
Trade, Trade Policy and Inequality

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1. INTRODUCTION



Goal 10. Reduce inequality within and among countries

- The Sustainable Development Goals Report 2018:
 - Efforts have been made in some countries to reduce income inequality, increase zero-tariff access for exports from LDCs and developing countries, and provide additional assistance to LDCs and small island developing States (SIDS)
 - However, progress will need to accelerate to reduce growing disparities within and among countries

→ Goal 10 will be reviewed in depth at the High-Level Political Forum in 2019



- 10.1 By 2030, progressively achieve and sustain income growth of the bottom 40 per cent of the population at a rate higher than the national average
- 10.2 By 2030, empower and promote the social, economic and political inclusion of all, irrespective of age, sex, disability, race, ethnicity, origin, religion or economic or other status
- 10.3 Ensure equal opportunity and reduce inequalities of outcome, including by eliminating discriminatory laws, policies and practices and promoting appropriate legislation, policies and action in this regard
- 10.4 Adopt policies, especially fiscal, wage and social protection policies, and progressively achieve greater equality
- 10.5 Improve the regulation and monitoring of global financial markets and institutions and strengthen the implementation of such regulations
- 10.6 Ensure enhanced representation and voice for developing countries in decision-making in global international economic and financial institutions in order to deliver more effective, credible, accountable and legitimate institutions
- 10.7 Facilitate orderly, safe, regular and responsible migration and mobility of people, including through the implementation of planned and well-managed migration policies



- M**
- 10.a Implement the principle of special and differential treatment for developing countries, in particular least developed countries, in accordance with World Trade Organization agreements
- E**
- A**
- N**
- 10.b Encourage official development assistance and financial flows, including foreign direct investment, to States where the need is greatest, in particular least developed countries, African countries, small island developing States and landlocked developing countries, in accordance with their national plans and programmes
- S**
- 10.c By 2030, reduce to less than 3 per cent the transaction costs of migrant remittances and eliminate remittance corridors with costs higher than 5 per cent

<https://sustainabledevelopment.un.org/sdg10>



2. INEQUALITY: *measurement and facts*

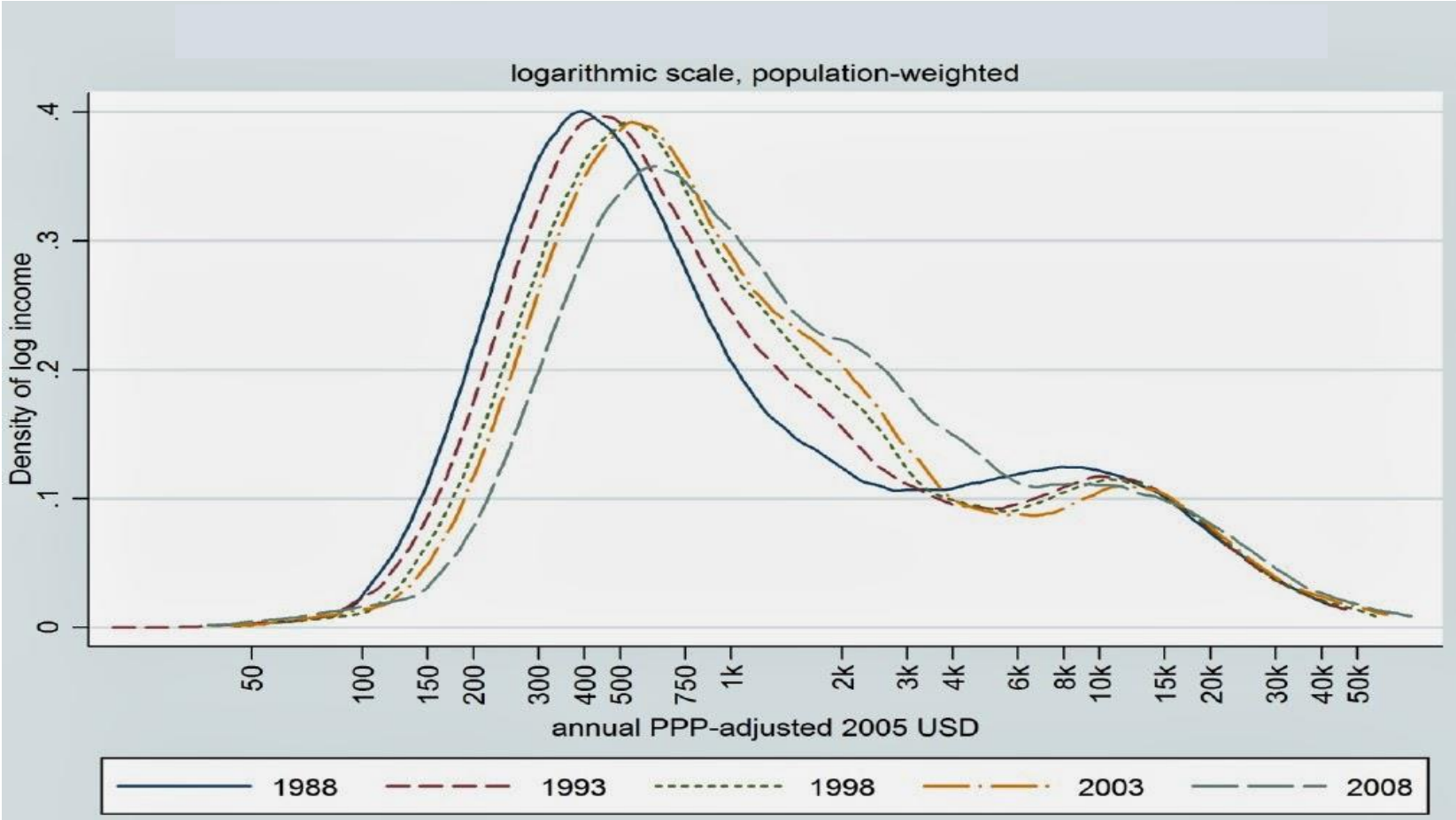


Measurement

- The primary input is a frequency distribution: for any income (or wealth) group, a distribution shows the number of individuals/countries in this group and their shares of the group's total income or wealth
- Income inequality — the most widely cited measure of inequality of outcomes — is typically measured by the market gross and net (after tax and transfers from social insurance programs) Gini coefficient, and by tracking changes in the income shares of the population (for example, by decile/quintile)
- Information on the assets held by the wealthiest offers a complementary perspective on monetary inequality
- Inequality of opportunities is often measured by tracking health, education and human development outcomes by income group, or by examining access to basic services and opportunities



The global distribution of income over time



Source: Milanovic (2016)



Measuring Inequality: some major indicators

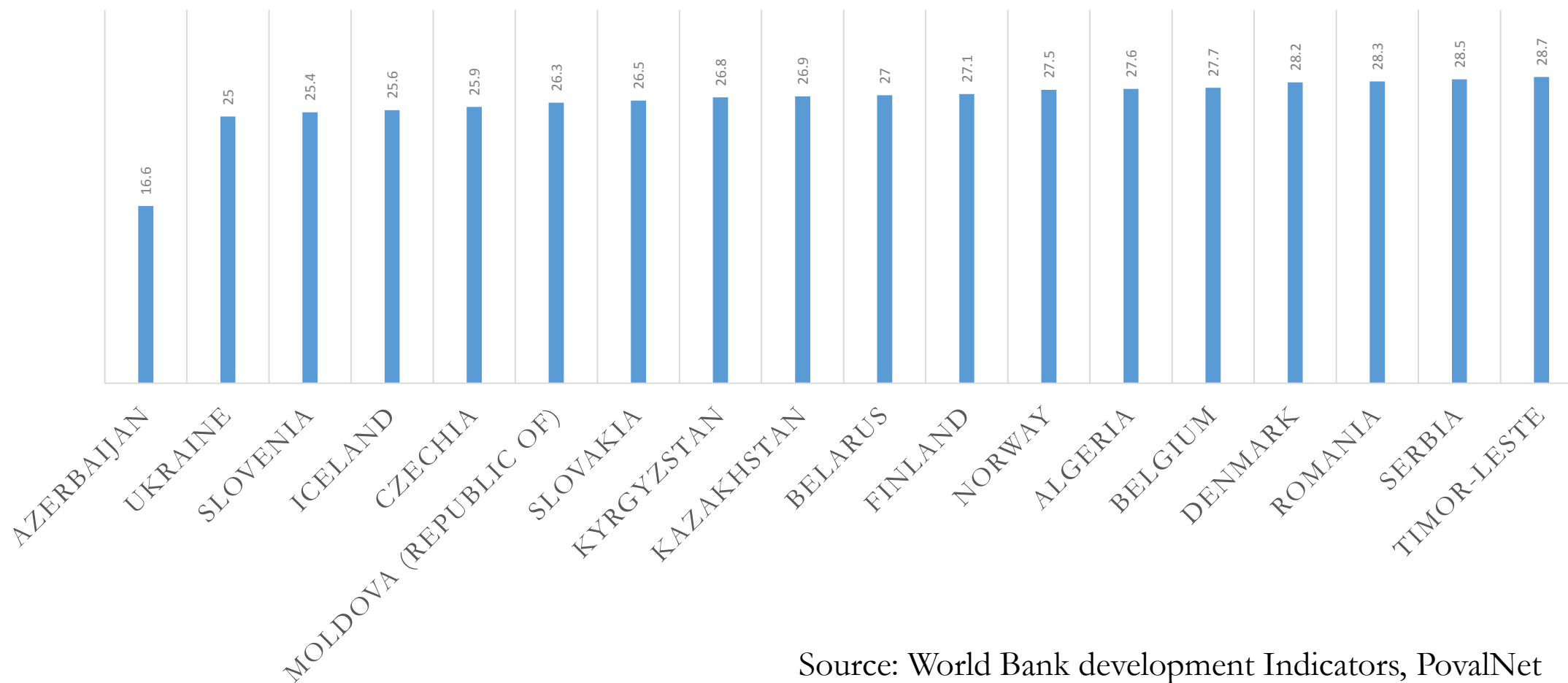
	Absolute	Relative
Income based, Wealth based	<p>Frequency distribution, Absolute Gini coefficient, Average revenue per quantiles Atkinson's index</p>	<p>Gini coefficient, Theil index, Quantiles ratios (e.g. Palma index) Share in total revenue per quantile</p>

Definition and Properties

- Relative Gini: Normalized sum of all differences between all individuals/countries in a distribution (it ranges from 0 to 1 (or 0 and 100), with 0 representing perfect equality and 1(100) representing perfect inequality in income distribution)
- Absolute Gini versus Relative:
Relative Gini=Absolute Gini/ average income (from the distribution)
- The Theil index: Global inequality among world citizens can be thought of being divided into inequality between countries (i.e., between the average individual across countries) and inequality within countries (i.e., across individuals within each country).



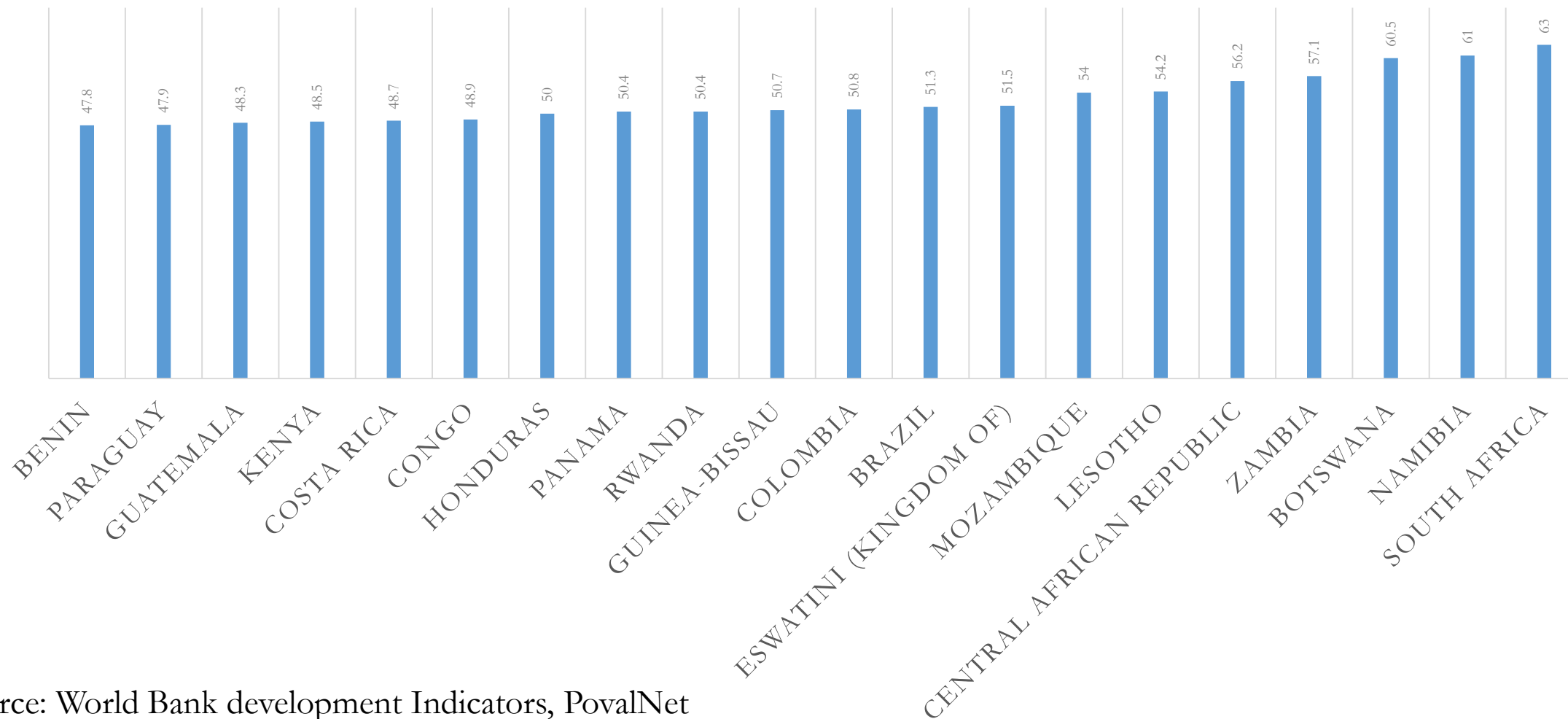
Gini coefficient: top 20 (2010-2017)



Source: World Bank development Indicators, PovalNet



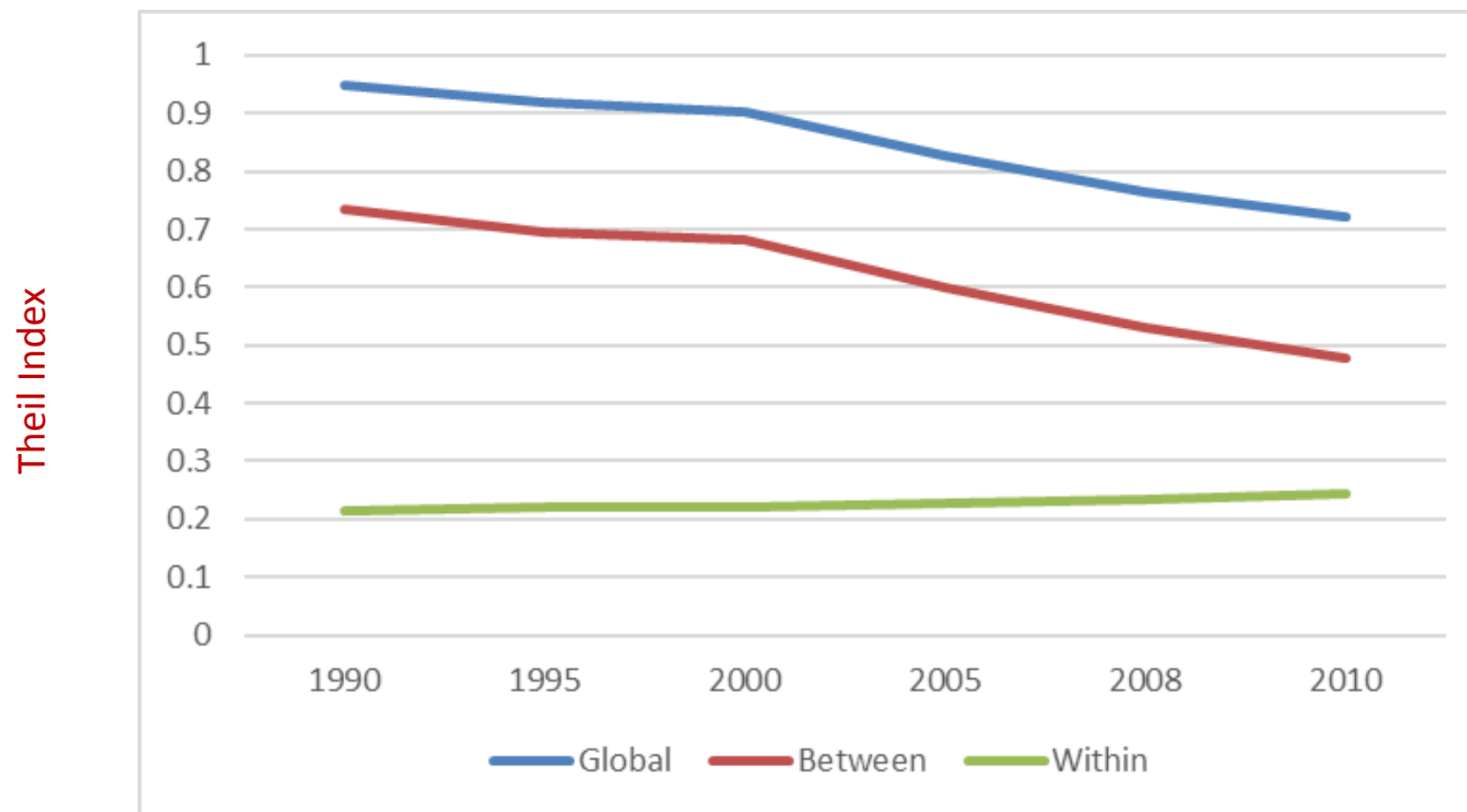
Gini coefficient: bottom 20 (2010-2017)



Source: World Bank development Indicators, PovalNet



Global, between and within income inequality 1990-2010



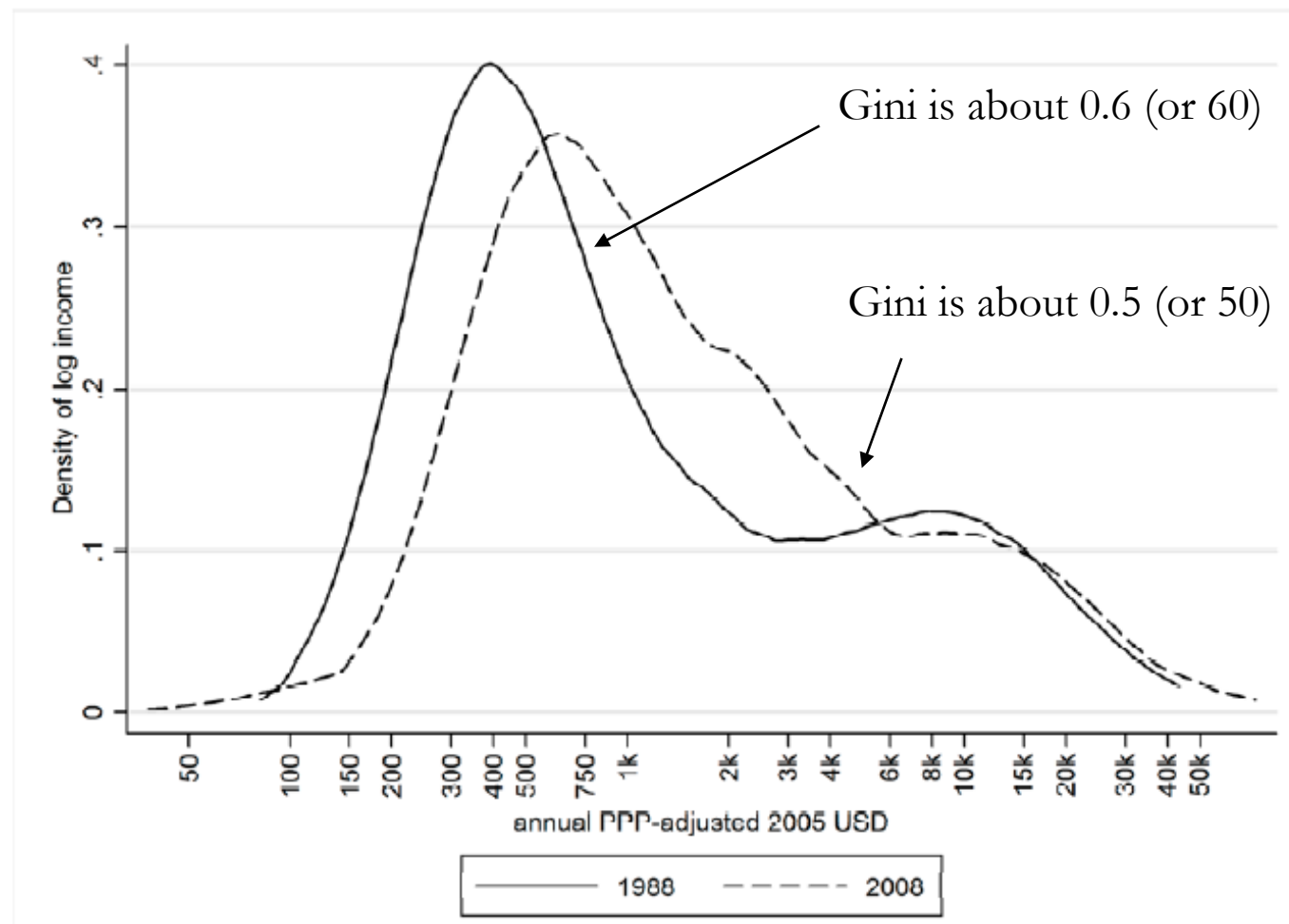
Source: Bourguignon (2016)



- One problem with measuring income inequality with the Theil index or Gini coefficient, or with relative income per capita growth between poor and rich individuals/countries is that it summarizes changes in the entire income distribution into one number
 - For example, a decline in income inequality can be perfectly consistent with poor individuals becoming poorer if there is more equality between high and middle-income individuals
 - Or, a country may experience both a Gini-reducing decrease in poverty and a rise in the share of income going to the top 10%, which increases the Gini; if these effects offset each other, the overall Gini can remain constant, creating the impression that the distribution of income is not changing — while in fact the middle class is being squeezed out
- The value of the Gini index is not necessarily easy to interpret: above which value inequality can be seen as non acceptable? →Moral judgement



Distribution of world income at different points in time, 1988-2008



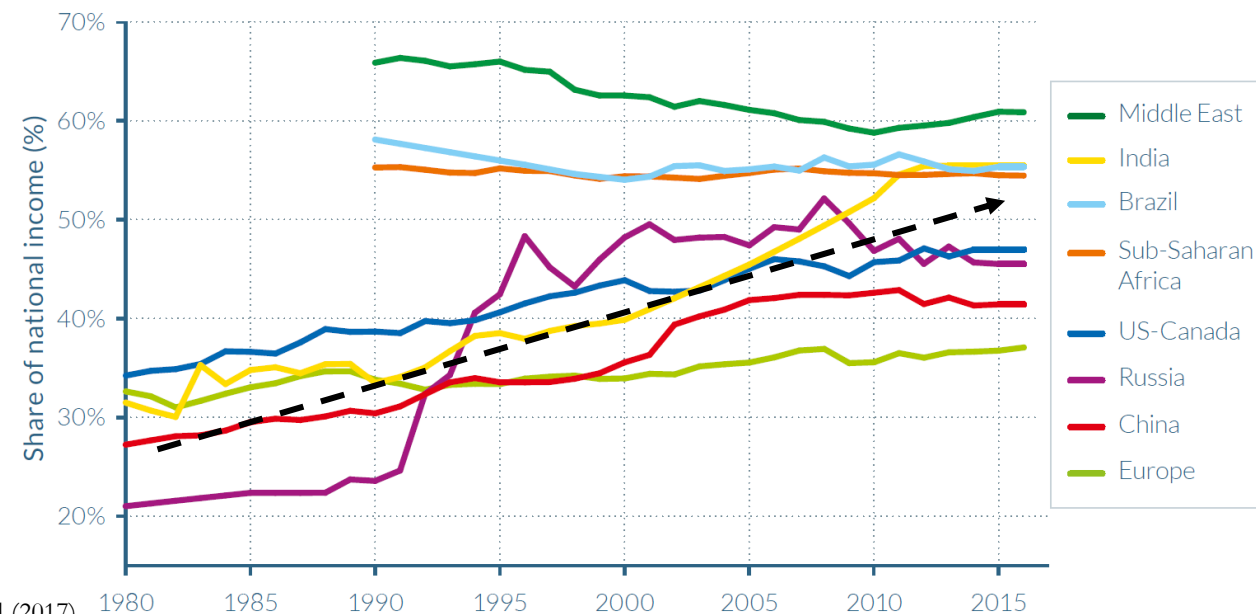
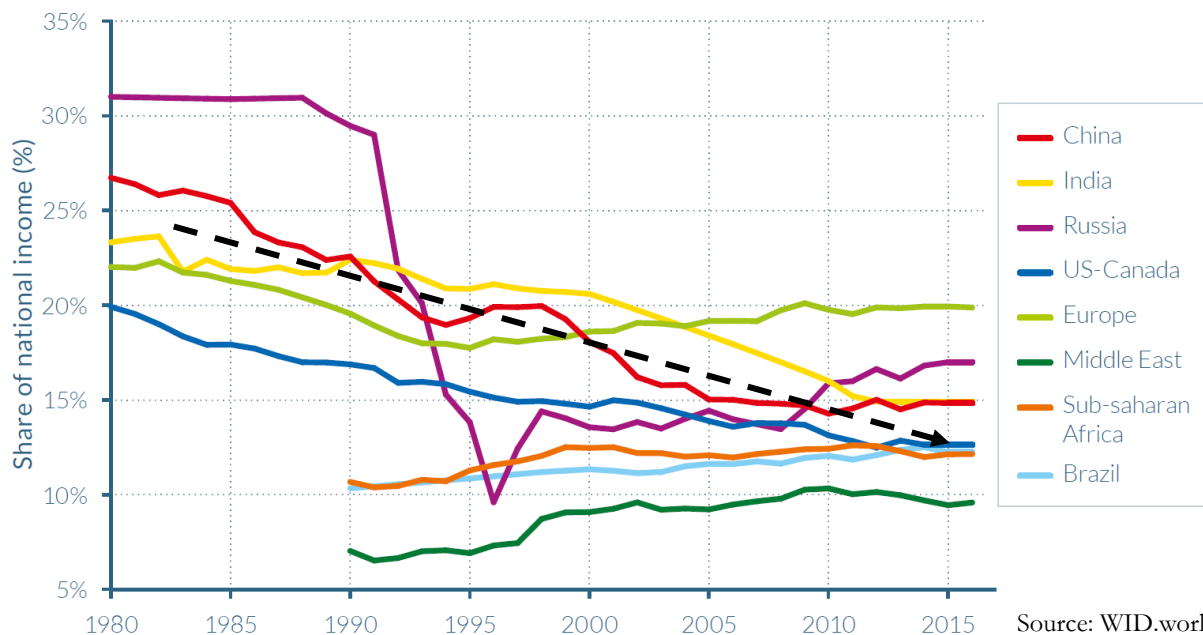
Source: Milanovic (2016)



- An alternative way of looking at this is to explore changes along the entire income distribution:
 - Average income/wealth per quantile group
 - Growth rates per quantile groups
 - Indicator 10.1.1: Growth rates of household expenditure or income per capita among the bottom 40 per cent of the population and the total population
 - Share of national income captured by each quantile group
 - Quantiles ratio
 - The Palma ratio focuses on the differences between those in the top and bottom income brackets: the ratio takes the richest 10% of the population's share of gross national income (GNI) and divides it by the poorest 40% of the population's share
- The Atkinson's Index presents the percentage of total income that a given society would have to forego in order to have a more equal income distribution: it is sensitive (depends on the retained aversion to inequality parameter) to the inequality in the lower end of distribution which is not the case for the Gini coefficient (equal weights across individuals)



Bottom 50% income shares across the world, 1980–2016 Top 10% income shares across the world, 1980–2016



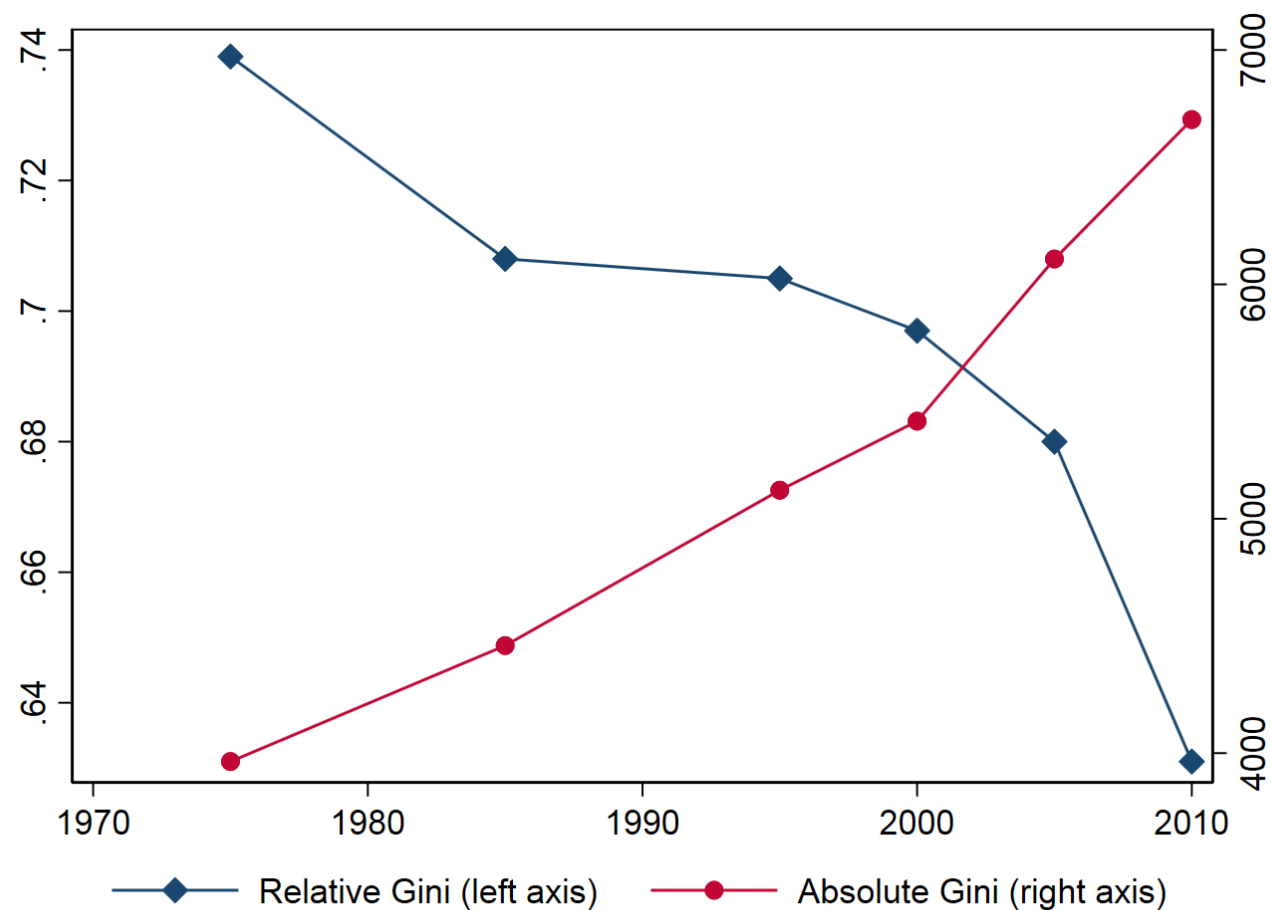
- If top 10% captures 50% of national income this implies that the average income in the top 10% is 5 times larger than the average income in the economy as a whole; this group earns 5 times more than it would in a perfectly equal society
- If the bottom 90%, by contrast, also captures 50% of national income, so individuals in the bottom 90% on average earn about 55% of the average income per adult (that is, 0.50 divided by 0.90)



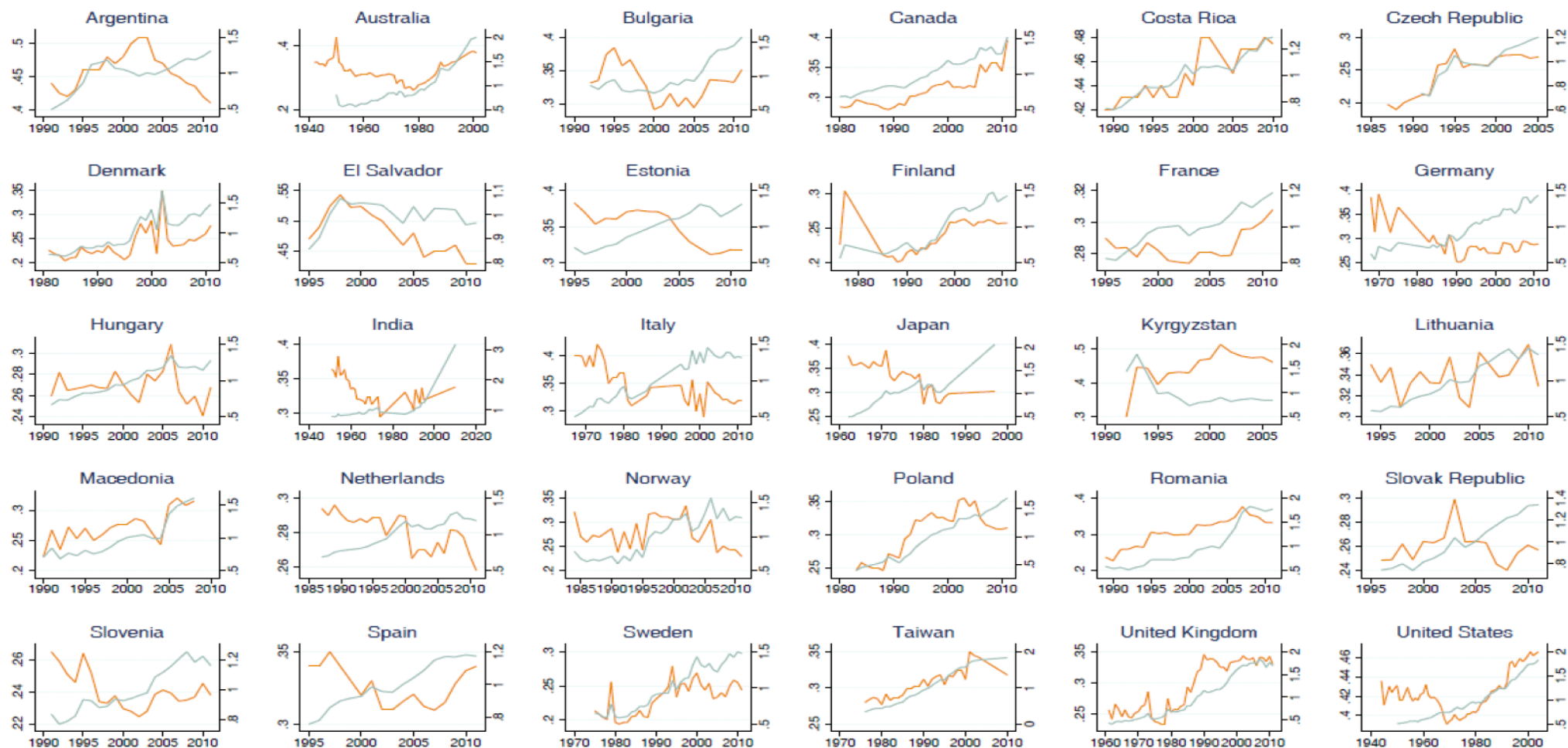
- Relative inequality focuses on changes in relative incomes
 - For instance, if the income of every individual were to double, then relative income inequality would remain unchanged
- Absolute inequality on the other hand looks at the actual change in income (or wealth) individuals experience in each decile of the income distribution
 - When all incomes double, the absolute increase in income (in monetary terms) is larger for individuals with high incomes
 - Thus, the average absolute difference in income has increased, and absolute inequality has also increased
- The same proportional change along the income distribution can lead to different conclusions regarding the evolution of income depending on whether we are measuring absolute or relative inequality



Relative and Absolute Global Inequality (1975-2010)



Source: Zarazúa *et al.* (2017). Relative Gini is measured on the left axis, and absolute Gini on the right axis.

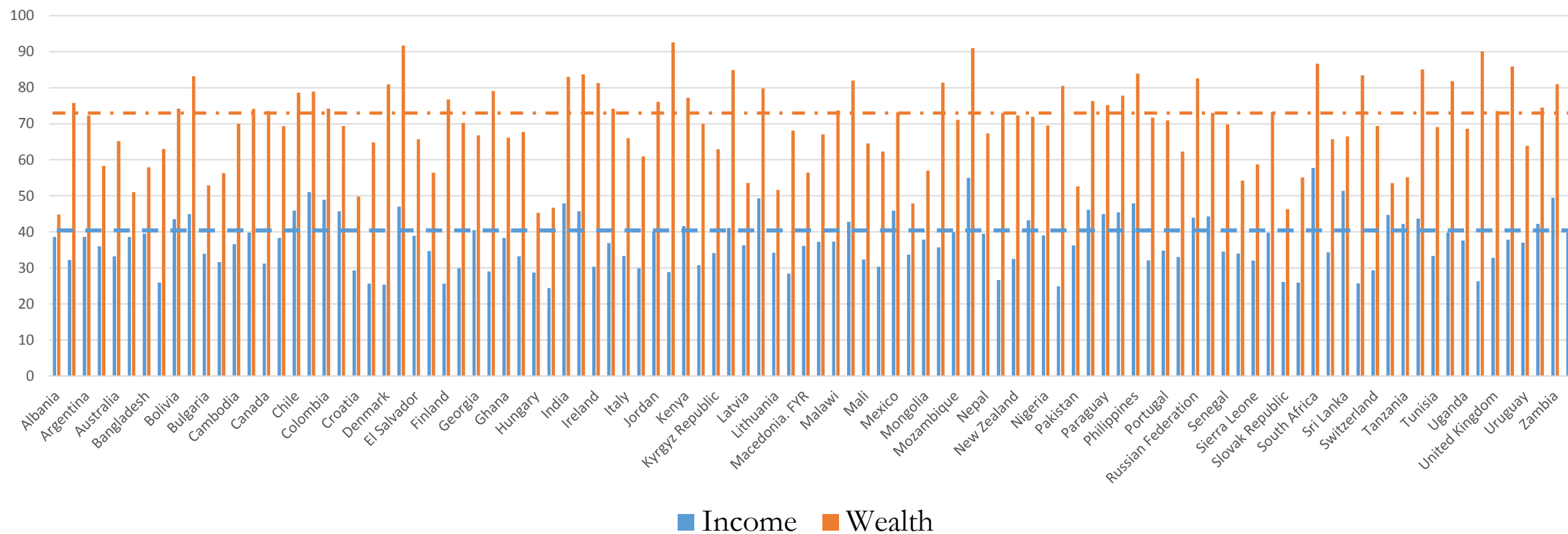


Relative Gini, left Y-axis, %
 Absolute Gini, right Y-axis, % of country average.



- Wealth inequality measures are usually larger than corresponding income inequality measures

Gini coefficients (latest available year)



Source: WID.world (2018)



3. Policy Reform and Inequality: *channels of transmission*



Inter-country Inequality

- Any policy reform that affects the growth differential across countries could have an impact on inequality among countries
- (How) does trade liberalization affect growth?
 - Still an open theoretical and empirical question
 - Could not be the major determinant of long term growth rates (possible «disruptive» effects in the short and medium term)
 - Several possible channels of transmission
 - Concurrent policy reforms are also likely to play a major role
- Inequality patterns are thus closely linked to convergence patterns in terms of GDP/GNI per capita



- Different convergence patterns can be observed:
 - **absolute (beta)**: per capita income of countries converge to one another independently of their initial conditions
 - Poorer countries should grow faster than richer ones
 - **conditional (beta)**: per capita incomes of countries that are identical in their structural characteristics (e.g. preferences, technologies, rates of population growth, government policies, etc.) converge to one another in the long run independently of their initial conditions
 - Rich countries can grow faster than poor countries (in the transition)
 - Observing persistent differences in income requires an explanation of persistent differences in structural parameters
 - **dispersion (sigma)**: The dispersion of per capita income across a group of economies tends to fall over time
 - **clubs of convergence**: Per capita incomes of countries that are identical in their structural characteristics converge to one another in the long run provided that their initial conditions are similar as well, e. g. they are in the same basin of attraction



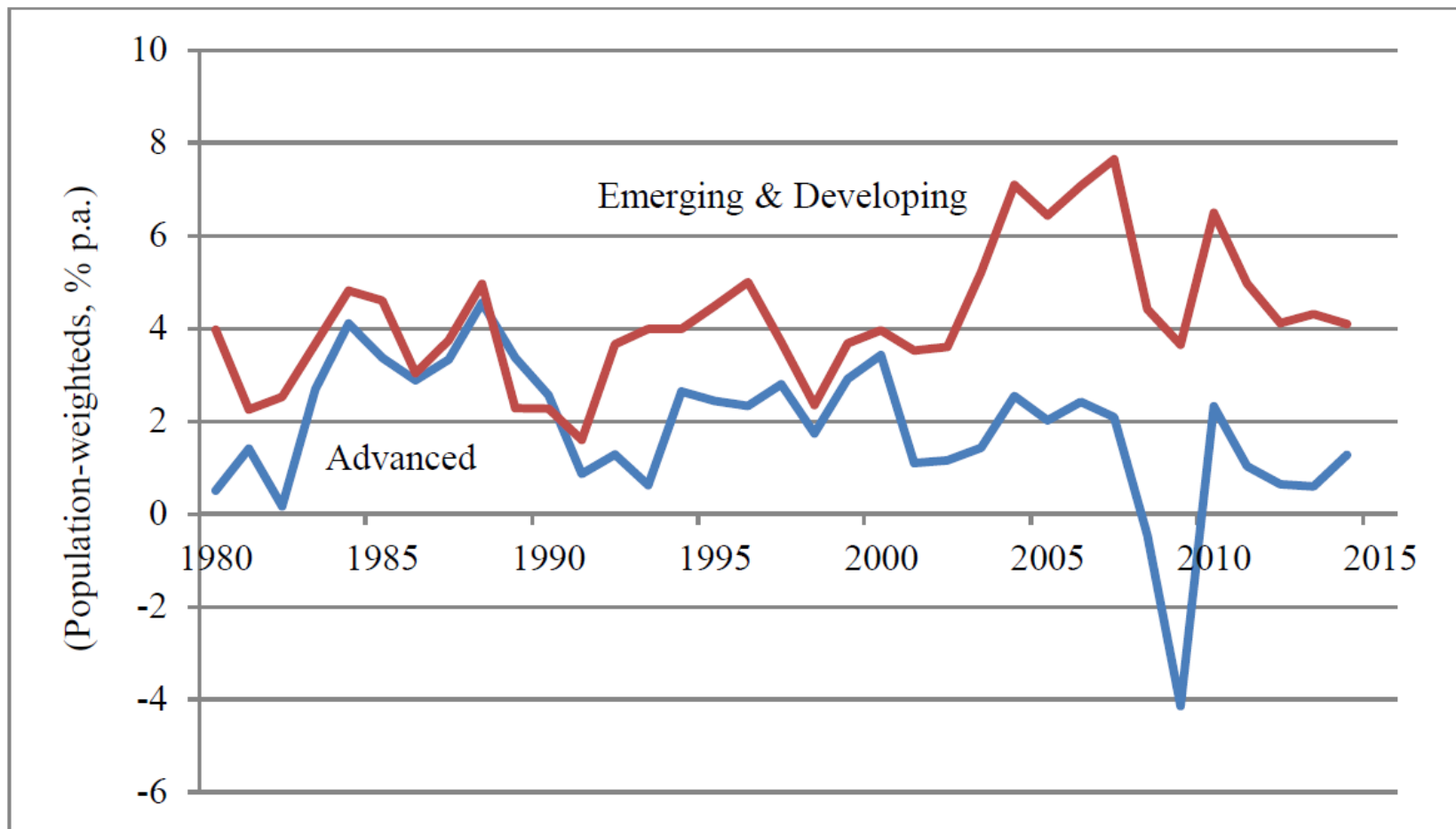
- Major insights from growth theory:
- Exogenous growth theory:
 - The long run growth rate of output is determined by the exogenous growth rate of population and of technological progress
 - Policies are likely to have only temporary effects on the growth rate of GDP per capita unless they affect permanently the (exogenously given) growth rate of technological progress
 - Absolute or at least conditional convergence should be observed



- Endogenous growth theory:
 - Structural characteristics of an economy (e.g. scale and rate of time preferences= saving behavior) can affect the long run growth rate of GDP per capita
 - Convergence does not have to be observed
 - Policies can have permanent effects on the long run growth rate of GDP per capita (trade liberalization could induce a scale effect that will translates into higher long run growth)



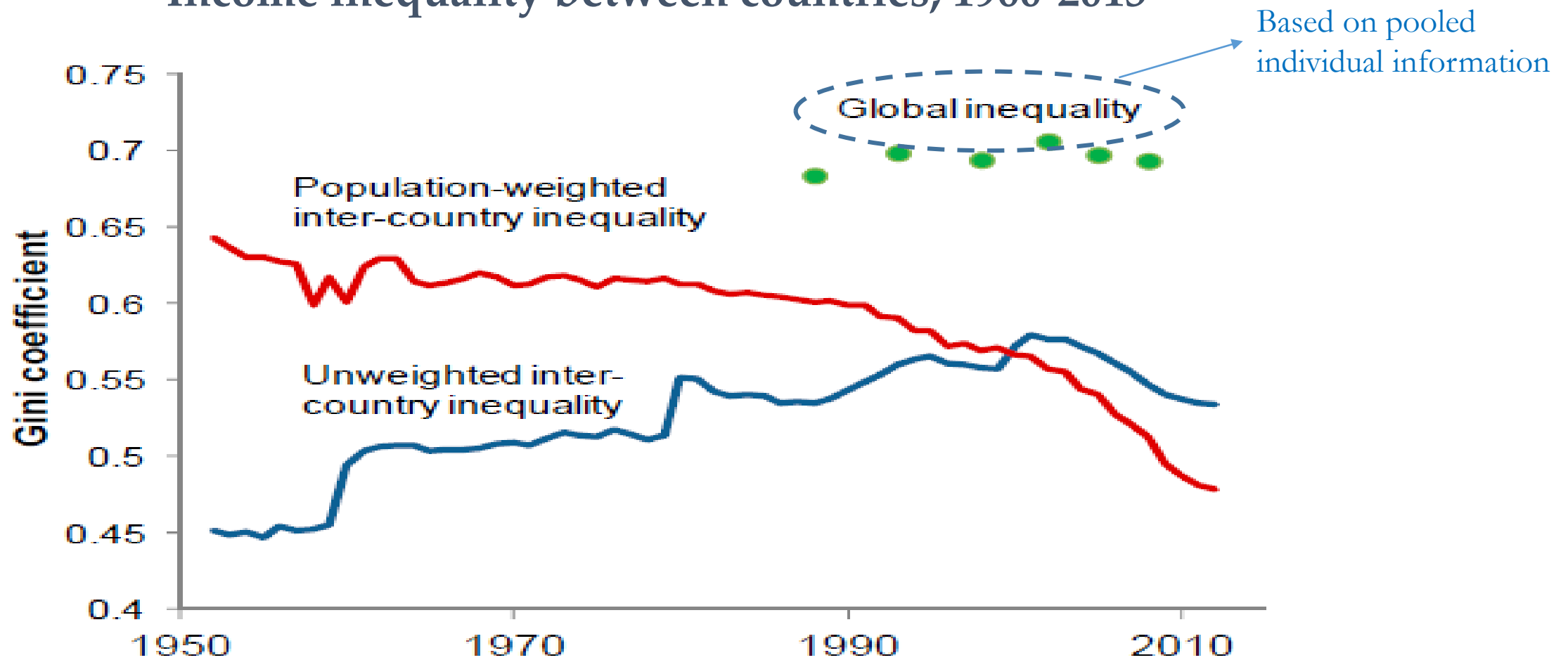
Real per capita GDP growth, 1980-2014



Source: World Bank's World Development Indicators.



Income inequality between countries, 1960-2013



Source: Milanovic (2016)



Within Country Inequality

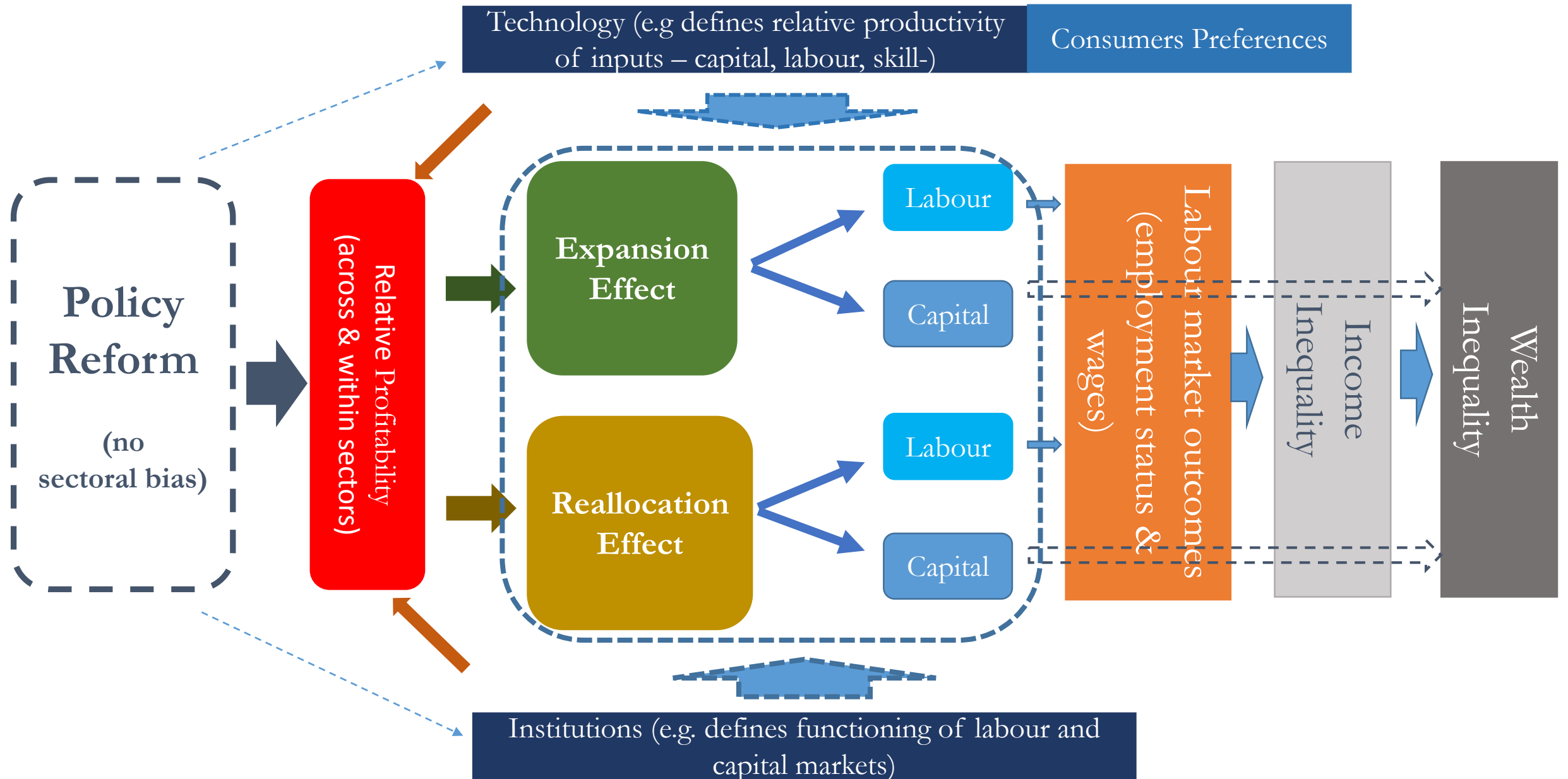
- Major driving and possibly contrasting forces of the impact of a policy reform on inequality: **expansion and reallocation effects**
- Crucial characteristic of the policy reform: What are the targeted sectors? How strong is the sectoral bias ?
- What are the expansion and reallocation effects of trade liberalization ?
- The expansion effect can be interpreted as a growth effect, it could be either general or sector biased
- It is expected to lead to an increase in the demand for labour and/or other factors of production (essentially capital) and thus to their “use” and remuneration
- Other crucial characteristic of the policy reform: How strong is the factor of production bias (pro-labor versus pro-capital policies)



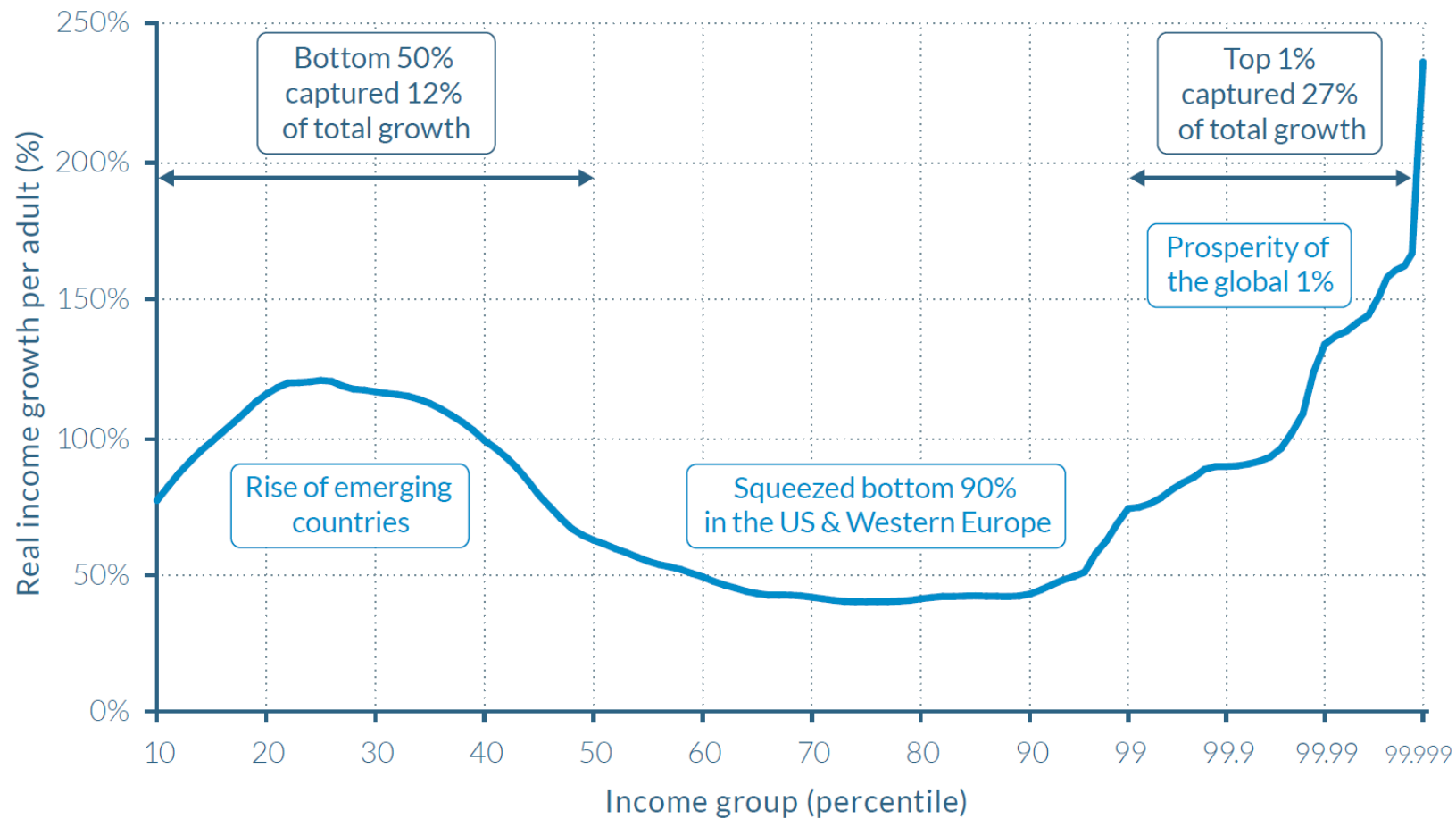
- Within a country, any policy that implies the reallocation of resources across or within sectors may have implications for income distribution
- Reallocation in most circumstances is driven by changes in relative profitability (via changes in e.g. prices or costs or productivity or any combination)
- Reallocation necessarily involves the destruction and creation of jobs
- If reallocation is not immediate then even if workers are all identical, in terms of skills for instance, they may end up in different situations after the reform that is with different employment status and different wages
- Other possible important features:
 - Are technological progress, domestic competition and shifts in consumer tastes affected?
 - Are institutions acting directly on redistribution forces affected



From Policy Reform to Inequality



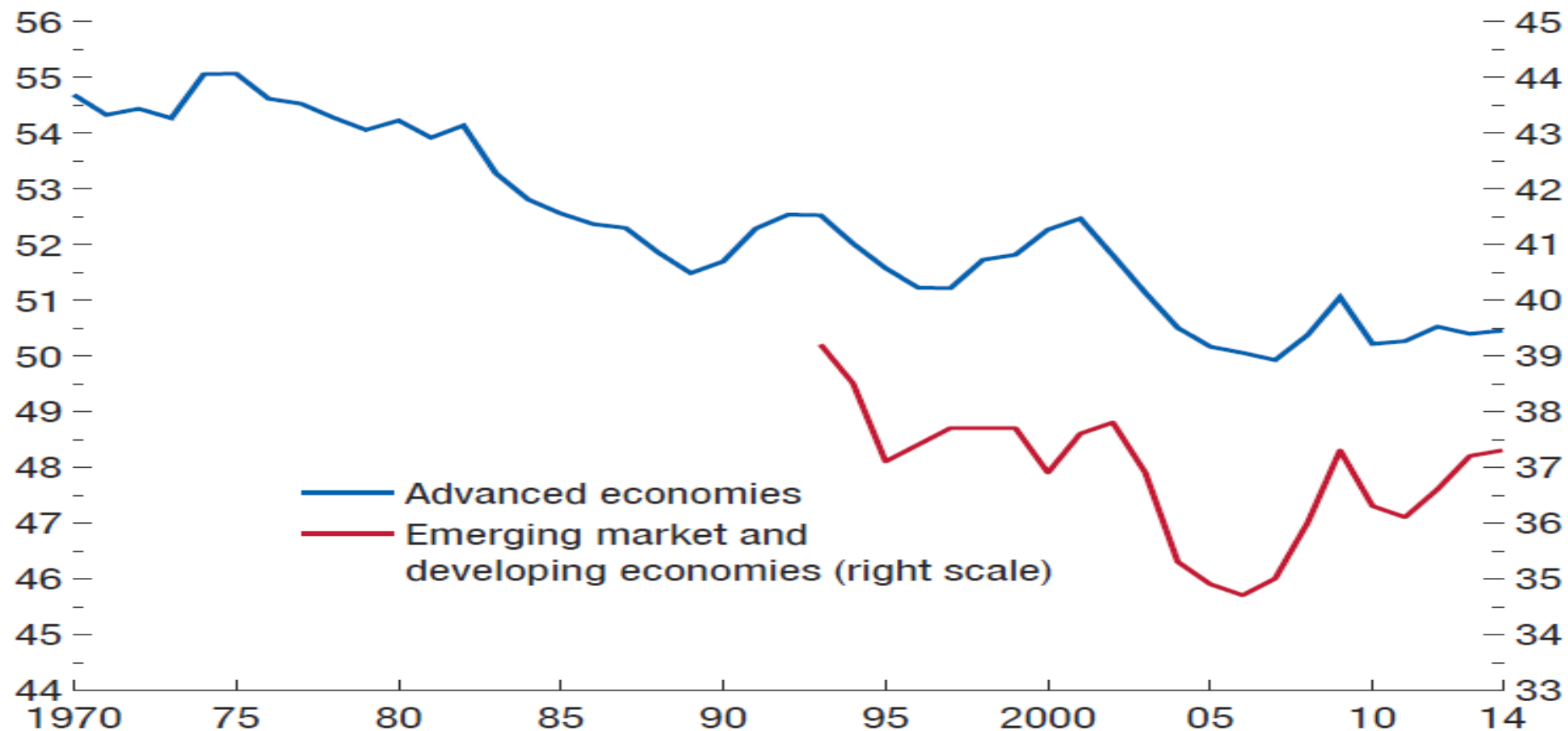
Changes in income across global citizens: Elephant curve 1980-2016



Source: WID.world (2017). See [wir2018.wid.world](#) for more details.



Evolution of the Labor Share of Income



Source: IMF World Economic Outlook 2017



4. Trade Policy and Inequality



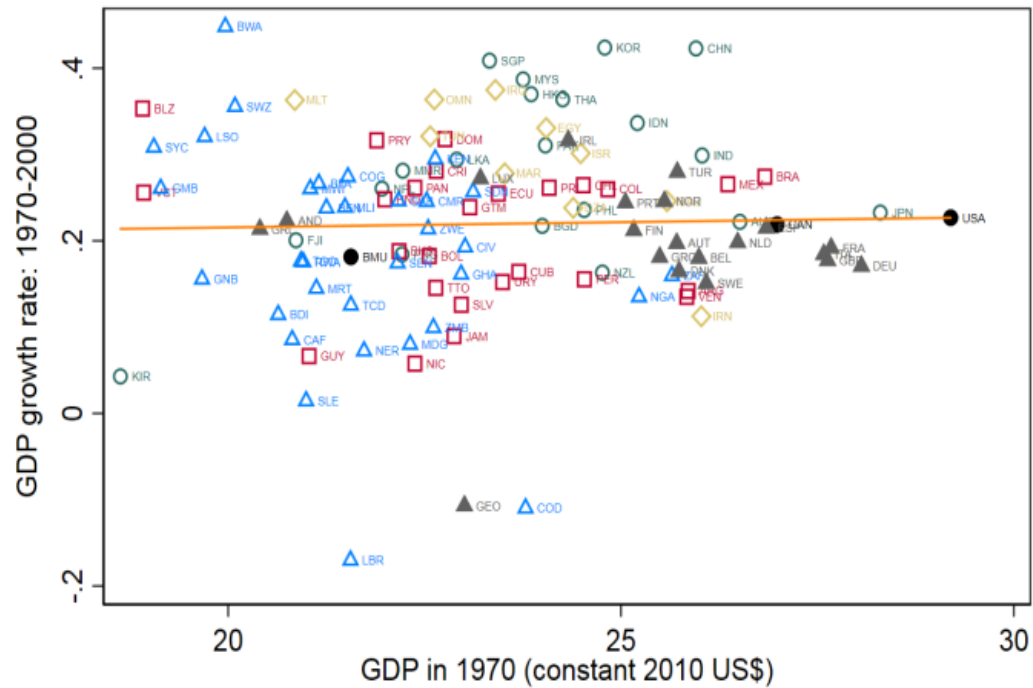
Inter-country inequality

- Neo-classical theories of growth do not predict any impact of trade policy (of any policy in general) on long-run growth rates unless it implies some exogenous technological progress
- Some impact could be observed in the short run only (during the transition to the long run)
- Endogenous growth theories can predict an impact of trade policy on long-run growth rates if trade policy affects accumulation rates of physical or human capital or innovation
(e.g. Trade reform may attract more FDI on a permanent basis and FDI may lead to some technological transfer and higher rate of innovation)



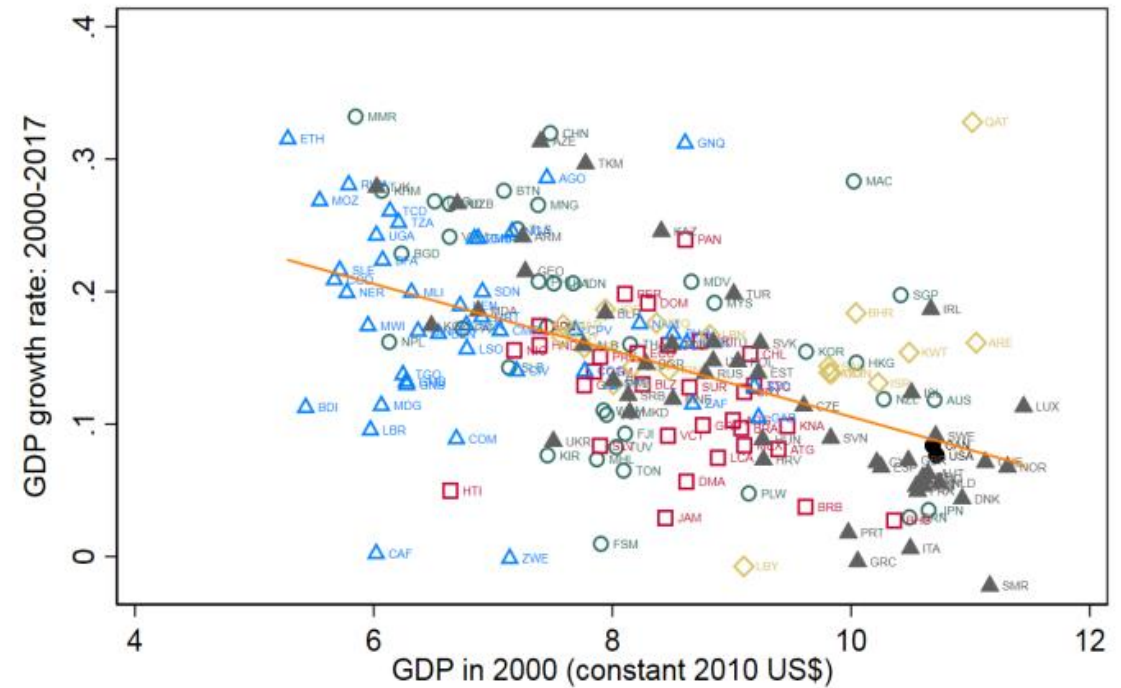
Economic convergence before and after 2000

(a) 1970-2000



- Asia & Pacific
- ◻ Latin America & Caribbean
- △ Sub-Saharan Africa
- ◇ Middle East & North Africa
- North America
- ▲ Europe & Central Asia

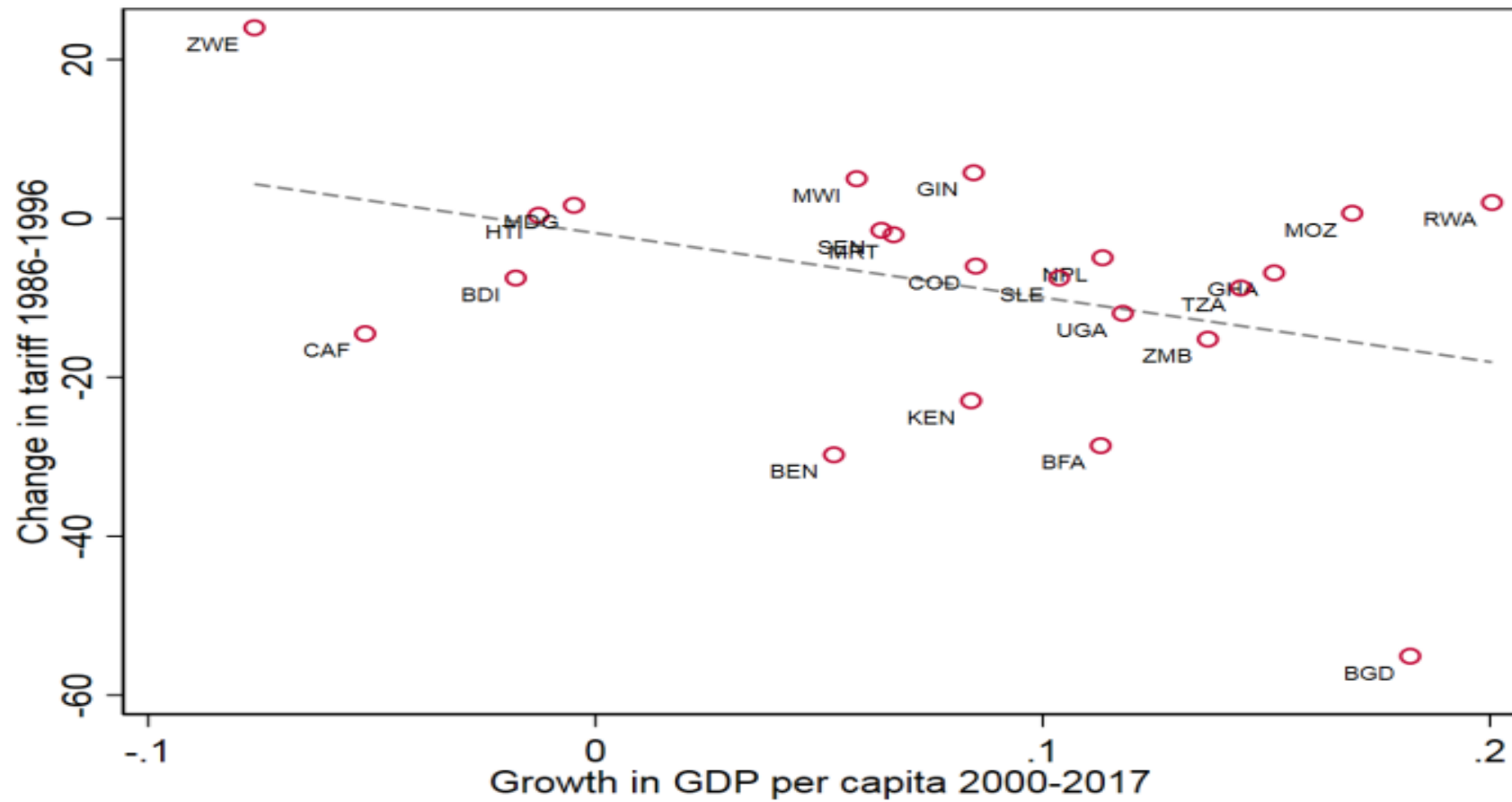
(b) 2000-2017



- Asia & Pacific
- ◻ Latin America & Caribbean
- △ Sub-Saharan Africa
- ◇ Middle East & North Africa
- North America
- ▲ Europe & Central Asia

NB: Correlation is not equal to causation

Tariff change 1986-1996 and economic growth 2000-2017



NB: Correlation is not equal to causation



Within country inequality: theoretical insights

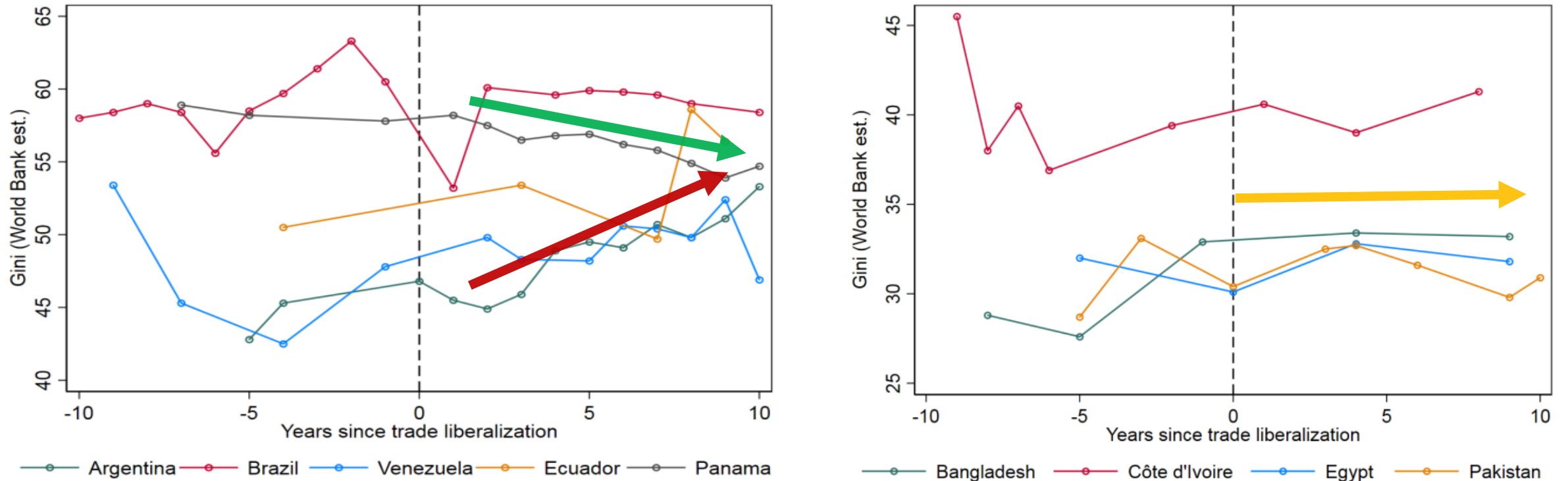
- Classical trade theory (2x2x2 types of models, e.g. Heckscher Olhin) predicts an impact of trade liberalization on inequality
- However, the pattern predicted does not match the one observed (inequality rises in both developed and developing countries)
- Solution by increasing the number of sectors and countries or by introducing tasks in production and offshoring



- However, micro level data reveals that reallocation especially of labour has occurred to a large extent within sectors and not between sectors
- The introduction of heterogeneity among firms (“new” new trade theory) and imperfections in the labor market (*ex ante identical workers may become different ex post*) help reconcile theoretical predictions with observed facts
- An increase in inequality may thus be the consequence of wage and skill premiums payed by exporting firms + a relatively more intense use of higher skill workers in those firms



Income inequality before and after trade liberalization – selected countries



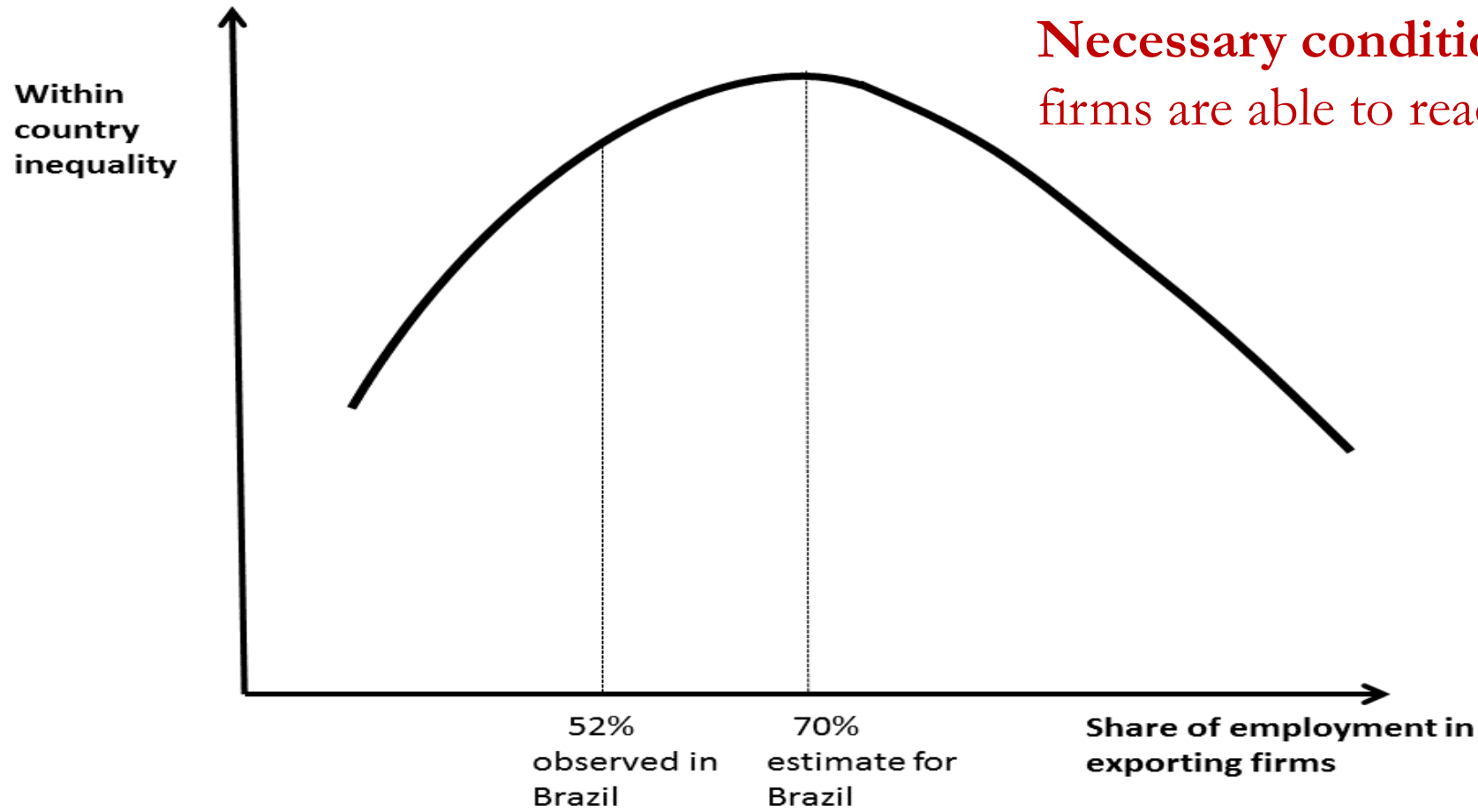
Source: World Bank’s World Development Indicators for Gini indices and Wacziarg and Welch (2008) for the year of trade liberalization in each country.

- The relationship between trade and inequality may have an **inverted-U shape** and this could help reconcile diverging experiences across countries: as countries open up to trade, income inequality increases and after a certain trade liberalization threshold, as countries continue to open up to trade, inequality starts declining
- Why? Initially only the largest, more productive firms that pay higher wages benefit from the move towards freer trade, as the less productive firms cannot afford the fixed costs of exporting and can only sell in the domestic market or exit all together
- This implies that the already larger and more productive firms which were paying higher wages end up paying even higher wages as they have access to a larger international market → increase in inequality



- As trade costs keep declining, smaller firms are able to engage in world markets and benefit from better market access
- Smaller firms having a relative more unskilled-labor workforce compare to larger firms
- Having access to world markets leads them to expand and to increase their demand for all workers, especially low-skilled ones
- This in turn reduces income inequalities by reducing the gap between skilled and unskilled workers
- Reductions in trade costs offer new opportunities to larger firms and this increases inequality
- As all firms become exporters and have access to the same world market, inequalities tend to decline





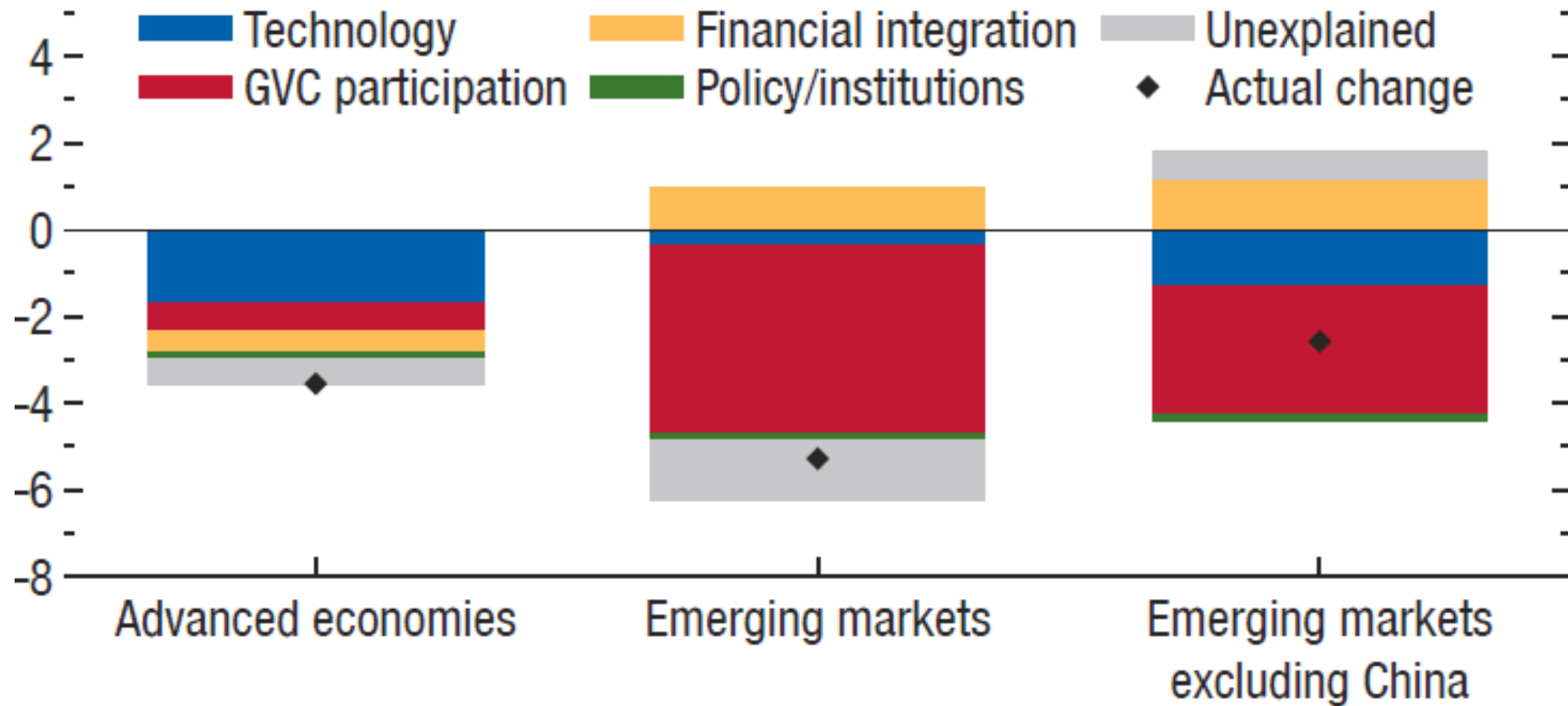
Source: Helpman, Itskhoki, Muendler and Redding, 2017

Within country inequality: empirical insights

- While trade can contribute to earnings inequality within a country (see previous empirical slide), the empirical literature has concluded that it is not its main driver
- In general, changes in a country's earnings inequality are likely not to be driven by a single factor, and in developing countries the relationship between trade and technology is highly intertwined
- However, trade's adverse effects appear to be highly geographically concentrated and long-lasting in developing and developed countries alike



Contributions to Aggregate Labor Share Changes, 1993–2014



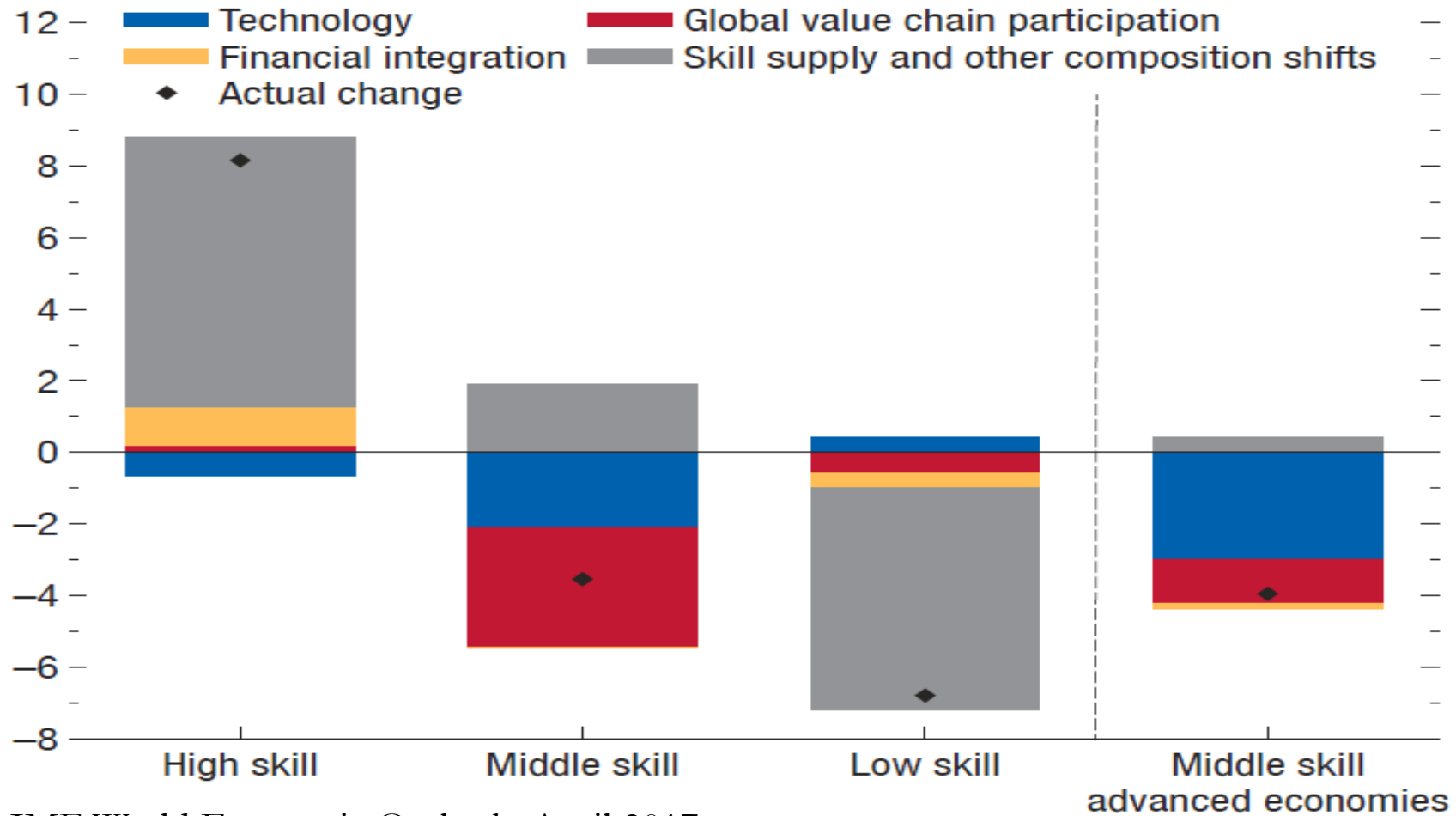
Source: IMF World Economic Outlook, April 2017



- Trade influences worker earnings through several factors: industry affiliation, firm affiliation, and location of residence all play a role in shaping trade's impact on inequality
- Frictions that impede workers from moving across industries, firms, or locations are a continuing theme in the developing country context, shaping trade's unequal impact
- Effects of trade on earnings are geographically concentrated and unequal within a country, depending on the region's exposure to import and export shocks and inter-regional worker mobility, especially in the short run after large adverse trade shocks



Contributions to Aggregate Labor Share Change by Skill, 1995–2009



Source: IMF World Economic Outlook, April 2017



- A precise understanding of how labour markets operate is at the core of a better understanding of the consequences of a trade reform in terms of earnings inequality through its effects on employment and earnings
- As the reforms in India, Vietnam, China, and Brazil illustrate, focusing on how workers are affected by trade beyond formal manufacturing—including in agriculture, services, and the informal sector—is key in this assessment for developing countries
- Informality could play a crucial role in several countries and should be properly understood: it goes beyond subsistence jobs of non tradable goods and services



How can trade policy help reducing inequalities?

- Based on UNCTAD (2018) and UNCTAD (*forthcoming*)
- Define trade, employment and earning objectives jointly
- Equal opportunities to firms of acceding international markets
 - Promoting online trade
 - Targeting of small and medium size firms by export promotion programs
 - Inclusion of technical assistance and “aid for trade” programs in bilateral and regional agreements that help firms in low-income countries, in particular small and medium size firms, to overcome barriers imposed by NTMs
 - Fostering competition by introducing competition chapters in bilateral and regional trade agreements (promotion of SMEs access to international markets)



- **Equal opportunities for participating in global markets to all workers**
 - Introduction of labor clauses with the objective of promoting workers' rights in all trade agreements
 - Promotion of the use of private standards such as Fair Trade or VSS
 - Education opportunities and training provided to all
- **Equal opportunities to all countries**
 - Multilateral labor standards and competition regulations
 - Trade facilitation and aid for trade programs promoting equal opportunities to firms and workers
 - Cooperation at the global level, on income taxation with the aim of harmonizing and reducing the incentives for tax-avoidance may help bring the original redistributive nature of tax systems



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Global Inequality data sources

- Several world inequality databases exist:
- The World bank's PovallNet
- The Luxembourg Income Study (LIS)
- The Socioeconomic Database for Latin America and the Caribbean (SEDLAC)
- The OECD Income Distribution Database (IDD)
- There are also various sources that combine the aforementioned databases to increase their coverage:
- The World Panel Income Distribution (LM-WPID)
- The Standardized World Income Inequality Database (SWIID)
- The UN University WIDER compiles the World Income Inequality Database (WIID), which consists of a nearly exhaustive census of all primary databases and individual research initiatives, with detailed information about the concepts used

