

Why the 1988-2011 Global Growth Incidence Curve looks like an Elephant (or Mastodon)



Darryl McLeod, ECON 6470 Fall 2017 & 2019

Economic Growth & Development

Econ 32348 Summer 2019 Sept 2019 update

The Elephant Curve is the most recent chapter in a dramatic story of life on Earth: Since about 1990 Global poverty and inequality have been falling... for **the first time in recorded History!!**

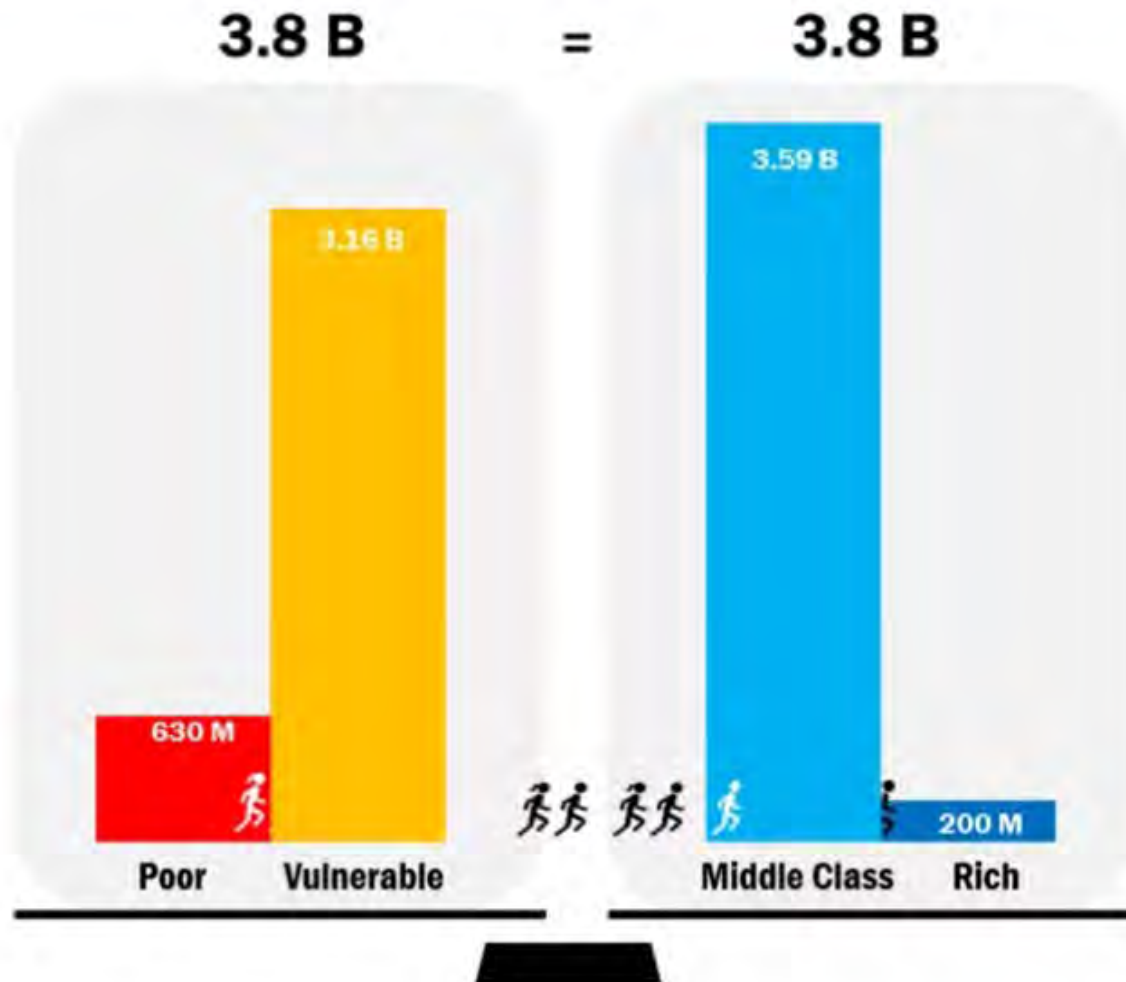
- Let's unpack this story: How do we measure global poverty & inequality back to 1800?
- How do we know this data is reliable?
Answer: PK, CUNY LIS and ex World bank Economist from Bruno Milanovic, born in Yugoslavia (which no longer exists)
- But why do we believe Professor Milanovic ?? (think Milan, Italy & add "ovic")



The Elephant Curve tells all (almost...)

- ***The tail?*** Shows the worlds poorest groups: did their income grow substantial, yes, see Lakner, post 2011 \$PPP version below
- The ***body and the hump*** (the head is the new world middle class in Asia & LatAm** **breaking news!!**
World middle class tipping point: see next slide)
- The deep U shape of the trunk (**almost wrote Trump, a Freudian slip, why?**), i.e., the OECD middle class: at first, we thought these were populist backlash voters... but Lakner if you remove Japan and Russian-Baltic states **no one's income fell from 1988-2010**
- Key data source: [UNDP's Max Roser](#) who took over when Hans Rosling died of cancer in 2016...

As of Sept 2018 half the World middle class & half poor or vulnerable, hopefully



Source: Projections by World Data Lab

These are projections by the “World Data Lab” or WDL (not Milanovic et al..) highlighted by Homi Kharas (WB & Brookings) and Kristofer Hamel (WDL)

- Kharas (2010) and Nancy Birdsall at CGD and Lopez-Calva define global middle class as \$10/day to about \$50/day compared \$2 or \$4 day as Poverty...
- Lopez Calva et al. find that LatAm not poor, not middle class \$4-\$10/day are vulnerable in that they have a >10% chance of falling back into Poverty
- More important, middle class HHs with >\$10/day have a <10% chance of falling back into poverty, the middle class is resilient... why??

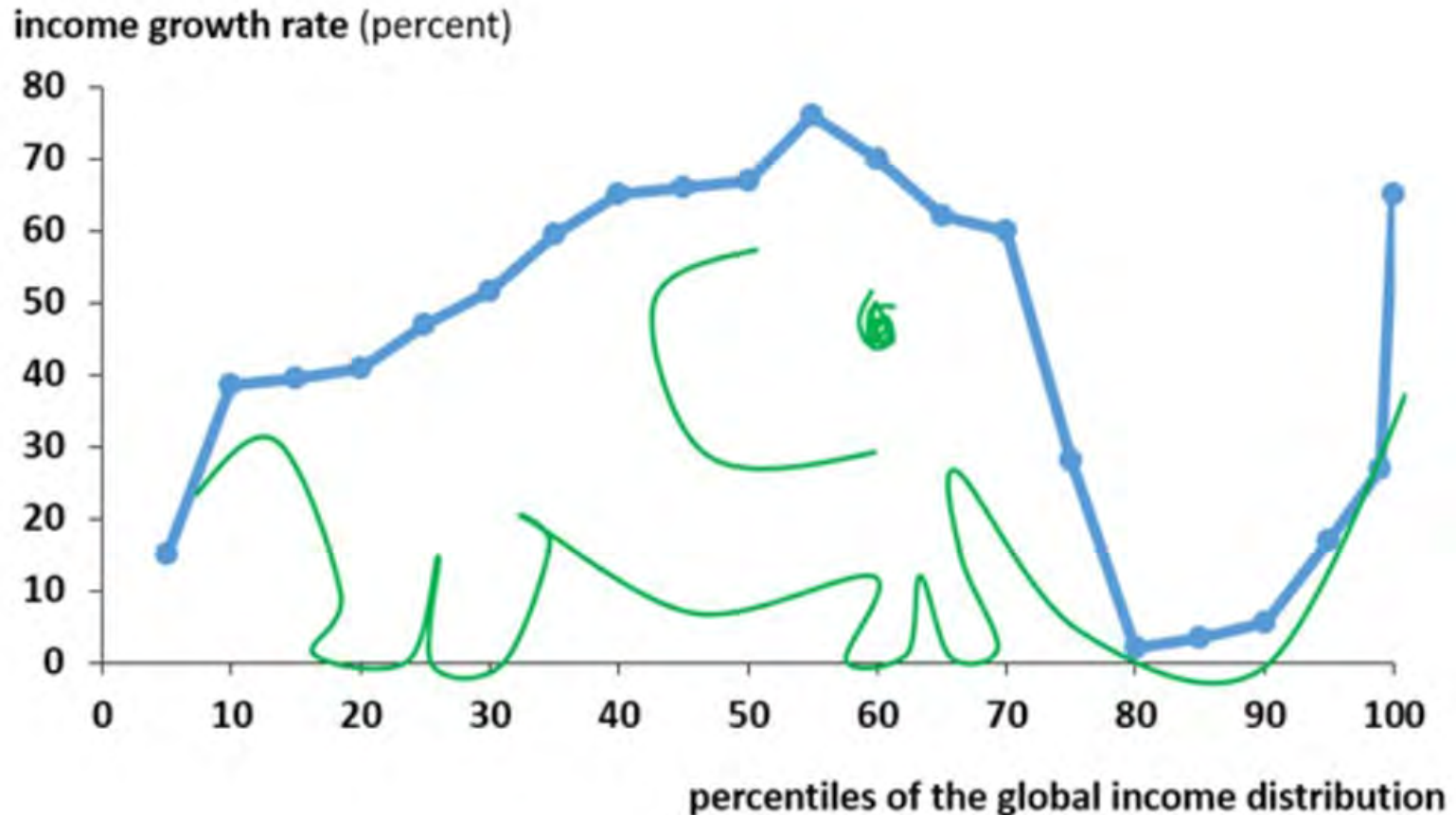
Why should we believe Bruno Milanovic? (when many other distinguished economists say global inequality is rising, Finn Tarp & others at the UNU)

- How do we know this data is reliable? Answer: PK, CUNY LIS and ex World bank Economist from Bruno Milanovic, born in Yugoslavia...
- So why believe Professor Milanovic ?? (think Milan Italy & add “ovic”)
- Because before this book/paper every article he wrote showed rising global inequality (he was the George Borjas of inequality) until he let the data speak for itself... in 2015-2016 see UN DESA inequality matters...



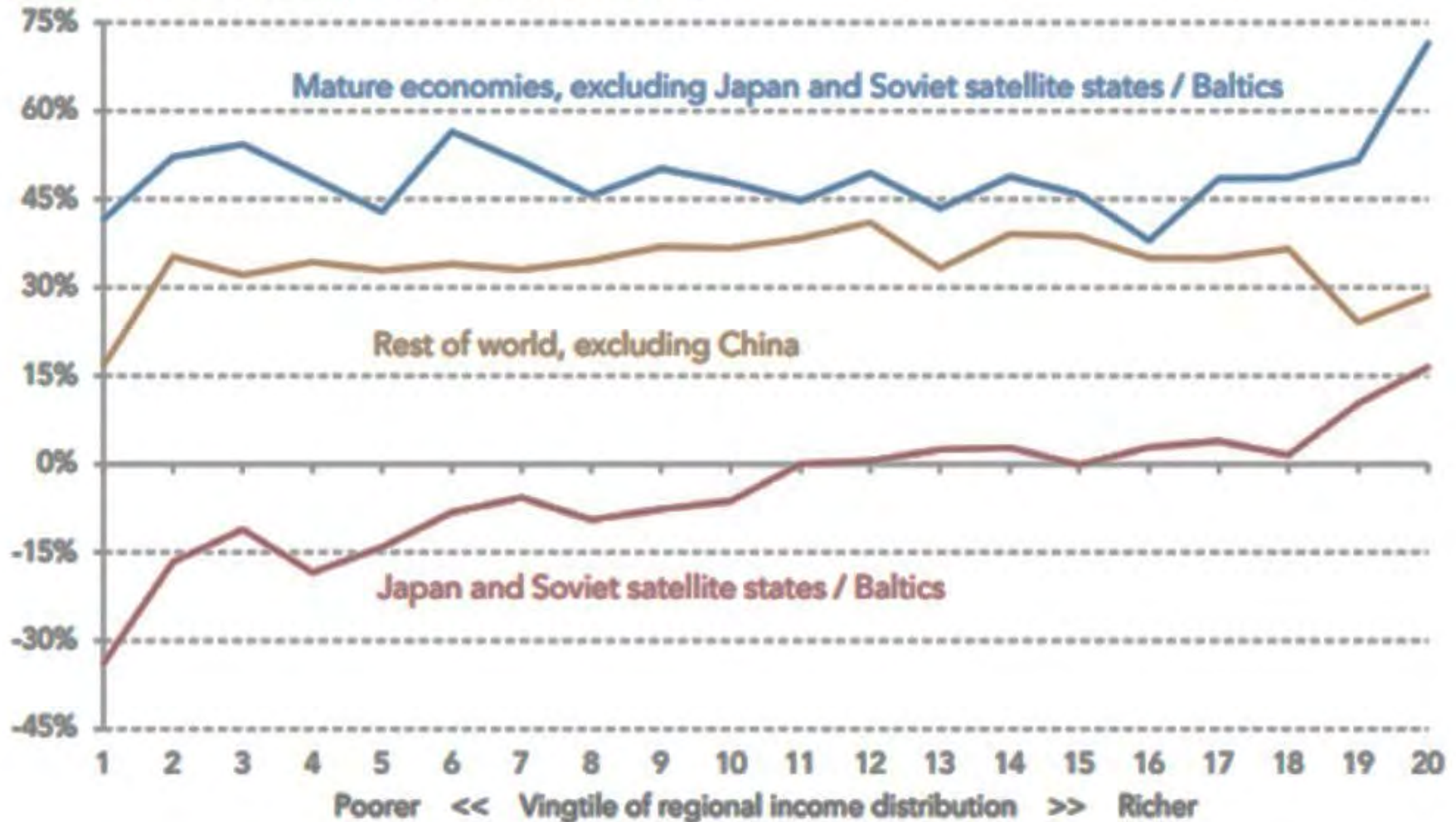
The Elephant Diagram (thanks to [Caroline Freund](#) for green detail)

Global inequality has declined: Growth incidence curve, 1988-2008



Mature OECD economies except Japan & Baltics doing well overall...

1988-2008 growth in average per capita income of each vingtile



Source: RF analysis of Lakner-Milanovic World Panel Income Distribution

Notes: The red line group is Japan, Bulgaria, Czech Republic, Estonia, Georgia, Lithuania, Poland, Slovakia. The blue line is Austria, Belgium, Canada, Cyprus, Denmark, Finland, France, Greece, Ireland, Israel, Italy, Netherlands, Portugal, Slovenia, South Korea, Spain, UK and USA. Rest of world (including China) includes (only) 30 countries for whom data is available.

Since 2000 1st ever fall in Global inequality

Estimated global income inequality over the past two centuries, 1820-2013 (using 2011 PPPs)

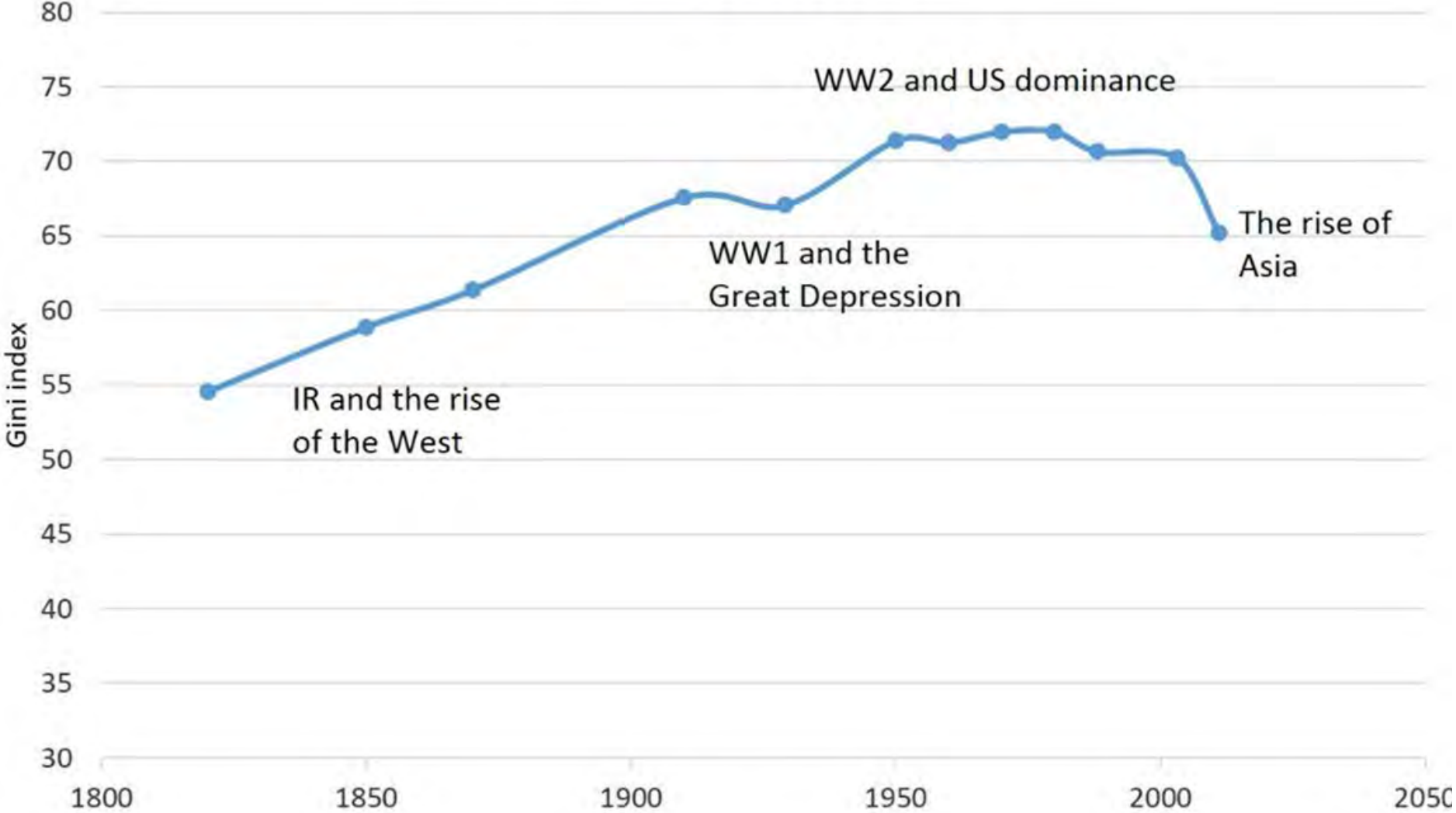
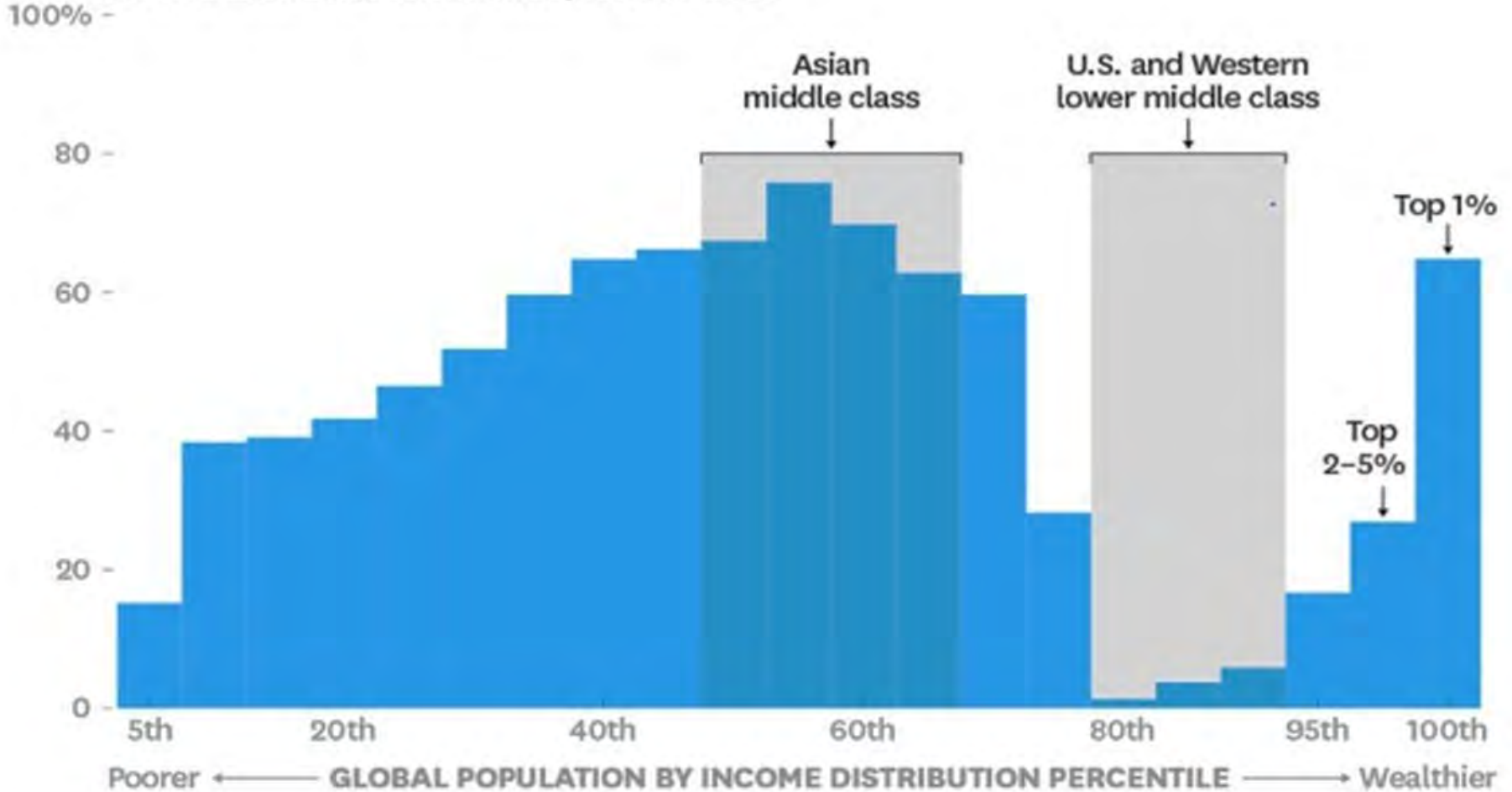


Figure 1: Who are they? Where do they live? (original version used 2005 \$PPP)

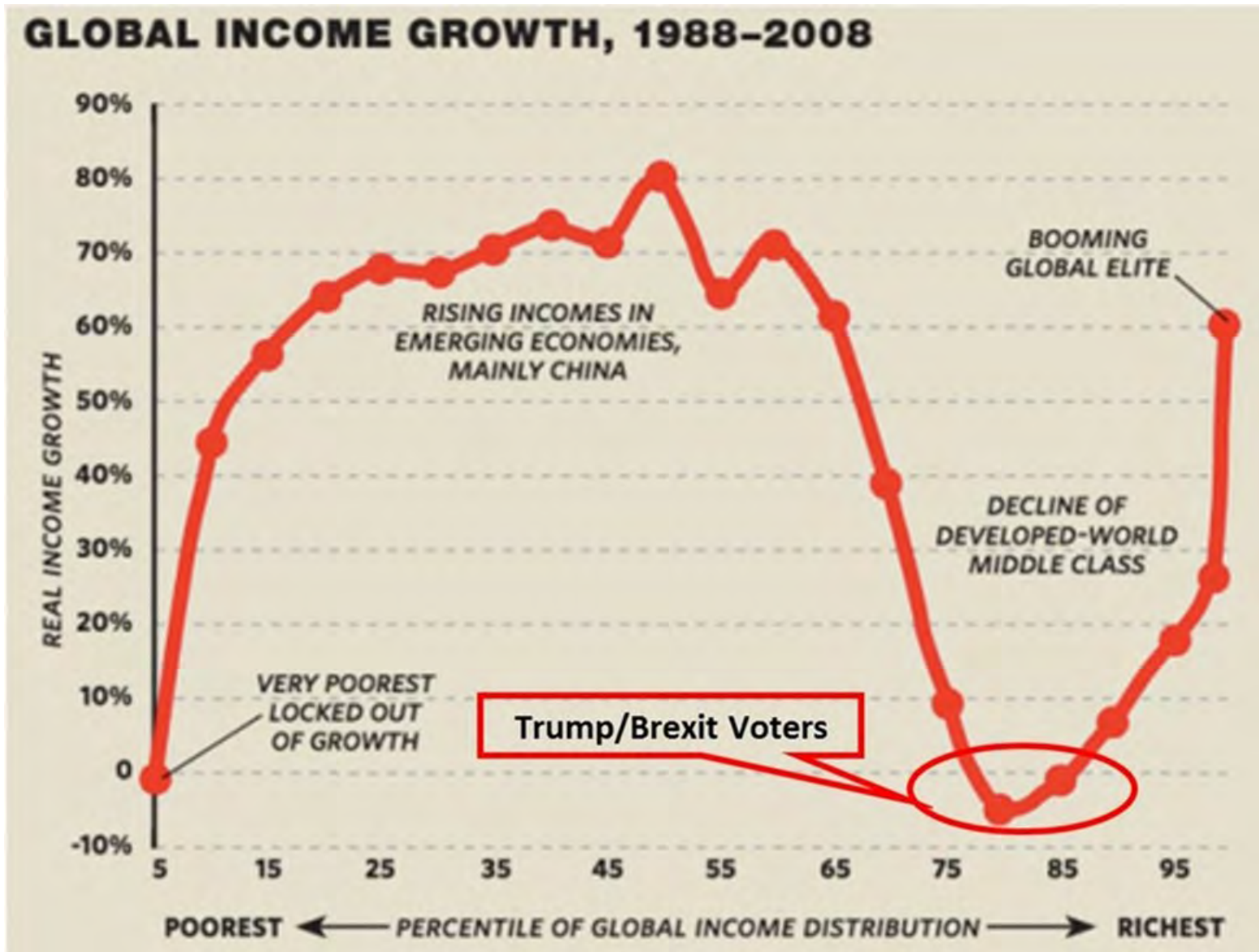
REAL INCOME GAINS IN PERCENTAGE, 1988 TO 2008



NOTE INCOMES ARE REAL, PPP-ADJUSTED, IN 2005 DOLLARS.
SOURCE BRANKO MILANOVIC

© HBR.ORG

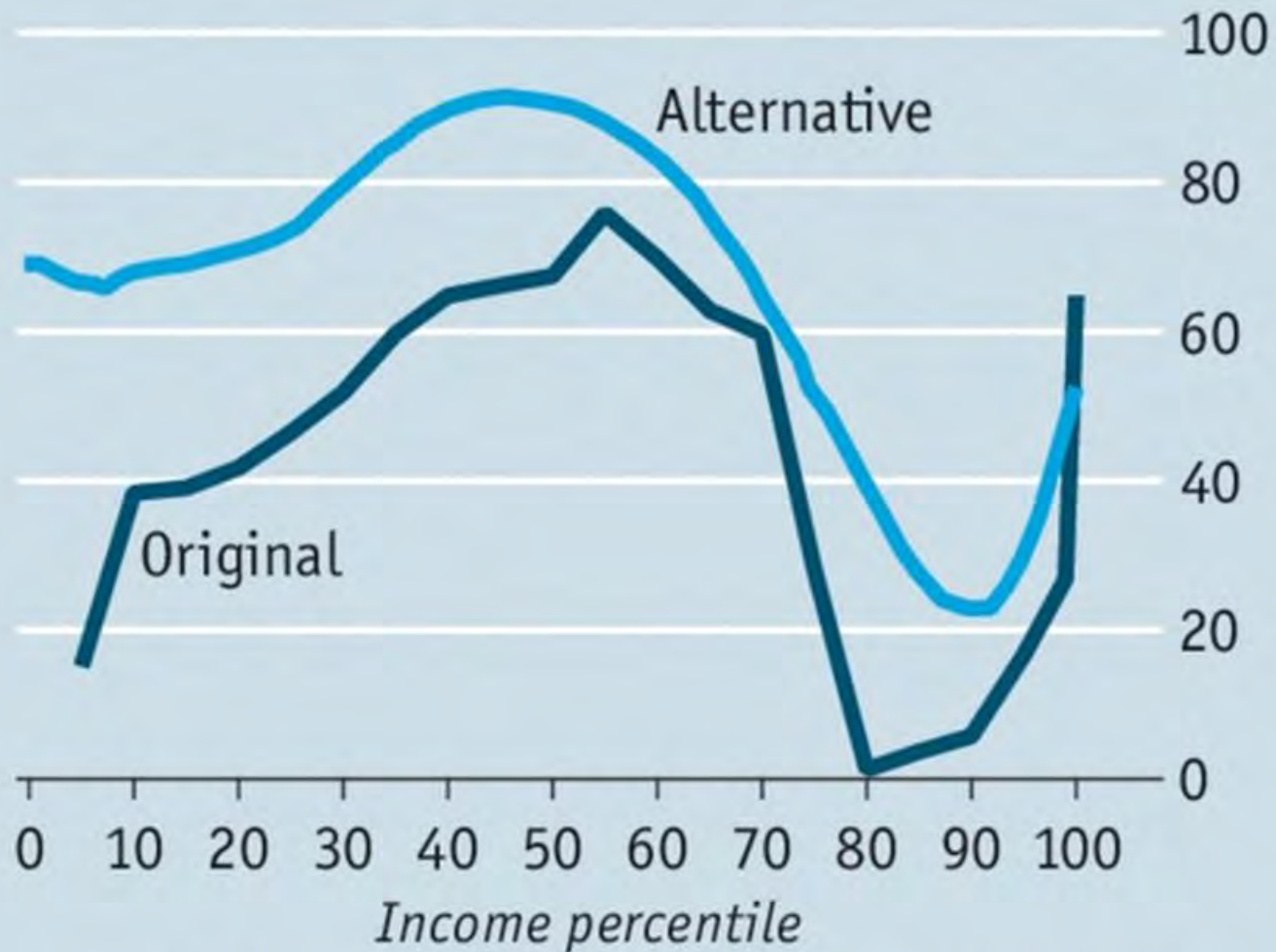
Countries comprise the elephant



**Economist
post Lakner
“alternative”
looks like a
mastodon:
Upper Middle
gain 20+ and
poorest
incomes rose
60% + how?**

A mammoth undertaking

Increase in real income*, 1988-2008, %
By percentile of global income distribution



Source: Christoph Lakner &
Branko Milanovic, World Bank

*At purchasing-
power parity

2011 \$PPP 1988-2011 has larger more curved, no losers,

see Figure 1.3 Branko Malanovic, 2016, p. 31 chapter 1

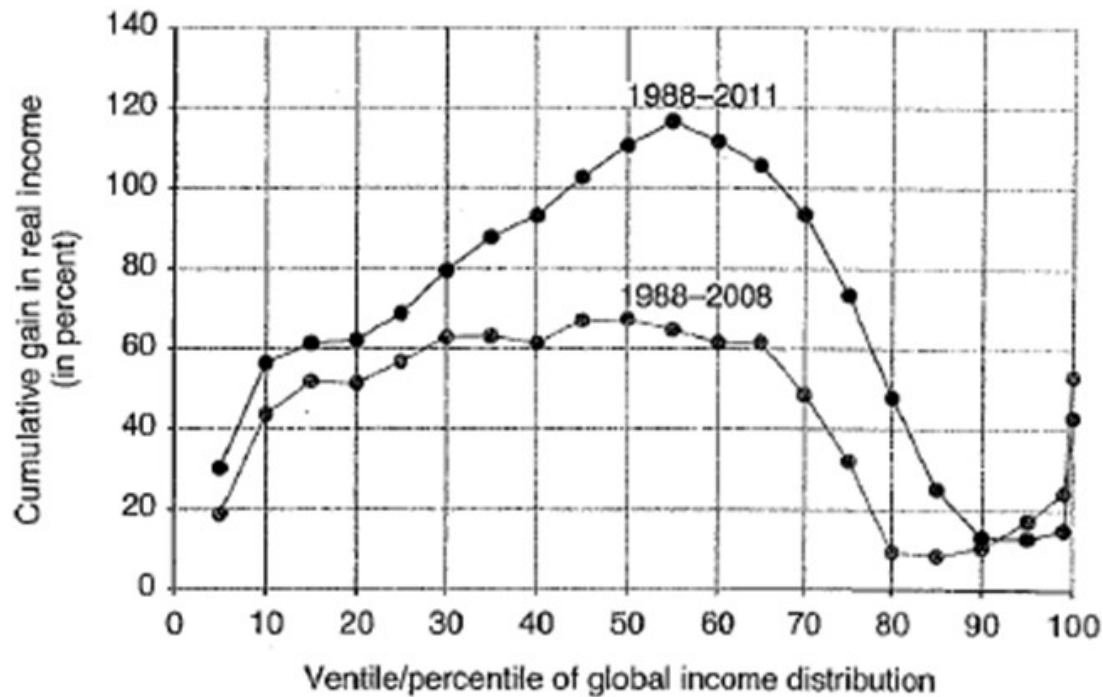
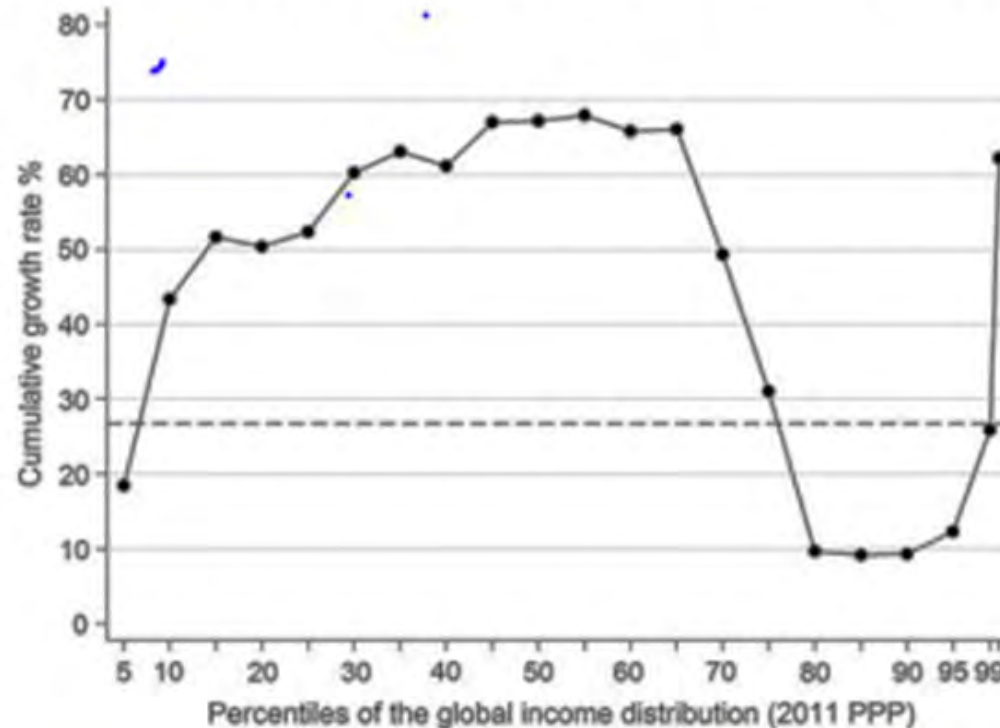


FIGURE 1.3. Relative gain in real per capita income by global income level, 1988–2008 and 1988–2011

This graph shows relative (percentage) gain in real household per capita income (measured in 2011 international dollars) at different points of the global income distribution for two different time periods: 1988–2008 (replicating the graph in Figure 1.1, except that we now use 2011 instead of 2005 international dollars) and 1988–2011. We see the continuation of very strong gains around the middle of the global income distribution but a slowdown of gains among the global top 1%. Data sources: Lakner and Milanovic (2015) and author's data.

2011 PPP prices eliminate the fall in OECD middle class incomes, why?

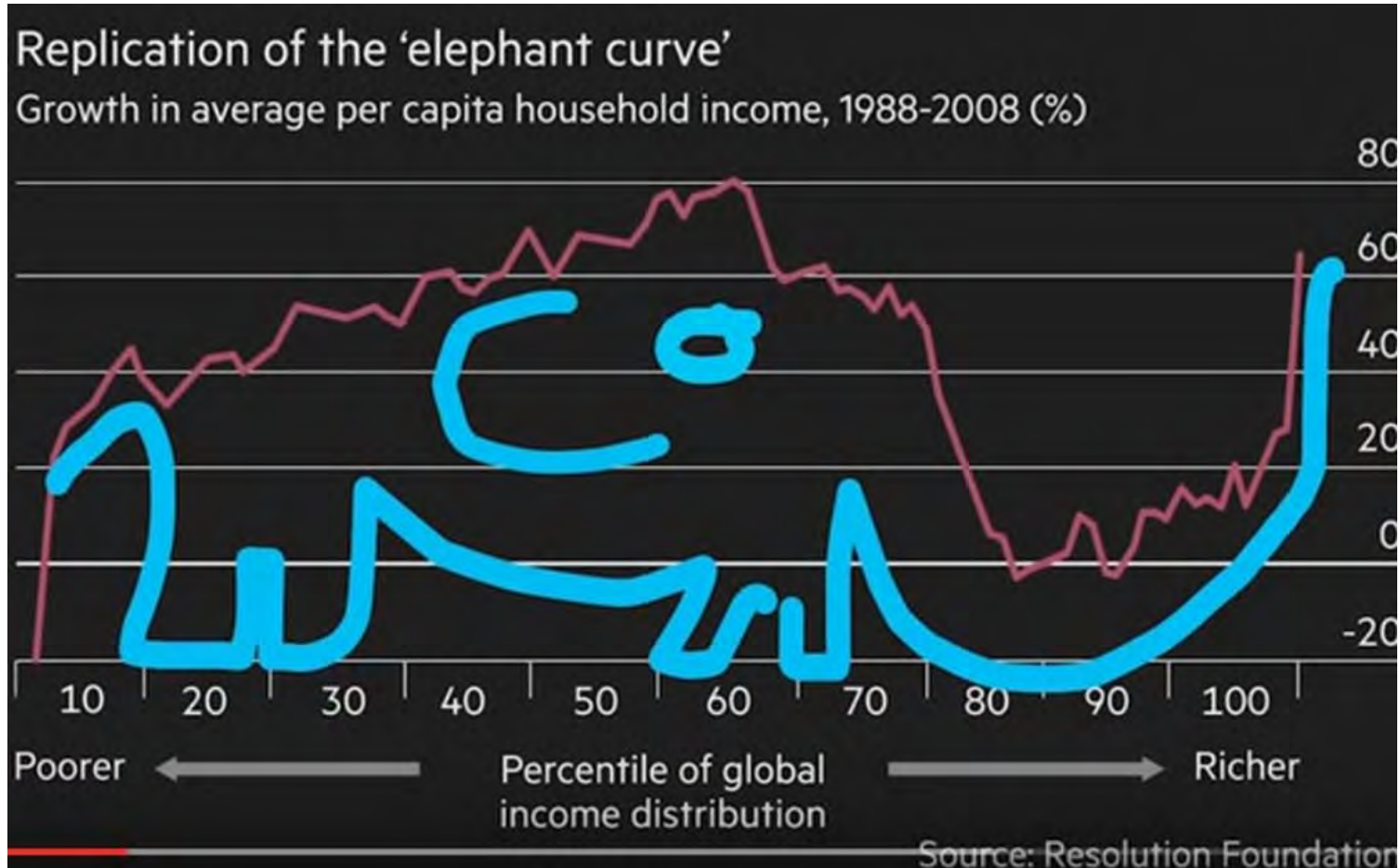
FIGURE A.1. Global Growth Incidence Curve 1988–2008 (2011 PPP)



Notes: Y-axis displays the growth rate in average income of the fractile group (in 2011 PPP USD). Population-weighted. Growth incidence evaluated at ventile groups (e.g., bottom 5%); top ventile is split into top 1% and 4% between P95 and P99. The horizontal line shows the growth rate in the mean of 26.74% (1.19% p.a.).

Source: Authors' analysis based on data described in the text.

From Chris Giles, FT video...



Source: Inklaar, Robert, and D. S. Rao. (2017). "Cross-Country Income Levels over Time: Did the Developing World Suddenly Become Much Richer?." American Economic Journal: Macroeconomics.

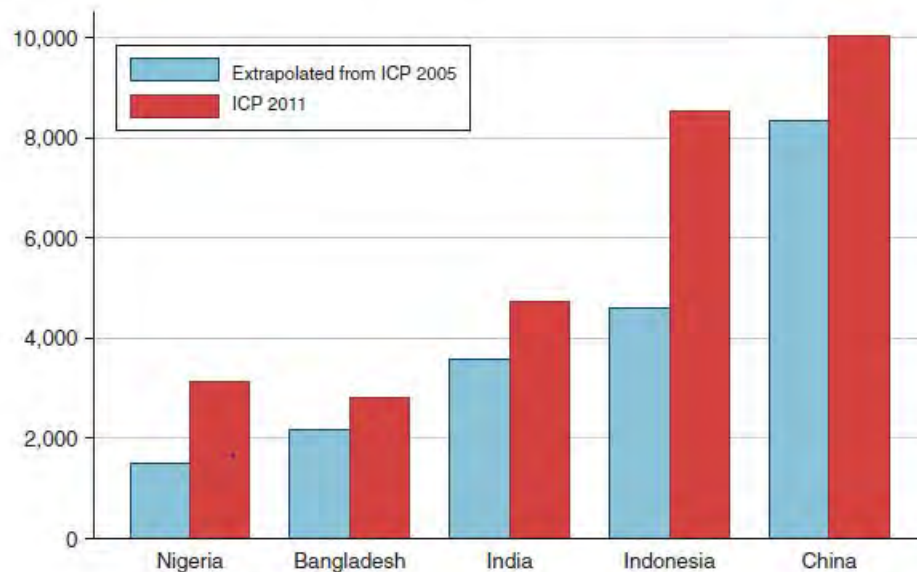
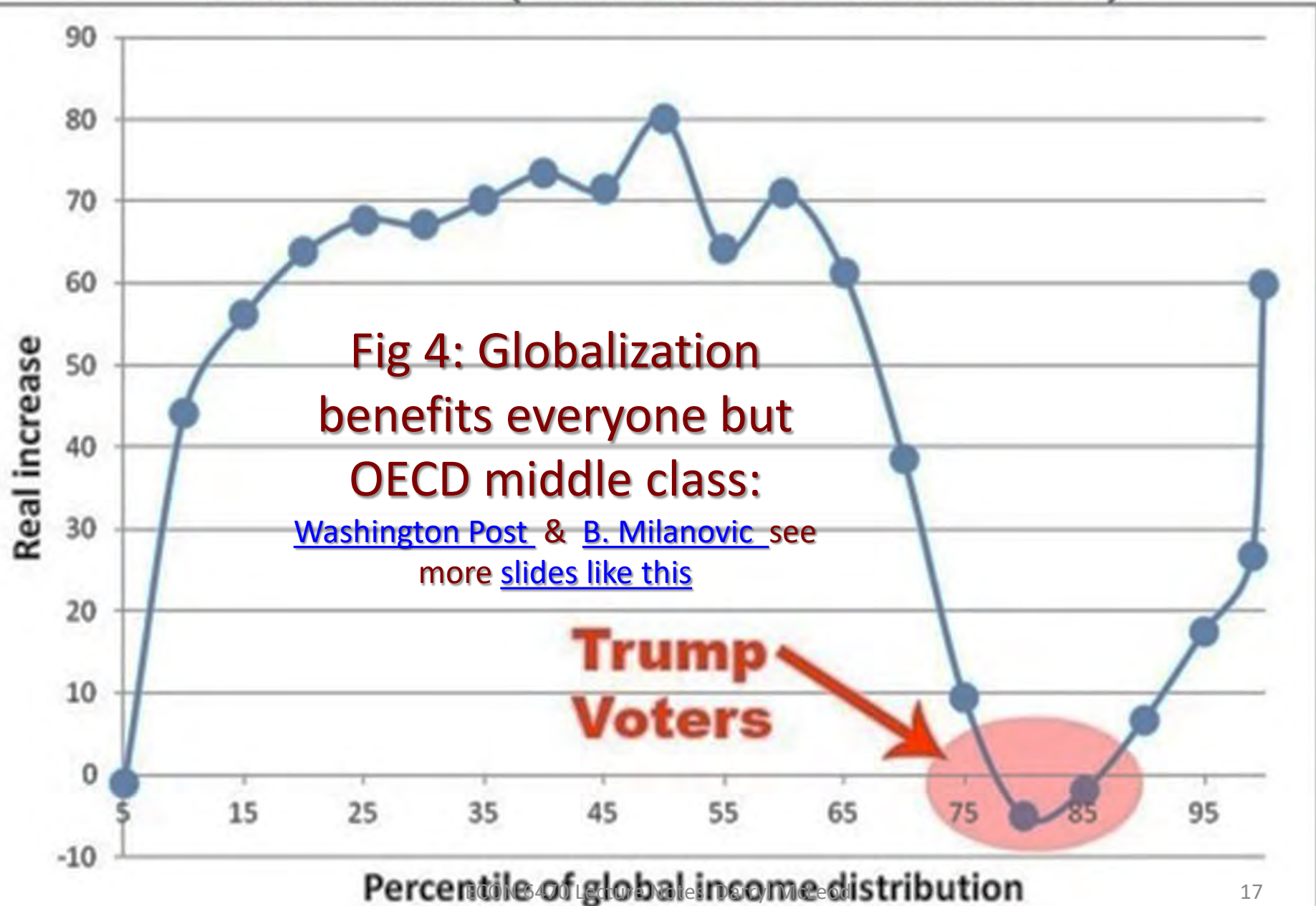


FIGURE 1. GDP PER CAPITA IN 2011 FOR SELECTED COUNTRIES
BASED ON ALTERNATIVE RELATIVE PRICES (*in US dollars*)

Note: GDP per capita at current national prices and ICP 2011 relative prices from World Bank (2014); ICP 2005 relative prices (from World Bank 2008) extrapolated using the change in the country GDP deflator relative to the US GDP deflator.

Source: Computations based on World Bank (2008, 2014) and World Development Indicators

Figure 4. Change in real income between 1988 and 2008 at various percentiles of global income distribution (calculated in 2005 international dollars)



Falling Global Poverty and Inequality + slower growth in OECD nations + the rising share of the top 1% generate the Elephant curve

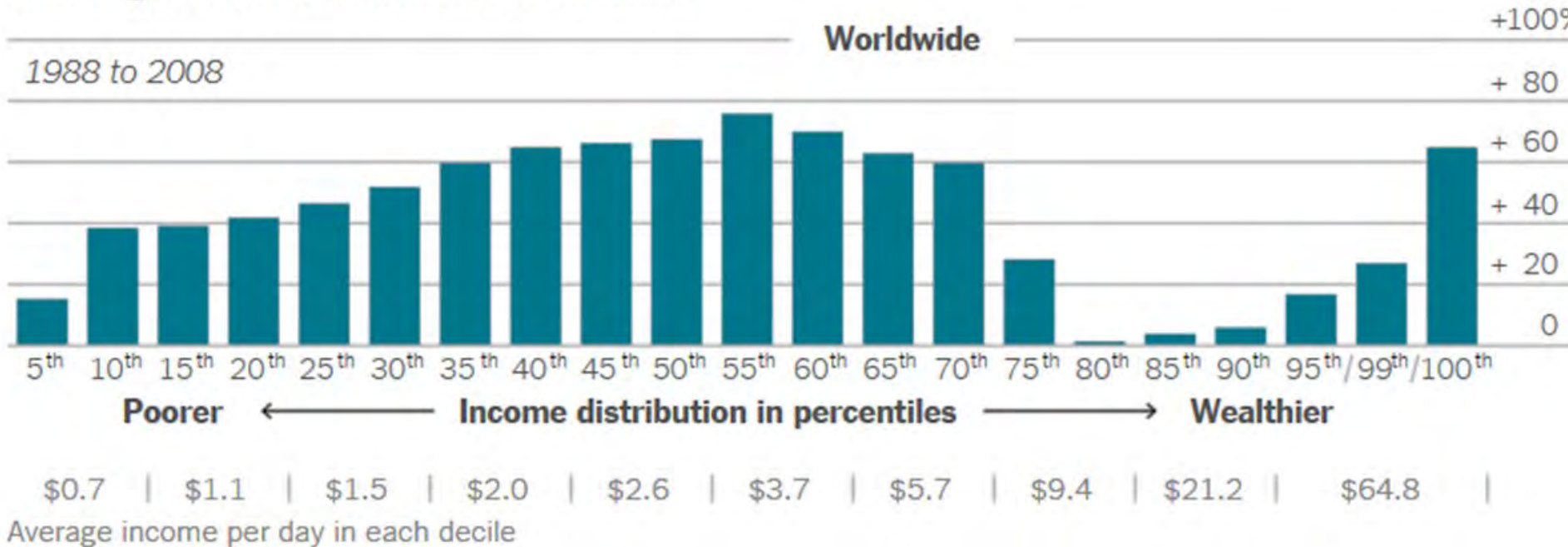
- Inequality in some nations has increased (USA and China) but inequality among people and nations has decreased since 2000, absolute convergence...
- Many nations closing gap with OECD see chapter 4 of Eclipse and DESA's Inequality Matters
- Openness has played a role.... China, Asia, RER
- Convergence in health, education and longevity faster than incomes see HDR 2010

Falling Global inequality: Absolute convergence... *global growth incidence curve* Eduardo Porter's graph based on Branko Milanovic: where is LatAm's middle class in this picture?

Inequality at Home and Abroad

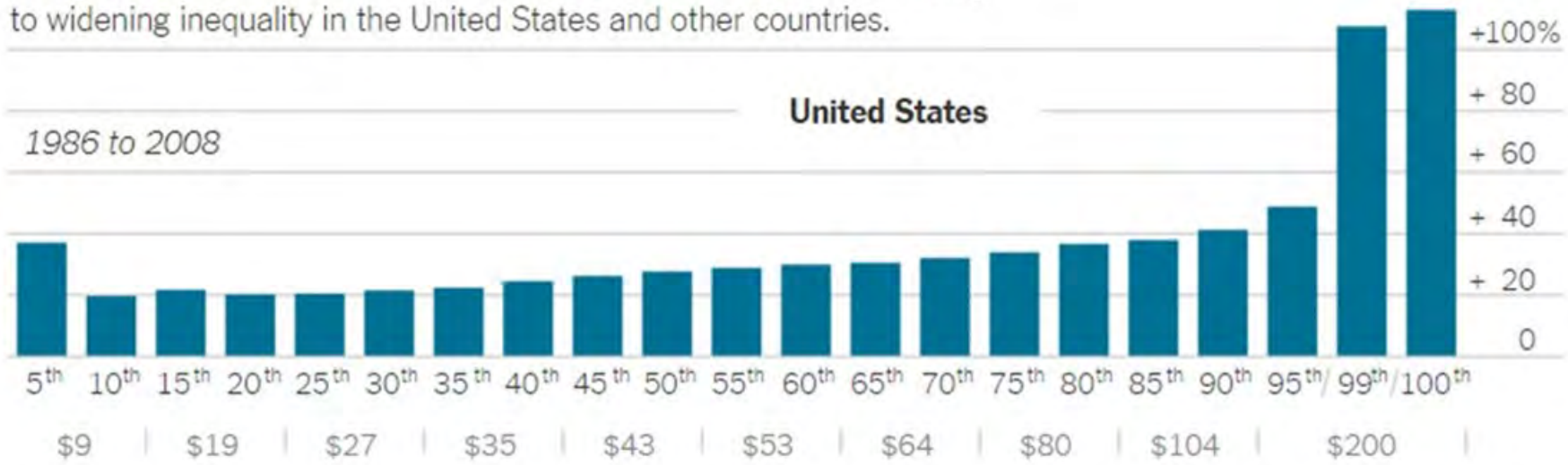
Fast growth in China, India and other Asian countries has risen the income of the global middle class, reducing income inequality on a global scale over the last two decades.

Income growth across the income distribution



Falling Global inequality: Absolute convergence finally SS growth models start to work... at a cost... *global growth incidence curve* from Eduardo Porter &

The global dynamics bolstering incomes in China are also contributing to widening inequality in the United States and other countries.



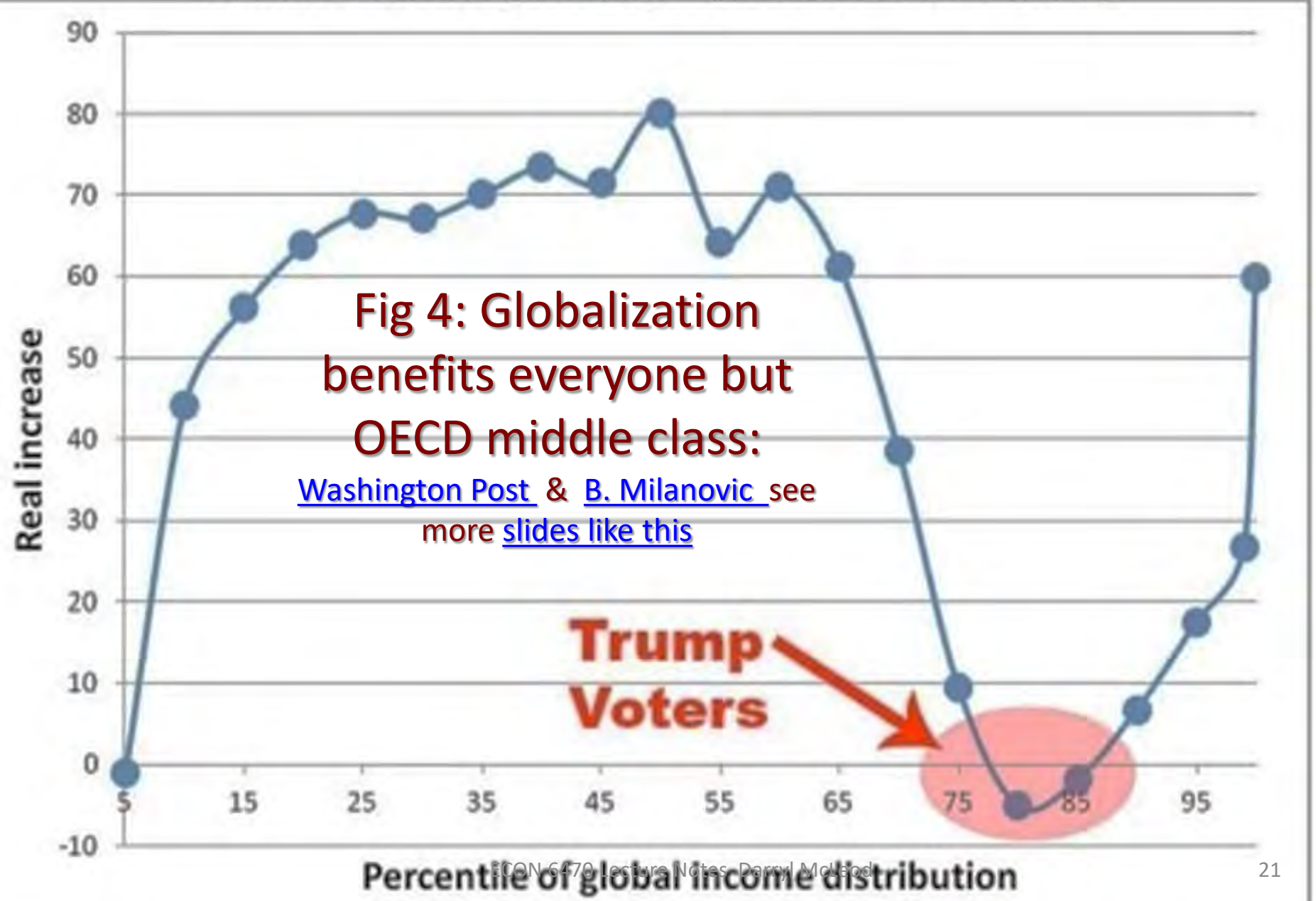
Notes: Average incomes are for 2008, measured in constant 2005 dollars. Global incomes are measured at 2005 purchasing power parities

Source: Branko Milanovic

This is astonishing progress. And although incomes of workers in the developed world didn't rise much as the Asian poor moved up the ladder, they didn't fall either: Globalization lifted all boats.

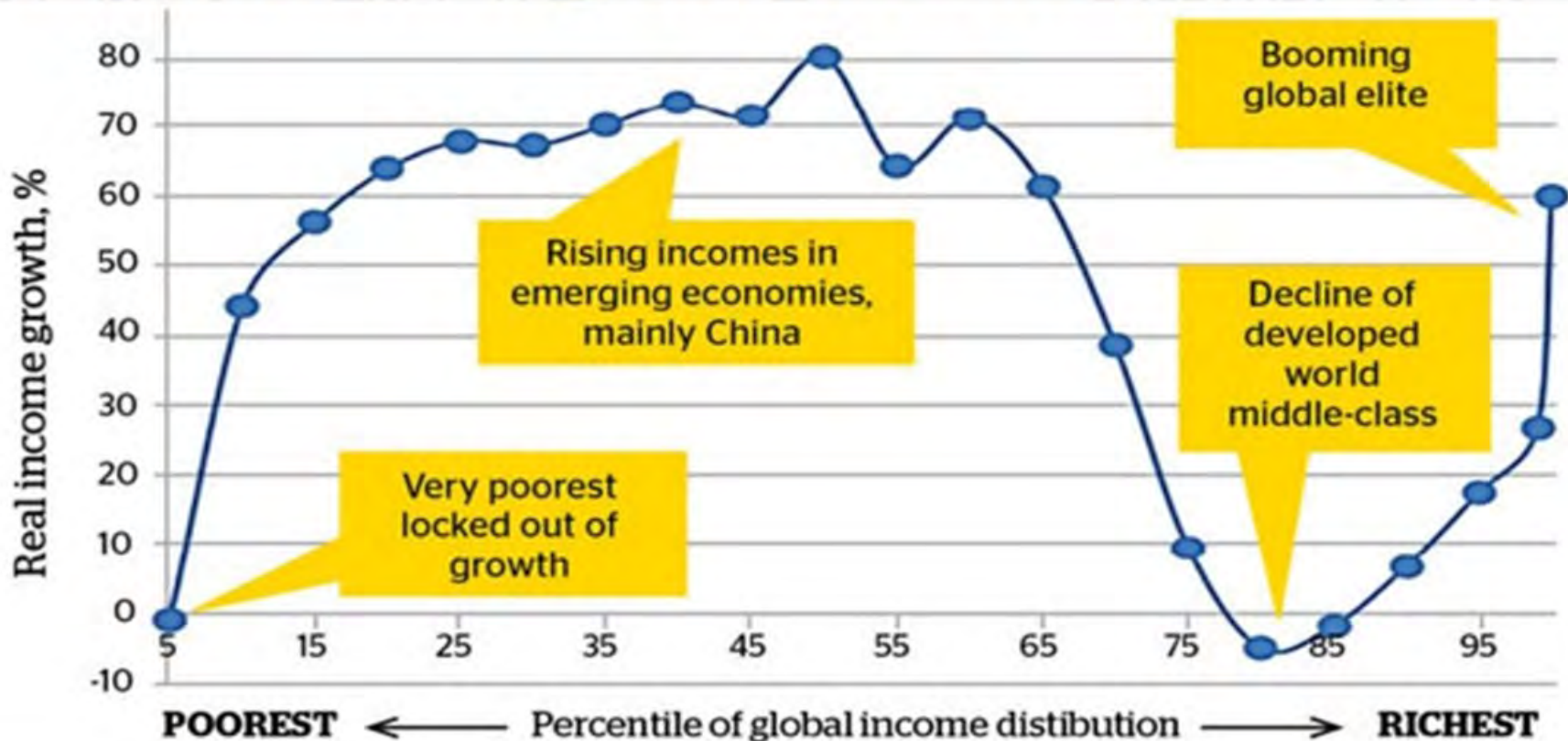


Figure 4. Change in real income between 1988 and 2008 at various percentiles of global income distribution (calculated in 2005 international dollars)

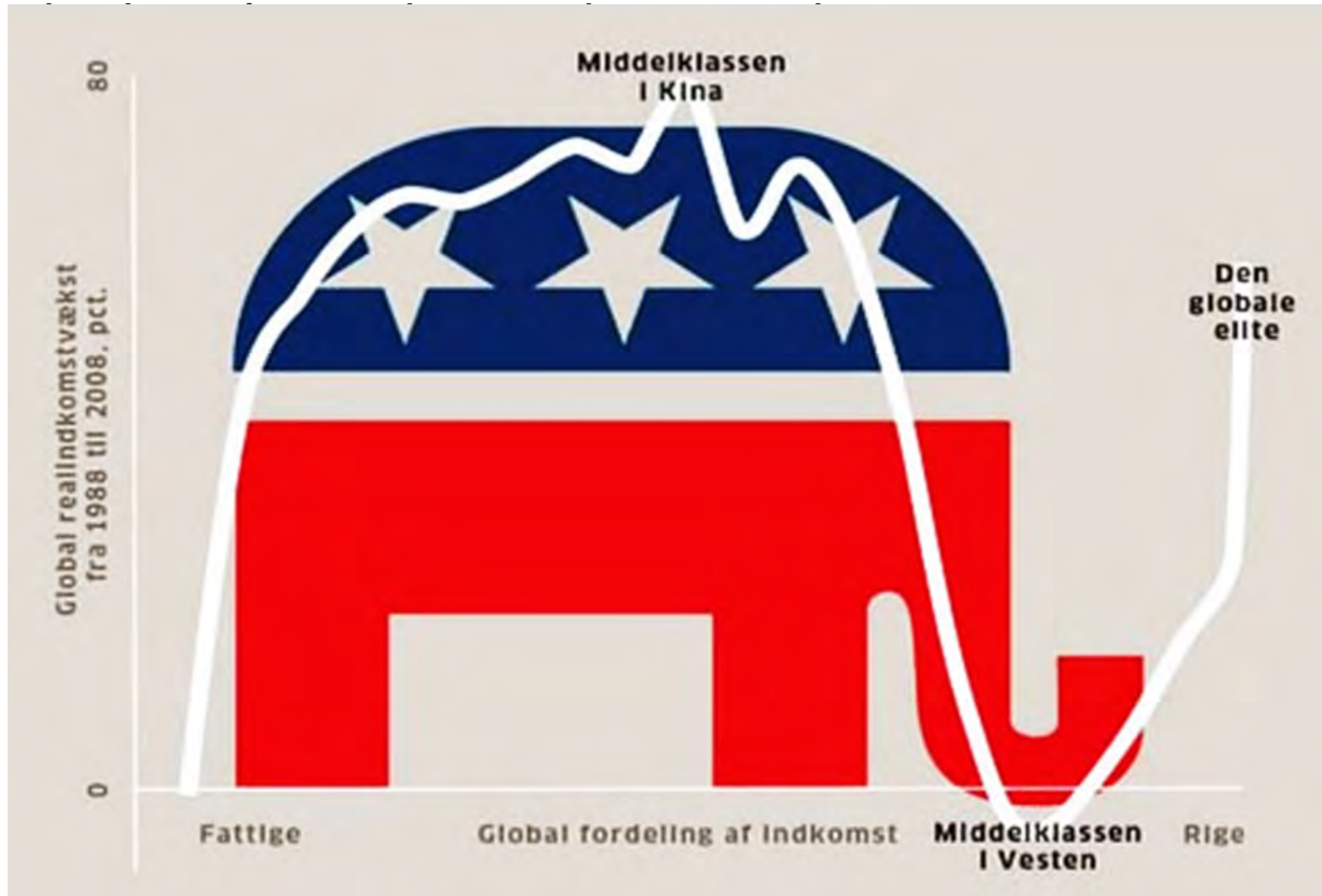


Most popular version shows OECD middle class incomes decline, but in fact they did not (despite 2008 crisis)

Global income growth from 1988 to 2008



Populist backlash blamed on falling incomes a base of



Giles and Dannon FT article (2016)

Replication of the 'elephant curve'

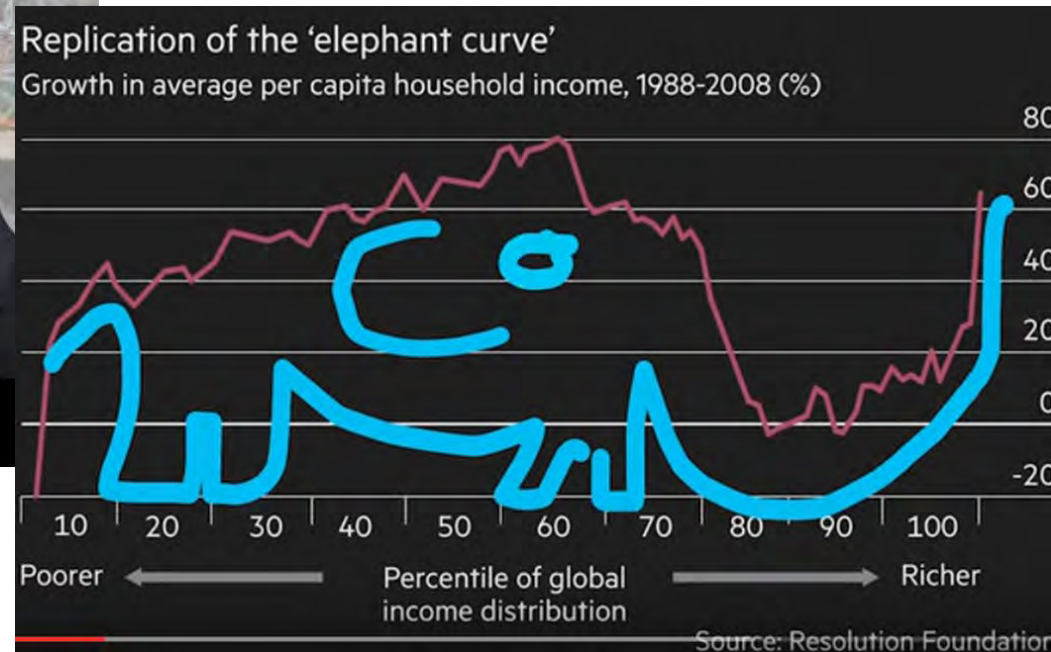
Growth in average per capita household income, 1988-2008 (%)



Globalization 'not to blame' for income

woes: FT World Giles & Dannon, September 2016

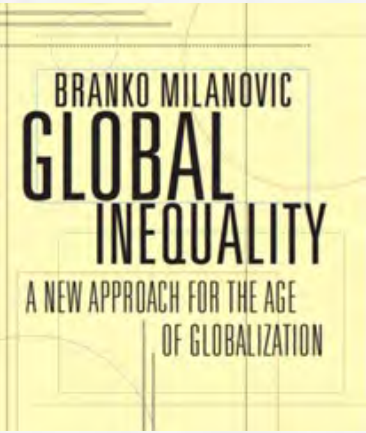
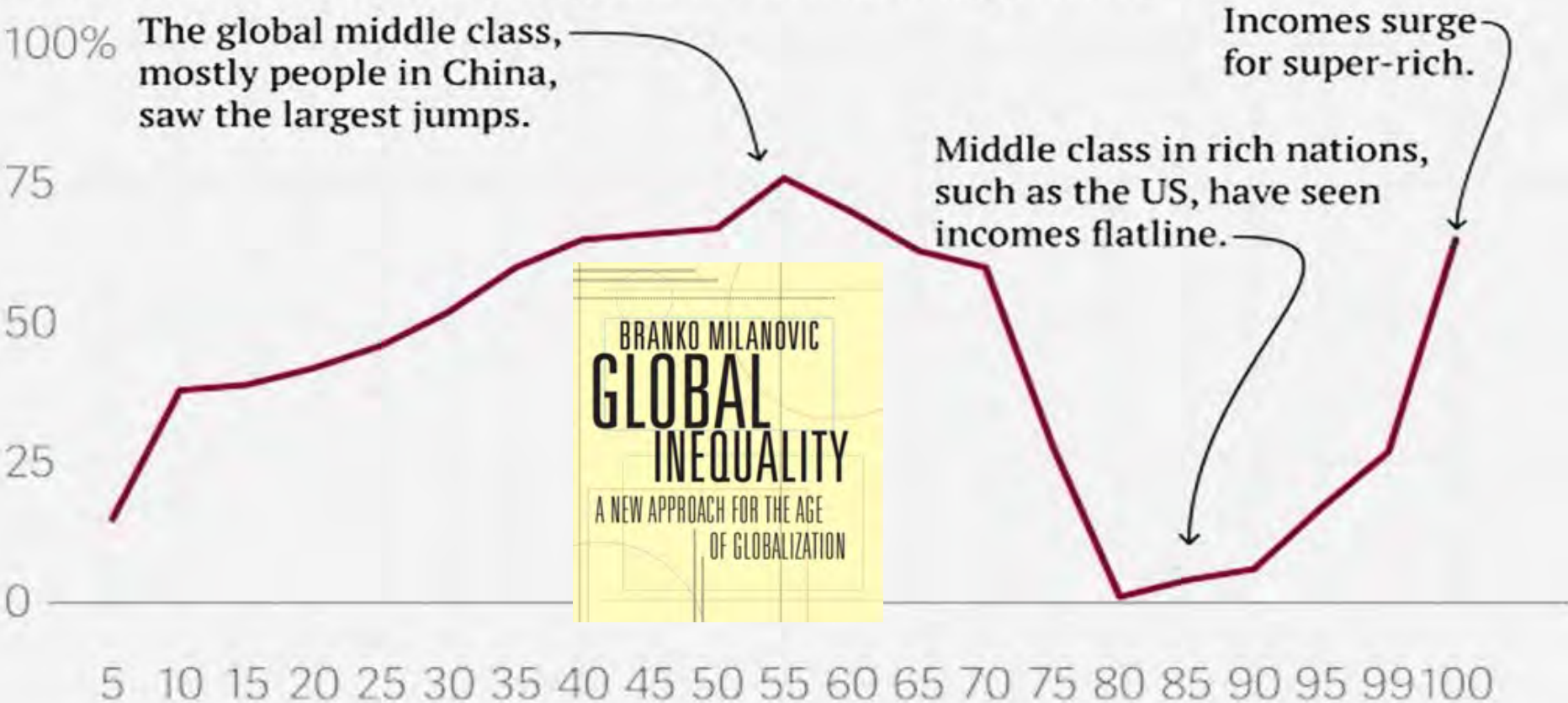
[video on YouTube](#) Resolution Trust finds that.... What's up with Japan and former Soviet Union...



The reality of convergence is important for people and nations (and sustainable development)

- Inequality among nations has increased, but inequality among people has decreased.
- Many nations are catching up with the U.S. see chapter 4 of Eclipse and see [Milanovic, 2016](#).
- Openness has played a role.... China, Asia, RER
- Convergence in health, education and longevity faster than incomes (or is happening despite diverging incomes) see HDR 2010

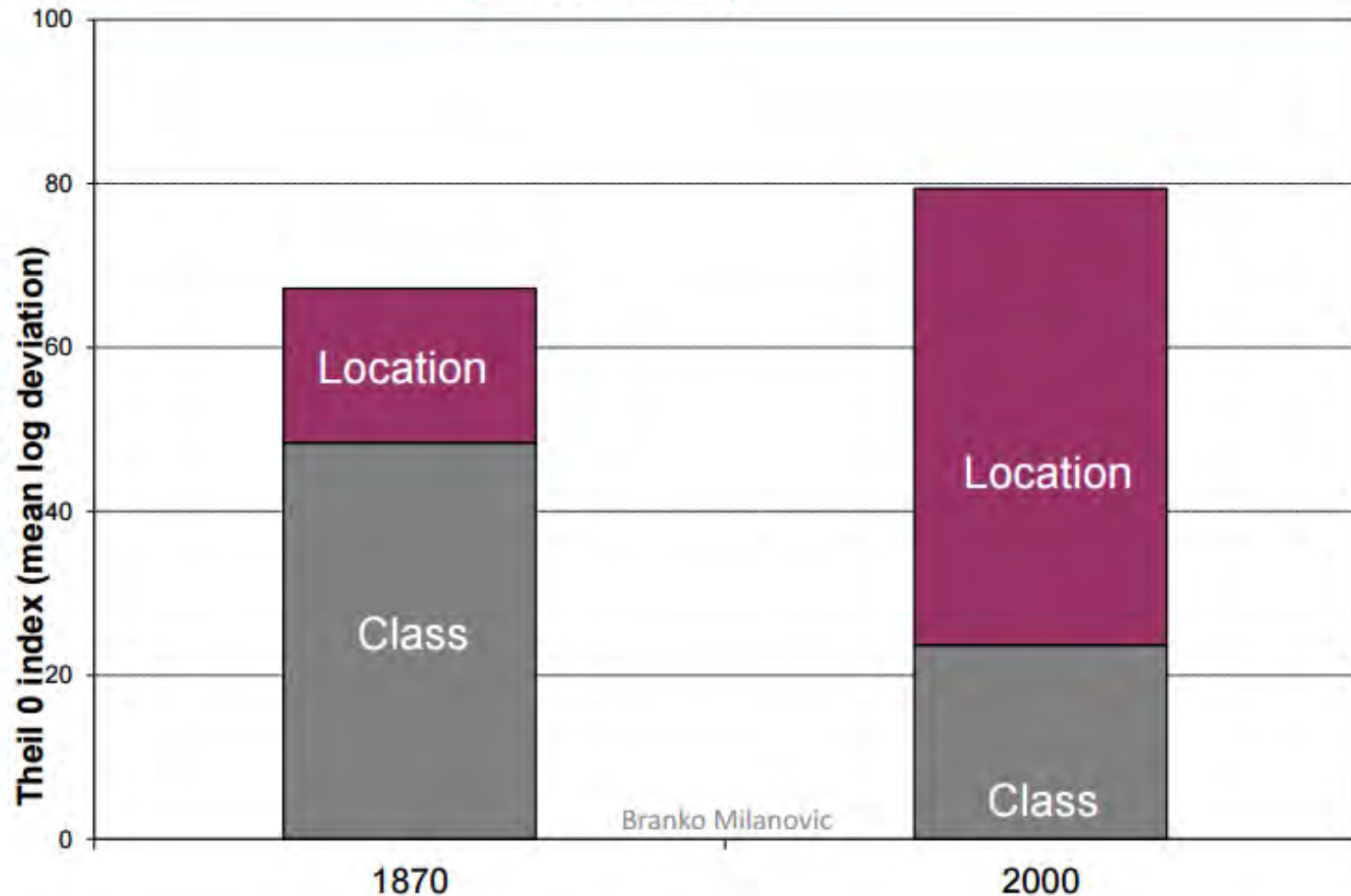
Percentile distribution of global real income growth, 1988-2008



[See Milanovic on Hidden economics of Populism](#)

Milanovic: This is about right. You have large increases in real income, which is really the middle class in Asia, essentially. (China, but not only China, it's also India, Indonesia, Vietnam and so forth.) And the global top 1%

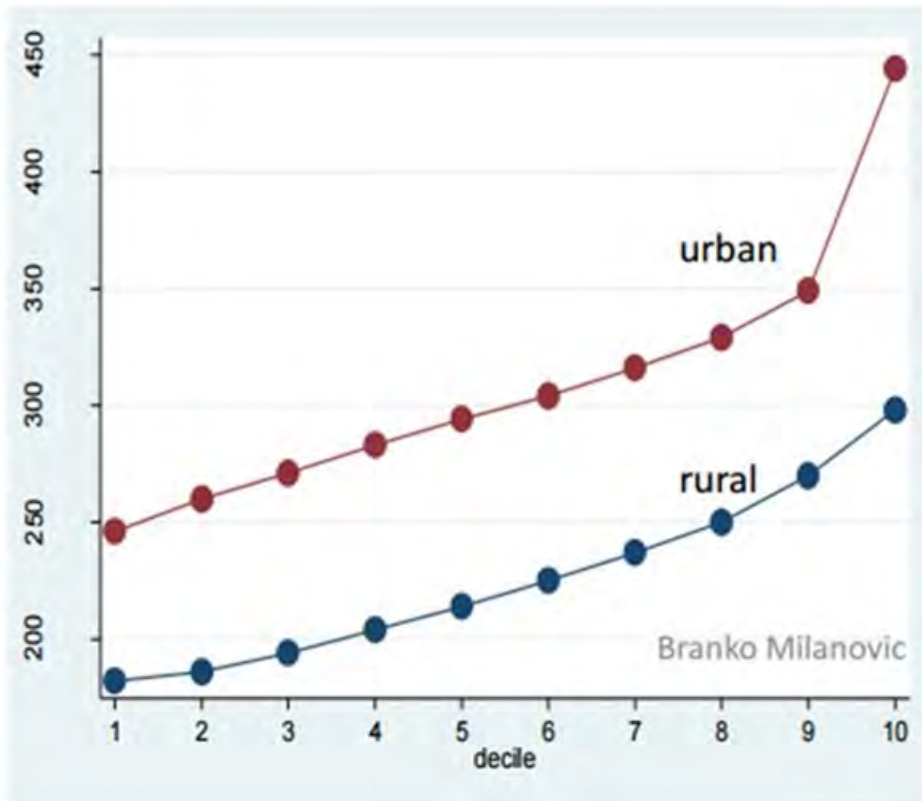
Composition of global inequality changed: from being mostly due to “class” (within-national), today it is mostly due to “location” (where people live; between-national)



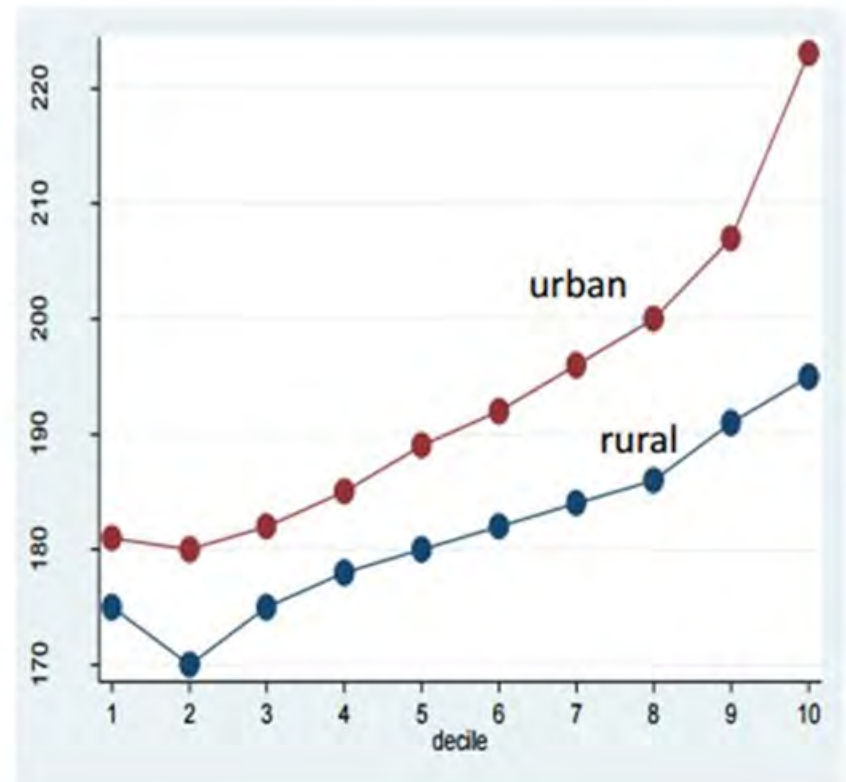
Branko Milanovic

Increasing gains for the rich with a widening urban-rural gap

Urban and rural China



Urban and rural Indonesia



The reality of convergence is important everyone but backlash in North is reality... a “huge” problem

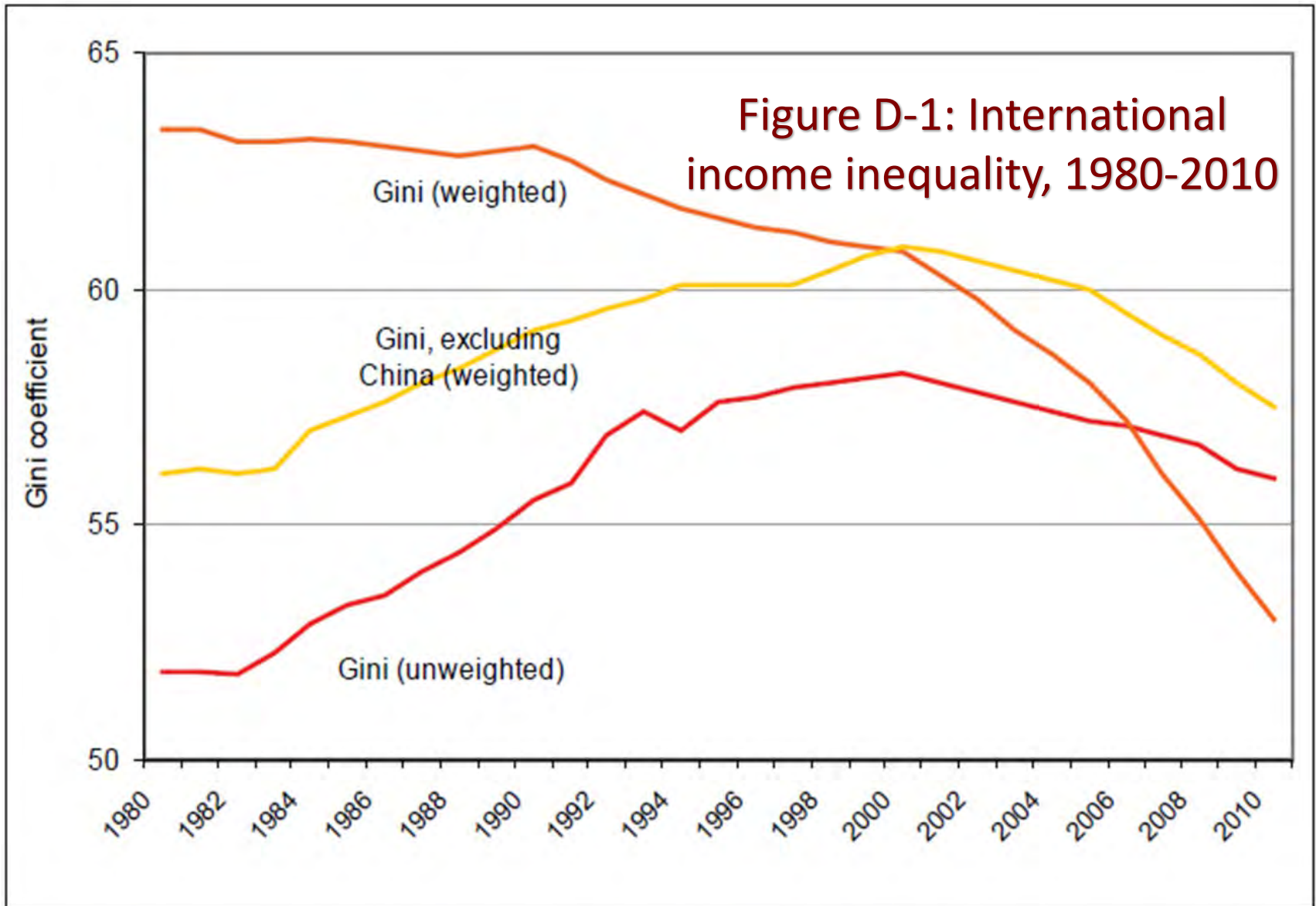
How to address U.S. backlash

- Expand EITC to all workers, create [wage insurance](#) for all displaced by trade ([Schiller, 2016](#))
- Subsidize higher education for low income HHs...
- Carbon tax, lower wage tax (Stiglitz)

How not to address trade adjustment

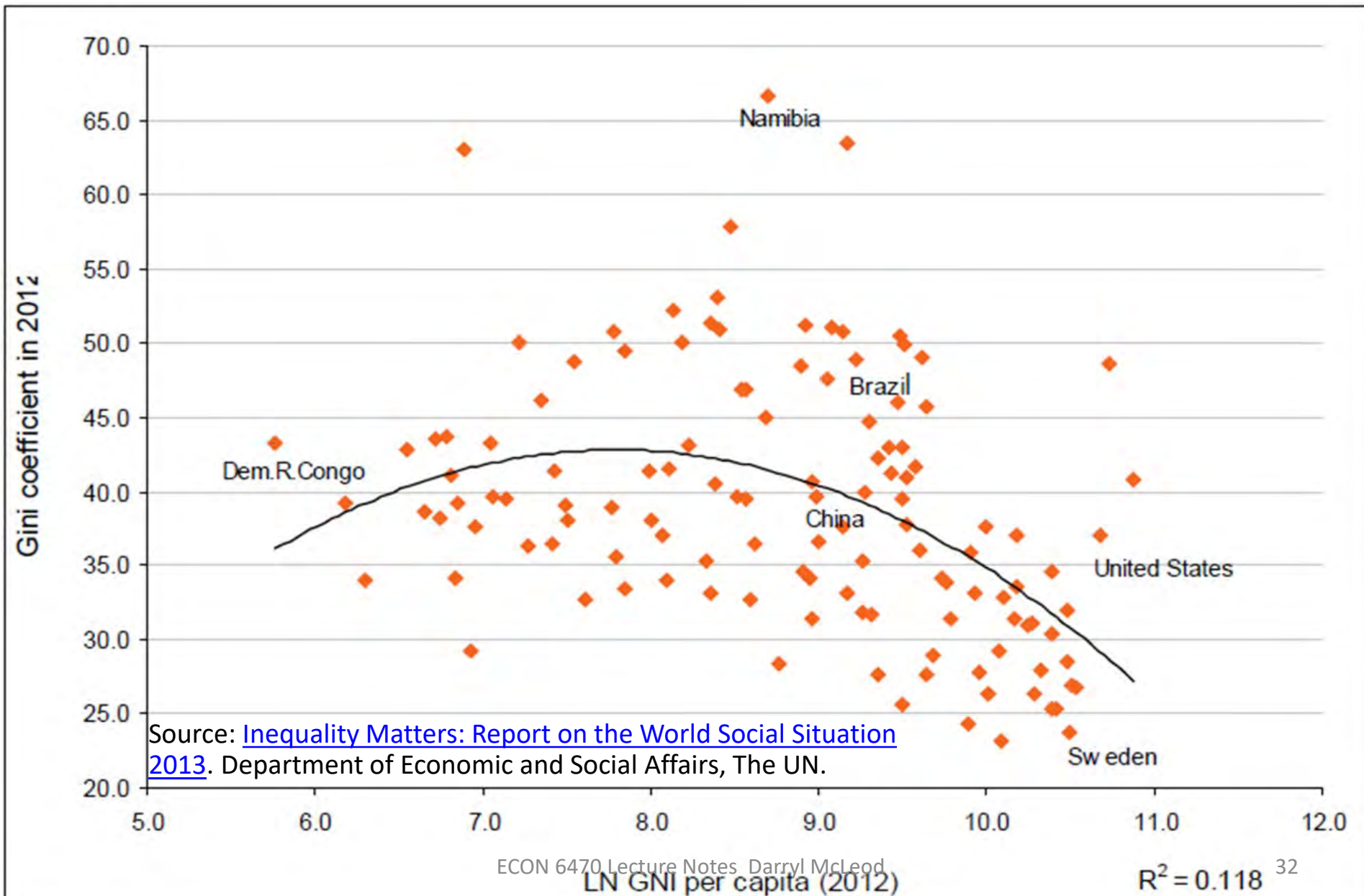
- Raise minimum wage to \$15
- Return to more protectionist regimes
- Close borders to immigration

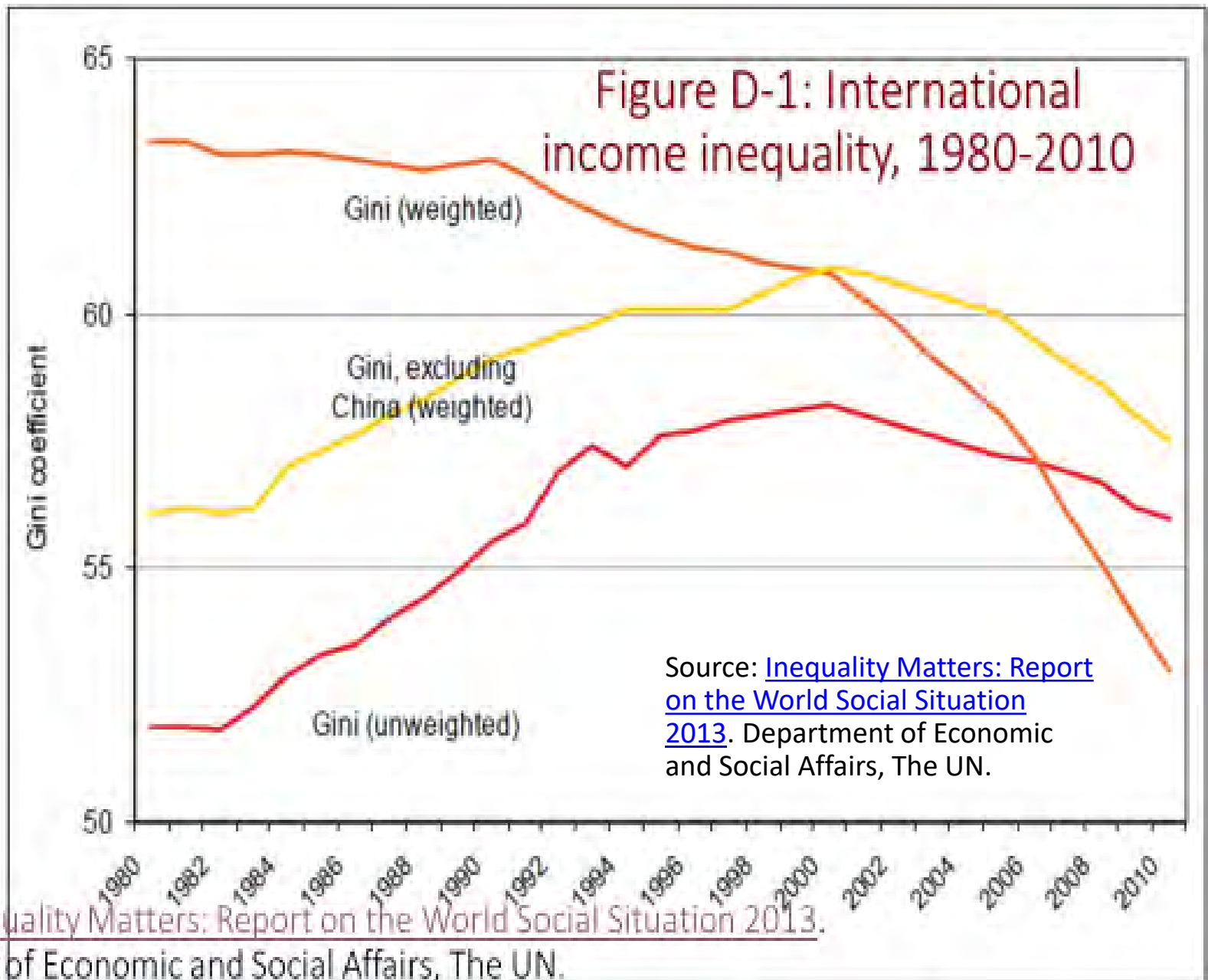
Figure D-1: International income inequality, 1980-2010



Source: [Inequality Matters: Report on the World Social Situation 2013](#).
Department of Economic and Social Affairs, The UN.

Figure D-2: Gini coefficient and GNI per capita by country: aka the Kuznets Curve



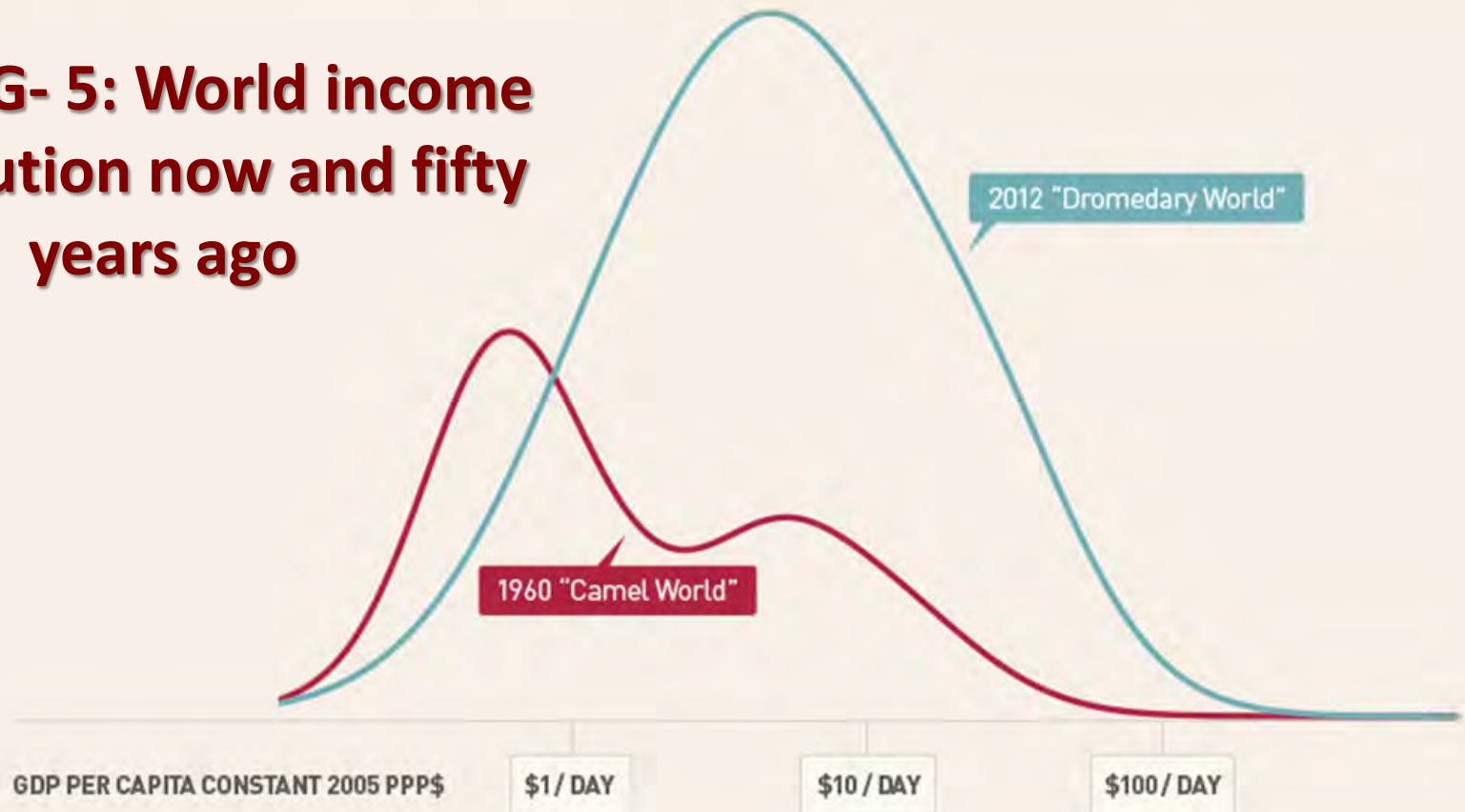


Source: [Inequality Matters: Report on the World Social Situation 2013](#). Department of Economic and Social Affairs, The UN.

THE POVERTY CURVE: FROM TWO HUMPS TO ONE

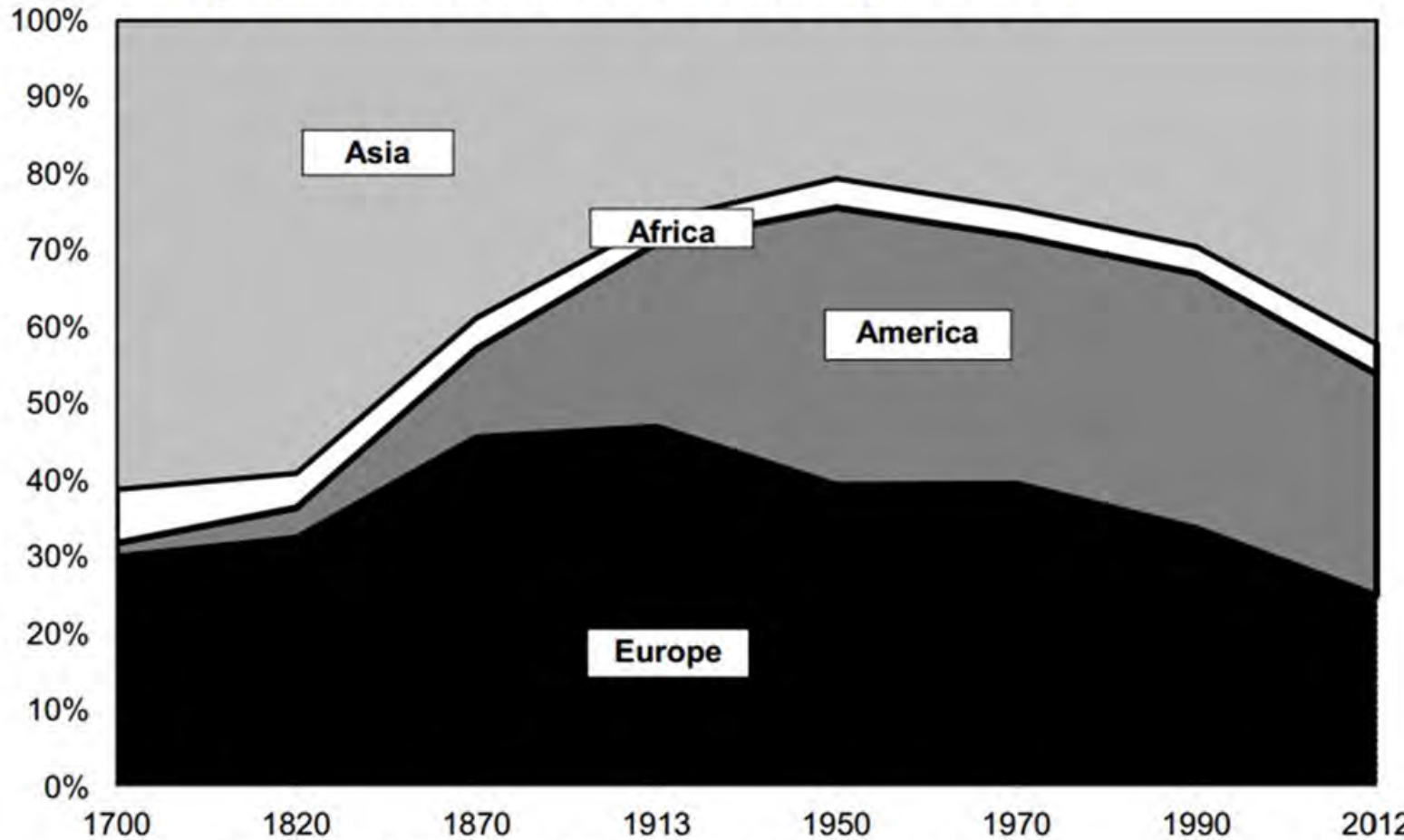
A half-century ago, the distribution of income in the world looked like a camel with two humps. The first hump represented the so-called developing world. The second hump represented people in wealthier countries (mostly in the West). But the world is no longer separated into the West and the rest. More than a billion people have risen out of extreme poverty, and most of humanity is now in the large dromedary-like hump in the middle.

Figure G- 5: World income distribution now and fifty years ago



Source Gates Foundation Letter 2015
[:3 myths that block progress for the poor](#)

Figure 1.1. The distribution of world output 1700-2012



Europe's GDP made 47% of world GDP in 1913, down to 25% in 2012.

Sources and series: see piketty.pse.ens.fr/capital21c.

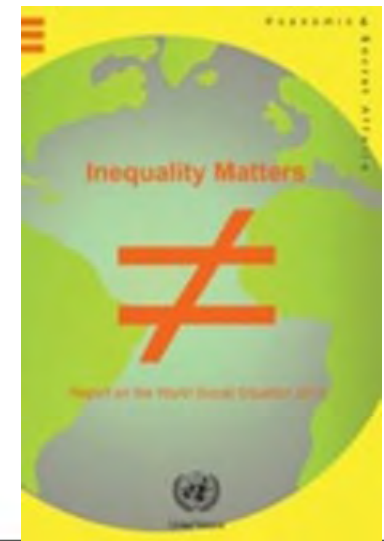
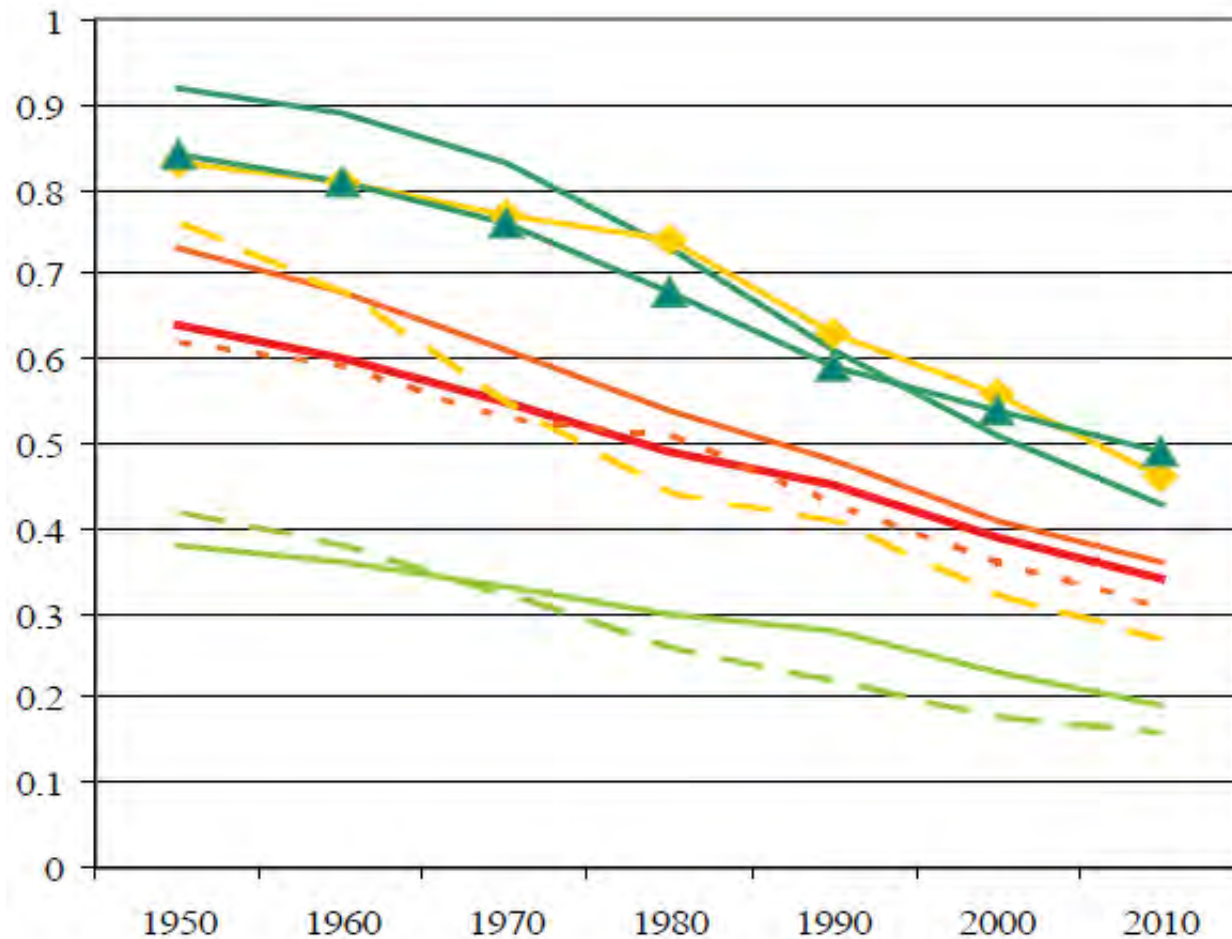
Figure P-1.1
Reversal of
Fortune
reverses post
1950

Source:

Chapter 1

[Piketty 2014](#)

Figure D-4: Gini Coefficient for education



Source: [Inequality Matters: Report on the World Social Situation 2013](http://www.un.org/development/desa/publications/inequality-matters-report-on-the-world-social-situation-2013). Department of Economic and Social Affairs, The UN.

U.S. growth has been remarkably constant for the last 16 years at just under 2%, using the rule of 70, this income per person doubles every 35 years. Since 1950, other nations have begun to catch up....

Origins of Income Differences and World Growth

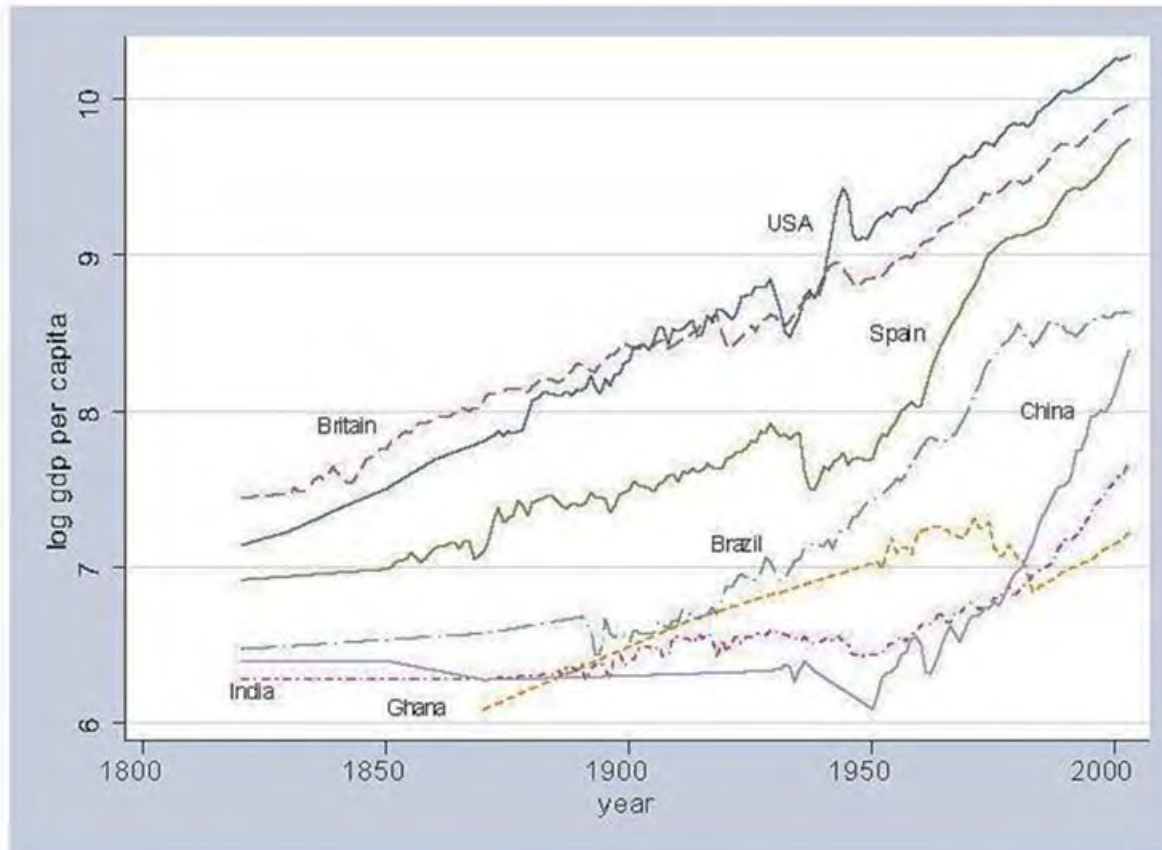


Figure: Evolution of income per capita in various countries.

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- UN DESA (2013). "[Inequality matters. Report on the World Social Situation 2013](#)." New York, United Nations.
- For clever graphics (a GIF??) see [Kharas' World Data](#) Lab's [World Poverty Clock](#), neat but needs to be updated (this October 2019, why in October?) Homi Kharas...