

*Human Development  
in the Age of Globalization*

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# *From Per Capita Income to Multidimensional Well-being*

- *Utility*
  - *Welfare*
  - *Subjective Well-being*
- *Opulence*
- *Freedom (capabilities)*

# *Human Development: A Capabilities Approach to Well-being*

- **Human Development: *enlarging people's choices***
  - **A *healthy and long life,***  
***access to knowledge,***  
**and a **decent *living standard*****
- => *human development*, a measure of **positive freedom****

# *Contributions*

- A new *Augmented Human Development Index (AHDI)* that adds *freedom* to a revised *HDI* for **115-162** countries over **1870-2015**
- An overview of international *well-being* trends and distribution in the age of *globalisation*
- A breakdown of *AHD* long run *gains* into the contribution of its different *dimensions*

# *Measuring Human Development*

- **proxies for *HD dimensions***
  - *longevity* and *education*, measures of **achievement** but also of **capability**
  - *per capita income*, an *input* that turns into a **capability**, => enters in the index at *declining* rate

# *Measuring Human Development*

- How to homogenise *indicators* for different dimensions?
- UNDP choice: A *linear* transformation of the *original* values

$$I = (\mathbf{x} - \mathbf{Mo}) / (\mathbf{M} - \mathbf{Mo})$$

$\mathbf{x}$ , **original**\* *value* of a dimension of welfare,  $\mathbf{Mo}$  and  $\mathbf{M}$ , *maximum* and *minimum* values (goalposts)

\* except *per capita income* expressed on **logarithmic** form

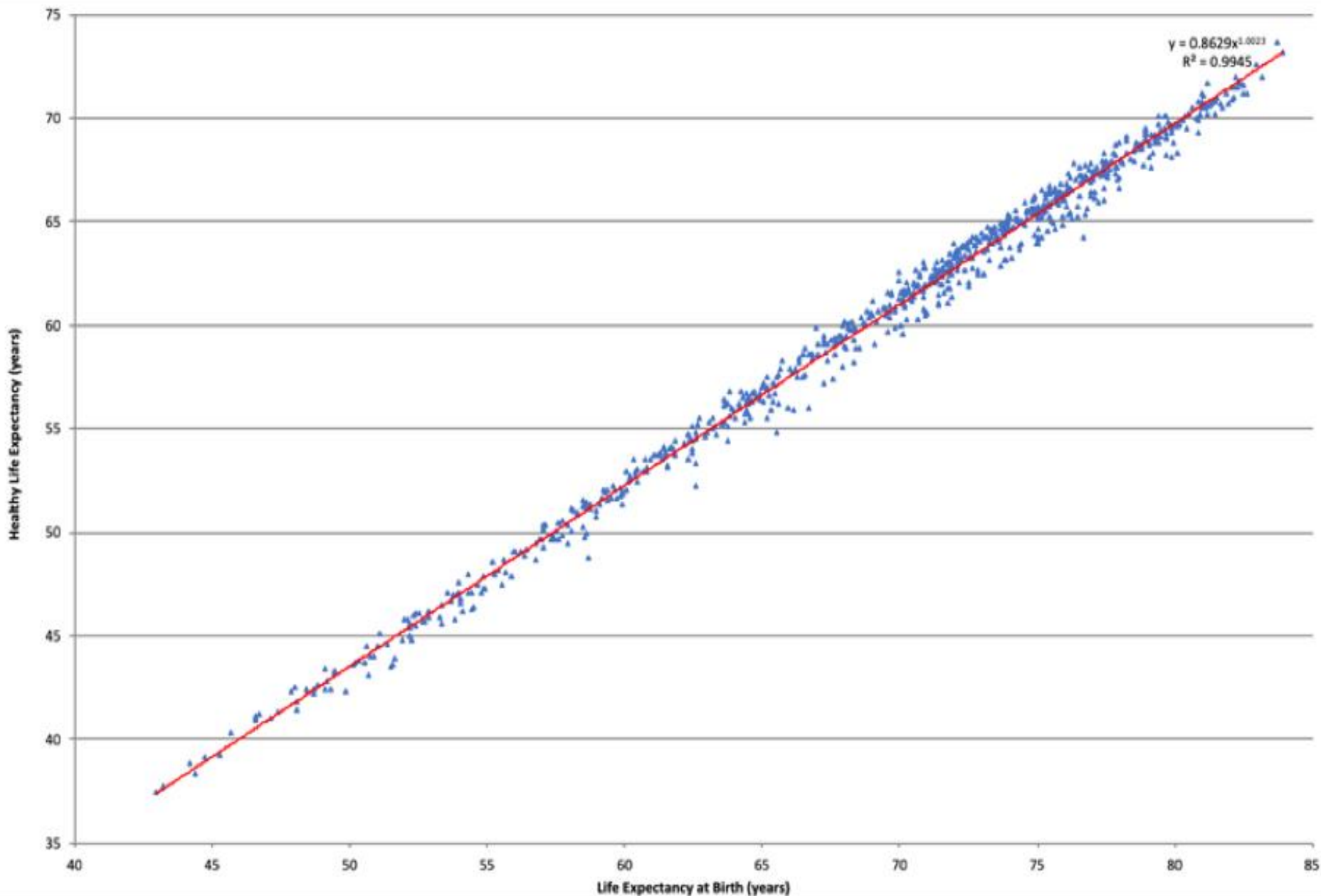
- An unweighted geometric average of all three dimensions,

$$HDI = (I_{Health} \cdot I_{Education} \cdot I_{\ln Income})^{1/3}$$

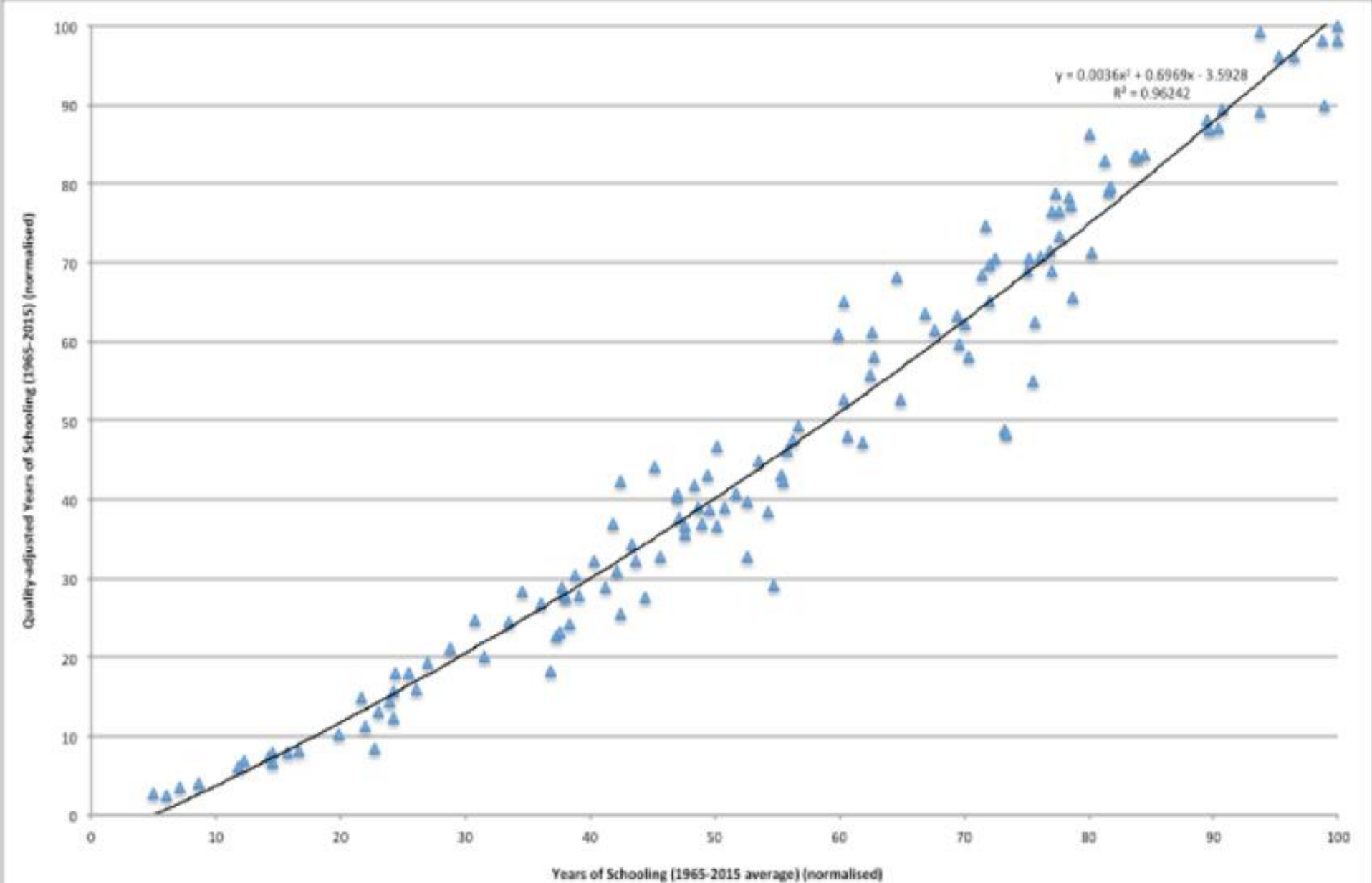
- *Life expectancy at birth* and *Years of schooling*, *bounded* variables
- *Life expectancy at birth* and *Years of schooling*, **crude** measures of *access to knowledge* and *healthy life*

# Healthy Life Expectancy and Life Expectancy at Birth 1990-2016

(Global Burden of Disease Study, 2016)



# Quality-adjusted and Raw Years of Schooling (1965-2015) (normalised)





# *Allowing for Quality in Health and Education*

- *Healthy life expectancy* increases as *LEB* expands
  - as *LEB* rises, *disability* declines for each *age-cohort*  
=> the *quality of life* rises
- The *quality* of education improves as *schooling* increases
- More years of *life expectancy* and *schooling*  
=> better *health* and *education* in childhood and youth

# *From Cross-section Patterns to Time Trends*

- A *non-linear transformation* needed for *LEB* and *SCHL*, as an indicator reaches *higher* levels, its *increases* represent *higher achievements than*  
*if the increase* occurred at a *lower* level  
=> a *convex achievement function*

$$f(x, Mo, M) = (\log(M - Mo) - \log(M - x)) / \log(M - Mo)$$

$x$ , country values;  $M$  and  $Mo$ , maximum and minimum values

# *Agency and Freedom*

- UN *human development index* includes achievements  
... but *not freedom to choose* them
- But *without agency and freedom*  
=> the *HDI*, just an index of *basic needs*
- Adding up *liberal democracy*

# Augmented *Human Development Index*

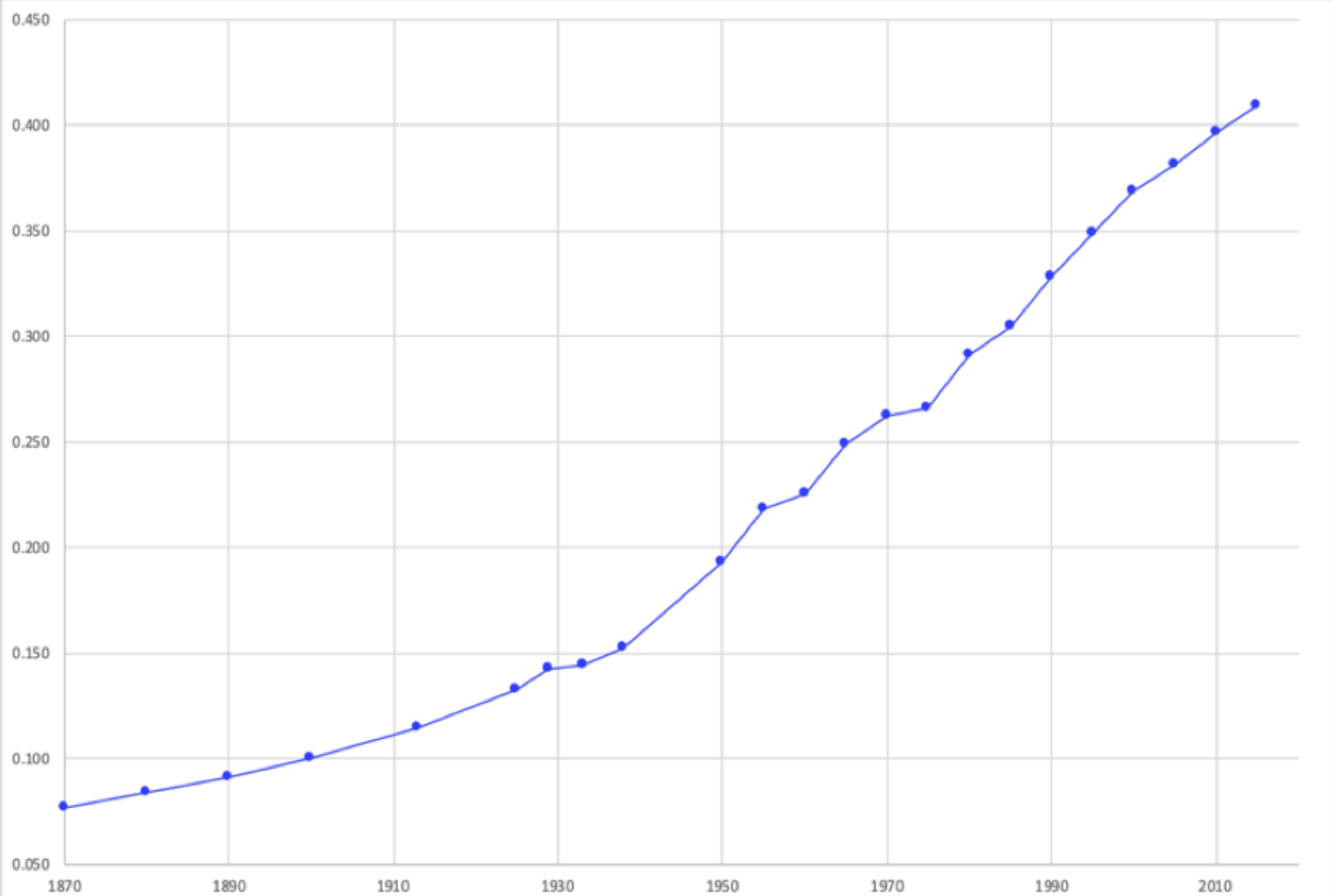
- **Social dimensions** (*life expectancy at birth, schooling*), transformed with a **convex achievement function**
- **Liberal democracy**, **linearly** transformed as the index allows for *quantity* and *quality* changes
- **Yet ... per capita income** enters at *declining* rate => **concave** transformation (*log GDP per head*)
- **All combined** with an equal-weight **geometric average**

$$AHDI = (I_{k \text{ Health}} \cdot I_{k \text{ Education}} \cdot I_{\ln \text{ Income}} \cdot I_{\text{ Liberal Democracy}})^{1/4}$$

# Augmented *Human Development* since 1870

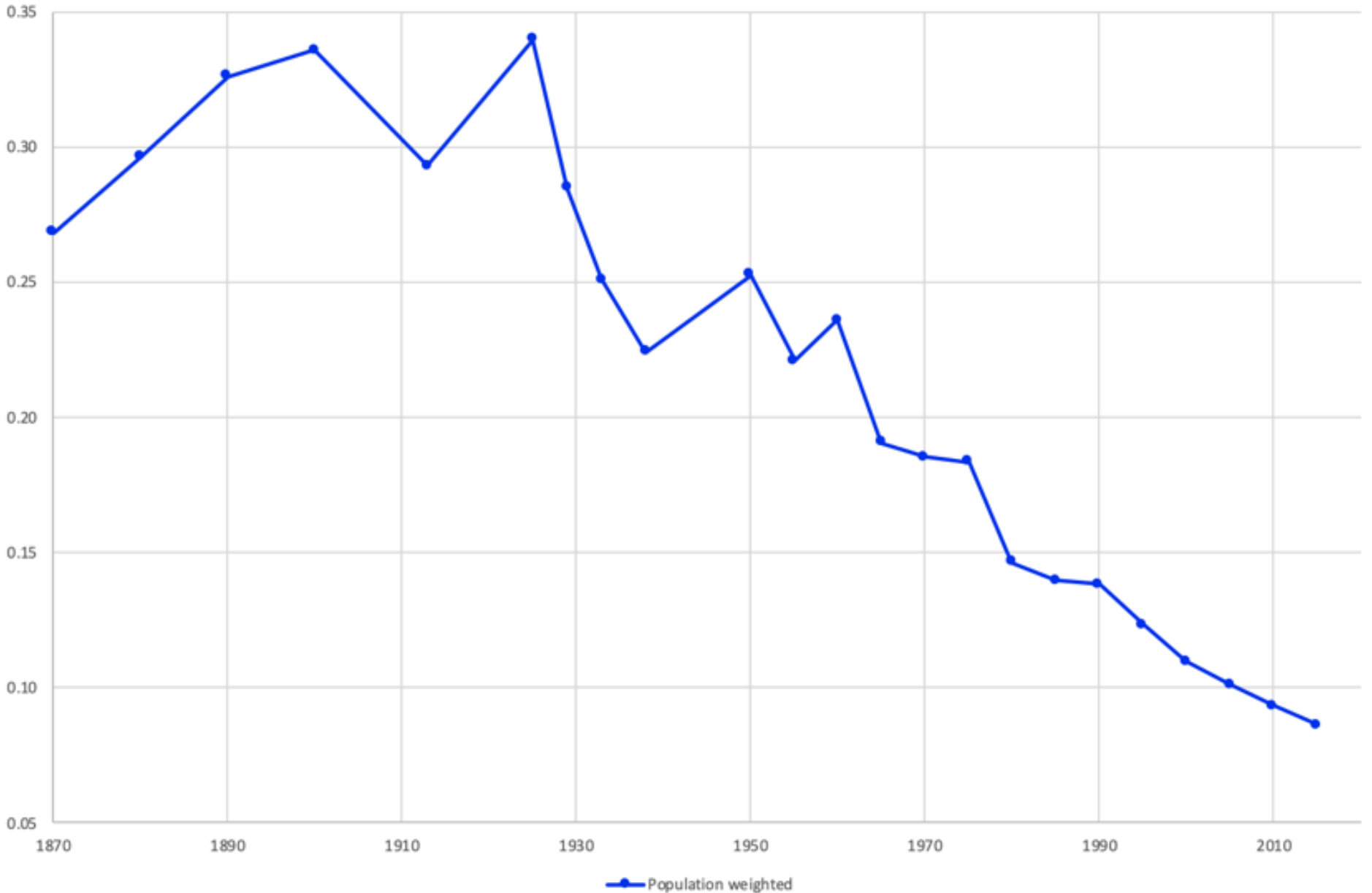
- How much has *AHD* improved?
- How have its *gains* been distributed?

# Augmented Human Development Index, 1870-2015



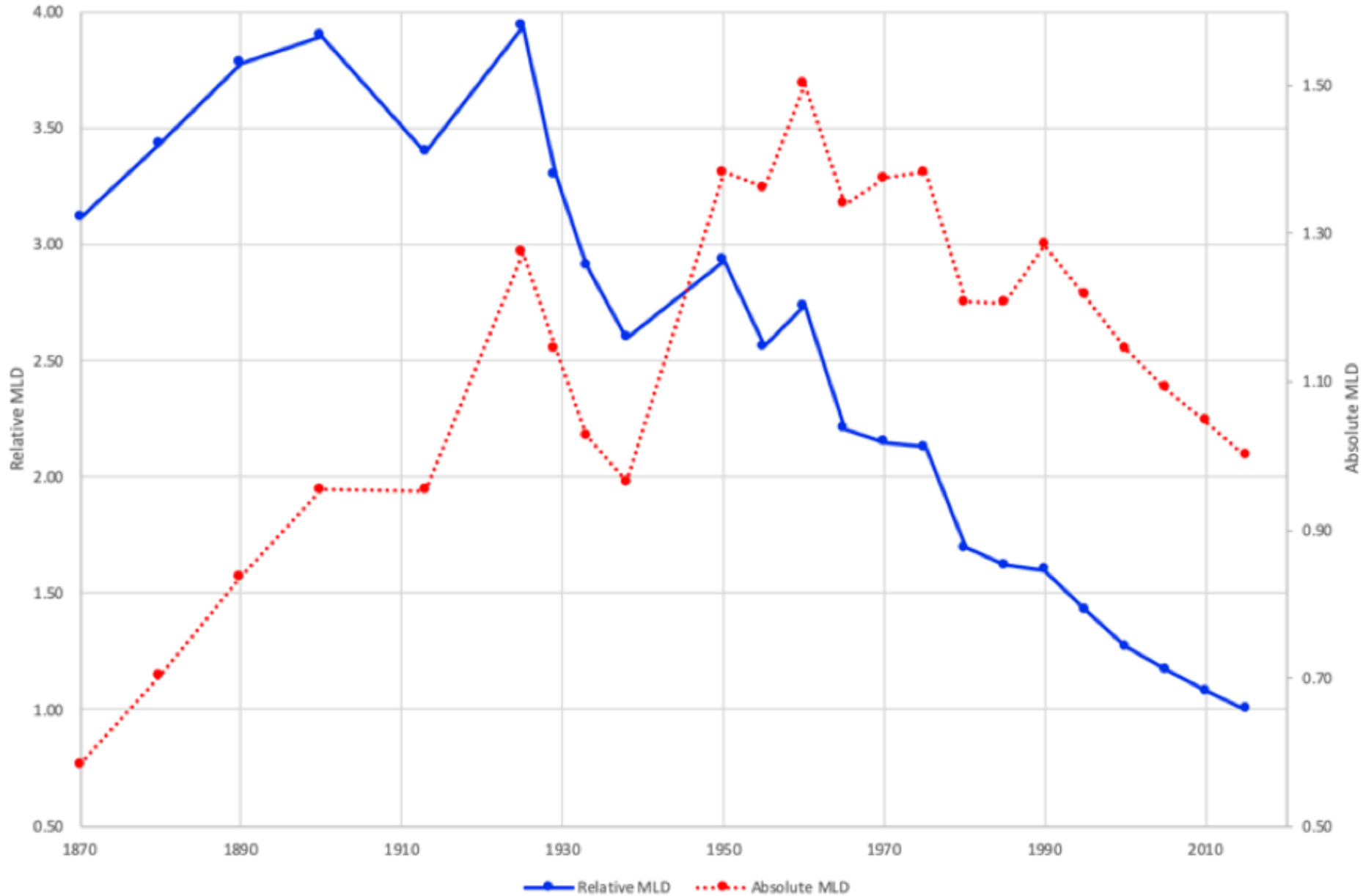
# *AHD Relative International Inequality, 1870-2015*

(MLD population-weighted)



# AHD Relative and Absolute International Inequality

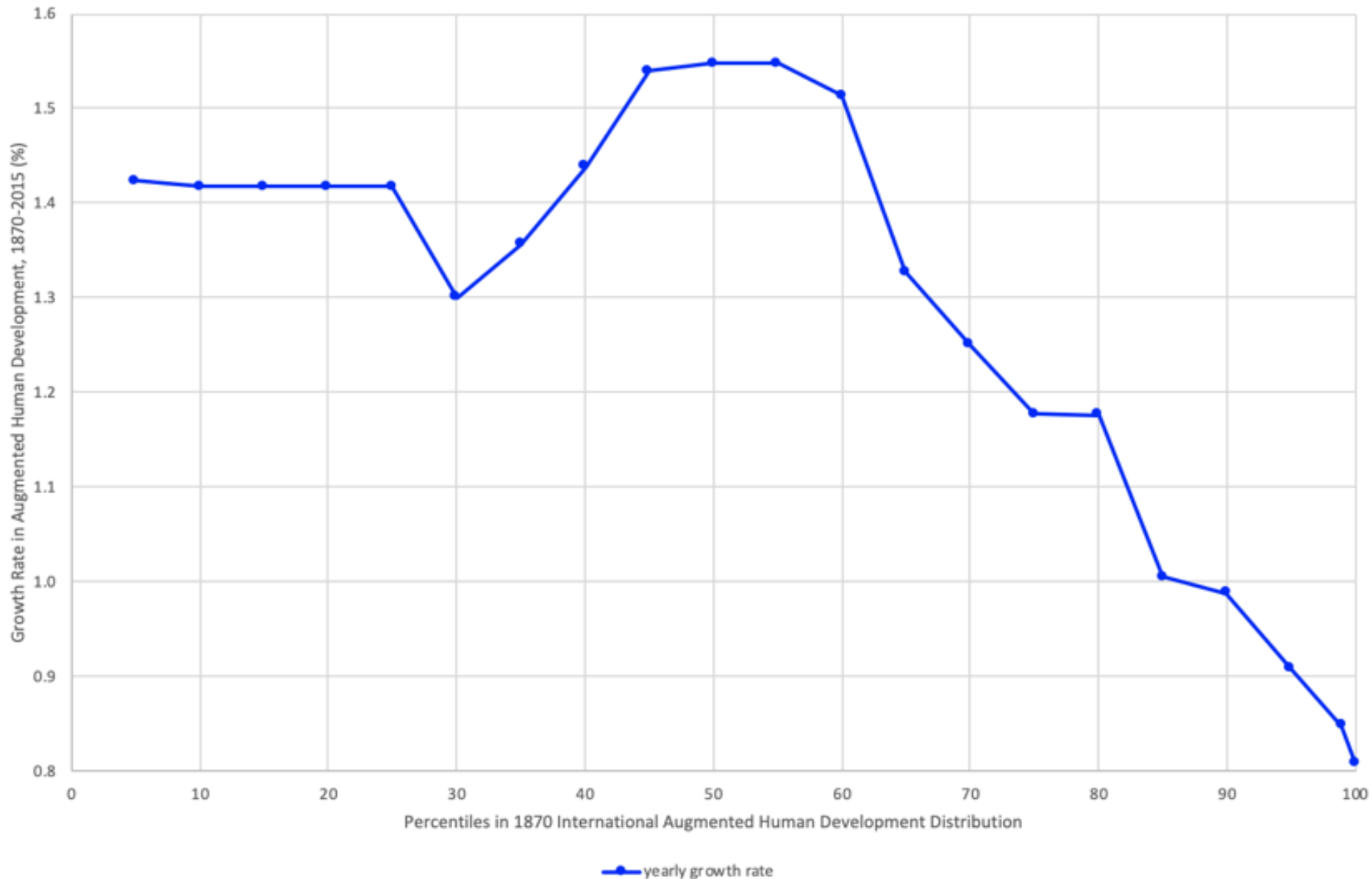
(population weighted) (2015 = 1)





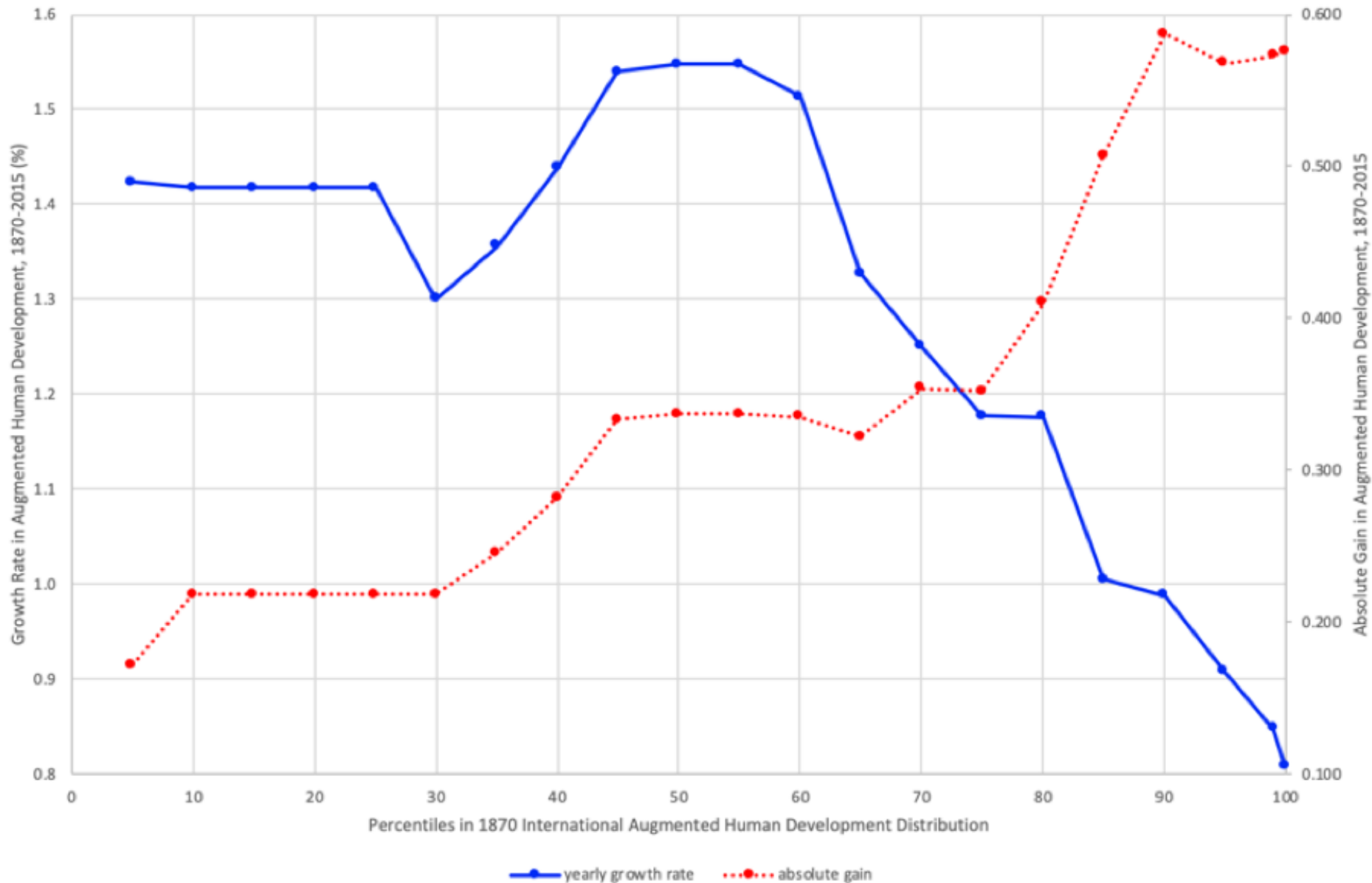
# *A Look at AHD Gains Distribution*

## *Relative Growth Incidence Curve, 1870-2015*



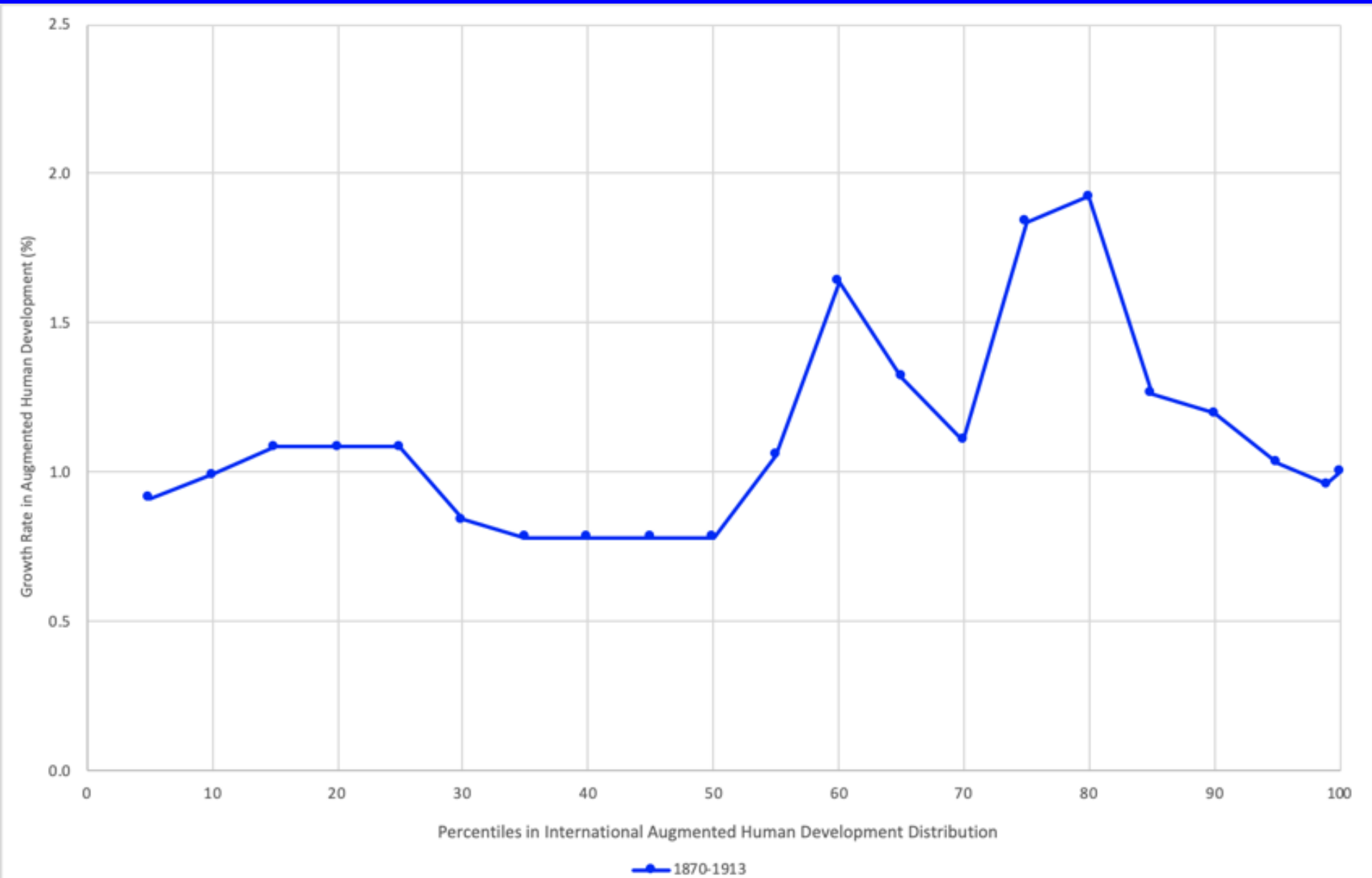
# A Look at AHD Gains Distribution

## Absolute and Relative Growth Incidence Curves, 1870-2015



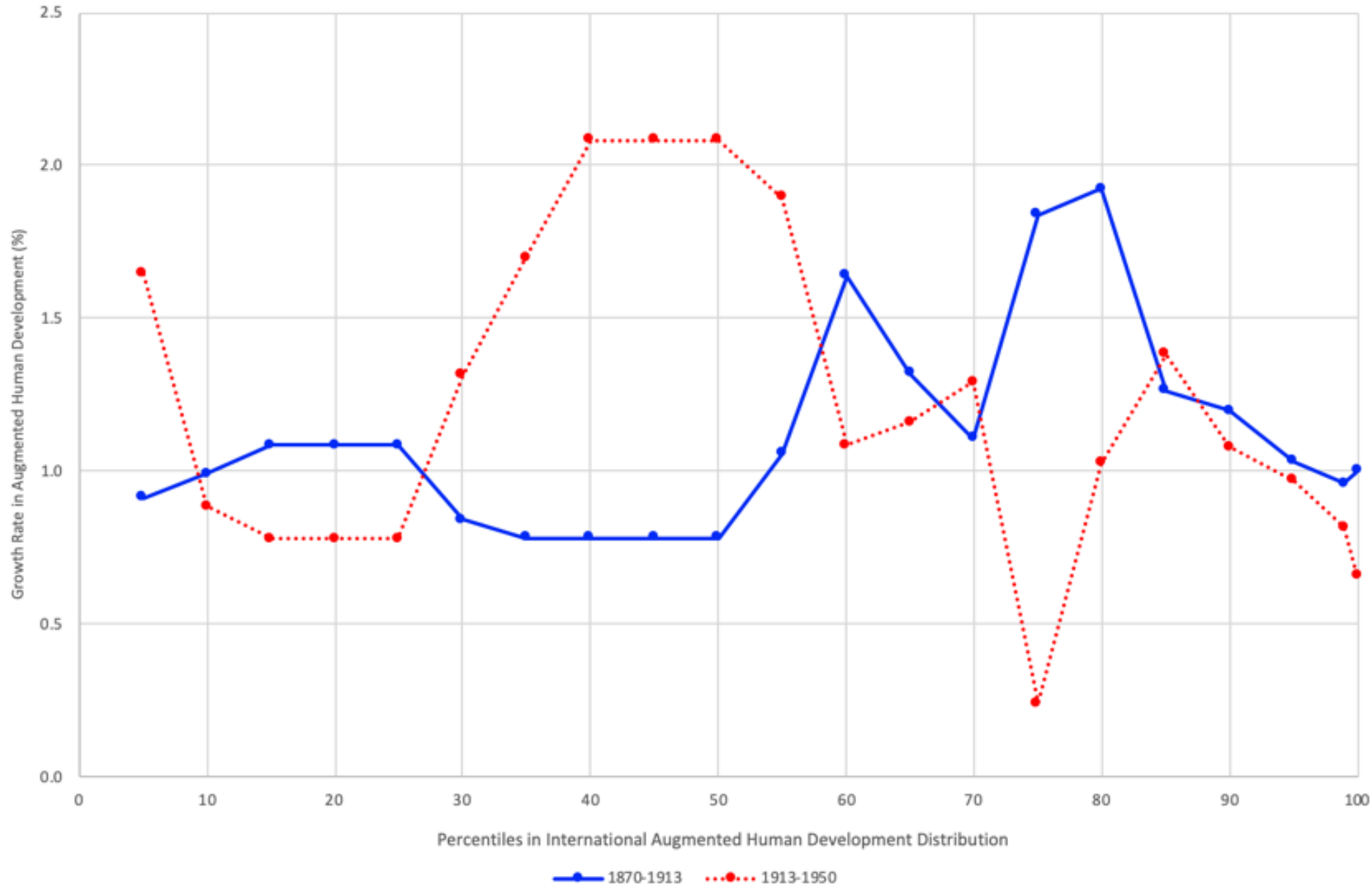
# *AHD Gains Distribution 1870-1913*

## *Relative Growth Incidence Curve (balanced panel)*



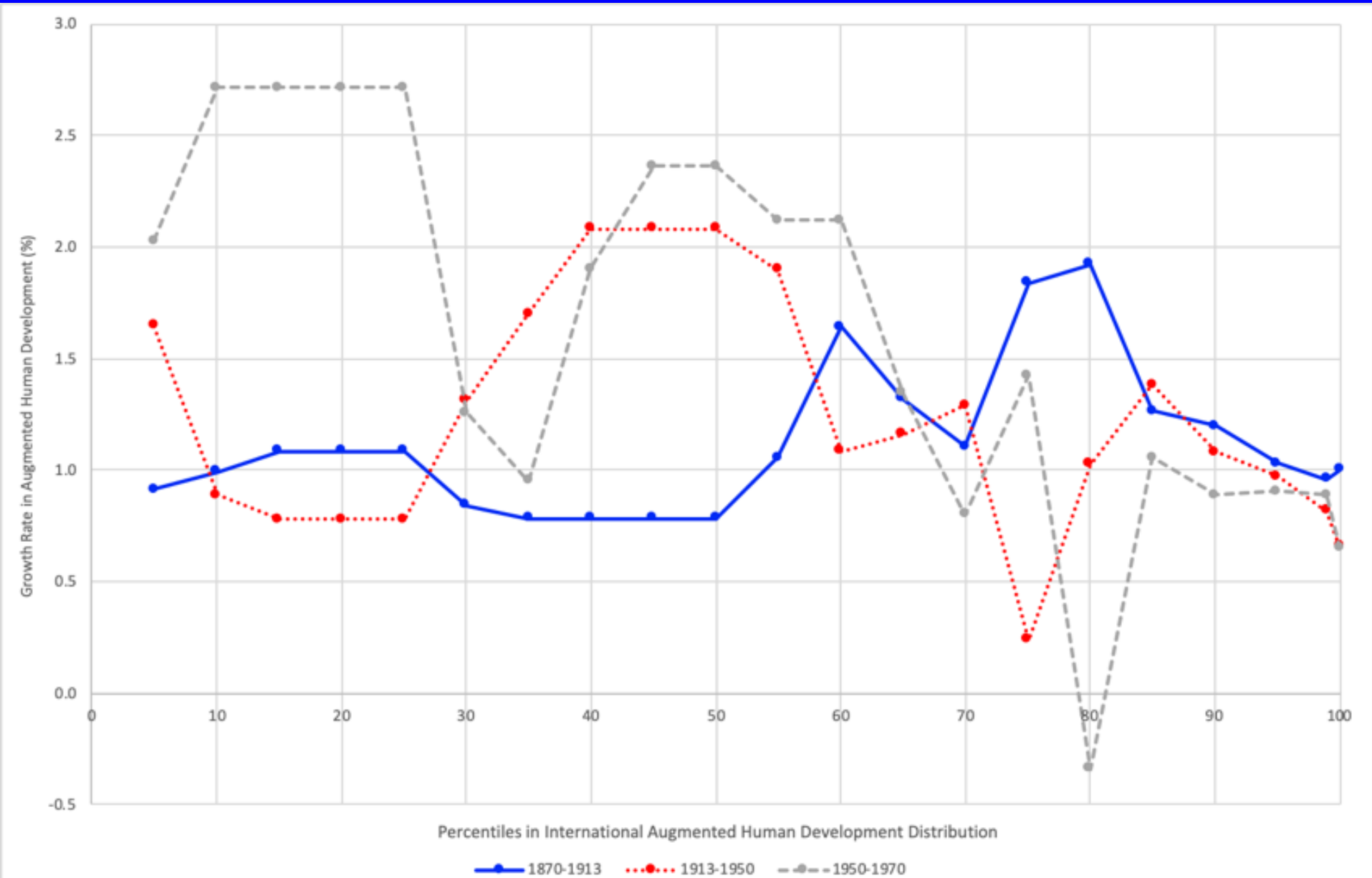
# *AHD Gains Distribution 1870-1913 vs 1913-50*

## *Relative Growth Incidence Curves (balanced panel)*



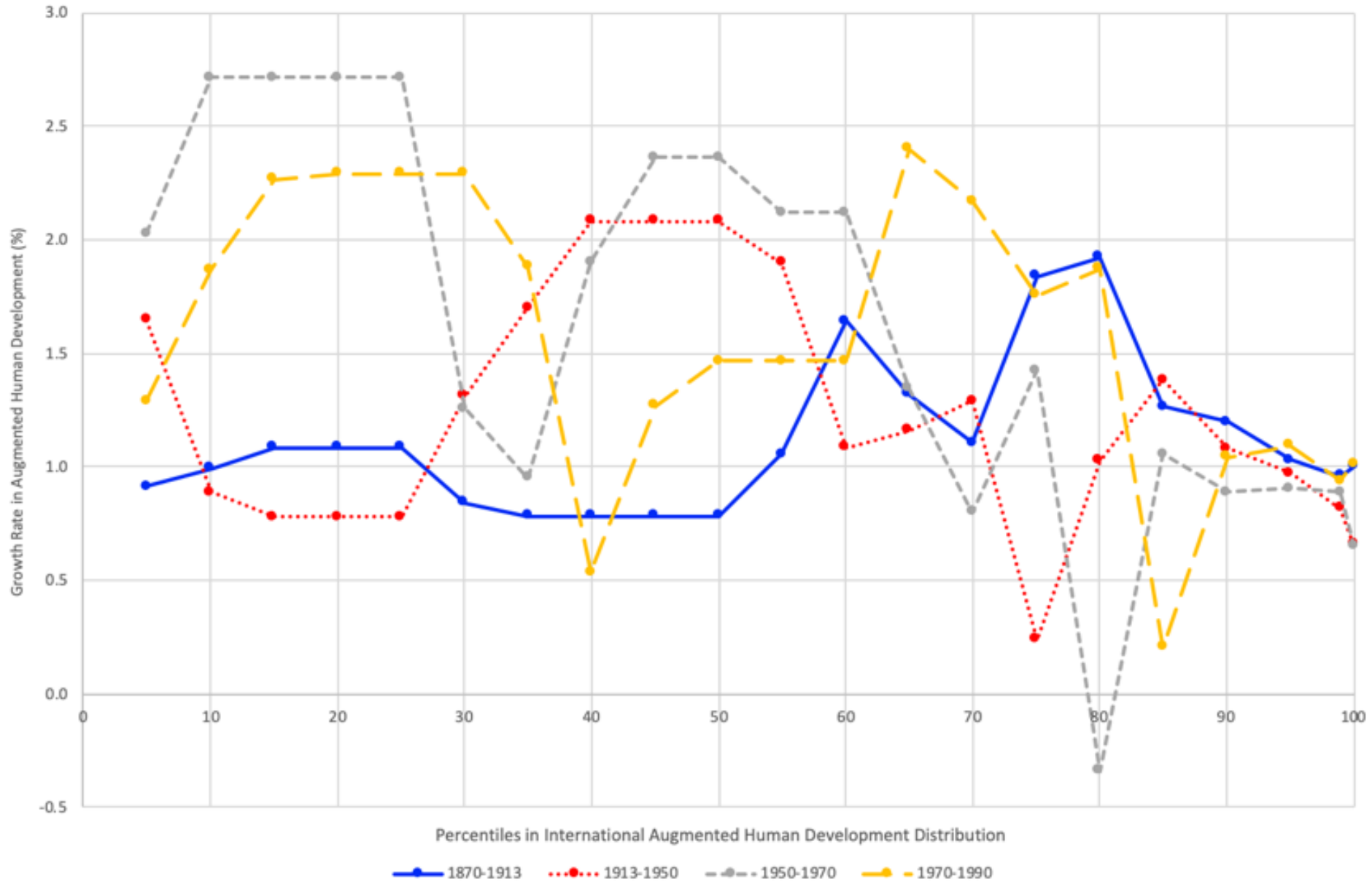
# *AHD Gains Distribution 1870-1913, 1913-50, 1950-70*

## *Relative Growth Incidence Curves (balanced panel)*



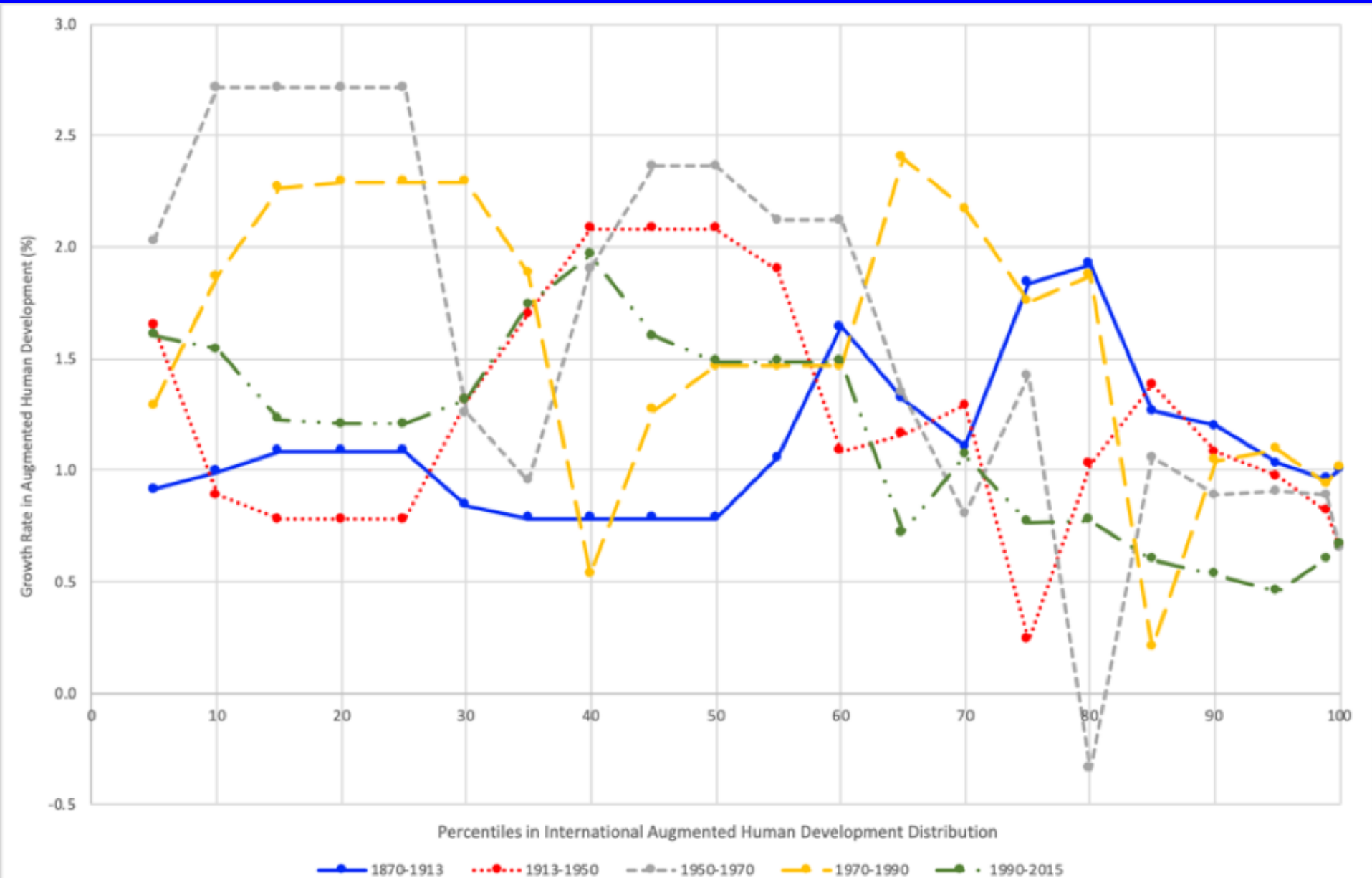
# AHD Gains Distribution 1870-1913, 1913-50, 1950-70, 1990-2015

## Relative Growth Incidence Curves (balanced panel)

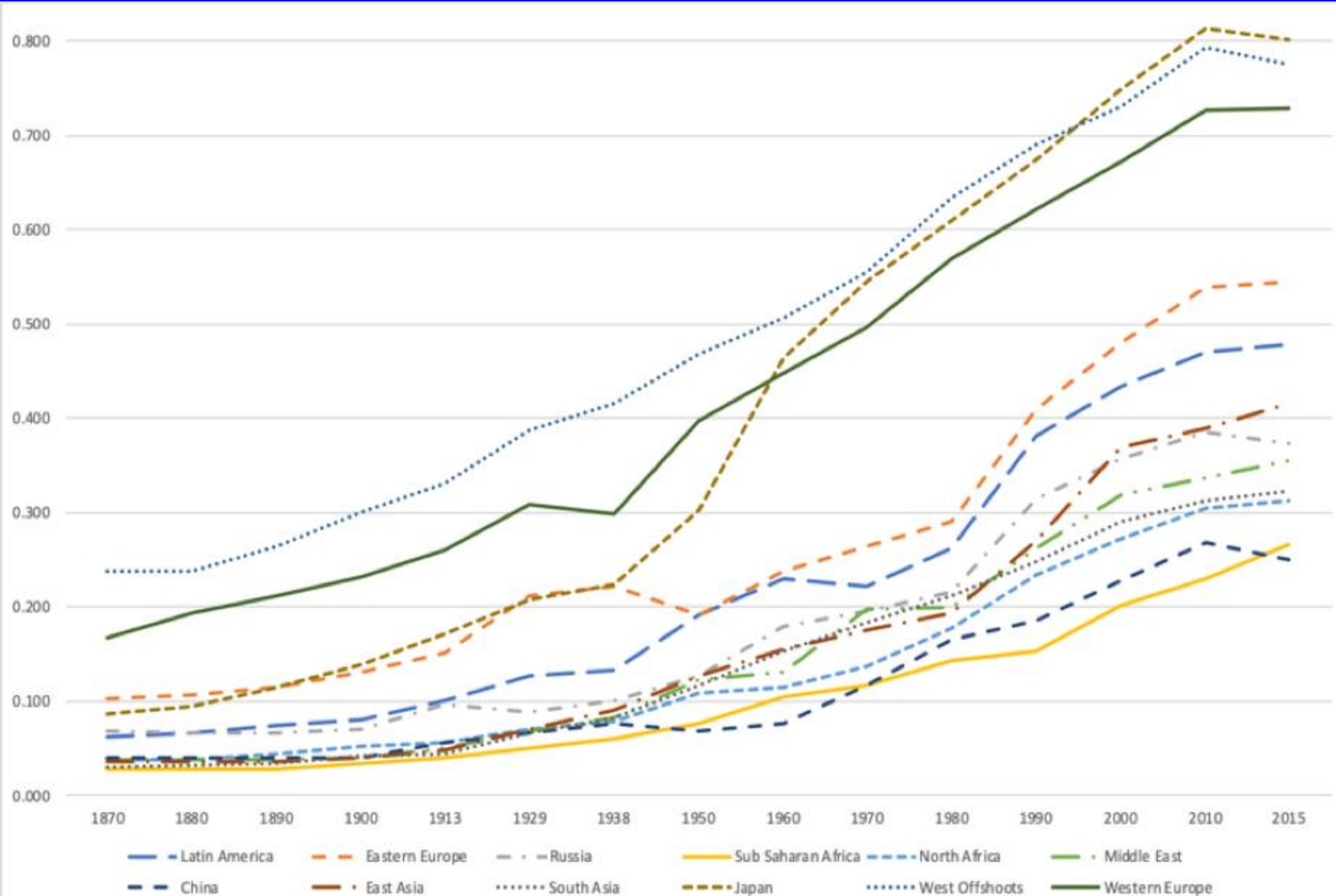


# AHD Gains Distribution: Main Phases

## Relative Growth Incidence Curves (balanced panel)

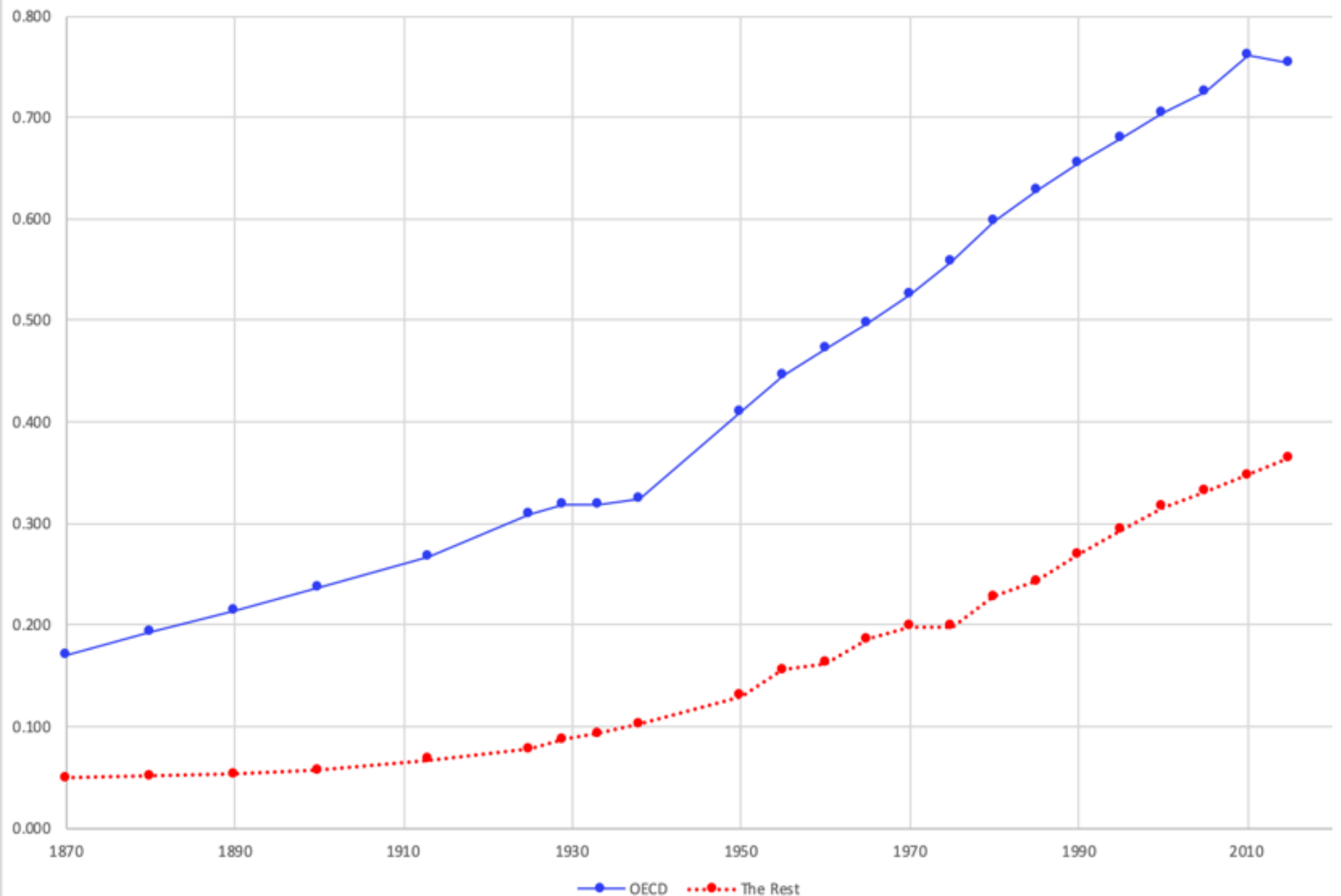


# AHD across World Regions

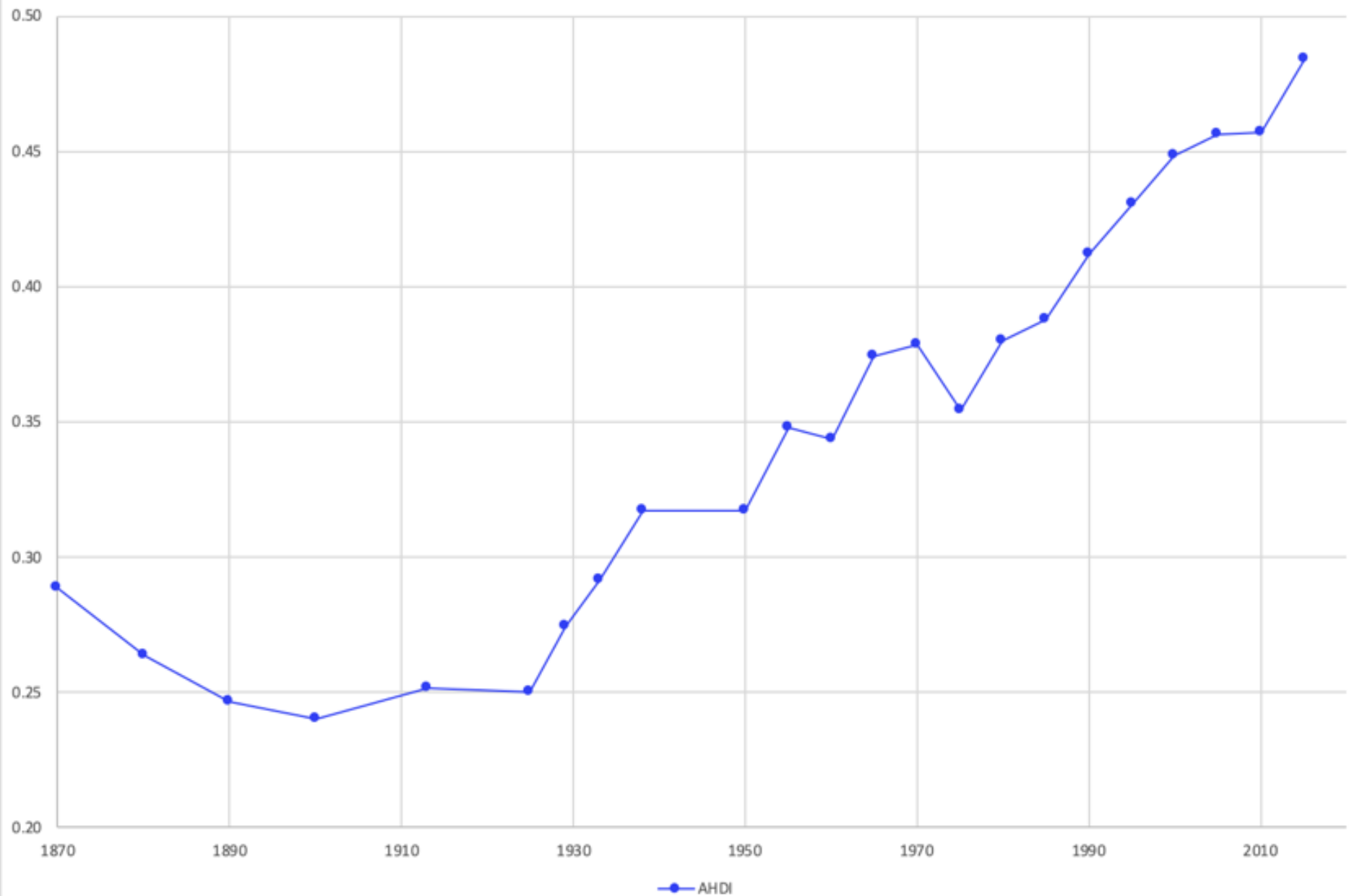




# *AHD: The OECD and The Rest*



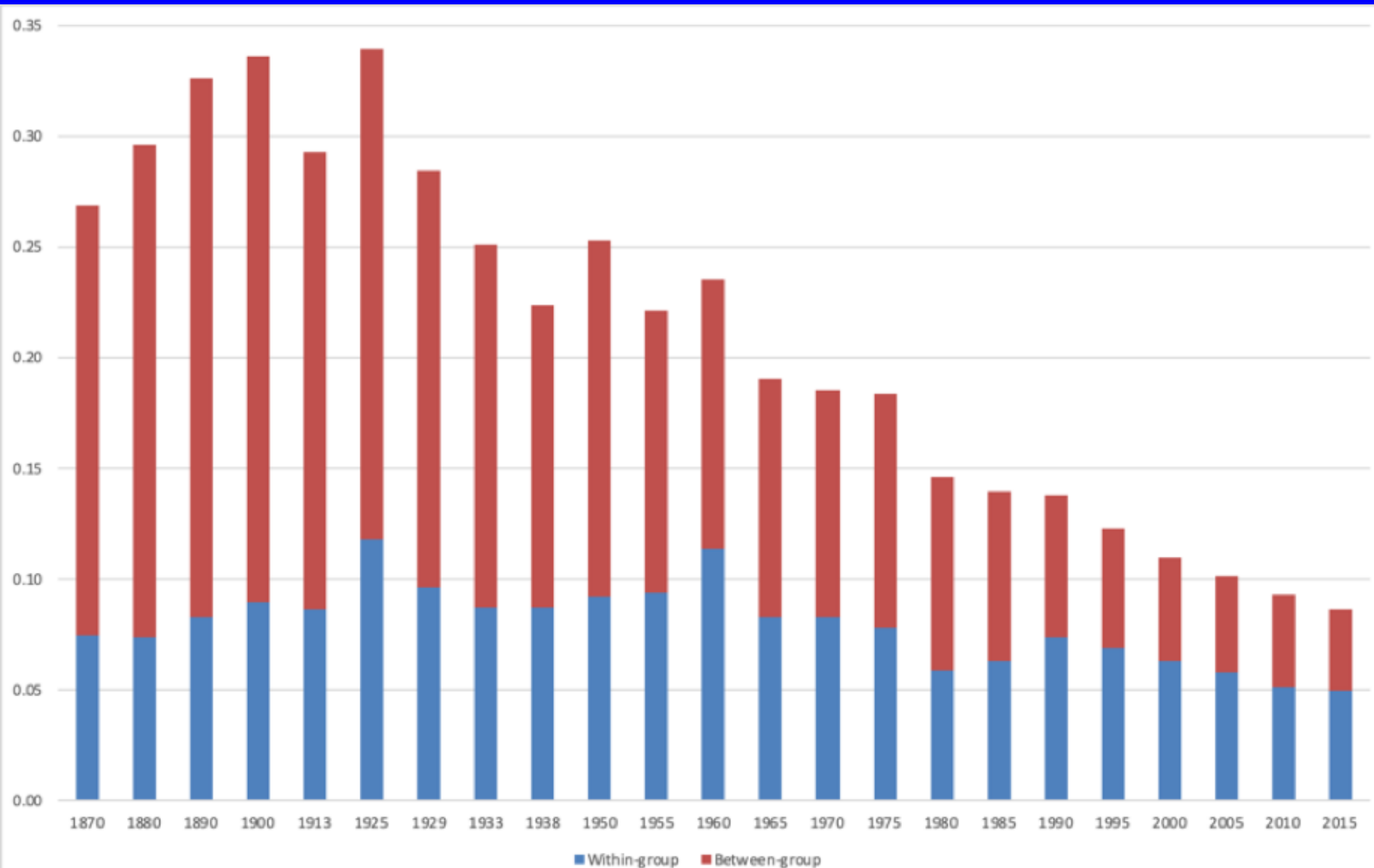
# *Relative AHD in The Rest (OECD = 1)*



# *AHD International Inequality Breakdown*

*OECD-The Rest*

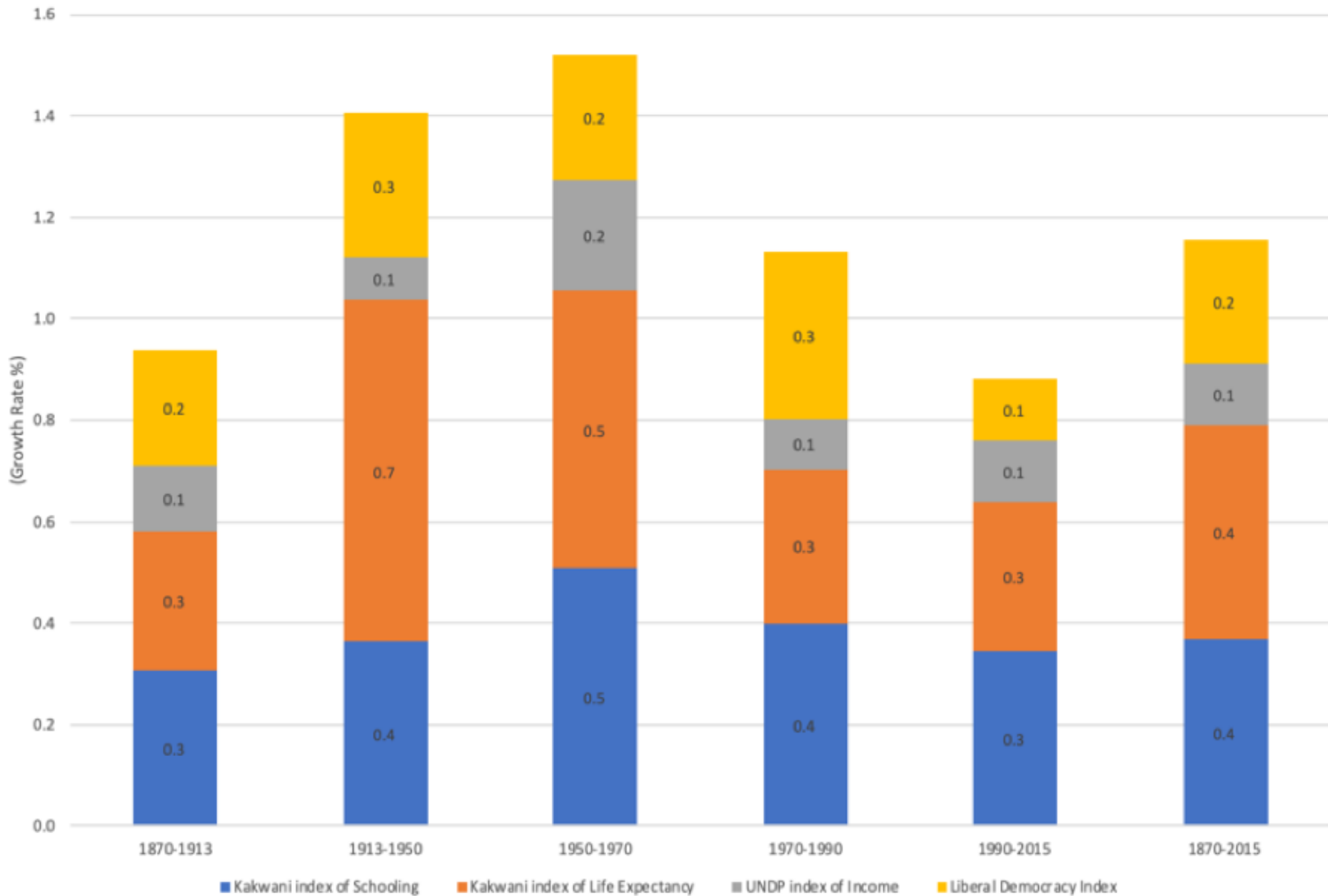
MLD (pop-weighted)



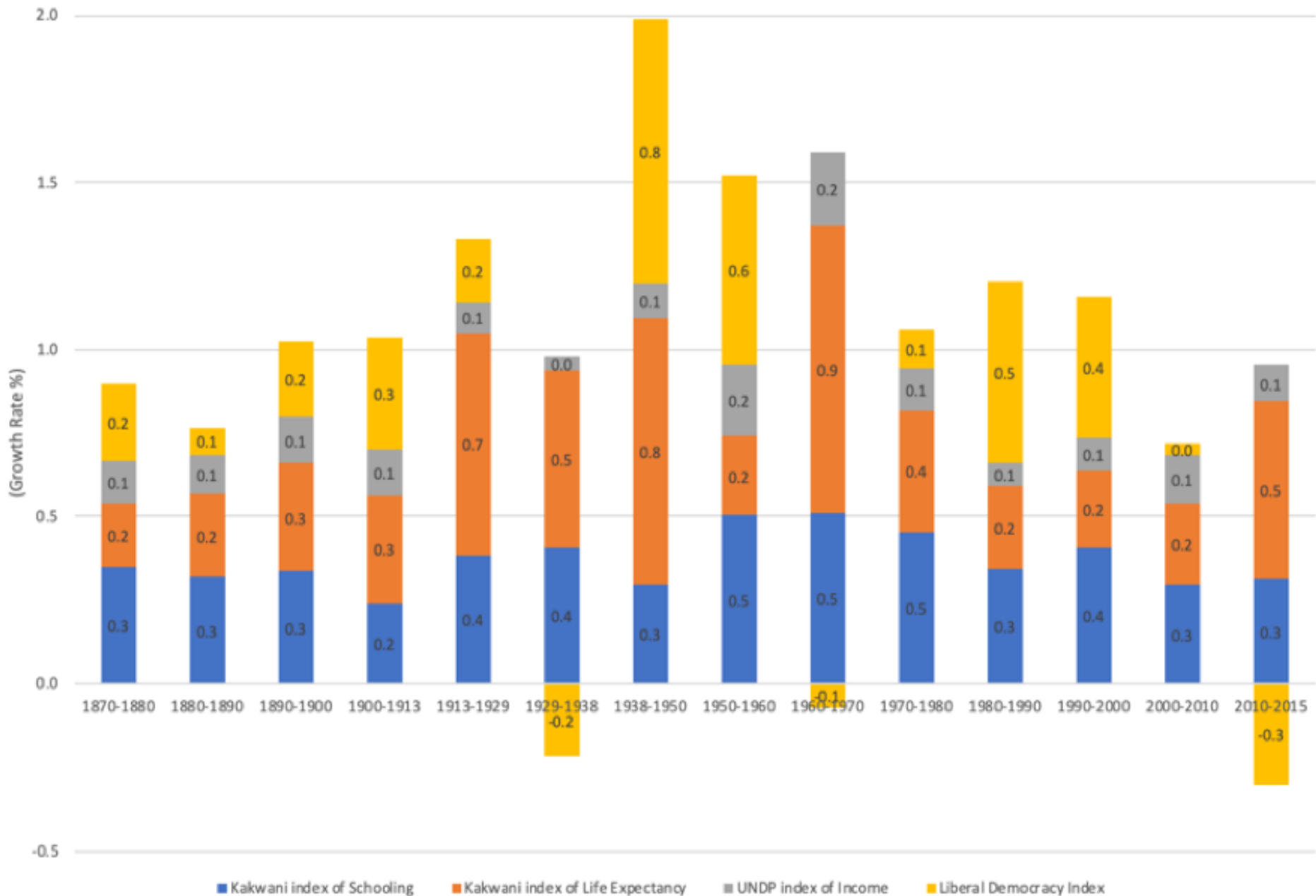
# Augmented *Human Development* since 1870

- What are *AHD* drivers?

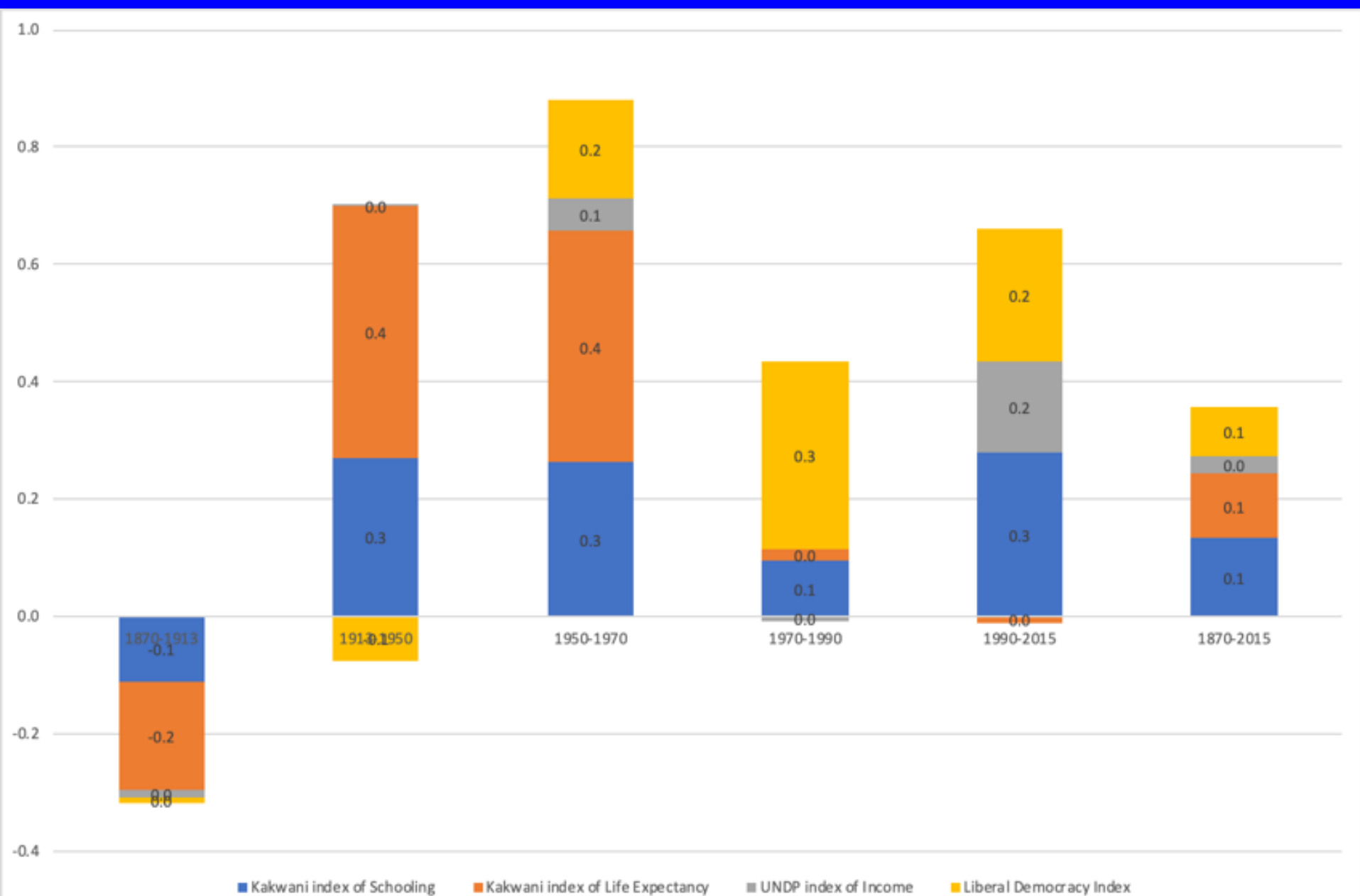
# *AHD Drivers in the World (Growth Rates, %)*



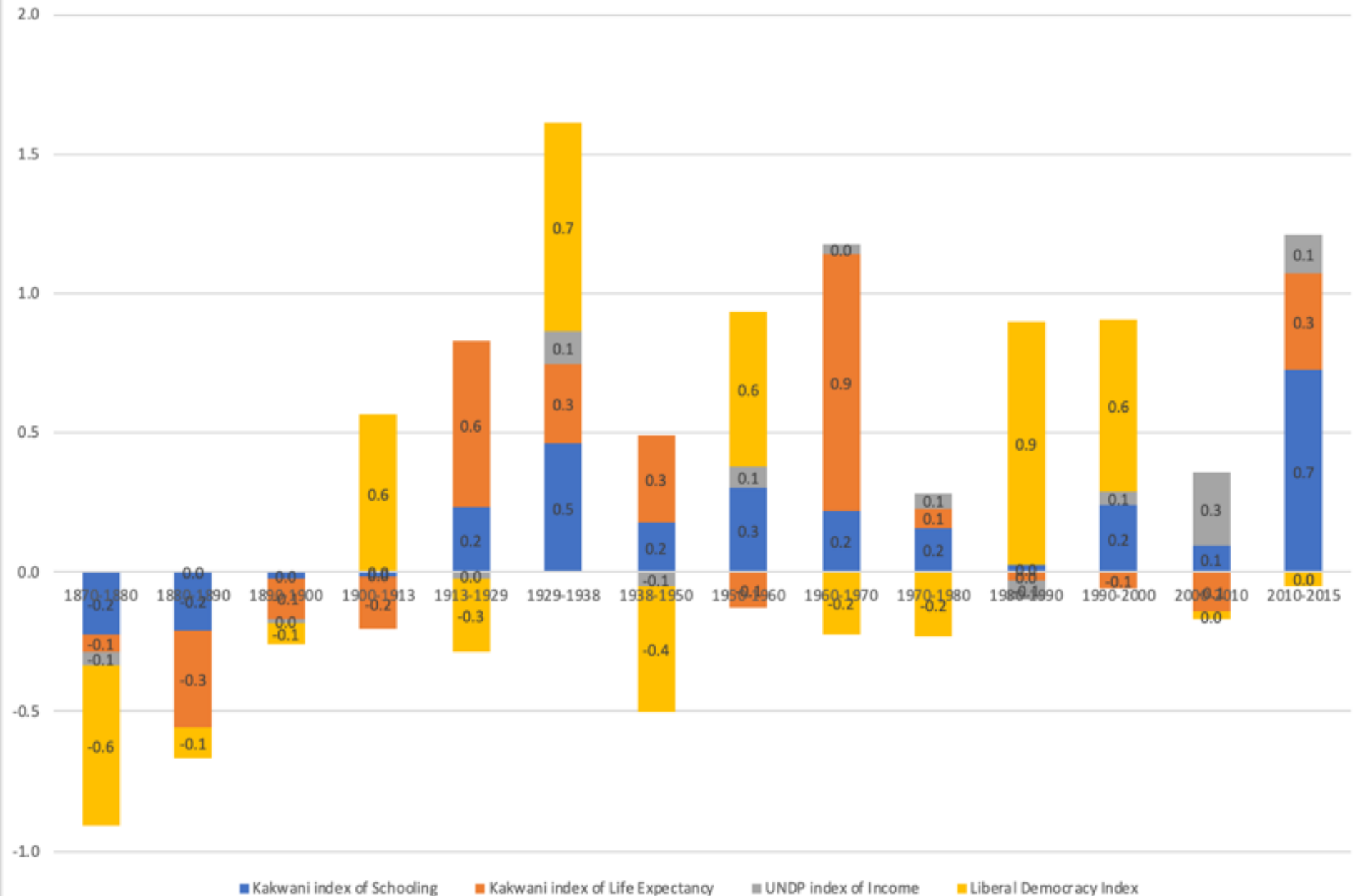
# AHD Drivers in the World (Growth Rates, %)



# Drivers of AHD Catching-Up to OECD in The Rest (%)



# Drivers of AHD Catching-Up to OECD in The Rest (%)



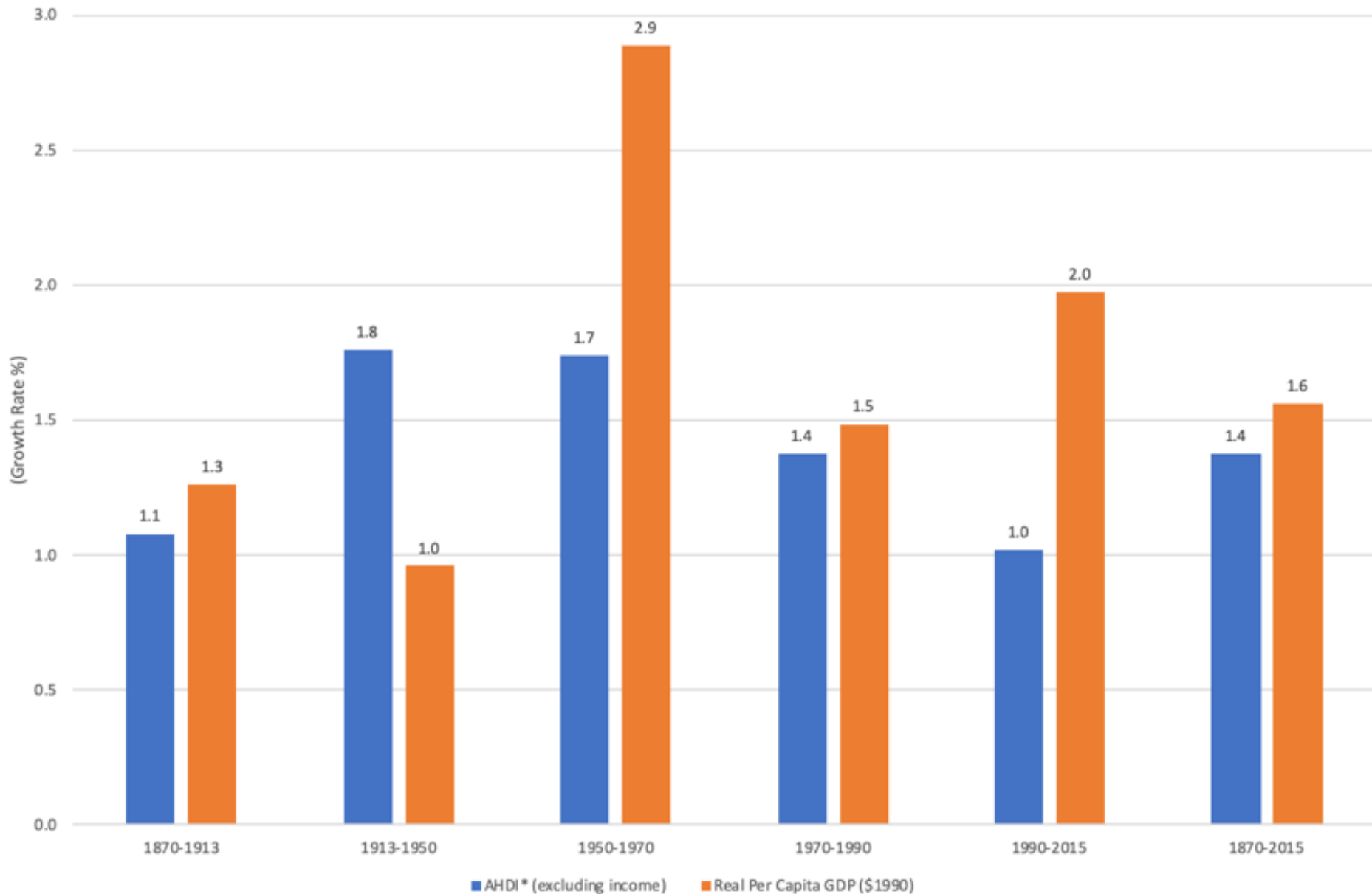


# Augmented *Human Development* since 1870

- Do trends in *AHD* and *per capita income* concur?

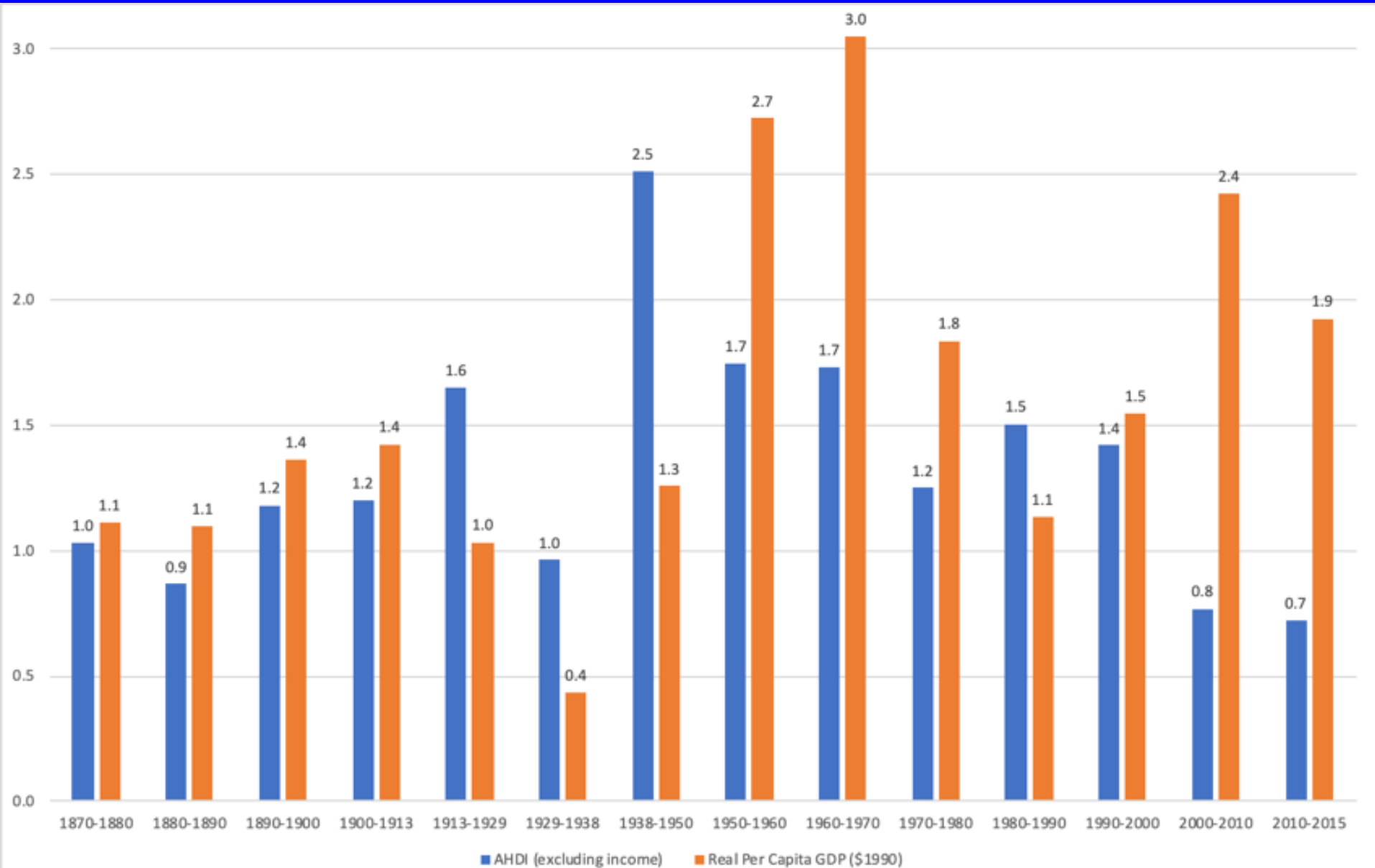
# *Trends in AHD\* and GDP per Head*

*Growth Rates (%) \* excluding the income dimension*



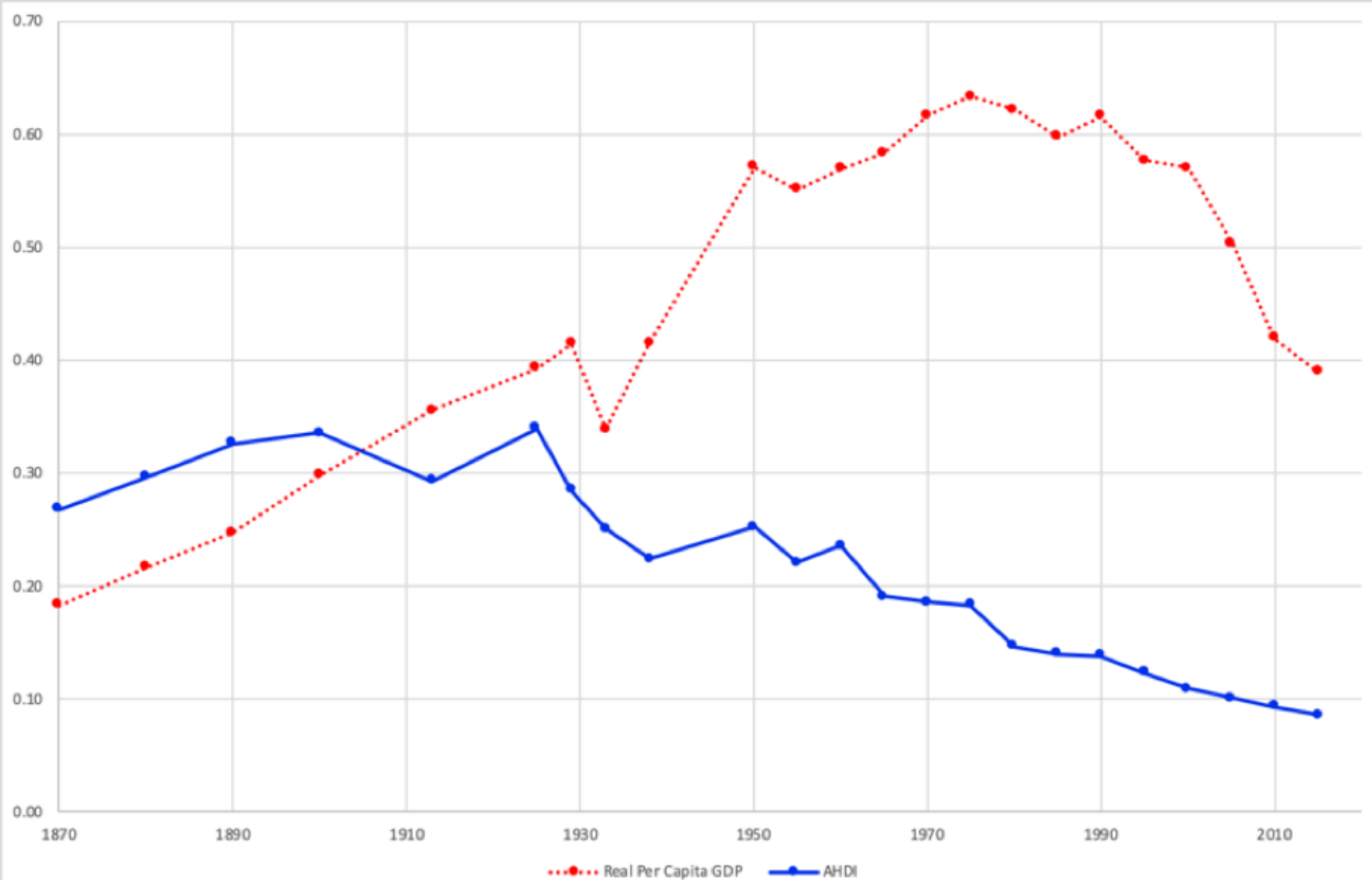
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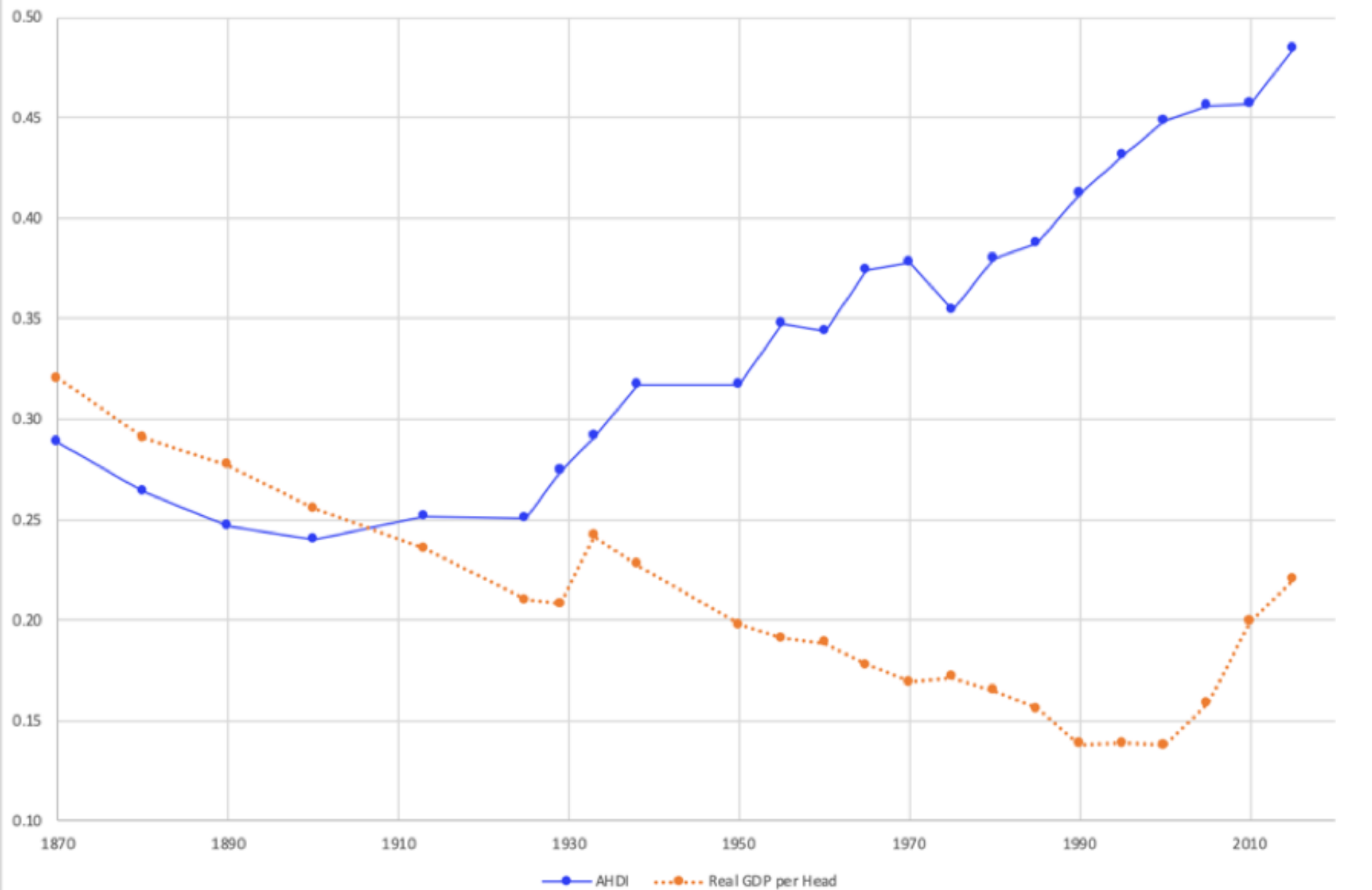


# *AHD and Income International Inequality*

[MLD] (population weighted)



# *Relative AHD and GDPpc in The Rest (OECD = 1)*



# *Main Findings*

- *Augmented Human Development (AHD)* grew around the world since **1870**, in **1913-70**, especially, but significant room for improvement still exists
- *Relative inequality* in *AHD* increased up to **WWI**; long run **decline** from the **late 1920s**
- *Absolute inequality* in *AHD* rose up to the **mid-20th century**; it fell from **1960** onwards
- **Middle and low AHD** countries achieved **larger relative gains** in the long run, but the **top 10 per cent** of countries obtained the **largest absolute gains**,
  - *AHD gains* varied across the **distribution** during different *phases of globalisation*
- *Augmented Human Development* **unevenly spread** across world **regions**
  - The *absolute gap* between the *OECD* and the *Rest* **deepened** over time,
  - The *relative gap* fell from the **late 1920s**, driven by *longevity* up to **1970**; then, *freedom*
- **Development puzzle: GDP per person** and *AHD* trends **not** always **match**
  - *AHD* major *gains* during **early 20th century globalisation backlash** due to *longevity* and *education*
  - *Relative international inequality*: grew in *per capita income* until the **early 1970s**; fell since the **1990s**.  
In terms of *AHD* steadily **reduced** since the **late 1920s**
    - *OECD-Rest* **relative gap**: declining in *AHD*, growing in *per capita income*