The World Today, The Emerging Countries, and India: A view from the GCIP

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We have a dataset

...and you will too!

What is the GCIP?

- The Global Consumption and Income Project (GCIP) is a project that aims to describe the changing material living standards of the world population in as careful, comprehensive and comparable a way as possible. It centres on two new datasets (The Global Consumption Dataset (GCD) and The Global Income Dataset (GID)) containing a portrait of consumption and income of persons over time, within and across countries: an entire model population of the world, 1960 to the present.
- We aim for it to be open, transparent and flexible, and to allow for third-party replication, modification and updating

Features of the GCIP

- The benchmark version estimates the monthly real consumption and income of quantiles of the population (a 'consumption/income profile') in the vast majority of countries in the world (more than 150) for every year over more than half a century (1960-2013 or latest year for which estimation is sought) from survey data
- Includes built-in analytical tools for filling in missing data, ensuring data reliability, creating portraits of aggregates of countries and generating statistics of interest.

Sample Applications

- Track historical and contemporary evolution of absolute and relative living standards(poverty, inequality, mean or median of population or quantiles, analysis of inclusivity of growth etc.)
- Focus on groups of countries, explore properties of aggregates (e.g. decompose level or change in key indicators into within- and between-country components)
- Calculate *any* measure of poverty, inequality, population living standards, or inclusivity of growth and development, through flexibility provided by synthetic population method
- Build on descriptive components to do explanatory analyses of causes or consequences of poverty, inequality, inclusivity of growth and development etc.
- Nowcast - estimate real-time developments based on integration of latest data or assumptions (e.g. regarding growth or price shocks)
- Forecast - evolution of material living standards and key indicators for individual countries and groups of countries based on growth and distributional assumptions

GCIP vs. Other Datasets

Captures evolution of world consumption or income by presenting *annual* portraits by country and quantile: levels, not just inequality. A complete space-time system – necessary for aggregation over arbitrary groups of countries in any year. A unique resource providing:

- Broader temporal and geographical coverage
- Separate consumption and income estimates by estimating one from the other where necessary while retaining the entire data universe
- Tools for aggregation of user-defined groups of countries in any selected year
- Full documentation of our methods and tools, creating a basis for easy construction of database variants and for transparent and participatory future development
- Extensions including forecasting framework and estimates of administrative-source top incomes, in progress

	1960-69	1970-79	1980-89	1990-99	2000-09	2010-13	Total
Number of Surveys	70	70	209	469	589	152	1559
% Consumption Surveys	16	13	32	48	61	52	48
% Surveys Covering Complete Population	60	64	86	95	97	99	92
% Surveys Covering all Areas in the Country	94	94	90	98	100	100	97
% Surveys with Means	44	53	84	92	96	99	89
Source of Surveys (%)							
LIS	3	17	18	14	14	21	15
Povcalnet	0	0	20	42	76	74	51
WYD	0	0	1	1	0	0	0
WIID	97	83	62	43	10	5	33
Surveys by Region (%)							
East Asia & Pacific	6	16	15	9	9	11	10
Europe & Central Asia	29	37	37	37	45	36	39
Latin America & Caribbean	26	20	25	29	26	28	27
Middle East & North Africa	6	7	5	5	4	4	4
North America	0	6	1	1	1	2	1
South Asia	21	9	5	4	3	5	5
Sub-Saharan Africa	13	6	11	15	13	15	13
Surveys by Income Group in 2010 (%)							
Low income	10	4	6	11	11	14	10
Lower middle income	30	14	20	25	26	24	24
Upper middle income	37	39	39	35	37	34	36
High income	23	43	35	29	27	28	29

Choices in Database Creation

- Choose source of levels data: household surveys, national accounts or administrative records, census data

- Convert to common currency units: PPP (choose base year and type of PPP) or market exchange rate

- ‘Standardize’ concept of material advantage (e.g. income or consumption) or pool concepts without adjustment

- Interpolate/Extrapolate to bring about complete temporal coverage, or not

- Construct distributions: e.g. assume same average income for everyone in quantile vs. estimate Lorenz curves and associated distributional profiles

Constructing the Datasets (overview)

- Step 1: Collect data on relative distributions (retain all data but specialize to per-capita surveys)

- Step 2 : 'Standardize' the distributions by converting consumption into 'equivalent' income distributions or vice versa

- Step 3: Obtain or estimate mean levels from surveys in common units

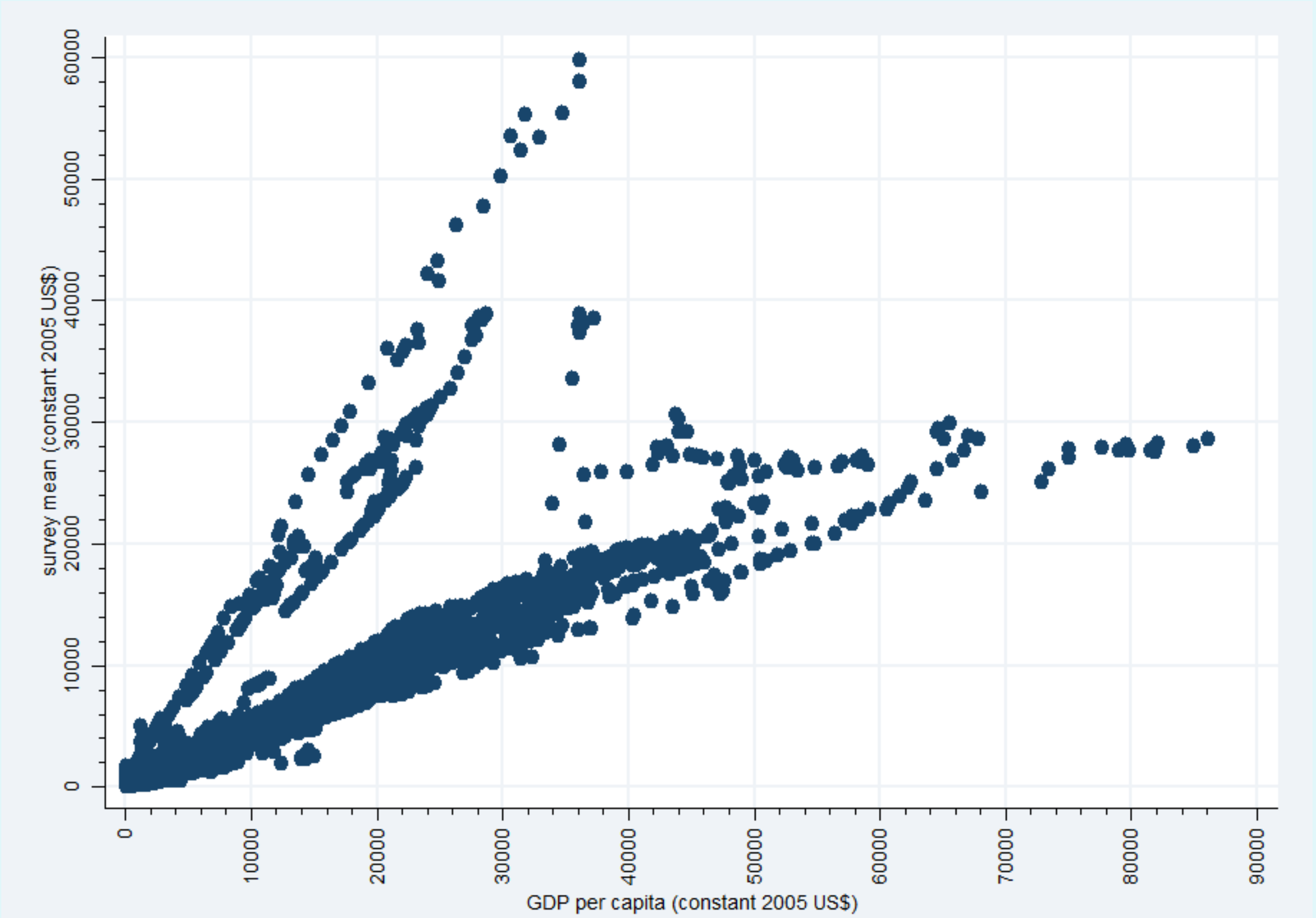
- Step 4: Arrive at consumption/income profiles and associated Lorenz curves for survey and non-survey years, using parametric estimation, interpolation and extrapolation as needed

Some Things We Didn’t Know

- (OR KNOW BETTER NOW!)

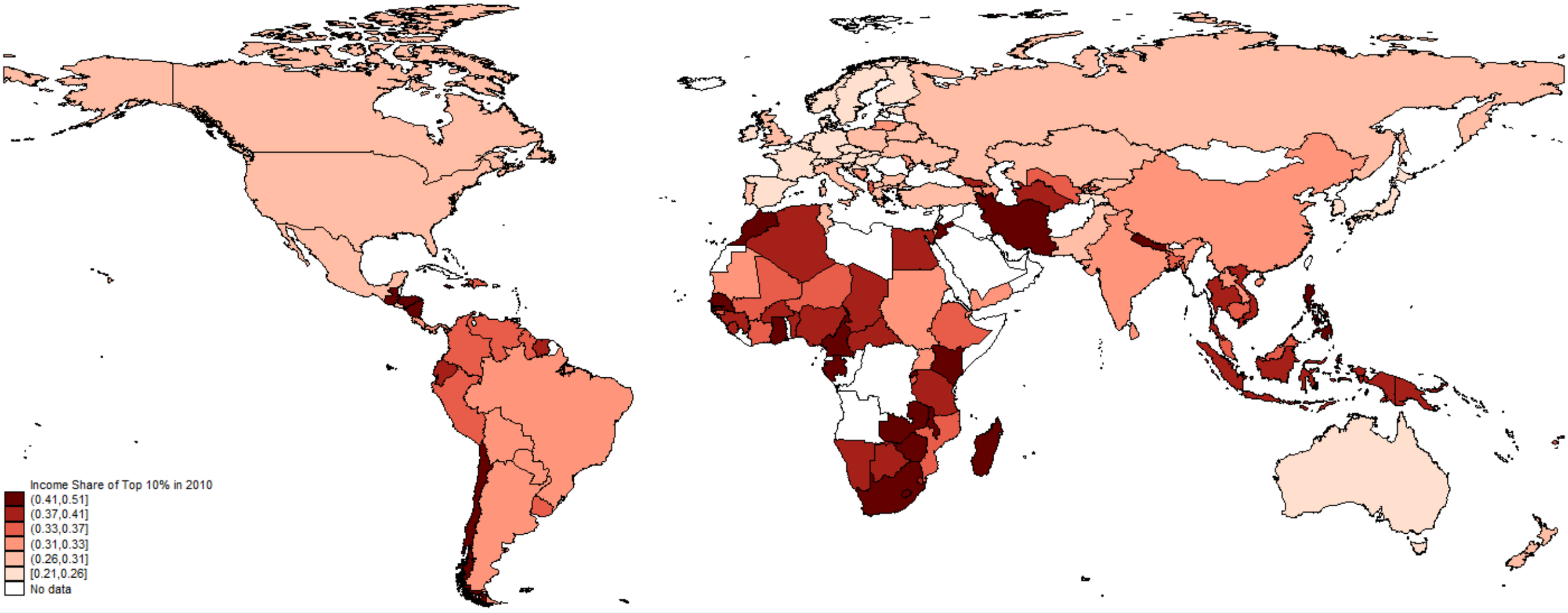
The Problem of Survey-GDP per capita discrepancy is worldwide

Survey means vs. GDP per capita (2005 US$ mkt xch rates): discrepancies in two directions



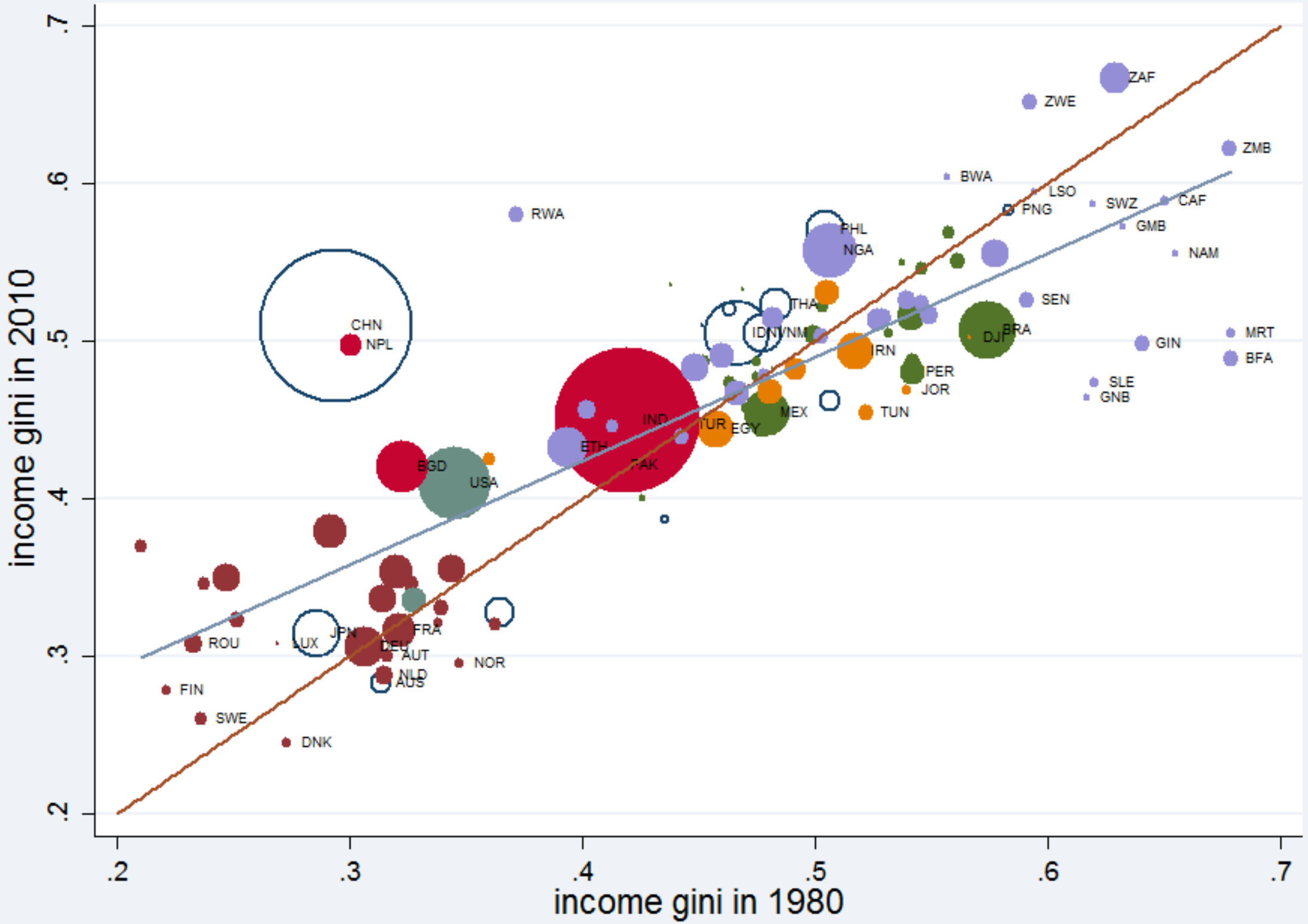
Using Consistent Methods and Concepts can change Our Conclusions

Income Share of Top 10 % (based on surveys only)

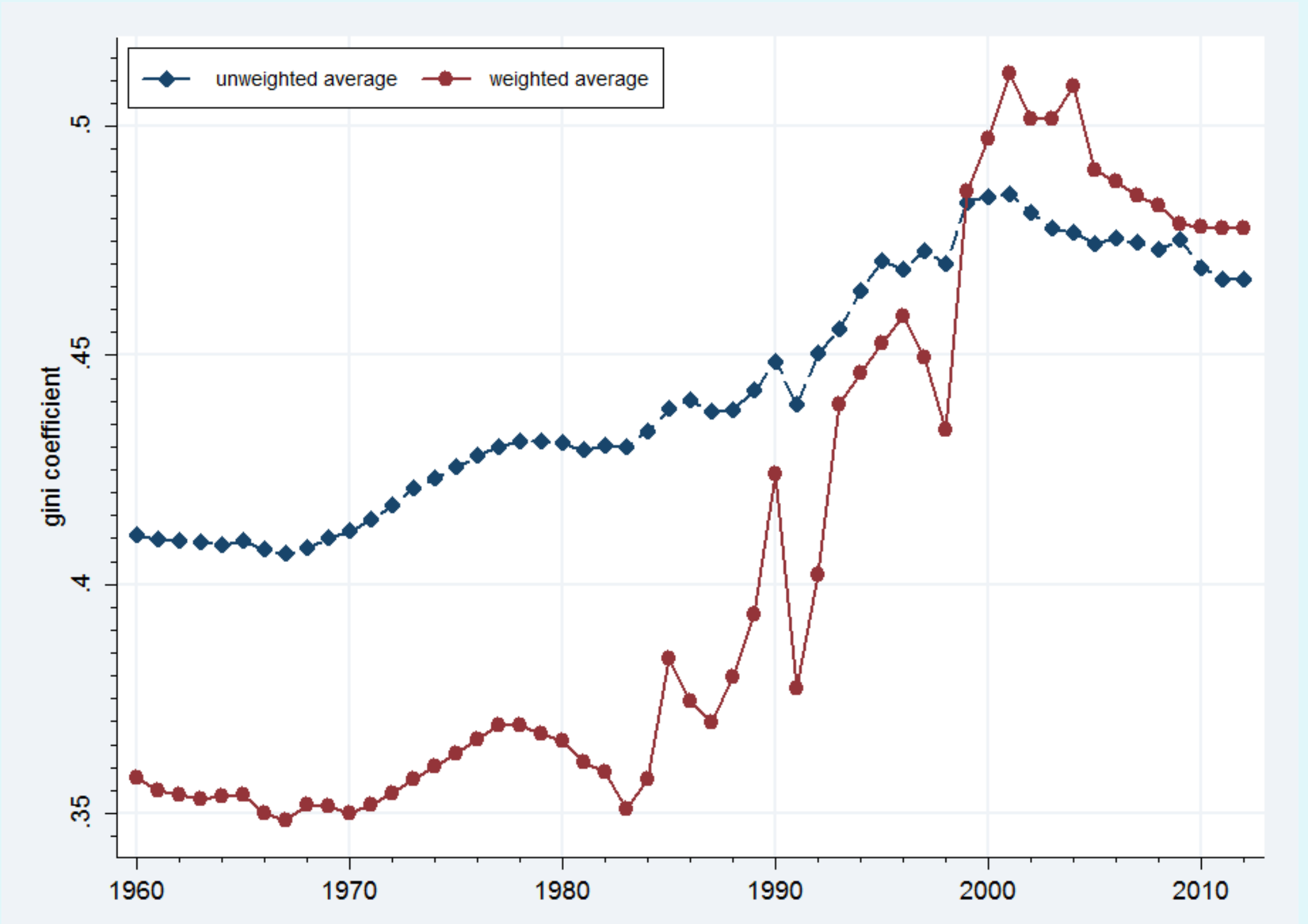


There are widely divergent patterns of inclusivity of growth

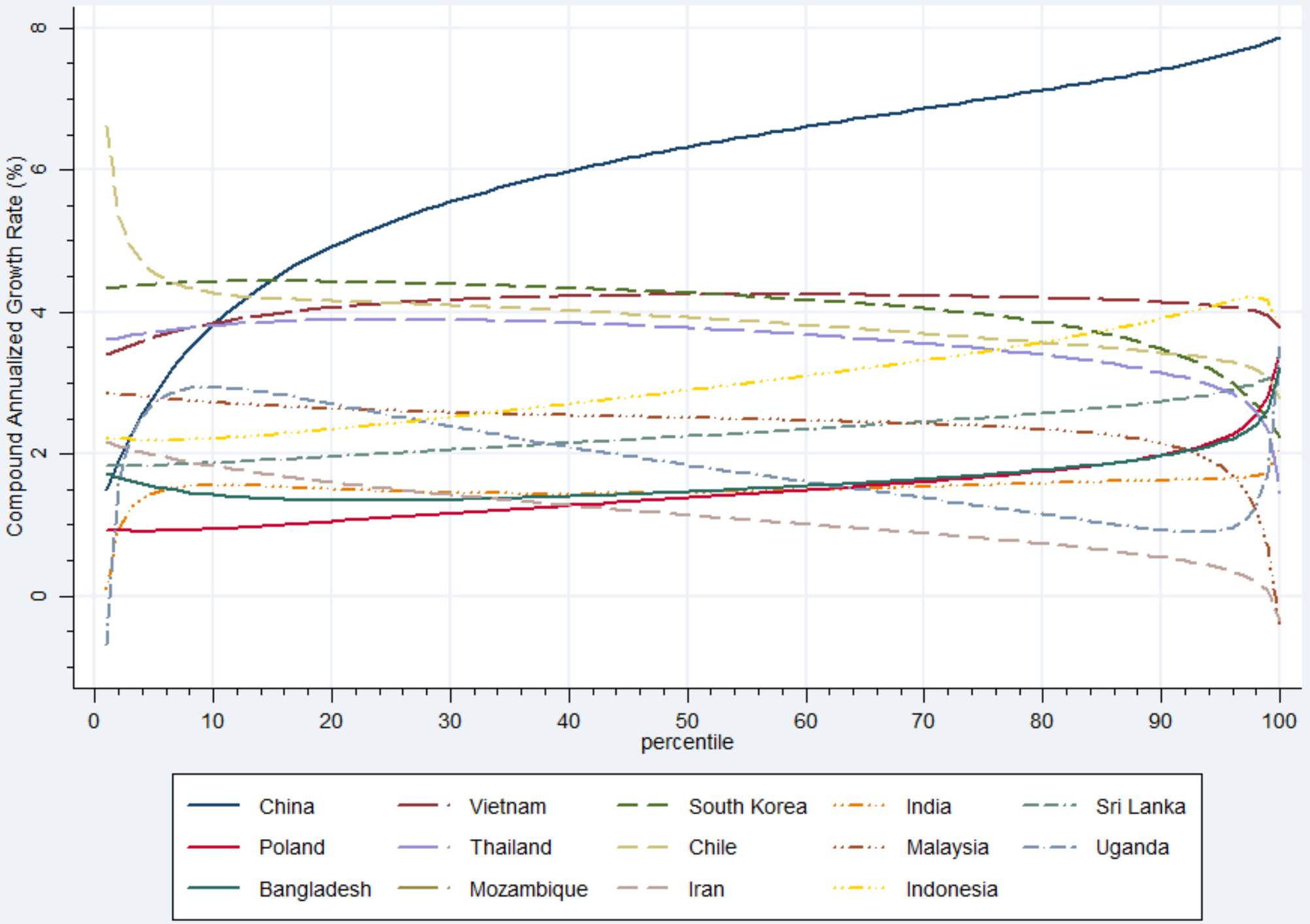
Within Country Income Inequality



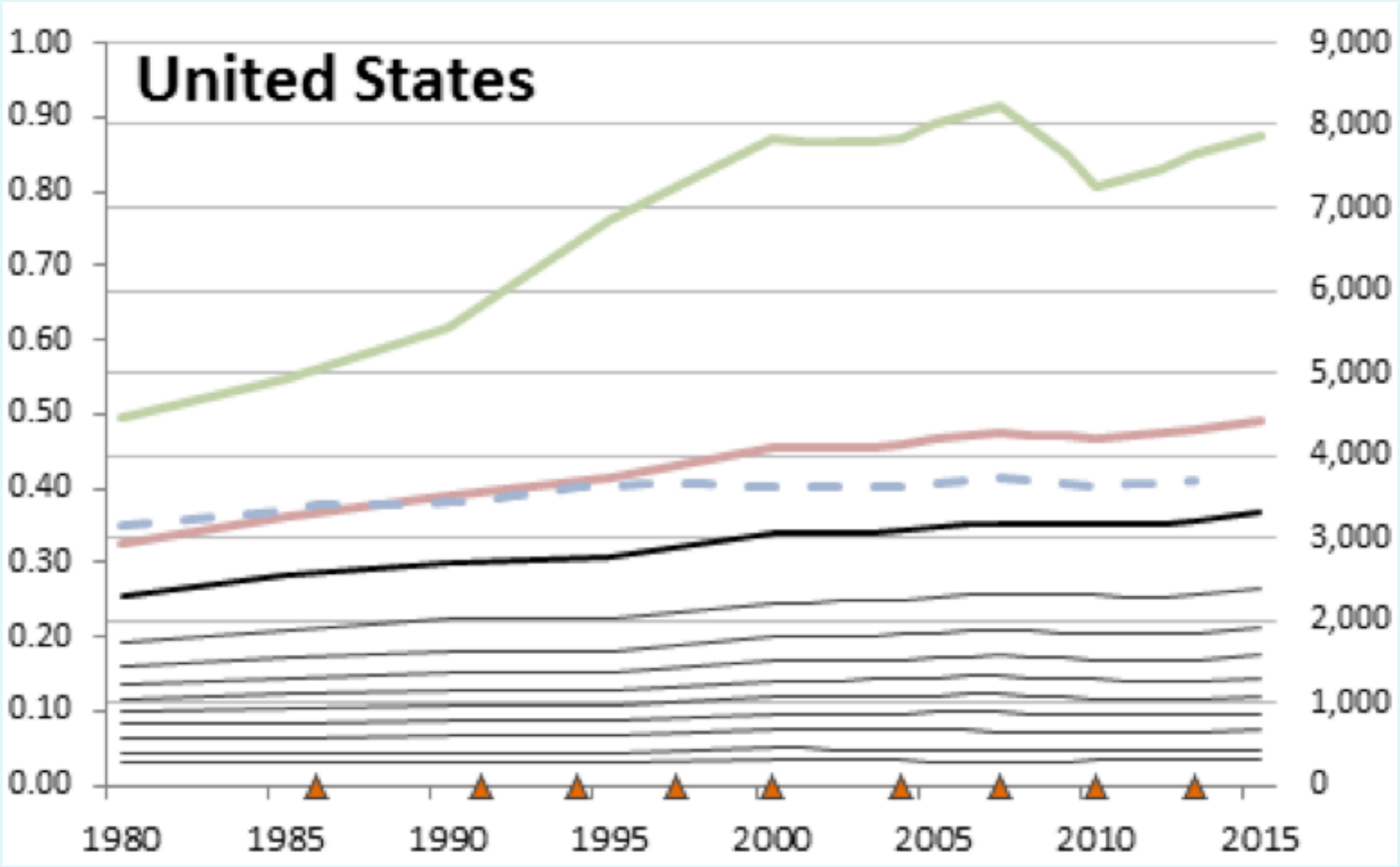
Average within-country inequality



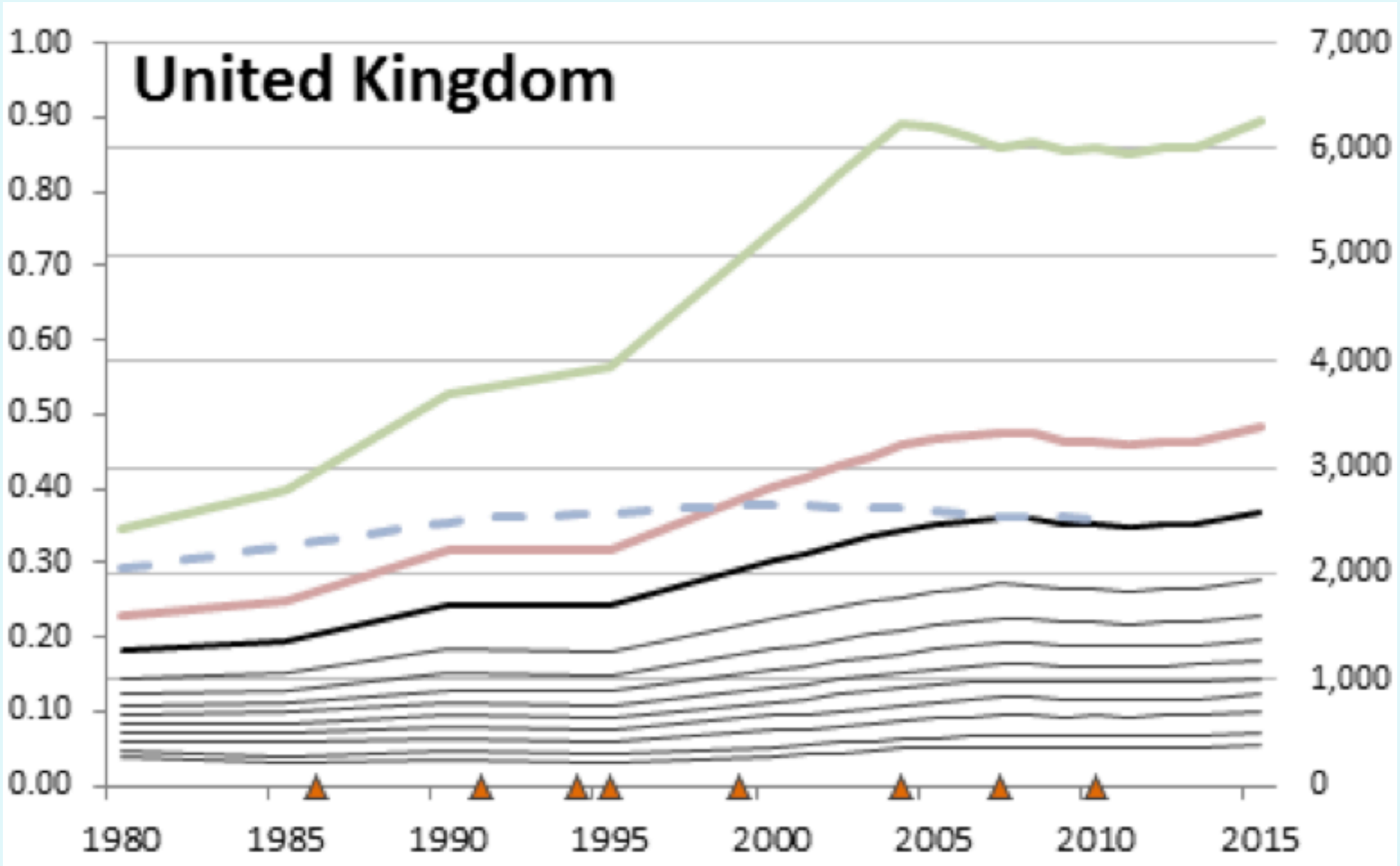
Consumption Growth 1990-2010 – all FGC



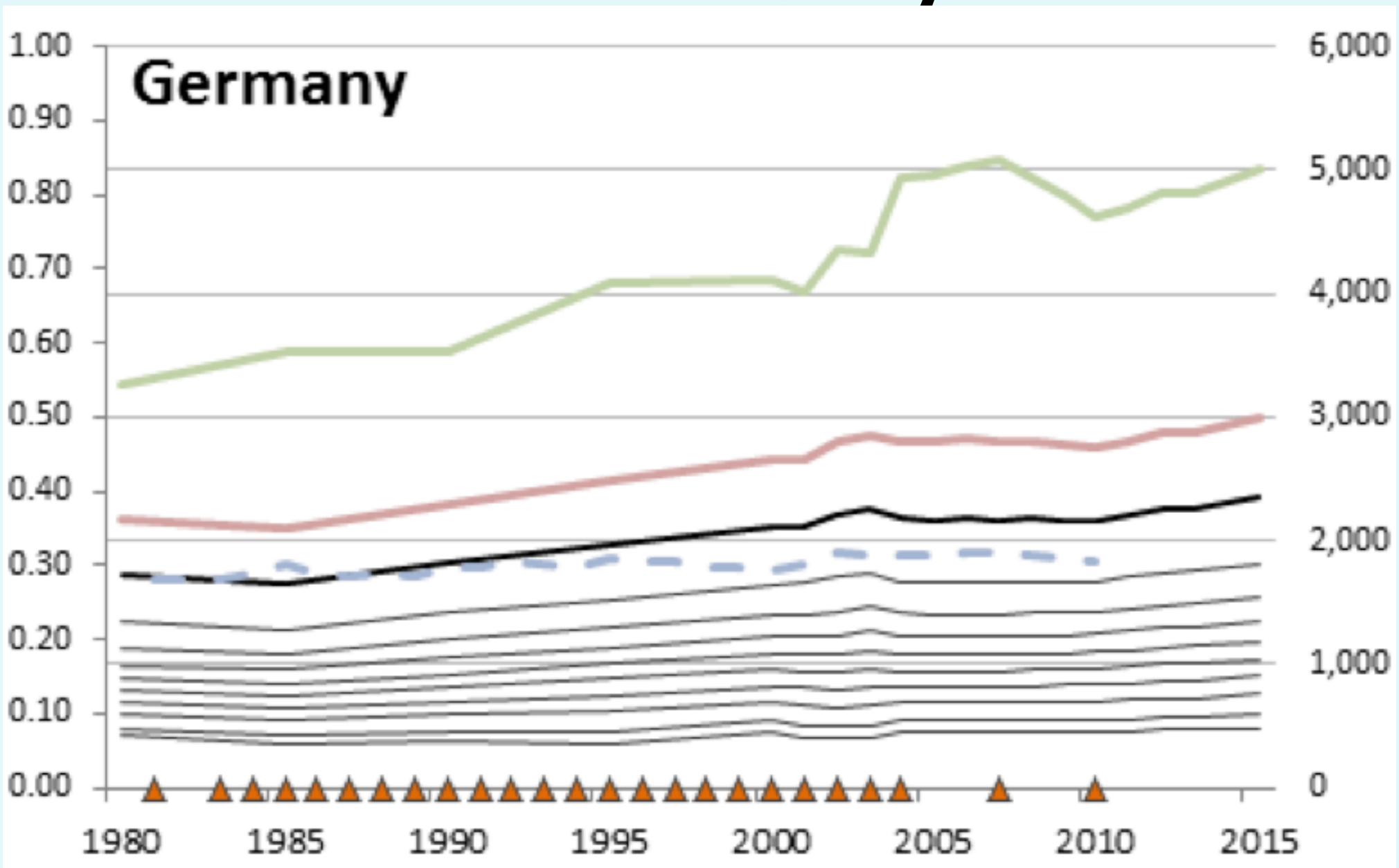
Inclusivity of Growth: US



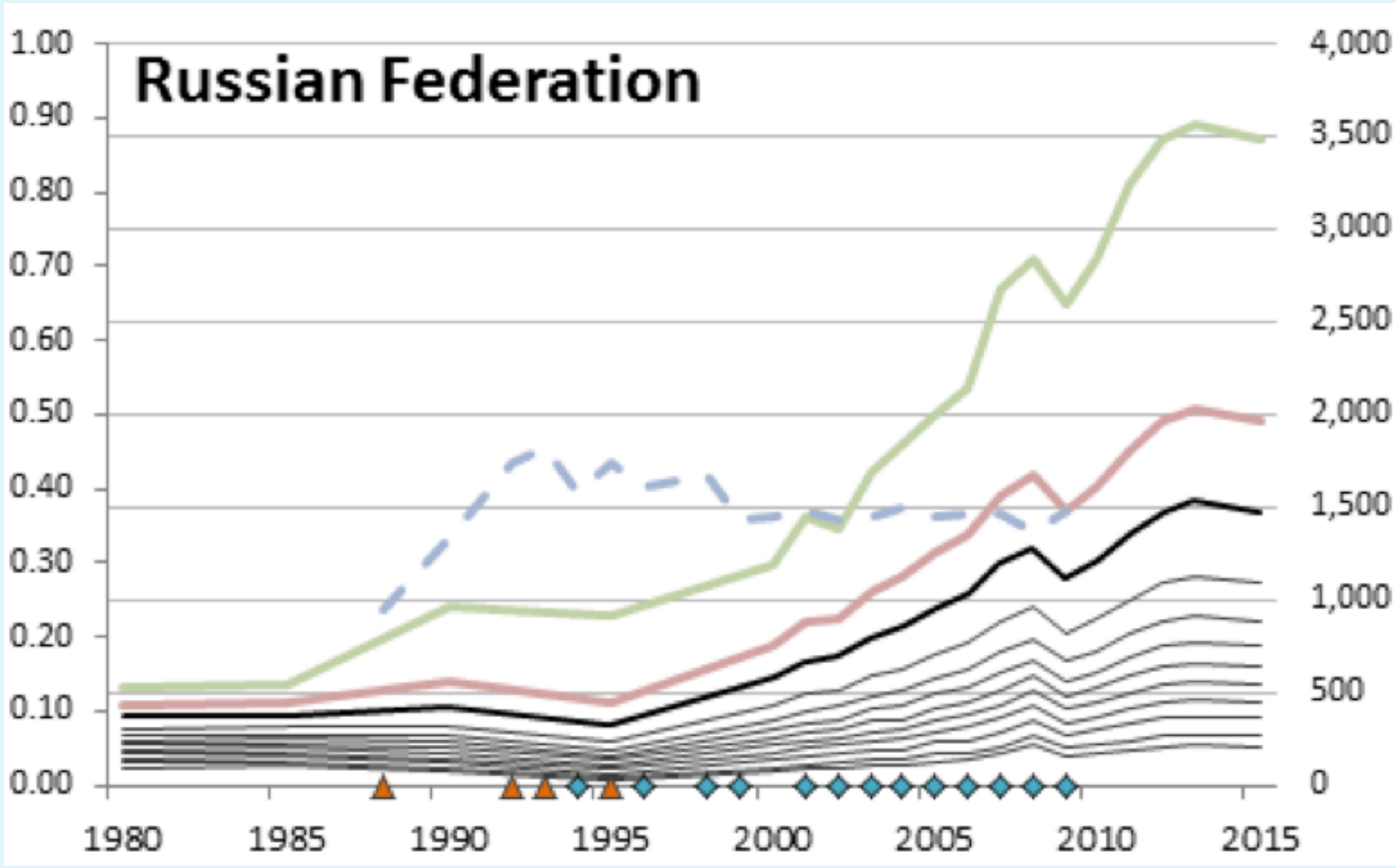
Inclusivity of Growth: UK



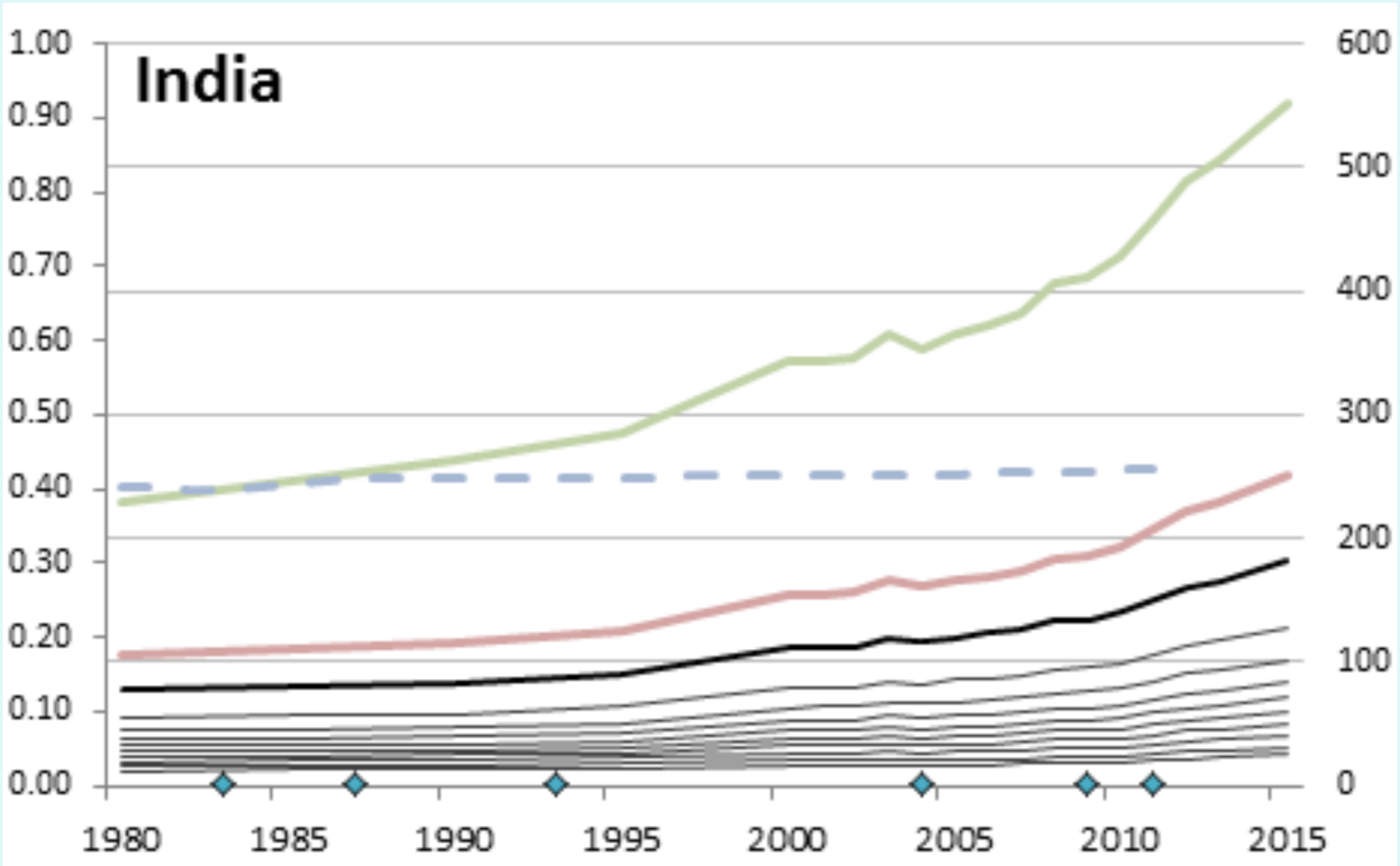
Inclusivity of Growth: Germany



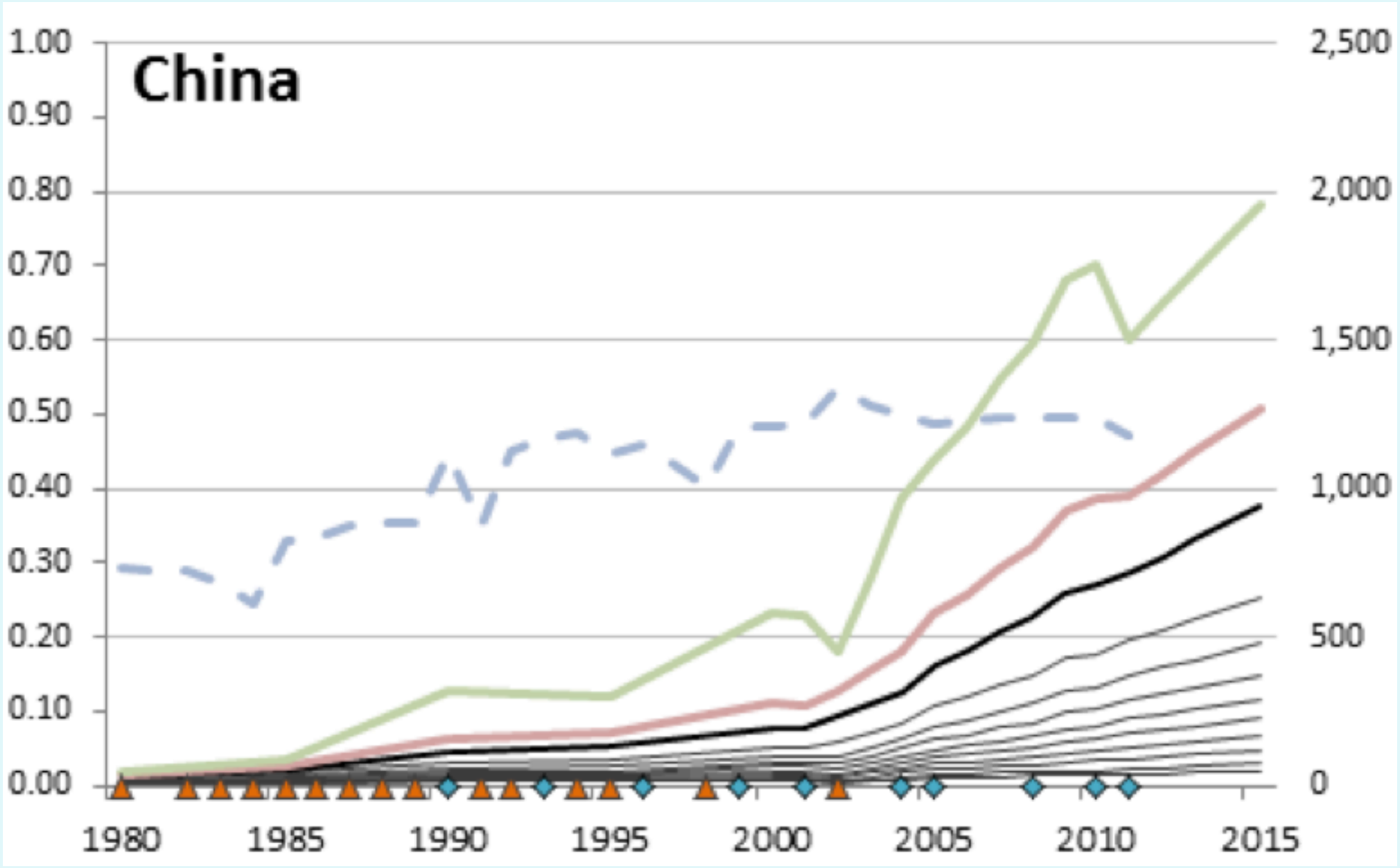
Inclusivity of Growth: Russia



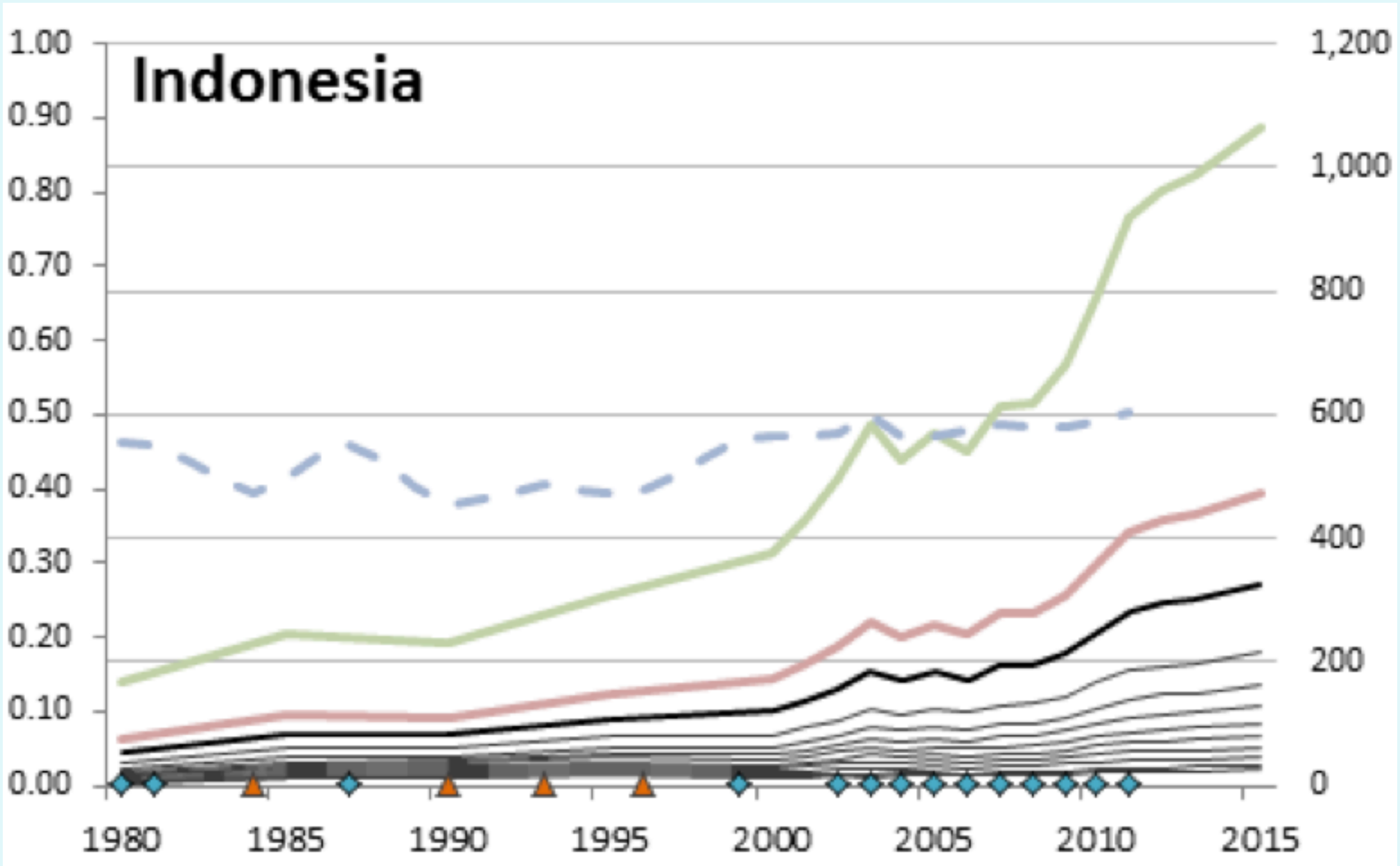
Inclusivity of Growth: India



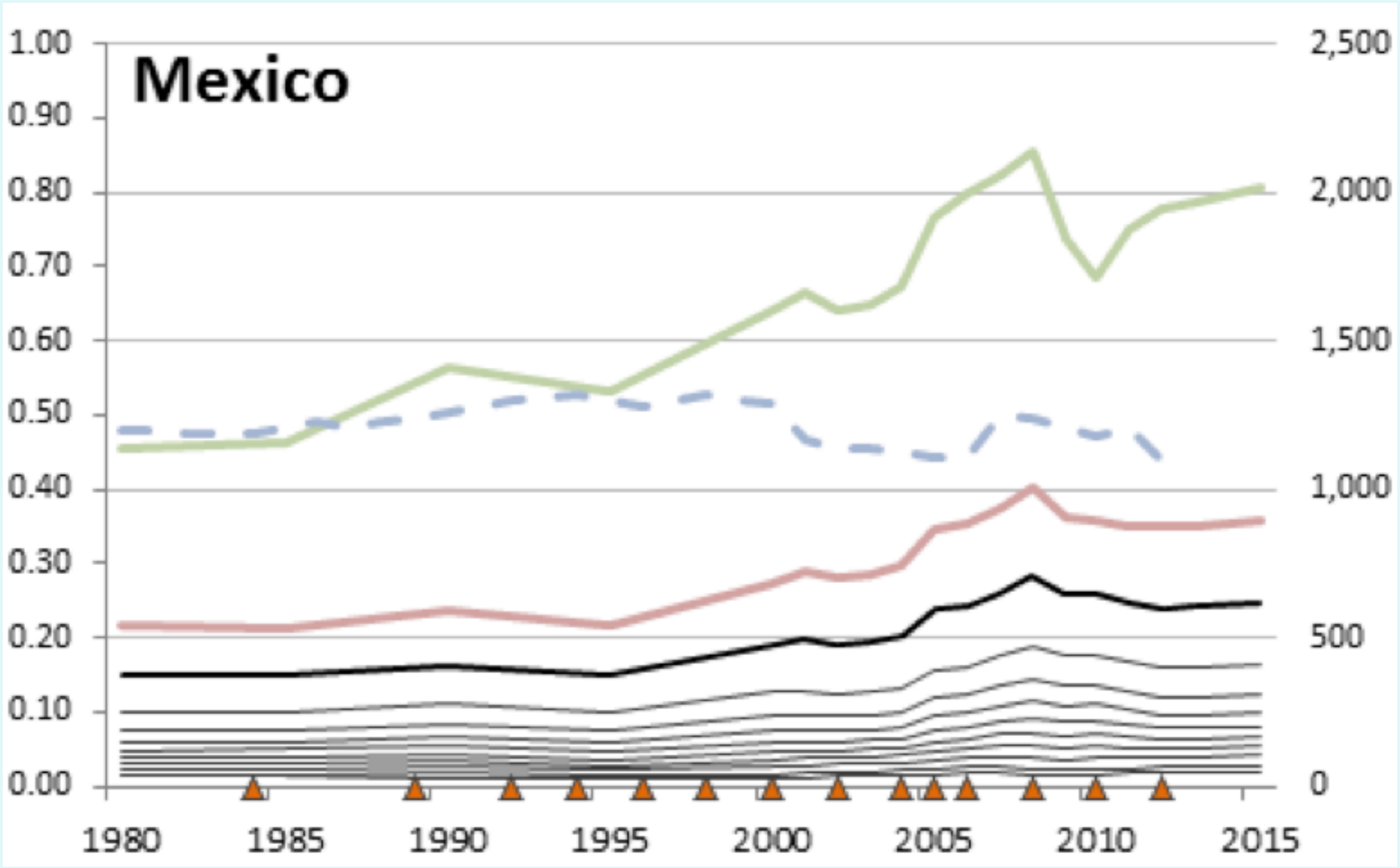
Inclusivity of Growth: China



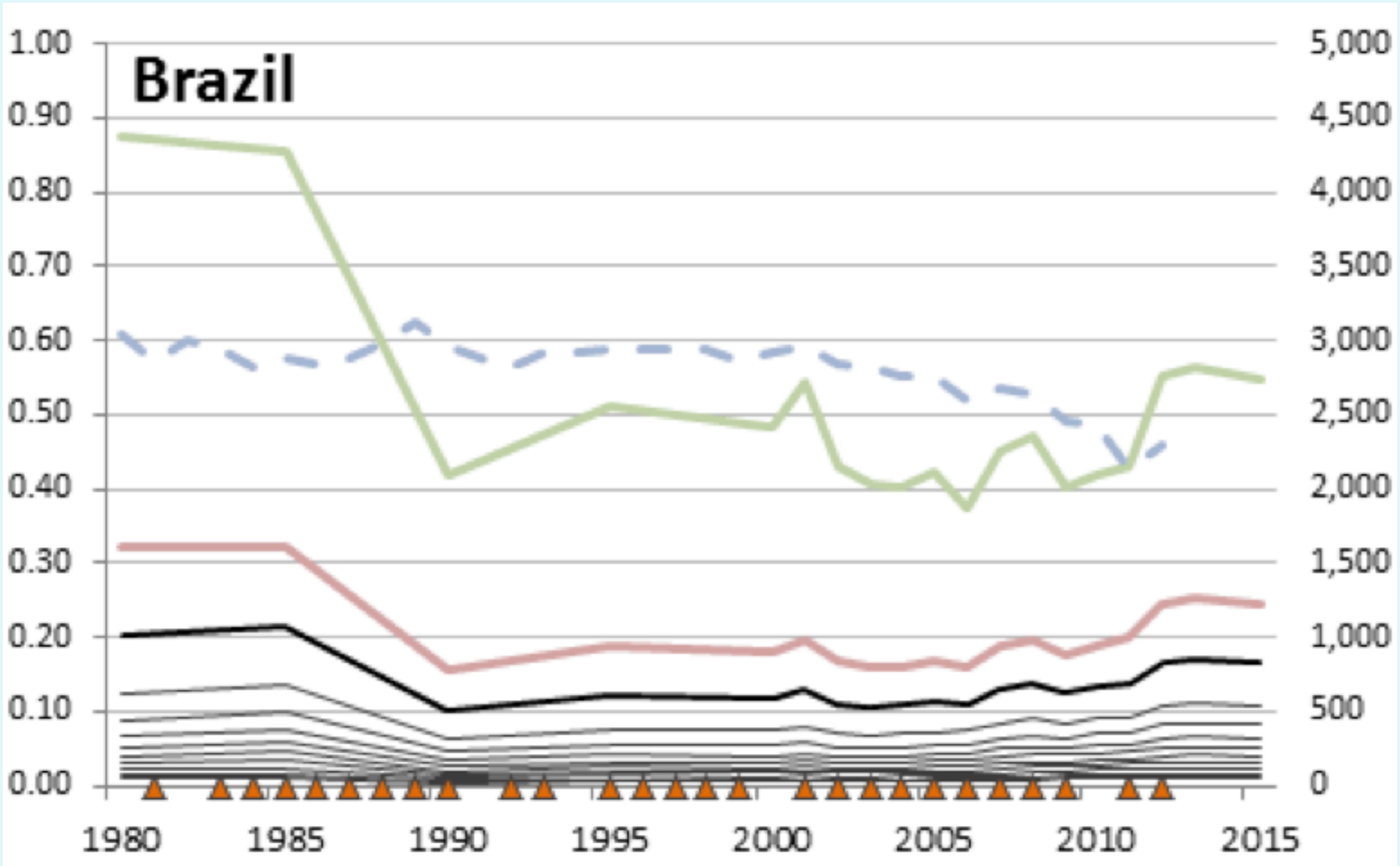
Inclusivity of Growth: Indonesia



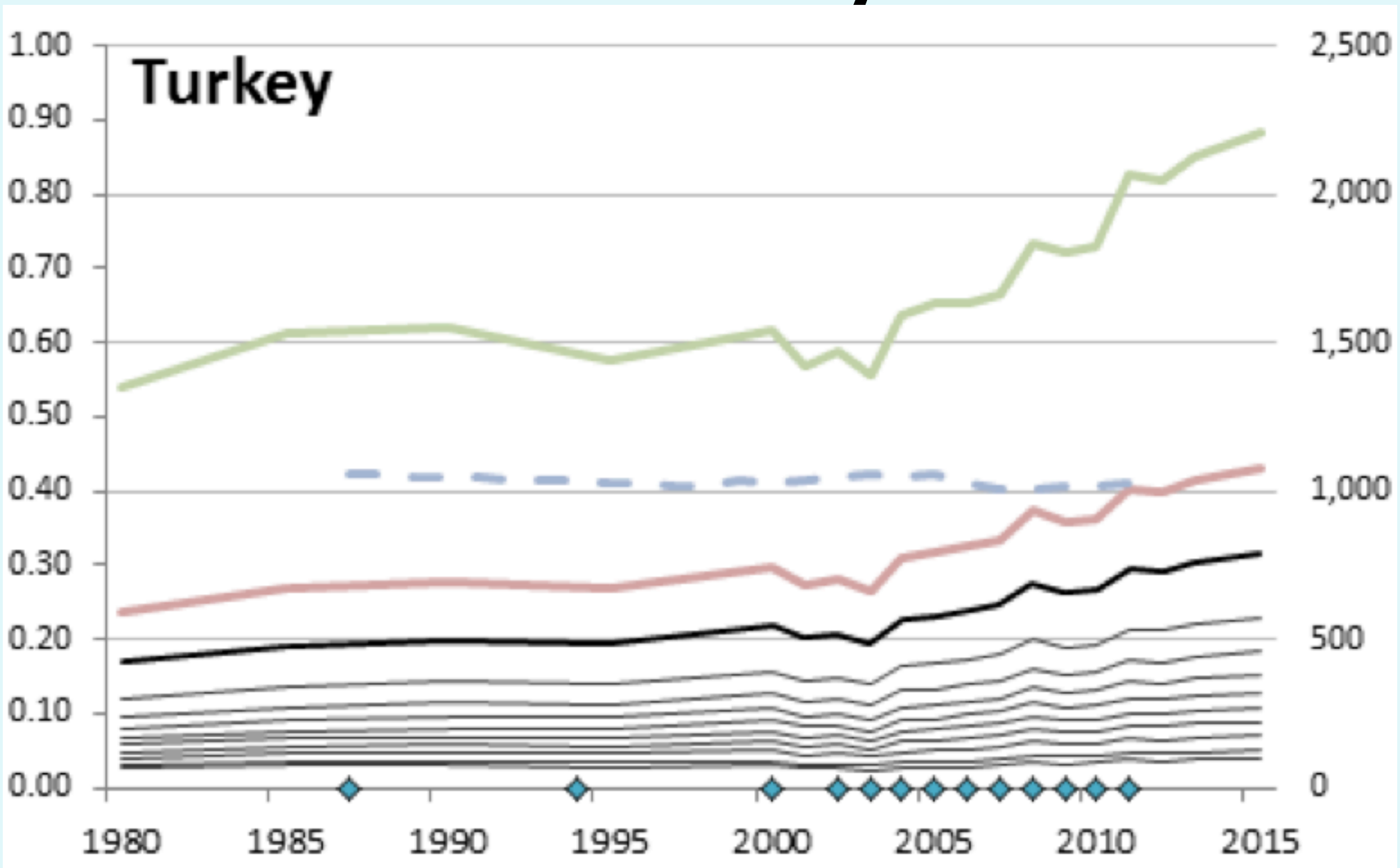
Inclusivity of Growth: Mexico



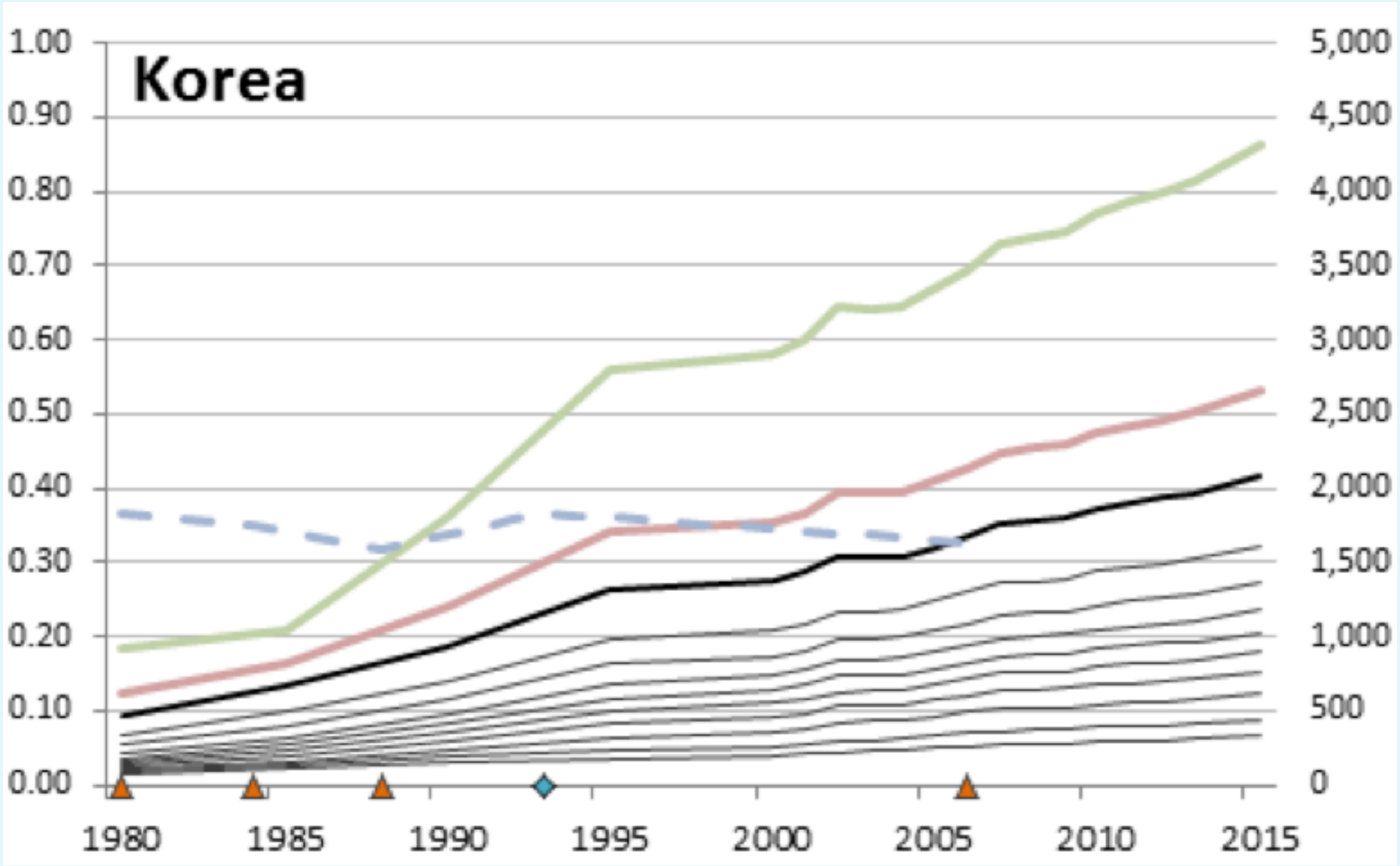
Inclusivity of Growth: Brazil



Inclusivity of Growth: Turkey

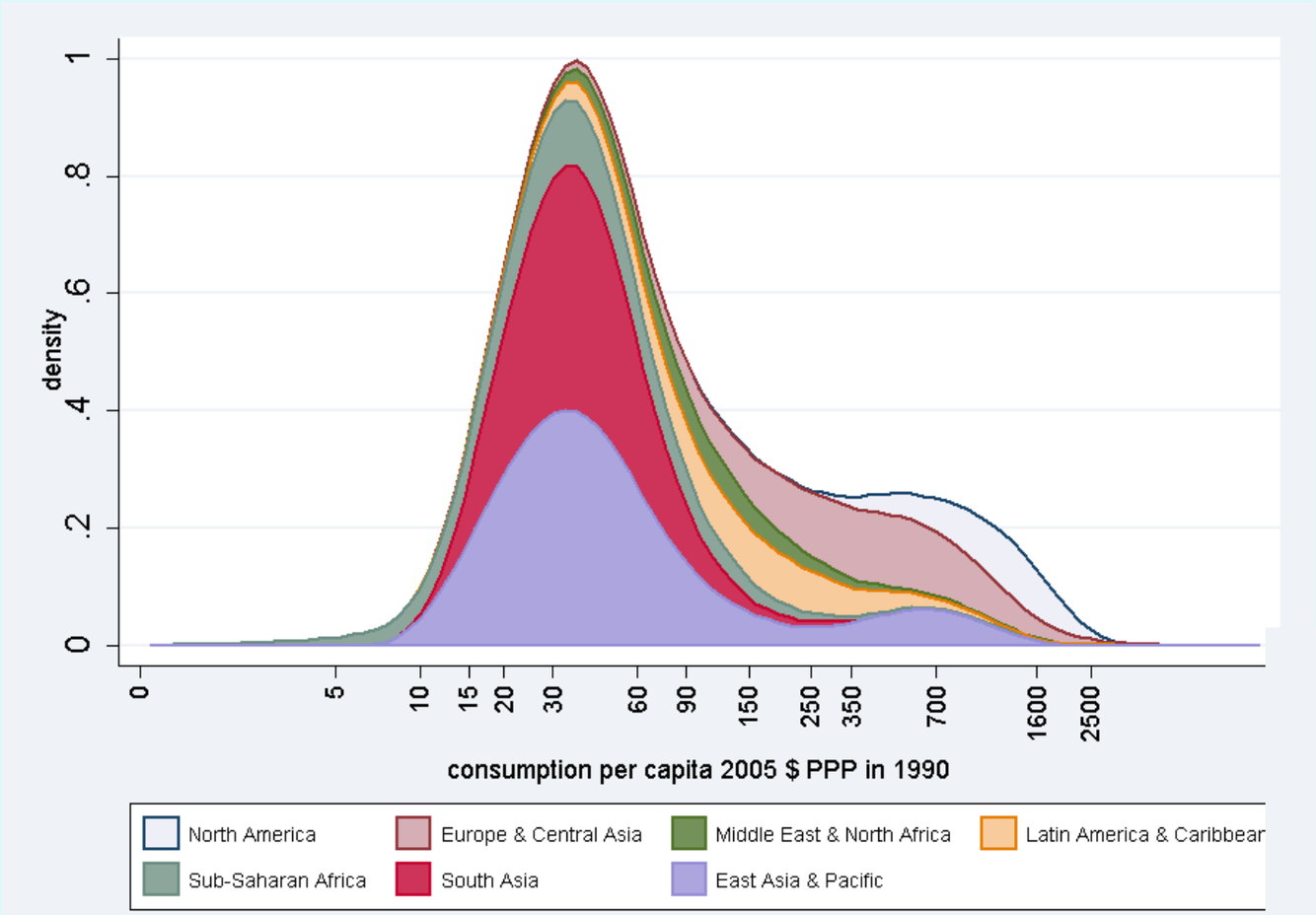


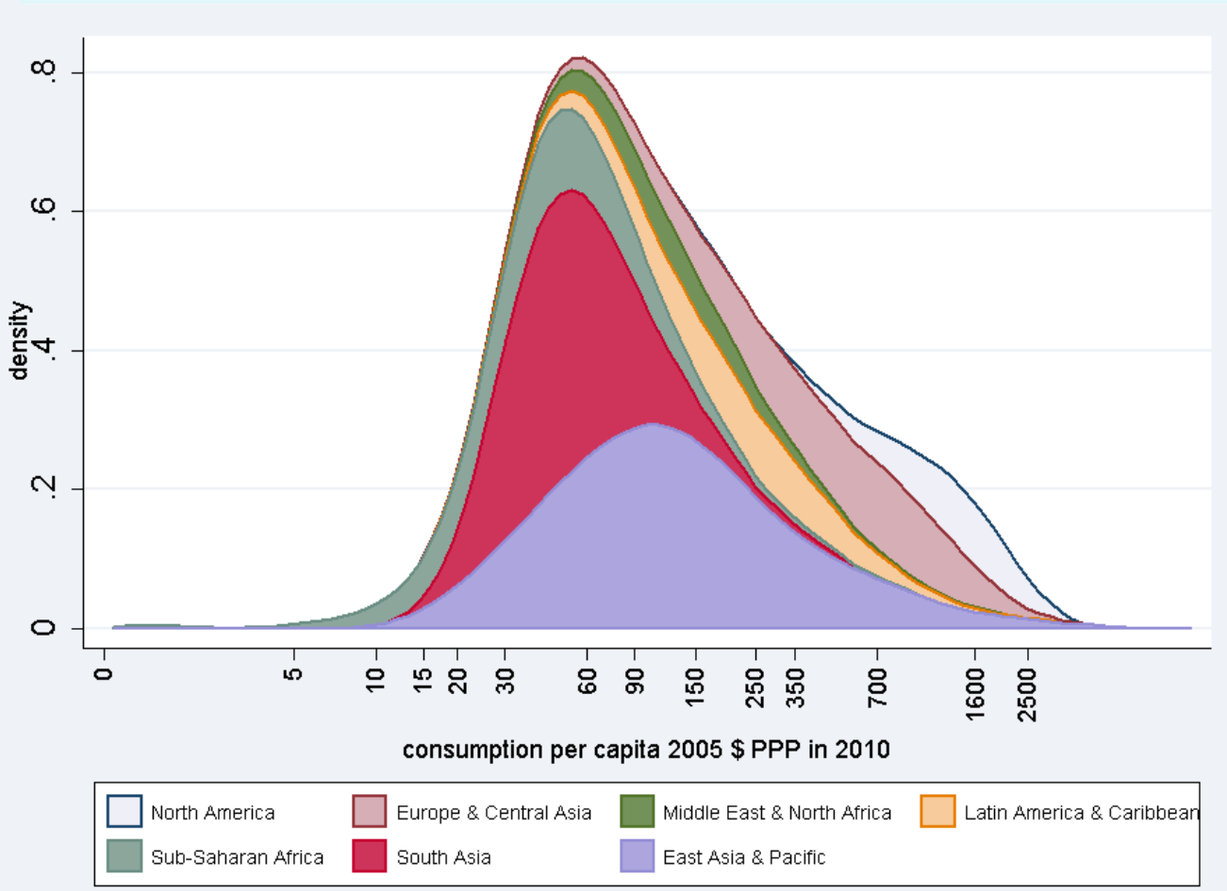
Inclusivity of Growth: South Korea



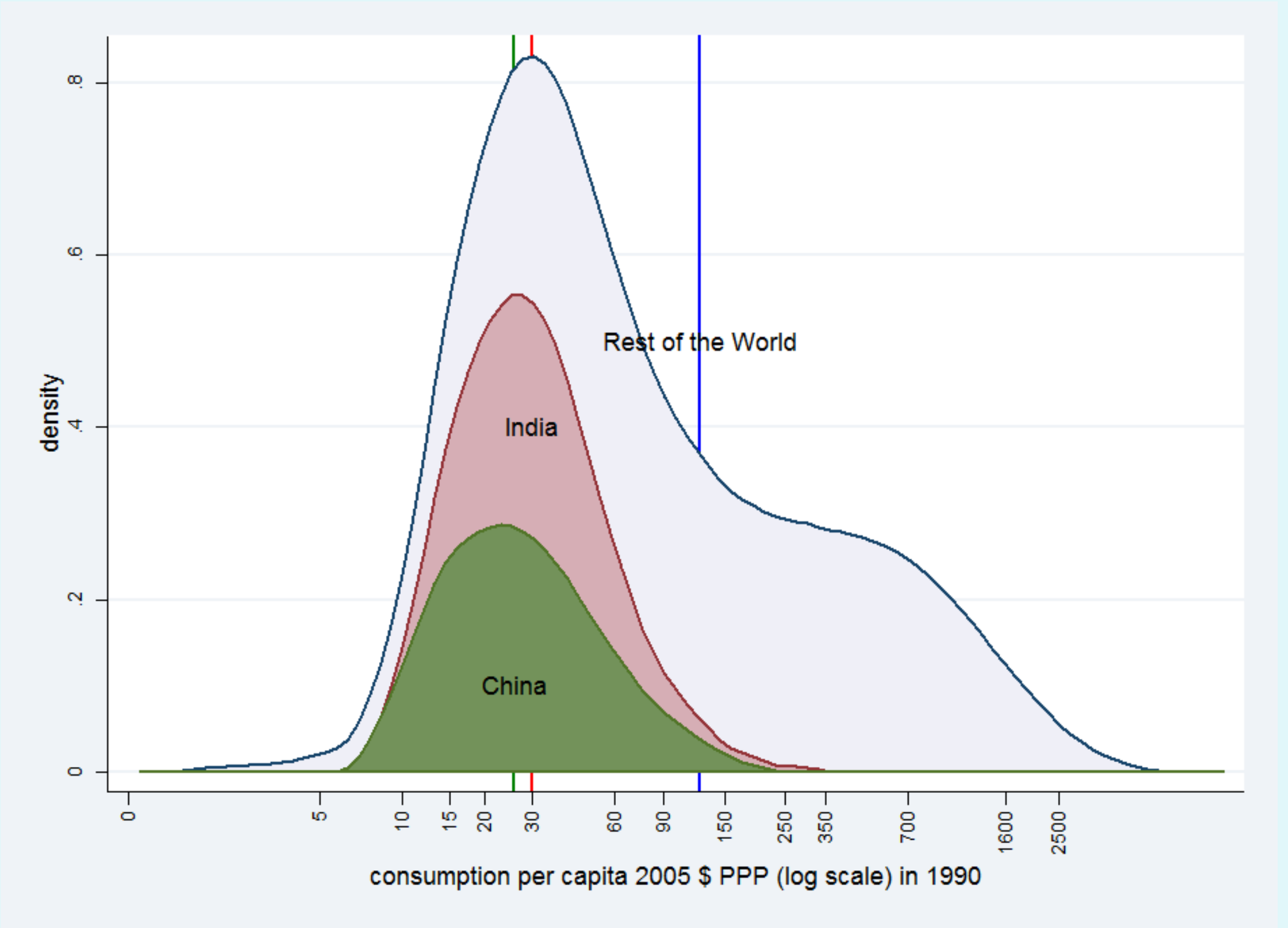
The World Income Distribution has changed, especially after 1990, but mainly because of China's per capita growth

Kernel Density Superposition for World Consumption

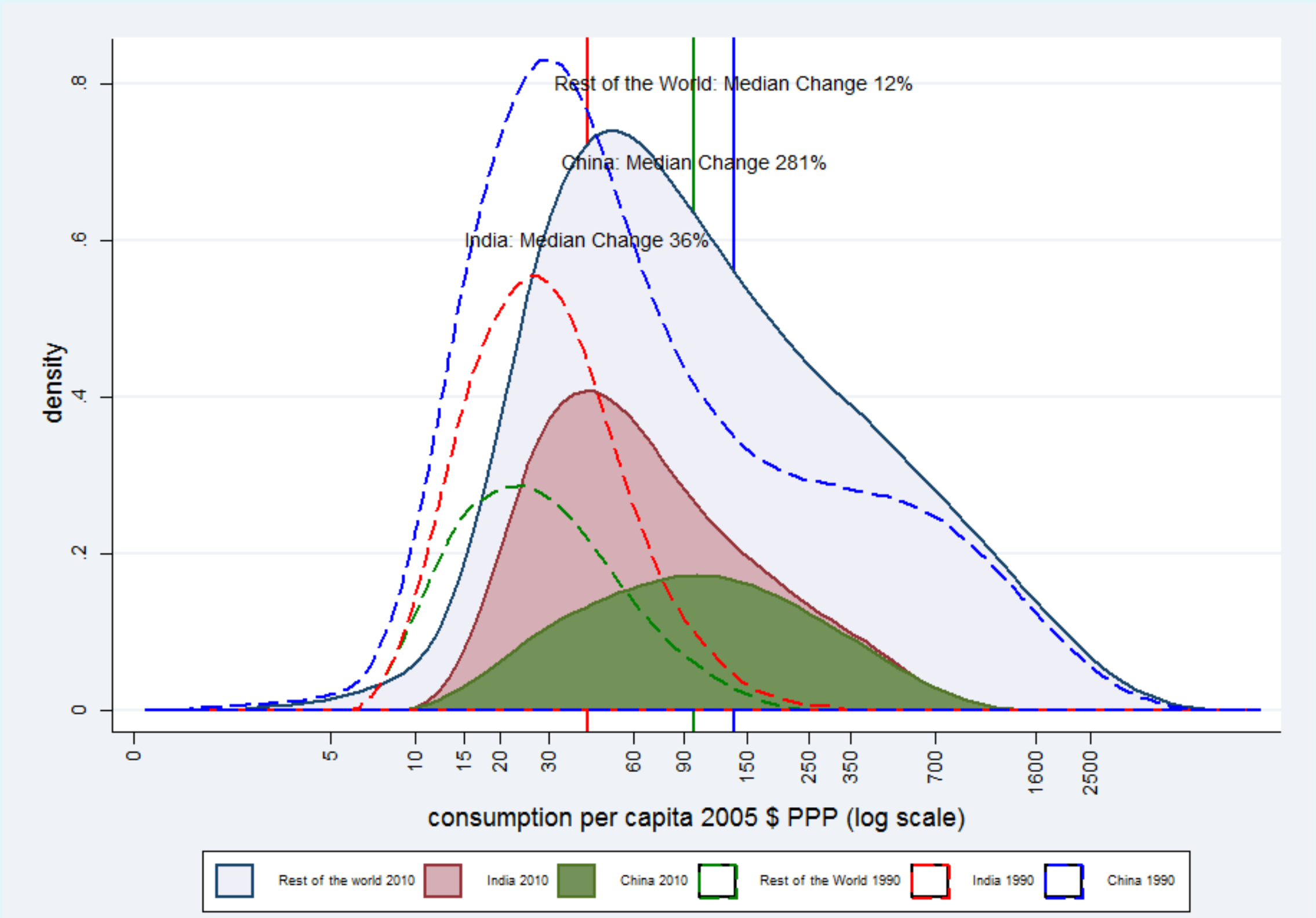




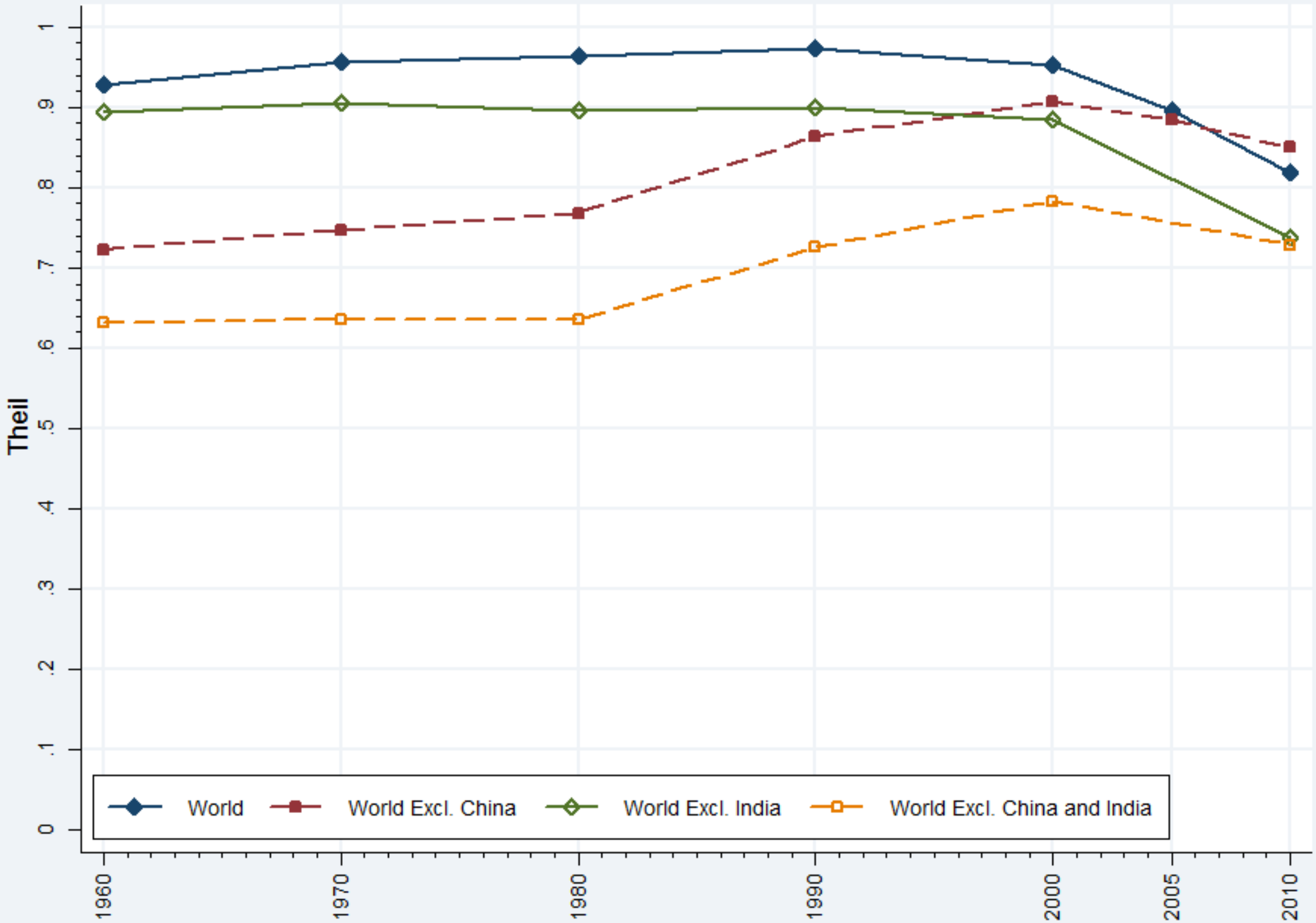
Global Consumption Distribution – 1990



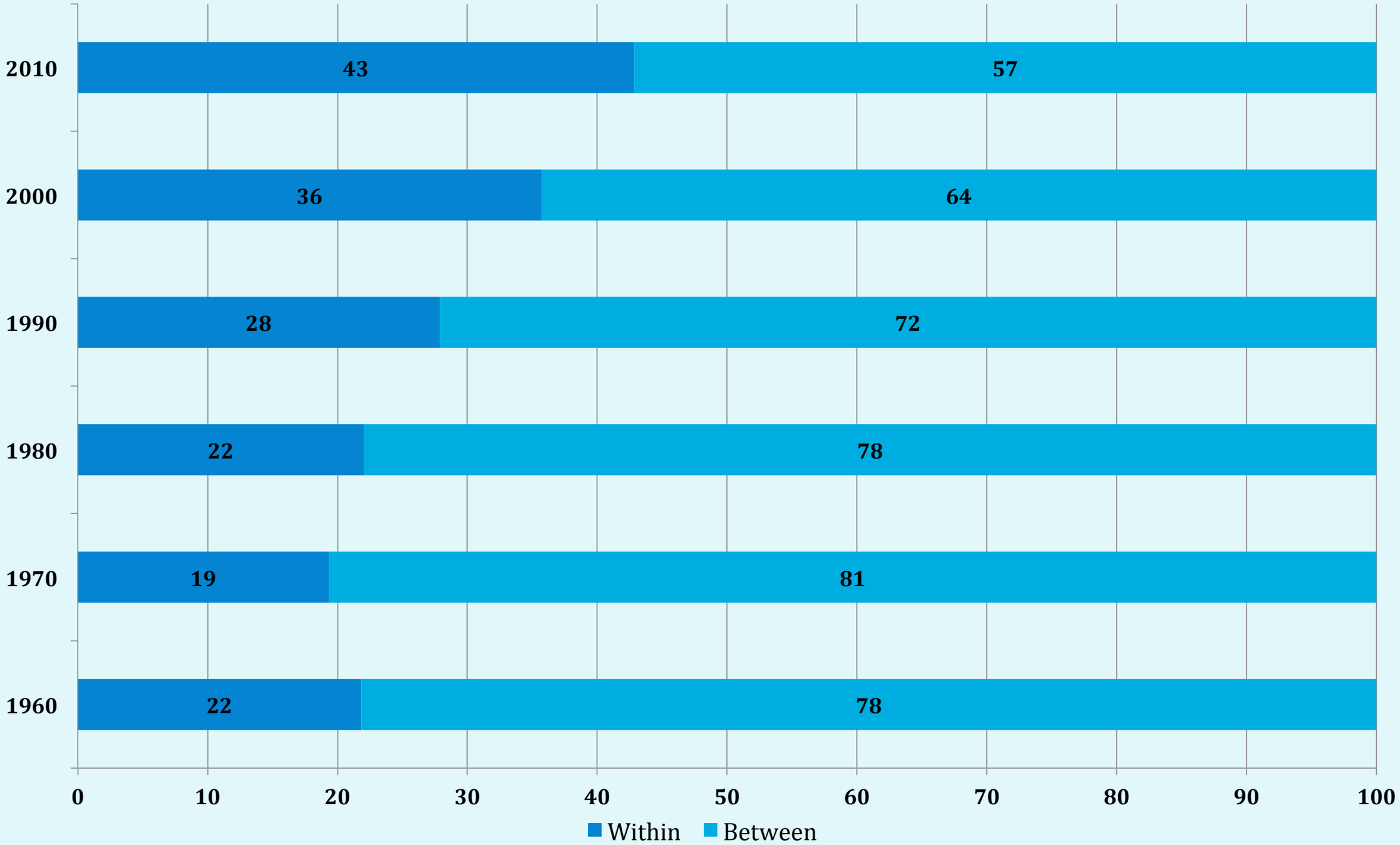
Global Consumption Distribution – 1990 to 2010



Global Consumption Inequality - Theil

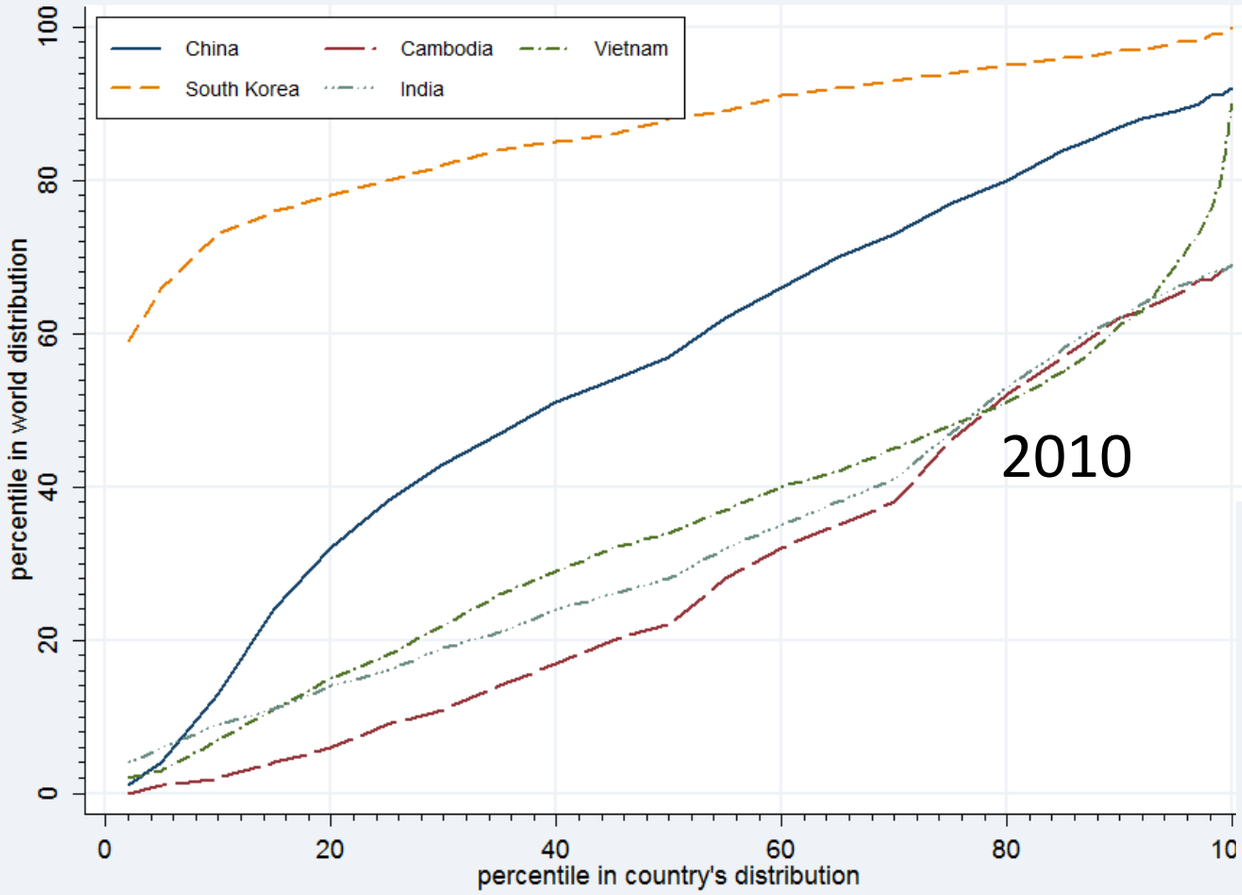


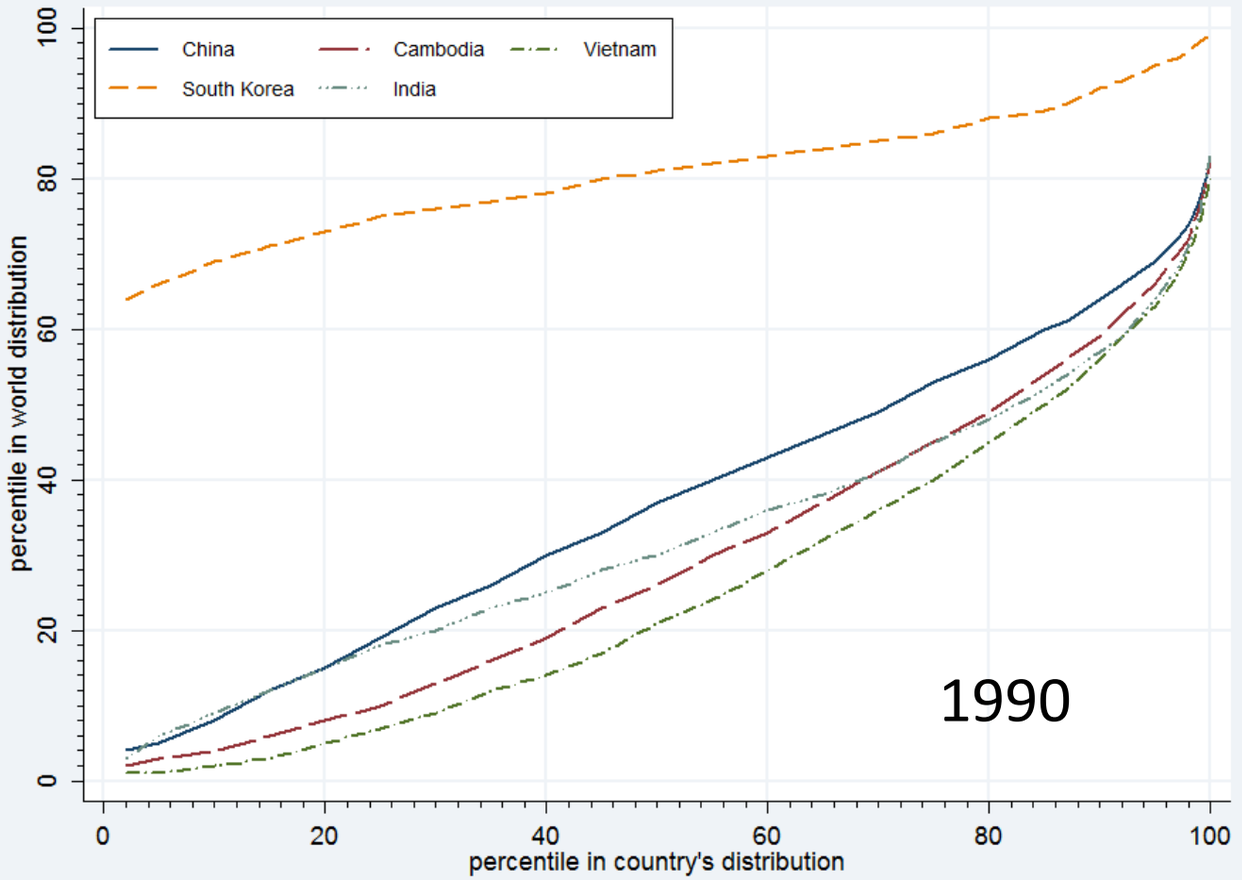
Decomposition of Global Income Inequality



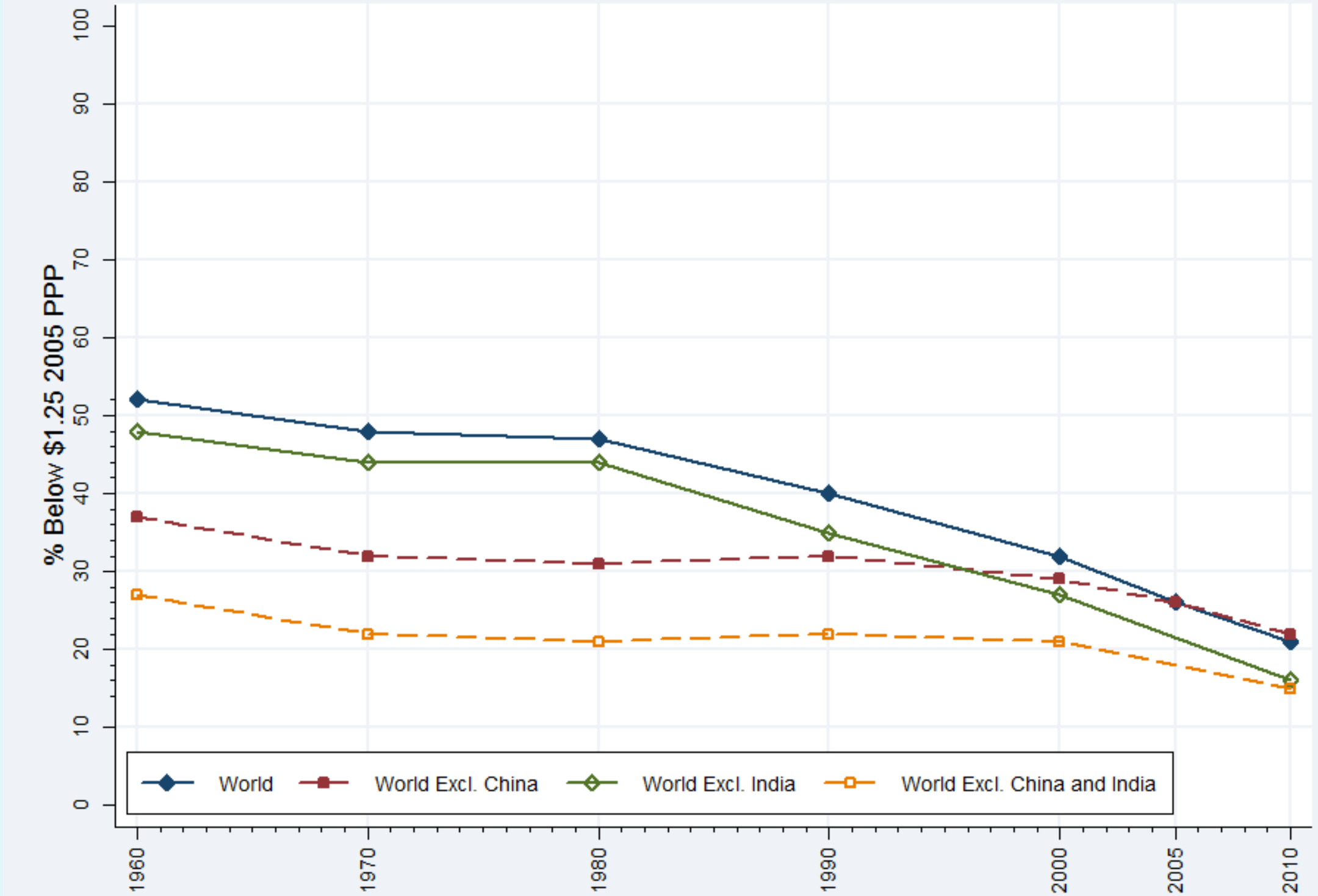
GE(0) – Mean Logarithm Deviation

Relative position of countries – top third of FGC

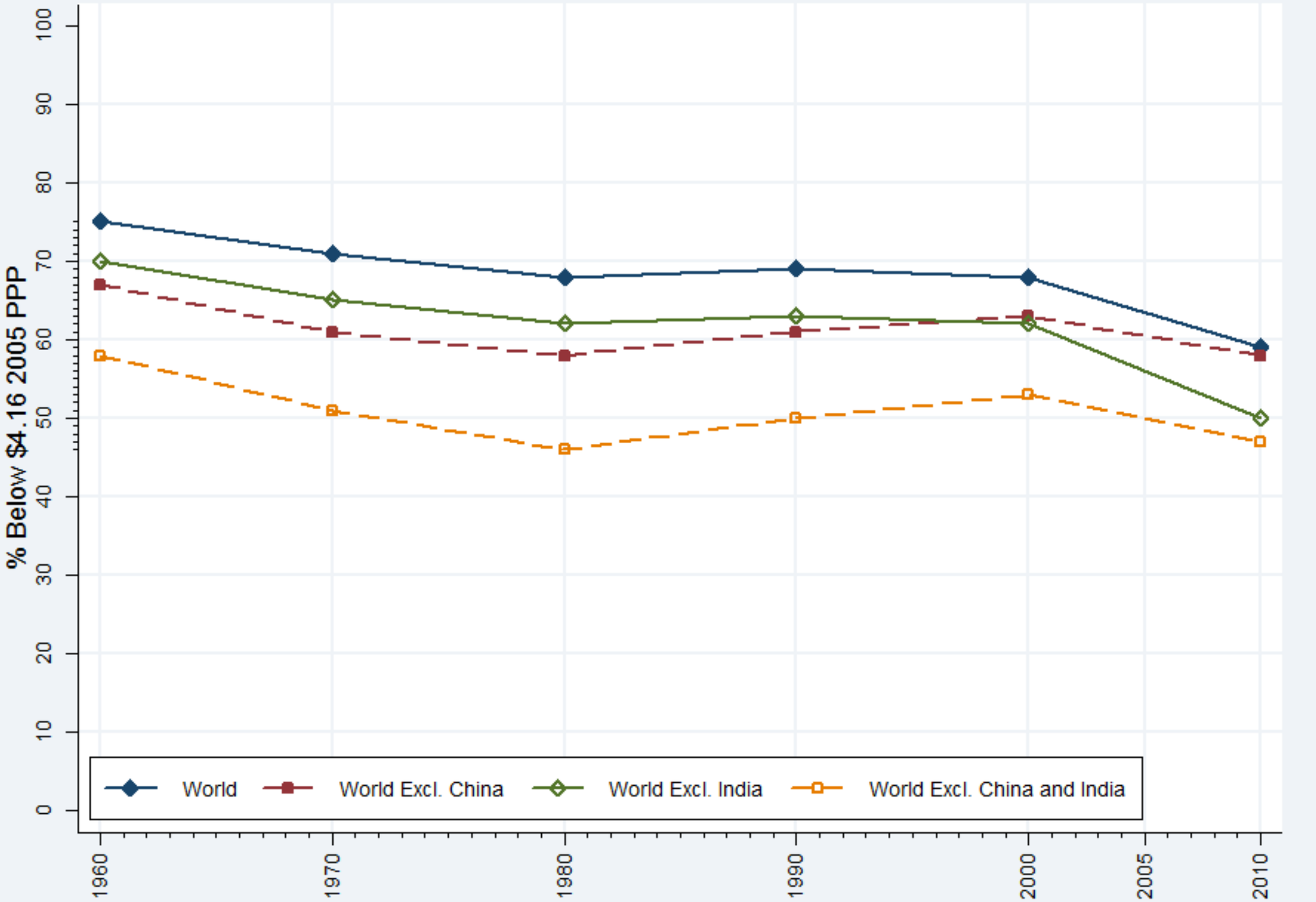




Poverty in World excluding China, India

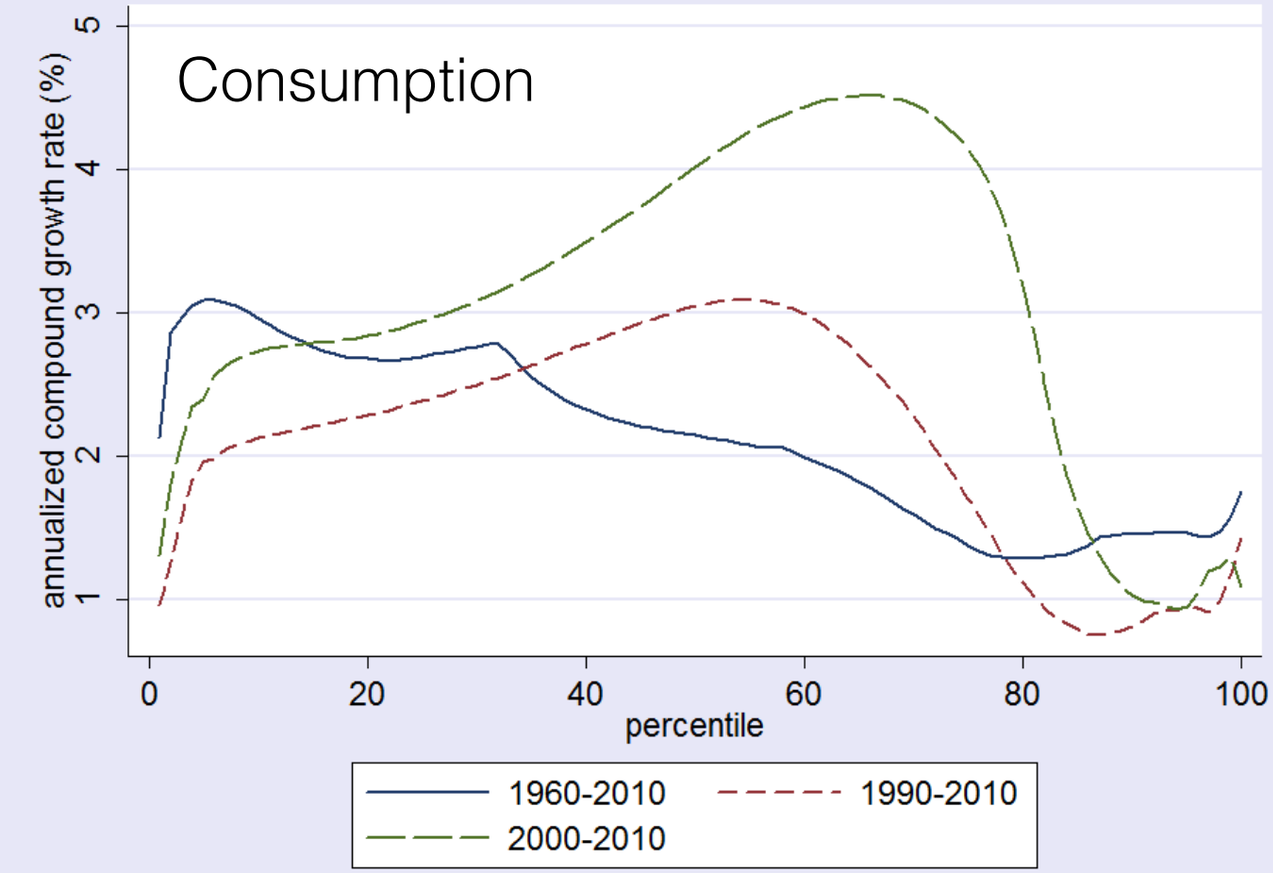


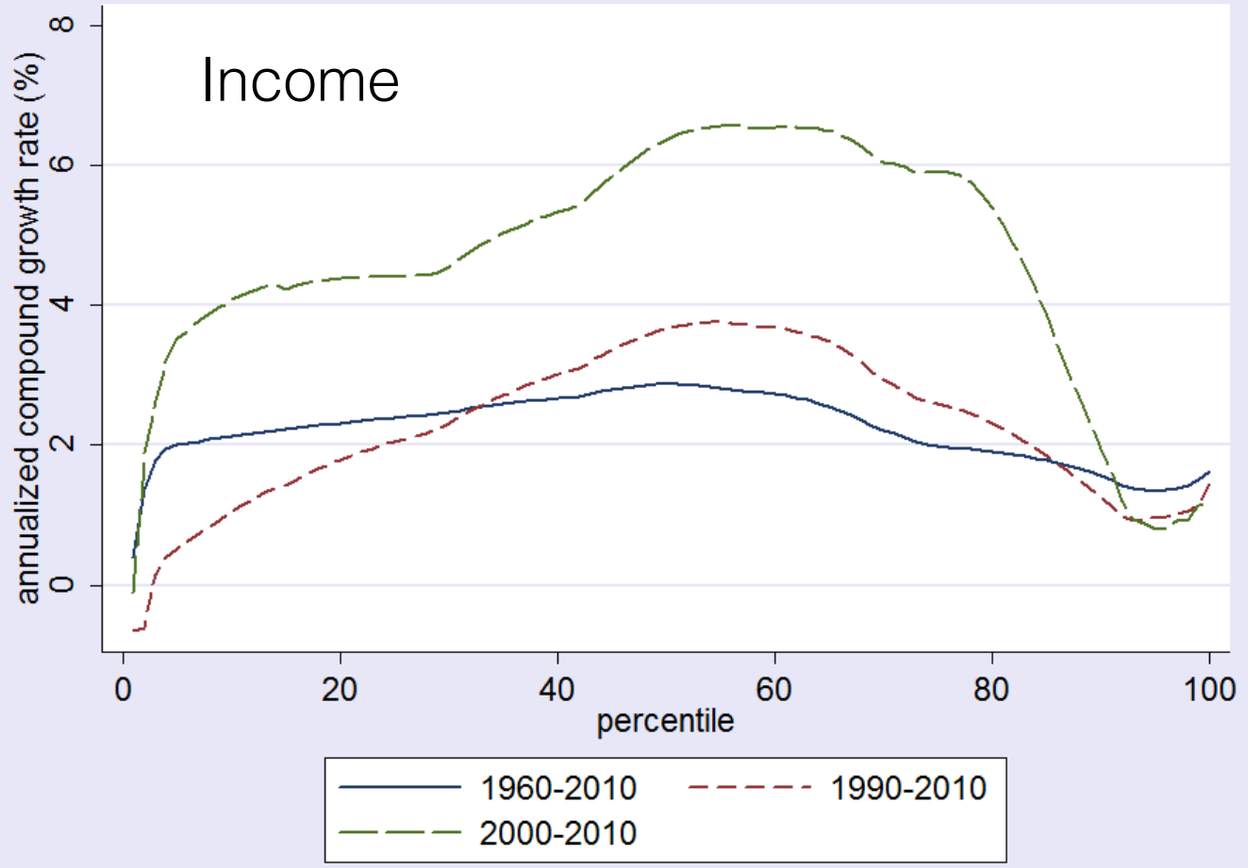
Poverty in World excluding China, India



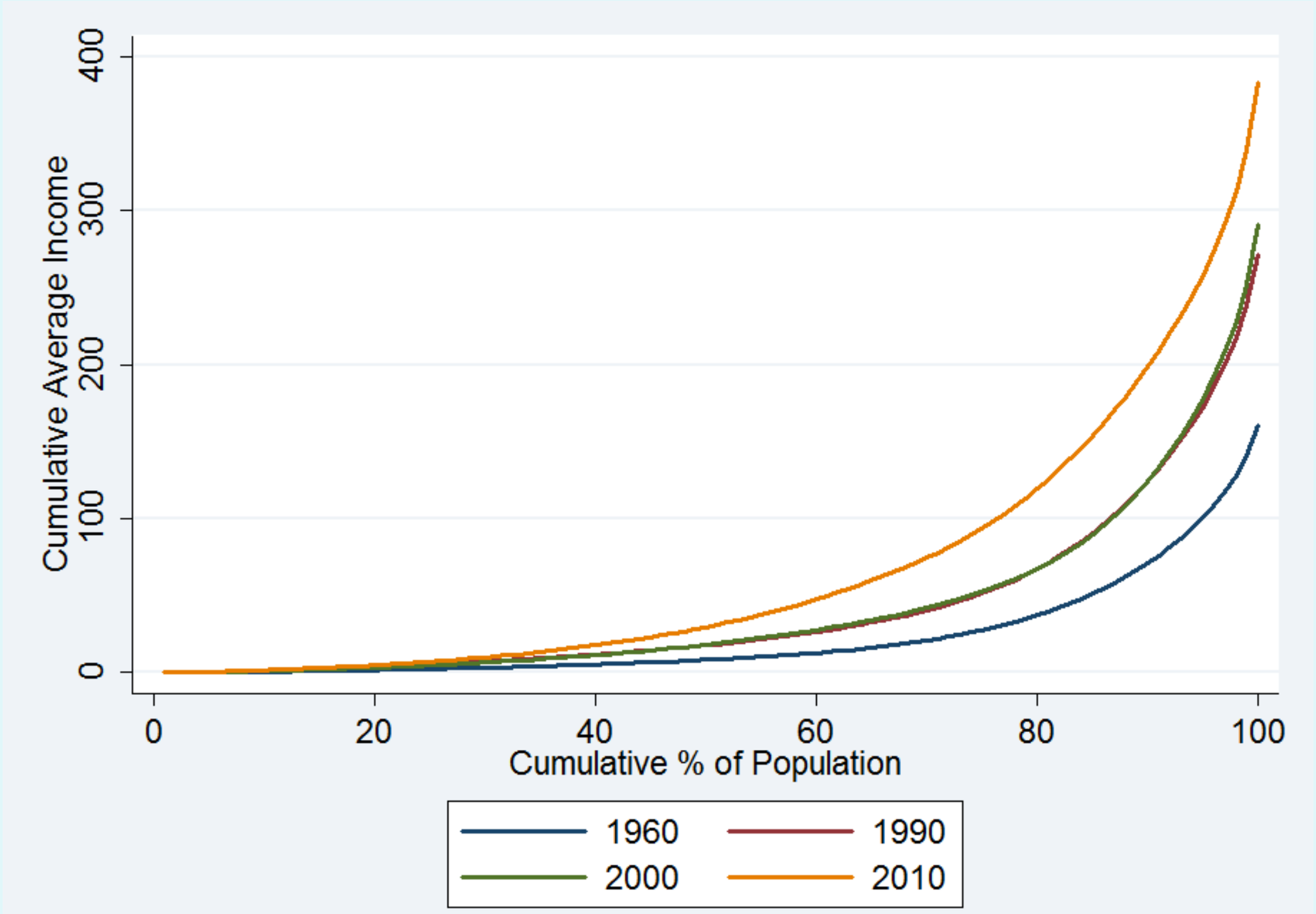
RELATIVE INCOME GAINS MAY HAVE BEEN SMALLER BUT ABSOLUTE GAINS LARGER FOR THE GLOBAL AFFLUENT

Global Growth Incidence Curve

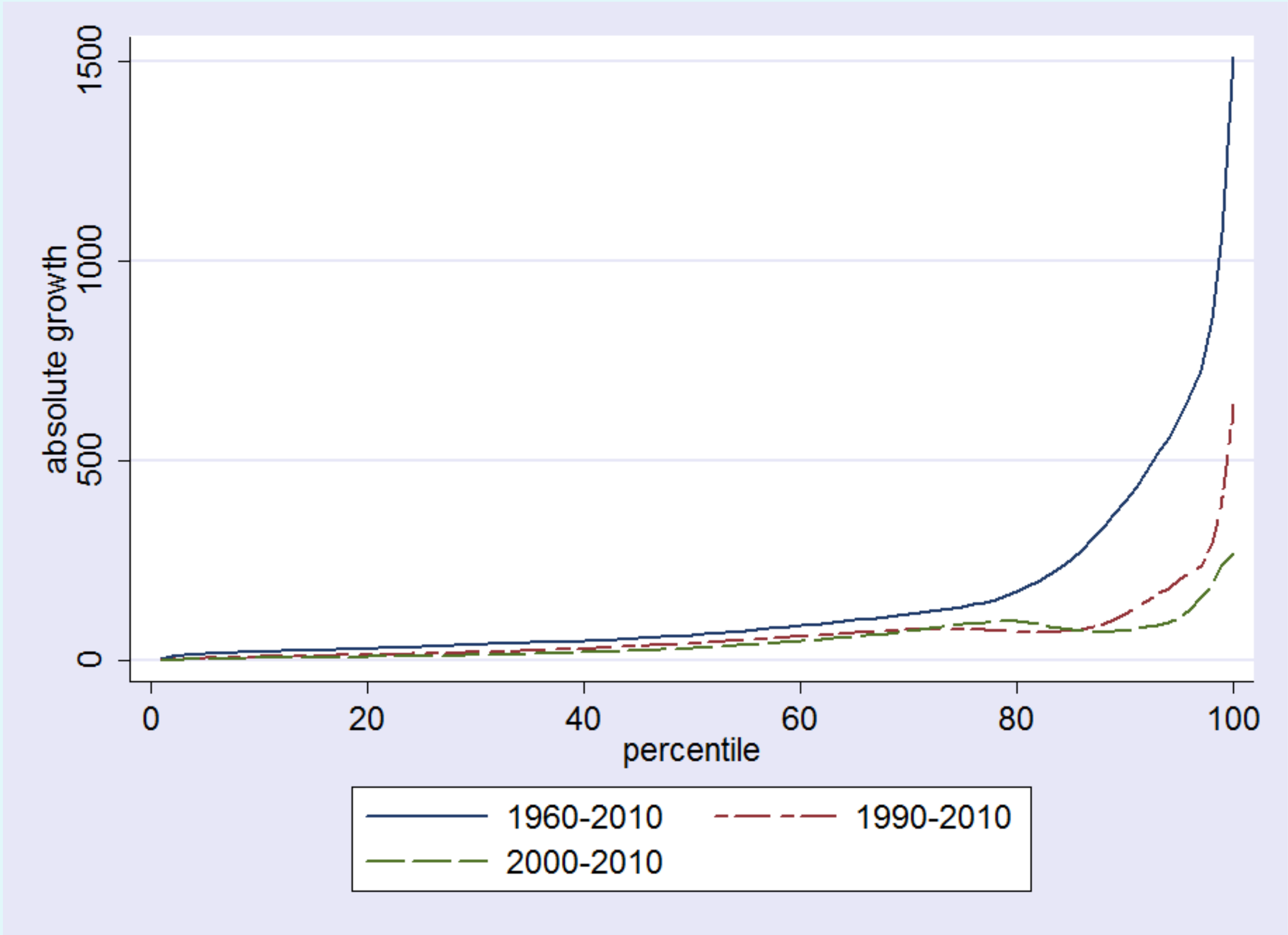




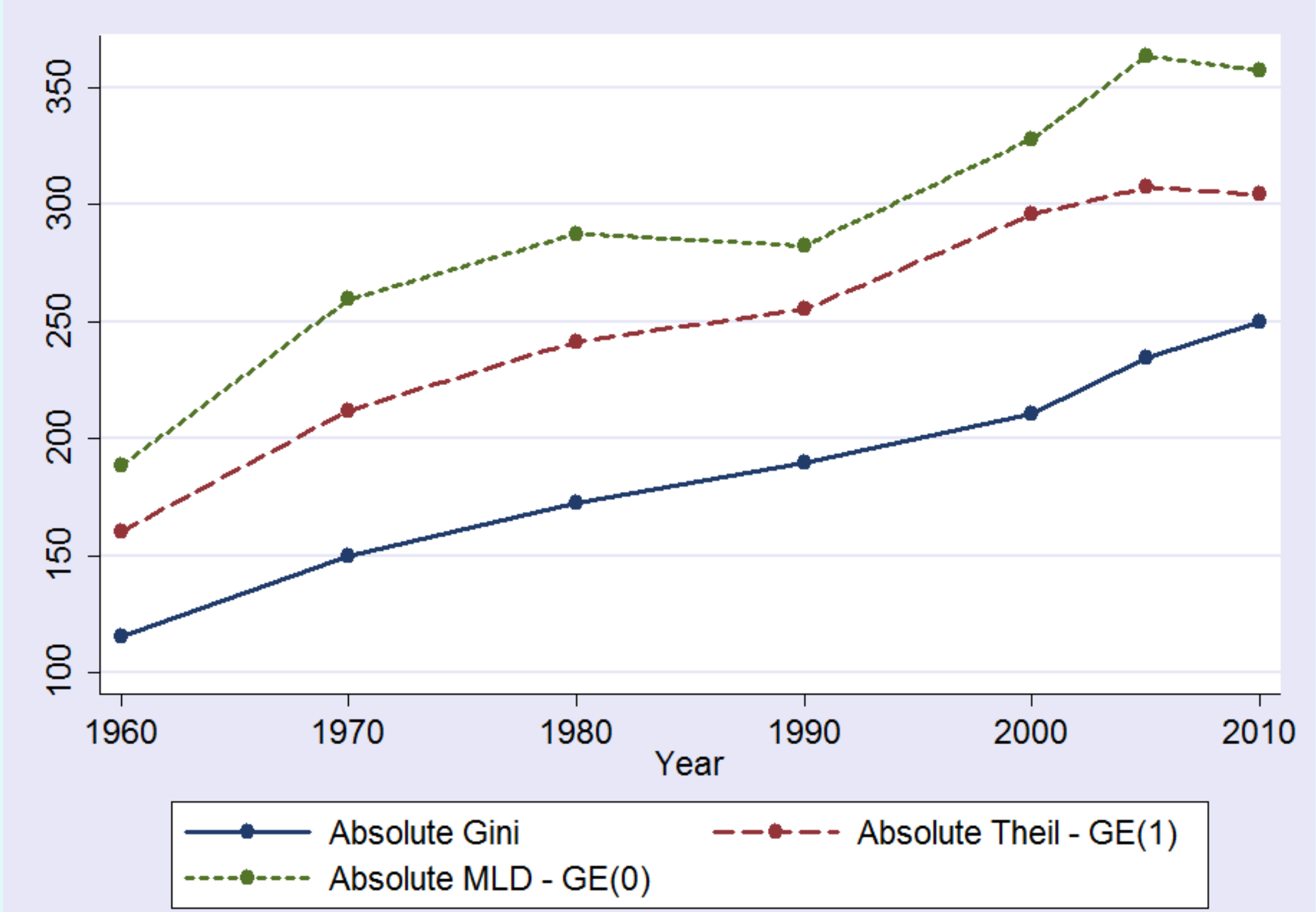
Pareto Improvements? Global Generalized Lorenz Curve



Global Consumption Absolute Growth Incidence Curve

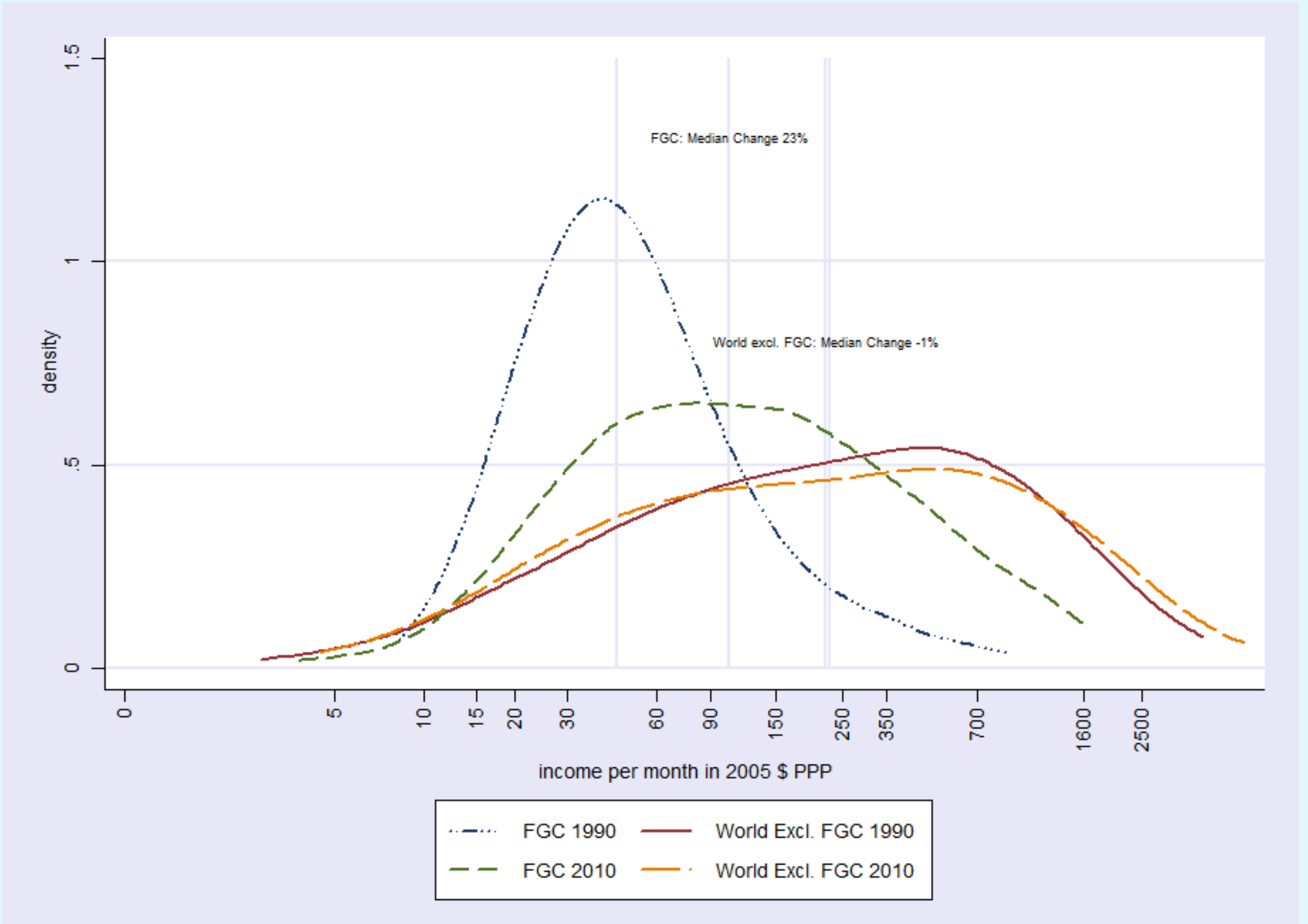


Global Absolute Income Inequality

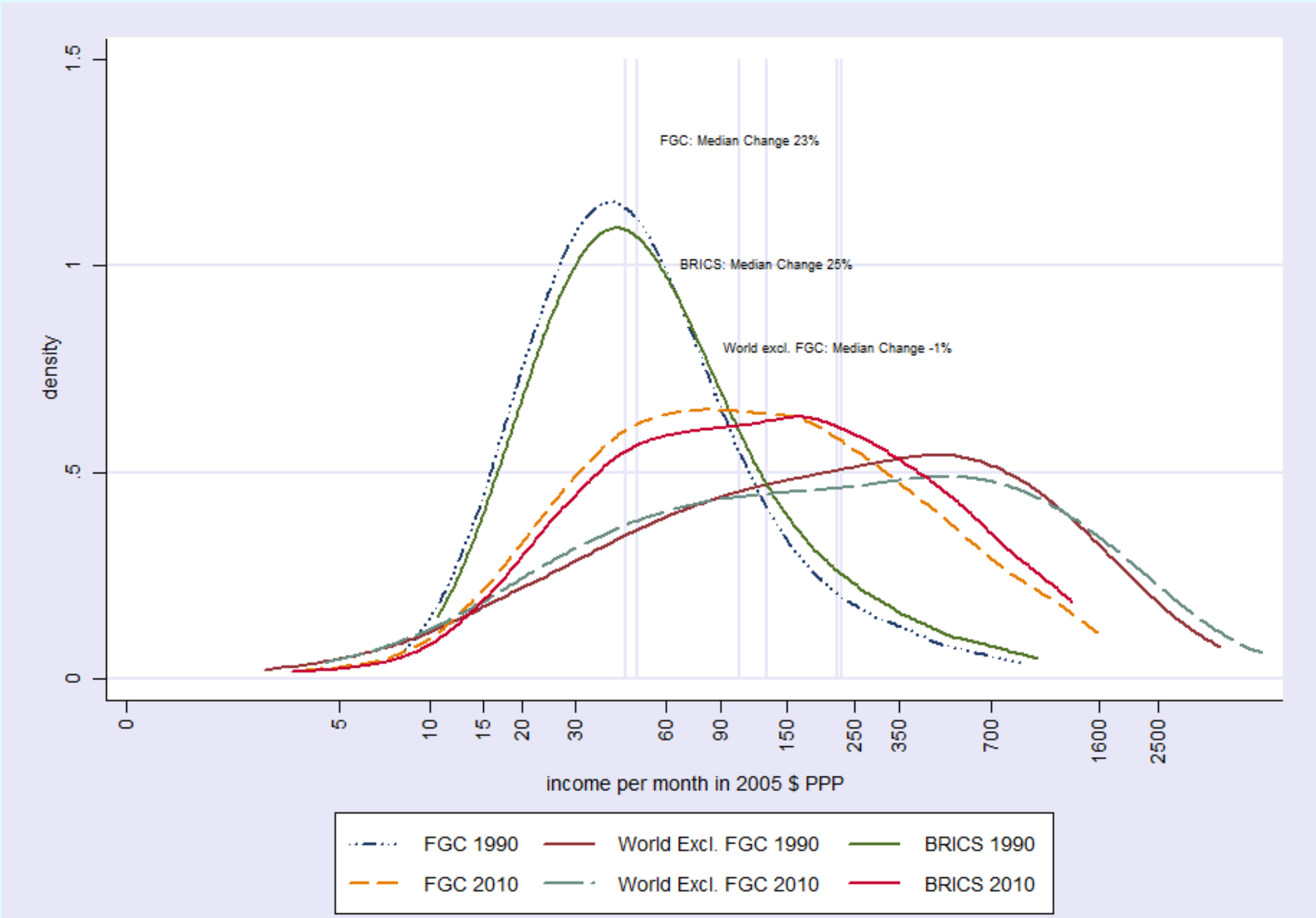


FGCs are a more useful category than BRICS

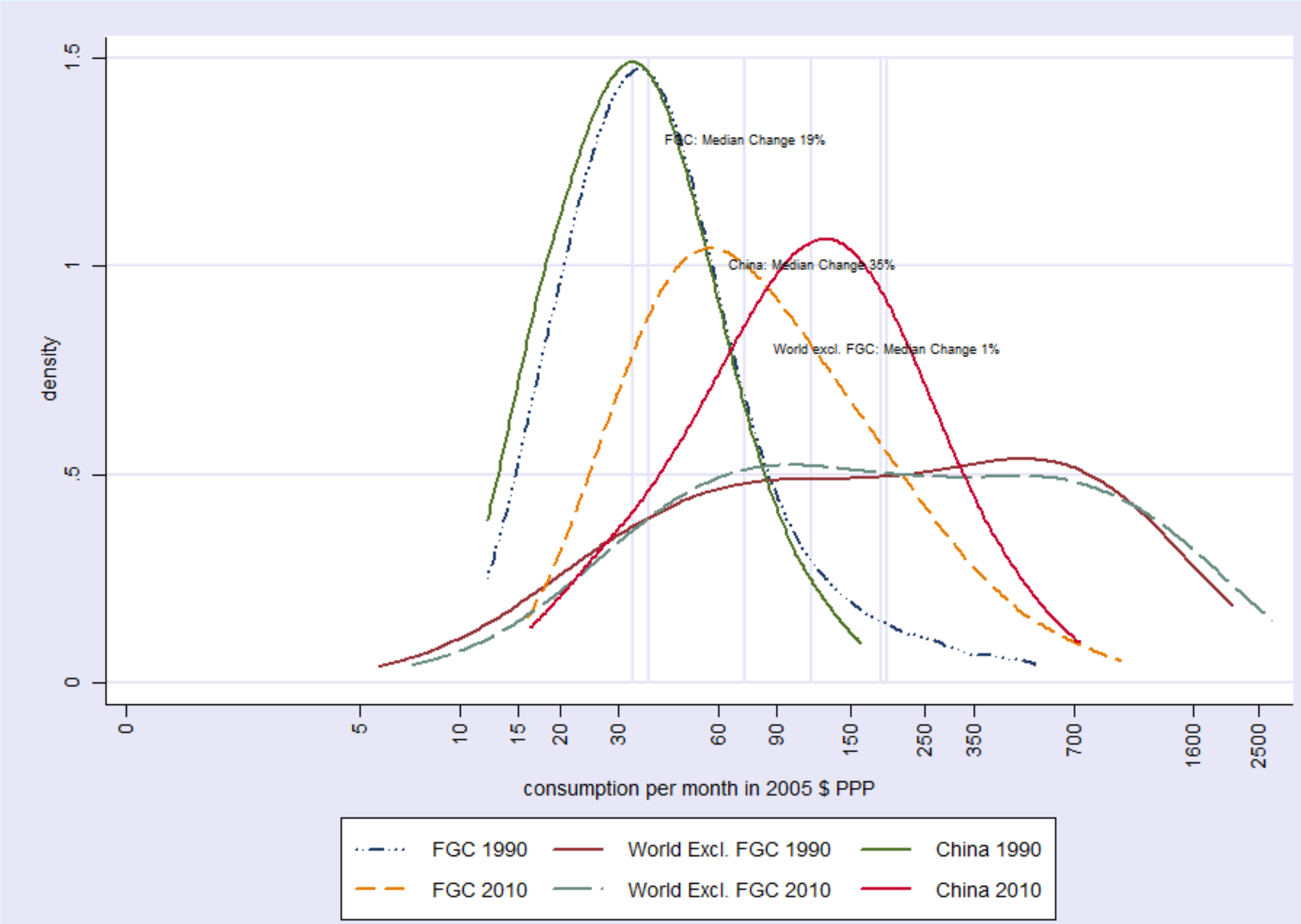
Change in Distribution for FGC and Rest of the World



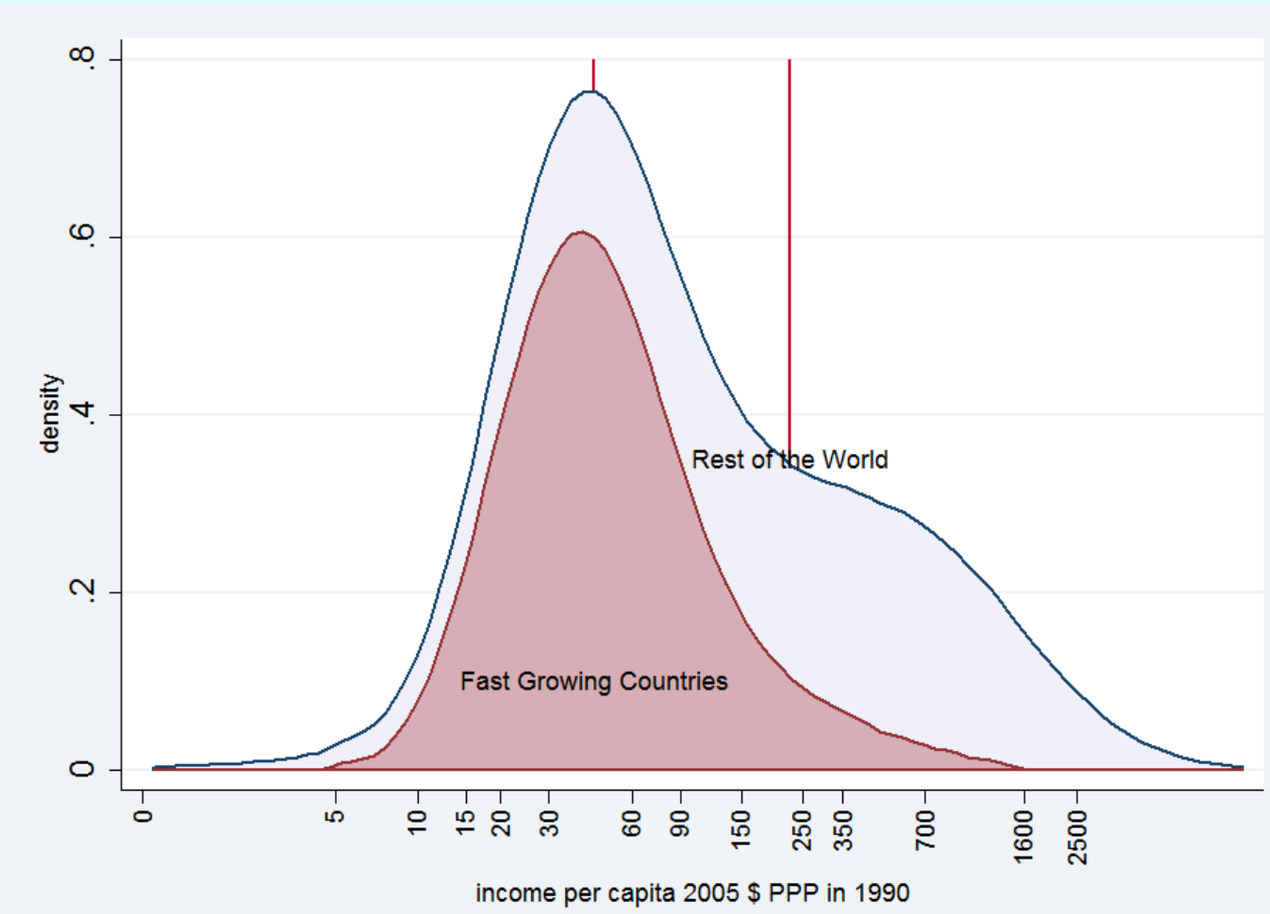
Change in Distribution for FGC, BRICS and Rest of the World

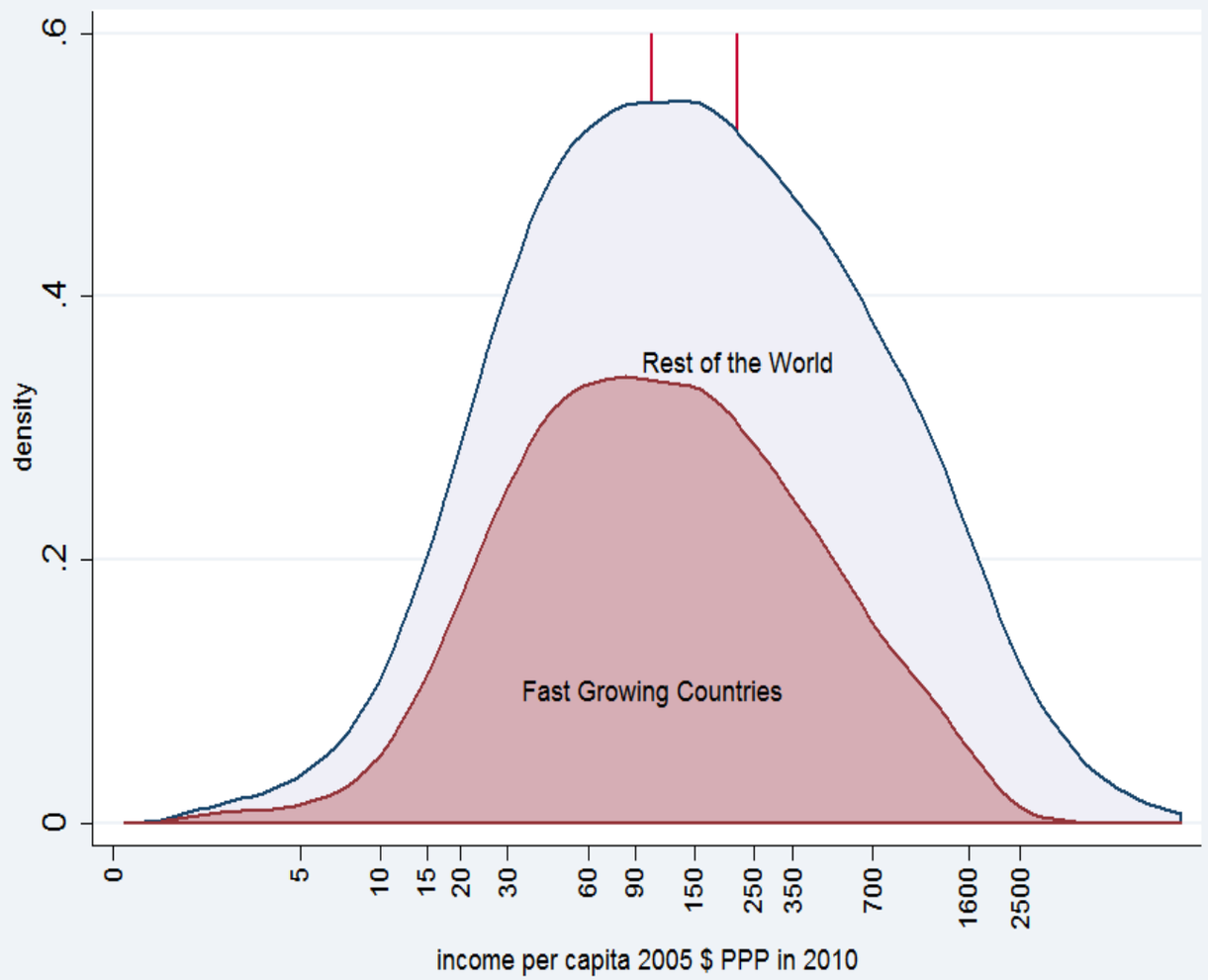


Change in Distribution for FGC, China and Rest of the World



Contributions to World Distribution





China has entered the ‘core’ of the world economy in one important sense. India is nowhere near doing so.

Dynamics of the World System: Motivation and Method

- Exploring the dynamics of the world system over fifty years, going beneath per capita data to consider sections of national populations (From BelIndia to ItalIndia or EurIndia?). China is the landmark case, still of relatively low-per capita income but now with a major impact on higher reaches of the world distribution as well. What is the impact such groups within countries have on the dynamics of the world economy? Are they part of the core in a sense not captured by per-capita incomes?
- .

FGC Populations' Relative Positions in World Distribution

	1990			2010		
	Percentage in world's top 10 percent	Percentage in world's top 20 percent	Percentage in top half of the world distribution	Percentage in world's top 10 percent	Percentage in world's top 20 percent	Percentage in top half of the world distribution
Korea, Rep.	15.3	55.6	100	44.6	77.4	100
Chile	4.5	15.6	80.7	9.1	22.6	84.7
Malaysia	4.9	18.2	84.4	7.7	20.2	78.1
Poland	6.5	44.5	100	6.4	24.7	92.3
Iran	4.8	17.3	85.8	5.5	14.5	74.6
China	0	1	30.4	5.4	21.9	62.1
Thailand	2.4	9.5	58.5	4.7	12.3	63.9
Indonesia	0.1	0.4	14.1	0.7	2.1	25.7
Vietnam	0.1	0.6	16	0.5	1.6	22.5
Bangladesh	0	0.1	10.1	0.1	0.3	5.7
Cambodia	0	0.8	20.3	0.1	0.1	22.7
India	0.2	0.8	18.6	0.1	0.1	23.7
Mozambique	0.1	0.4	7.6	0.1	0.1	13.2
Sri Lanka	0.5	1.7	39.2	0.1	0.1	35.5
Uganda	0	0.3	10.5	0.1	0.1	15.7

Percentiles of Survey-Income Thresholds in World Income Distribution

	1960	1970	1980	1990	2000	2010
$3000	81	78	78	79	80	67
$6000	90	86	84	84	85	79
$8000	93	90	88	87	87	82
$10000	95	93	91	89	89	86

Possible Criteria for Stratifying ‘World System’

- Economic Criteria based on GCIP:
  - Per-capita income above a threshold (v), defined relatively or absolutely. reasons to go beyond per-capita income, a central traditional focus of world systems analysis classifications.
  - Share (w) of world economic activity, and in particular of total income
  - Proportion (y) of population of a country with income above a threshold (x)
  - Proportion (z) of world population with income above a threshold (x) contributed by a country
  - We focus on income but could have used consumption
  - Use market exchange rates for this purpose

Operational Economic Criteria for Membership in Core

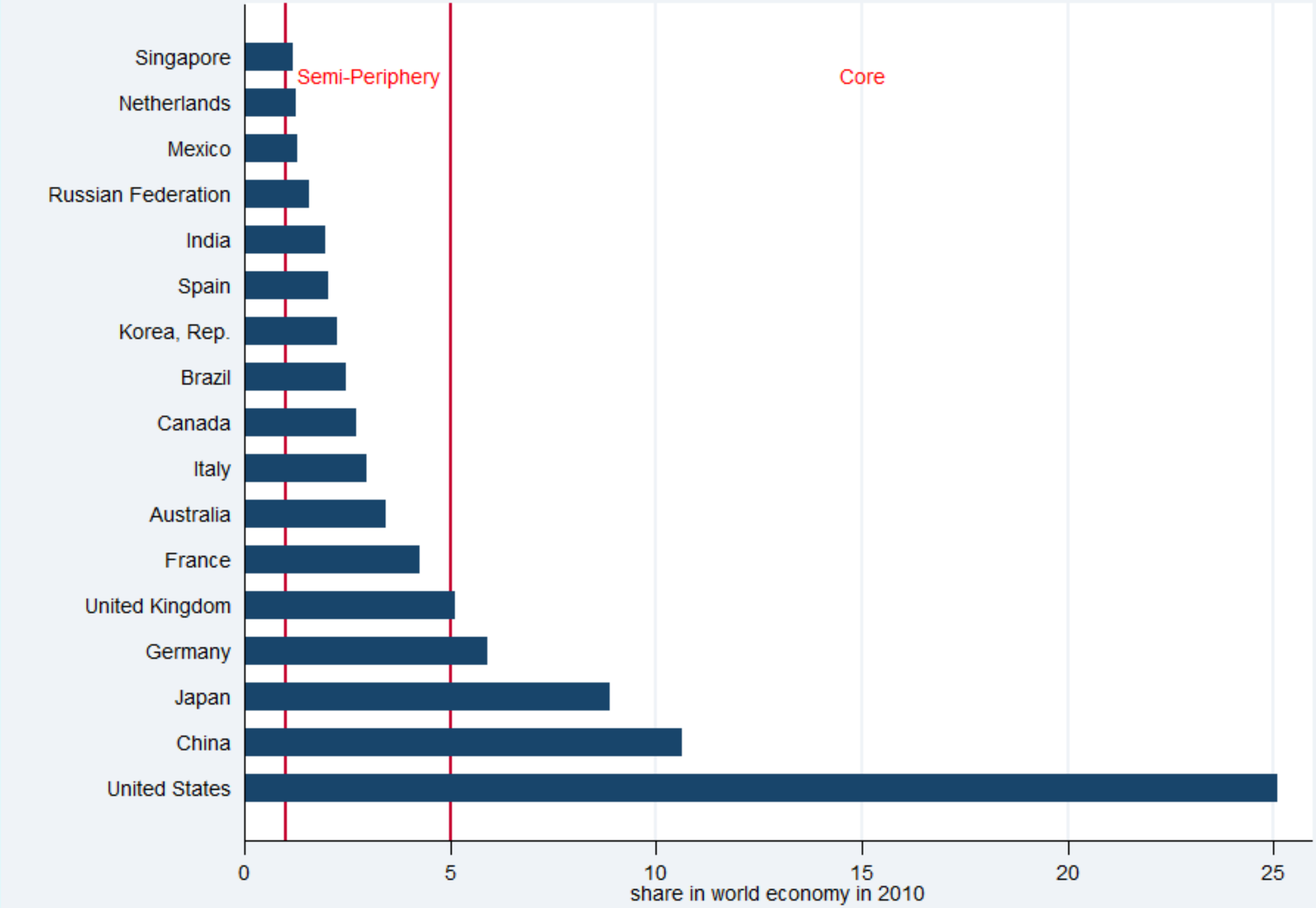
- v >= $6,000 of per-capita survey income (here and below in 2005 dollars at market exchange rates) or “corresponding” GDP-per-capita-scaled income of $10,500.
- w>=5%
- y>=50%, x=$6000
- z>= 5%, x=$6000
- Suggest OR not AND: We use w OR (y|x) OR (z|x)

Operational Economic Criteria for Membership in Semi-Periphery

- NOT in Core +
- v >= $3,000 of per-capita survey income (here and below in 2005 dollars at market exchange rates) or “corresponding” GDP-per-capita-scaled income of $6,000.
- w>=1%
- y>= 30%, x=$3000
- z>=5%, x=$3000
- Suggest NOT in Core + (OR not AND): We use w OR (y|x) OR (z|x)

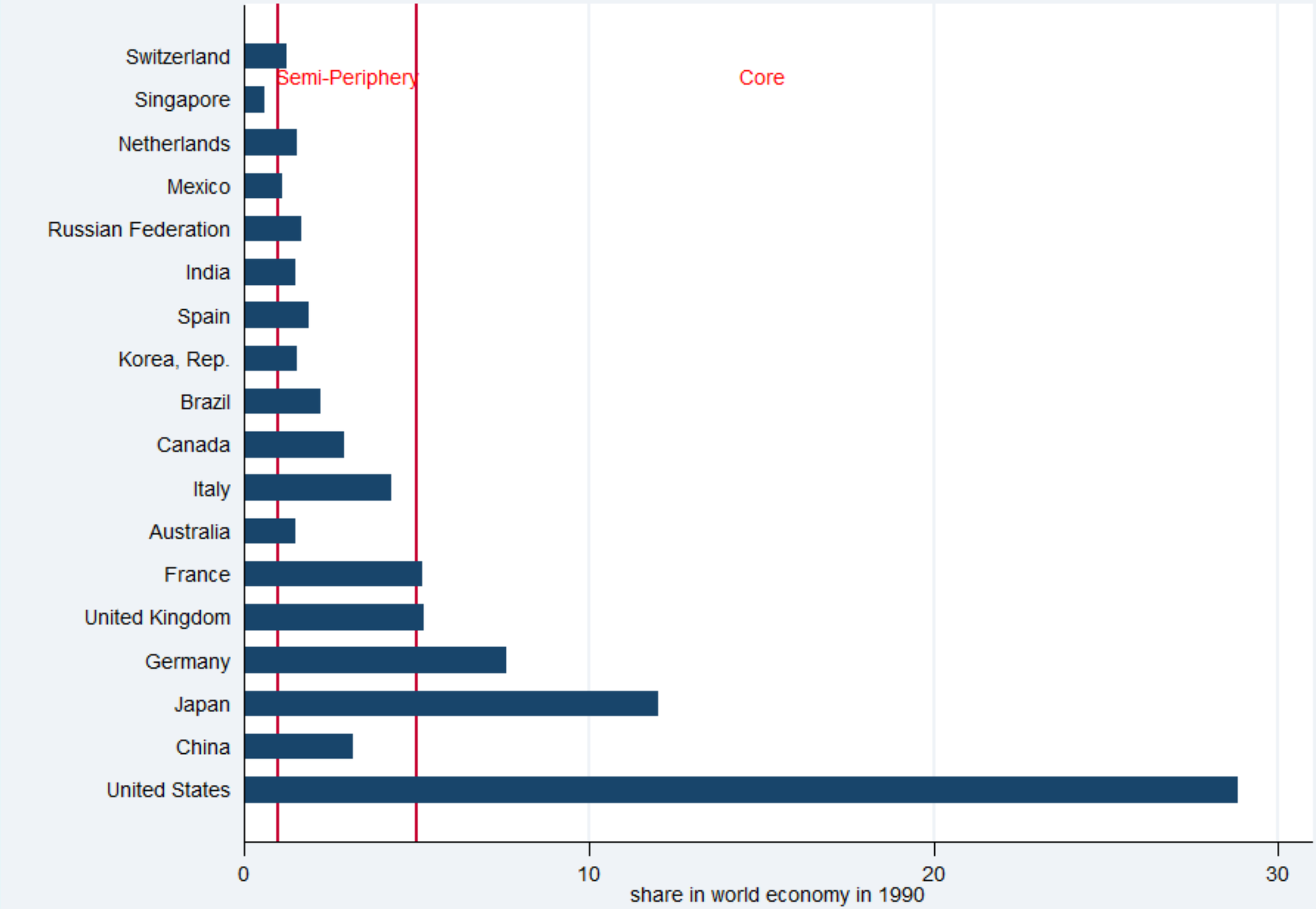
Size of the Economy - 2010

(Estimated by survey means in 2005 US $)



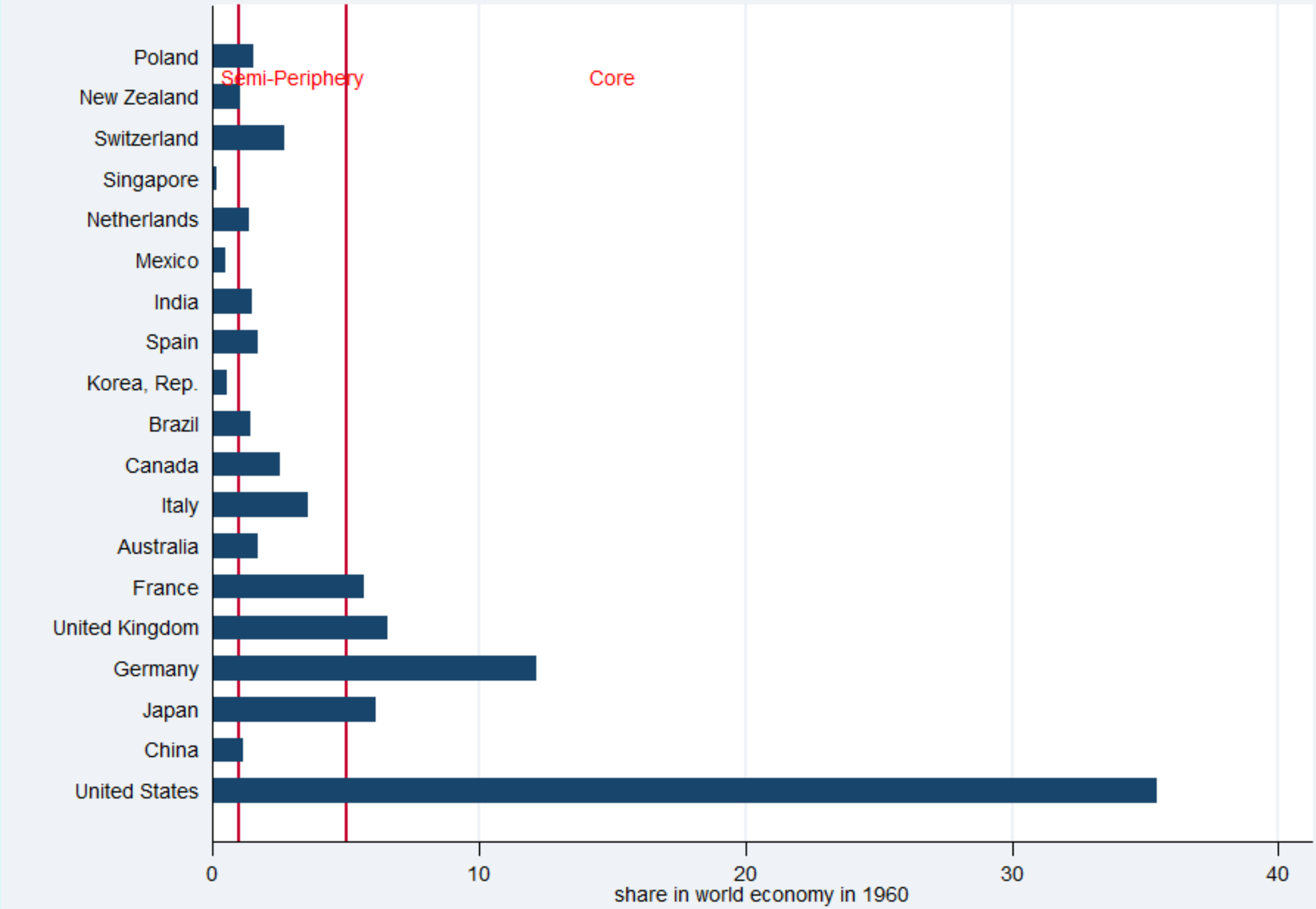
Size of the Economy – 1990

(Estimated by survey means in 2005 US $)

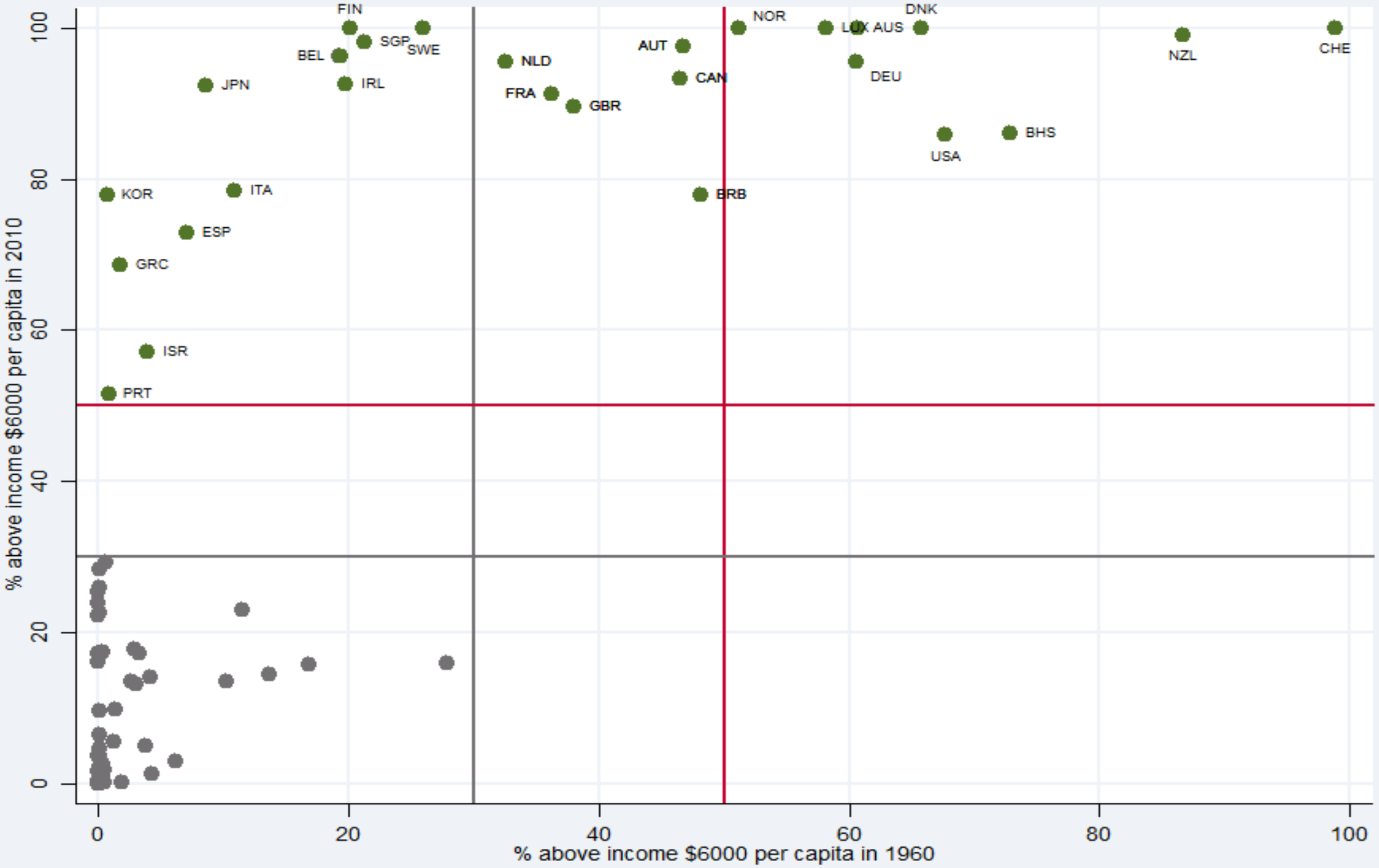


Size of the Economy – 1960

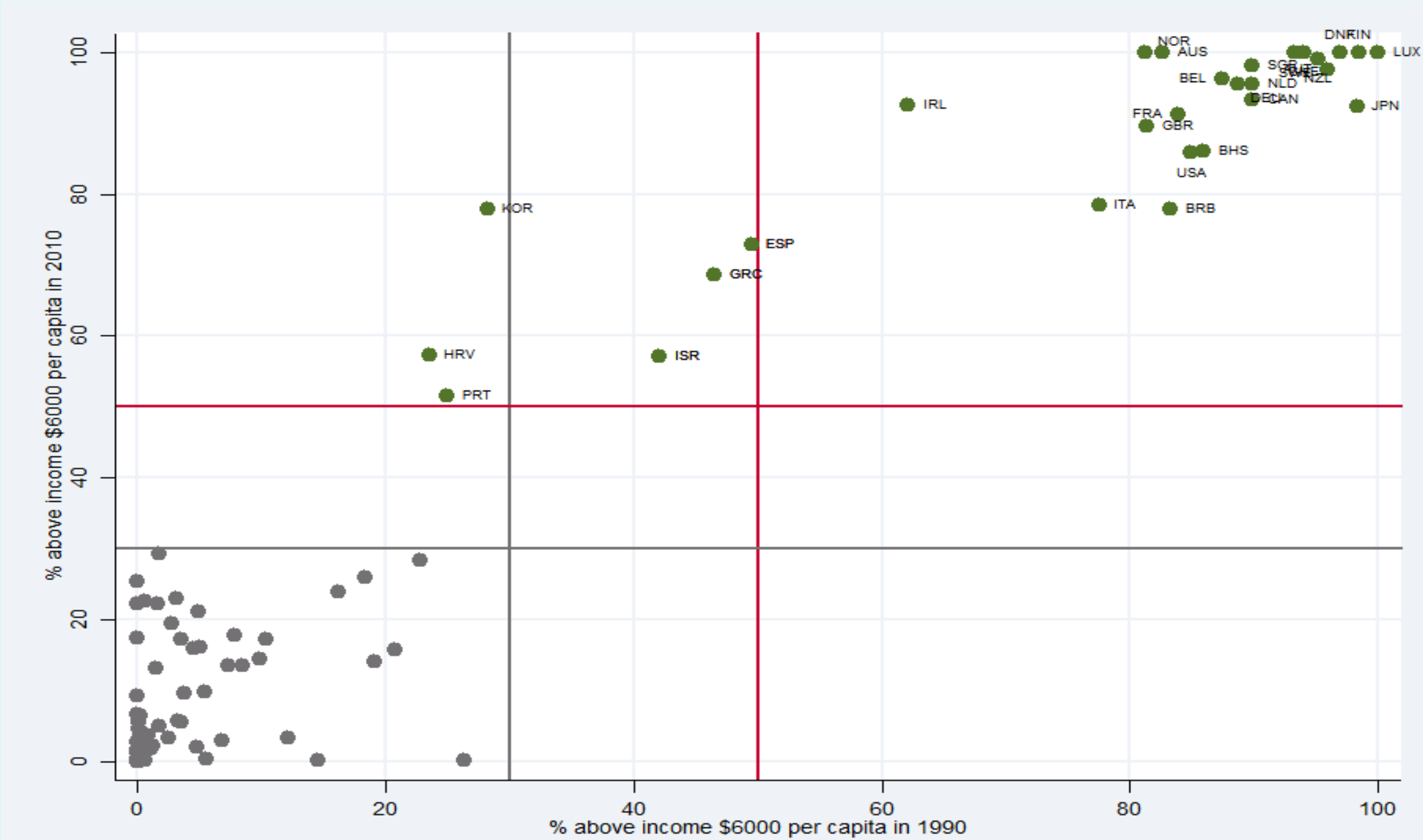
(Estimated by survey means in 2005 US $)



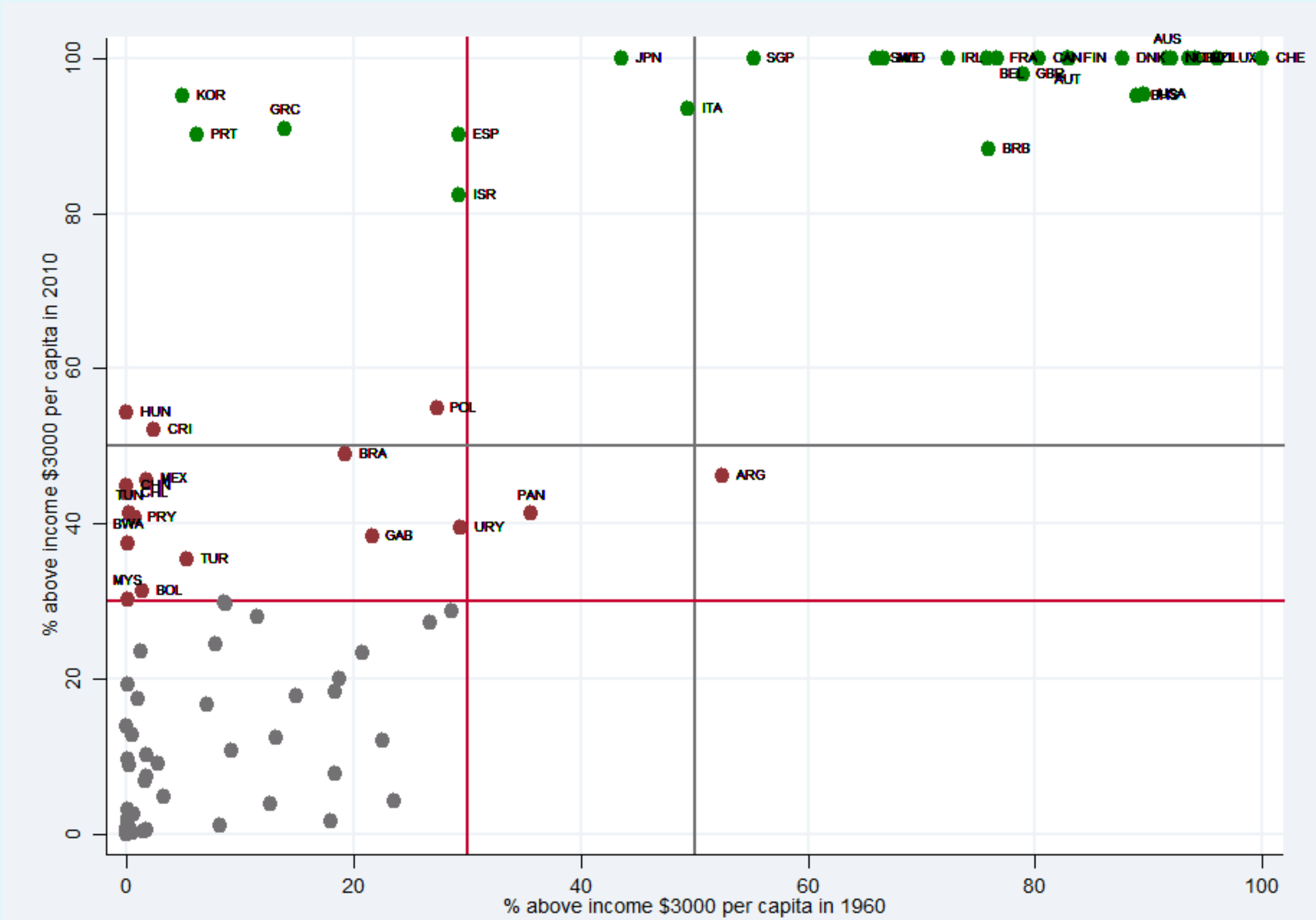
Proportion of Country‘s Population with Survey Income Above $6,000 in 2005 US$ at mkt xch rates (1960-2010)



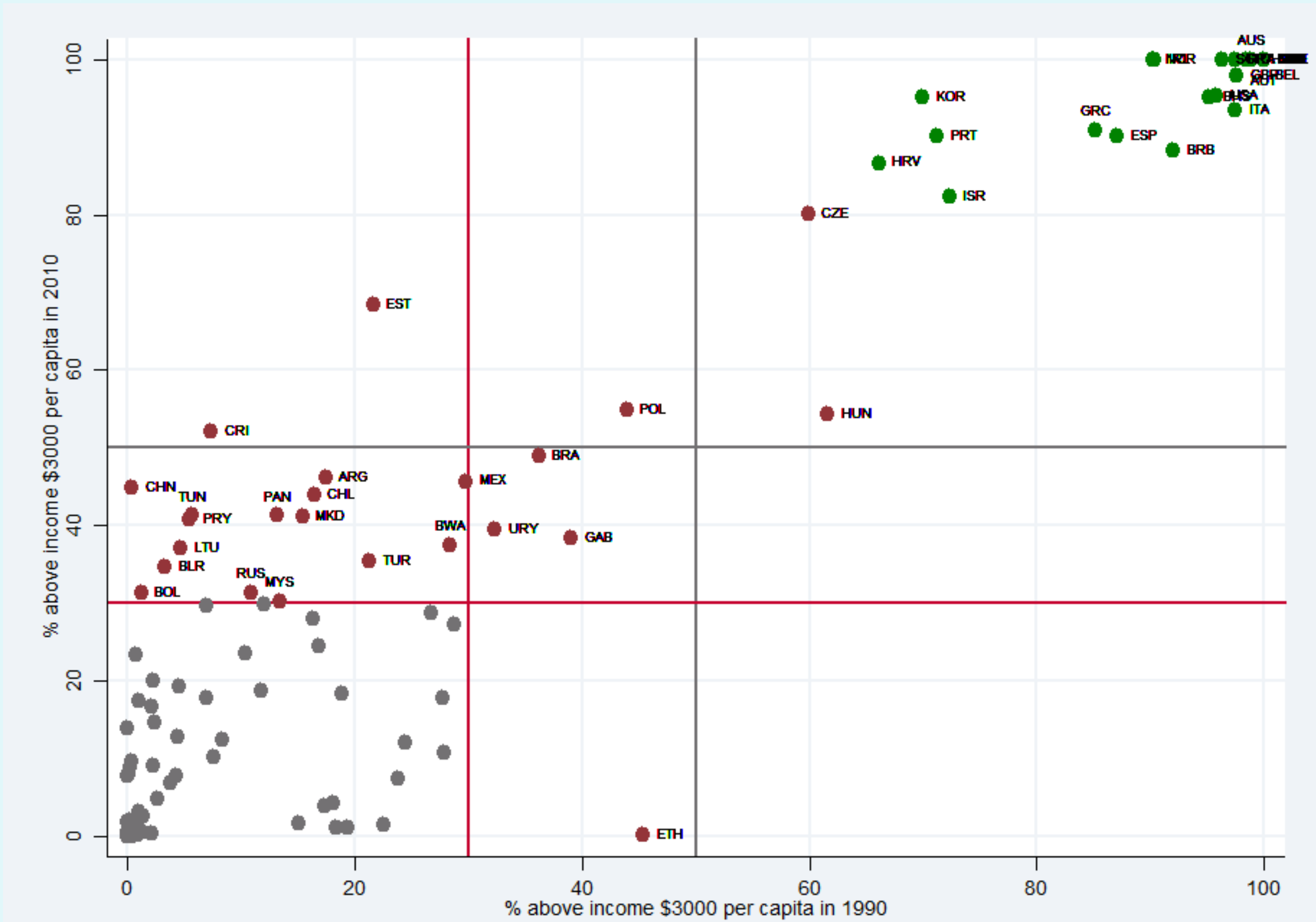
Proportion of Country's Population with Survey Income Above $6,000 in 2005 US$ at mkt xch rates (1990-2010)



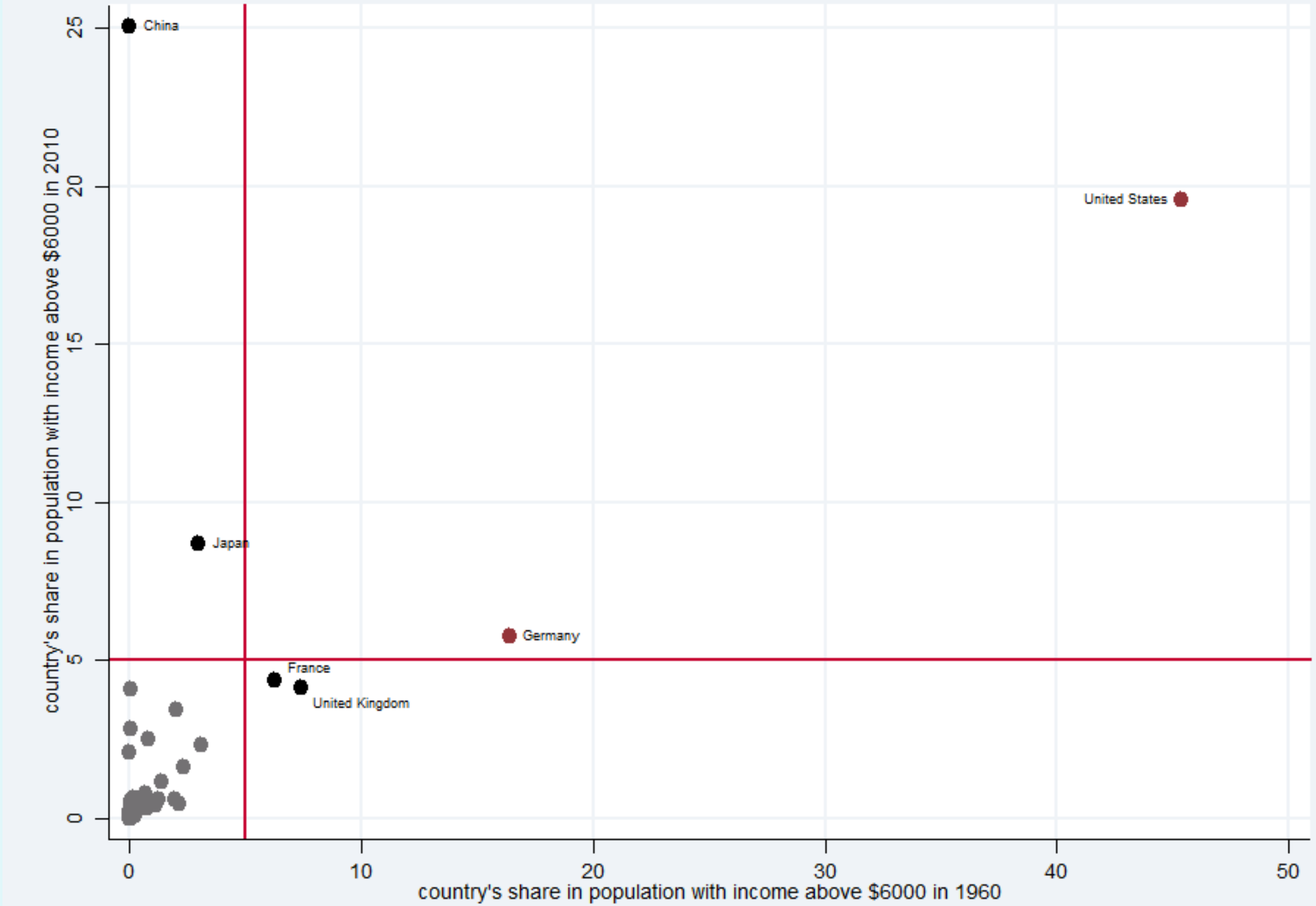
Proportion of Country‘s Population with Survey Income Above $3,000 (2005 US$ at mkt xch rates) 1960-2010



Proportion of Country‘s Population with Survey Income Above $3,000 (2005 US$ at mkt xch rates) 1990-2010

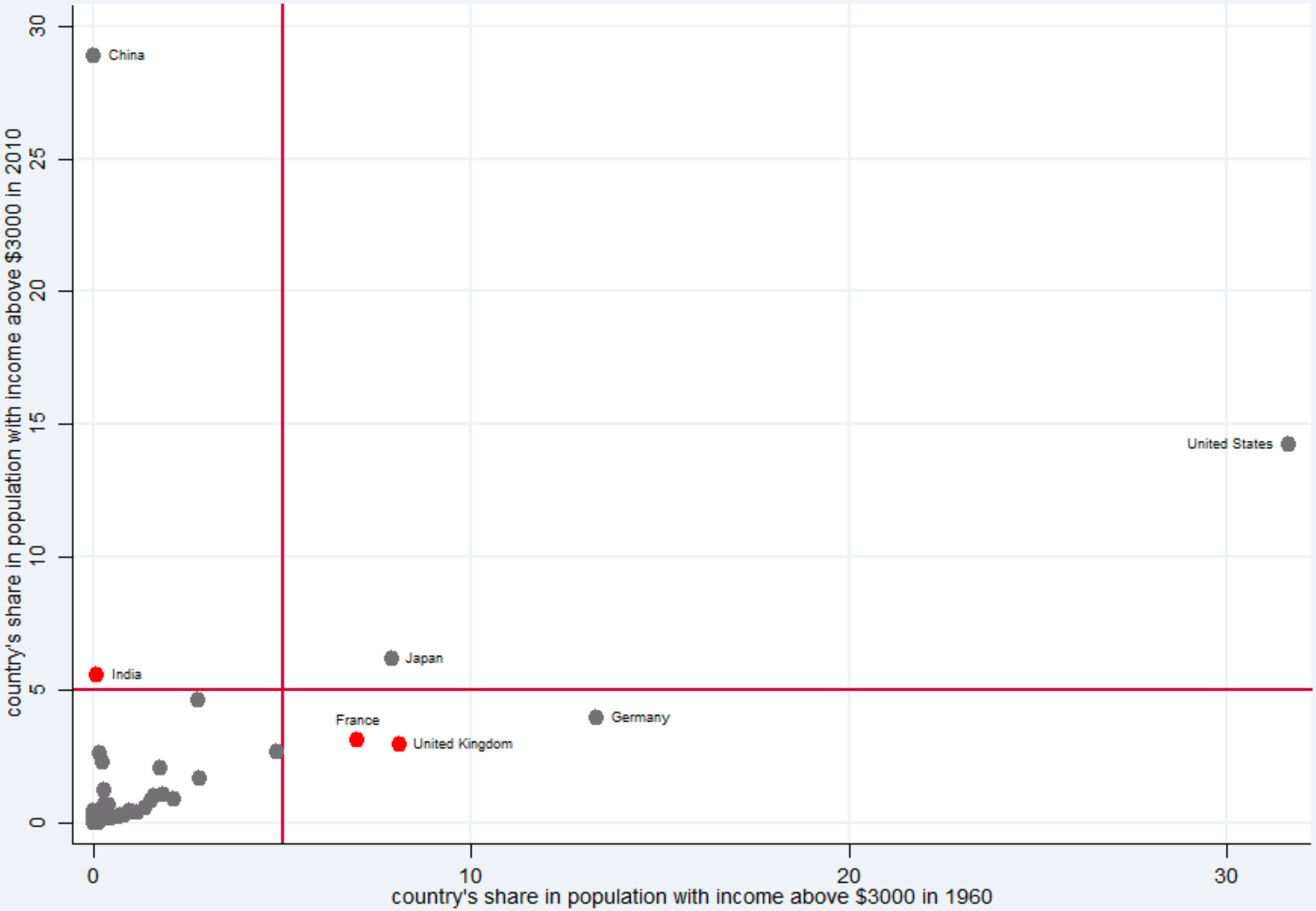


Share in World‘s Population with Survey Income Above $6,000 (2005 US$) 1960-2010

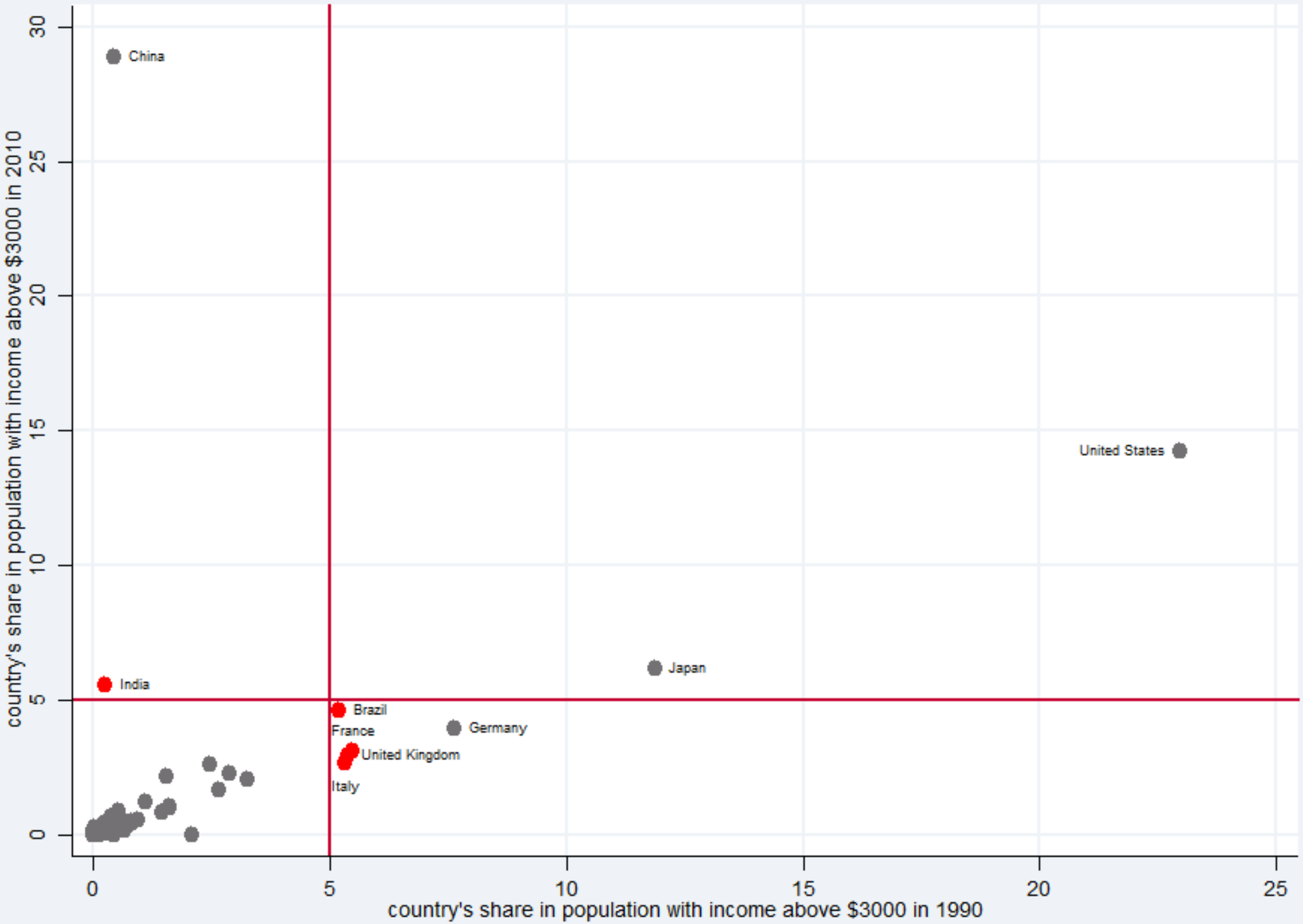


Share in World‘s Population with Survey Income Above $6.000 (2005 US$) 1990-2010

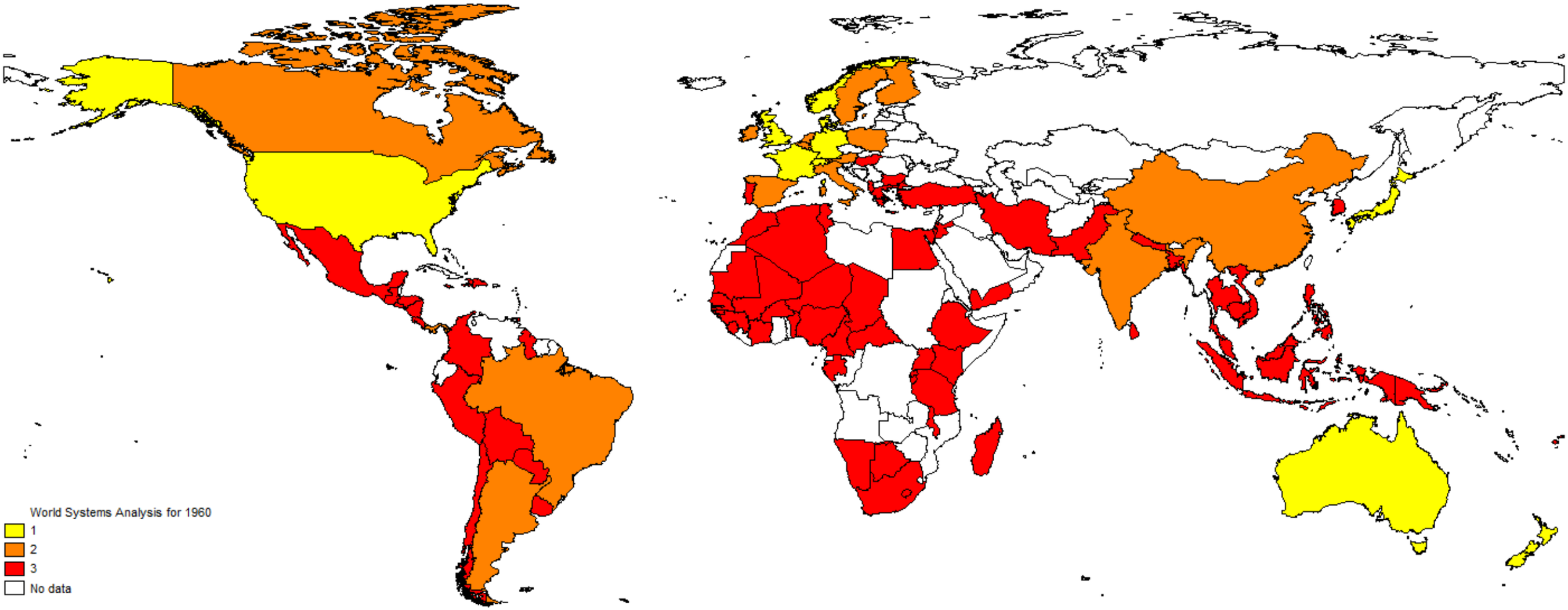
Share in World‘s Population with Survey Income Above $3,000 (2005 US$) 1960-2010



Share in World‘s Population with Survey Income Above $3,000 (2005 US$) 1990-2010



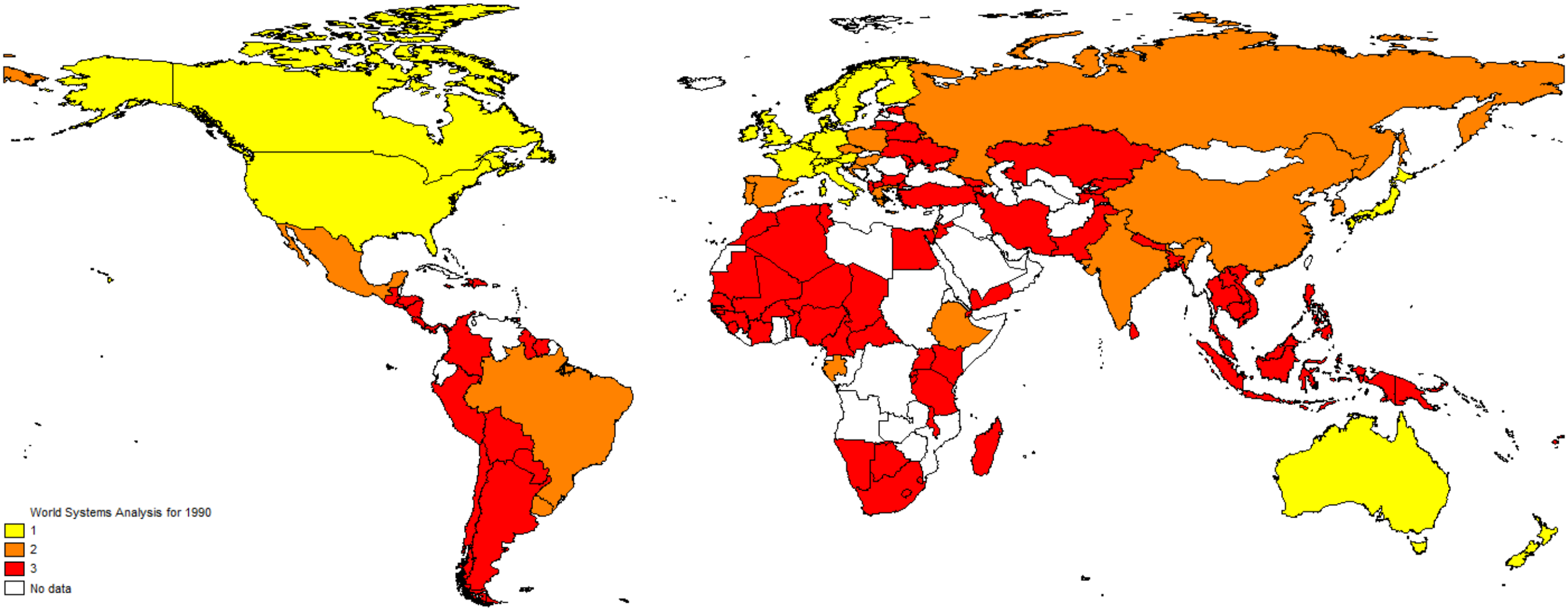
World System - 1960



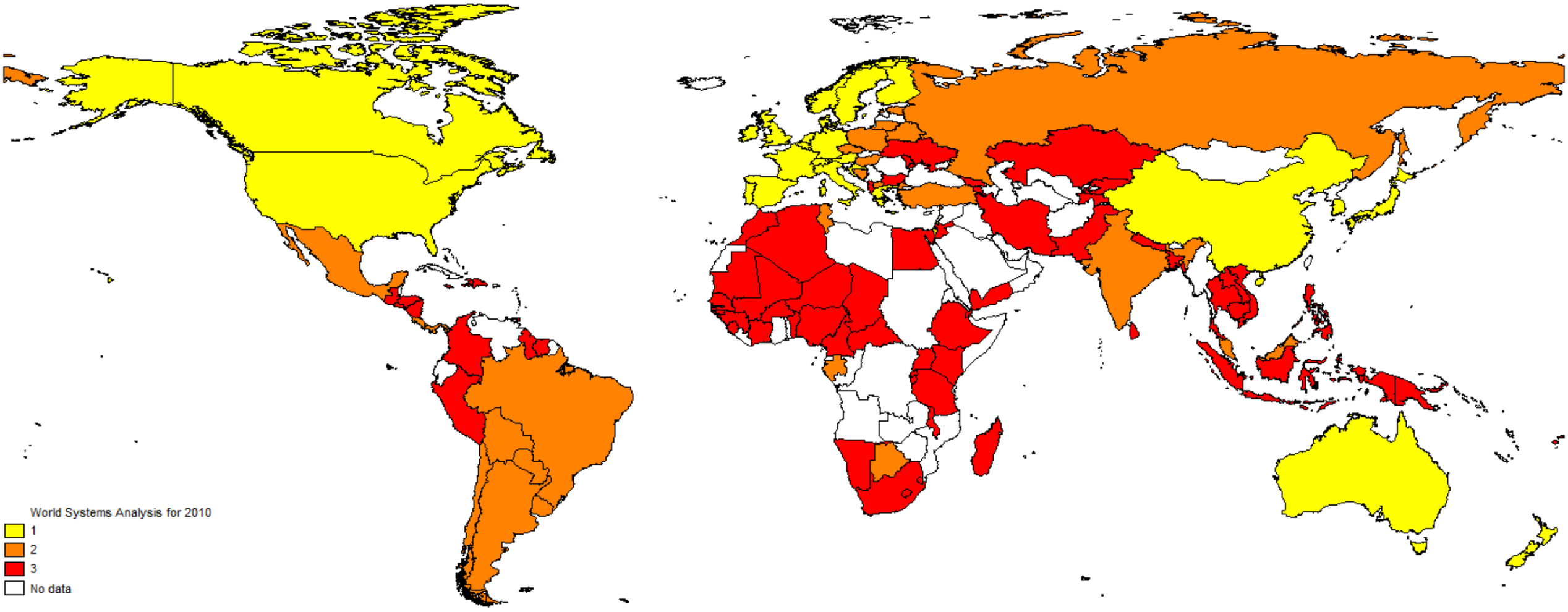
Core (Yellow) – Countries which satisfy any of the three non-per-capita income (w,x,y,z) criteria (5%, $6000, 50%, 5%)

Semi-Periphery (Orange) – Countries which satisfy any of the three non-per-capita-income criteria and are not part of the core (1%,$3000,30%,5%)

World System - 1990



World System - 2010



GCIP Working Papers

The Global Consumption and Income Project (GCIP): An Overview (November 24, 2015): http://ssrn.com/abstract=2480636

Who Got What, Then and Now? A Fifty Year Overview from the Global Consumption and Income Project (May 6, 2015): http://papers.ssrn.com/sol3/papers.cfm?abstract_id=2602268

$1.90 Per Day: What Does it Say? (November 3, 2015): http://papers.ssrn.com/sol3/papers.cfm?abstract_id=2685096

The Middle Muddle: Conceptualizing and Measuring the Global Middle Class (November 23, 2015). Available here: http://papers.ssrn.com/sol3/papers.cfm?abstract_id=2694624

Papers in Progress: national accounts vs. household surveys, fast growing countries and the world distribution, world poverty over fifty years, the dynamics of the world system, top income estimates, wealth estimates, etc.

Forthcoming Public Data Release

- Will aim to document fully our methods, data sources, code, specific country assumptions and handling of outliers and exceptions

- Will include statistical data and key indicators (e.g. select inequality indices) in readily usable format for all country-years

- Initial public data release to be followed by improvements and periodic updates. Ongoing collection of historical data for data-poor regions and countries and adjustment of country assumptions