

Projecting Household Surveys to Assess the Impact of Future Economic Conditions and Climate Change on the Poor

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Climate Change and Poverty Conference

February 9, 2015

The World Bank

The impacts of climate change will depend on future development (by 2030 and beyond)



But the drivers of future poverty eradication are uncertain



Structural change

But the drivers of future poverty eradication are uncertain



Structural change



Productivity growth

But the drivers of future poverty eradication are uncertain



Structural change

Demography



Productivity growth

But the drivers of future poverty eradication are uncertain



Structural change

Demography



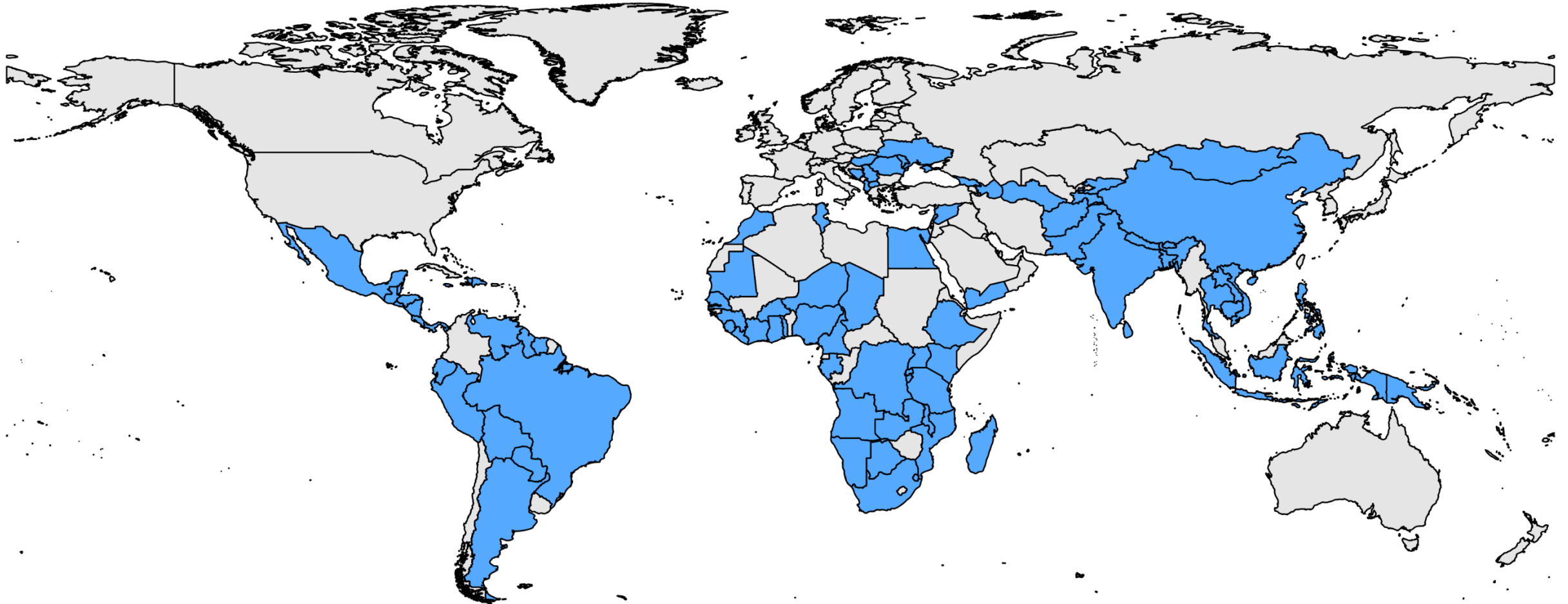
Productivity growth



Redistribution

We reverse the problem:

- Under what set of conditions could extreme poverty be eradicated by 2030 and beyond?
- And conversely, under which conditions would extreme poverty persist by 2030 and beyond?
- What would be the impact of climate change in each of these scenarios?



We build hundreds of scenarios per country as a combination of the following parameters

Productivity growth in agriculture

Productivity growth in services

Productivity growth in manufacture

Skill premium in agriculture

Skill premium in services

Skill premium in manufacture

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Productivity growth in agriculture

Change in the share of agriculture

Productivity growth in services

Productivity growth in manufacture

Change in the share of manufacture

Change in participation

Skill premium in agriculture

Skill premium in services

Skill premium in manufacture

We build hundreds of scenarios per country as a combination of the following parameters

Productivity growth in agriculture

Change in the share of agriculture

Productivity growth in services

Productivity growth in manufacture

Change in the share of manufacture

Change in participation

Skill premium in agriculture

Skill premium in services

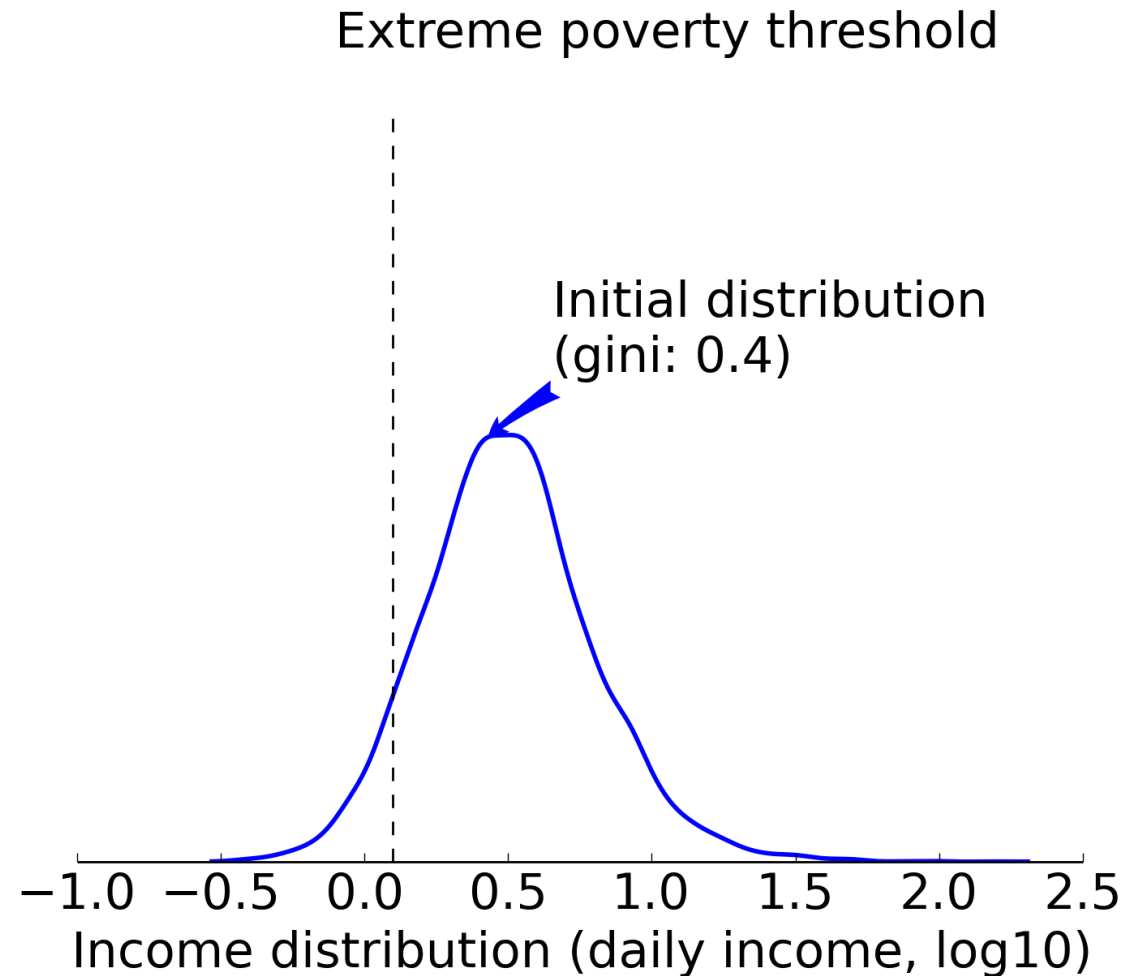
Redistribution

Skill premium in manufacture

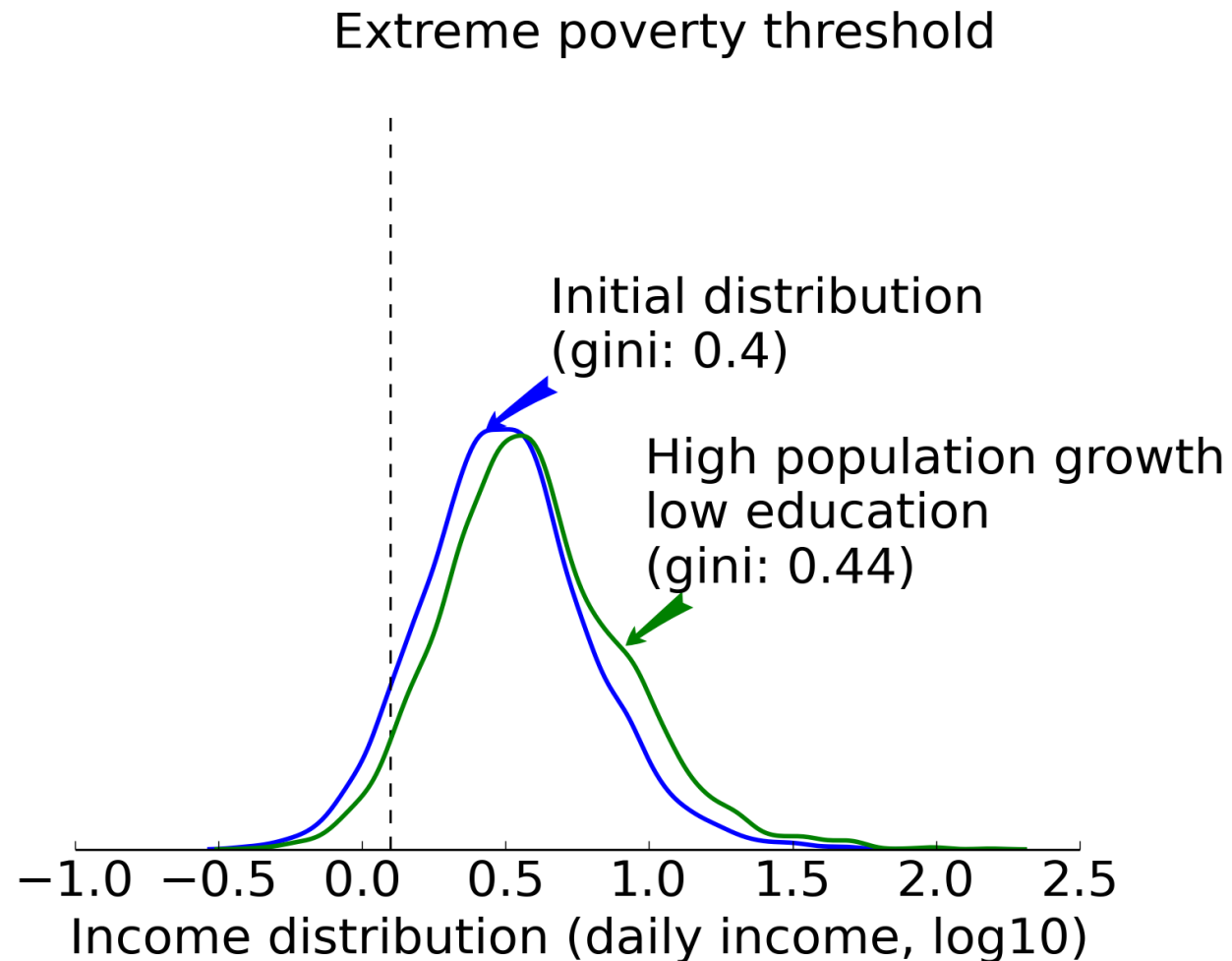
Demography

Pensions

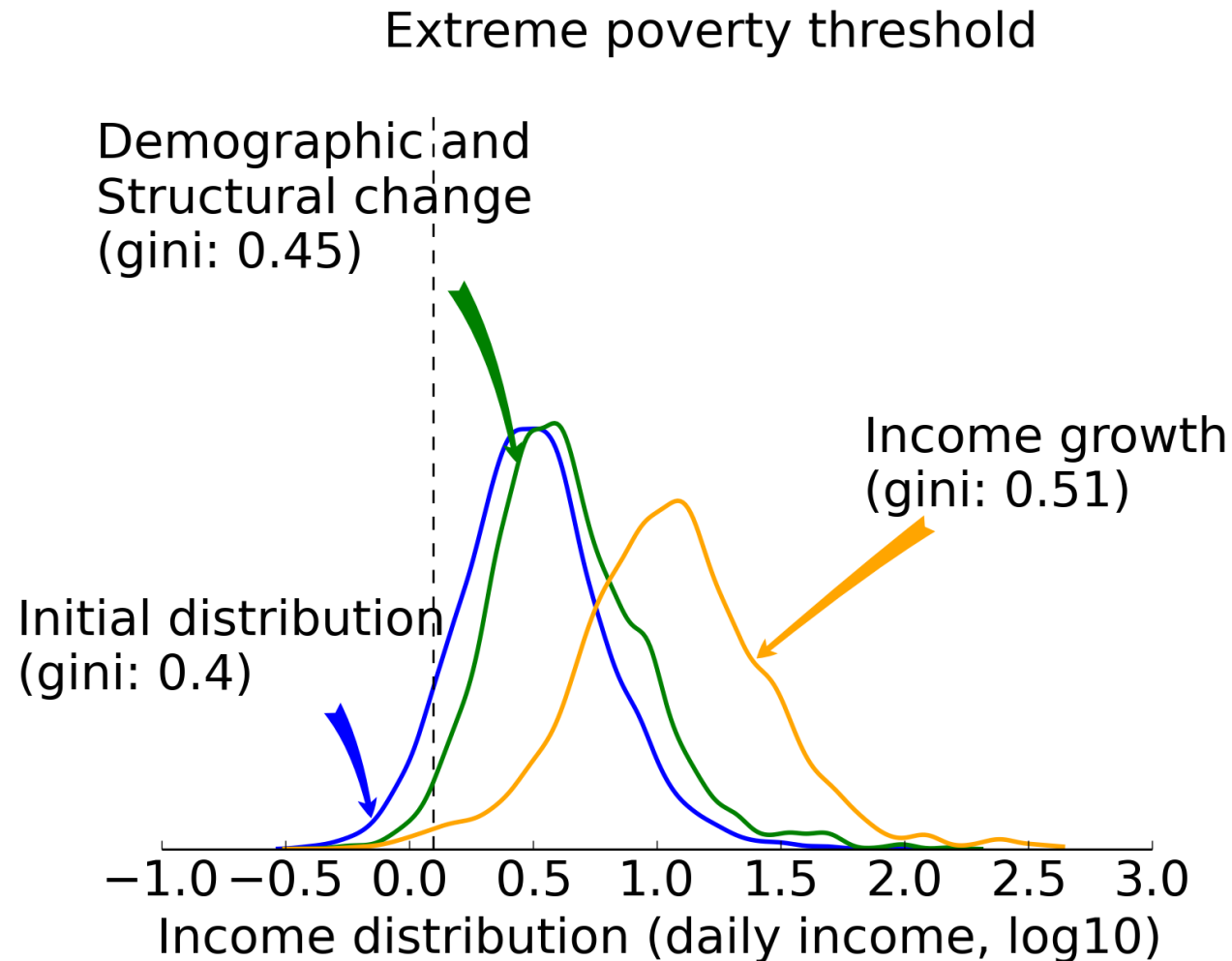
We use a micro-simulation model based on household surveys. Example of Vietnam



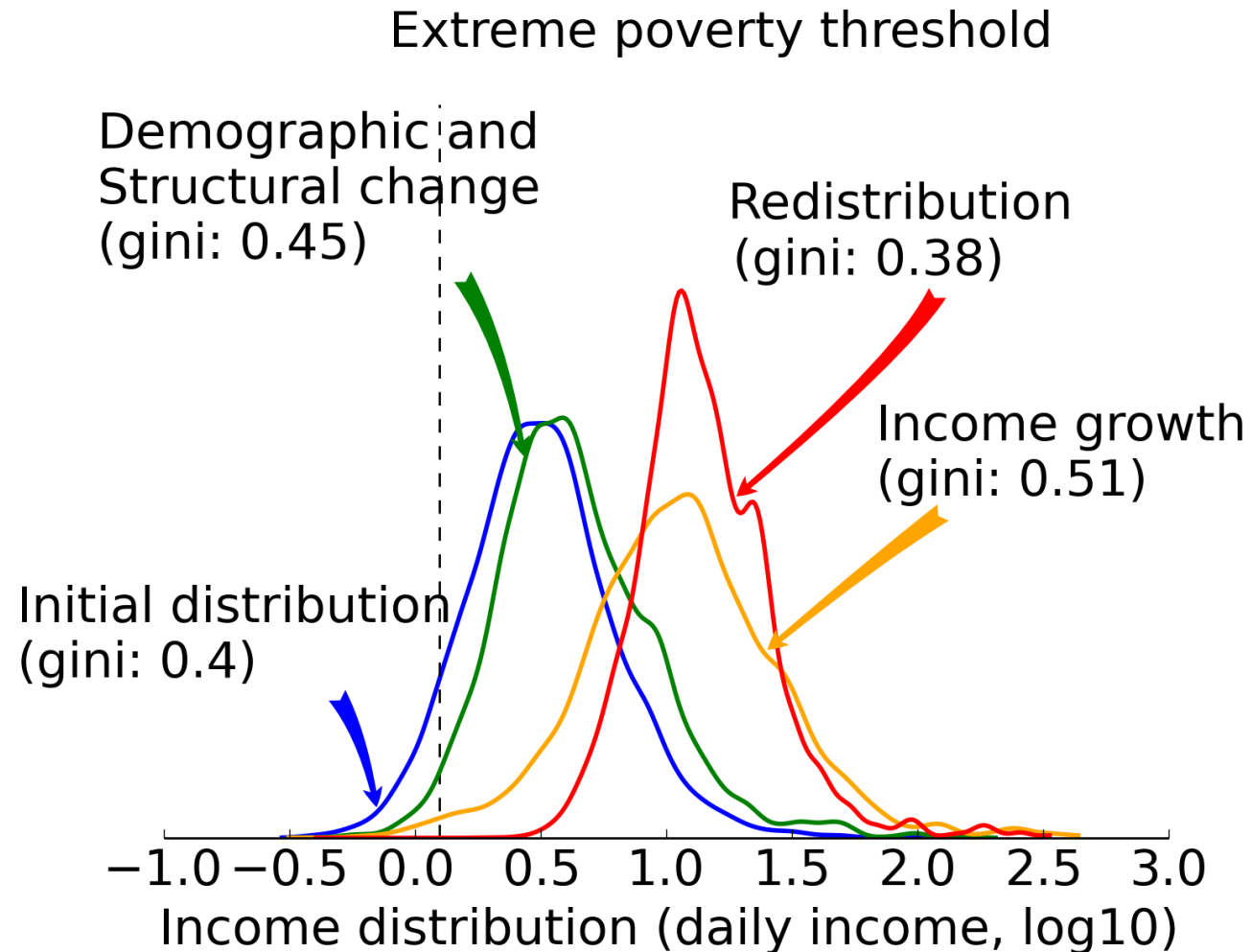
Households are re-weighted in order to match the new population in 2030 in terms of age and education



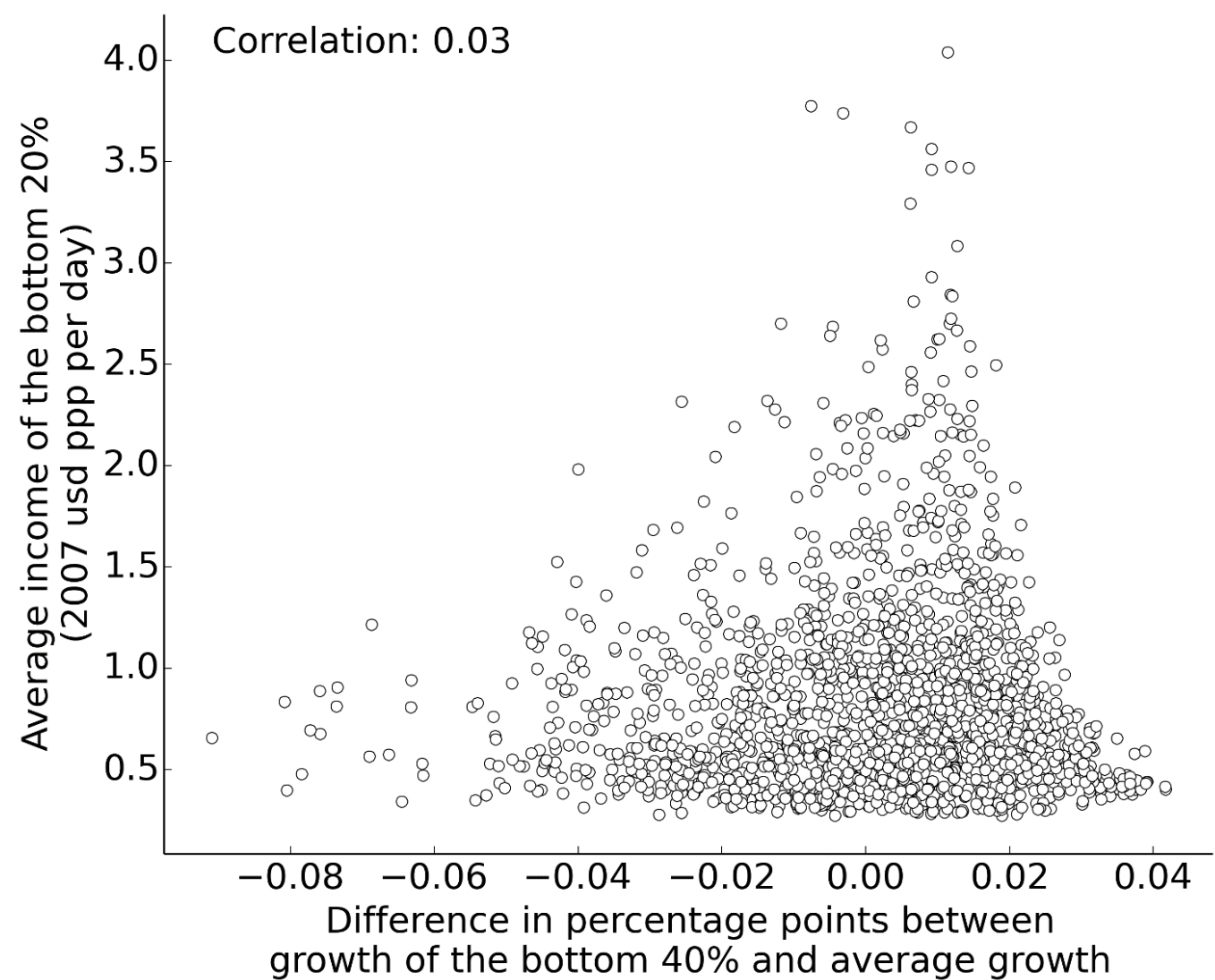
Re-weighting also includes structural changes. Each household's income then grows depending on skills and sectors of activity



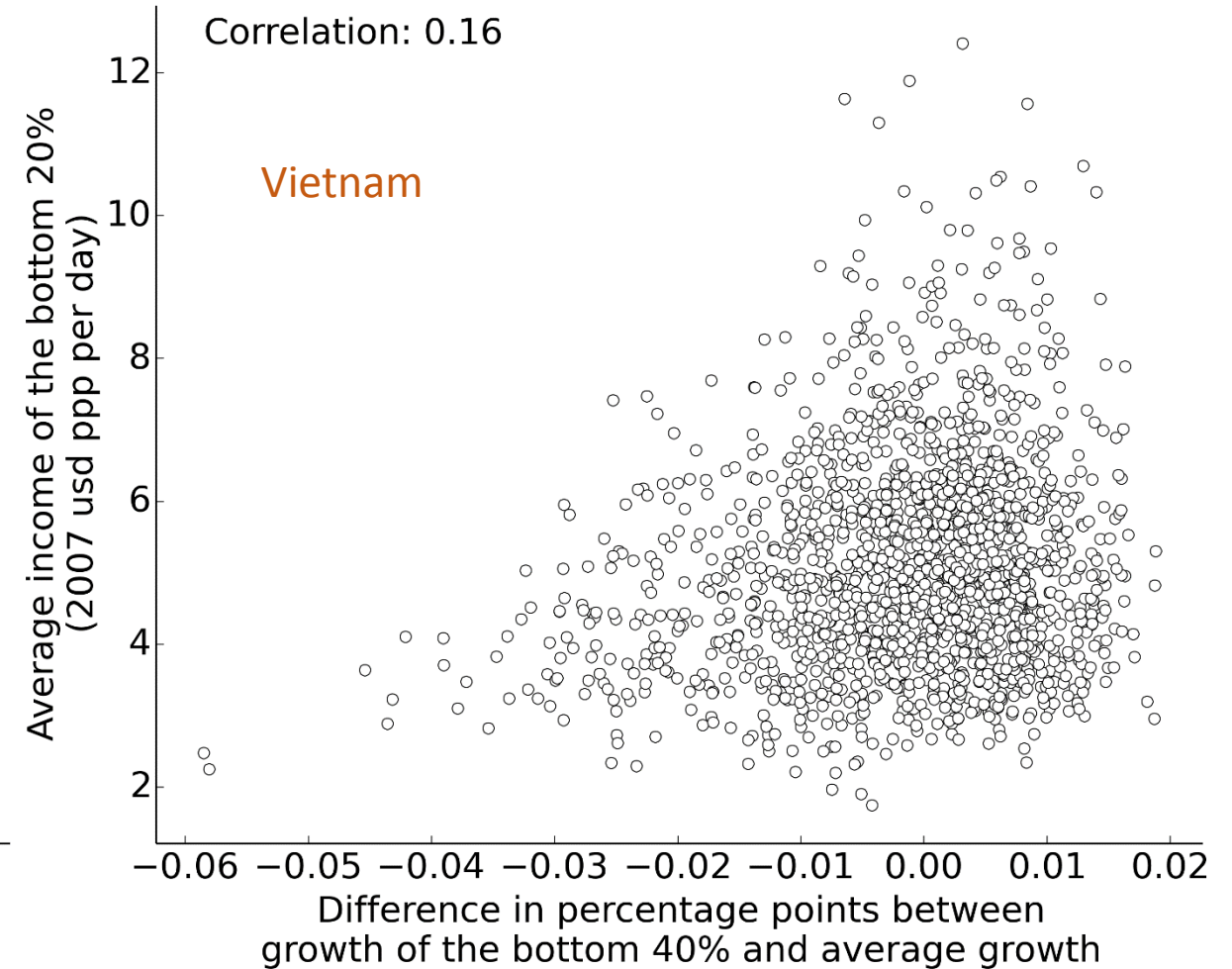
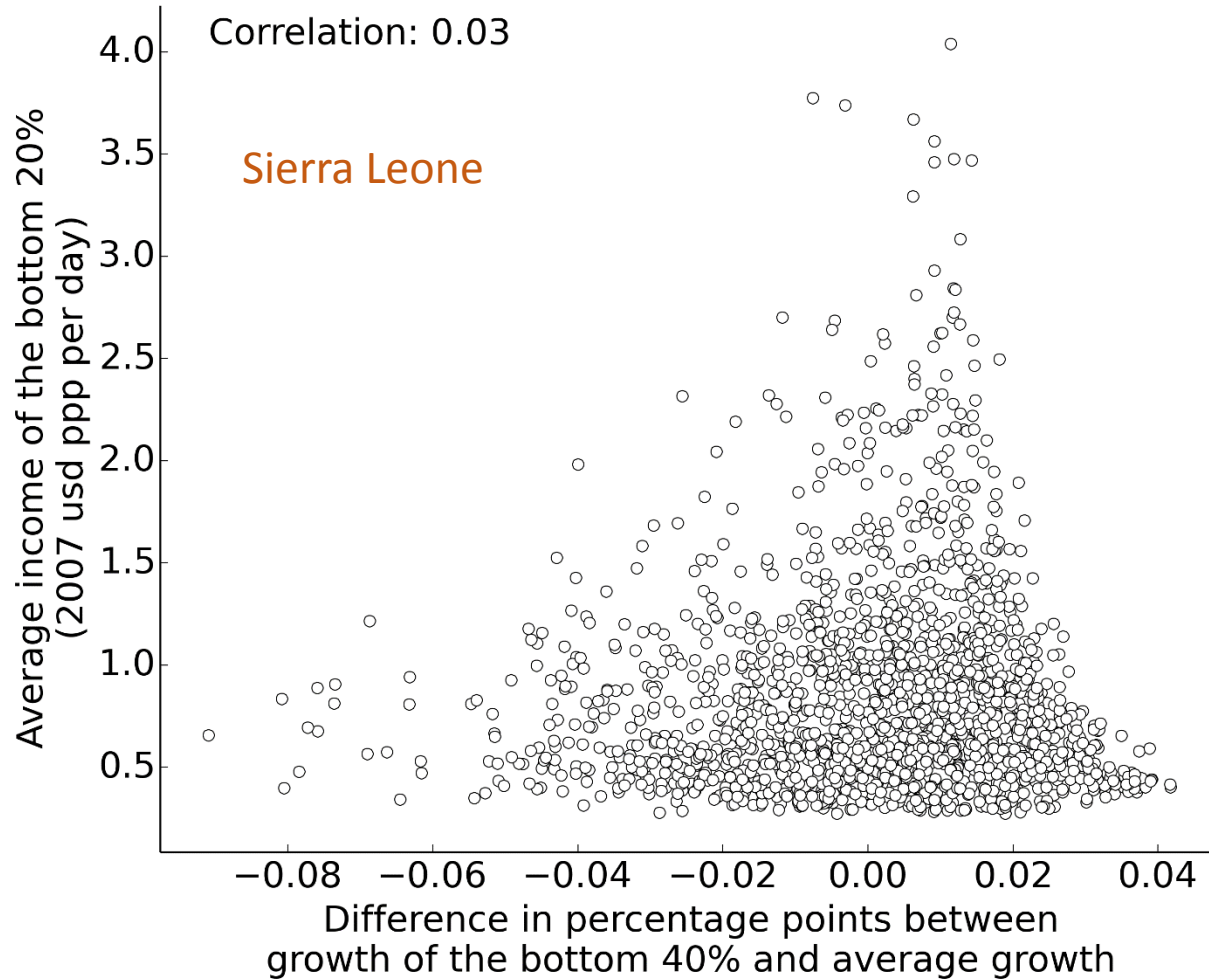
We finally model redistribution and pensions



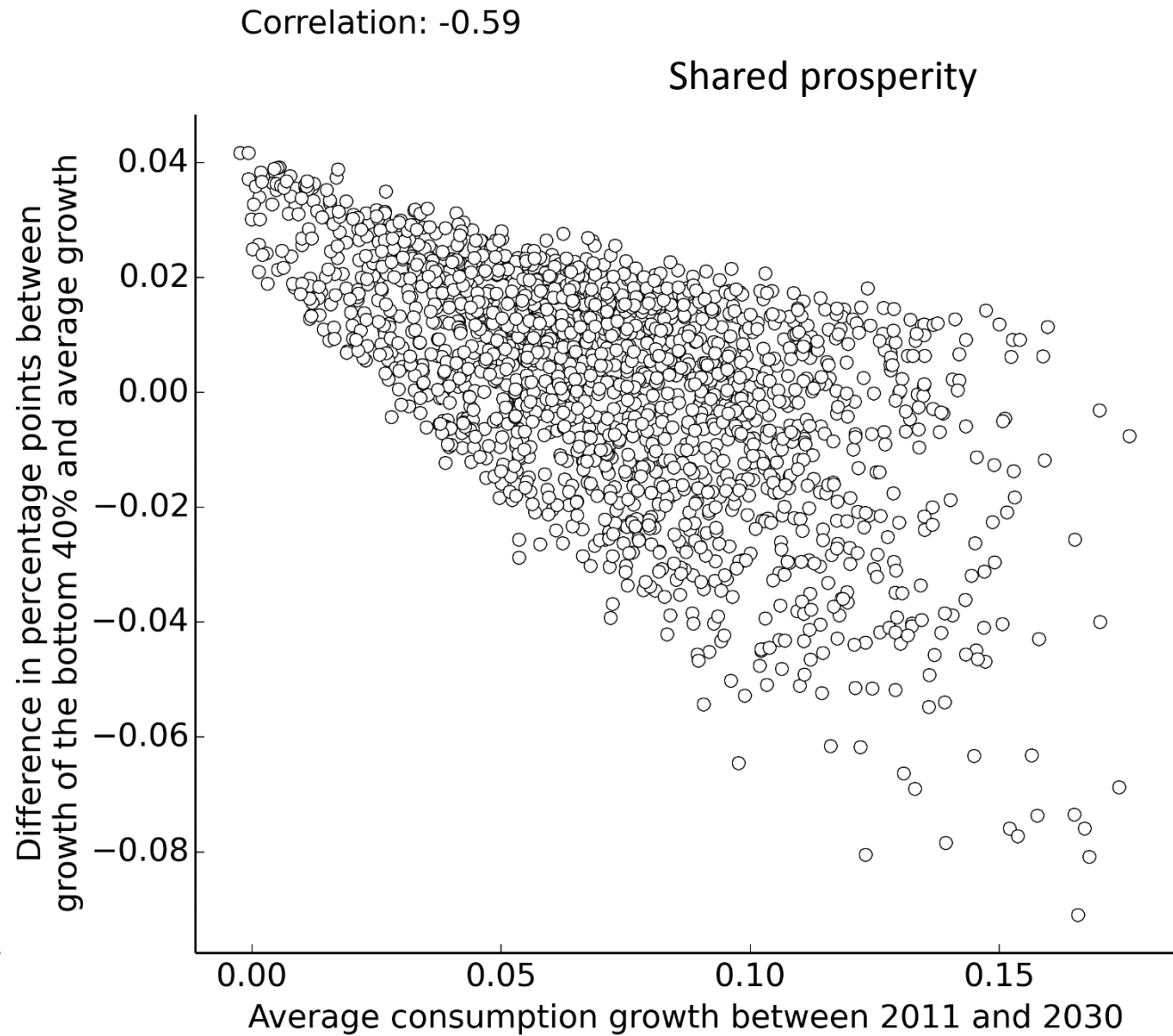
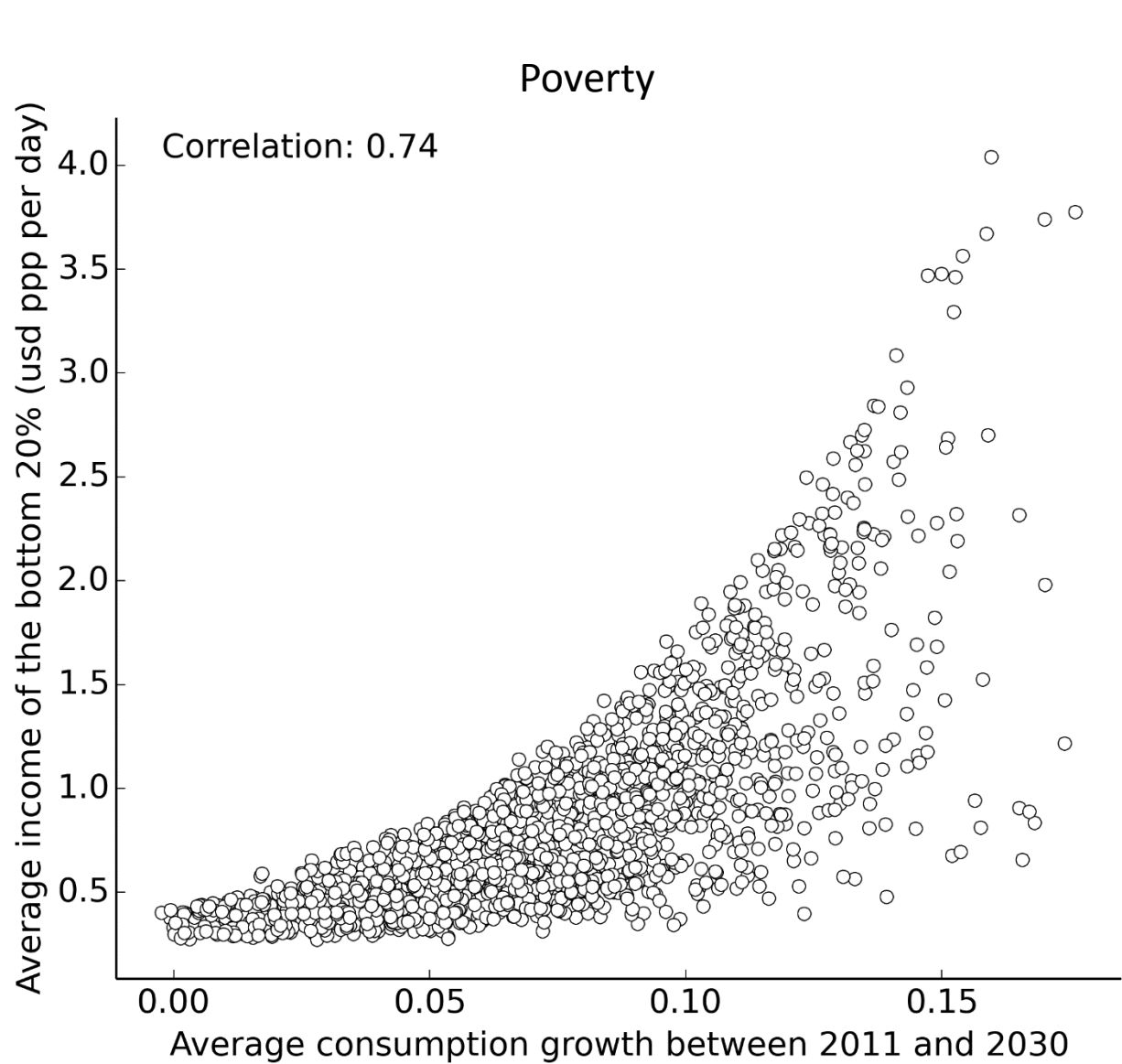
Each combination of parameter leads to a different outcome in terms of poverty and shared prosperity. Example of **Sierra Leone**



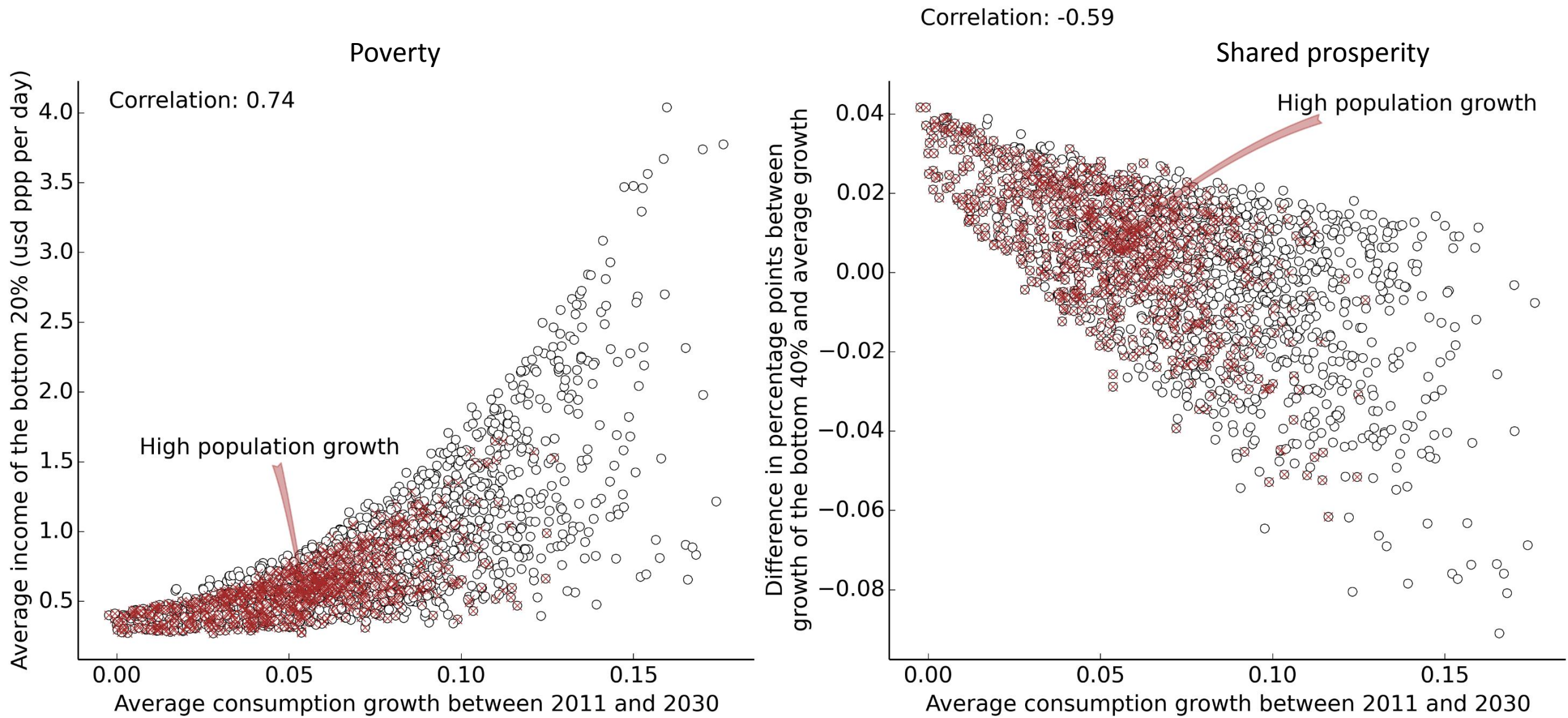
In our scenarios, poverty and shared prosperity are not well correlated



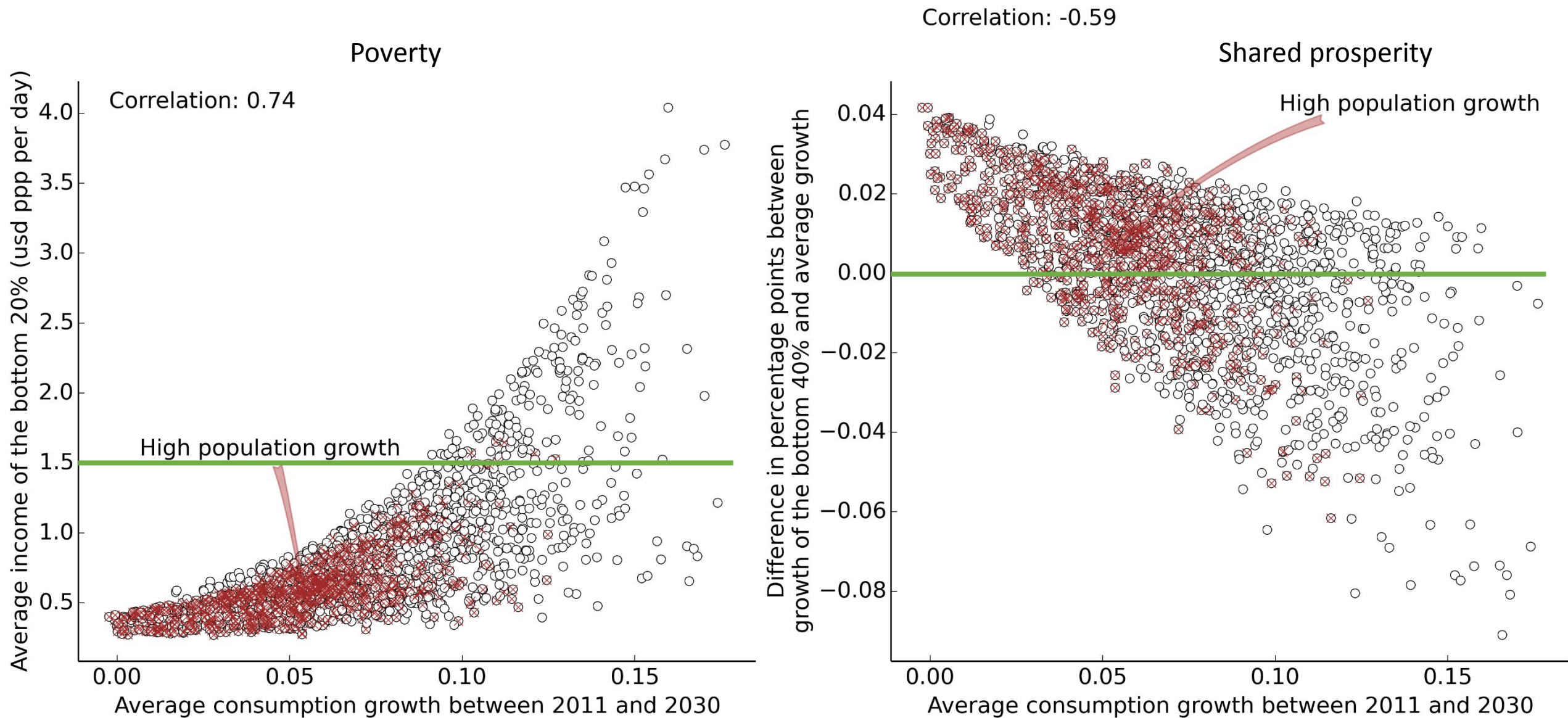
Growth is good for the poor, but not so much for shared prosperity.
Example of **Sierra Leone**



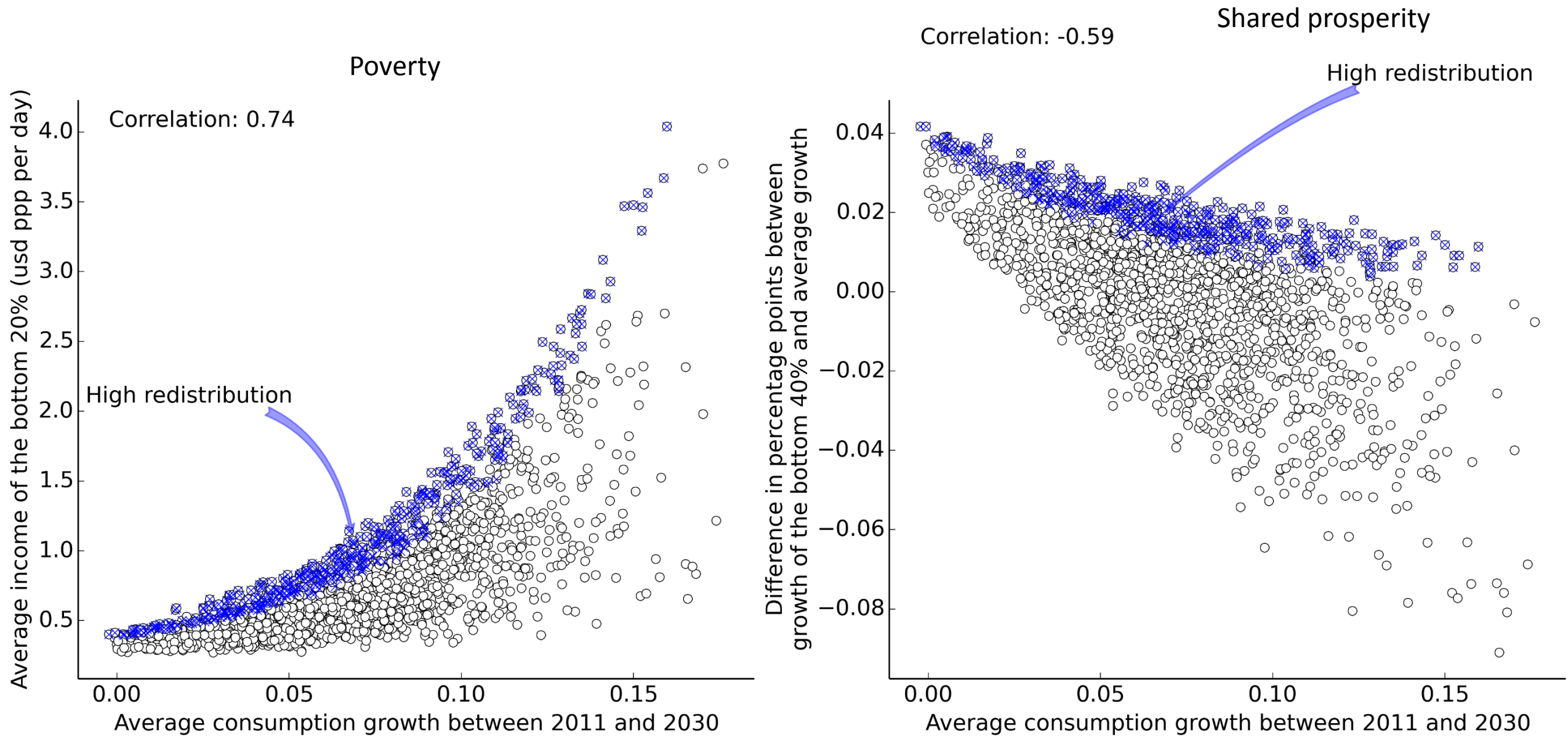
Population growth is bad for the poor, but not so much for shared prosperity



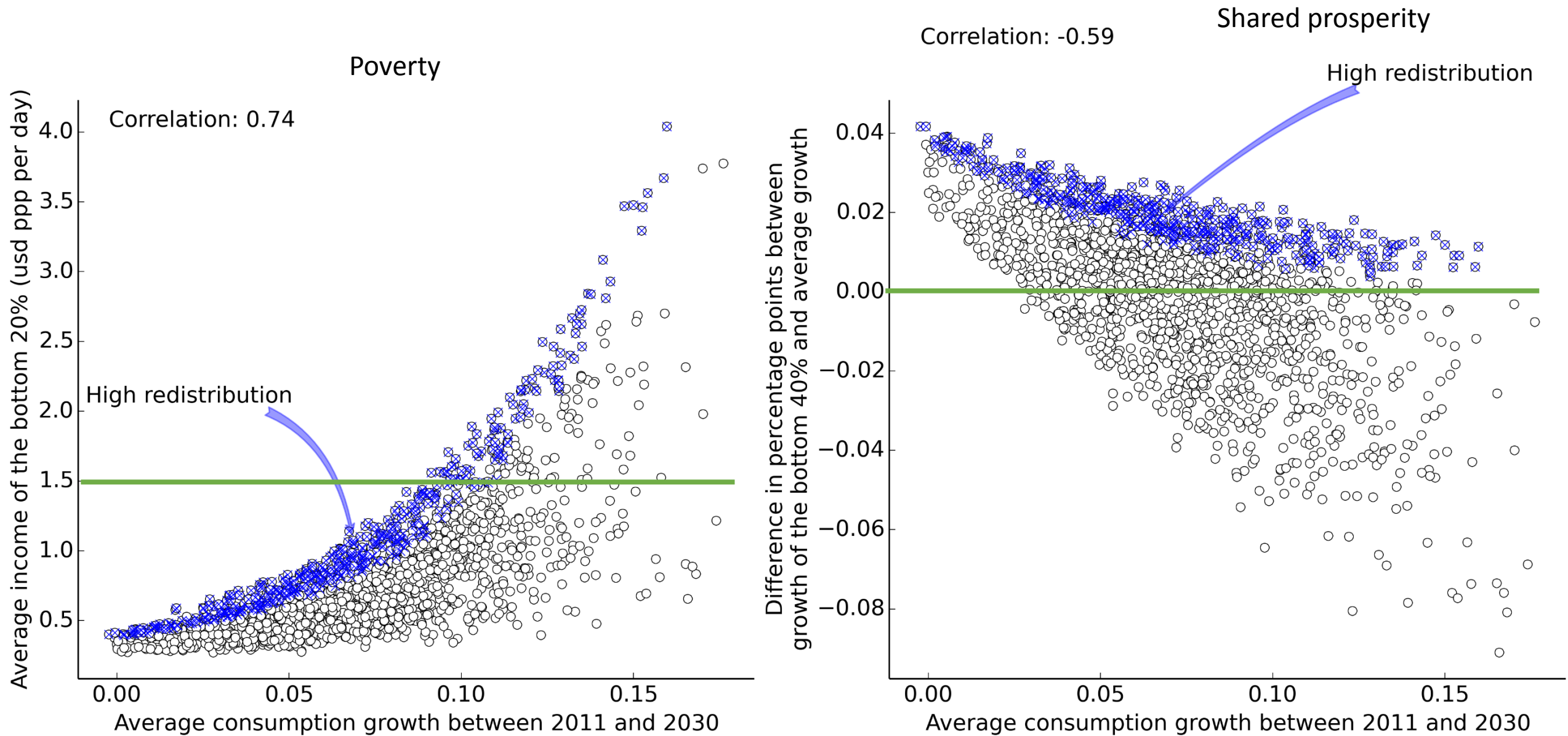
Low population growth guarantees a reduction in poverty but not shared prosperity



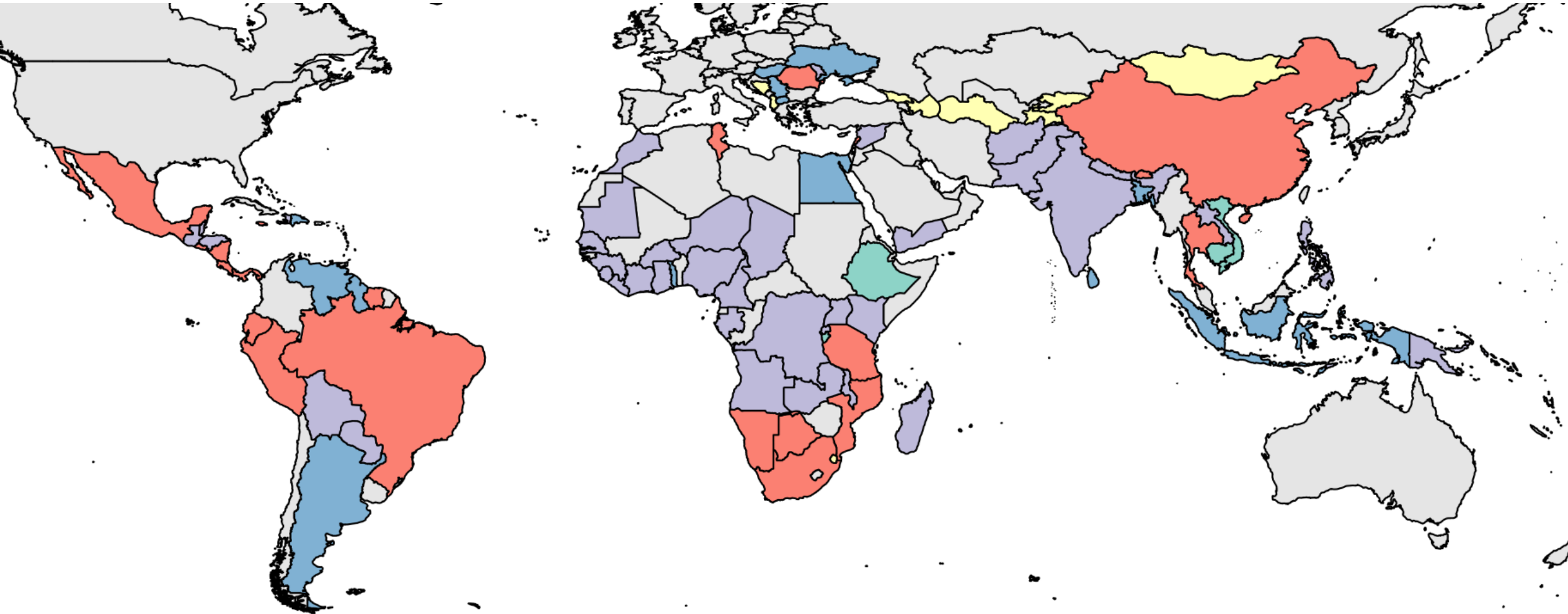
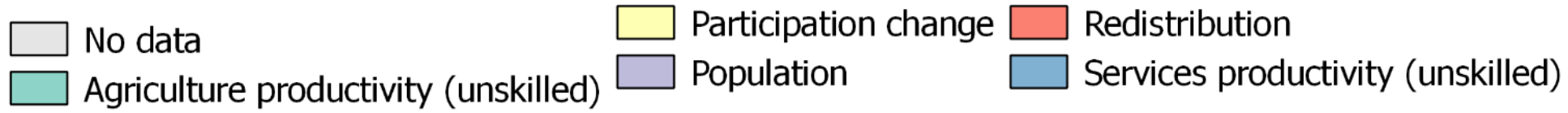
Redistribution increases the positive impact of growth on poverty and reduces the negative impact of growth on shared prosperity



Redistribution guarantees shared prosperity but not poverty reduction

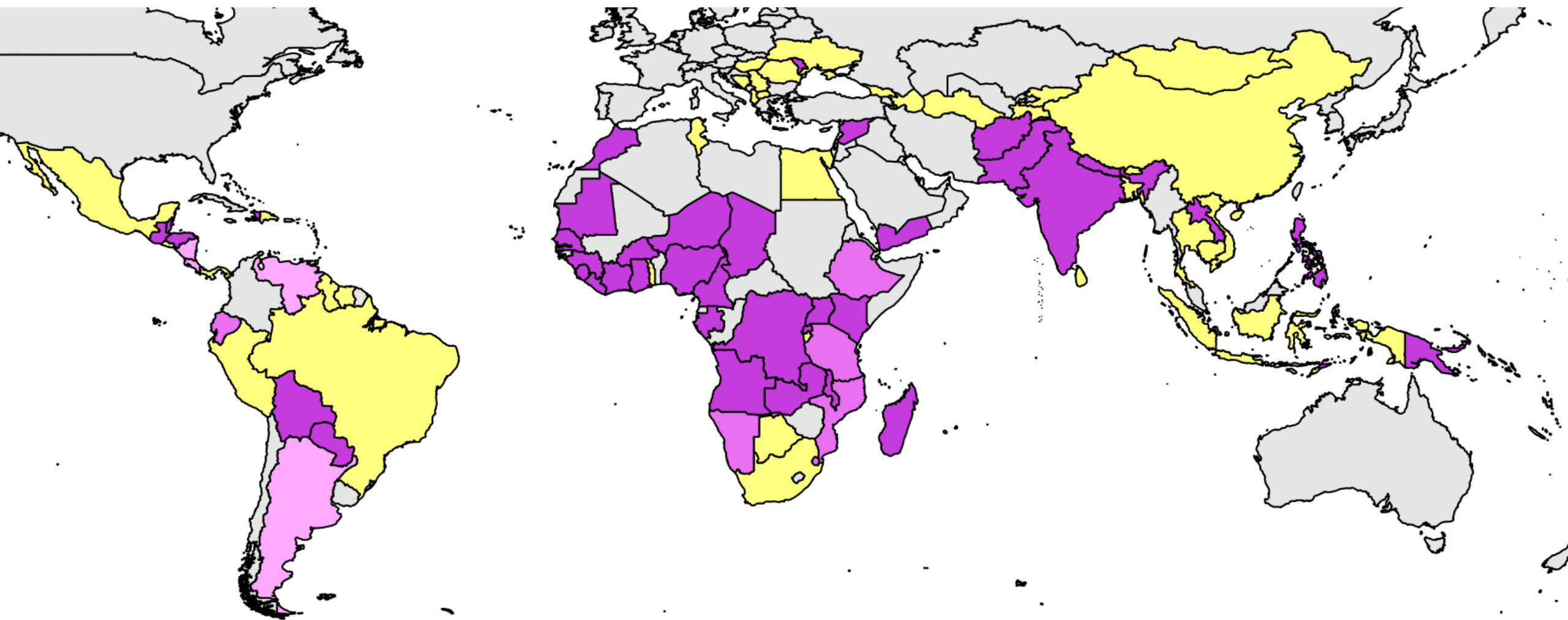


Priorities for poverty reduction are context-specific

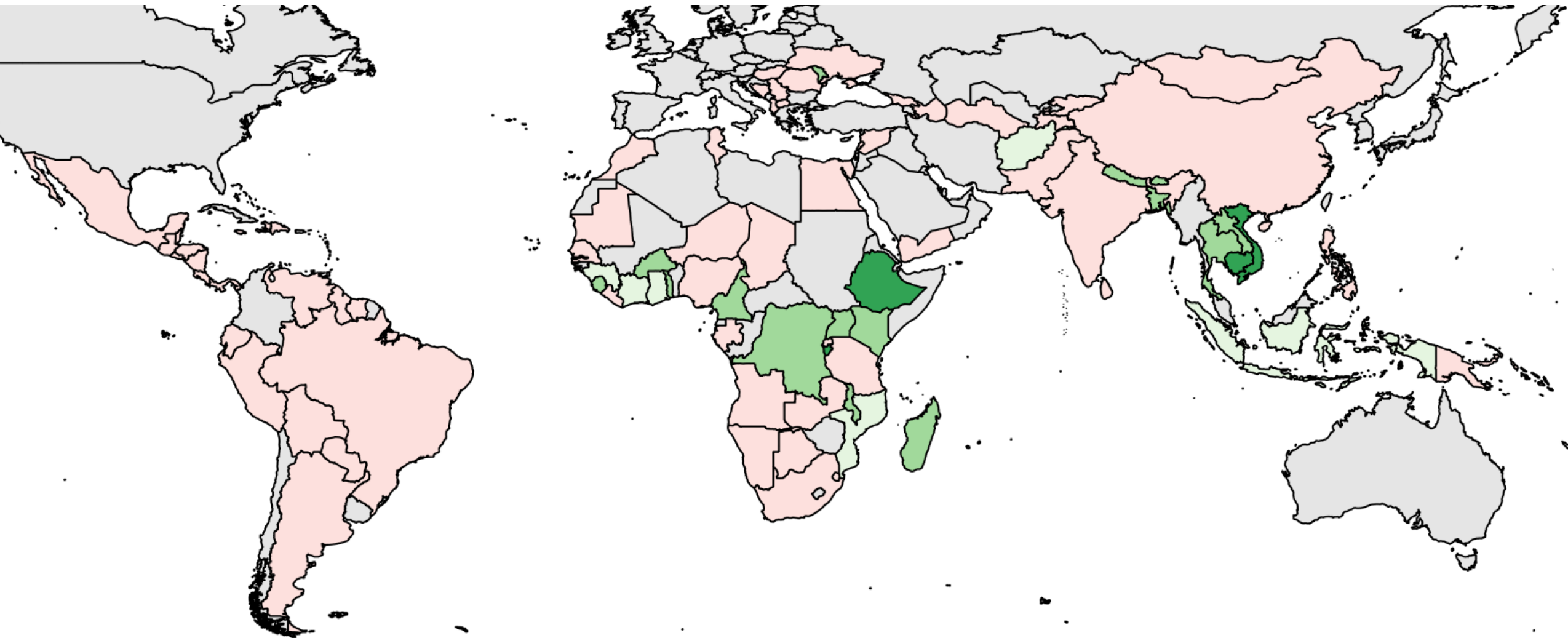
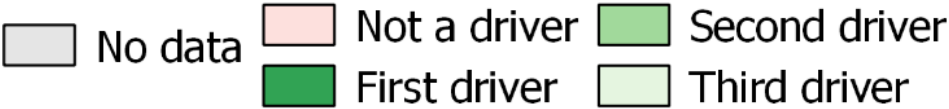


Demography is an important driver of poverty reduction in many countries

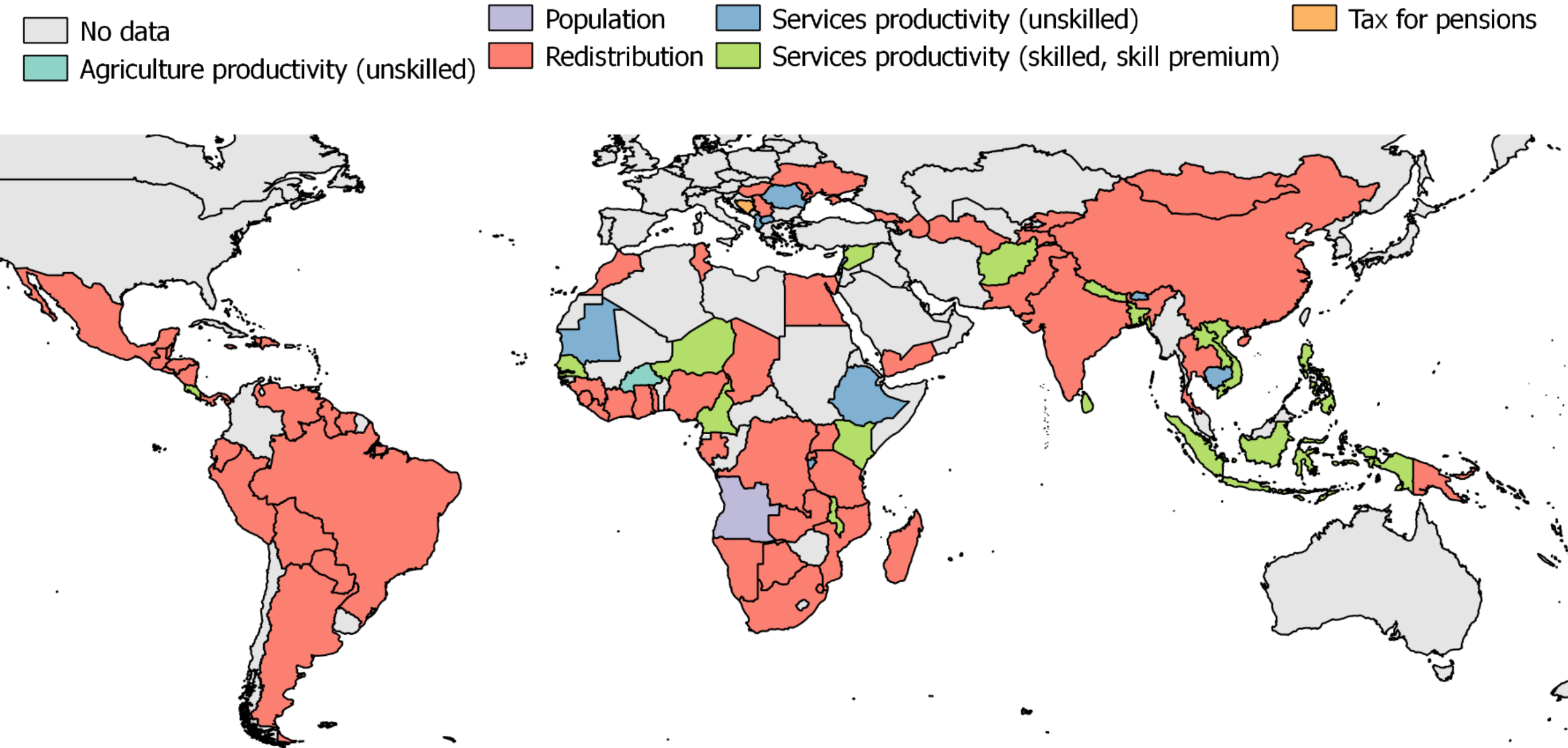
No data
 First driver
 Second driver
 Third driver
 Not a driver

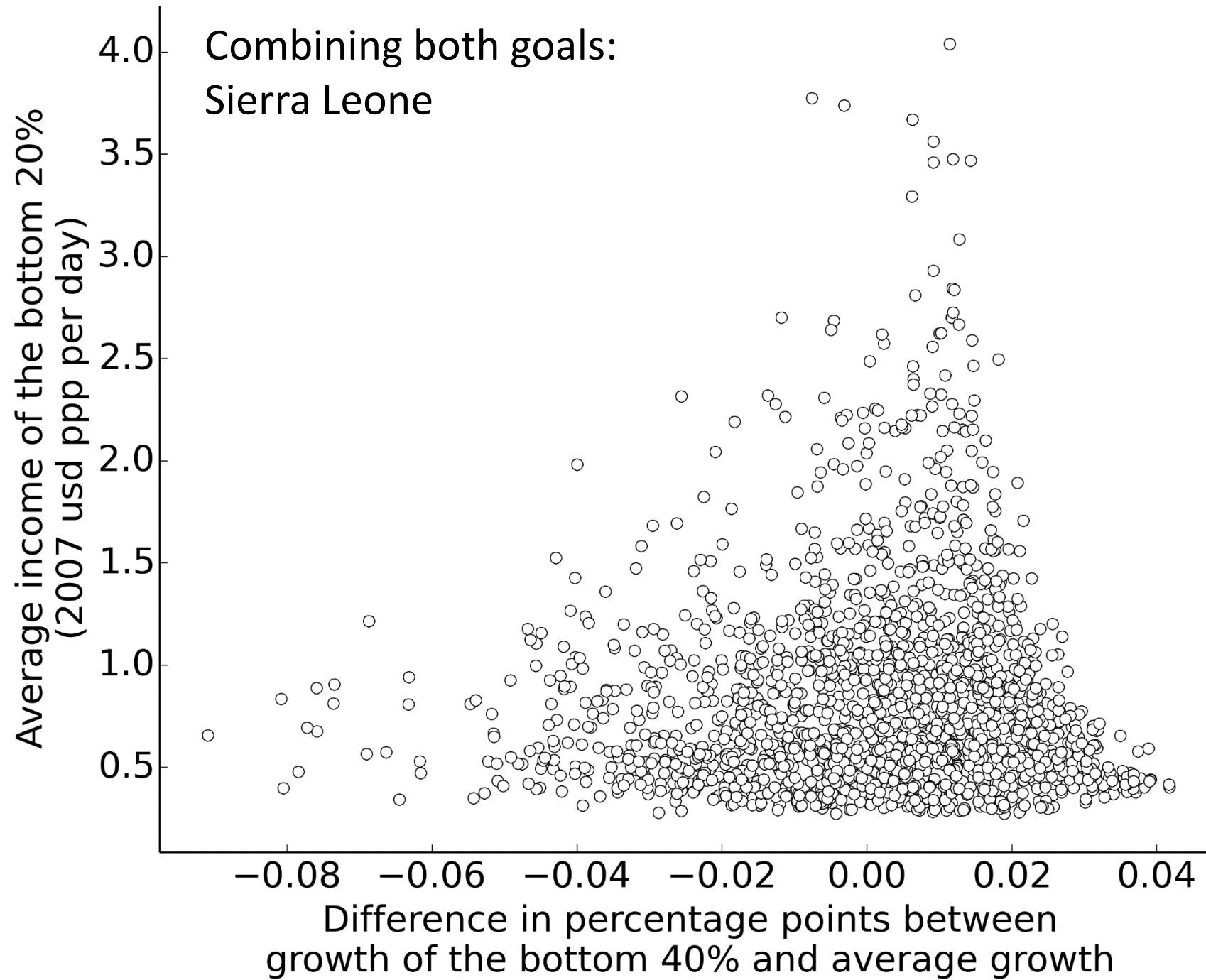


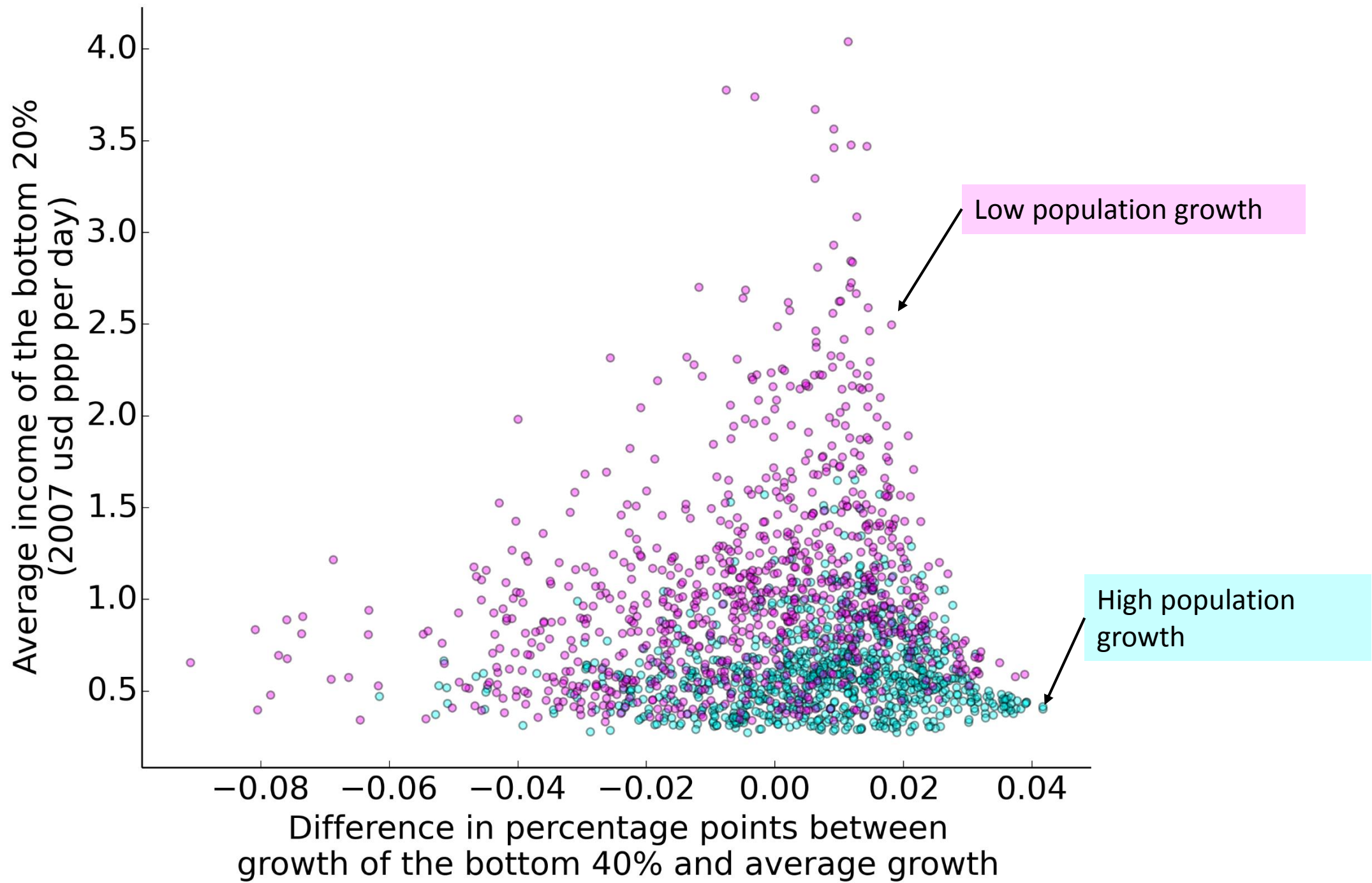
Poverty reduction cannot be achieved without sufficient growth for unskilled agriculture workers

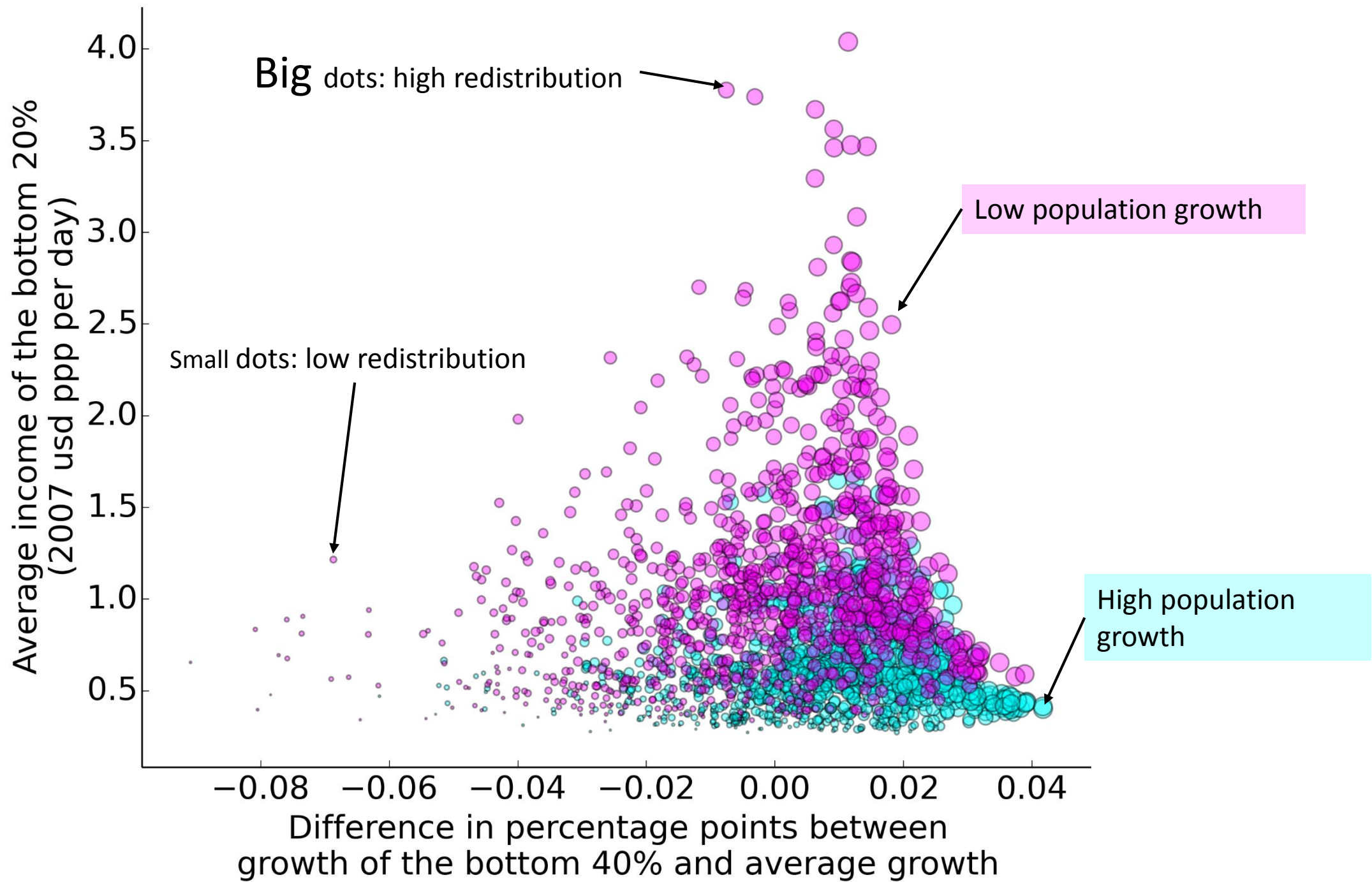


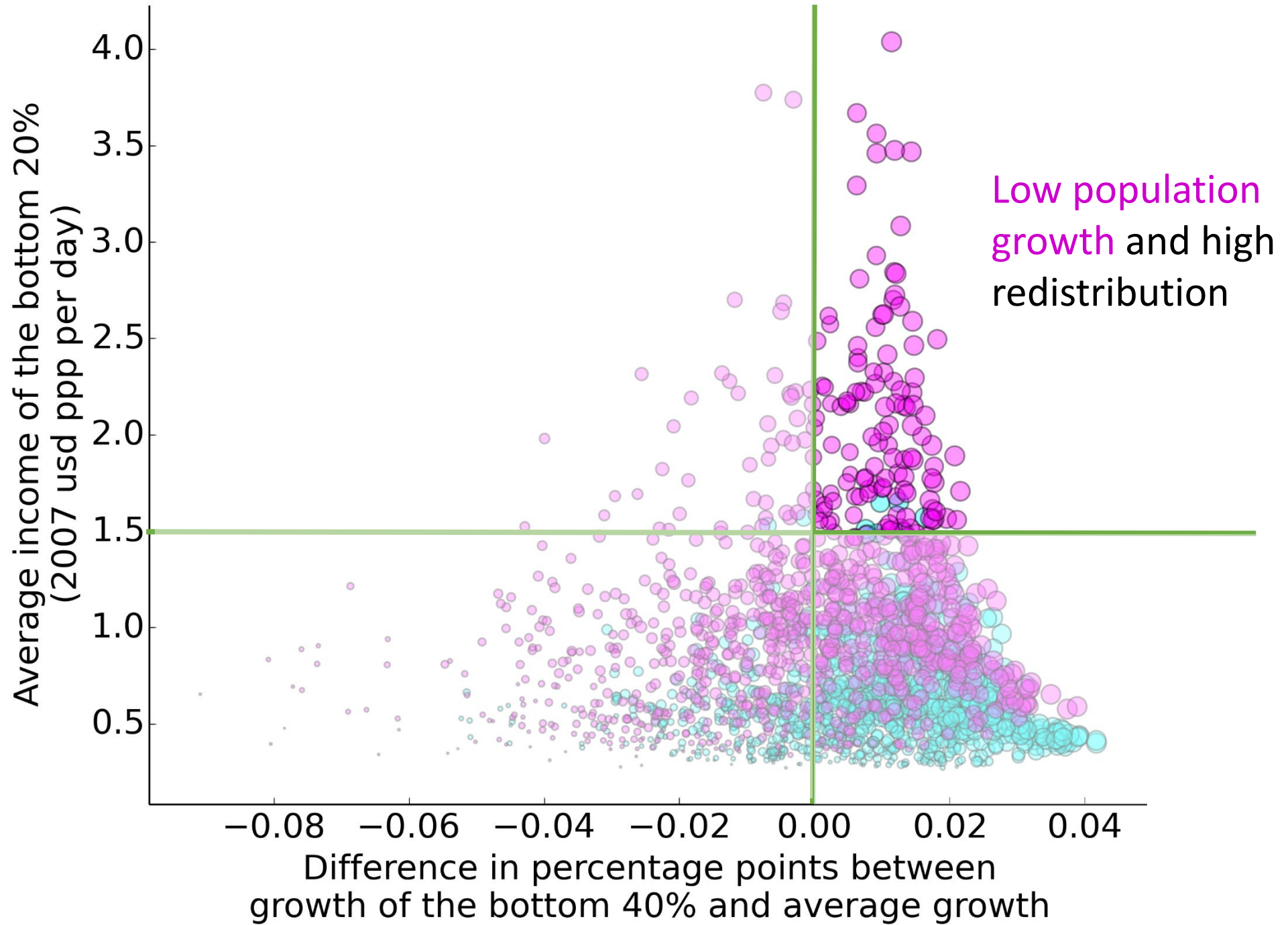
Redistribution dominates for shared prosperity



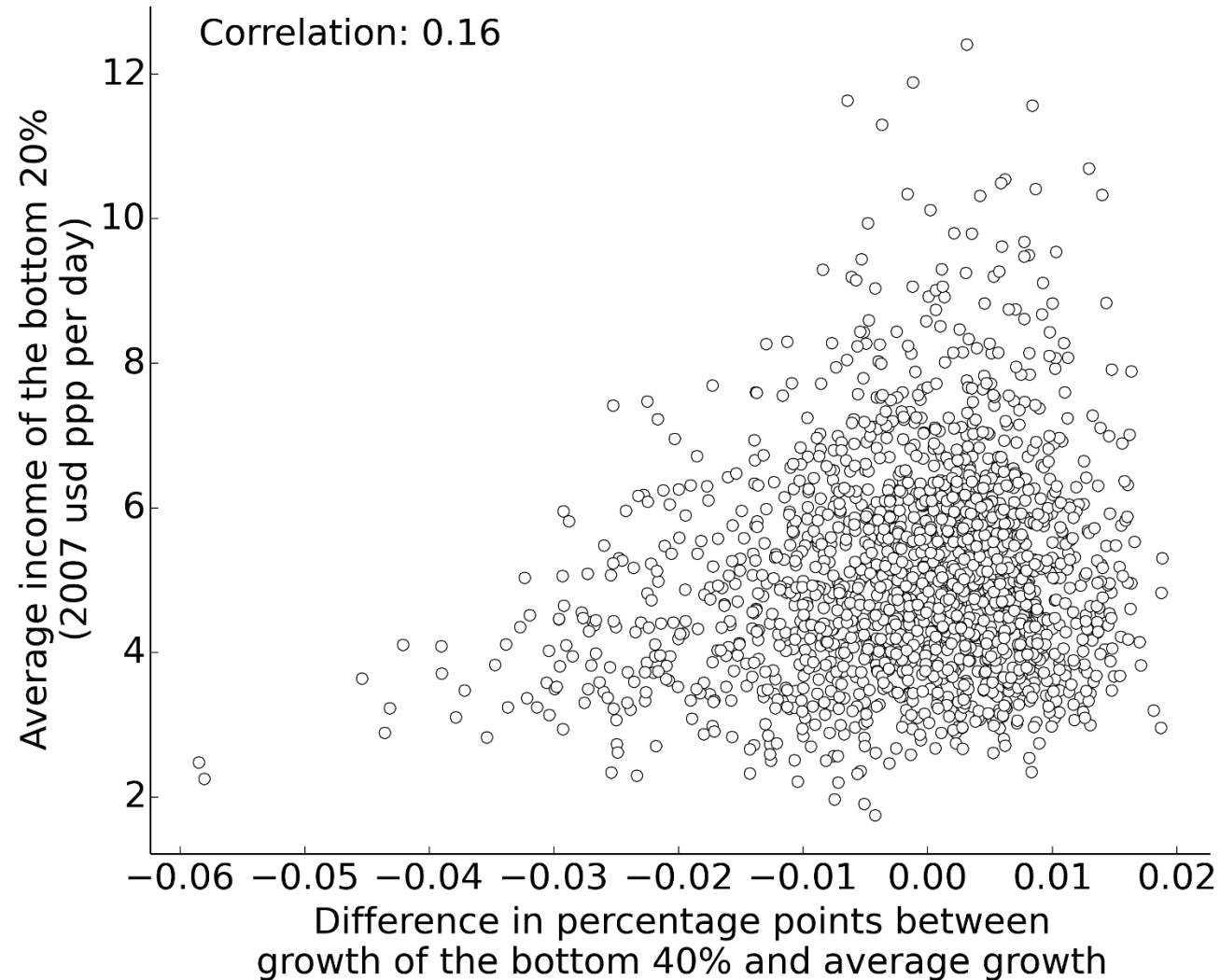




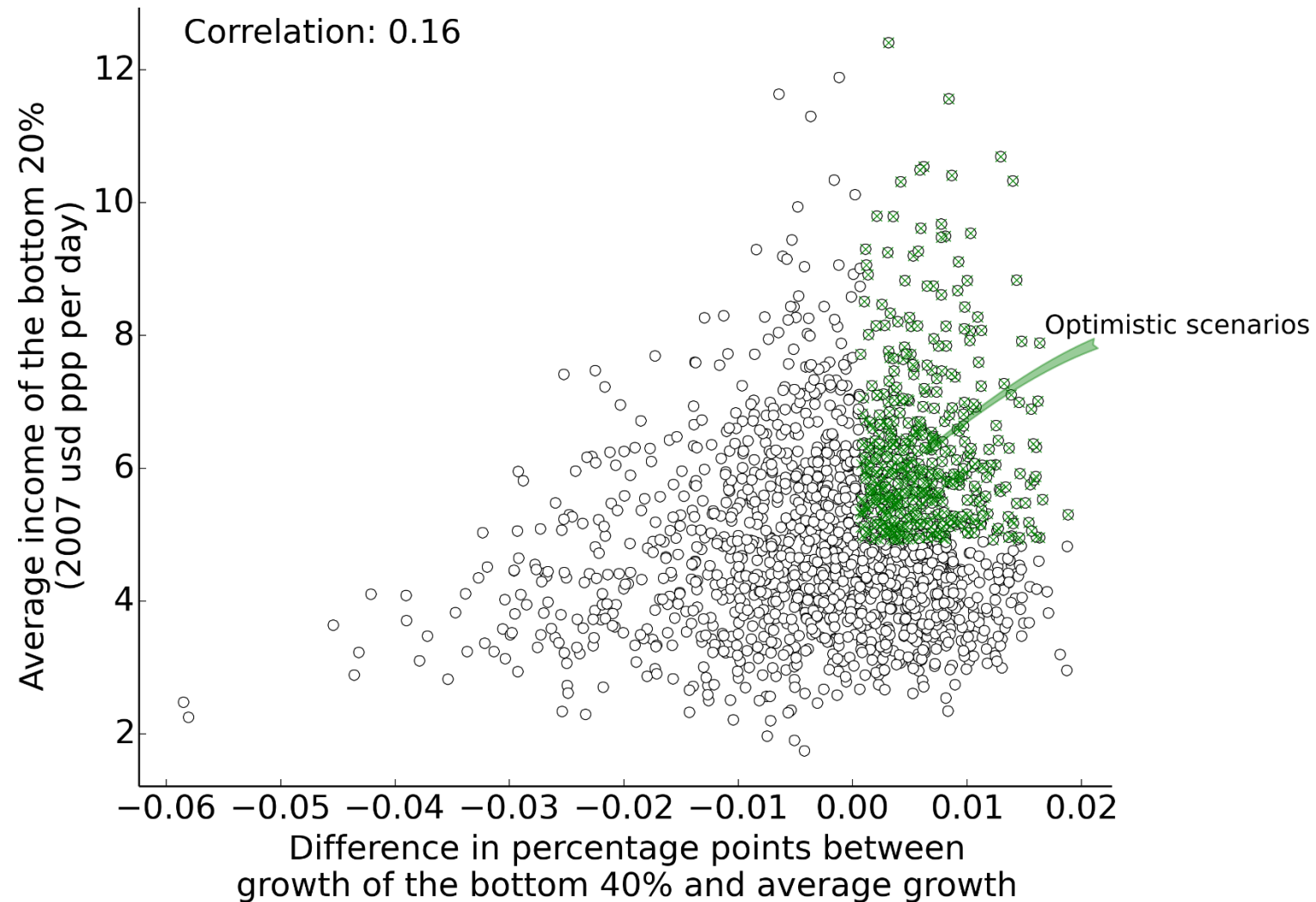




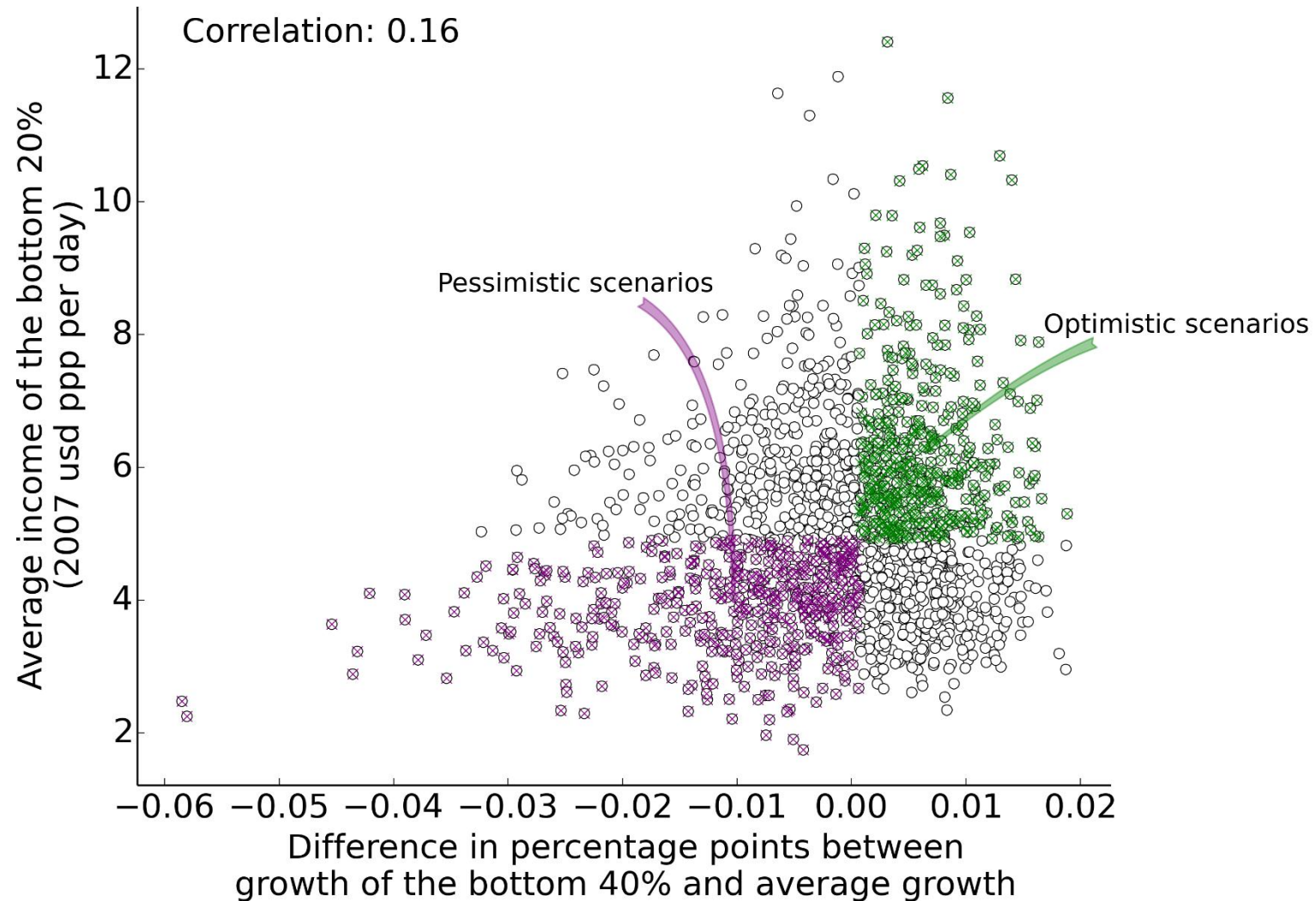
In each country, we select optimistic and pessimistic scenarios.
Example of Vietnam



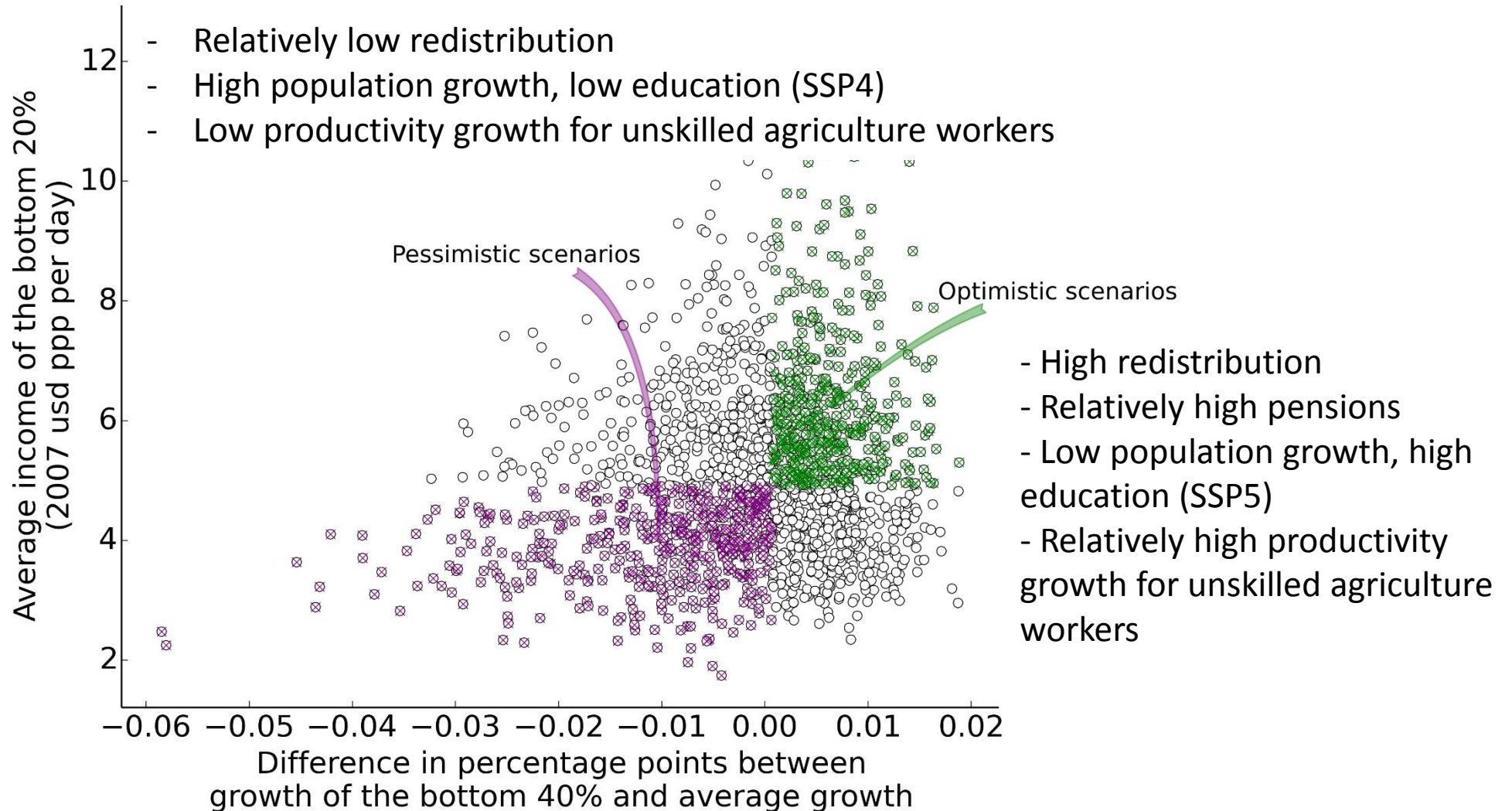
In each country, we select optimistic and pessimistic scenarios.
Example of Vietnam



In each country, we select optimistic and pessimistic scenarios.
Example of Vietnam



We use scenario-discovery techniques to find the characteristics that best explain optimistic and pessimistic scenarios



Coming back to our four scenarios

How successful are we
in mitigating climate
change by 2030?

Very successful
(and low climate
sensitivity)

Poverty
scenario

Optimistic
scenario

Not successful (and
large climate
sensitivity)

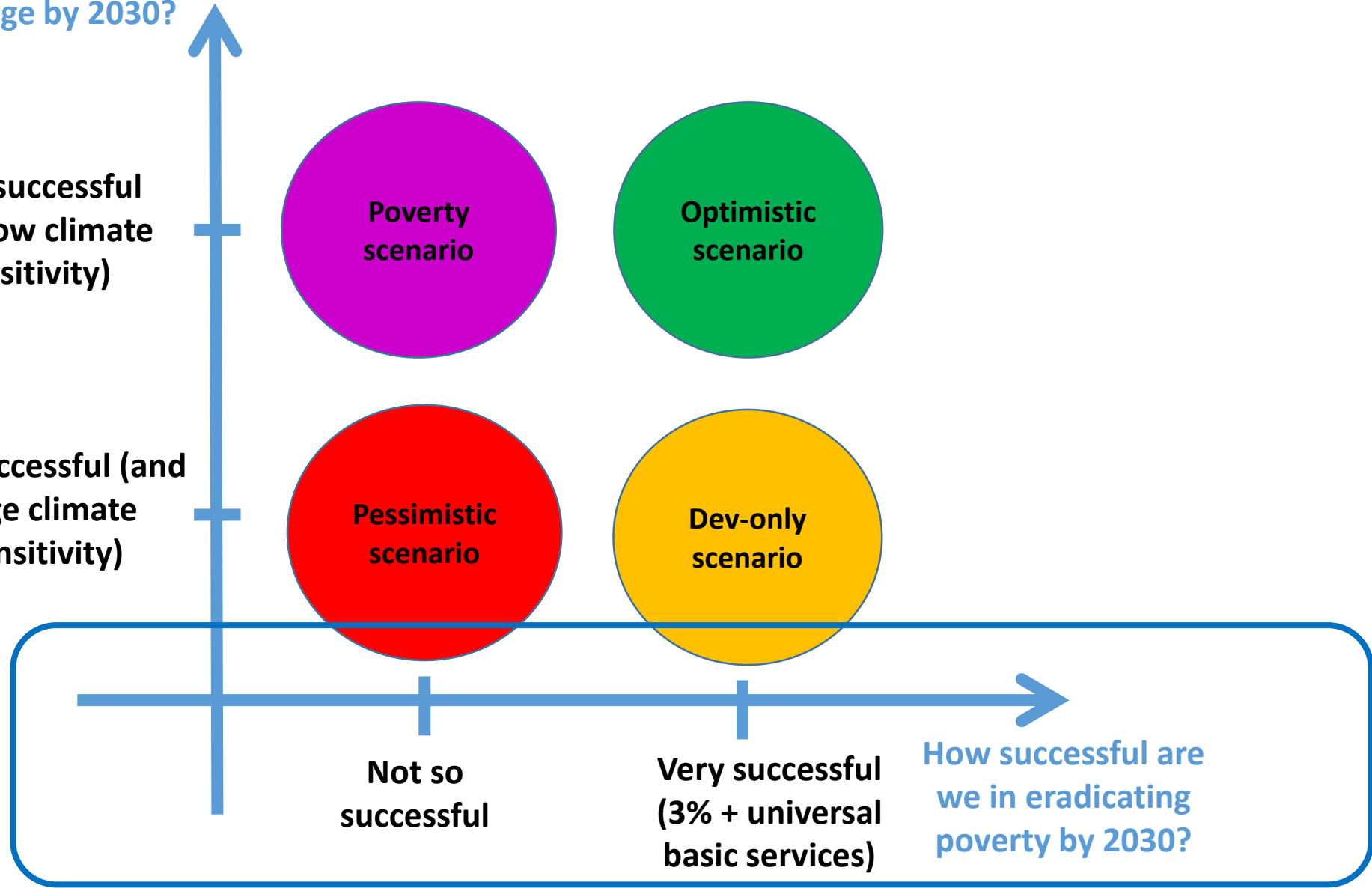
Pessimistic
scenario

Dev-only
scenario

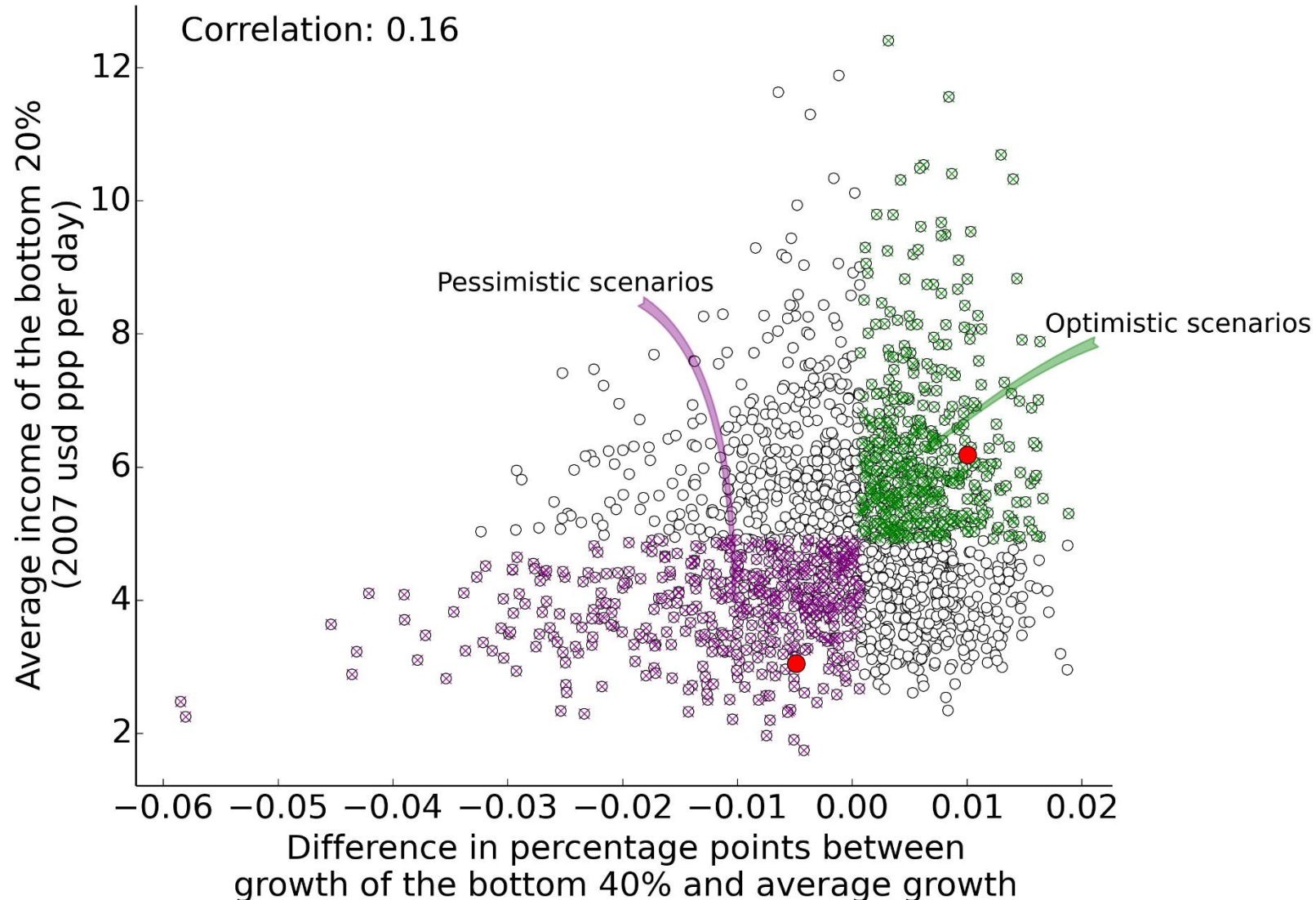
Not so
successful

Very successful
(3% + universal
basic services)

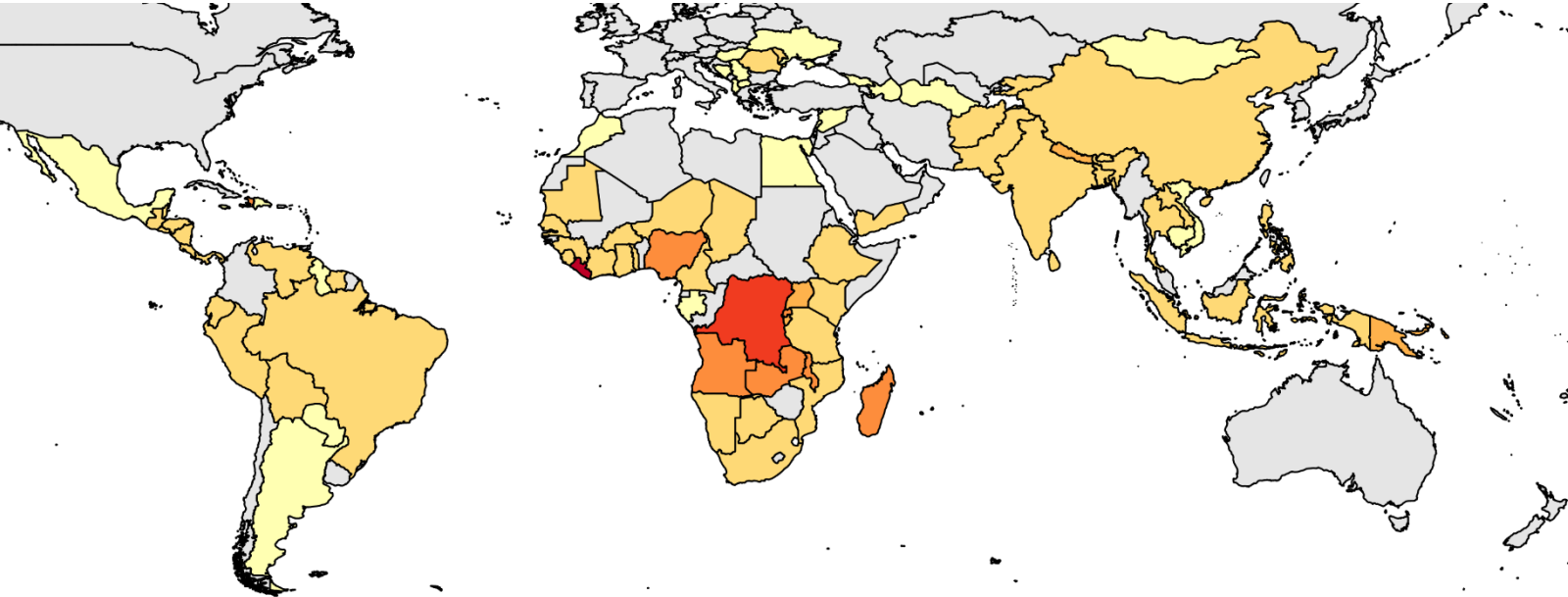
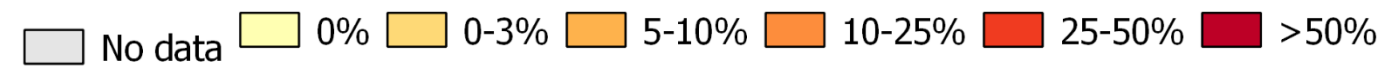
How successful are
we in eradicating
poverty by 2030?



We identify **two representative scenarios** that share the main characteristics of each group and match SSP4 and SSP5 GDP growth

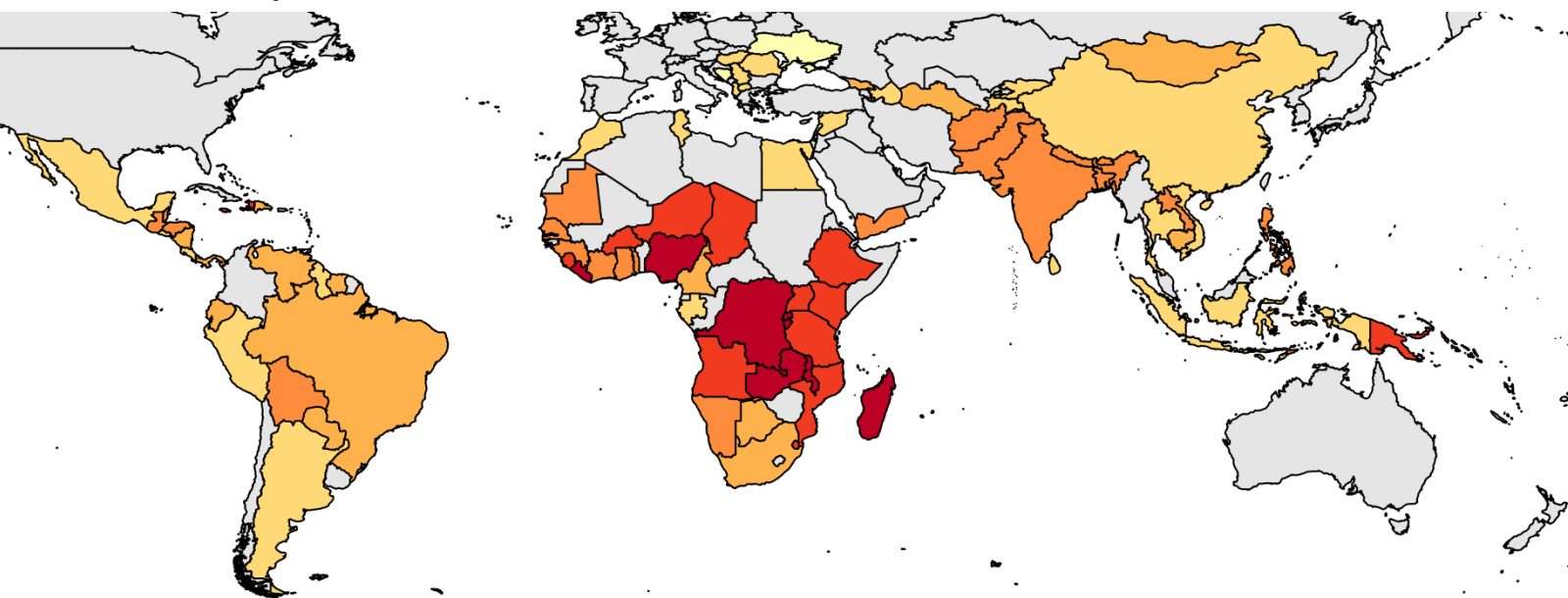


Extreme poverty \$1.25 (% of country population)



Optimistic scenario 2030:

Less than 3% of total population lives with less than usd 1.25 per day



Pessimistic scenario 2030:

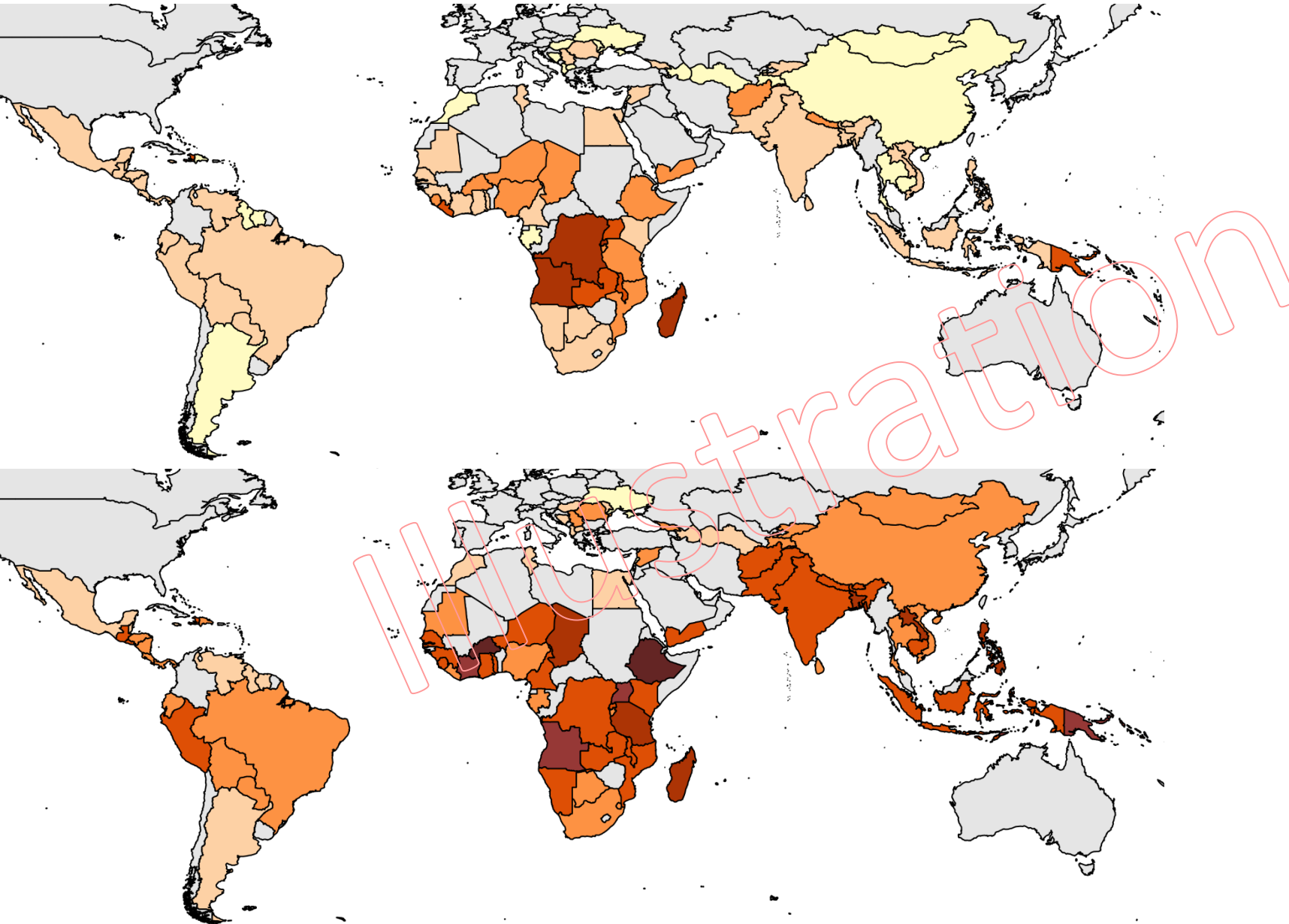
12% of total population lives with less than usd 1.25 per day

We add climate change impacts in these two scenarios, based on inputs from the other participants of this conference

Channel	Modeled impact
Prices	Increase in food prices (10% in 2030)
Human capital	20% productivity loss in 2030 for people working outside + 20% loss in productivity due to increased stunting for a random selection of poor households
Physical capital	10% loss in income in 2030 for a random selection of people exposed to natural disasters

Impact of climate change (increase in poverty percentage points using usd 1.25 as a threshold)

Legend: No data (light grey), 0 (yellow), 0 - 1% (light orange), 1-3% (orange), 3-6% (dark orange), 6-8% (dark red), 8-10% (maroon), 10-12% (dark brown)



Optimistic scenario 2030:
Global poverty increases by 0.5 percentage point

Pessimistic scenario 2030:
Global poverty increases by 4 percentage points

Thank you!

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