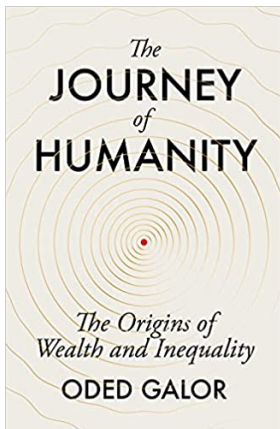


# The Journey of Humanity

## Roots of Wealth and Inequality

Oded Galor

May 17, 2026



Penguin  
Random  
House

# The Journey of Humanity

- The evolution of societies since the emergence of Homo sapiens
  - The transition from an epoch of stagnation to an era of sustained growth
  - The divergence in living standards across the globe

# Mysteries of the Journey of Humanity

- The Mystery of Growth
  - What are the roots of the dramatic transformation in living standards in the past centuries, after hundreds of thousands of years of stagnation?
- The Mystery of Inequality
  - What is the origin of the vast inequality in the wealth of nations?

# The Journey of Humanity

Over most of human existence

- Human life was "*Nasty, Brutish & Short*" (Hobbes, 1651)
  - Remarkably similar to that of other species:
    - Living standards were near subsistence
    - Humans were preoccupied by survival & reproduction
    - Minor differences in living conditions across time & space

## Living Standards Few Centuries Ago

- 1/4 of new born died before reaching their first birthday
- Numerous women perished during childbirth
- Life expectancy rarely exceeded 40
- 'Economic Crisis'  $\Rightarrow$  'belt-tightening'
  - $\Rightarrow$  mass starvation & extinction

# Metamorphosis

- Over the past two centuries
  - Dramatic transformation in living standard within & across societies
    - World's income per capita has increased 14-fold
    - Life expectancy has more than doubled
    - Great divergence in income per capita across countries

## Manifestations of this Metamorphosis

Humans whisked in a time machine:

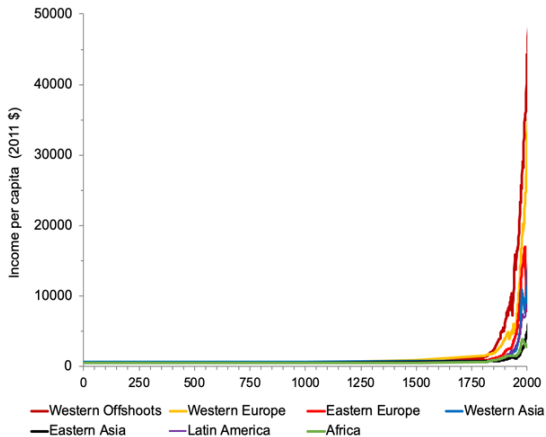
- From Jerusalem of Jesus (1st century) to Ottoman Jerusalem (19th century)
  - Instantaneous adaptation
    - Past knowledge would be largely applicable
    - Technological improvements would be merely incremental
    - Occupations would require similar skills
    - Life expectancy would remain low & unchanged
- From Jerusalem in the 19th century to Jerusalem today
  - Shocking experience
    - Past knowledge would be largely obsolete
    - Modern technologies would appear as a witchcraft
    - Occupations would require incomprehensible skills
    - Life expectancy would double & require future-oriented mindset

## Evolution of Living Standards across the Globe

In contrast to popular views

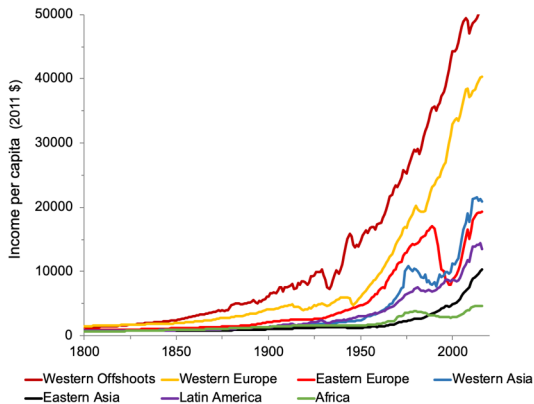
- Living standards had *not* increased *gradually* in the course of history
  - Technological progress had accelerated *gradually* over time, but
    - It had contributed mostly to the explosion of the world's population
    - It had a negligible impact on living standards over most of history
  - The recent rise in living standards reflects a *phase transition*
    - Abrupt transformation, once a tipping point has been reached

# Metamorphosis: Income per Capita: 1–2020



Data Source: Maddison Project (2020)

# Great Divergence: 1800–2018



Data Source: Maddison Project (2020)

## Fundamental Mysteries

- The Mystery of Growth:
  - What are the underlying causes of the economic ice age?
  - What triggered the metamorphosis in the past two centuries?
- The Mystery of Inequality
  - What is the origin of the vast inequality in income per capita across countries and regions?
  - What accounts for the divergence in per-capita income across countries in the past two centuries?
  - What are the factors that inhibited the convergence of poor economies toward richer ones in the past decades?
  - What is the role of deep-rooted historical and pre-historical factors in the observed patterns of comparative development?

## Resolution of these Mysteries

- Requires the identification of:
  - Forces that permitted the transition from stagnation to growth
  - The origins of the differential timing of the transition across the globe
  - The role of historical pre-historical factors in this process
- Provides important insights about:
  - Design of strategies to mitigate inequality across the globe

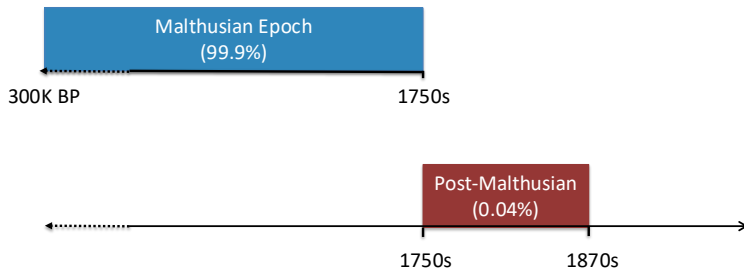
# Phases of Development

- The Malthusian Epoch
- The Post-Malthusian Regime
- The Modern Growth Regime

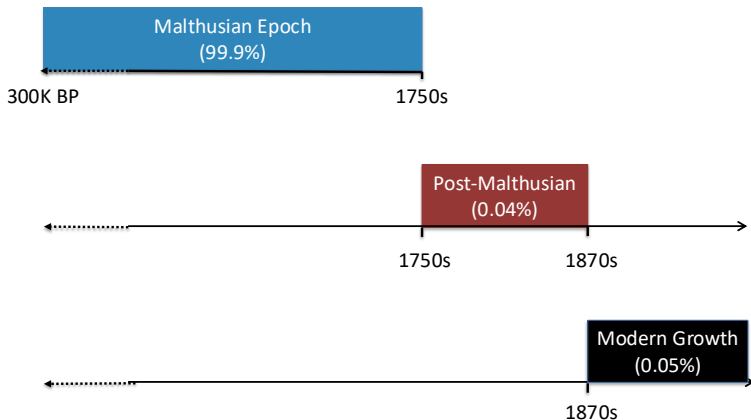
# Phases of Development: Timeline in the Most Developed Economies



# Phases of Development: Timeline of the Most Developed Economies



# Phases of Development: Timeline of the Most Developed Economies



## The Mysteries of the Malthusian Epoch

- What accounts for this epoch of stagnation that characterized most of human history?
- What are the forces that had ultimately permitted the escape from the arms of the Malthusian octopus?

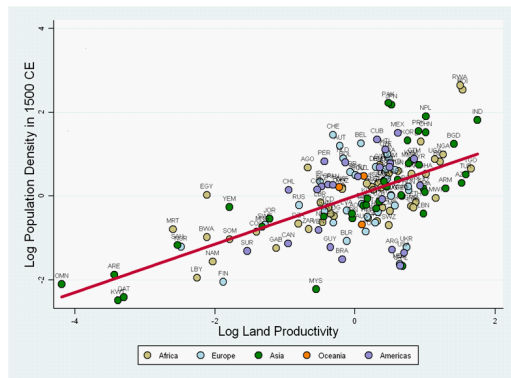
# The Malthusian Epoch

- Dualism: Stagnation & Dynamism:
  - Stagnation in living standards:
    - Income per capita: fluctuated near the subsistence level
    - Life expectancy: fluctuated in the range of 25-40 years
  - Dynamism (Slow but sizable over 300,000-year period)::
    - Technological progress
    - Population growth
    - Adaptation
  - Malthusian dynamism
    - Ultimately triggered the transition from stagnation to growth

# Impact of Technological Progress on Population Growth

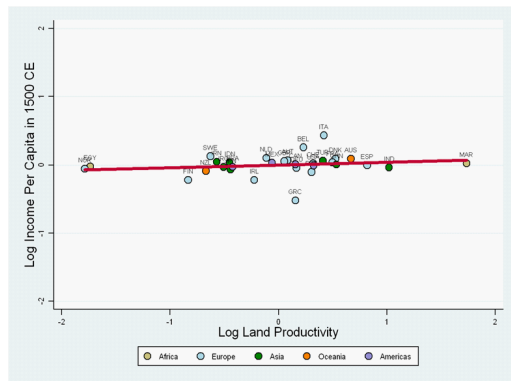
- Technological progress
  - $\Rightarrow$  Increased income per capita in the short-run
  - $\Rightarrow$  Population growth: Mortality declined & fertility increased, as long as income above subsistence
  - $\Rightarrow$  Income per capita inevitably reverted back to its long-run level
- Technologically advanced & land-rich economies had:
  - Higher population density
  - But similar levels of income per-capita in the long-run

# Land Productivity and Population Density in 1500



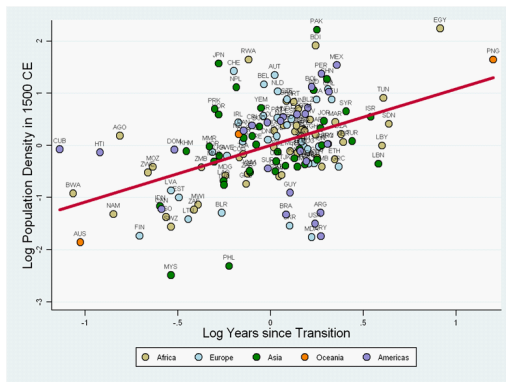
Source: Ashraf-Galor (AER 2011)

# Land Productivity and Income per Capita in 1500



Source: Ashraf-Galor (AER 2011)

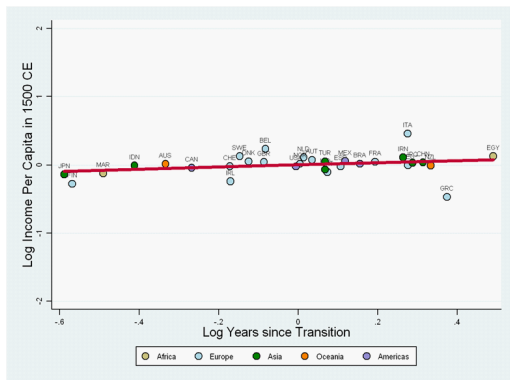
# Technology and Population Density in 1500



Years elapsed since the Neolithic Transition is a proxy for technological levels in 1500.

Source: Ashraf-Galor (AER 2011)

# Technology and Income per Capita in 1500



Years elapsed since the Neolithic Transition is a proxy for technological levels in 1500.

Source: Ashraf-Galor (AER 2011)

## Malthusian Dynamism – Adaptation

- The Malthusian pressure affected
  - The size of the population
  - The composition of the population
- Traits that were complementary to the growth process
  - Generated higher income
    - ⇒ Higher reproductive success (Vertical transmission from parent to child)
    - ⇒ Imitation [Horizontal – cultural – transmission]
    - ⇒ Became more prevalent in the population
- The adaptation processes
  - Raised the prevalence of complementary traits to the growth process
  - Reinforced the process & the ultimate take-off

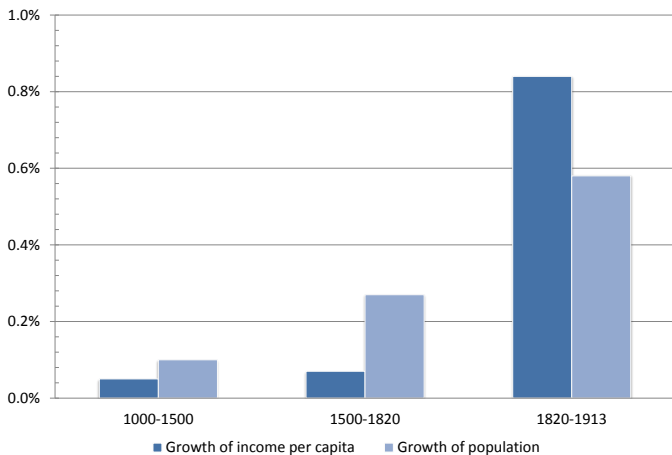
## Malthusian Dynamism – Origins of Technological Progress

- The size & composition of the population fostered technological progress via:
  - Supply of innovations
  - Demand for innovations
  - Diffusion of knowledge
  - Division of labor
  - Extent of trade

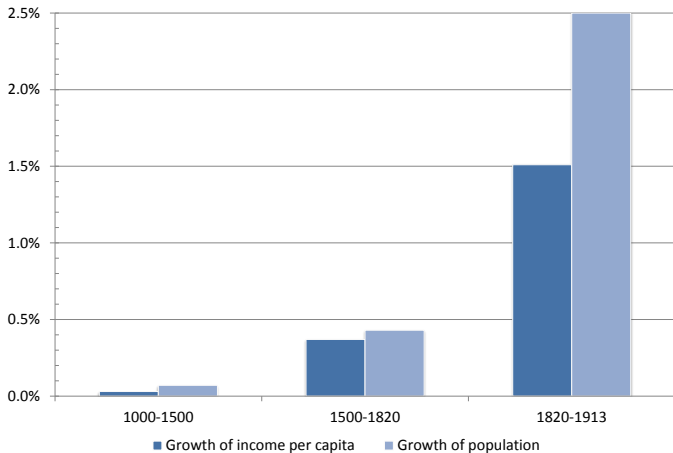
## The Post-Malthusian Regime

- During the Malthusian epoch:
  - Population size & composition  $\Rightarrow$  Technological progress
  - Technological progress  $\Rightarrow$  Population size & composition
- Technological progress accelerated till ultimately
  - Technological progress outpaced biological reproduction
    - $\Rightarrow$  Growth in income per capita
    - $\Rightarrow$  Intensification of population growth

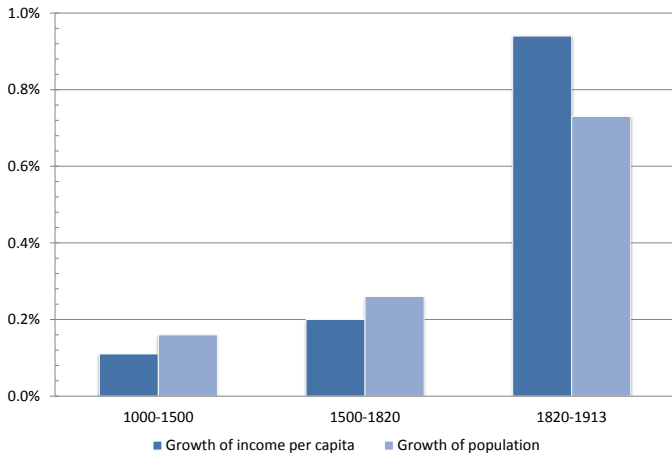
# Take-off: Growth of Population & Income per Capita – World



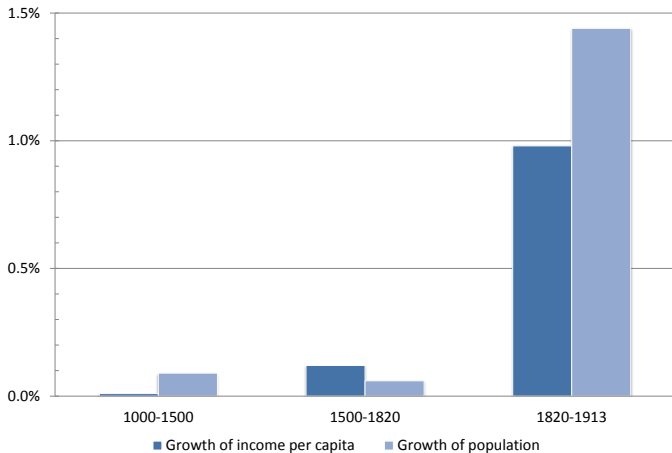
## Take-off: Growth of Population &amp; Income per Capita – Western Offshoots



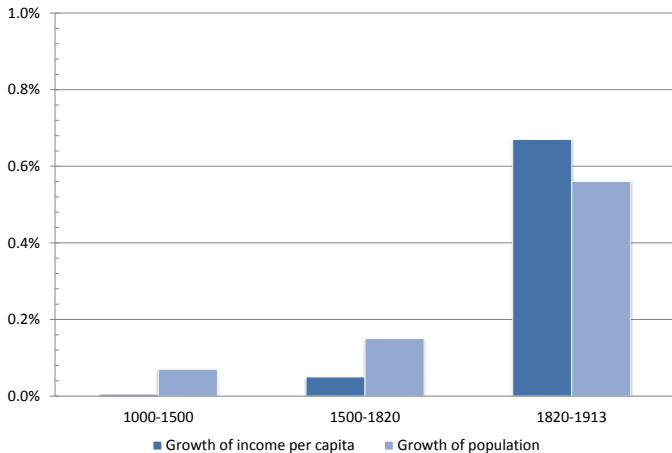
## Take-off: Growth of Population &amp; Income per Capita – Western Europe



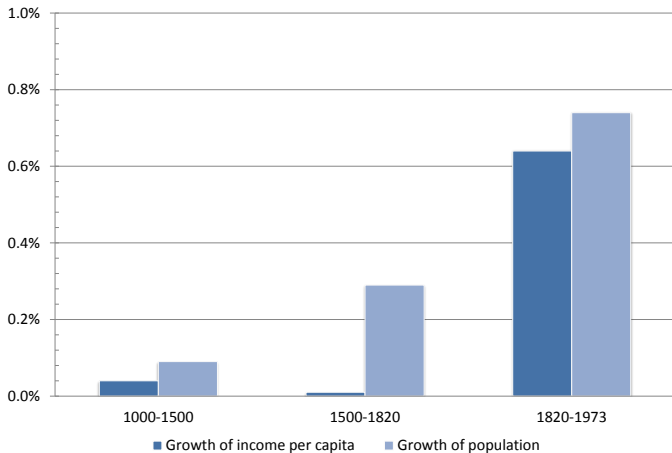
## Take-off: Growth of Population &amp; Income per Capita – Latin America



## Take-off: Growth of Population &amp; Income per Capita – Africa



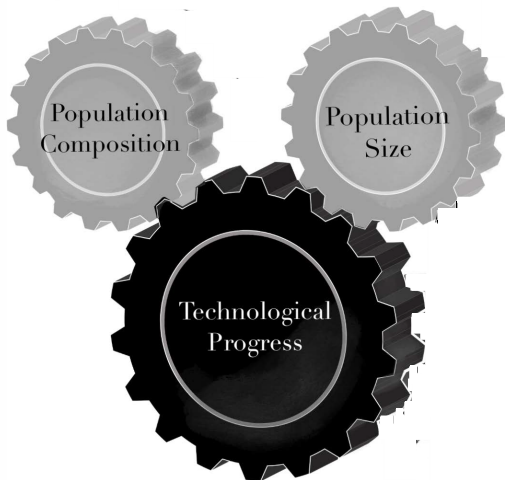
# Take-off: Growth of Population & Income per Capita – Asia



## The Wheels of Change

- The rotation of the 'Wheels of Change' intensified
  - Population size & composition  $\Rightarrow$  Technological progress
  - Technological progress  $\Rightarrow$  Population size & composition
- Technological progress accelerated & ultimately reaching a critical threshold
  - Human capital became essential for coping with the rapidly changing technological environment
- Human capital formation triggered a reduction in fertility (quantity-quality trade-off)
  - The Malthusian equilibrium vanished
  - Growth was freed from the counterbalancing effect of population
- Tech progress & human capital formation & decline in population growth
  - $\Rightarrow$  Sustained economic growth

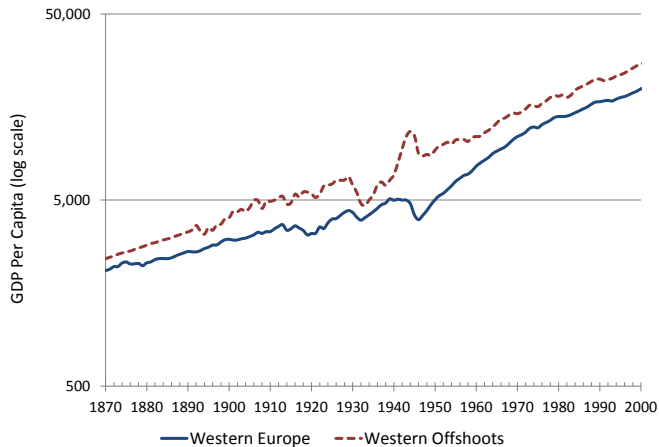
# The Wheels of Change



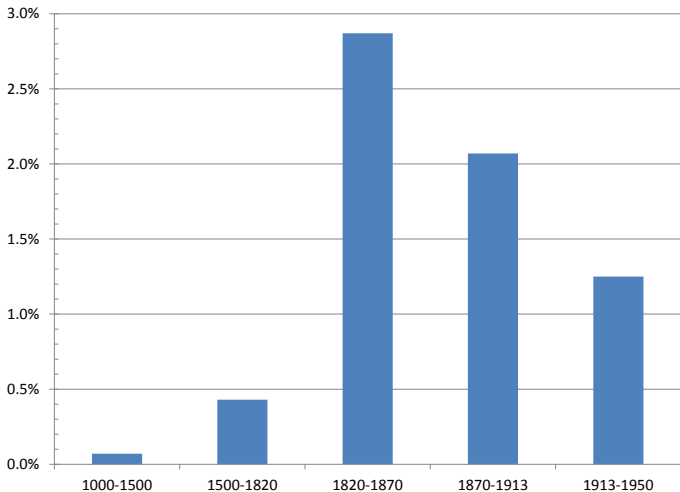
# Phase Transition



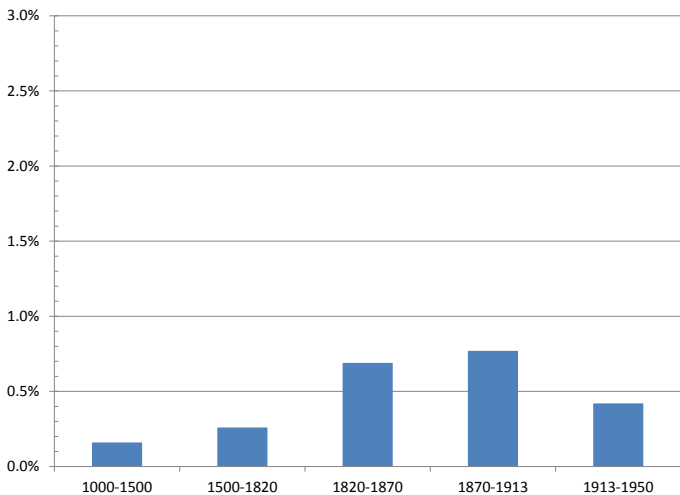
## Sustained Economic Growth in the Developed World: 1870–2000



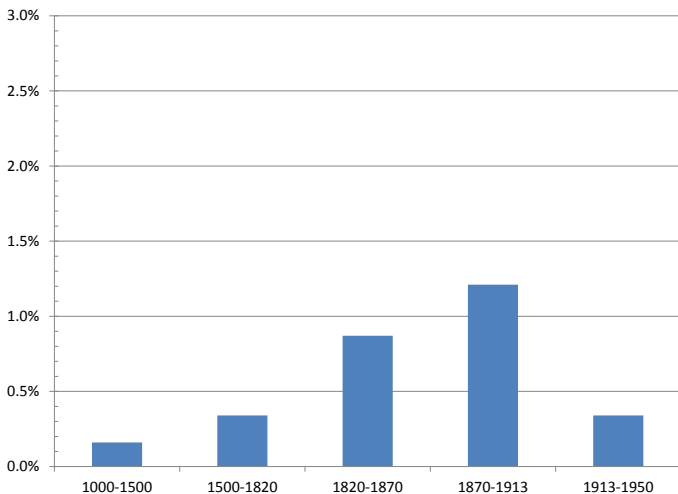
## Early Fertility Decline – Western Offshoots



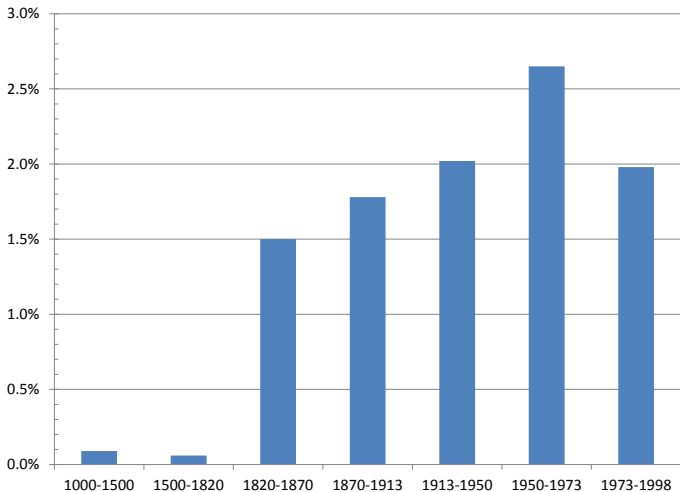
## Early Fertility Decline – Western Europe



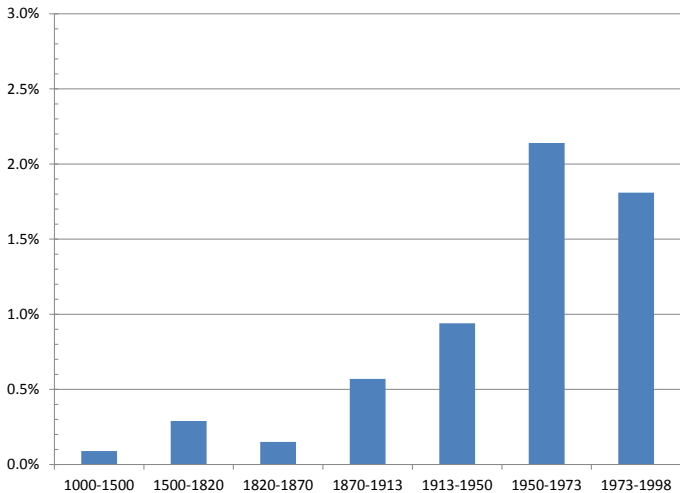
## Early Fertility Decline – Eastern Europe



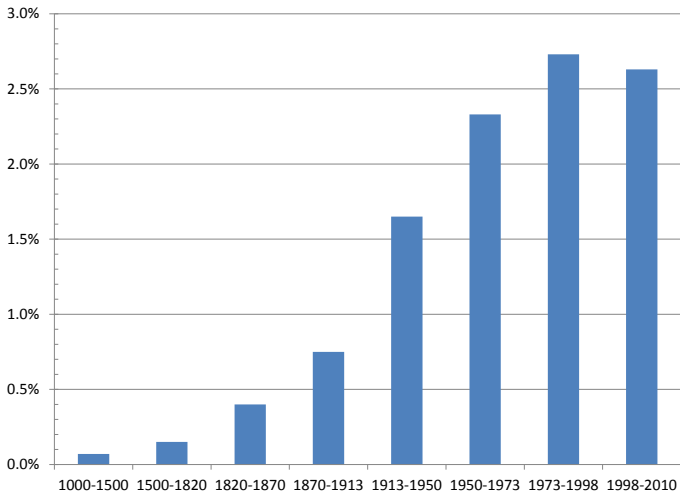
## Late Fertility Decline – Latin America



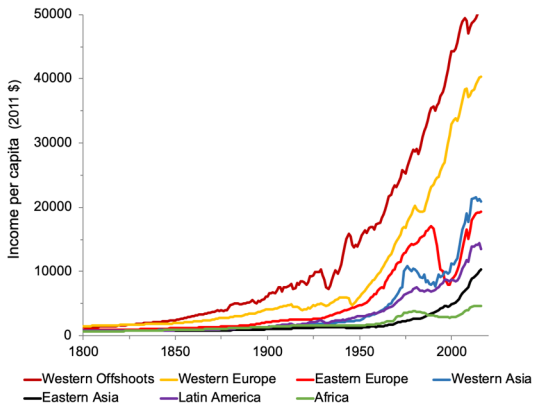
## Late Fertility Decline – Asia



## Late Fertility Decline – Africa



# Great Divergence: 1800–2018



Data Source: Maddison Project (2020)

## Roots of Global Inequality

- What is the origin of the vast inequality that emerged across countries in the past two centuries?’
- What accounts for the transition to modern growth in some countries & persistent stagnation in others?
- What governs the differential timing of the demographic transition across nations?
- Has the earlier transition of advanced economies adversely affected the process of development in LDCs?
- What is the contribution of deep rooted factors to global inequality?

## Proximate Causes of Uneven Development

- Cross-country differences in:
  - Human capital accumulation
  - Physical capital accumulation
  - Technological Levels
- But why some societies fail to:
  - Efficiently invest in physical and human capital?
  - Adopt advance technologies?
- What are the historical and pre-Historical barriers for development?

## Historical and Pre-Historical Barriers for Development

- Deeper Roots:
  - Colonialism
  - Institutional & Cultural characteristics
- Ultimate Roots:
  - Geographical characteristics & Human diversity