Trends in global income inequality and their political implications

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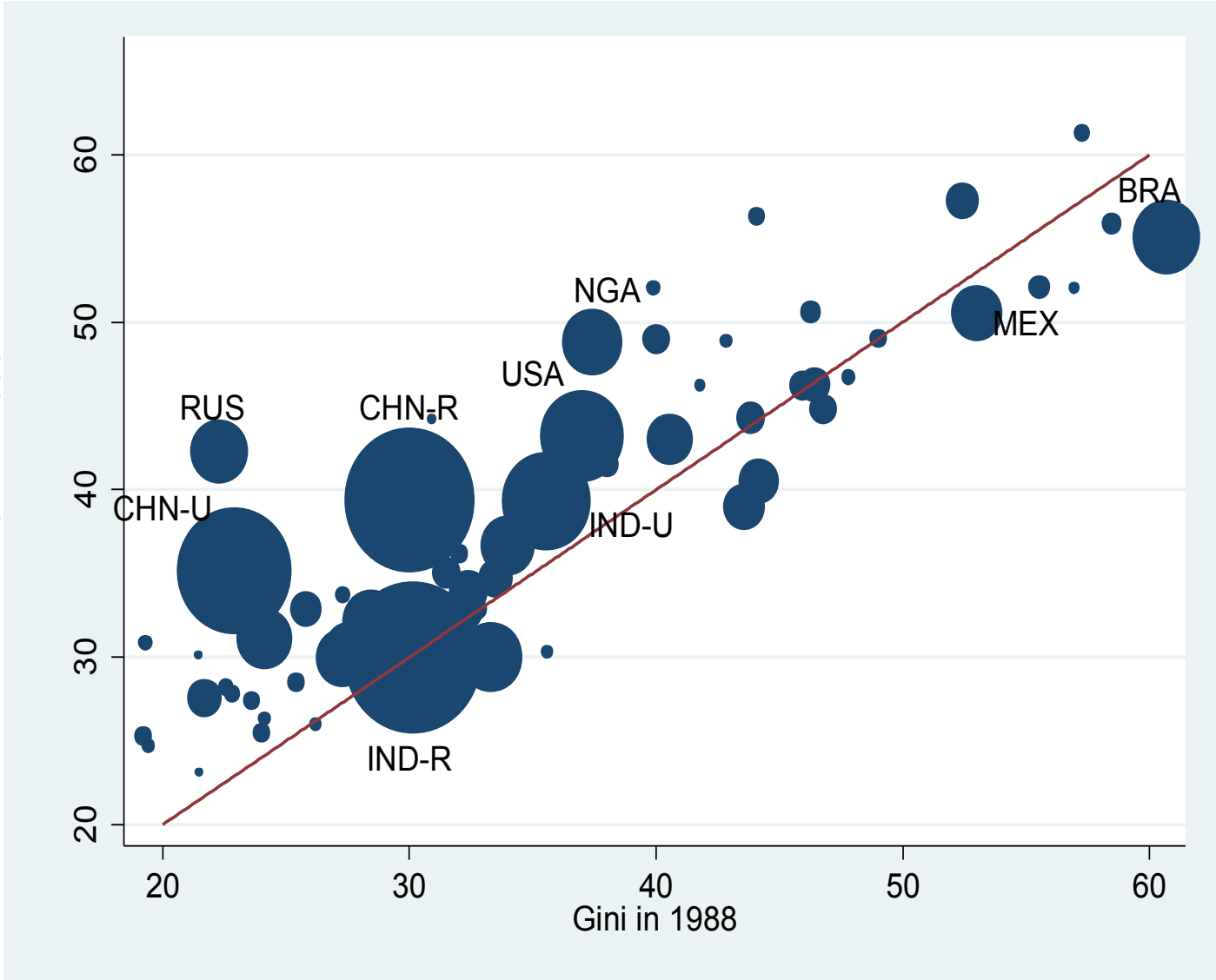May 2015

A. National inequalities mostly increased

Ginis in the late 1980s and around now

	1985-90	After 2008	Change
Average Gini	36.3	38.8	+2.5
Pop-weighted Gini	33.9	37.3	+3.4
GDP-weighted Gini	32.2	36.4	+4.2
Countries with higher Ginis	32.0	36.2	+4.5
Countries with lower Ginis	42.8	39.5	-3.3

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From final-complete3.dta and key_variables_calcul2.do (lines 2 and 3; rest from AlltheGinis)

Ginis in the late 1980s and around now

twoway (scatter bbb aaa if year==2000, mlabel(contcod) msize(vlarge)) (function y=x, range(20 60) legend(off) xtitle(Gini between 1985 and 1990) ytitle(Gini after 2008)) using allginis.dta

Ginis in 1988 and 2008 (population-weighted countries)

# Convergence of countries' Ginis: an empirical observation without theoretical explanation
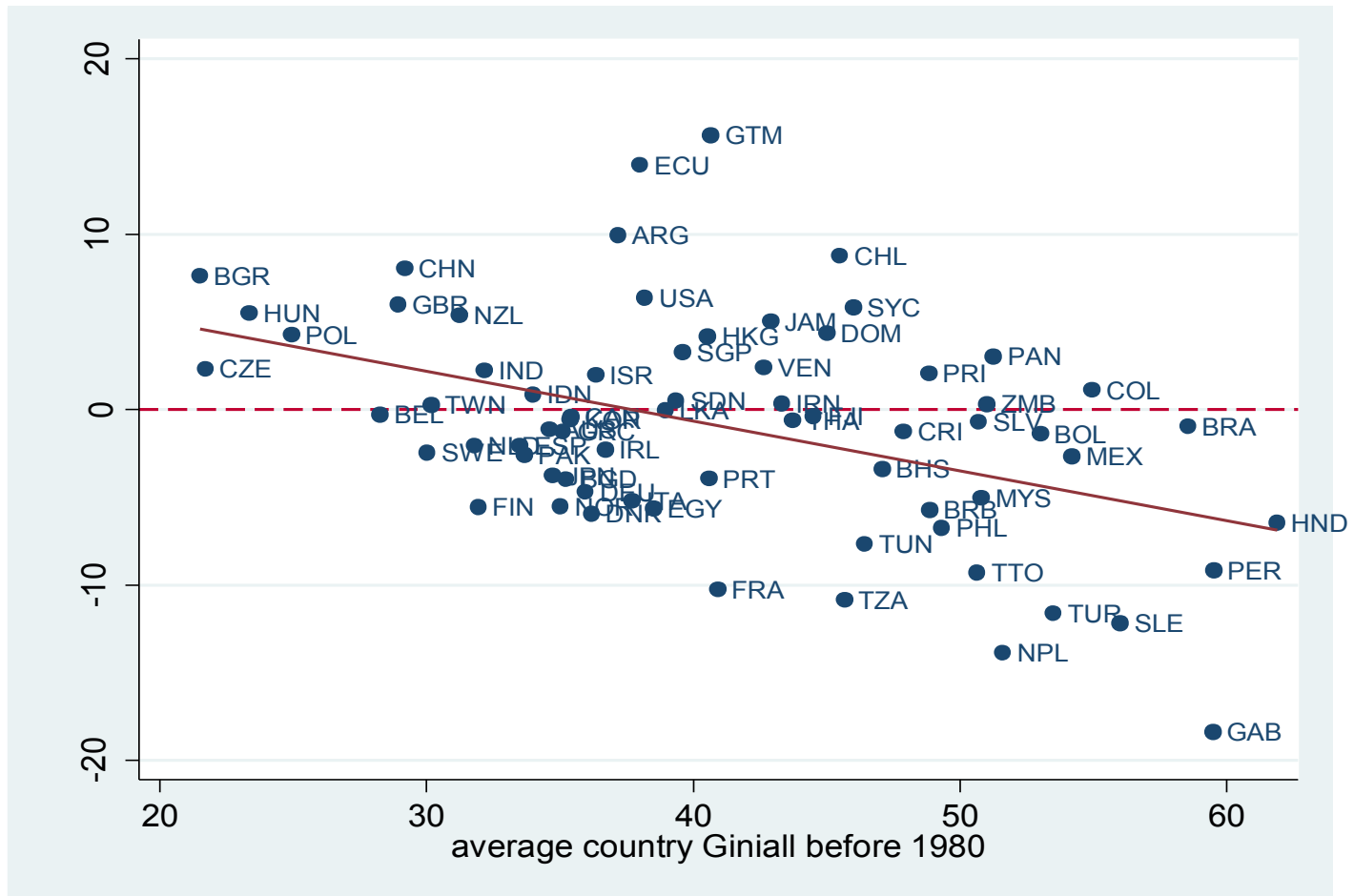
twoway (scatter change_gini gini_pre1980 if nvals==1, mlabel(contcod)) (lfit change_gini gini_pre1980, yline(0, lpattern(dash)) ytitle(change in Gini after 1980)
legend(off))

Using Allthe Ginis.dta

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Market, gross and disposable income Ginis in the US and Germany

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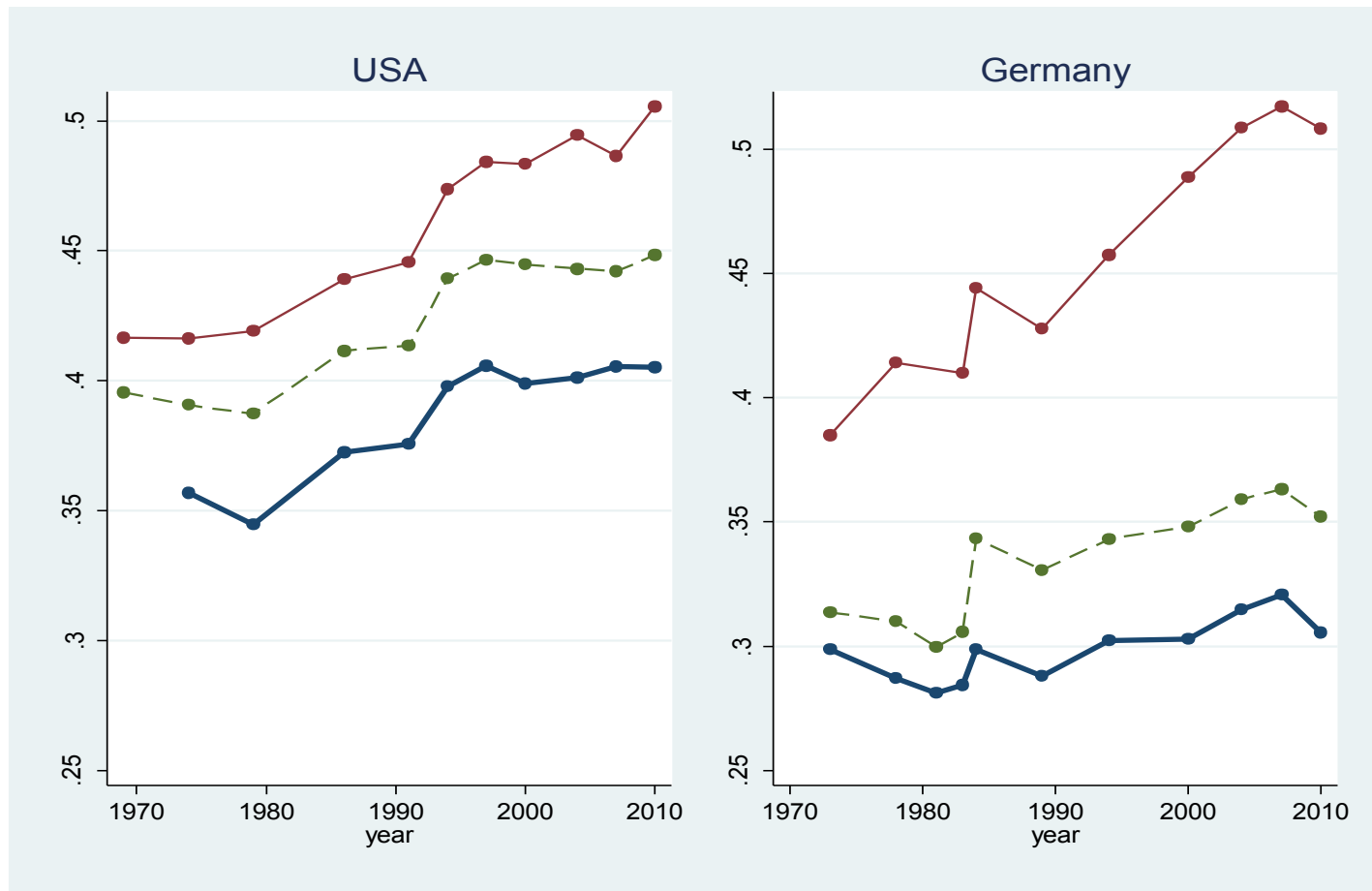
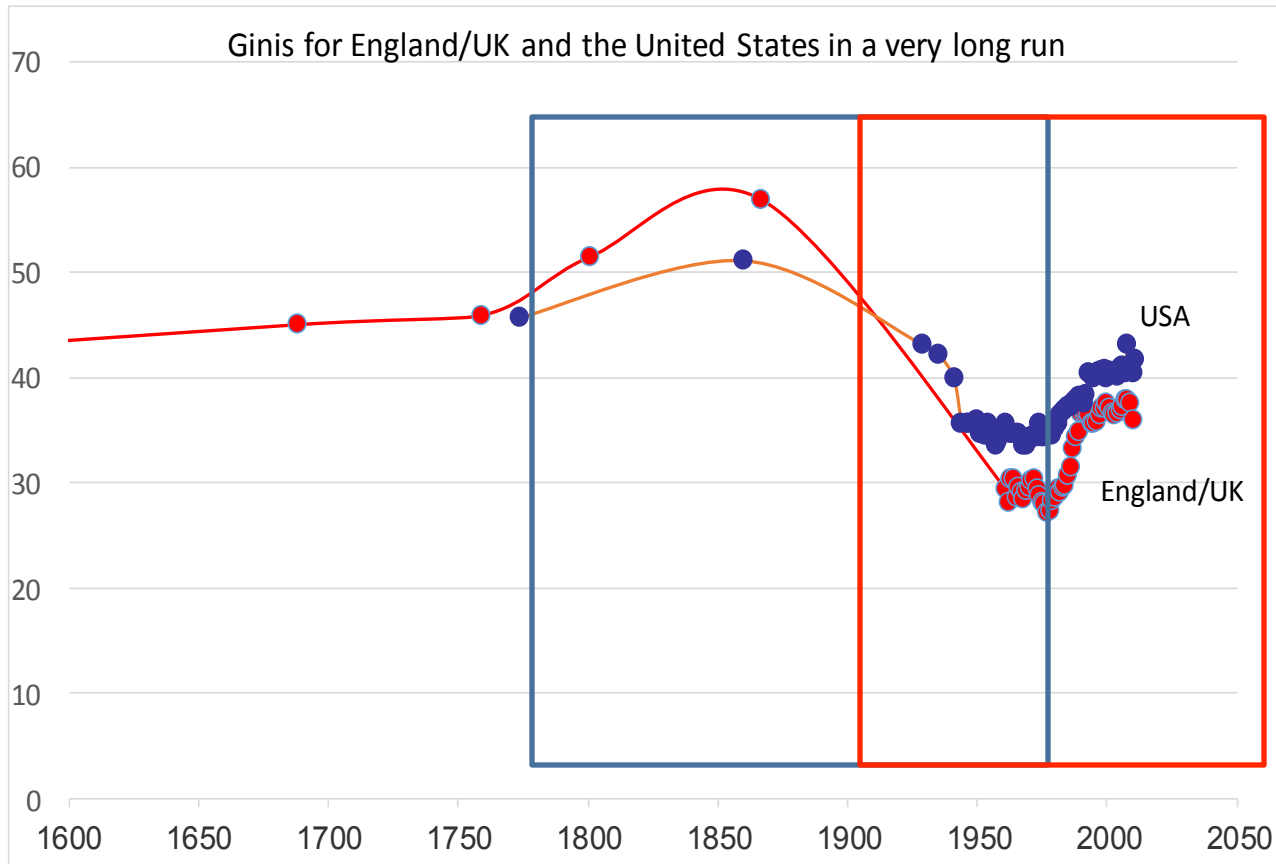# Issues raised by growing national inequalities

- Social separatism of the rich
- Hollowing out of the middle classes
- Inequality as one of the causes of the global financial crisis
- **Perception** of inequality outstrips real increase because of globalization, role of social media and political (crony) capitalism (example of Egypt)
- Hidden assets of the rich

Some long-term examples set in the Kuznets framework

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Inequality (Gini) in the USA 1929-2009
(gross income across households)

From ydisrt/us_and_uk.xls
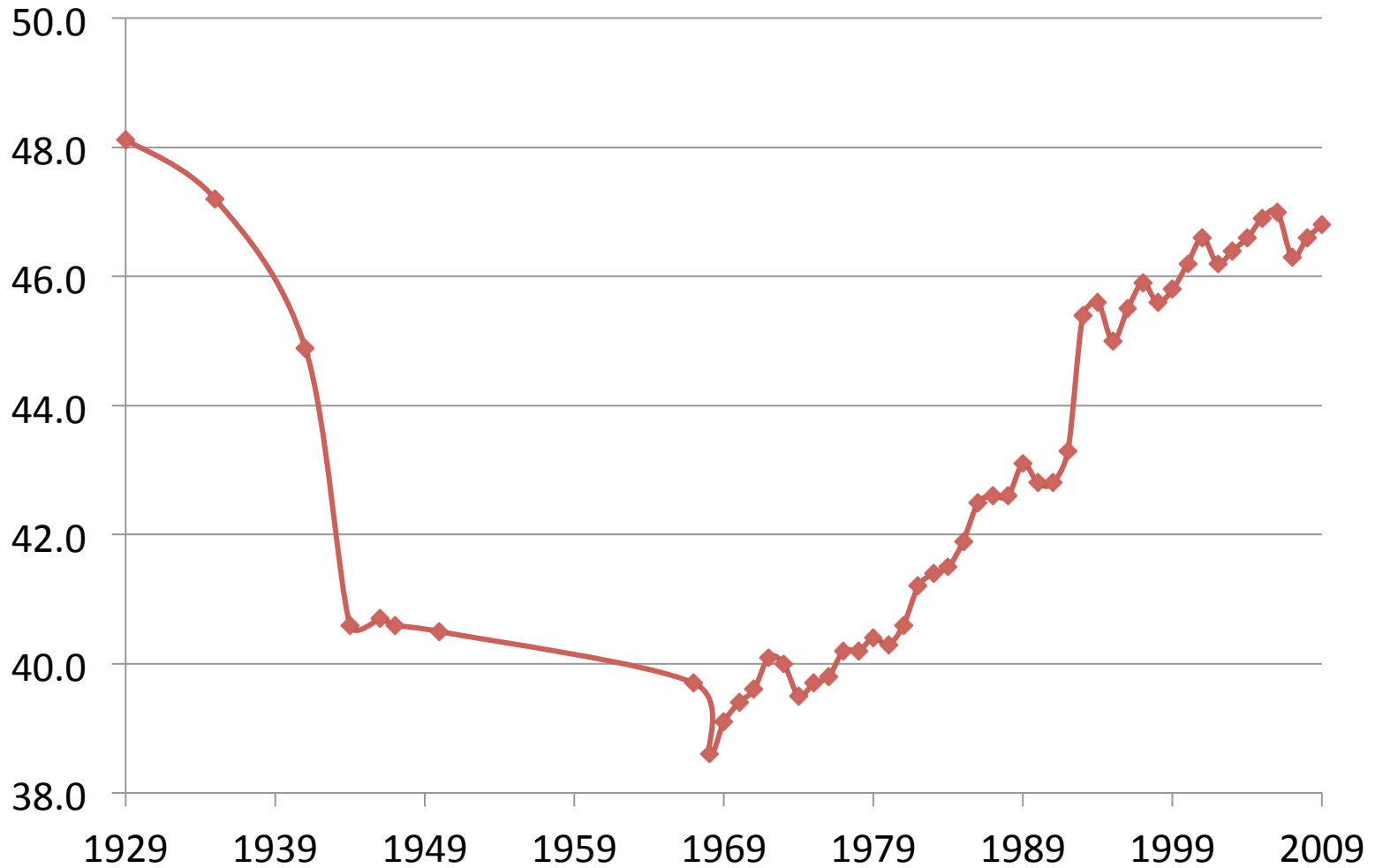
Kuznets and Piketty "frames"

Ginis for England/UK and the United States in a very long run

USA

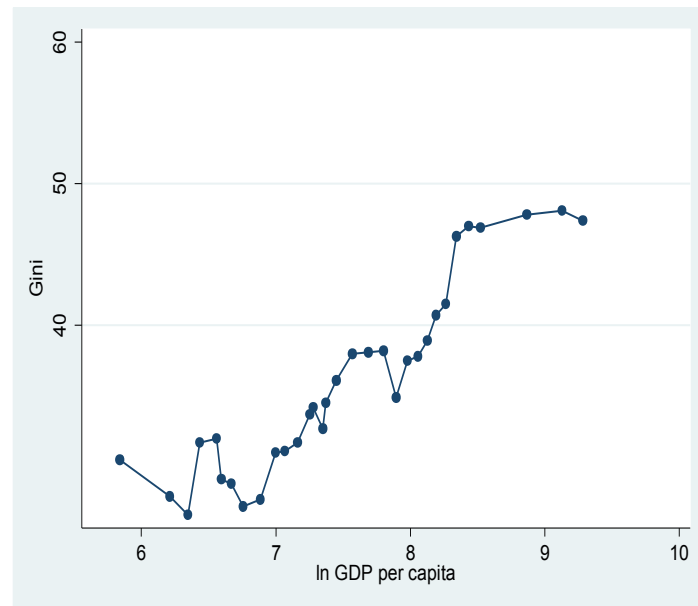England/UK

Contemporary examples of Brazil and China: moving on the descending portion of the Kuznets curve

Brazil 1960-2010
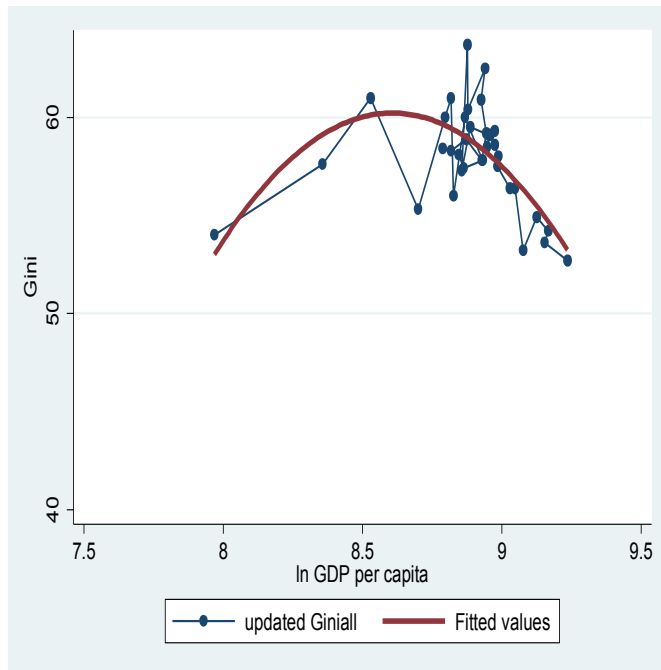
China, 1967-2012

twoway (scatter Giniall lngdpppp if contcod=="BRA", connect(l) ylabel(40(10)60) xtitle(2000 6000 12000) ytitle(Gini) xtitle(ln GDP per capita)) (qfit Giniall lngdpppp if contcod=="BRA", lwidth(thick))
From gdppppreg4.dta

twoway (scatter Giniall lngdpppp if contcod=="CHN" & year>1960, connect(l) ylabel(40(10)60) xtitle(2000 6000 12000) ytitle(Gini) xtitle(ln GDP per capita)) (qfit Giniall lngdpppp if contcod=="CHN" & year>1960, lwidth(thick))
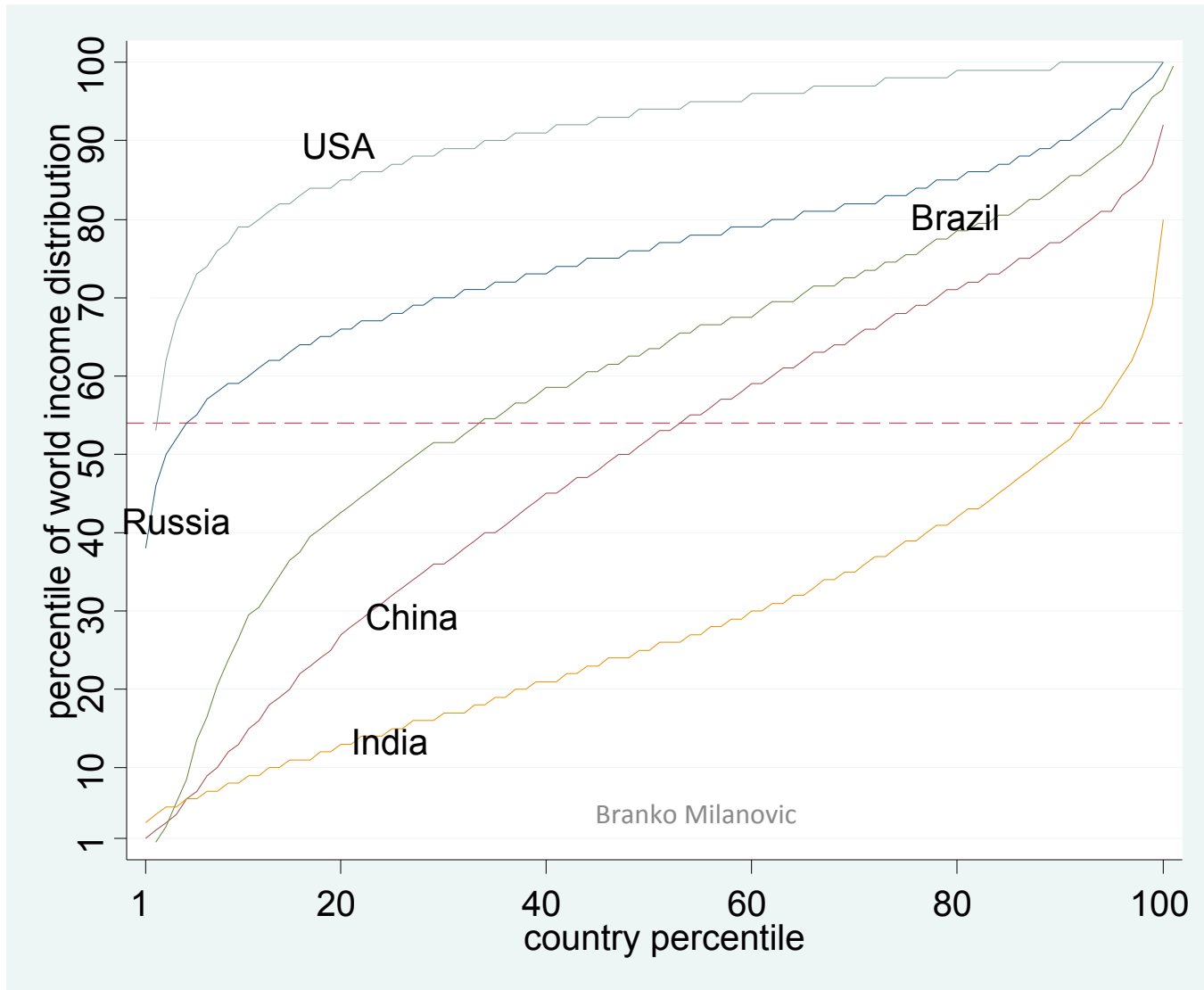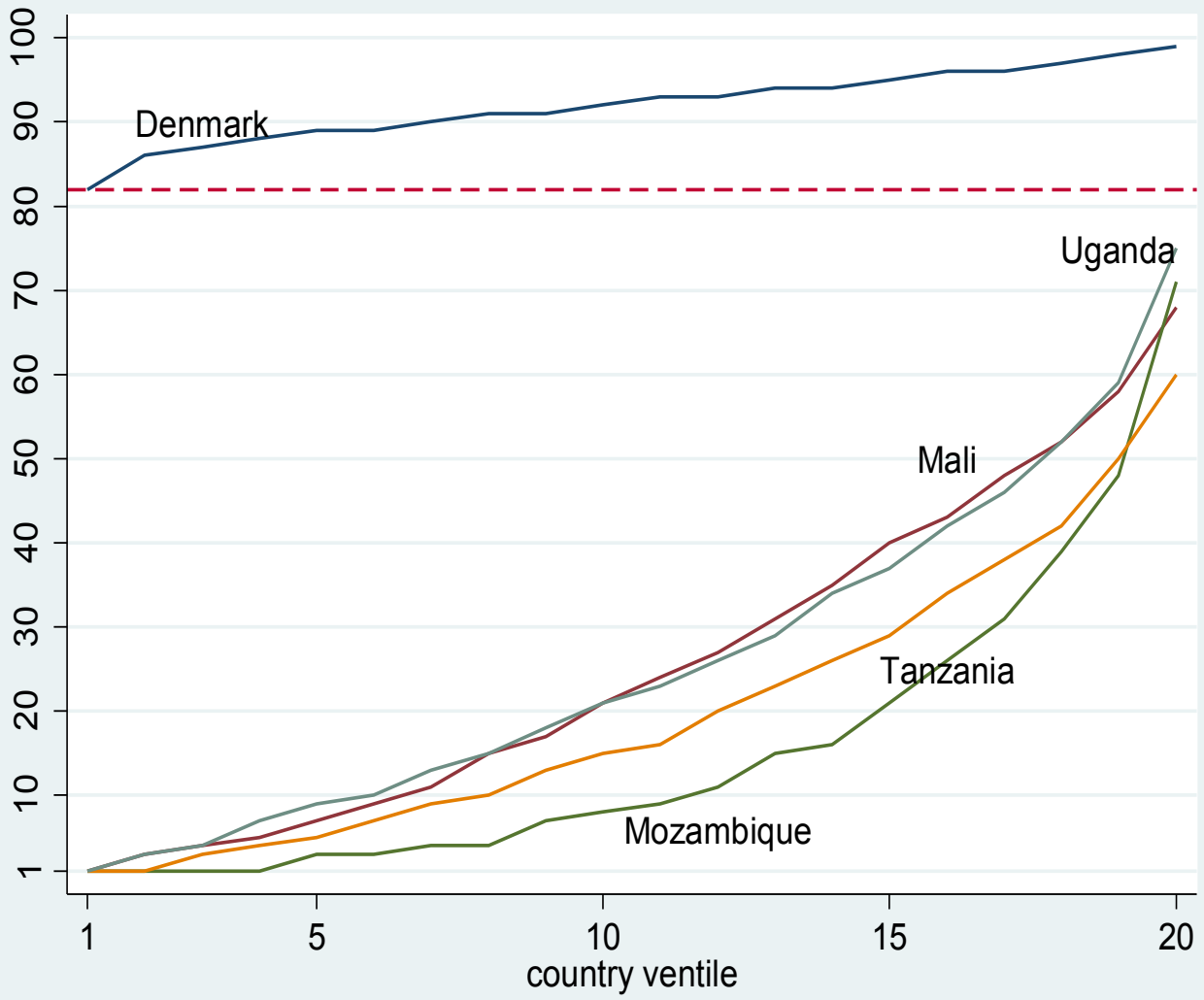From gdppppreg4.dta

B. Between national inequalities remained very high even if decreasing

Distribution of people by income of the country where they live: emptiness in the middle (year 2013; 2011 PPPs)
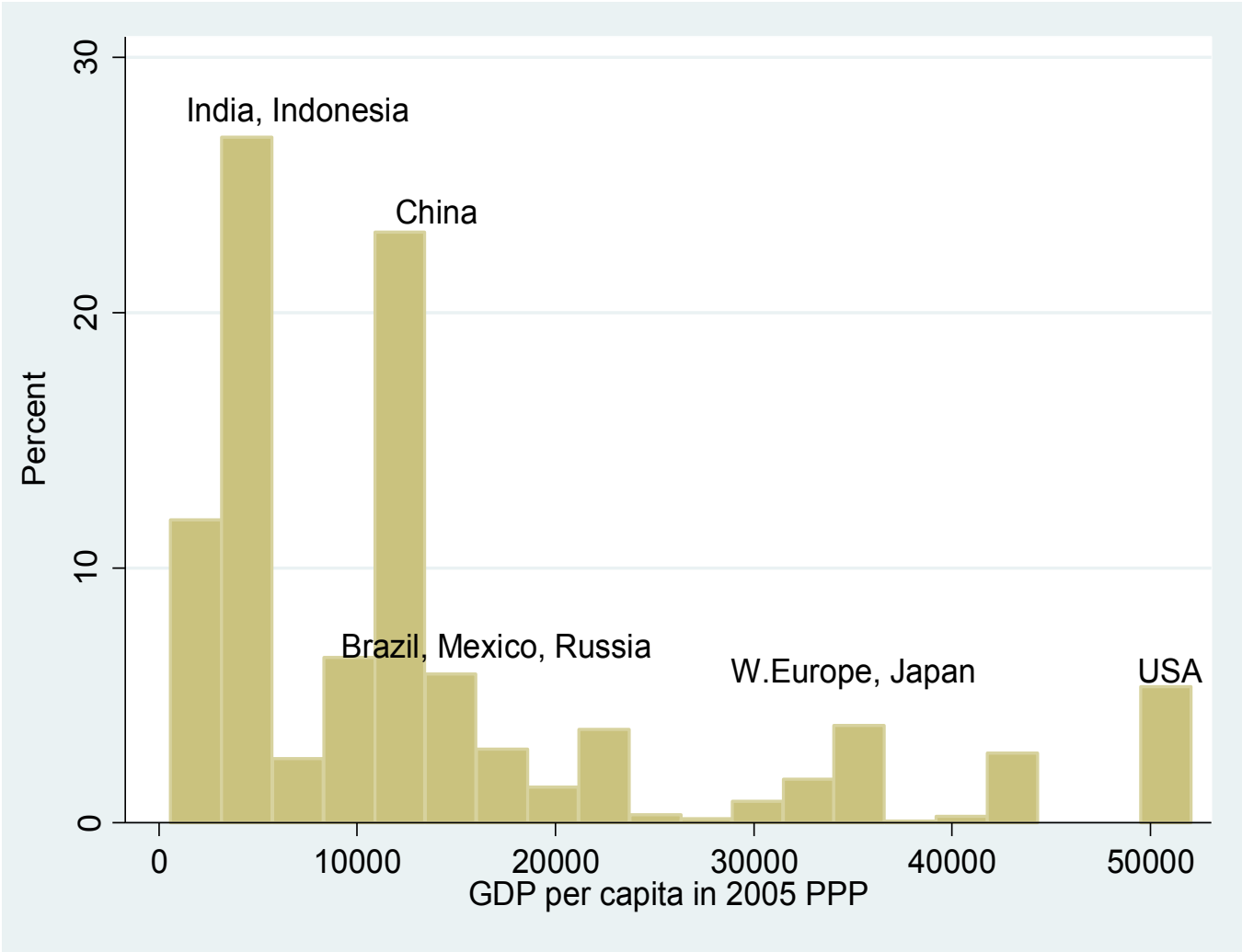
Different countries and income classes in global income distribution in 2008

From calcu08.dta

Countries with more than 1% of their population in top global percentile (above $PPP 72,000 per capita in 2008 prices)

CYP	DEU	IRL	KOR	NLD	TWN	FRA	NOR	GBR	JPN	CAN	LUX	CHE	SGP	USA
2	2	2	2	2	2	3	3	5	6	7	7	9	9	12

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From summary_data.xls
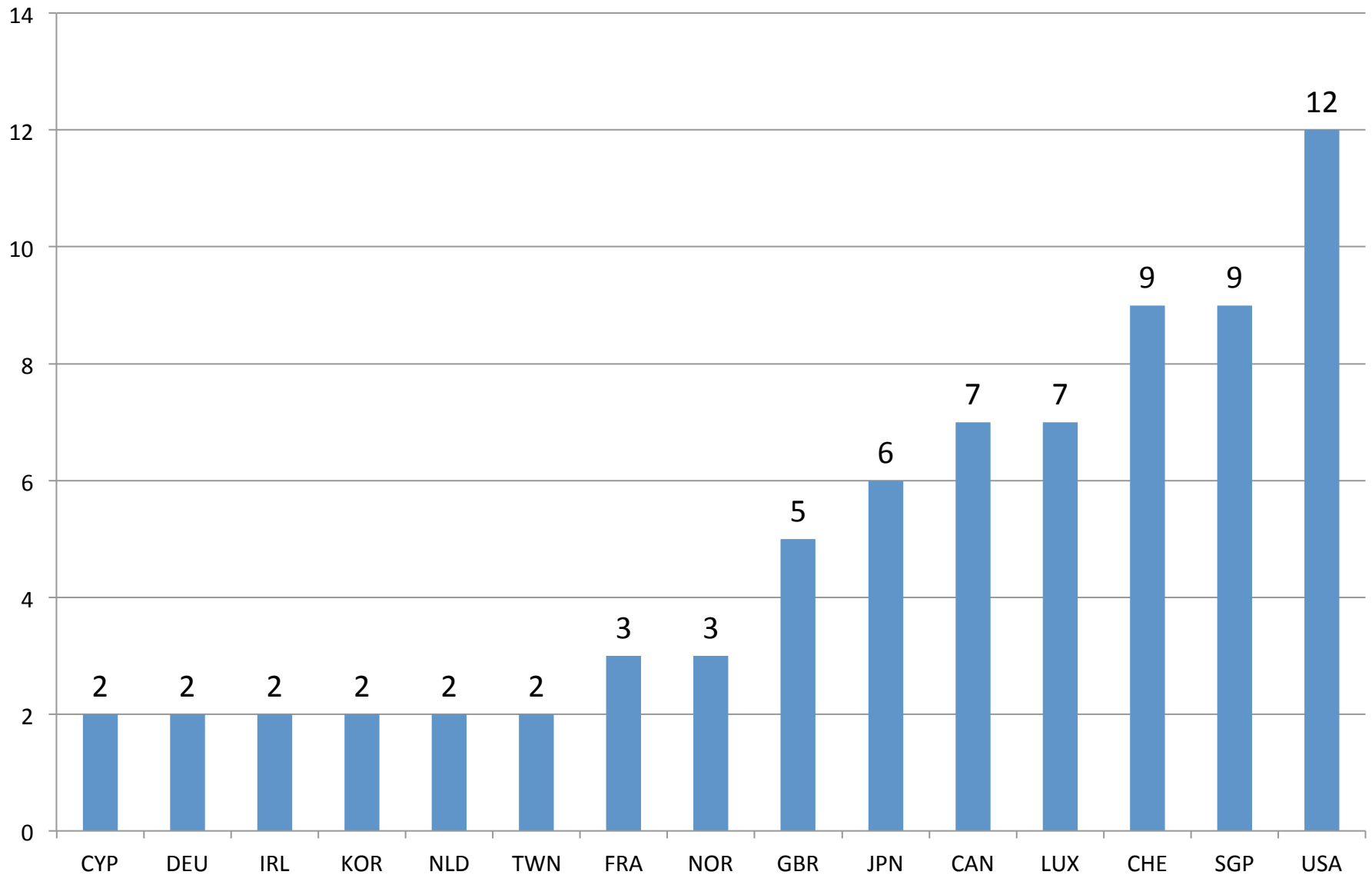
C. Global inequality is the product of within- and between-county inequalities
How did it change in the last 60 years?

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Essentially, global inequality is determined by three forces

- What happens to within-country income distributions?

- Is there a catching up of poor countries?

- Are mean incomes of populous & large countries (China, India) growing faster or slower that the rich world?

Global and international inequality after World War II
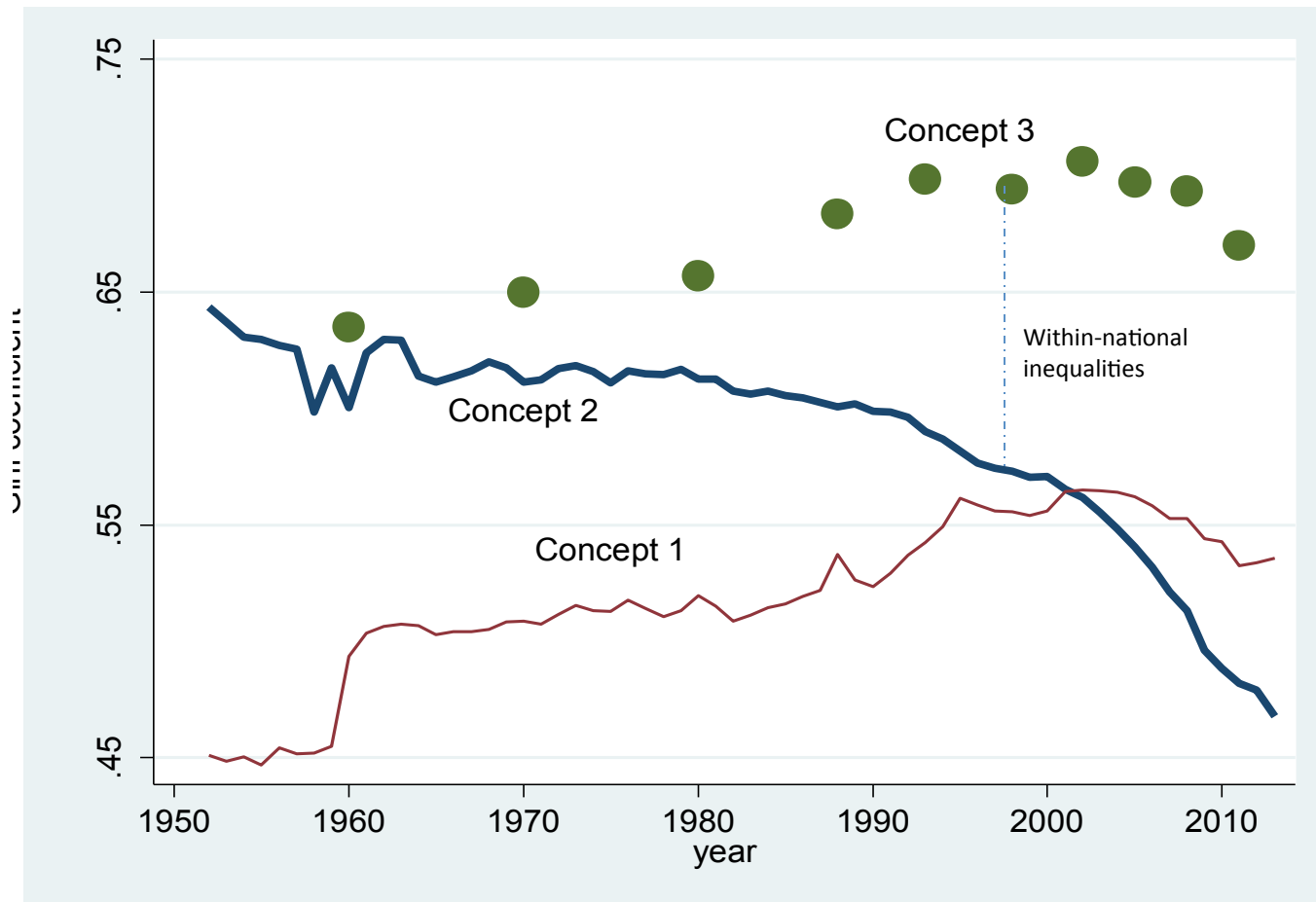
Concept2: 1960-1980 from Bourguignon & Morrisson

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Concept 2 inequality with 2011 PPPs and without China and India
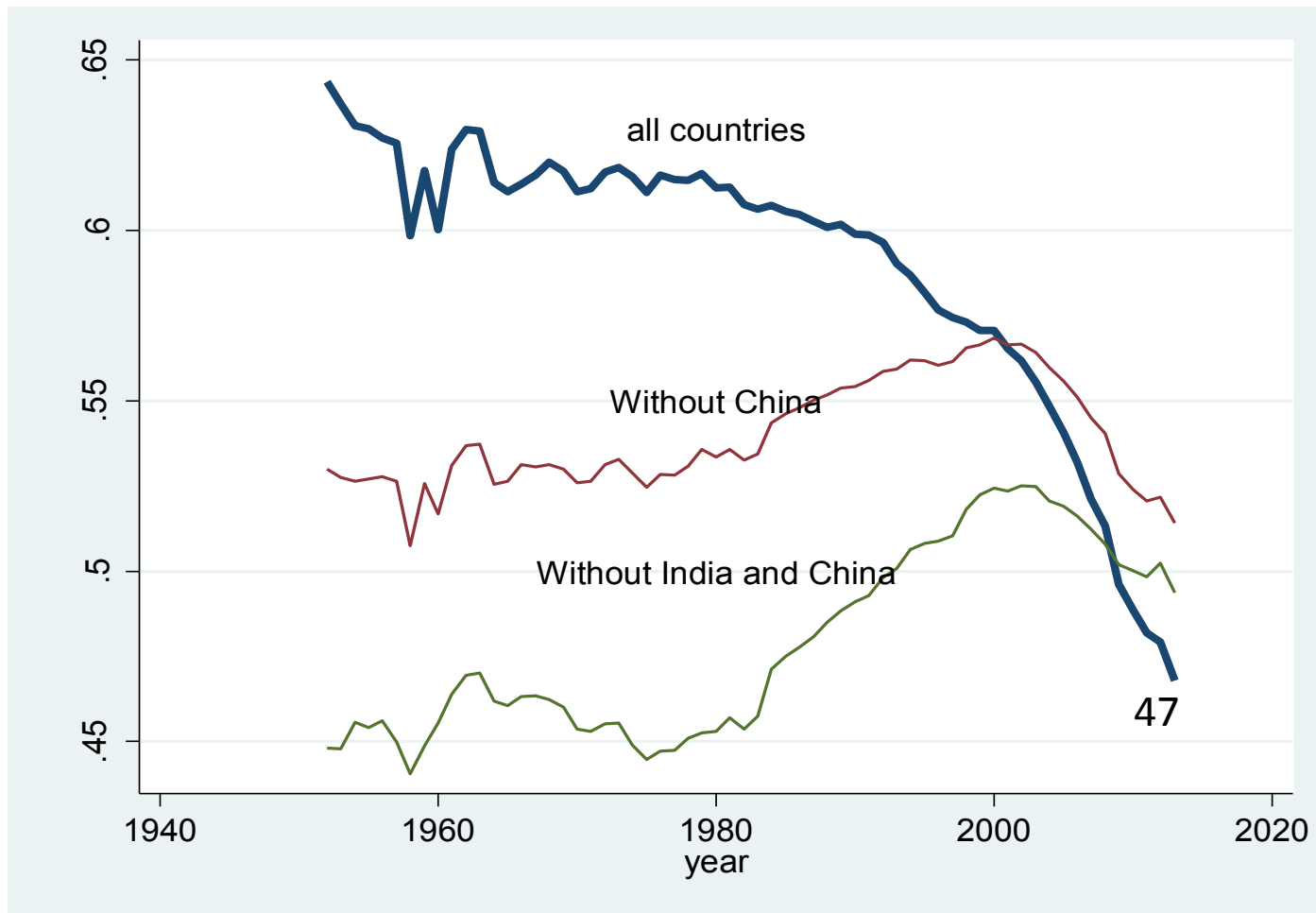

all countries

Without China

Without India and China

47

Population coverage

	1988	1993	1998	2002	2005	2008	2011
Africa	48	76	67	77	78	78	70
Asia	93	95	94	96	94	98	96
E.Europe	99	95	100	97	93	92	87
LAC	87	92	93	96	96	97	97
WENAO	92	95	97	99	99	97	96
World	87	92	92	94	93	94	92

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Non-triviality of the omitted countries (Maddison vs. WDI)

Three important technical issues in the measurement of global inequality

- The ever-changing PPPs in particular for populous countries like China and India

- The increasing discrepancy between GDP per capita and HS means, or more importantly consumption per capita and HS means

- Inadequate coverage of top 1% (related also to the previous point)

The issue of PPPs

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The effect of the new PPPs on countries' GDP per capita (compared to the US level)

gdppc in 2011ppp

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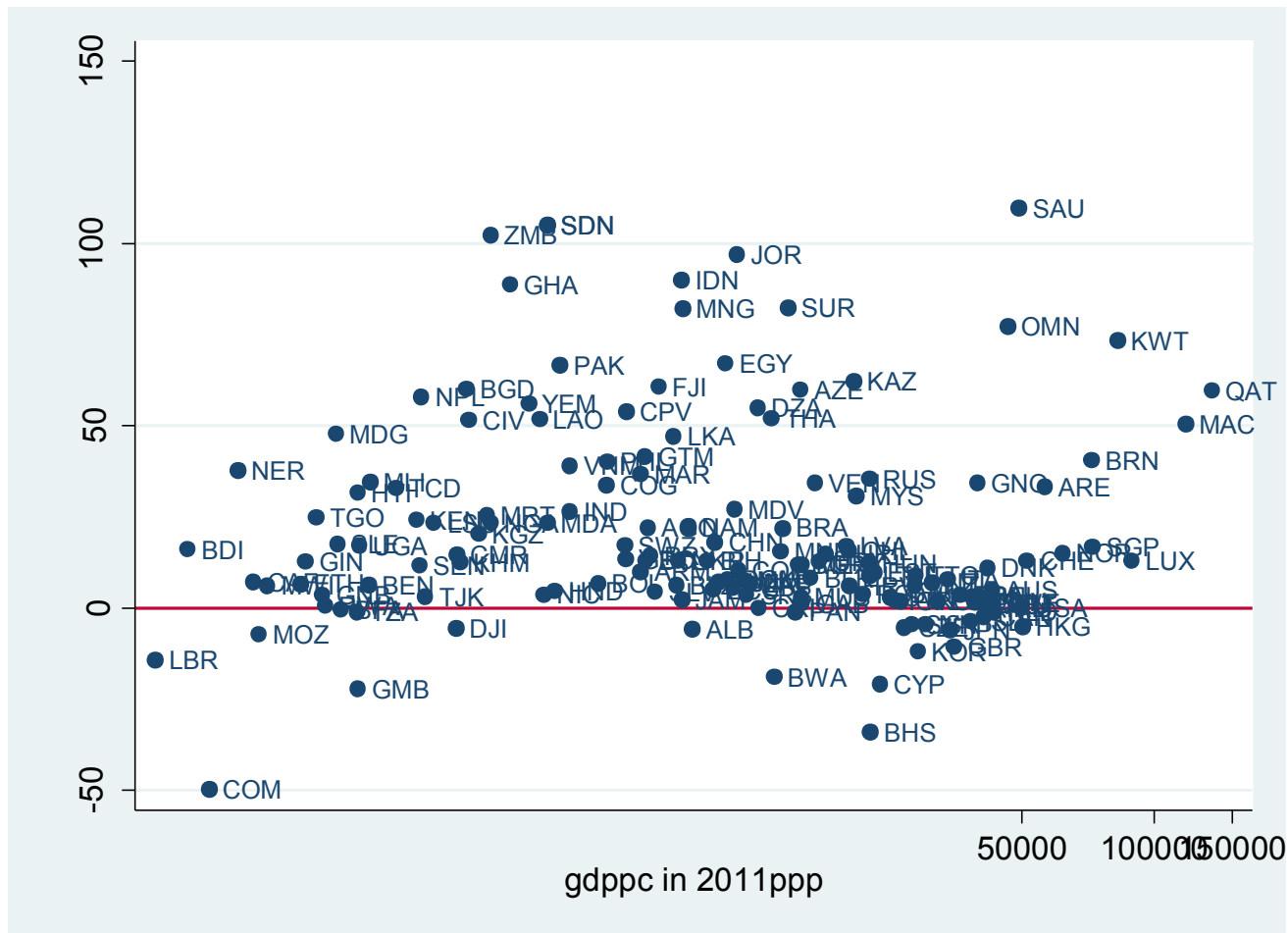
The effect of new PPPs

Country	GDP per capita increase (in %)	GDP per capita increase population-weighted (in %)
Indonesia	90	---
Pakistan	66	---
Russia	35	---
India	26	---
China	17	---
Africa	23	32
Asia	48	33
Latin America	13	17
Eastern Europe	16	24
WENAO	3	2

Global income inequality using nominal dollars
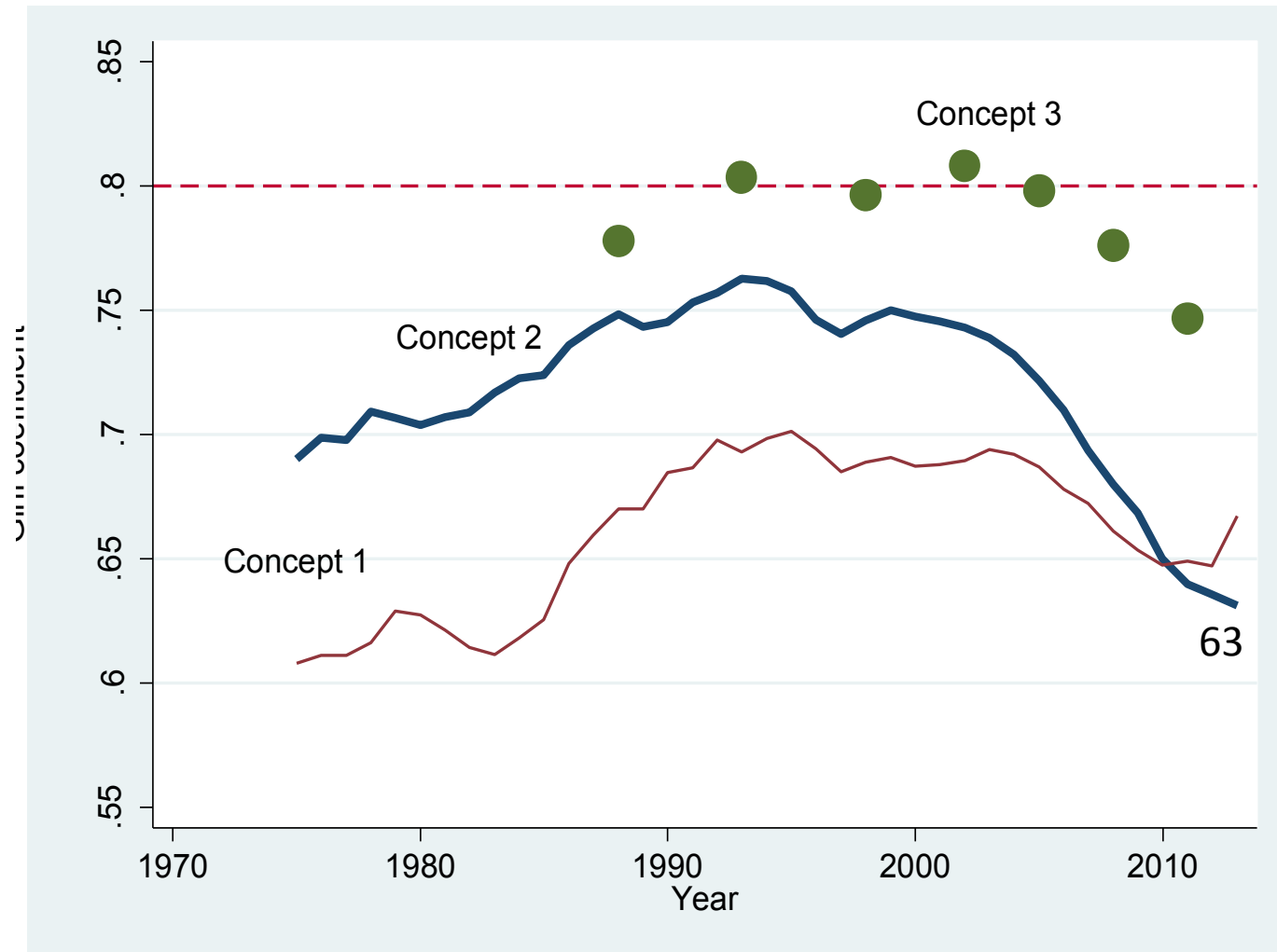
The gap between national accounts and household surveys

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Both the level and change: Use of GDP per capita gives a lower lever and a faster decrease of global inequality

Defines.do based on gdppppreg5.dta
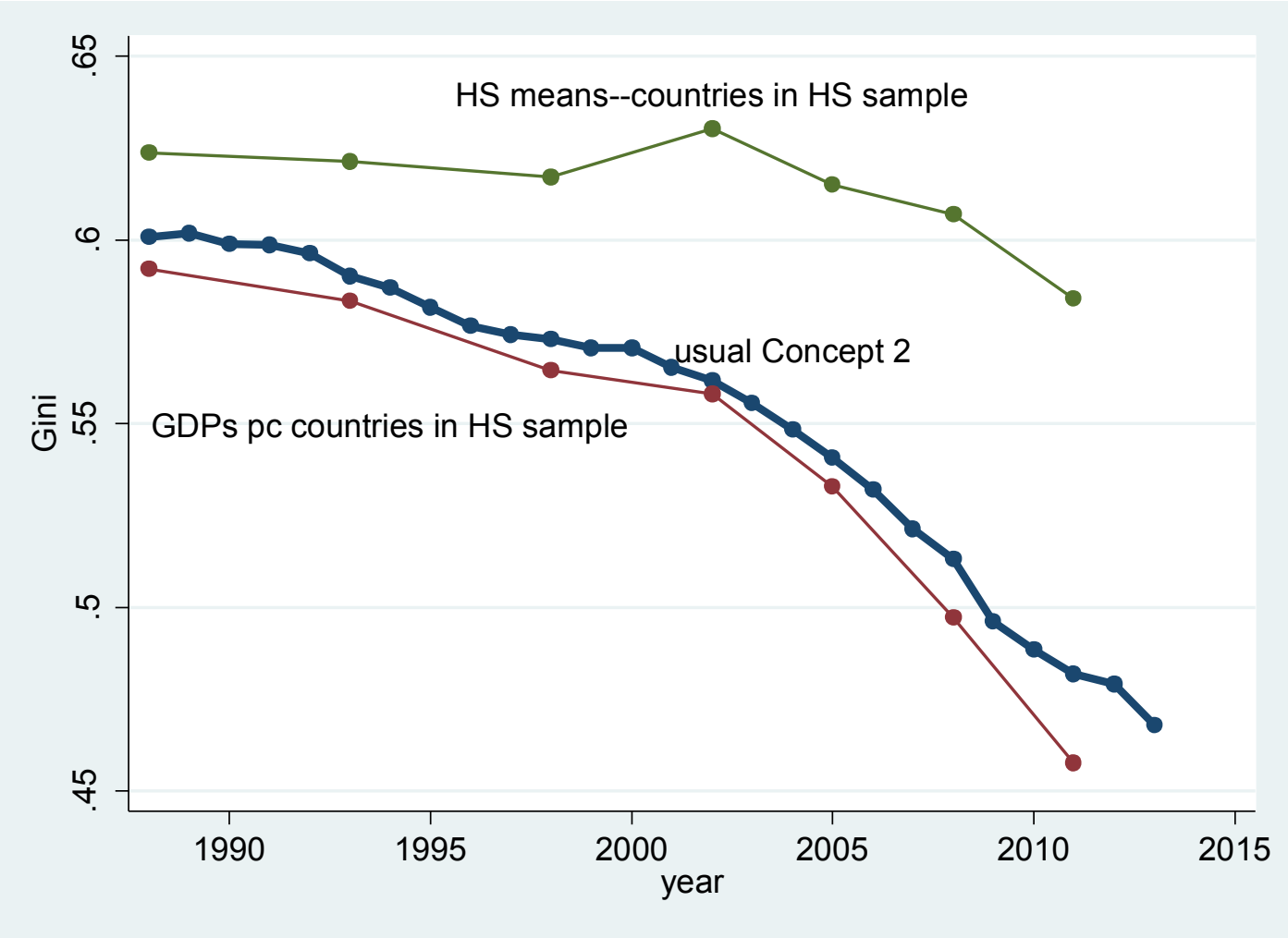
How global inequality changes with different definitions of income

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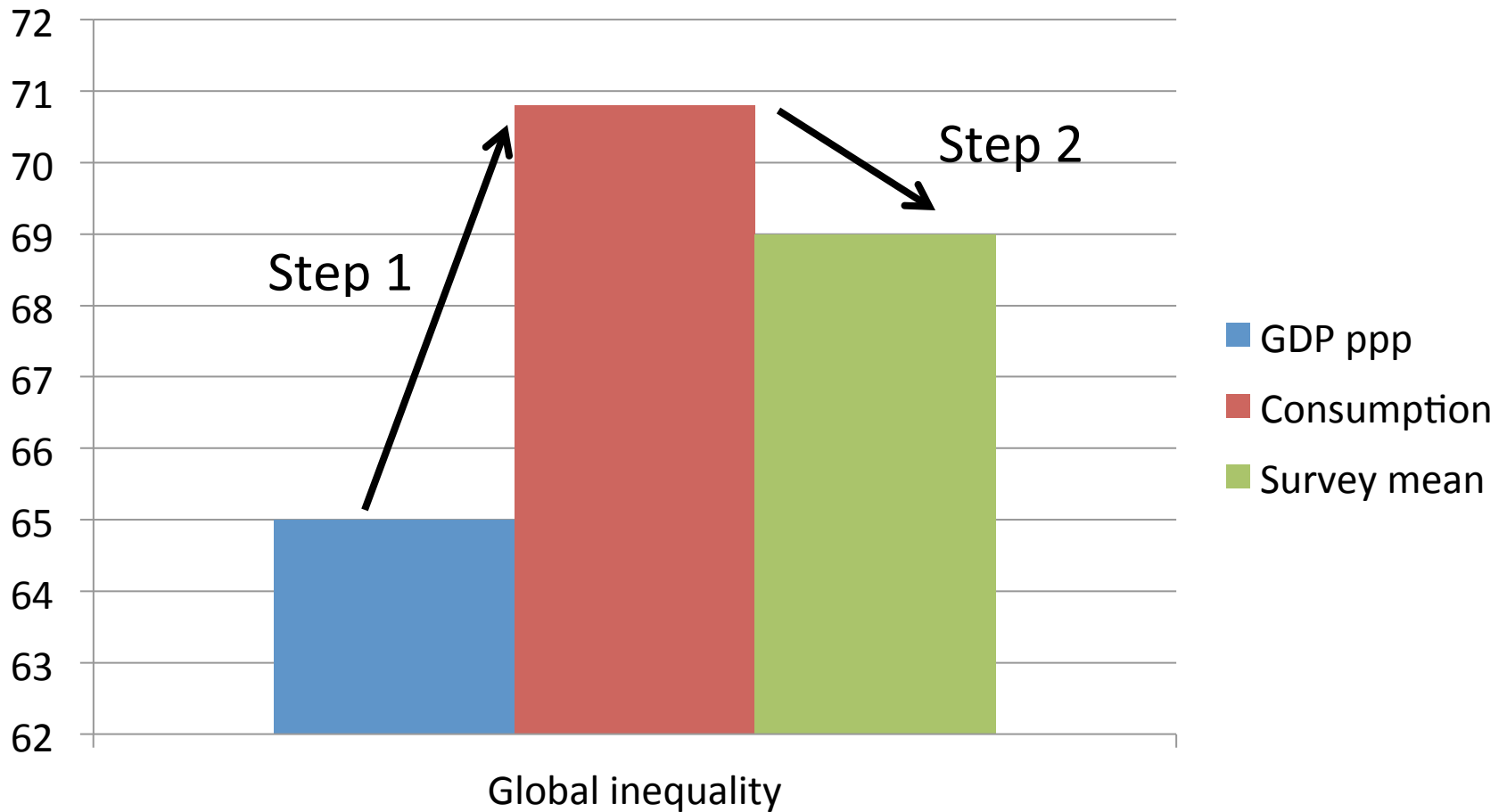
Step 1 driven by low consumption shares in China and India
(although on an unweighted base C/GDP decreases with GDP)

C/GDP from national accounts in year 2008

USA

India

China

GDP per capita in ppp
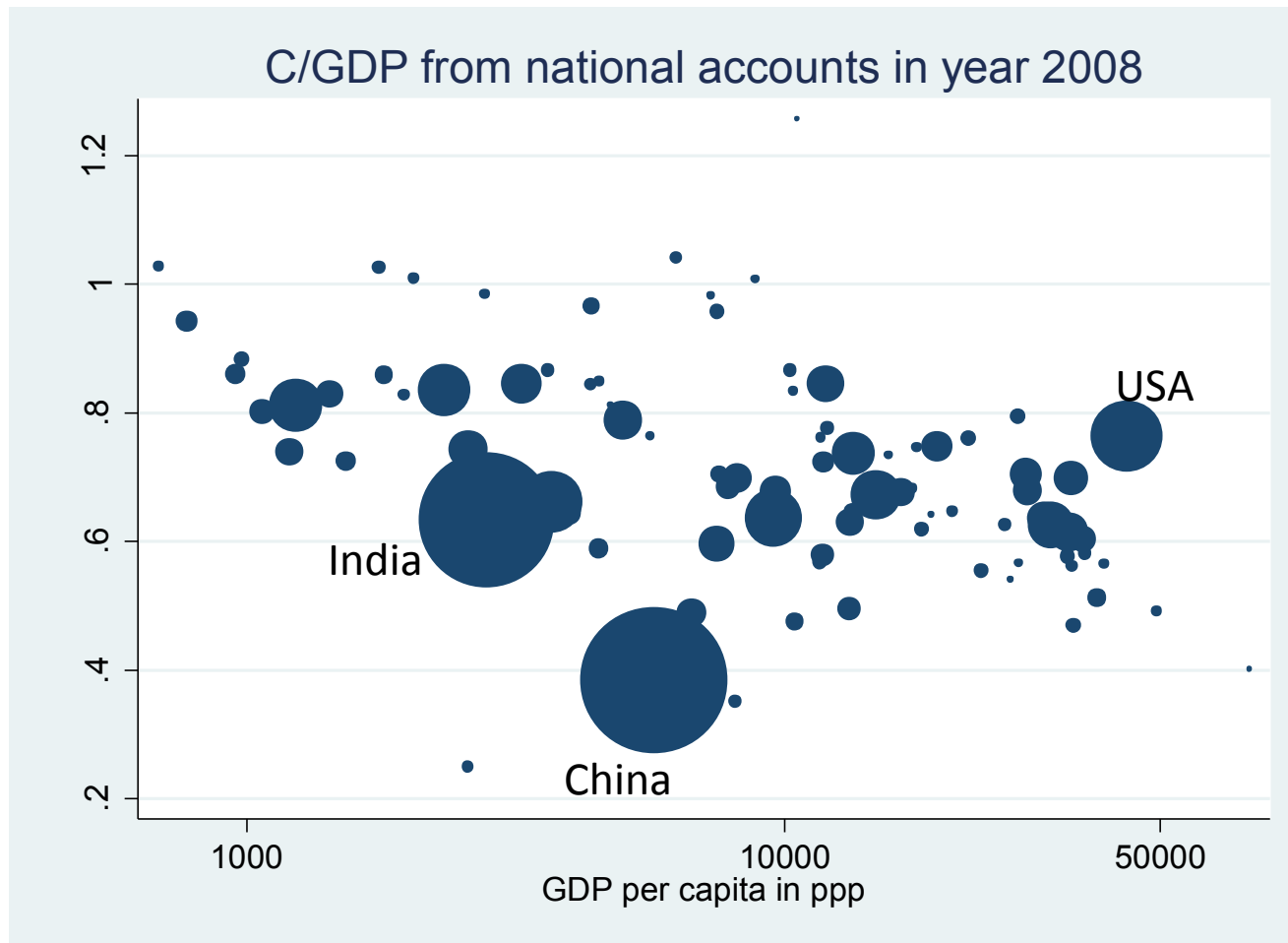
twoway scatter cons_gdp gdpppp if group==1 & cons_gdp<1.4 [w=totpop], xscale(log) xtitle(GDP per capita in ppp) xlabel(1000 10000 50000)
ytitle(share of consumption in GDP) title(C/GDP from national accounts in year 2008)
using final08,dta

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Step 2. No clear (weighted) relationship between survey capture and NA consumption

survey mean/consumption from national account in year 2008

China

India

USA

GDP per capita in ppp
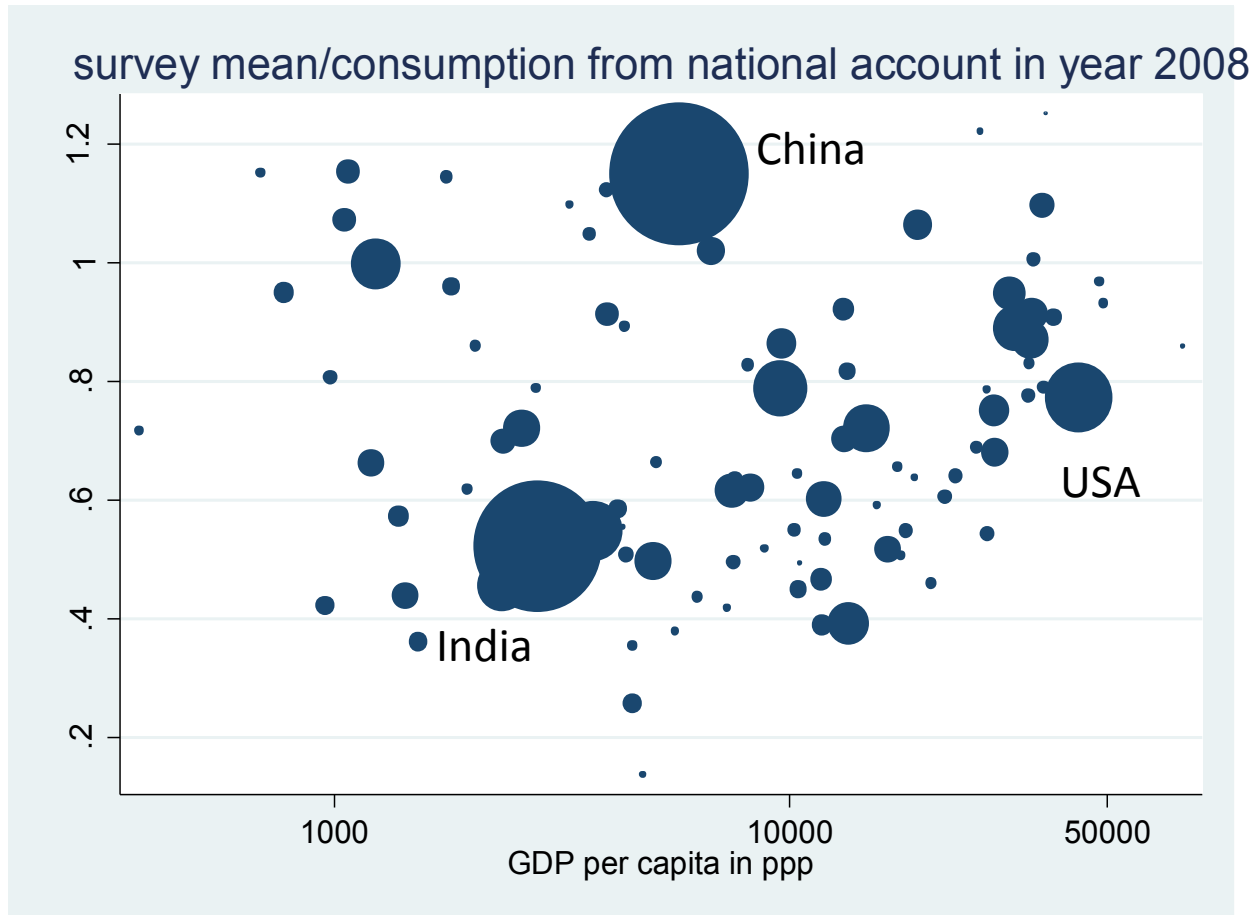
twoway scatter scale2 gdpppp if group==1 & scale2<1.5 [w=totpop], xscale(log) xtitle(GDP per capita in ppp)
xlabel(1000 10000 50000) ytitle(survey mean over NA consumption) title(survey mean/consumption from national
account in year 2008)

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The issue of top underestimation

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Rising HS/NA gap and top underestimation

- If these two problems are really just one & the same problem.

- Assign the entire positive (NA consumption – HS mean) gap to national top deciles

- Use Pareto interpolation to "elongate" the distribution

- No *a priori* guarantee that global Gini will increase

Gini: accounting for missing top incomes

	1988	**1993**	**1998**	**2003**	**2008**
Surveys only	72.5	71.8	71.9	71.9	69.6
NAC instead of survey mean	71.5	70.5	70.6	70.7	67.6
NAC with Pareto	71.8	70.8	71.0	71.1	68.0
NAC with top-heavy Pareto	76.3	76.1	77.2	78.1	75.9

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The results of various adjustments

- Replacing HS survey mean with private consumption from NA reduces Gini by 1 to 2 points

- Elongating such a distribution (that is, without changing the consumption mean) adds less than ½ Gini point

- But doing the top-heavy adjustment (NA-HS gap ascribed to top 10% only) adds between 5 and 7 Gini points

- It also almost eliminates the decrease in global Gini between 1988 and 2008

How Global Gini in 2008 changes with different adjustments

Increase in global Gini with each "marginal" adjustment

Allocate the gap proportionally along each national income distributions

Allocate the gap proportionately and add a Pareto "elongation"

Allocate the gap to top 10% and add Pareto "elongation"

10
8
6
4
2
0
-2
-4

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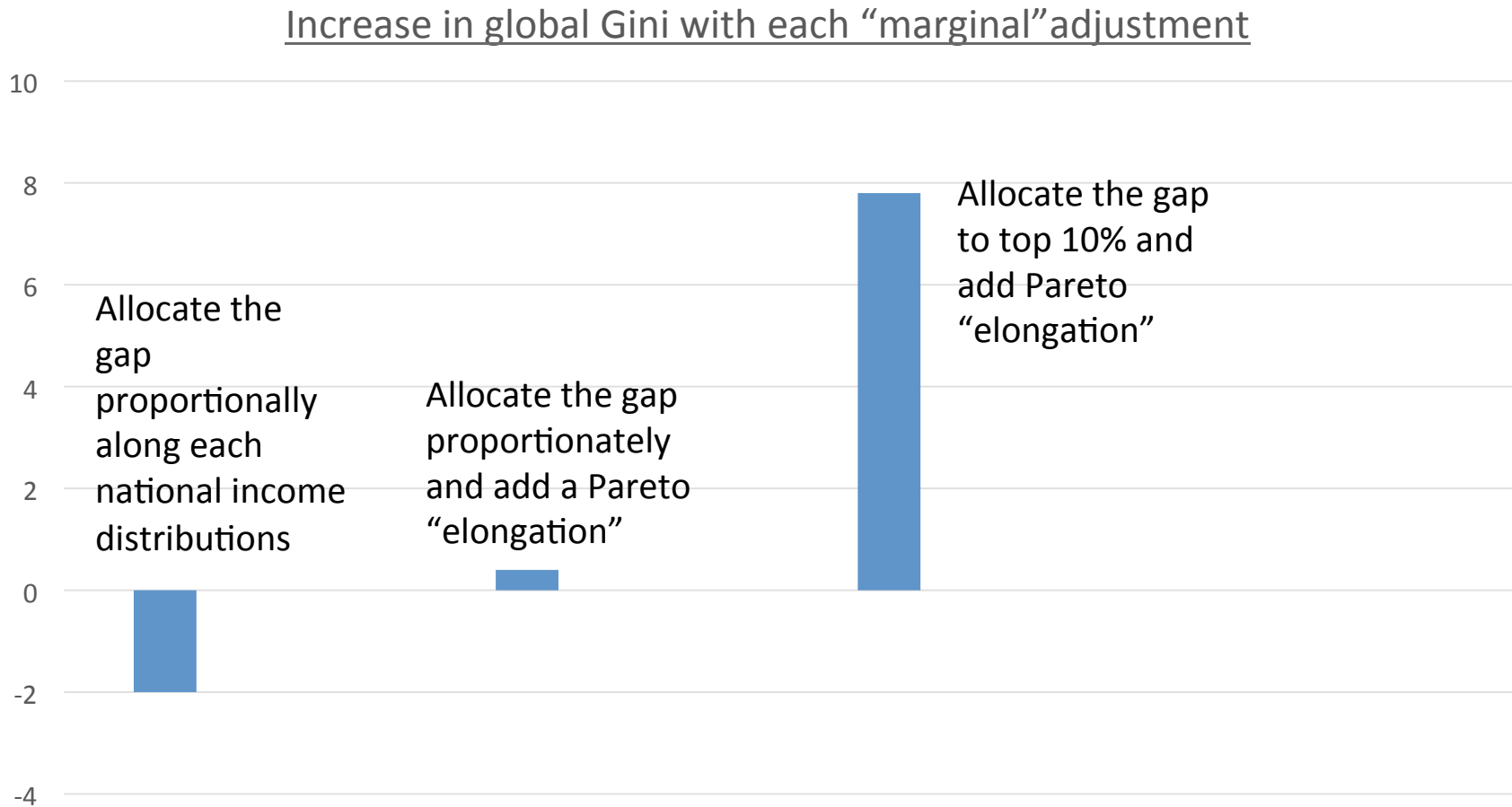
With full adjustment (allocation to the top 10% + Pareto) Gini decline almost fully disappears

Top-heavy allocation of the gap + Pareto adjustment

Survey data only

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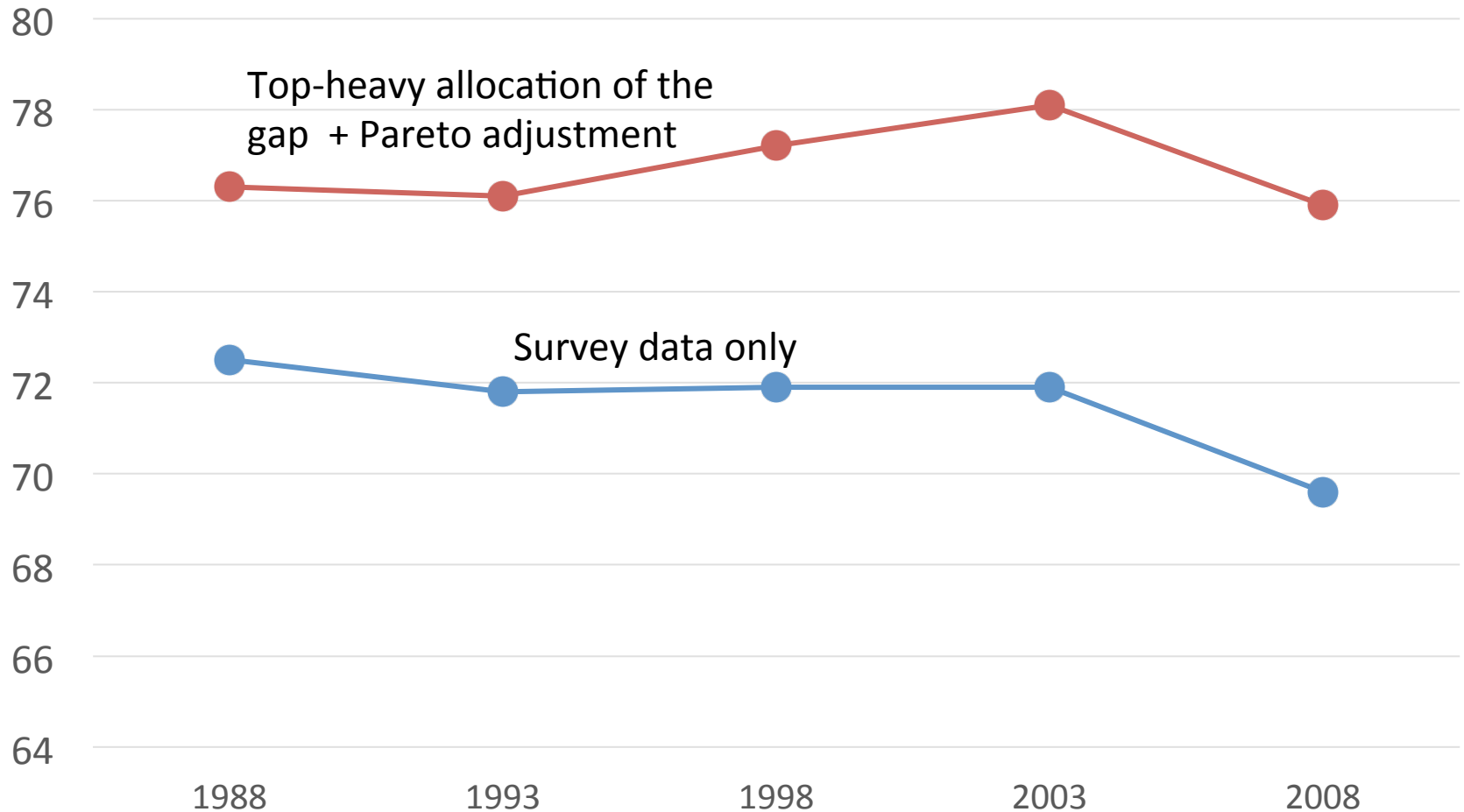
D. How has the world changed between the fall of the Berlin Wall and the Great Recession

[based on joint work with Christoph Lakner]

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Real income growth at various percentiles of global income distribution, 1988-2008 (in 2005 PPPs)

80

$PPP2

X "China's middle class"

$PPP 110

70

Real PPP income change (in percent)

60

$PPP4.5

$PPP12

50

40

30

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20

X "US lower middle class"

10

0

0   10   20   30   40   50   60   70   80   90   100

Percentile of global income distribution

From twenty_years\final\summary_data

Estimated at mean-over-mean
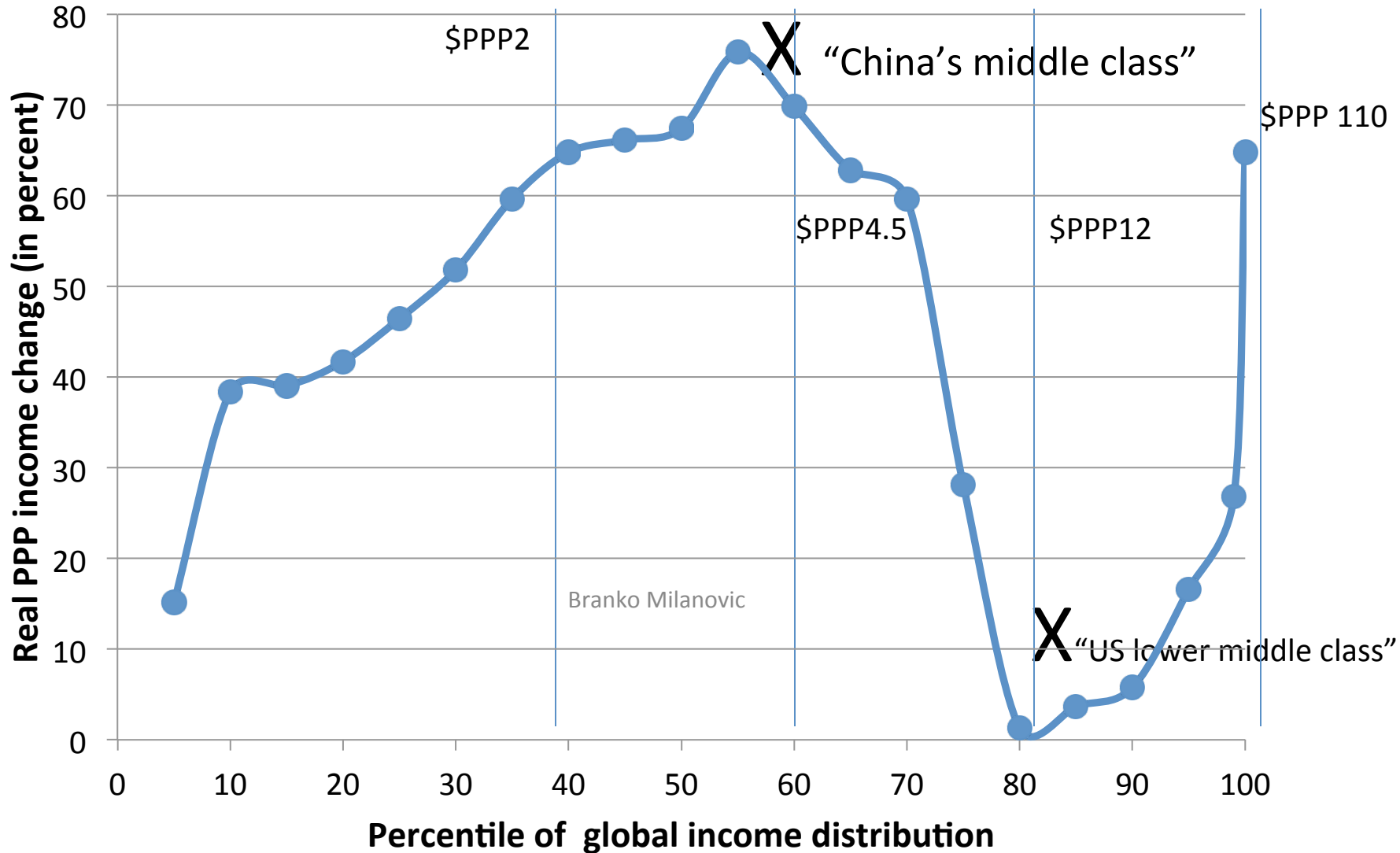
Real income gains (in $PPP) at different percentile of global income distribution 1988-2008

World

Without China

Percentile of global income distribution

Real PPP income change (in percent)
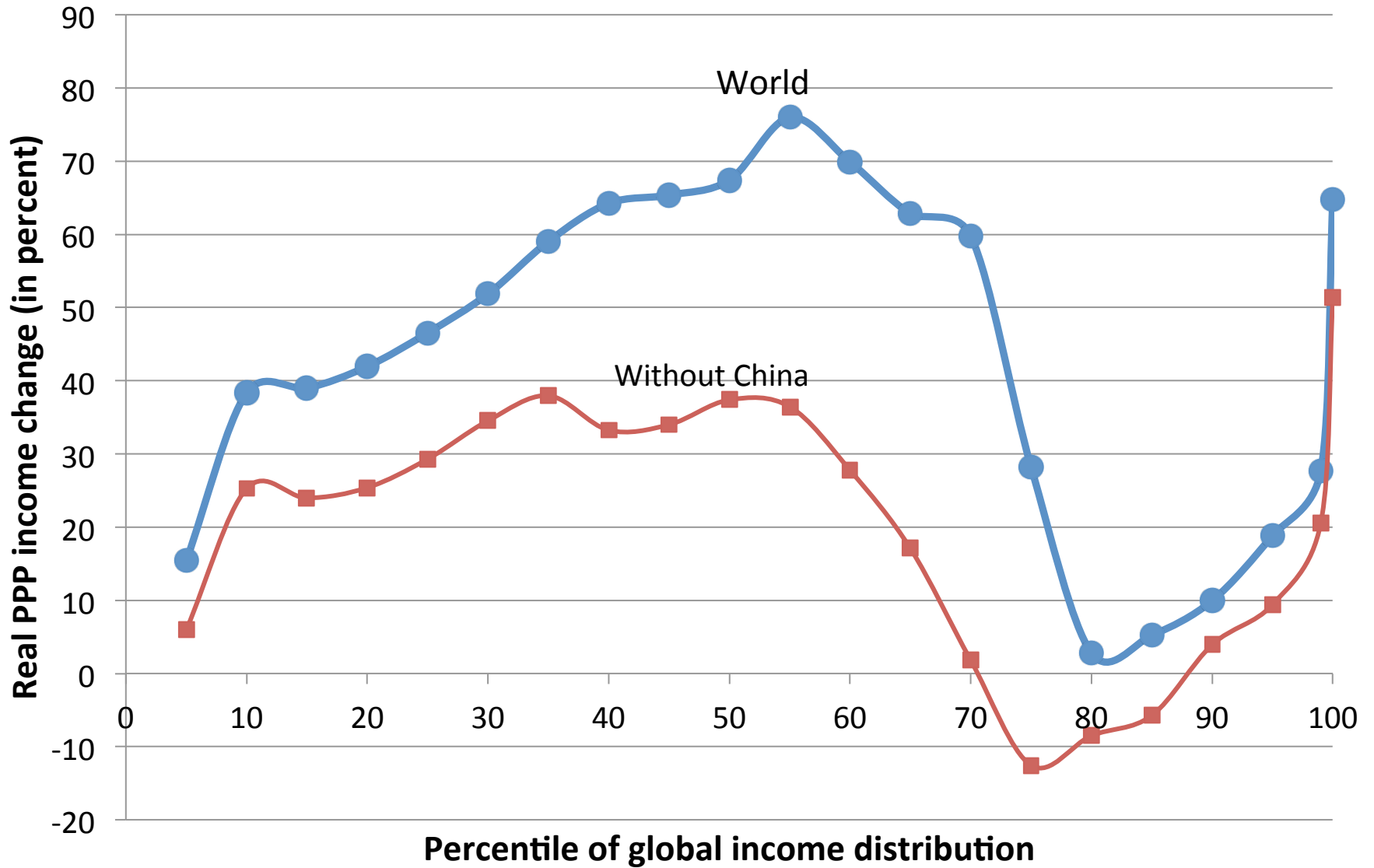
Quasi non-anonymous GIC: Average growth rate 1988-2008 for different percentiles of the **1988** global income distribution

Quasi-non-anonymous growth incidence curve, 1988-2008

Solid line shows predicted value from kernel-weighted local polynomial regression (bw=0.05, epanechnikov, cube polynomial). The horizontal line shows growth rate in mean of 1.72%. Only countries observed in 1988 & 2008 (N=63) included.
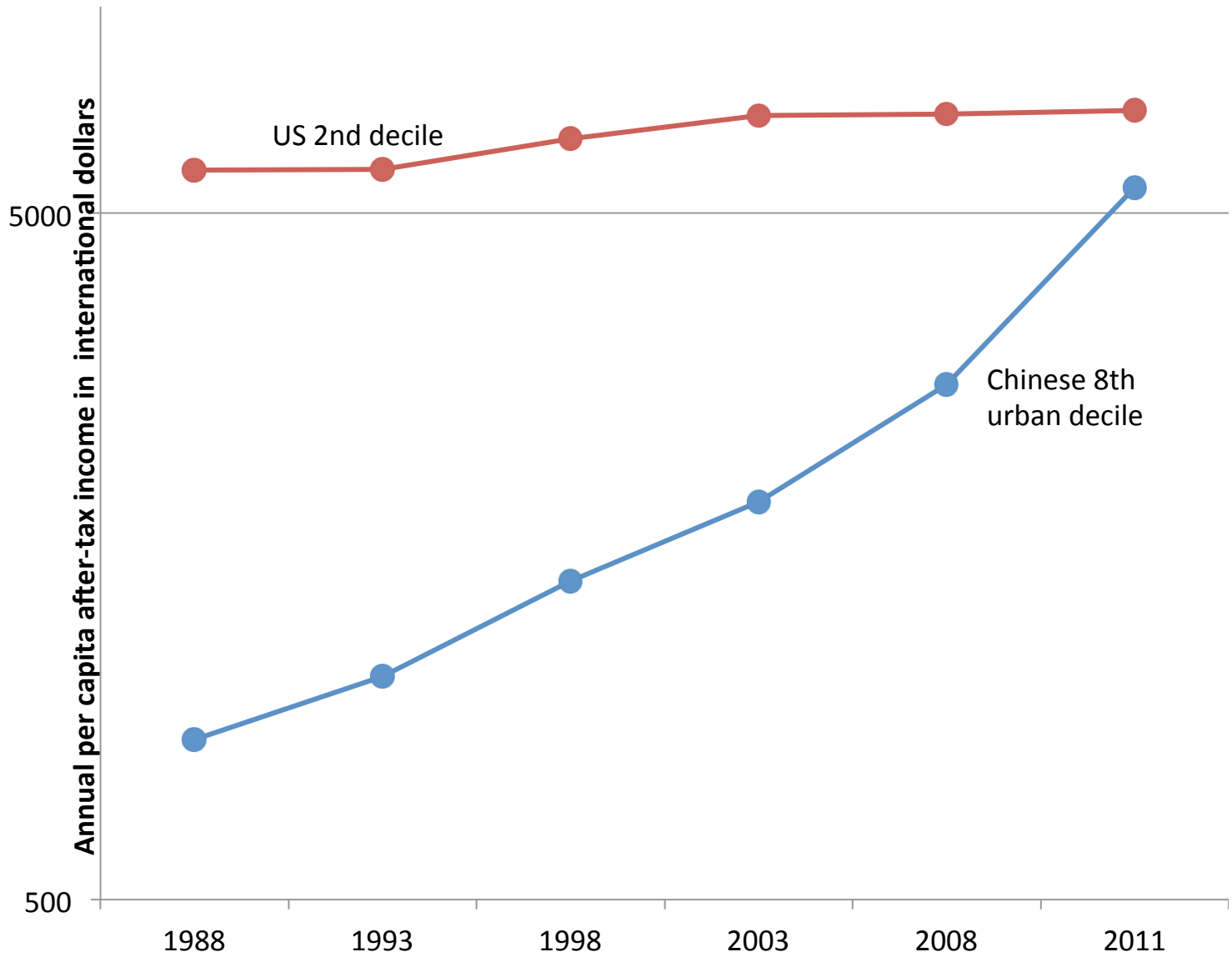
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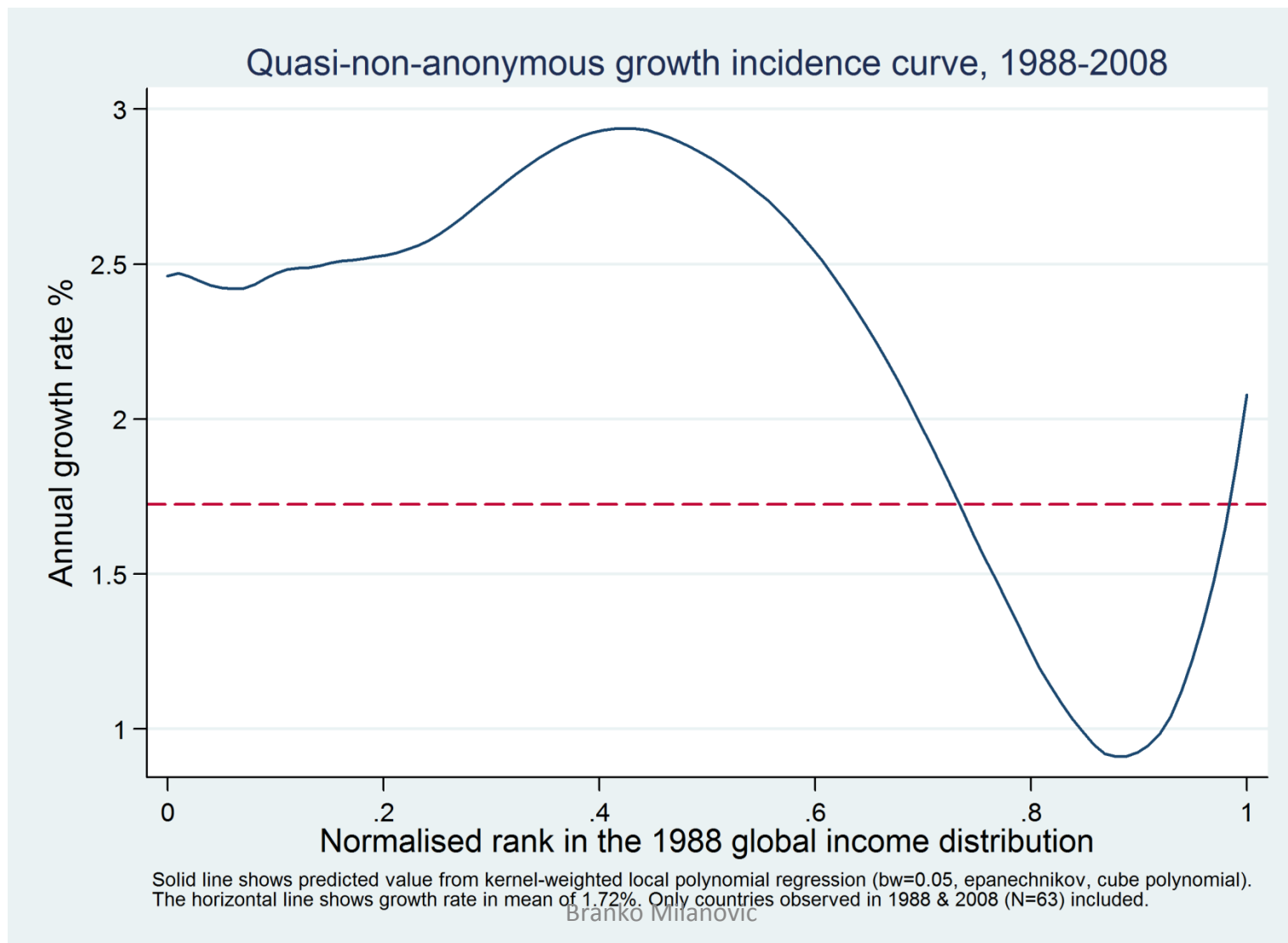
Growth incidence curve (1988-2008) estimated at percentiles of the income distribution

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Distribution of global absolute gains in income, 1988-2008 (anonymous)

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Y-axis: **Distribution (in percent) of gain** — 0.0, 5.0, 10.0, 15.0, 20.0, 25.0, 30.0

X-axis: **ventile/percentile of global income distribution** — 5, 10, 15, 20, 25, 30, 35, 40, 45, 50, 55, 60, 65, 70, 75, 80, 85, 90, 95, 99, 100

Bar values: 0, 0, 0, 1, 1, 1, 1, 1, 1, 2, 2, 2, 3, 4, 4, 3, 5, 8, 16, 25, 19

From summary_data.xls

From summary_data.xls
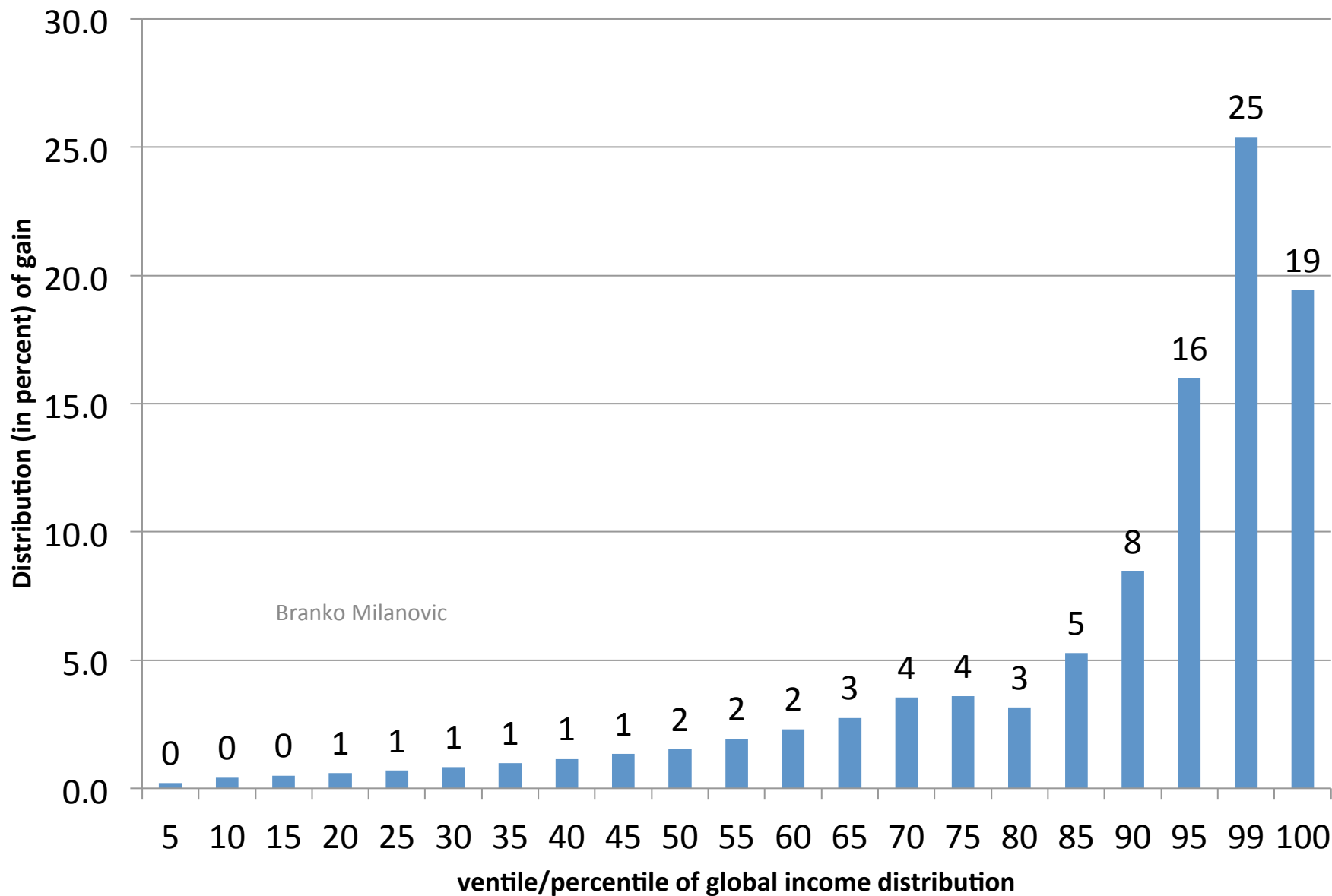
Global income distributions in 1988 and 2008
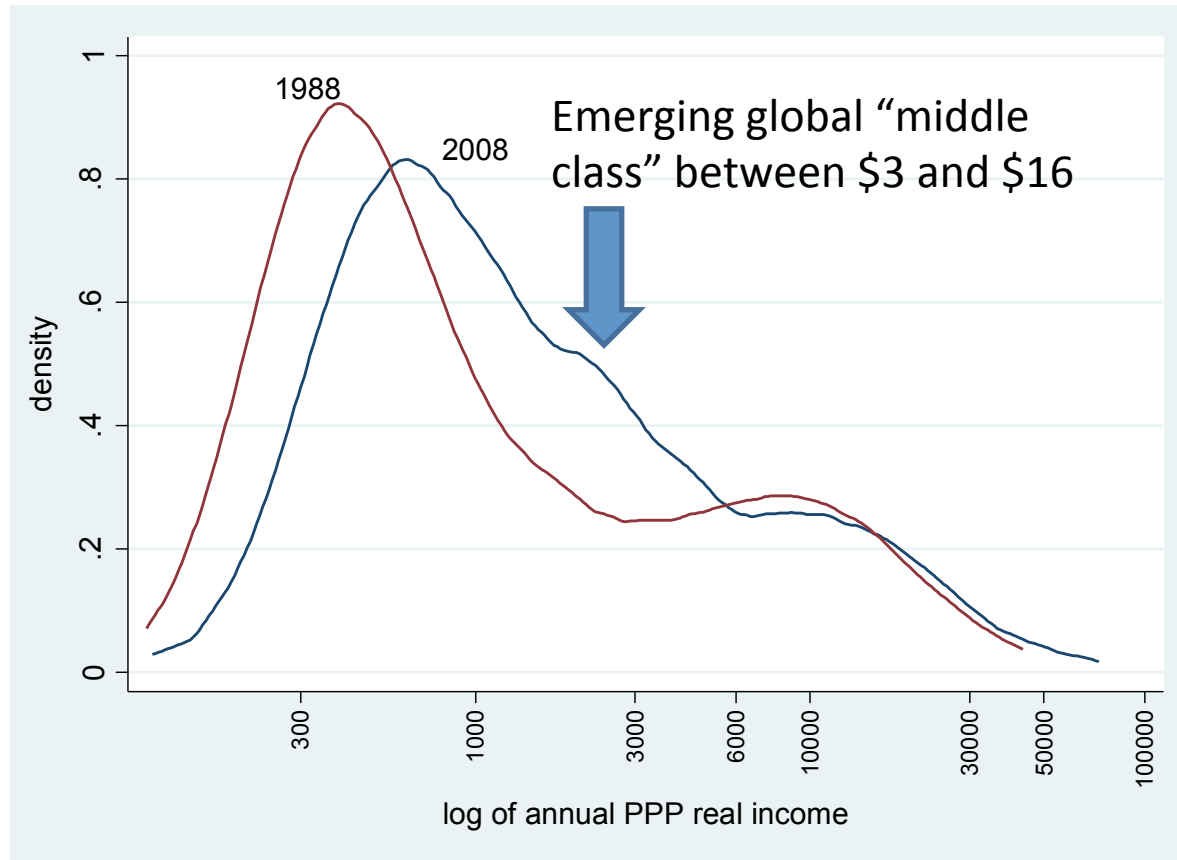

twoway (kdensity logRRinc [w=pop] if logRRinc>2 & bin_year==2008 & keep==1 & mysample==1) (kdensity logRRinc [w=pop] if logRRinc>2 & bin_year==1988 & keep==1 & mysample==1, legend(off) xtitle(log of annual PPP real income) ytitle(density) text(0.95 2.5 "1988") text(0.85 3 "2008"))
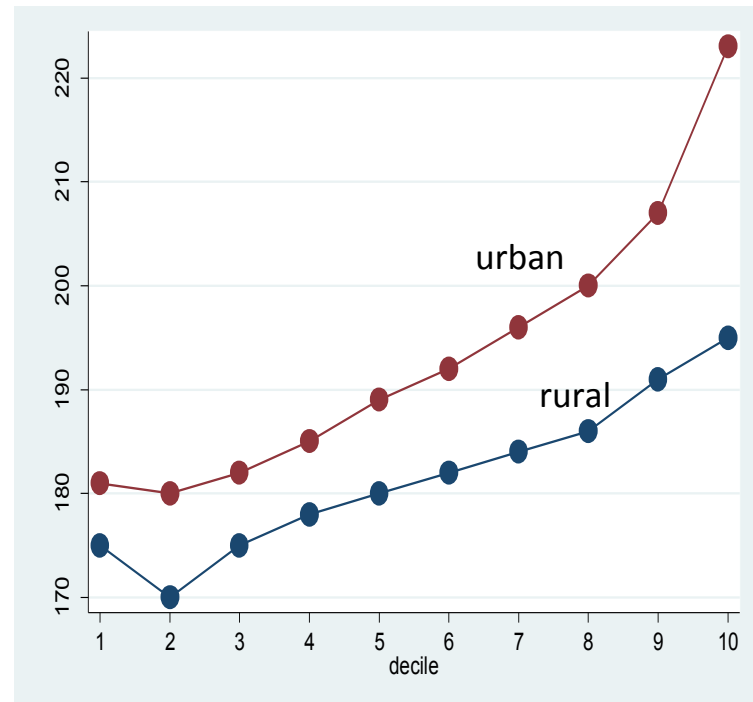Or using adding_xlabel.do; always using final_complete7.dta

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

Urban and rural China
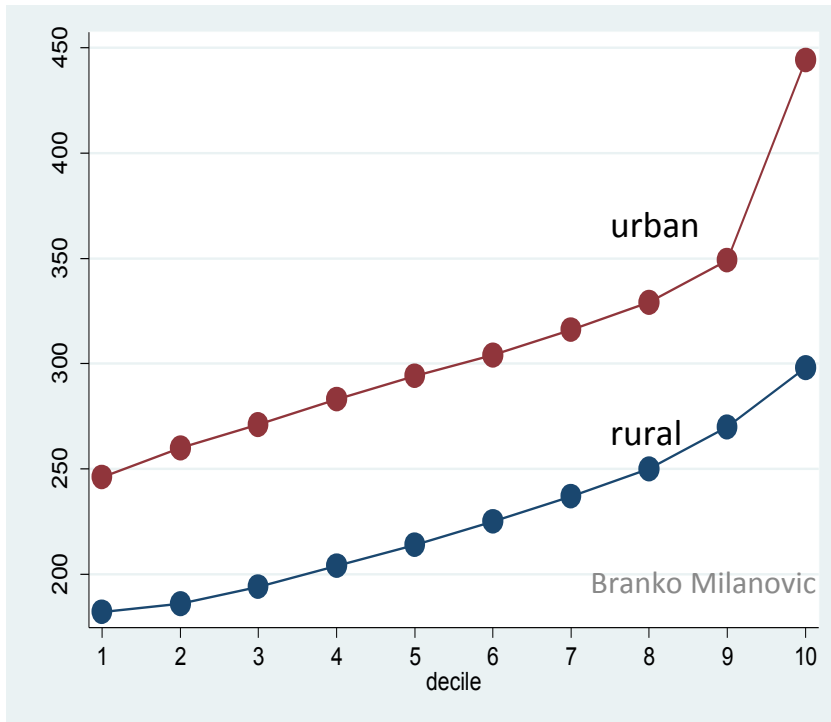
Urban and rural Indonesia

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E. Issues of justice and politics

1. Citizenship rent
2. Migration
3. Hollowing out of the middle classes

Global inequality of opportunity

- Regressing (log) average incomes of 118 countries' percentiles (11,800 data points) against country dummies "explains" 77% of variability of income percentiles

- Where you live is the most important determinant of your income; for 97% of people in the world: birth=citizenship.

- Citizenship rent.

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Is citizenship a rent?

- If most of our income is determined by citizenship, then there is little equality of opportunity *globally* and citizenship is a rent (unrelated to individual desert, effort)

- ***Key issue****: Is global equality of opportunity something that we ought to be concerned or not?*

- Does national self-determination dispenses with the need to worry about GEO?

The logic of the argument

- Citizenship is a morally-arbitrary circumstance, independent of individual effort

- It can be regarded as a rent (shared by all members of a community)

- Are citizenship rents globally acceptable or not?

- Political philosophy arguments *pro* (social contract; statist theory; self-determination) and *contra* (cosmopolitan approach)

The Rawlsian world

- For Rawls, global optimum distribution of income is simply a sum of national optimal income distributions

- Why Rawlsian world will remain unequal?

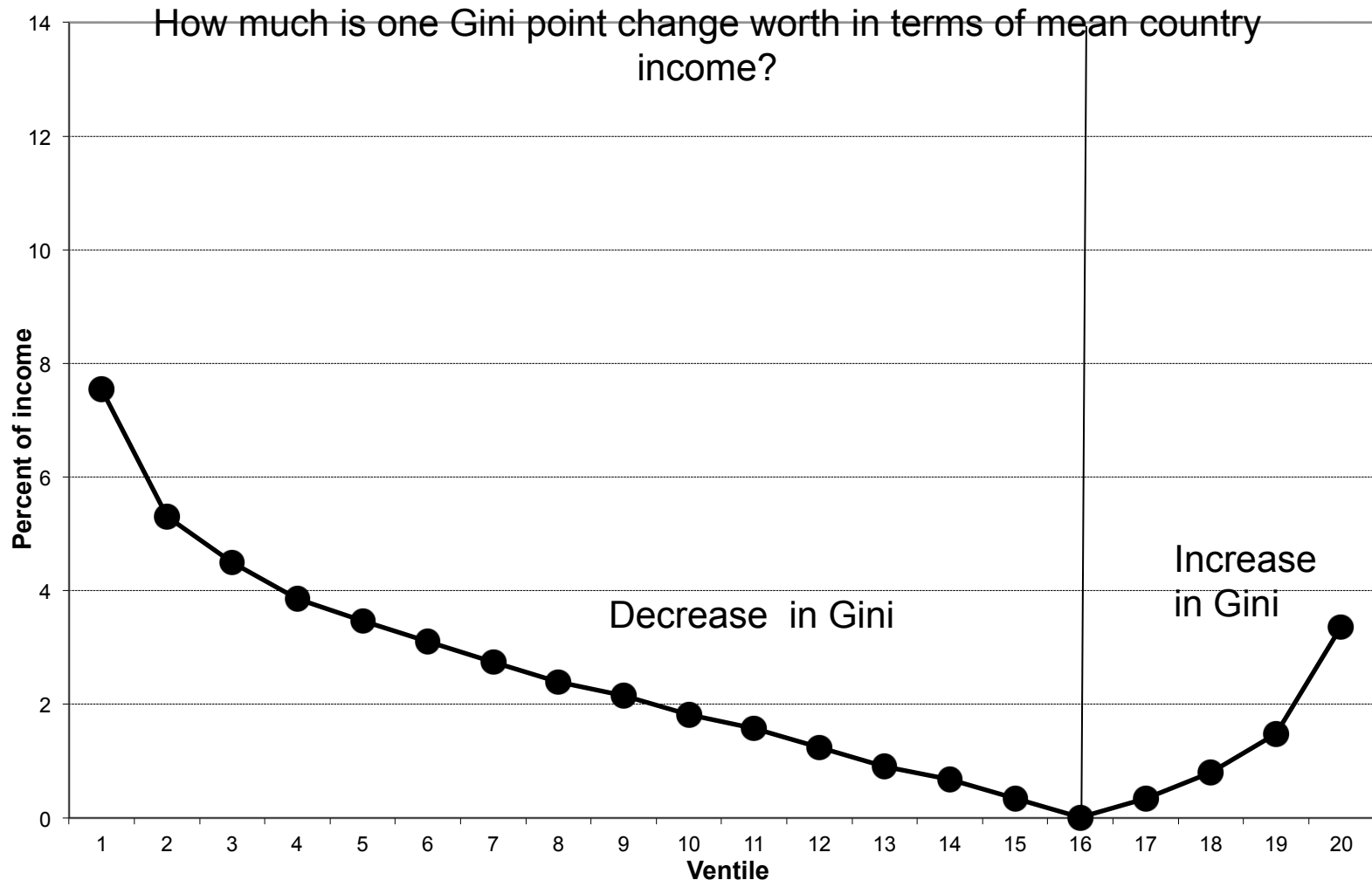| Mean country incomes / Individual incomes within country	All equal	Different (as now)
All equal	0	68 (all country Theils=0; all mean incomes as now)
Different (as now)	30 (all mean incomes equalized; all country Ginis as now)	98

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Conclusion

- Working on equalization of within-national inequalities will not be sufficient to significantly reduce global inequality

- Faster growth of poorer countries is key and also...

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Migration: a different way to reduce global inequality and citizenship rent

- A new view of development: Development is increased income for poor people regardless of where they are, in their countries of birth or elsewhere

- Migration and LDC growth thus become the two equivalent instruments for development

A migrant point of view: trade-off between country's mean income and its inequality

How much is one Gini point change worth in terms of mean country income?

Decrease in Gini

Increase in Gini

Percent of income

Ventile

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Political issue: Global vs. national level

- Our income and employment is increasingly determined by global forces

- But political decision-making still takes place at the level of the nation-state

- If stagnation of income of rich countries' middle classes continues, will they continue to support globalization?

- Two dangers: populism and plutocracy

- To avert both, need for within-national redistributions: those who lose have to be helped

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Final conclusion

- To reduce global inequality: fast growth of poor countries + migration

- To preserve good aspects of globalization: redistribution within rich countries

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Additional slides

H. Global inequality over the long-run of history

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Global income inequality, 1820-2008
(Source: Bourguignon-Morrisson and Milanovic; 1990 PPPs)

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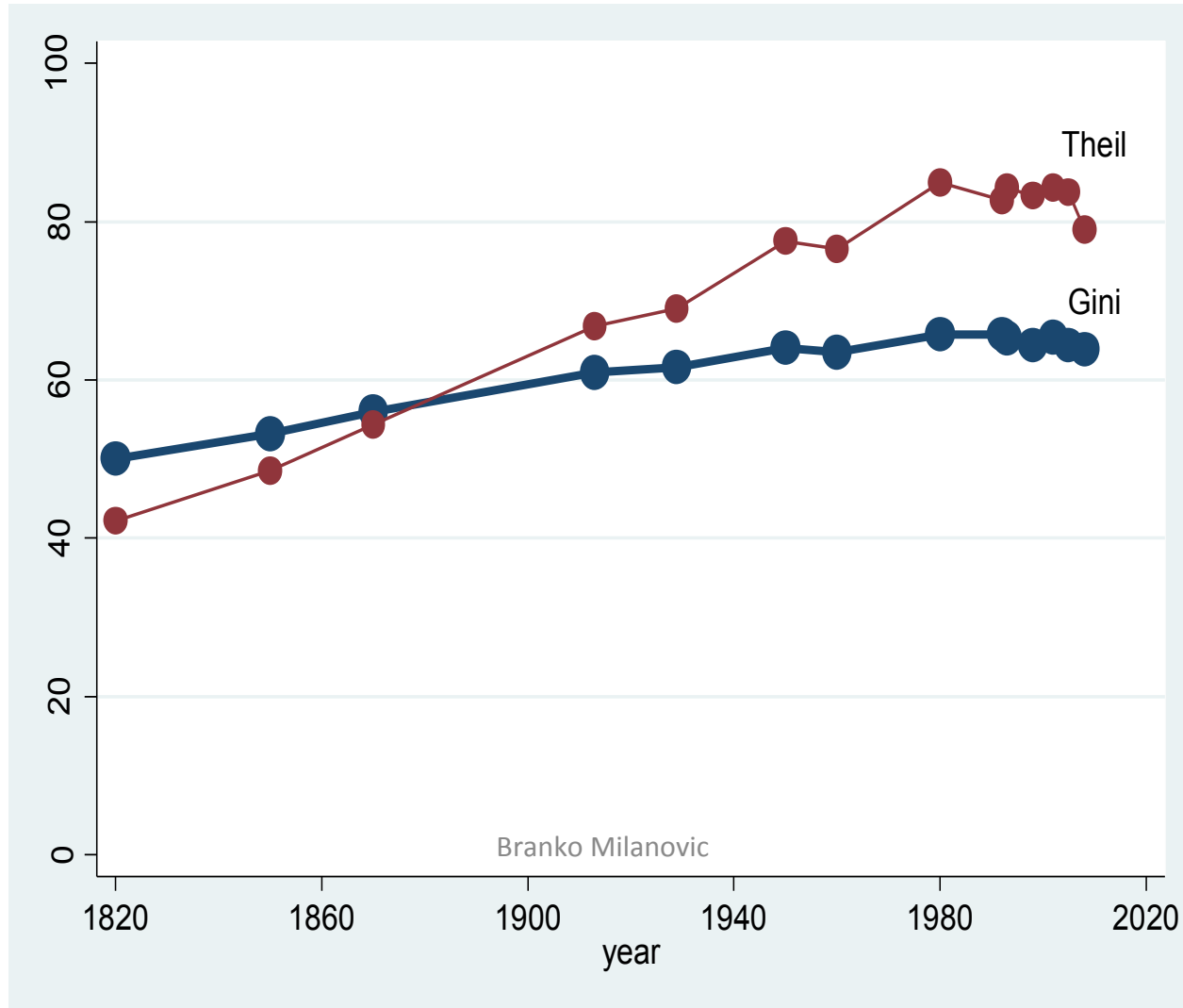
twoway (scatter Gini year, c(l) xlabel(1820(40)2020) ylabel(0(20)100) msize(vlarge) clwidth(thick)) (scatter Theil year, c(l) msize(large)
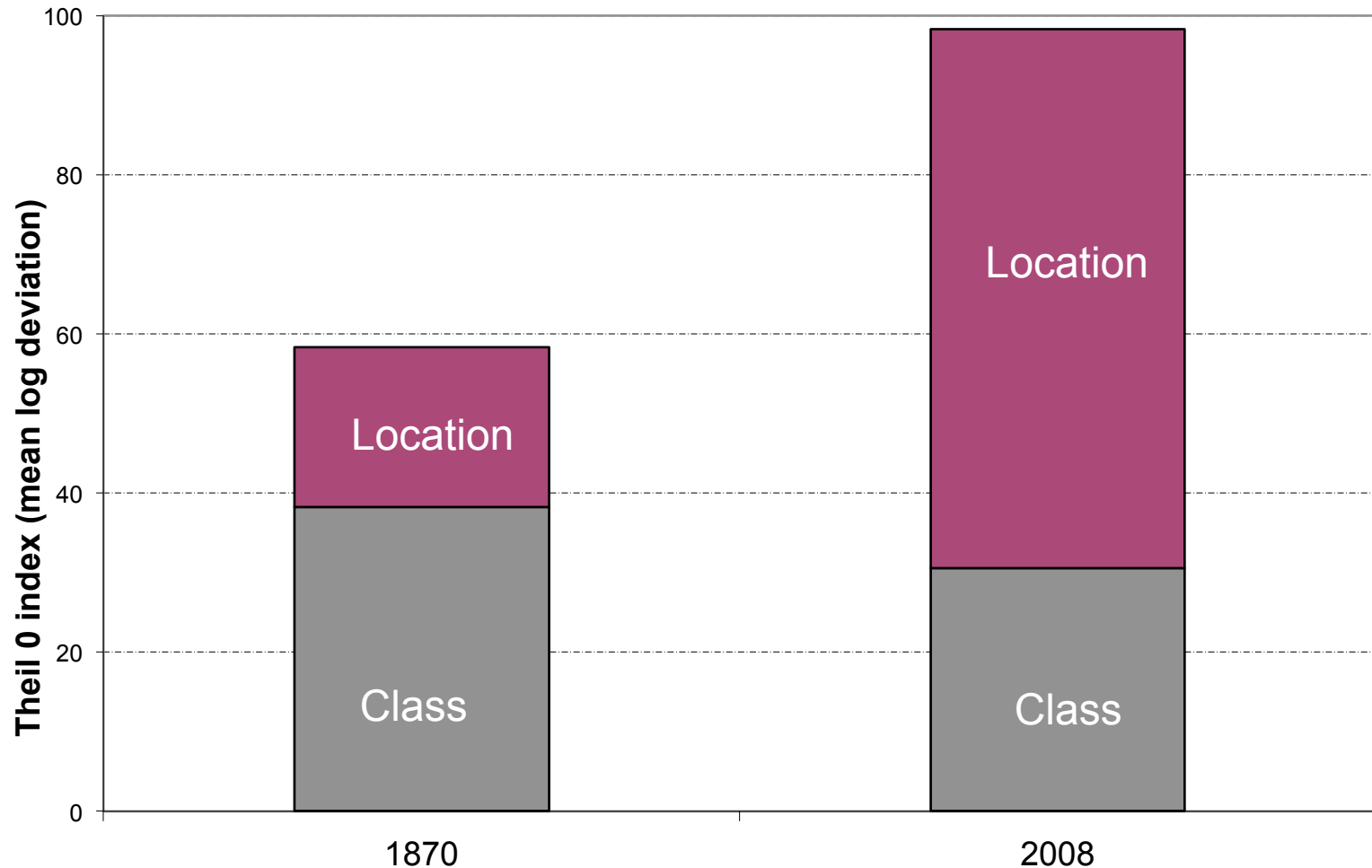legend(off) text(90 2010 "Theil") text(70 2010 "Gini"))

Shares of global income received by top 10% and bottom 60% of world population

Top 10% (L-M data)

Top 10% (B-M data)

Bottom 60% (B-M data)

Bottom 60% (L-M data)

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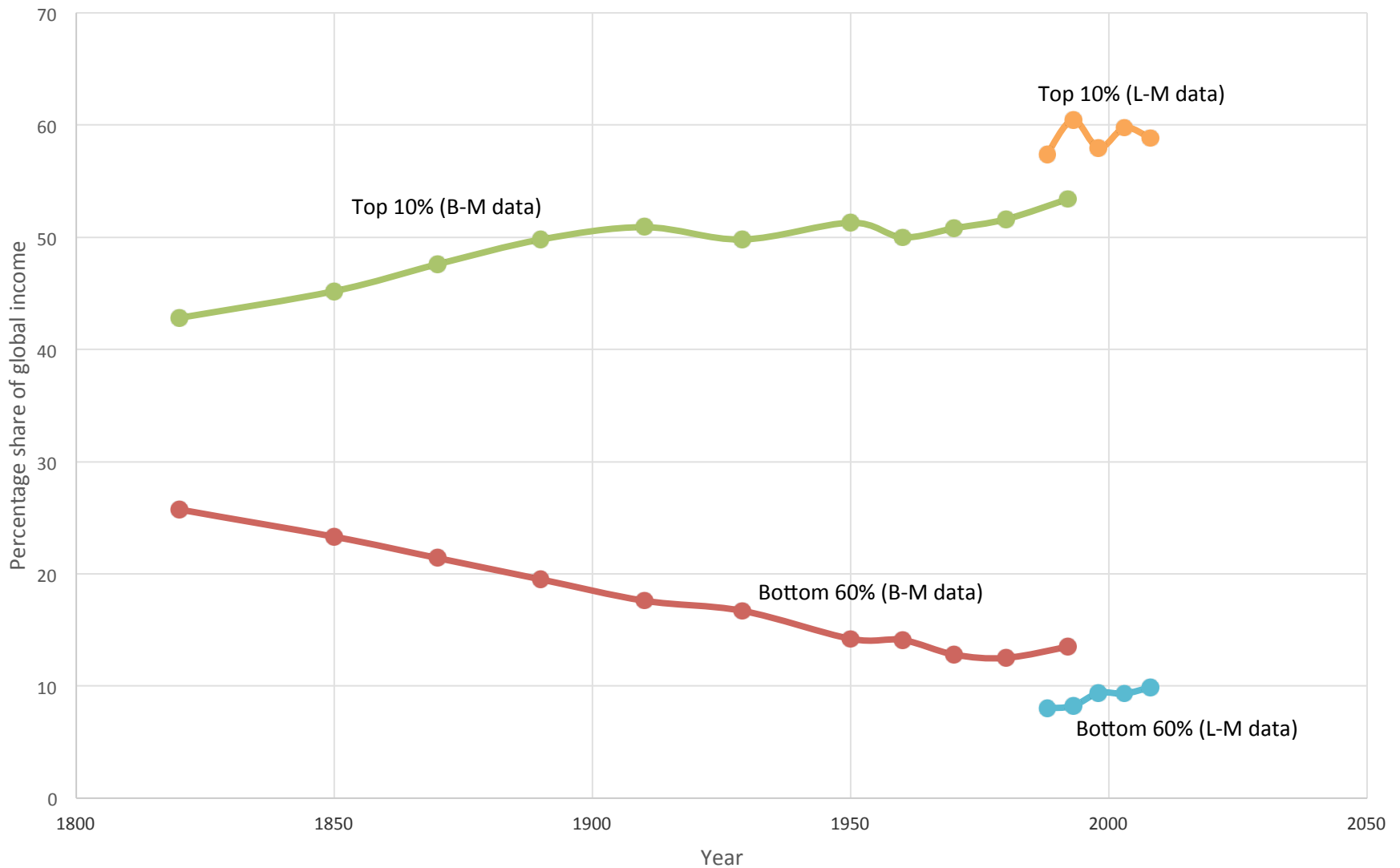
A non-Marxist world

- Over the long run, decreasing importance of within-country inequalities despite some reversal in the last quarter century

- Increasing importance of between-country inequalities (but with some hopeful signs in the last five years, before the current crisis),

- Global division between countries more than between classes

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

Based on Bourguignon-Morrisson (2002), Maddison data, and Milanovic (2005)

From thepast.xls

Very high but decreasing importance of location in global inequality

Share of the between component in global Theil (0)

B-M data

L-M data

Between component, in percent

Year

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