%	18%
Probability of genocide	5%	16%
<i>Public services</i>		
Average years of schooling of labor force	5.3	2.6
Percentage of roads paved	53.9	24.2
Percentage of power system losses	12.4	22.8
Telephones per 1,000 workers	92.8	7.4

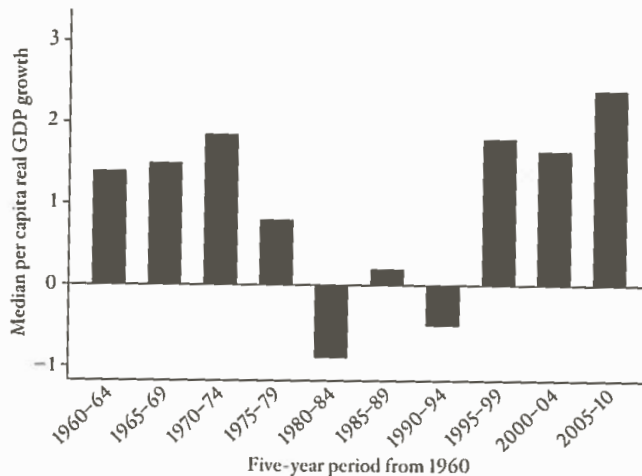
# Geography as an Explanation



# Resources and the New World as an Explanation



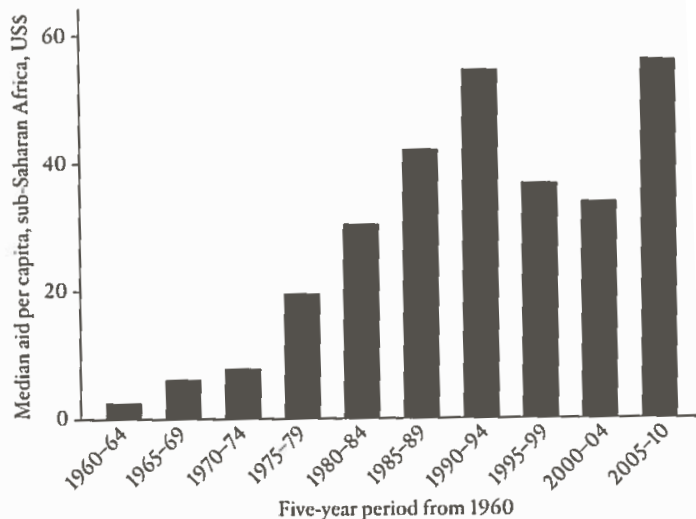
# Resources and the New World as an Explanation



**FIGURE 1** Median growth of per capita GDP (real PPP) in Africa.



# Resources and the New World as an Explanation



**FIGURE 2** Median per capita aid to Africa by five-year intervals.

# Social Evolution as an Explanation



# Social Evolution as an Explanation

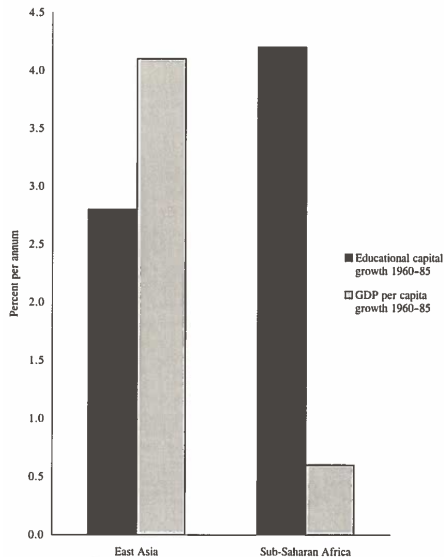


Figure 4.1  
Where has all the education gone? Source: Pritchett 1999

# Social Evolution as an Explanation

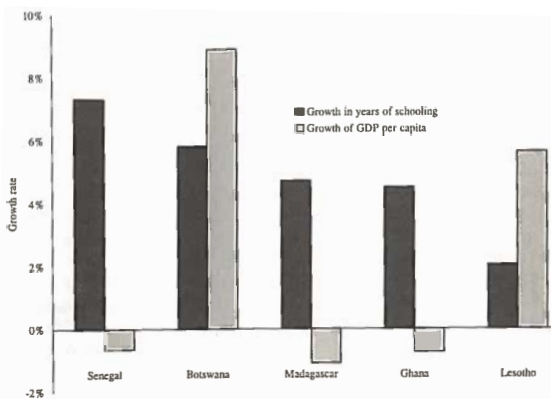
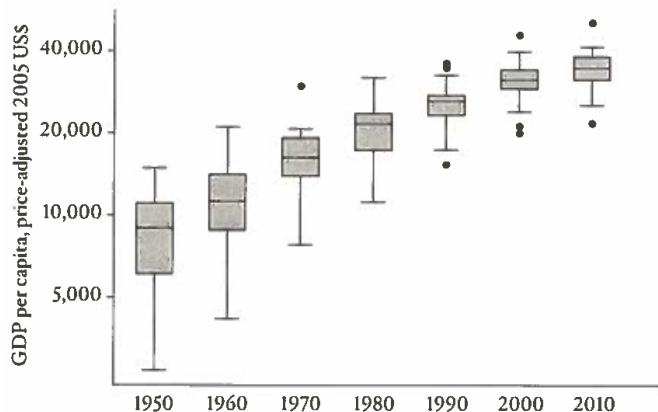


Figure 4.2

Diverse growth outcomes from educational expansion in Africa, 1965–1985. Source: Benhabib and Spiegel 1994

# The Great Divergence



**FIGURE 1** GDP per capita in twenty-four rich countries (Australia, Austria, Belgium, Britain, Canada, Denmark, Finland, France, Germany, Greece, Iceland, Ireland, Italy, Japan, Luxembourg, Netherlands, New Zealand, Norway, Portugal, Spain, Sweden, Switzerland, Turkey, and United States).

# The Great Divergence

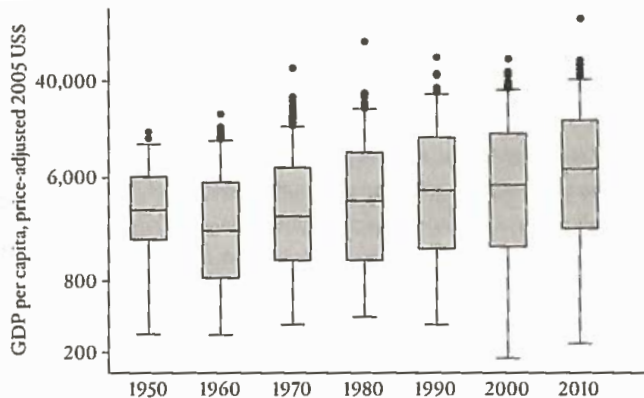


FIGURE 2 GDP per capita in all countries of the world.

# The Great Divergence

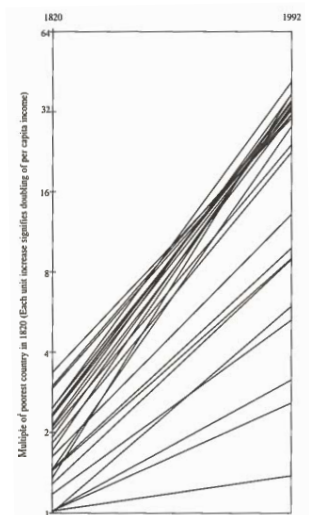
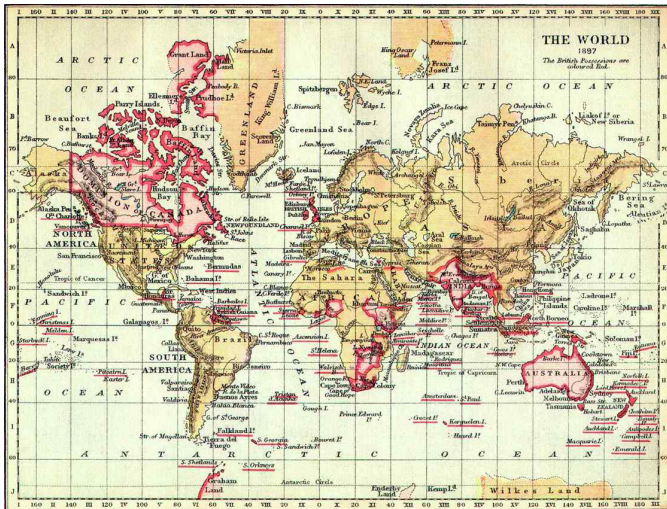


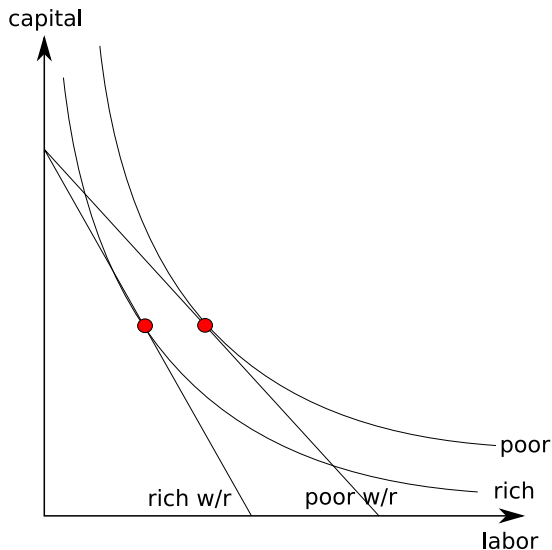
Figure 3.2  
The rich got richer, 1820–1992

# The Great Divergence





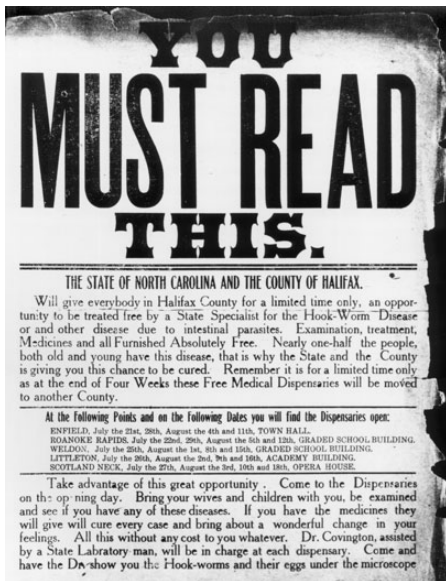
# The Great Divergence



# The Great Divergence



# The Great Divergence



**YOU  
MUST READ  
THIS.**

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**THE STATE OF NORTH CAROLINA AND THE COUNTY OF HALIFAX.**

Will give everybody in Halifax County for a limited time only, an opportunity to be treated free by a State Specialist for the Hook-Worm Disease or and other disease due to intestinal parasites. Examination, treatment, Medicines and all Furnished Absolutely Free. Nearly one-half the people, both old and young have this disease, that is why the State and the County is giving you this chance to be cured. Remember it is for a limited time only as at the end of Four Weeks these Free Medical Dispensaries will be moved to another County.

---

**At the Following Points and on the Following Dates you will find the Dispensaries open:**

ENFIELD, July the 21st, 28th, August the 4th and 11th, TOWN HALL.  
ROANOKE RAPIDS, July the 22nd, 29th, August the 5th and 12th, GRADED SCHOOL BUILDING.  
WELDON, July the 25th, August the 1st, 8th and 15th, GRADED SCHOOL BUILDING.  
LITTLETON, July the 26th, August the 2nd, 9th and 16th, ACADEMY BUILDING.  
SCOTLAND NECK, July the 27th, August the 3rd, 10th and 18th, OPERA HOUSE.

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Take advantage of this great opportunity. Come to the Dispensaries on the opening day. Bring your wives and children with you, be examined and see if you have any of these diseases. If you have the medicines they will give will cure every case and bring about a wonderful change in your feelings. All this without any cost to you whatever. Dr. Covington, assisted by a State Laboratory man, will be in charge at each dispensary. Come and have the Doctor show you the Hook-worms and their eggs under the microscope.

# The Great Divergence

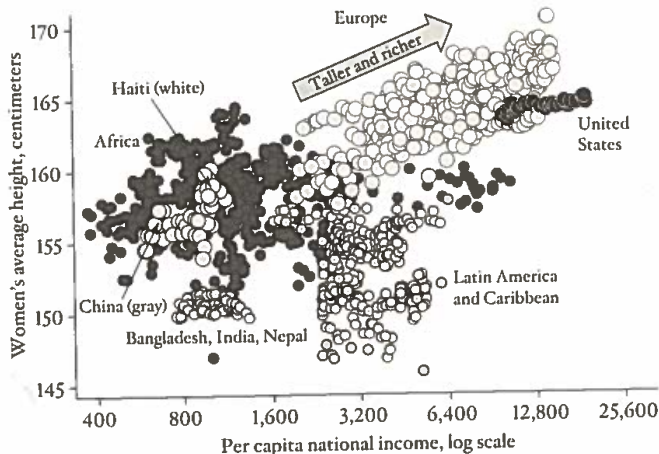
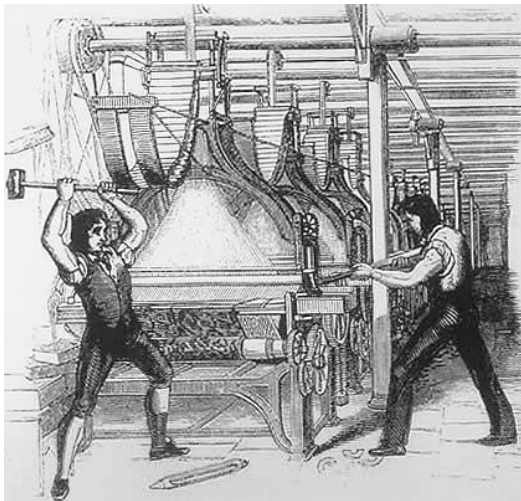


FIGURE 5 Women's heights around the world.

# A Pessimistic View of the Industrial Revolution



# A Pessimistic View of the Industrial Revolution



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# The Mixed Benefits of Industrialization



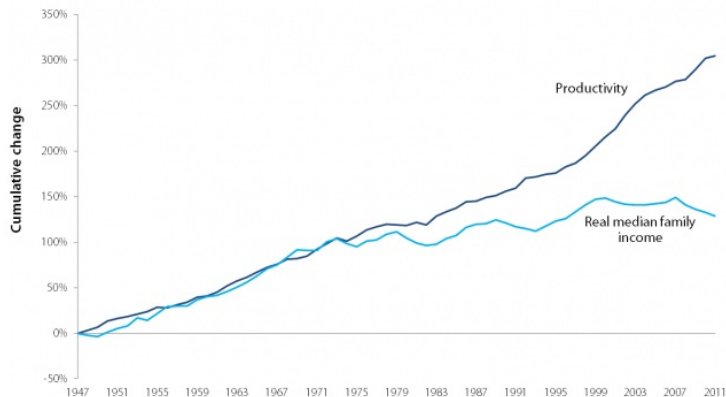


# The Mixed Benefits of Industrialization



*Michigan Central Station, opened 1913 (Yves Marchand and Romain Meffre)*

# The Mixed Benefits of Industrialization

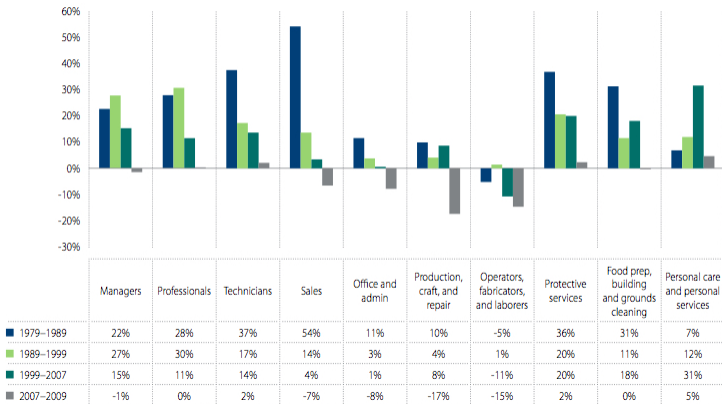


Source: Authors' analysis of Current Population Survey Annual Social and Economic Supplement *Historical Income Tables*, (Table F-5) and Bureau of Labor Statistics, *Productivity – Major Sector Productivity and Costs Database* (2012)

# The Mixed Benefits of Industrialization

Percentage point change in employment by occupation, 1979–2009

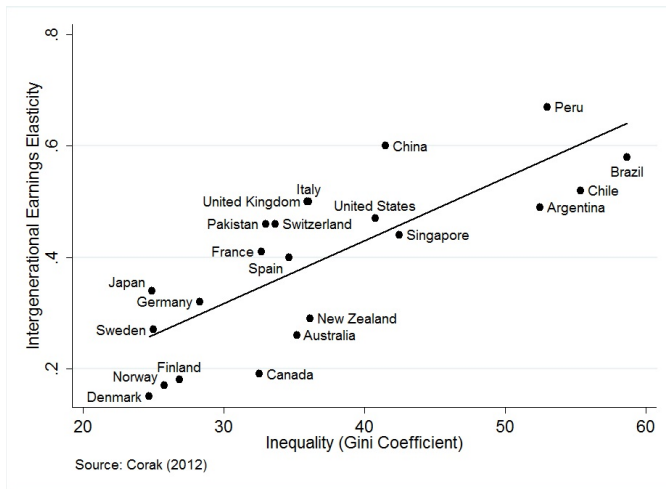
Percentage change in employment



# The Mixed Benefits of Industrialization

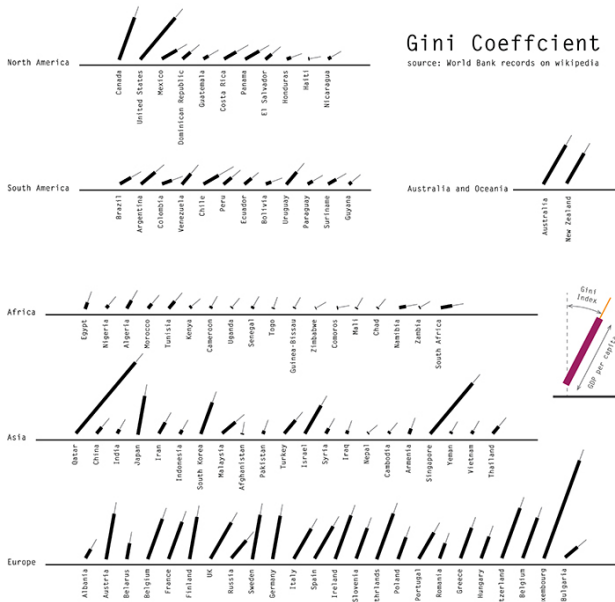


# A Mixed View of the Industrial Revolution



*The Great Gatsby Curve*

# The Mixed Benefits of Industrialization



# The Mixed Benefits of Industrialization

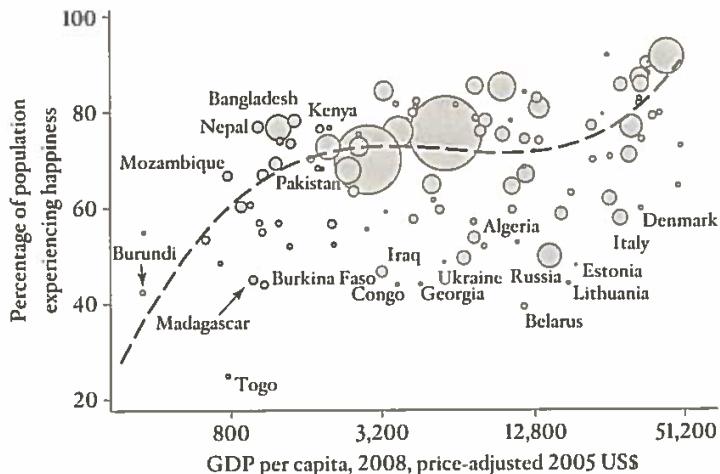
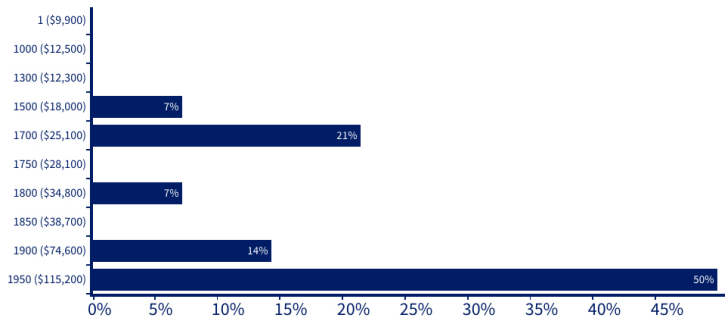


FIGURE 7 Happiness around the world.

# The Mixed Benefits of Industrialization

**Which is the earliest era you would prefer to live in Britain at the 99th income percentile compared to living at the poverty line today (\$24,250)?**

When poll is active, respond at [Pollev.com/jmparman](https://Pollev.com/jmparman) Text **JMPARMAN** to **37607** once to join

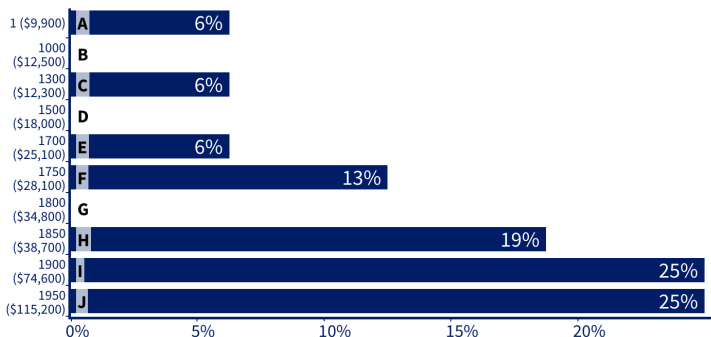




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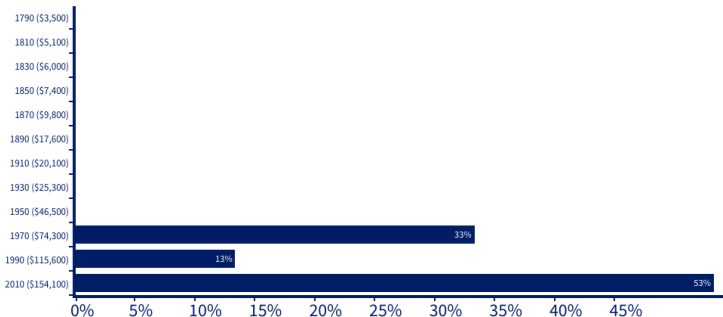
Respond at [PollEv.com/jmparman](https://PollEv.com/jmparman) Text **JMPARMAN** to **37607** once to join, then **A, B, C, D, E...**



# The Mixed Benefits of Industrialization

**Which is the earliest era you would prefer to live at the 90th income percentile compared to living at the mean income today (\$47,700)?**

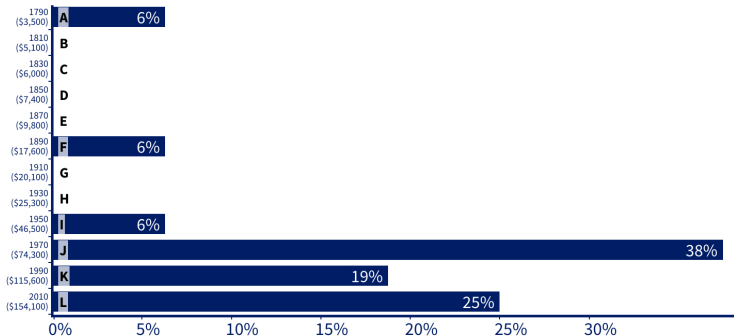
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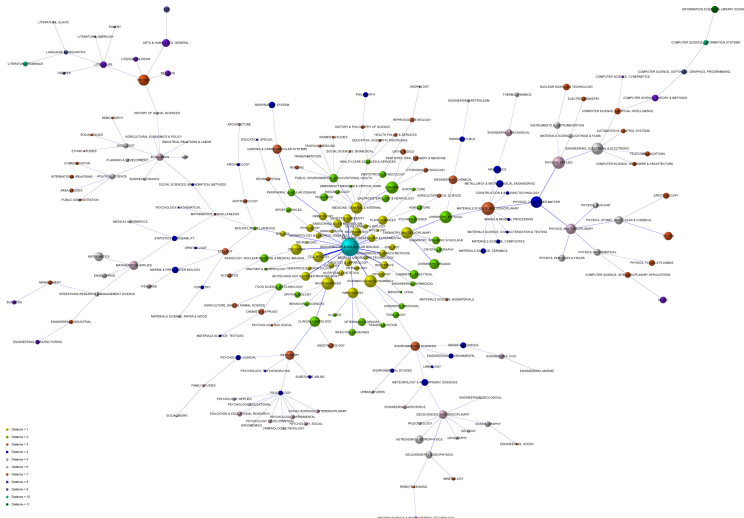
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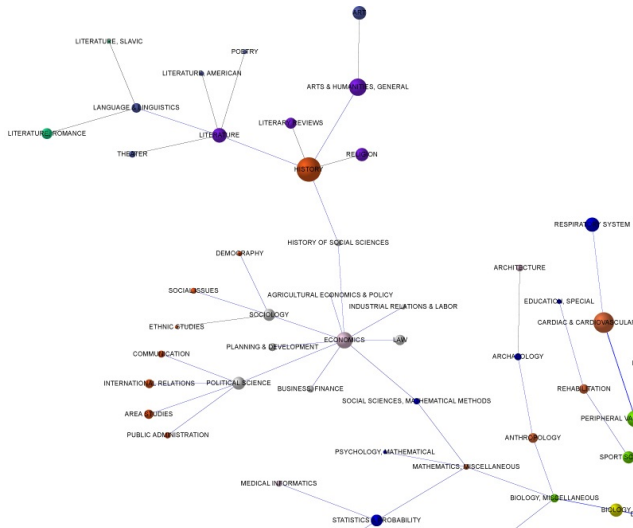


# The Position of Economic History in Academia



From Moya-Anegón, et al "Visualizing the marrow of science." *Journal of the American Society for Information Science and Technology*, Vol. 58, No. 14 (2007)

# The Position of Economic History in Academia



*From Moya-Anegón, et al "Visualizing the marrow of science." Journal of the American Society for Information Science and Technology, Vol. 58, No. 14 (2007)*

# The (Changing) Position of Economic History in Academia

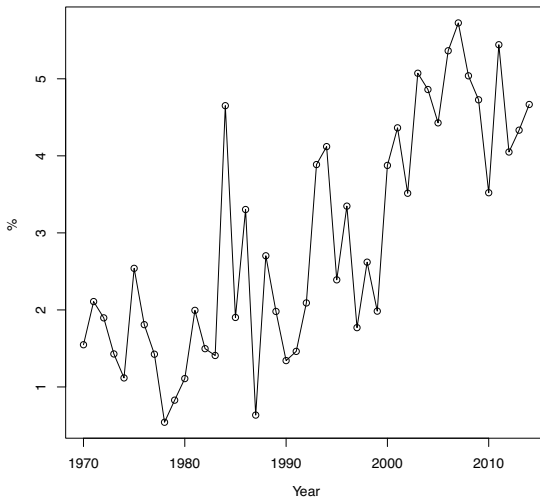


FIGURE 1  
PERCENTAGE OF ECONOMIC HISTORY PUBLICATIONS IN THE TOP FIVE  
ECONOMICS JOURNALS