# INEQUALITY II:
# Inequality in data

EE461 sem2/2020

# Inequality in data

Kuznets' curve: inverted-U hypothesis

Inequality across the world and over time

Intergenerational inequality

# Kuznets' curve

**The Kutznets curve:**

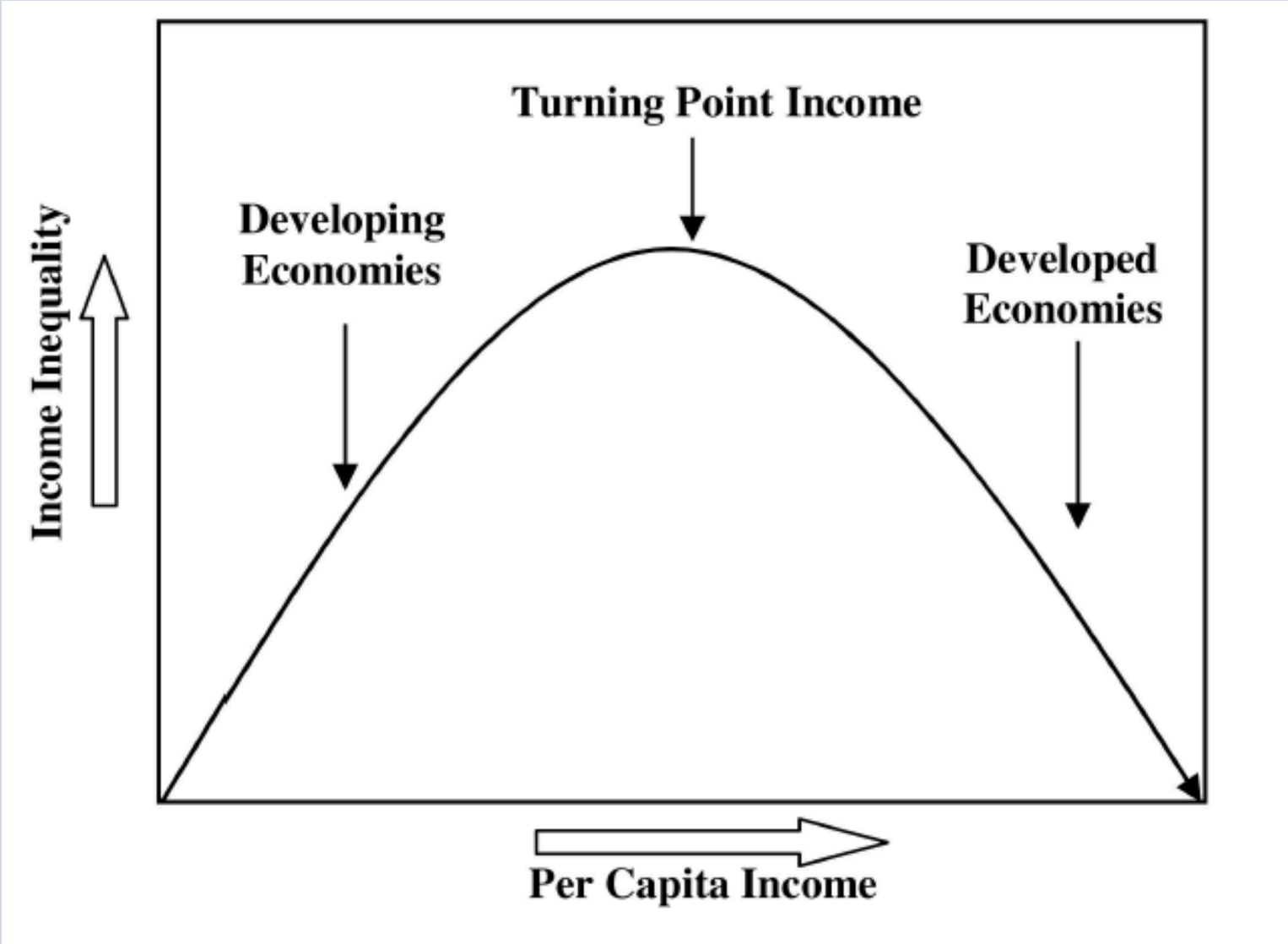
The ..... shaped hypothesis relating income inequality and the level of economic development

Kuznets (1955) used the ratio of the income share of the richest 20% of the population to that of the poorest 60% of the population as a measure of inequality

Kuznets argued that as countries developed, income inequality first increased, peaked, and then decreased.

# The Kuznets curve

- When plotting per capita income with some measure of inequality, the hypothesis suggests a plot that looks like an upside-down “U”.



# The Kuznets curve

- Implication: economic development is fundamentally a sequential and uneven process. The process appears to pull up certain groups first and leave the other groups to catch up later. Hence, in the initial phase, inequality widens and later falls when everybody else catches up.

# The Kuznets curve

- Kuznets conjectured that the pattern was caused by dual economy dynamics which were generated by the switch from the agricultural to the industrial sector.

  *Income inequality will increase during the early stages of development as population shifts from the agricultural sector, where incomes are more equally distributed, to the urban sector, where incomes are less equally distributed.*

  *During the later stages of development, this force for inequality is more than offset by growing equality of income distribution within the urban sector, owing to better adaptation of the children of rural-urban migrants to urban economic life and growing political power of urban lower income groups.*

# The Kuznets curve

- Later works argued that only the difference in income between industrial and agricultural sectors is the source for inequality.
- With two sectors, there are three classes of wage earners: rural agricultural workers, urban formal-sector workers, and urban informal-sector workers.
- Inequality first rises when urbanization is low, and falls after urbanization , and consequently rural incomes, has increased sufficiently.

# Testing Kuznets hypothesis

- **CROSS-SECTIONAL DATA**

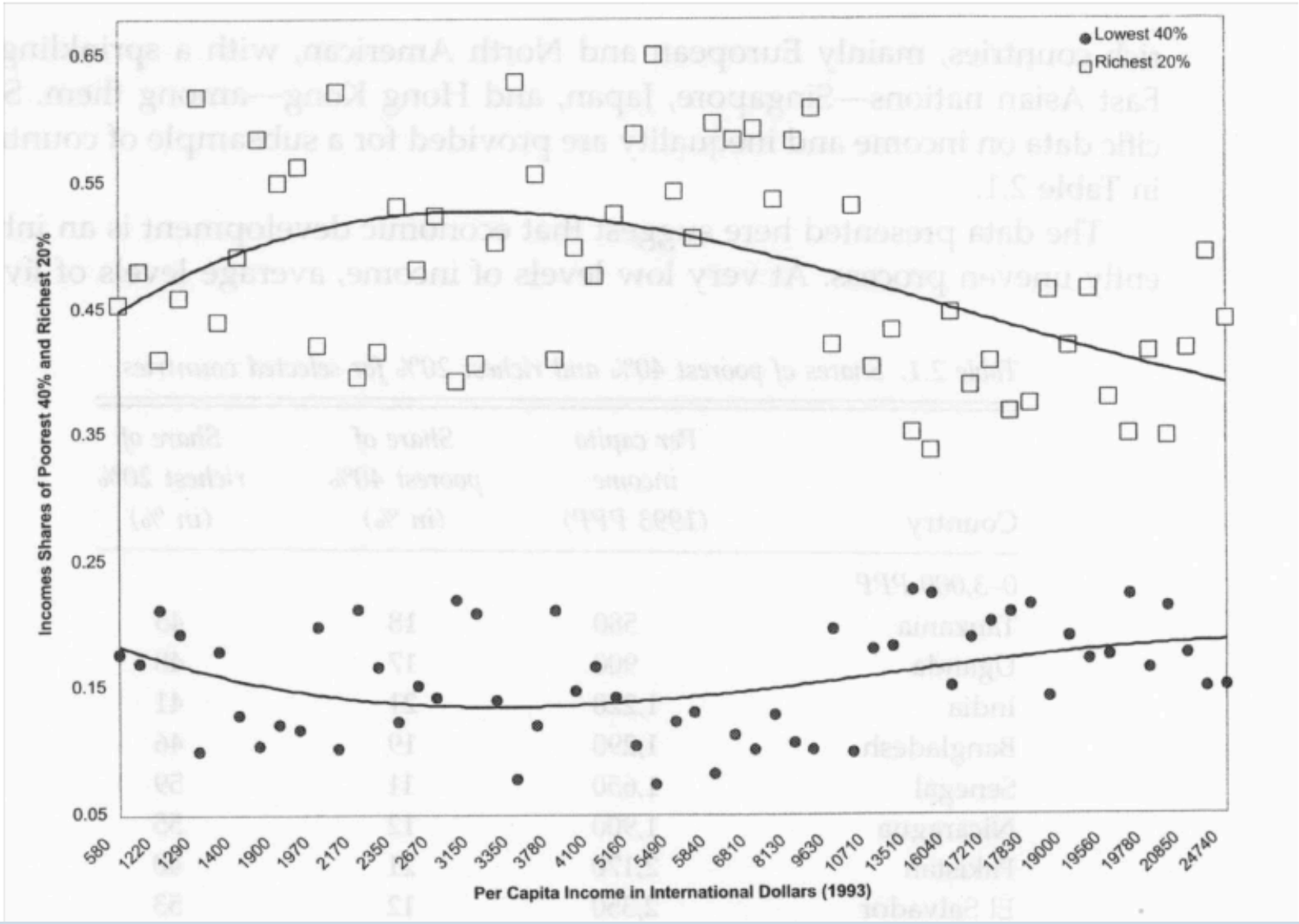
  *Because we still lack reliable data to track an individual country's inequality over time, we use cross section data instead.*

  ***Pro:*** *data can be obtained for different countries at widely different stages of development*

  ***Con:*** *need a systematic way to control for intercountry variation*

# Testing Kuznets hypothesis

- Income shares of poorest 40% and richest 20% for 57 countries




Source: World Development Report (1995), Deininger and Squire (1996)

# Testing Kuznets hypothesis

- Ahluwalia (1976), in "Inequality, Poverty, and Development" paper, analyzed 60 countries: 40 developing, 14 developed, 6 socialist. The population of each country was divided into 5 quintiles, then the regression was:
- $s_i = a + by_i + cy_i^2 + D_i + \epsilon_i$

  $s_i$ *is the income share of the i th quintile.*

  $y_i$ *is the logarithm of per capita GNP.*

  $D_i = 1 \;\; if$ *the country is socialist.*

# STILL KUZNETS ?

- Problem with cross-sectional studies: the implicit assumption is that all countries have the same inequality-income relationship
- Countries are different, but there is still some connection between their inequality-income curves >> do estimation by adding country-specific dummy variables that move the intercept term of the estimated curve (if we have time series data of inequality for each country).
- There are many factors (policies, structural differences across countries) that are left out from the tests.>>Correlation vs Causation ?

# STILL KUZNETS ?

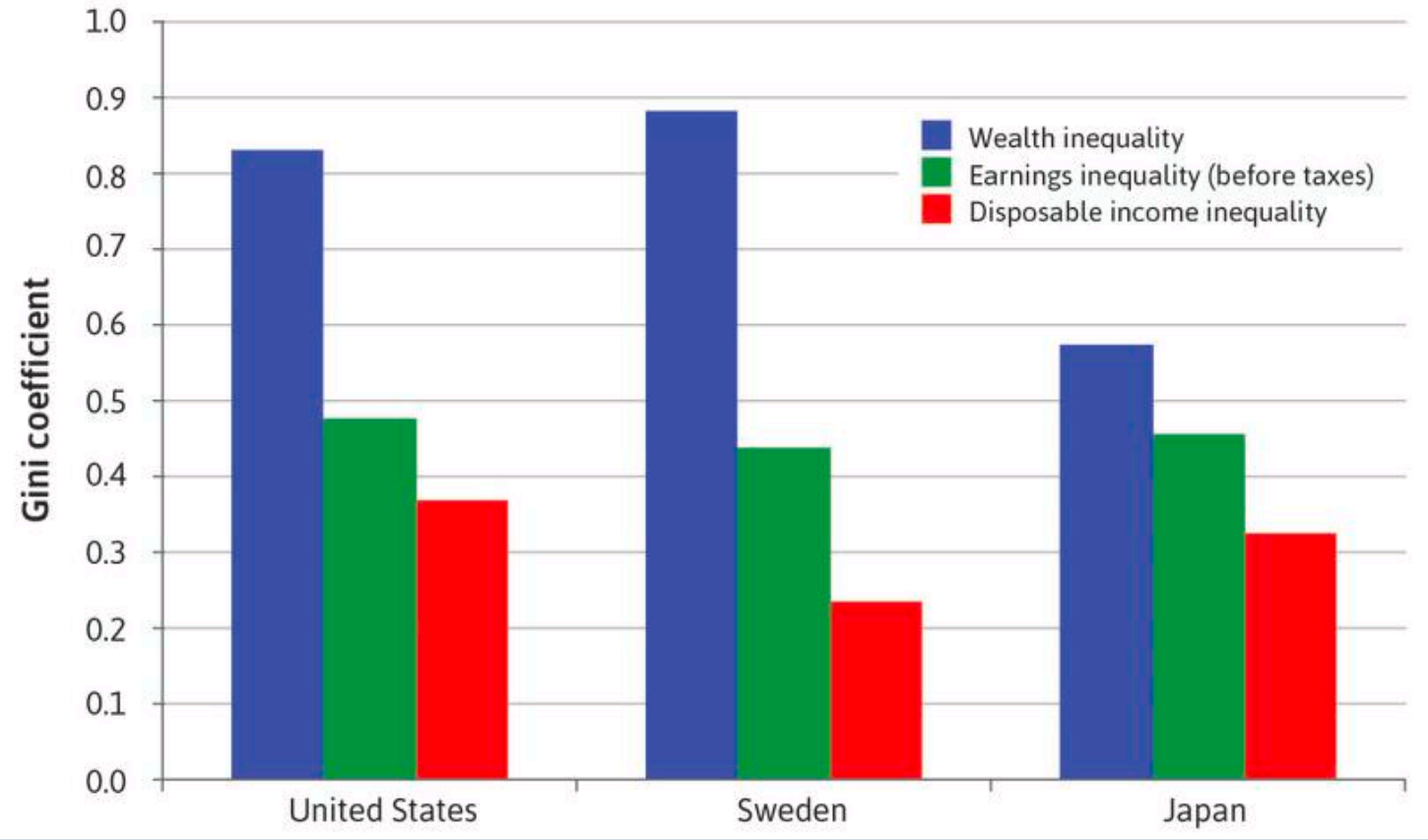
- ".....": most of the high-inequality middle-income countries are Latin American. Hence, the inverted-U is just an artificial consequence of the Latin American countries sitting in the middle ?
- With panel data and country-specific dummies, the Kuznets Inverted-U hypothesis largely vanishes: the coefficients are not significant.

# Inequality across the world and over time

# WEALTH, EARNINGS, DISPOSABLE INCOME

- Wealth is the value of the assets owned by a household (net of their debts).
- Earnings are income from labour, including from wages, salaries, and self-employment.
- Market income is the sum of:
  - all income received as earnings
  - all income received from business owned by the household or from investments
- Disposable income is the income that a family can spend:
  - after paying taxes
  - after receiving any monetary transfers from the government such as unemployment benefit and pensions

# Inequality in wealth, earnings, and disposable income: US, Sweden, and Japan (2000s)




Mattia Fochesato and Samuel Bowles. 2015. 'Nordic exceptionalism? Social democratic egalitarianism in world-historic perspective'. *Journal of Public Economics* 127: pp. 30–44. Santa Fe Institute; Mattia Fochesato and Samuel Bowles. 2017. 'Technology, Institutions and Wealth Inequality in the Very Long Run'. Santa Fe Institute; Chen Wang and Koen Caminada. 2011. 'Leiden Budget Incidence Fiscal Redistribution Dataset'. Version 1. Leiden Department of Economics Research.,
https://www.core-econ.org/the-economy/book/text/19.html#191-inequality-across-the-world-and-over-time

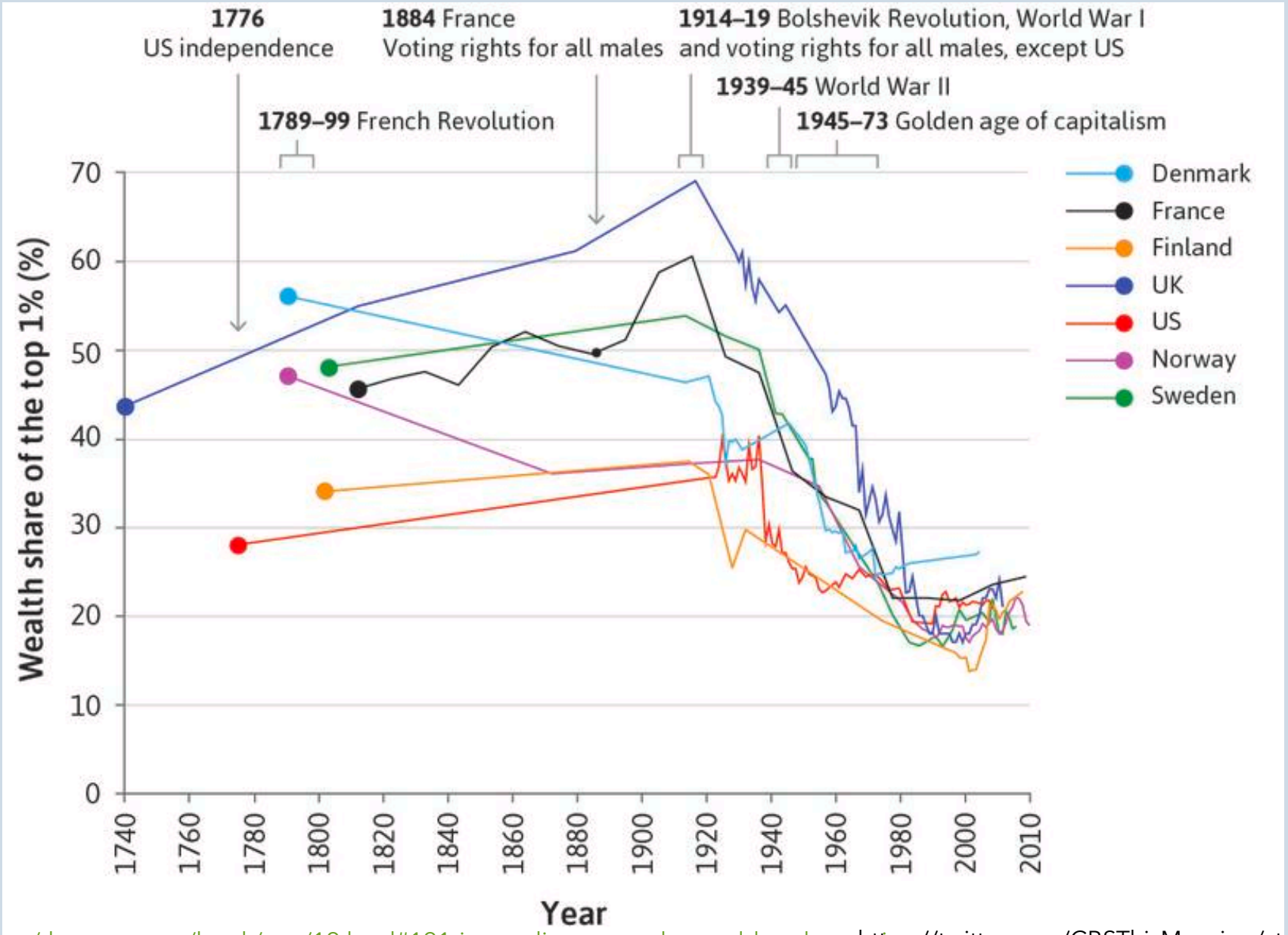
# Inequality in wealth, earnings, and disposable income: US, Sweden, and Japan (2000s)

- *Wealth is much more unequally distributed than earnings, and earnings are much more unequally distributed than disposable income*: Though the differences among the three measures of inequality are much smaller in Japan than in Sweden and the US.
- *Sweden has much lower disposable income inequality than the other two countries*: This is due to its relatively modest inequality in earnings and more importantly, to its system of taxes and transfers which benefits the less well off. It is not due to greater equality in Sweden's distribution of wealth. As you can see from the graph, wealth is distributed almost as unequally in Sweden as in the US.

# Income inequalities over time and among countries

- Another way to measure inequality focuses on the very rich, providing an answer to the question: what fraction of total income or wealth belongs to the richest 1% or 10% of the population? This indicator has the advantage that it can be measured over hundreds of years, because the very rich have long been required to pay taxes, and hence we have reasonably good information on their incomes and wealth.

# Inequalities over time and among countries

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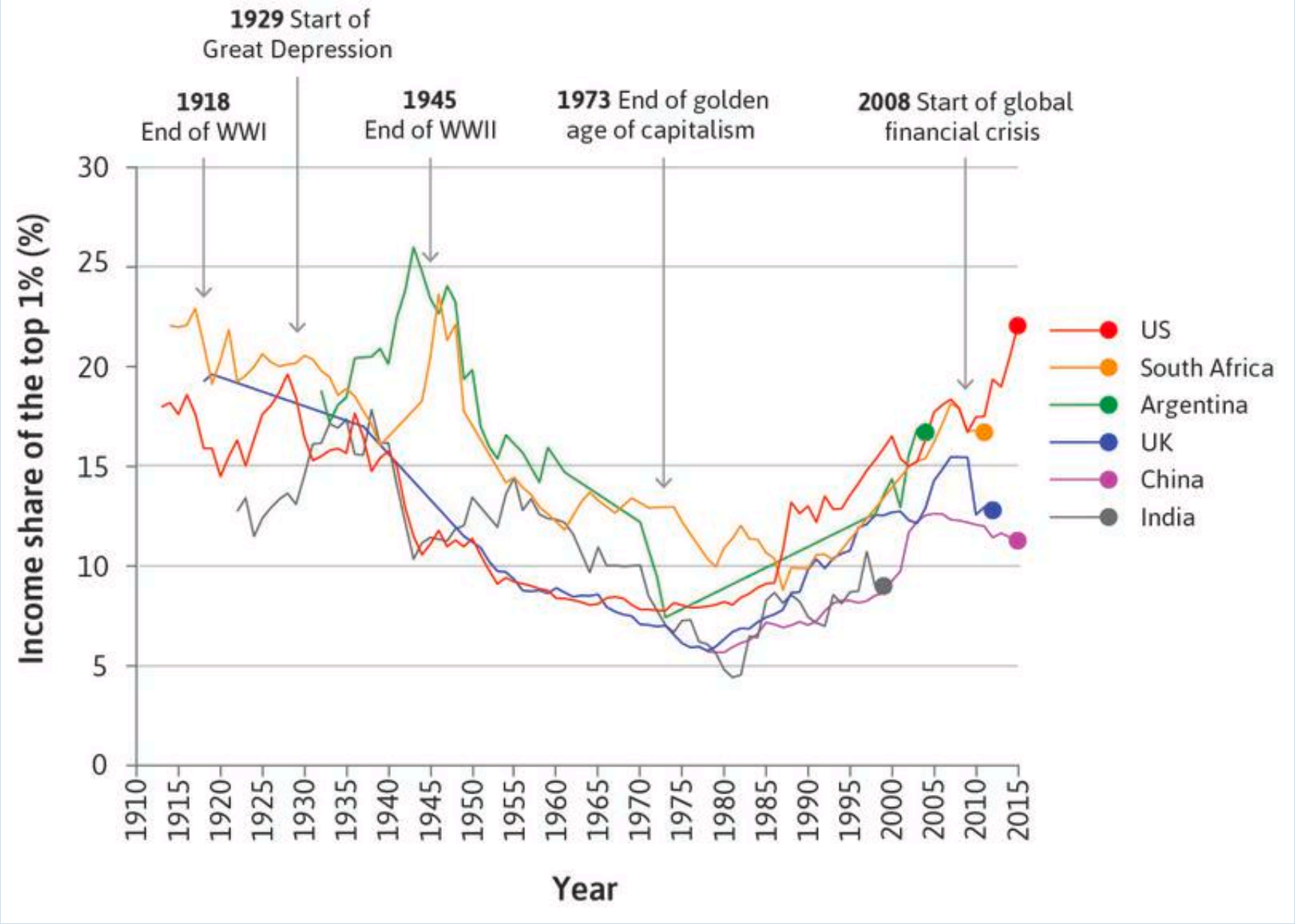
https://twitter.com/CBSThisMorning/status/1223224310413905921?s=2

# Inequalities over time and among countries

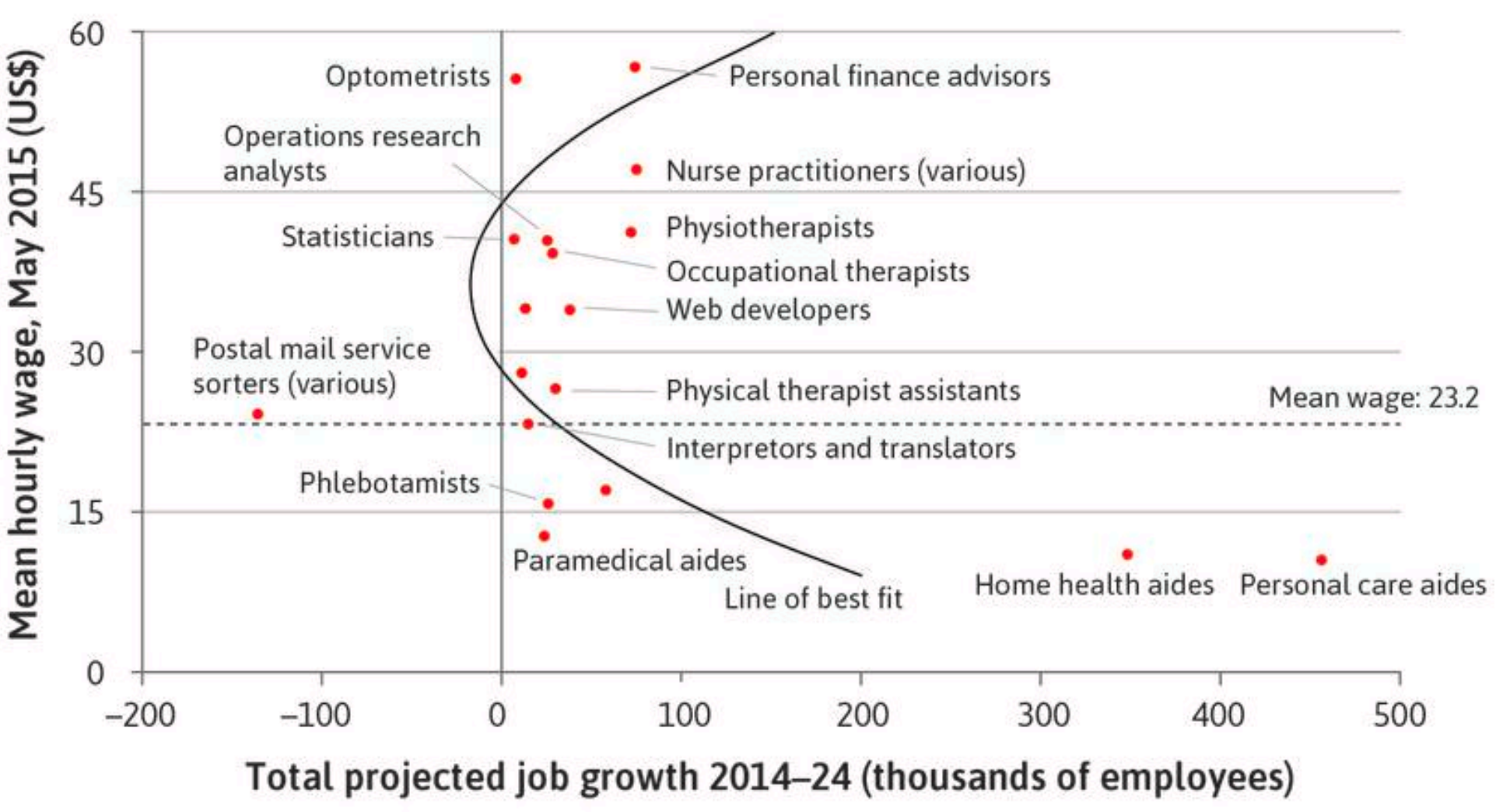


# Income inequalities over time and among countries

- There appear to be three distinct periods: the eighteenth and nineteenth centuries up to about 1910 show increasing wealth inequality (excepting Norway and Denmark), the twentieth century until 1980 shows decreasing wealth inequality, and the period since shows a modest increase in wealth inequality.
- *There are common trends across most of the countries for which we have data*: For example, a fall in inequality between 1920 and 1980.
- *Countries differ greatly in what happened since 1980*: In some of the world's largest economies—China, India, and the US—inequality rose steeply, while in others—Denmark, France, and the Netherlands—inequality remained close to historically modest levels.

# The missing middle?

- Low-paying jobs and high-paying jobs have increased in number while middle-income jobs have become scarcer.

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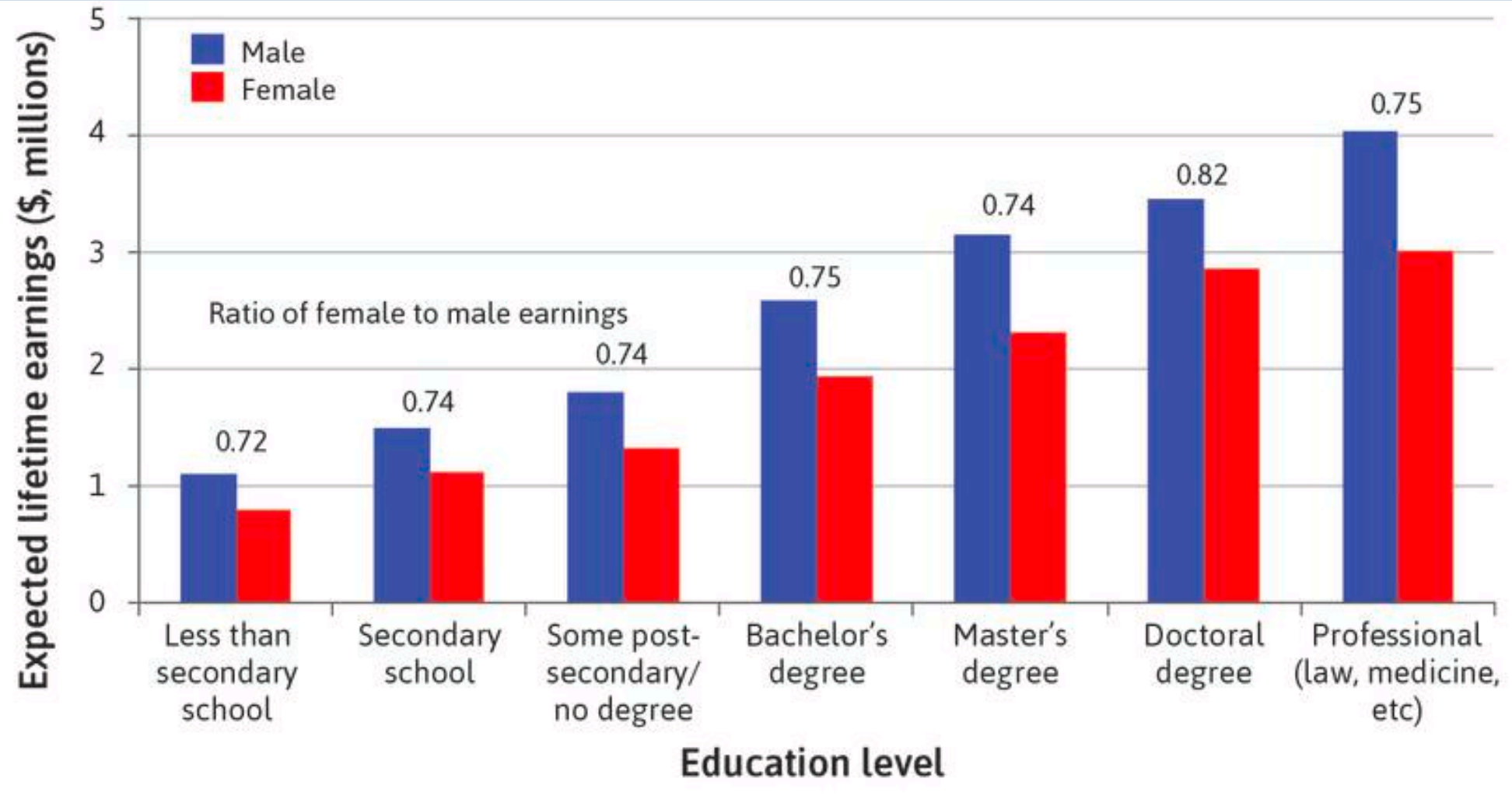
# Accidents of birth and categorical inequality

- Part of inequality can be traced to differences among people in things over which they have virtually no control, such as their race, caste, sex, nation, or parents.
- _____**is** inequality between particular social groups identified, for instance, by a category such as race, nation, caste, gender or religion.
- Categorical inequalities are for the most part based on accidents of birth, because one is born into membership in one of the categories, and switching category is typically difficult if not impossible.

# Accidents of birth and categorical inequality

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Intergenerational
inequality

# Intergenerational inequality

_____

_____:

The processes by which the economic status of the adult sons and daughters comes to resemble the economic status of the parents.

**Intergenerational inequality:**

The extent to which differences in parental generations are passed on to the next generation, as measured by the _____or the intergenerational correlation

# Intergenerational inequality

Intergenerational inequality is measured by _____**parents by their incomes or wealth, and then looking at what income or wealth their kids end up with when they become adults.**

**Intergenerational elasticity:** When comparing parents and grown offspring, the percentage difference in the second generation's status that is associated with a 1% difference in the adult generation's status.

# Intergenerational elasticity

To see what this measures, consider two pairs of fathers and children. The father in the first pair is richer than the father in the second.

**Intergenerational elasticity** measures _____the child of the well off father will be than the child of the poorer father.

# Intergenerational elasticity

An elasticity of 0.5, for example, means that if one father is 10% richer, then his child, when grown up, will be on average 5% richer than the other child.

The higher the intergenerational elasticity, the_____ the degree of intergenerational transmission of economic status and the _____ the level of intergenerational inequality.

# Intergenerational elasticity

The term intergenerational elasticity has nothing to do with the usual meaning of the word elastic.

But, like the price elasticity of demand for a good, it concerns the percentage change in something that is associated with a percentage change in something else.

# Intergenerational inequality

In a society with **a high intergenerational elasticity, intergenerational mobility is_____.**

Intergenerational mobility is changes in the relative economic or social status between parents and children. _____ **mobility** occurs when the status of a child surpasses that of the parents. _____**mobility** is the converse.

# Intergenerational inequality

Another widely used measure of intergenerational mobility is the correlation between the positions of parents and children (for example, in their years of schooling or income).

Kids whose parents had a high income are likely to grow up to have high incomes themselves, and kids from low-income families are likely to have low incomes as adults.

# Intergenerational inequality

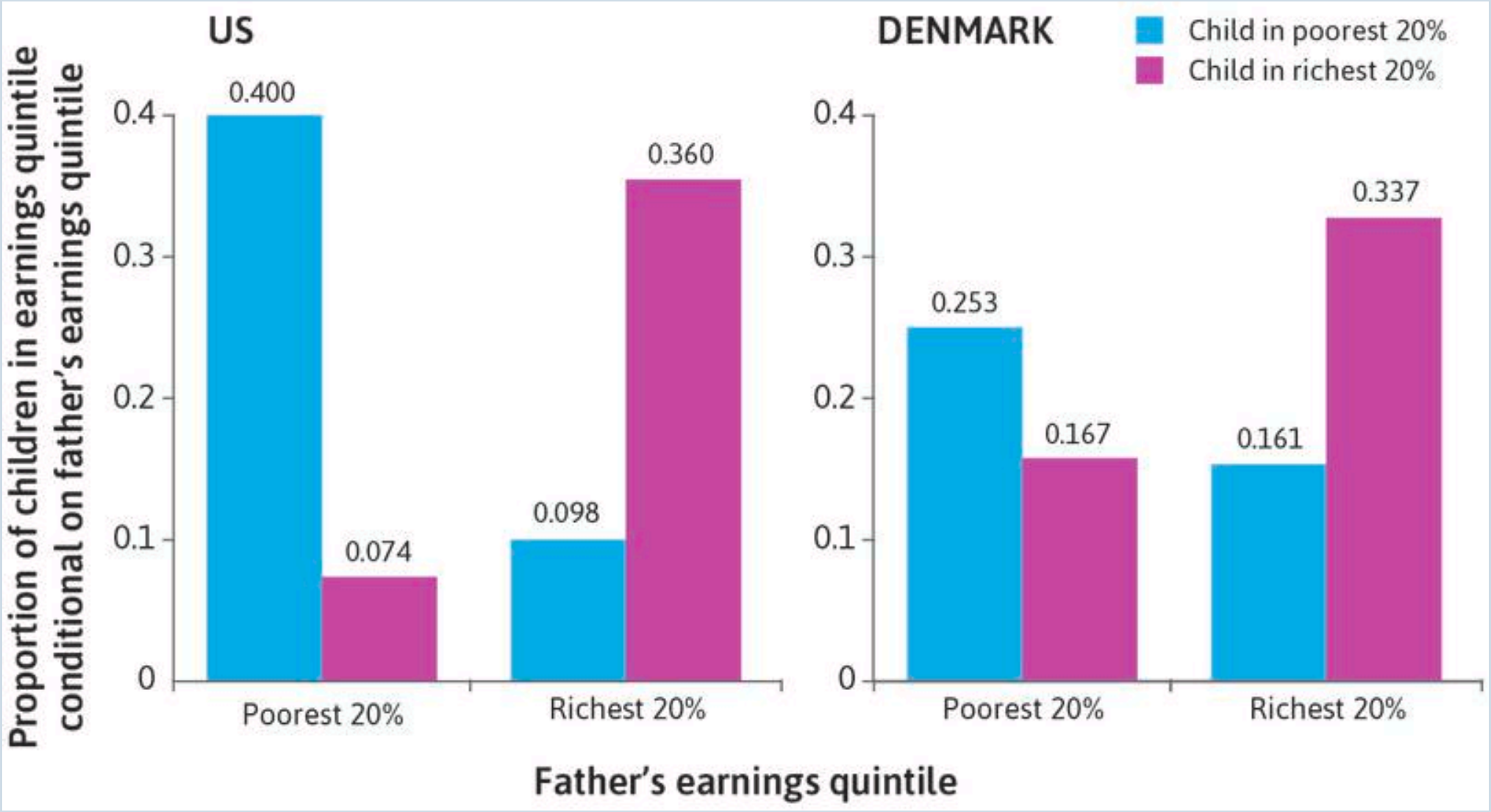


Table 14 in Markus Jäntti, Bernt Bratsberg, Knut Røed, Oddbjørn Raaum, Robin Naylor, Eva Österbacka, Anders Björklund, and Tor Eriksson. 2006. 'American Exceptionalism in a New Light: A Comparison of Intergenerational Earnings Mobility in the Nordic Countries, the United Kingdom and the United States.' Discussion Paper Series 1938. Institute for the Study of Labor.

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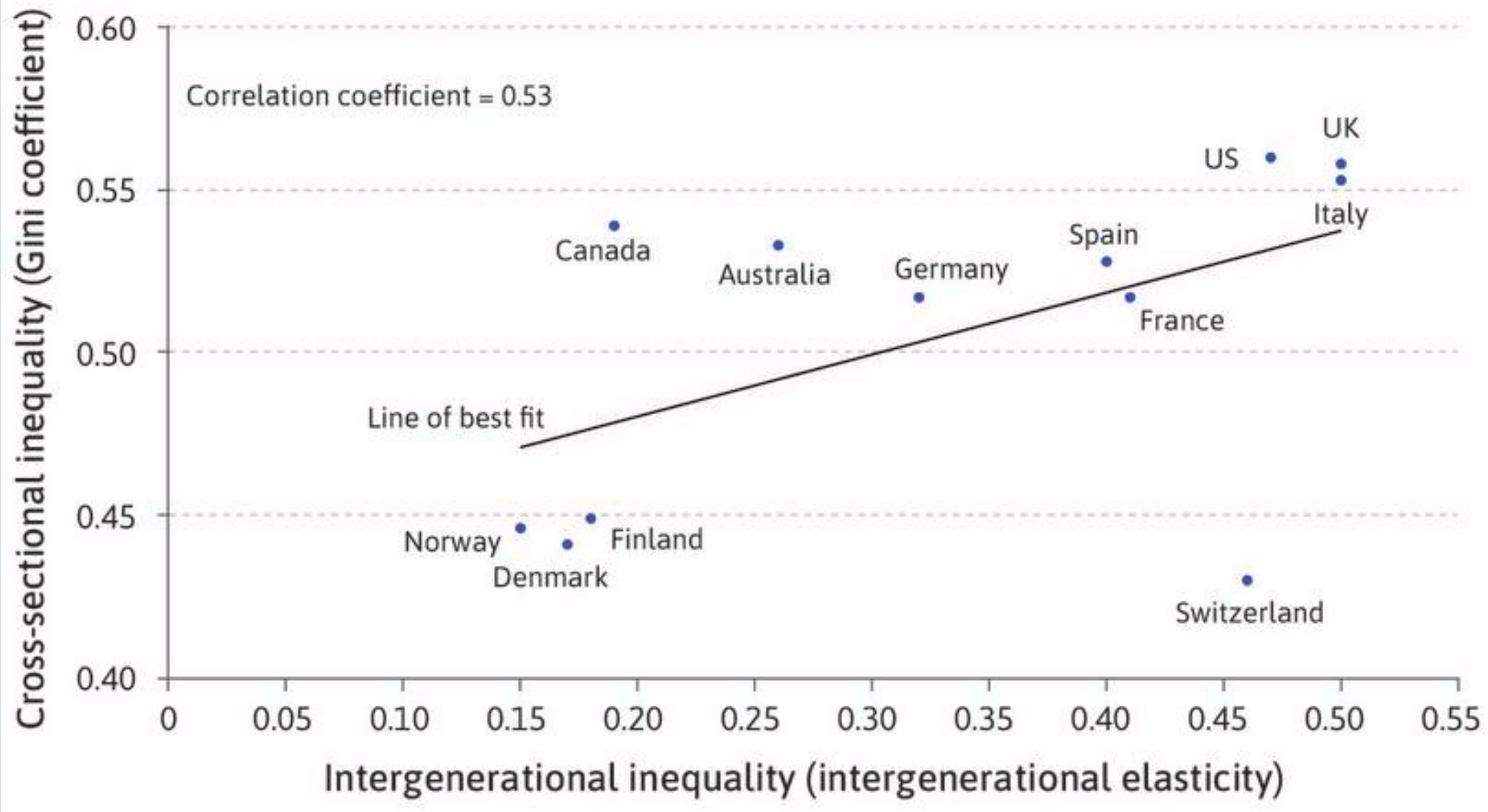
# Intergenerational inequality

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