Before Modern Economic Growth

EBH25, LECTURE 1

PLAN

1. What Happened in History?
2. A segmented world
3. A Theory for Stagnation

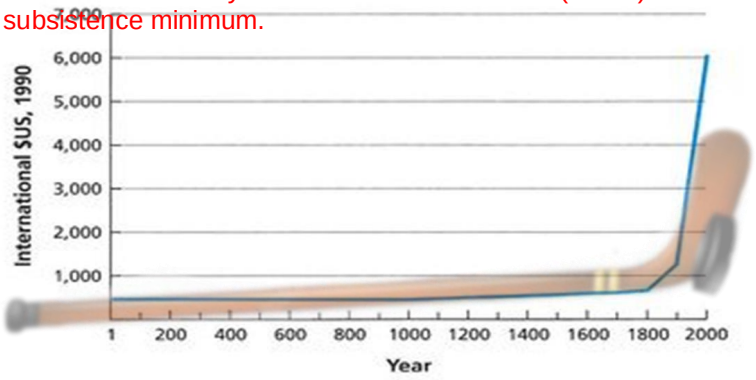
1. What happened in History?

1. What happened in (Econ.) History?

- Not much
- Essentially, a period of low growth rates (perhaps since the 10,000 bC (Neolitihic) was replaced 200 years ago by a period of high growth rates
- In the words of the Nobel-prize winner Douglass North :
  - "If we make a new 24 hour clock for the time of civilization (...) the last 250 years – just 35 minutes on our new 24 hour clock – are the era of modern economic growth"
- This pattern is known as the ' hockey stick' (See Also Text 1, Figure 1)
- Explaining this shape is the essential question of Econ Hist

Econ Hist in 1 Graph

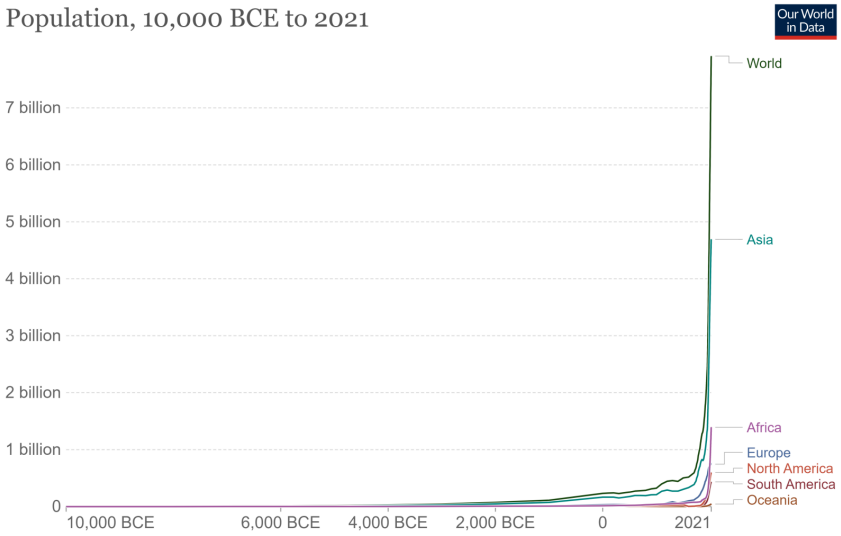
International dollars are a hypothetical currency used for comparison of living standards across time and space. International dollas are adjusted fo**r inflation within countries over time** and for **differences of cost of living between countries**. International dollars is a unit whose purchasing power is fixed, so that 1 international dollar can buy the same goods and services anywhere. Four hundred 1990 (or GK) international dollars is the subsistence minimum.



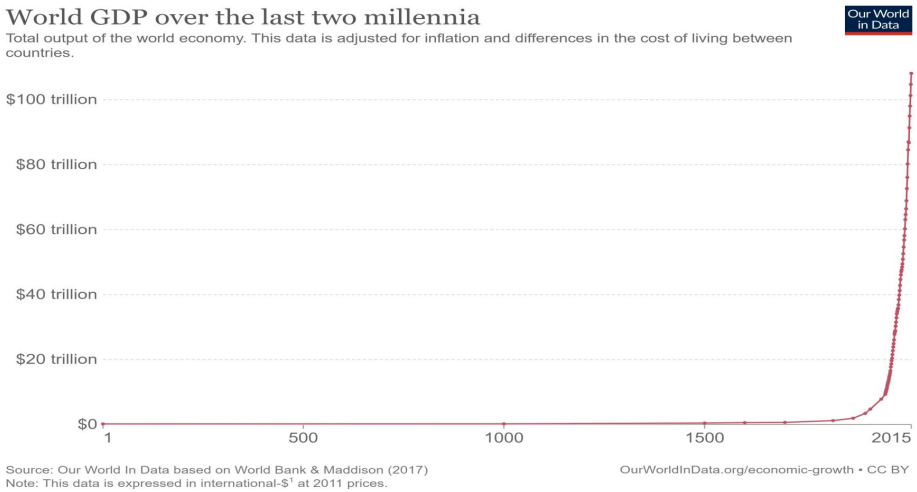
1.2 Gross world product per capita (1990 International Dollars)

Source: Bolt, J., and J. L. van Zanden. 2013. "The First Update of the Maddison Project: Re-Estimating Growth Before 1820." Maddison Project Working Paper 4.

Econ Hist in 1 Graph 2.0

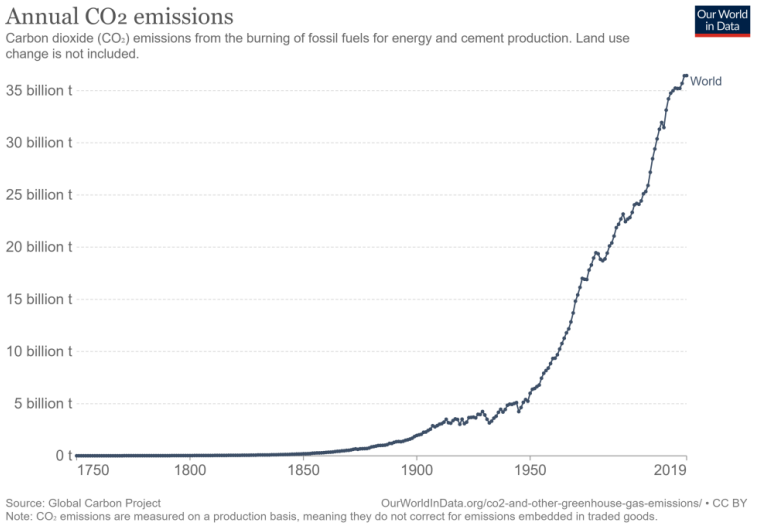


Econ Hist in 1 Graph 3.0



https://ourworldindata.org/grapher/gdp-worl regions-stacked-area

Econ Hist in 1 Graph 4.0



Modern Economic Growth

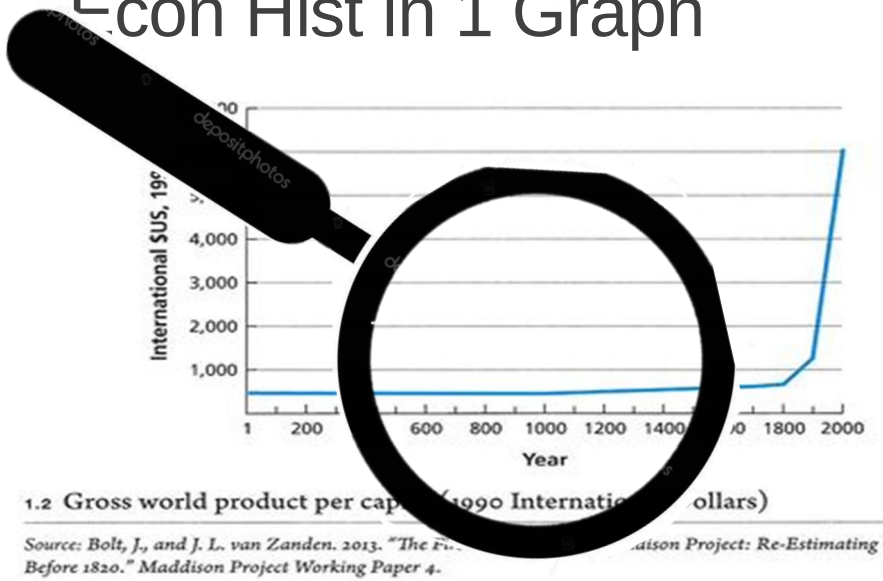
In aggregate terms, Modern Economic Growths displays three features:

- Growth in the total volume of output (from 1800 to 2020, world GDP increased by a factor of 50)
- Growth in total population (from 1800 to 2020, world population increased by a factor of 7, from c. 1 to c. 7 billion)
- Growth in per capita income (from 1800 to 2020, average per capita income increased by a factor of 10, from c. 700 to 7000 GK dollars)

(Recent concerns also brought to the fore the issue of pollution, which increases in tandem with economic growth)

2. The Pre-MEG World

Econ Hist in 1 Graph



1.2 Gross world product per cap (1990 Internati ollars)

Source: Bolt, J., and J. L. van Zanden. 2013. "The F aison Project: Re-Estimating Growth Before 1820." Maddison Project Working Paper 4.

Table 1: Levels of per capita GDP, 1–2030 AD
(1990 international Geary-Khamis dollars)

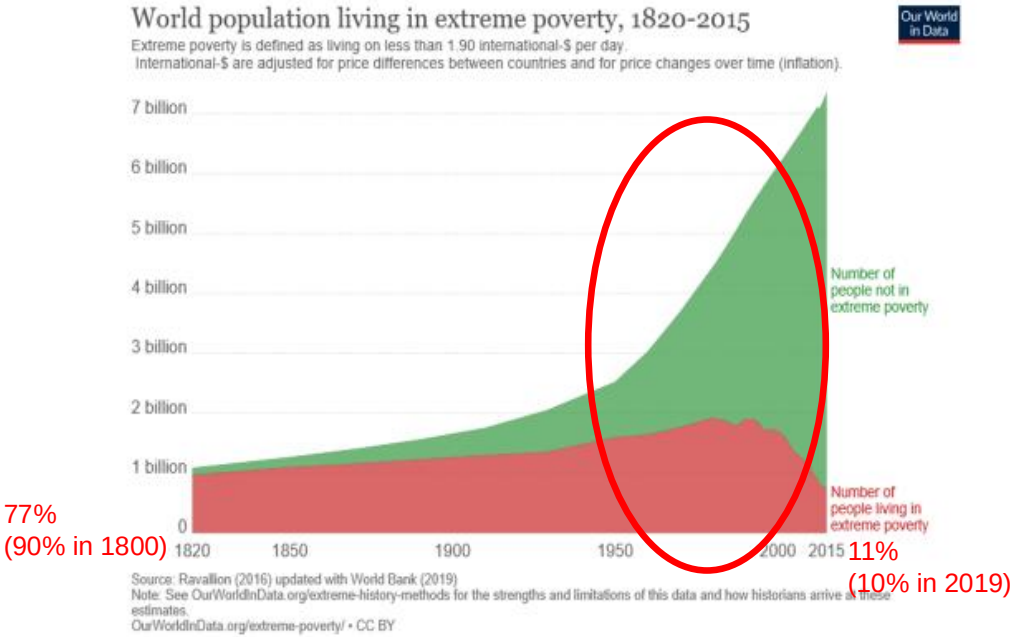
	1	1000	1500	1820	1950	1973	2006
Western Europe	576	427	772	1,202			
US	400	400	400	1,257			
Other Western offshoots*	400	400	400	761			
West	**569**	**426**	**754**	**1,202**			
China	450	466	600	600			
India	450	450	550	533			
Japan	400	425	500	669			
Other Asia	421	520	565	578			
Latin America	400	400	416	691			
Eastern Europe & Former USSR	406	400	498	686			
Africa	472	428	416	421			
Rest	**453**	**457**	**537**	**581**			
World	**467**	**453**	**567**	**667**			
Inter-regional Spread	1.4:1	1.3:1	1.9:1	3:1	21.3:1	19.9:1	18.2:1
West–Rest Spread	1.3:1	0.9:1	1.4:1	2.1:1	5.6:1	5.6:1	5.2:1

* Australia, Canada and New Zealand.
Source: www.ggdc.net/Maddison, and Maddison (2007a), p. 382.

Inter-regional spread is the ratio of the highest income to the lowest

A Uniformly Poor World

- Despite the wide differences between local and world economies, the diferences between world regions were not (like today) a large multiple pre-1820 Essentially, the world regions were uniformly poor (i.e. low per capita GDP)
  - low GDP pc
  - low wages (i.e. low returns from labour AND low productivity)
- Estimates are hard to find, but even in 1800, 90% of the world pop lived in extreme poverty

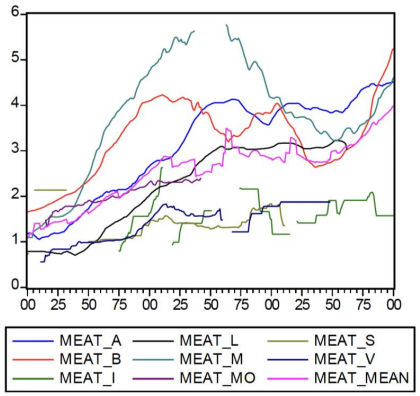


Low productivity = low specialization

- Natural resources constrained per capita output = low productivity
- Low productivity meant that there was little scope for specialization of the world economies
  - The largest world economy in 1700 (China), foreign trade (exports of silk, china, tea, lacquer, pearls and imports of silver) represented about 1% of GDP

Low regional specialization

Prices of Meat in 8 European cities, 1500-1800



Source: OZMUCUR and PAMUK 2006

Wide price diferences in non-tradables within the most advanced region of the world, implying lack of trade and, hence, limited scope for specialization

Low specialization = little world trade

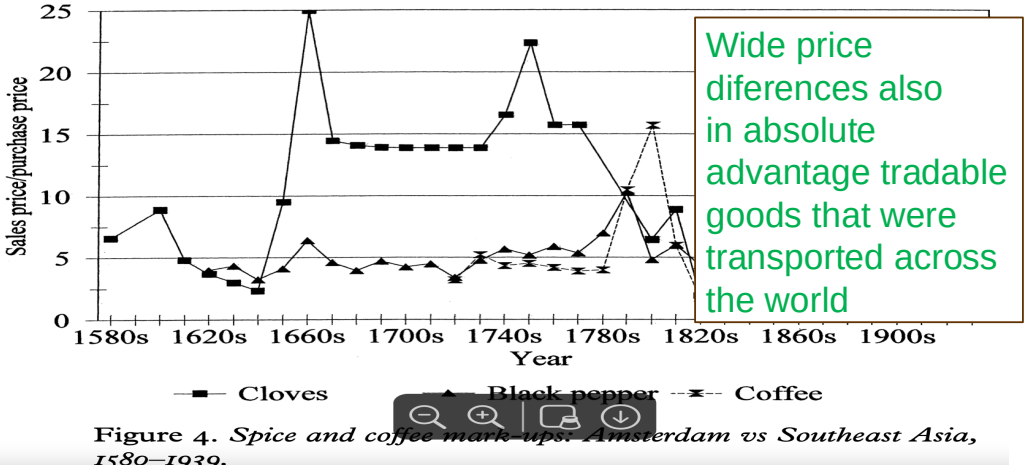


Figure 4. *Spice and coffee mark-ups: Amsterdam vs Southeast Asia, 1580–1938.*

Wide price diferences also in absolute advantage tradable goods that were transported across the world

Source: O'ROURKE, K. H., & Williamson, J. G. (2009).

3. A Theory for Stagnation

The main World Economies

GDP (in million 1990 USD): India, China and Europe

	1	1000	1500	1600	1700	1820
India	29	34	61	74	91	111
China	34	27	62	96	83	229
Europe	14	11	44	66	81	159

Source: Maddison Homepage

The main World Economies

GDP per capita (in 1990 USD): India, China and Europe

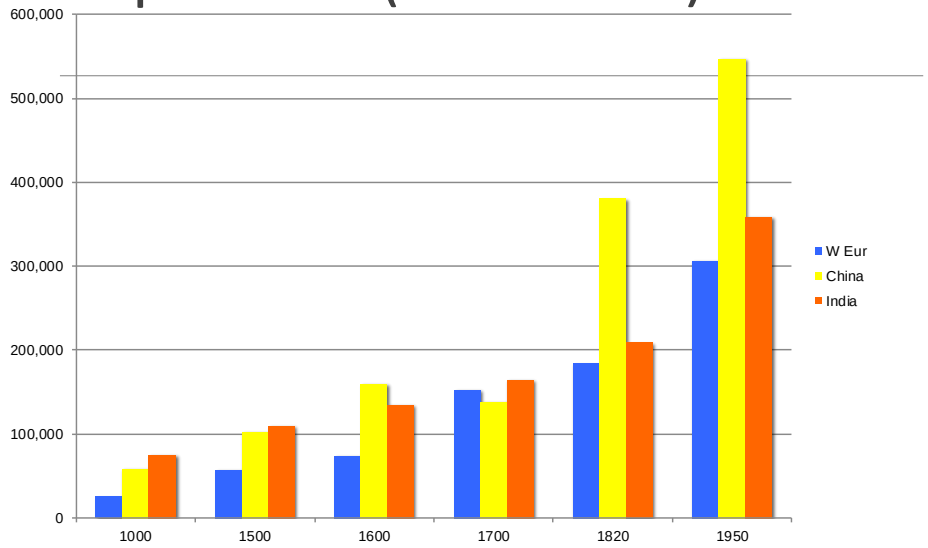
	1	1000	1500	1600	1700	1820
India	450	450	550	550	550	533
China	450	450	600	600	600	600
Europe	576	425	797	888	1.028	1.234

Source: Maddison Homepage;

What happened in (Econ.) History?

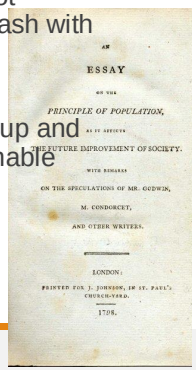
- The period before 1800 (or 1815 or 1820, depending on the authors) was one of overall growth
  - As measured by the real GDP (the monetary value in real terms of all goods and services produced in a given economy in a given year)
- Yet, this overall growth was not accompanied by growth in productivity, as measured by GDP per capita, which stagnated (India or China) or grew at a low pace
- Thus, GDP growth was a function of population growth (see next graph)

Population (in millions)



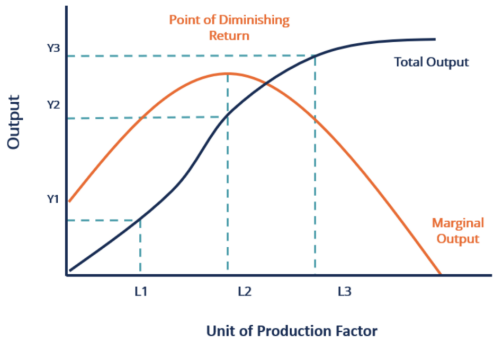
Malthusian theory: the problem is natural scarcity

- The Malthusian Model instead states that increases in output lead populations to increased their fertility
- This increased fertility, however, is not sustainable as at some point it will clash with natural resources (food)
- When this happens, mortality will go up and population descend back to a sustainable level

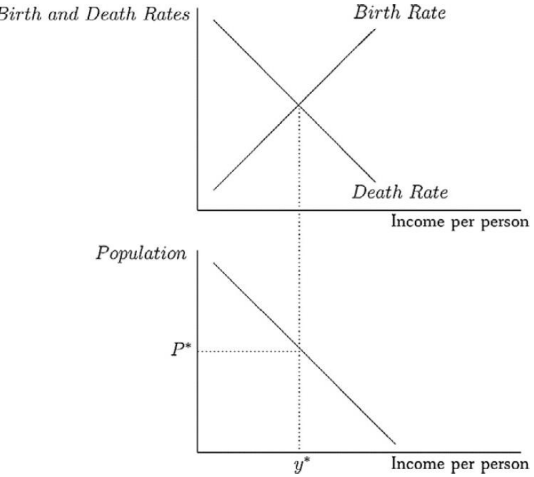

AN
ESSAY
ON THE
PRINCIPLE OF POPULATION,
AS IT AFFECTS
THE FUTURE IMPROVEMENT OF SOCIETY.
WITH REMARKS
ON THE SPECULATIONS OF MR. GODWIN,
M. CONDORCET,
AND OTHER WRITERS.
LONDON:
PRINTED FOR J. JOHNSON, IN ST. PAUL'S CHURCH-YARD.
1798.

Decreasing Returns

- The key assumption of the Malthusian model is that per capita income does not increase proportionally to the increase of the Q of labour (or capital)
- In na essentiually agrarian economy, the increase in labour leads to a decreasing marginal output.
- This is called the 'decreasing returns'



Why did per capita incomes changed little? (2)



- Alternatively, knowing the outcome of their increase in numbers, populations will diminish their fertility so that population does not grow
- The result is that population remains stagnant as birth and death rates equate (graph above)
- Likewise, given that natural resources constrain output (graph below), per person income ALSO remains static

An example of a Malthusian regime: Portugal, 1527-1850

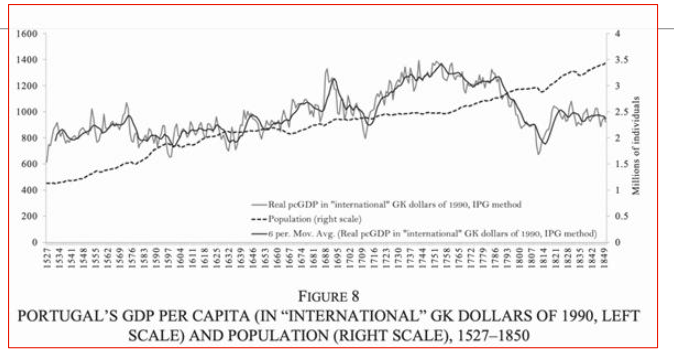


FIGURE 8
PORTUGAL'S GDP PER CAPITA (IN "INTERNATIONAL" GK DOLLARS OF 1990, LEFT SCALE) AND POPULATION (RIGHT SCALE), 1527–1850

"Portugal's favorable circumstances by the mid-eighteenth century (...) were not to last. In the very long run, the economy conformed to the predictions of the Malthusian model. Despite variation in response to shocks, income reverted back to what could be interpreted as a long-term "subsistence" level. (...) the forces of convergence to such a steady state did include endogenous fertility and mortality responses in the spirit of Malthus" (Palma and Reis, 2019).