L.K. DESHPANDE MEMORIAL AND IHD SILVER JUBILEE LECTURE

Growing Apart? Growth, Poverty, and Inequality in Post-Liberalization India

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- Discussions about the Indian economy in the post-liberalisation era seems to move around three themes

  - Growth and rising levels of GDP & per capita income, reflected in India's growing importance as an economic power
  - Rise in inequality
  - Poverty

- Depending on which one(s) you focus on, you could come away with very different views about the state of the economy and the way forward

- Starting with the premise that the state of the economy is ultimately about the lives of ordinary people, in this lecture I will try to provide a conceptual framework that tries to find the interrelationship between these three dimensions.

- I will focus on two aspects:

- The *relative* distribution of benefits from growth – to what extent growth has been inclusive

- Whether there has been sufficient improvements in *absolute* standards of living of the poorer sections

- For the first, I will look at the relationship between growth and inequality, combining data on national income and income and wealth distribution to examine "growth of inequality" and "inequality of growth (rates)" and to what extent India's growth experience has been inclusive

- Other than the normative point -- what is growth good for, unless it raises the standard of living of the masses -- we will also argue that unless growth is broad-based it would have an inherent tendency to peter out

- For the second point, I will look at trends in the rate of poverty (the percentage of people below a certain minimum level of consumption

Growth

- Growth rates did go up after liberalisation and were especially high in the second decade

- Over 1960 to 1990, GDP per capita increased by 1.75 times but over 1990-2019 it increased by 3.63 times (3.67 times if we take 2021, with 2020 being avoided being the pandemic year)

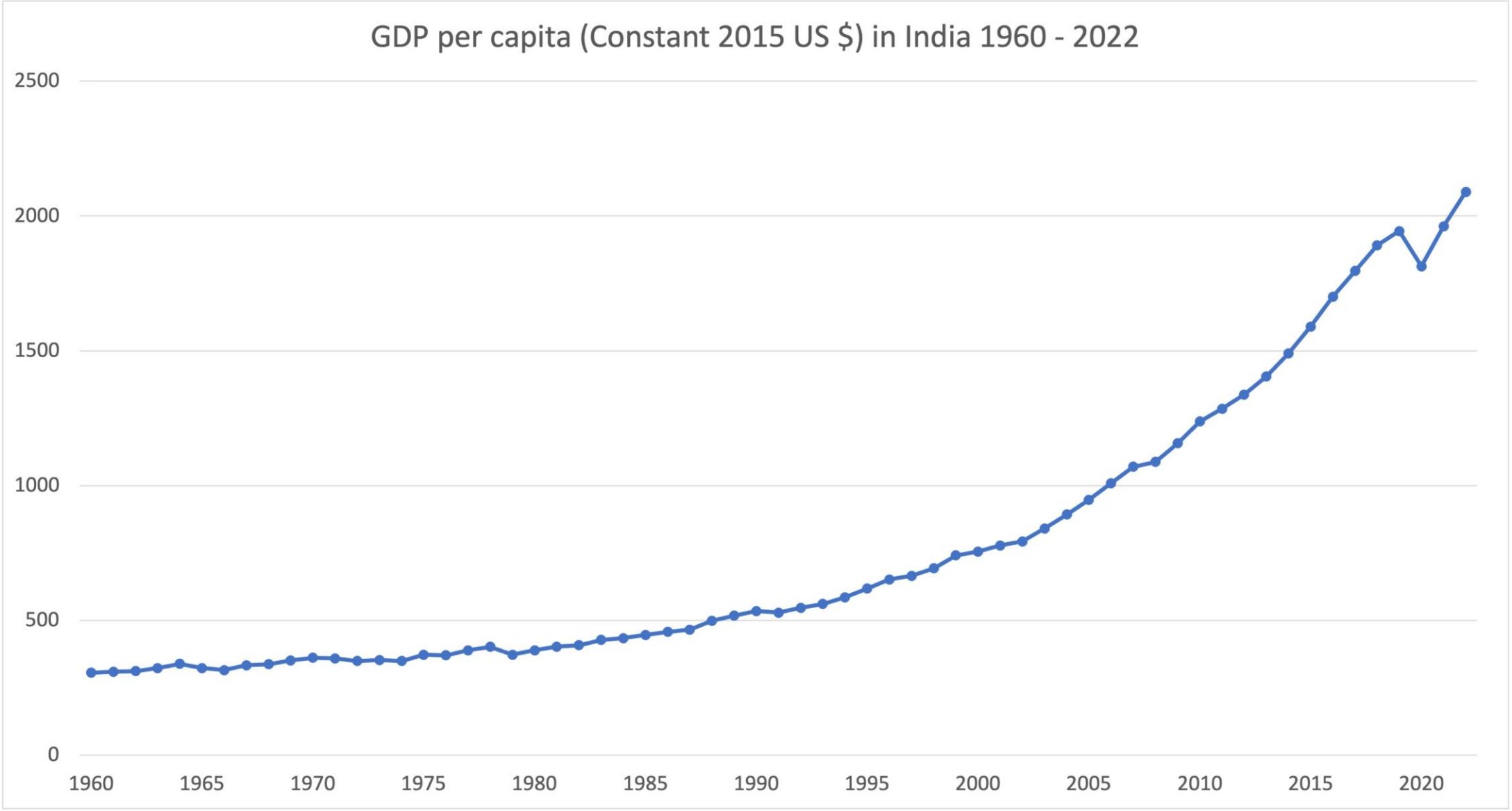- However, growth has slowed down during the last decade
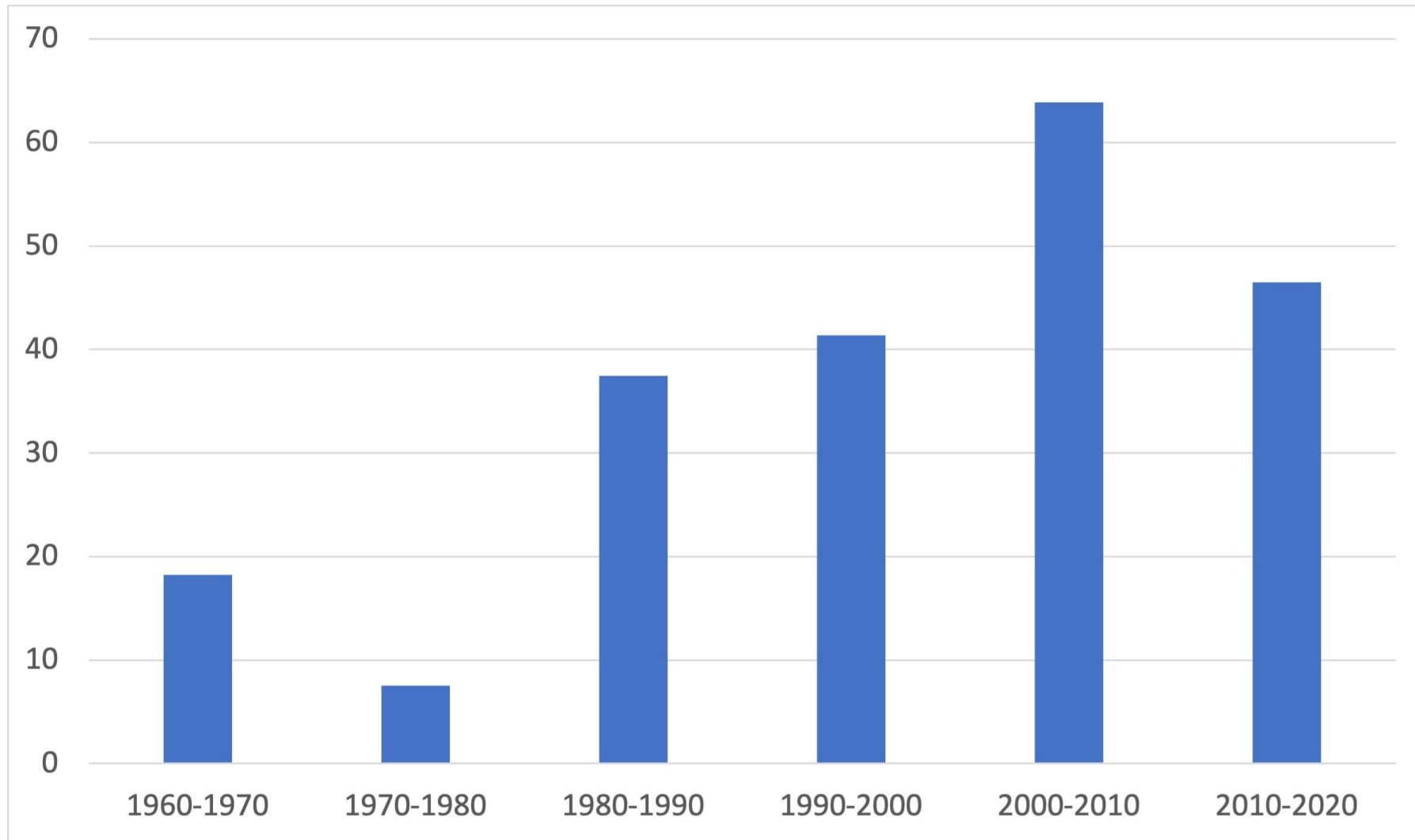
Figure 1: GDP per capita
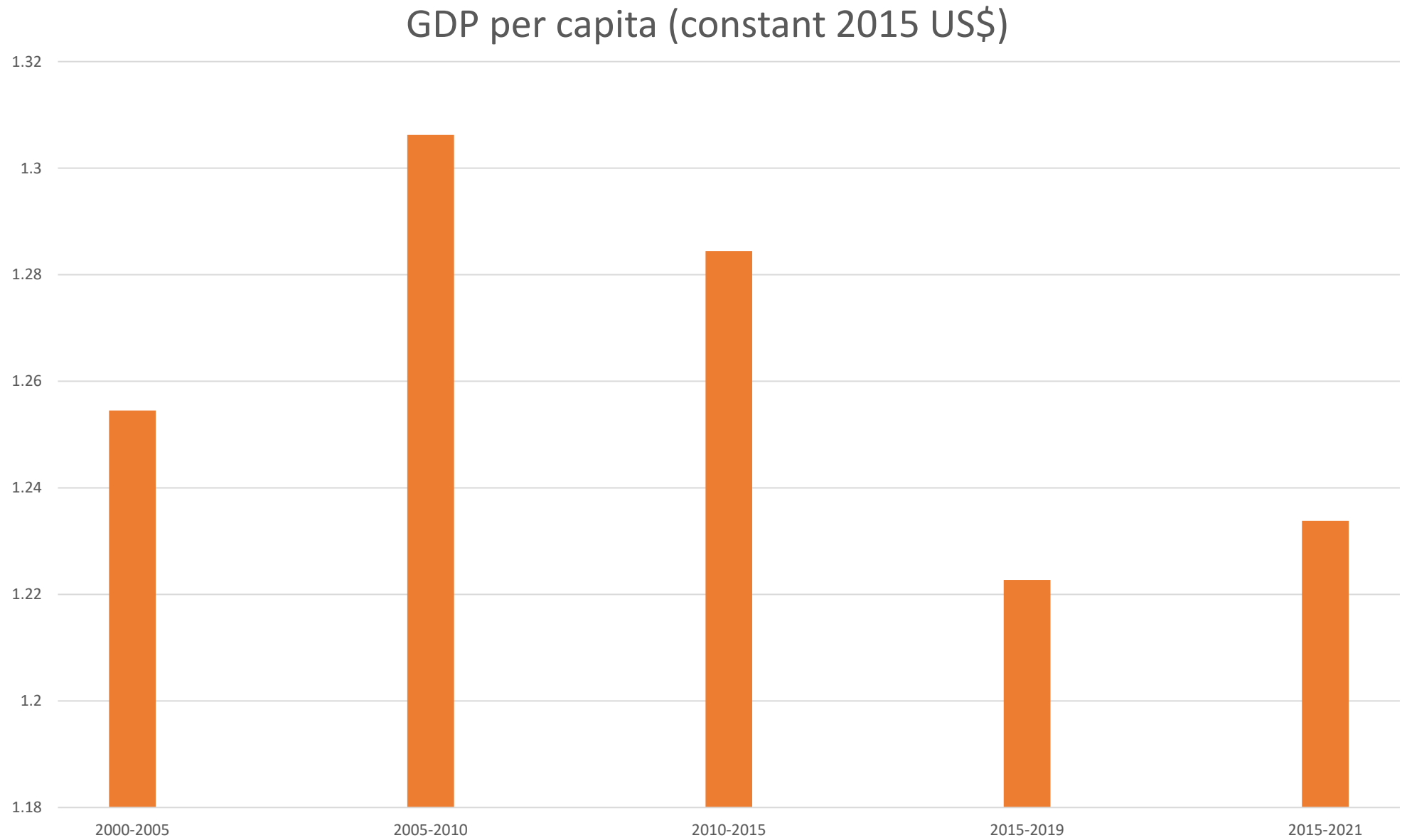
Figure 2: Decadal growth rates

GDP per capita (constant 2015 US$)

Figure 3: Quinquennial growth factor from 2000 to 2021

India's Rise as an Economic Power

- Some would point to the rise in India's overall economic status in the world, poised to be third largest economy by 2030 and view the focus on inequality and poverty as left-wing naysaying

- Leaving aside the normative question -- what is growth rates and ranking of total or per capita GDP good for if it is not spread widely and reduces poverty for a moment -- it is still an interesting question as to why India's rank in overall GDP rose from 17 in the early 1990s to 5th at present while its rank in per capita GDP has stagnated (161st in the early 1990s, and 159th at present)

- In contrast, China's GDP rank rose from 11th to 2nd, and its rank in per capita GDP rose from 158 to 75 over the same period

- It is not population growth that mechanically boosted total GDP – after all India's relative position in terms of population remained the second largest (after China) in the world almost throughout this period and its population growth didn't significantly differ from the world average during the period under discussion (and in fact, over time, has decreased).

- Per capita GDP did increase (between 1991 and 2021, it increased more than seven times, real GDP per capita has increased almost four times) but clearly not enough to improve the ranking much (in contrast, China's GDP per capita grew 38 times during this period)

- Yet the GDP ranking improved quite a bit – why?

- The answer lies in the "population multiplier" -- any economy that raises its per capita income will achieve a greater boost in its total GDP the larger is its population

- Suppose the per capita GDP of a country doubles in a decade -- there may not be much difference in its relative position compared to other countries, if those countries already have a much higher average per capita GDP, or if they are also growing at reasonably high rates.

- But the larger the population of that country, the higher the total GDP value will be proportionally -- for example, if its population were to double, total GDP would increase four times -- we call this the *population multiplier effect*.

- The economic significance of this point is that the rising prosperity of even a small fraction of the population would make it an attractive market given India's population (UK or France's population is only 4-5% of that of India)

- That is why the GDP ranking does attract attention internationally despite the low per capita GDP ranking

- However, can the growth process sustain itself if its gains disproportionately go a small fraction of the population?

When is Growth Inclusive?

How does growth spread - channels of transmission

- Demand Side linkages

  - Those whose income grow, demand goods and services from others
  - Demand moves to more high value goods and services (Engel curves)

- Supply Side linkages

  - Demand for factors of production raises their prices (e.g., wages)
  - Returns to skill acquisition goes up
  - Income growth feeds into the demand channel

How does growth spread – specific channels

- Migration: People move across sectors, from rural to urban areas

- Firms increase investment anticipating demand growth

- Remittances: those in urban areas send money back to rural areas

- Growth in tax revenue and investment in infrastructure, public health, education, safety net

- Saving and investment – by saving and investing (in financial and human capital) people accumulate wealth
  - Over time
  - Across generations (upward mobility)

Trends in sources of aggregate demand

Investment to GDP ratio has been declining for more than a decade after growing for three decades
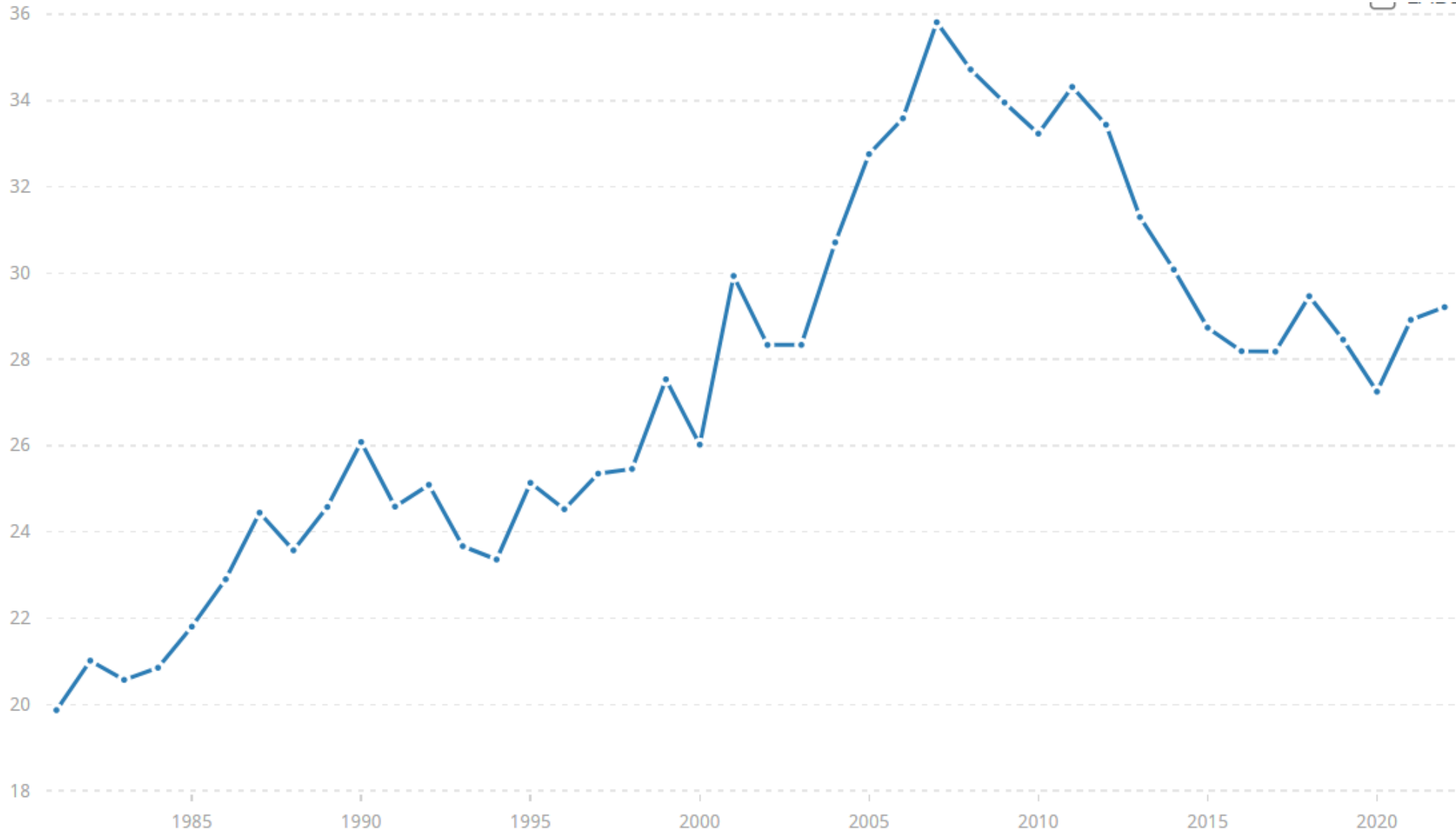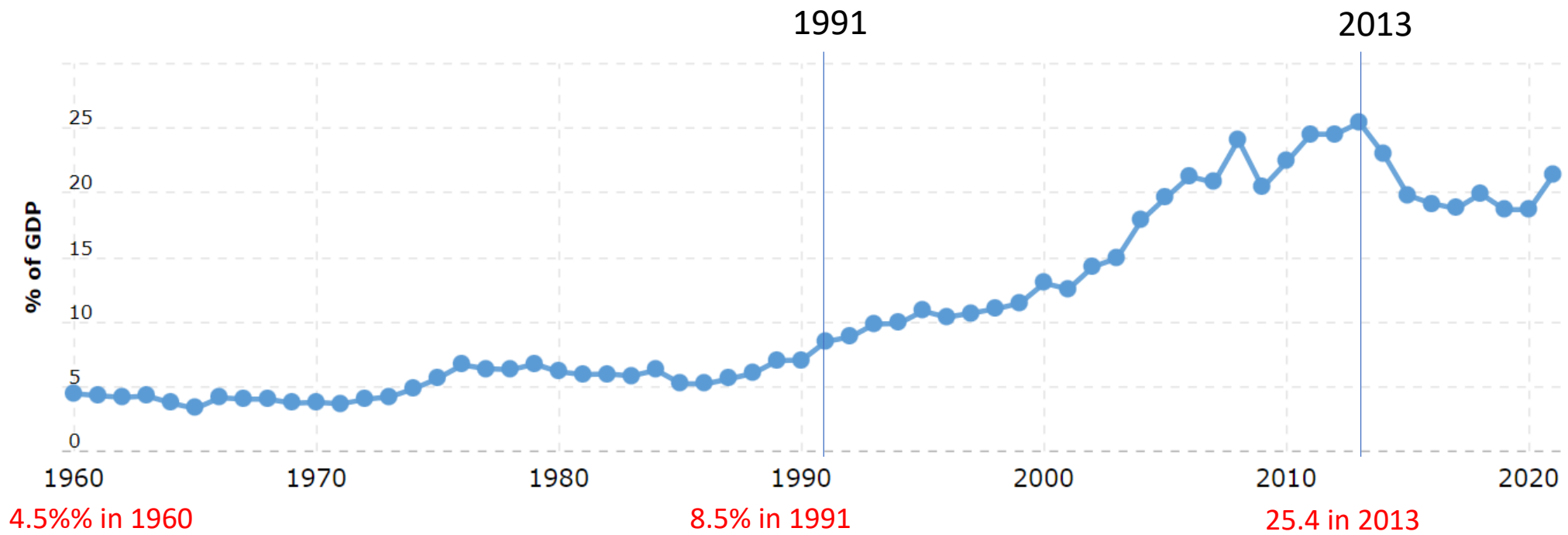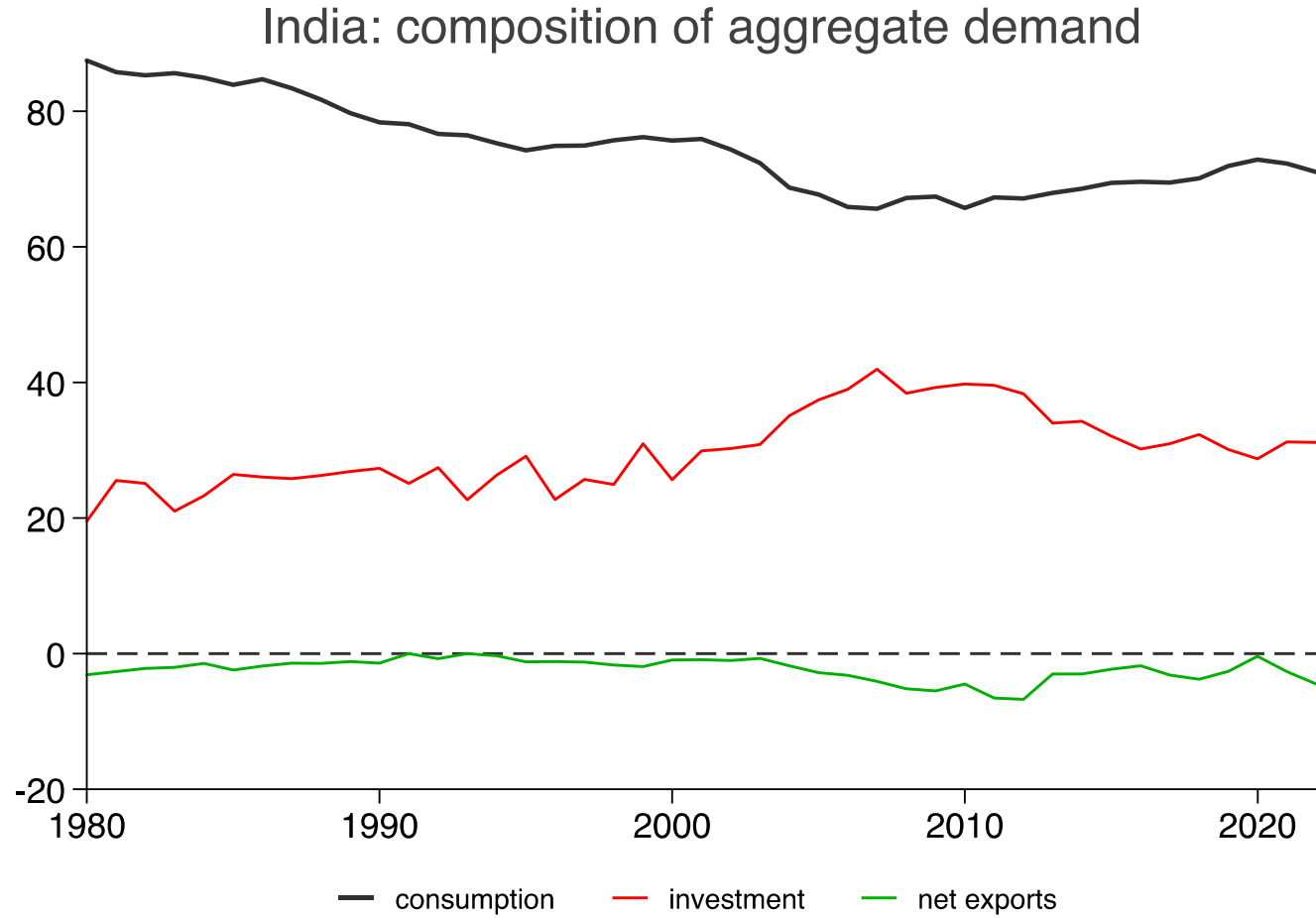
Figure 4: Investment to GDP Ratio (in %)

1991

2013

4.5%% in 1960

8.5% in 1991

25.4 in 2013

Data Source: World Bank

Figure 5: Exports as a fraction of GDP 1960-2023

India: composition of aggregate demand

consumption — investment — net exports

Source: World Development Indicators, World Bank

Figure 6: Structure of aggregate demand

- Signs of slackening demand are apparent over the last decade

- Despite many supply-side remedies that would increase the profitability of investment introduced by the government (reduction in Corporate tax, Make in India initiative, Phased Manufacturing Programme, introduction of Production Linked Incentive Scheme in various Ministries etc) many corporates have shown a great deal of hesitation in making new investments, coming from the perception of investors that they see only lacklustre growth in the demand for their products.

- There could be demand-based explanation as I spelled out in an article with Ashok Kotwal and Bharat Ramaswami (*The India Forum*, August 13, 2020)

- Whichever sector is experiencing an exogenous growth spurt (e.g., infrastructure and construction, software exports, segments of the manufacturing sector such as pharmaceuticals and auto parts) those whose incomes are directly affected constitute a small part of the overall labour force.

- Any possible transmission of growth impulse depends on how the thin layer of initial beneficiaries from the increased demand for their services spent their higher incomes.

- Do they spend them on goods and services produced by low-skilled and poor workers?

- When most of the growth accrues goes to a thin top layer of the population, the demand for an existing industry does not grow that much.

- When a software engineer experiences a substantial wage hike, she graduates from a two-wheeler to a car. But when her salary moves up further, she does not necessarily go out and buy another car. She would likely save much of the increase or probably plan a trip to Europe.

- Data from the Centre for Monitoring the Indian Economy's (CMIE) consumer pyramids show that even after nearly two decades of relatively high growth in India, 60% of India's consumer expenditure is on food and energy.

- For the bottom half of the population, this proportion is 70%. The domestic market for goods and services beyond these essentials is still quite limited in India.

- Yet, the propensity to spend is higher, the poorer you are

- The richer a household, the higher its savings rate, so when incomes grow for a higher rather than a lower income household, a significant part goes toward savings rather than consumption demand.

- Expenditure elasticities for the richer consumers (the top two urban deciles) are lower than for the bottom 50% of rural consumers for all goods and services, other than appliances and EMIs, recreation, restaurants, bills and rent, and education.

- These items clearly have a greater value added by skilled workers and are typically produced in the organized sector.

Growing Apart? Growth of Inequality and Inequality of Growth

Growth of Inequality

- The bottom five rural deciles have far greater expenditure elasticities on all foods, clothing, intoxicants, cosmetics, transport, communications, health, and miscellaneous items.

- So, why aren't they spending more?

- To answer this, we turn to the pattern of income and wealth inequality.

- Our hypothesis is: **High inequality** $\Rightarrow$ slack domestic demand $\Rightarrow$ **slowdown**

- Of course, this is not the only force at work – supply side factors could well be operating as well, and they would tend to interact

- A recent paper by Bharti et al. (2024) provides up to date analysis of trends in income and wealth inequality building on earlier work of Chancel and Piketty (2019) and Banerjee and Piketty (2005)

- It combines household income, consumption and wealth surveys, tax tabulations, national income and wealth accounts aggregates, as well as rich lists (e.g., Forbes, Hurun) to construct measures of income and wealth inequality over the past few decades

- Find that by 2022-23, top 1% share of income and wealth stood at 22.6% and 40.1% respectively, higher than ever before and also among the highest in the world (higher than S Africa, Brazil, US)
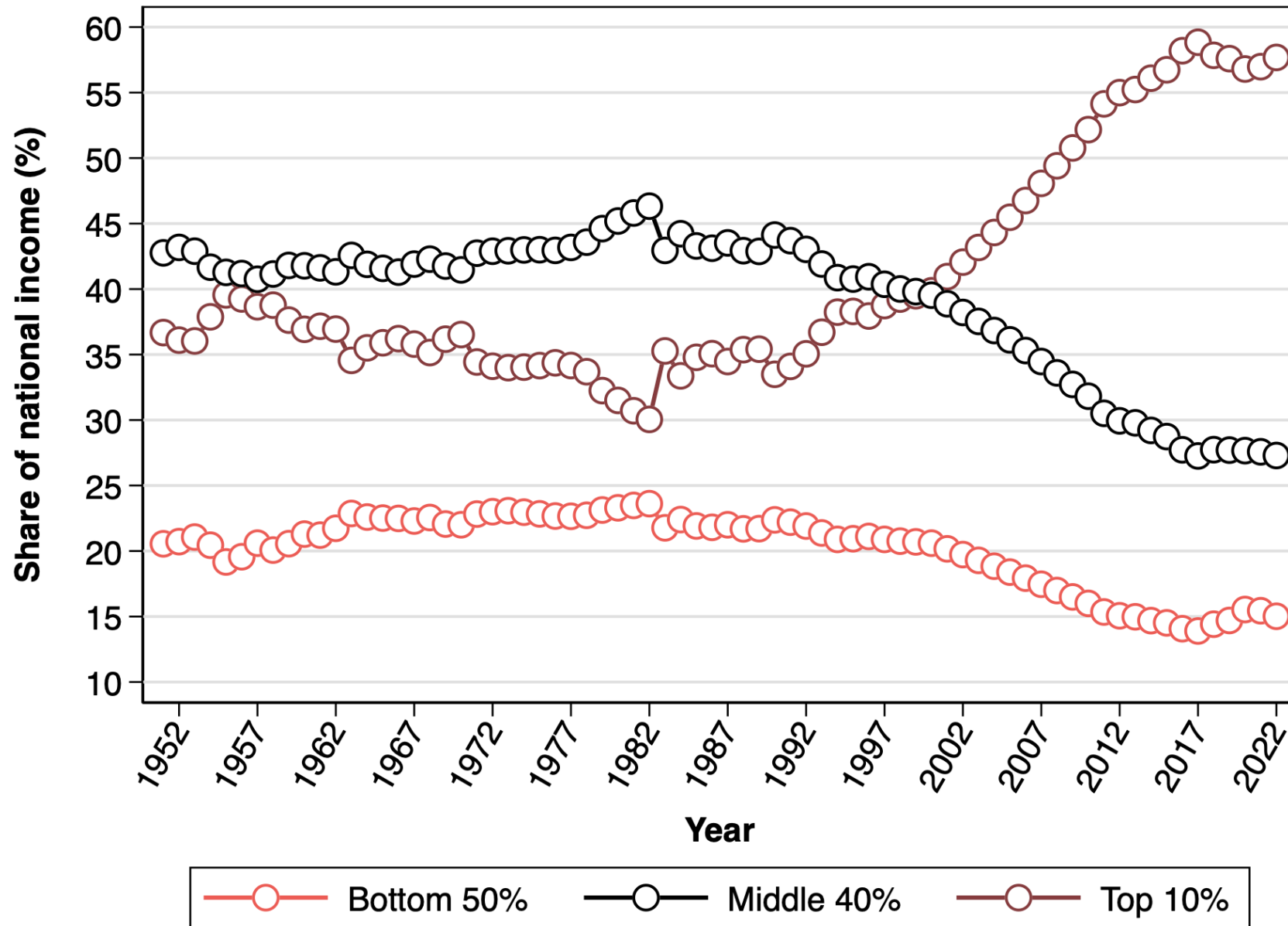
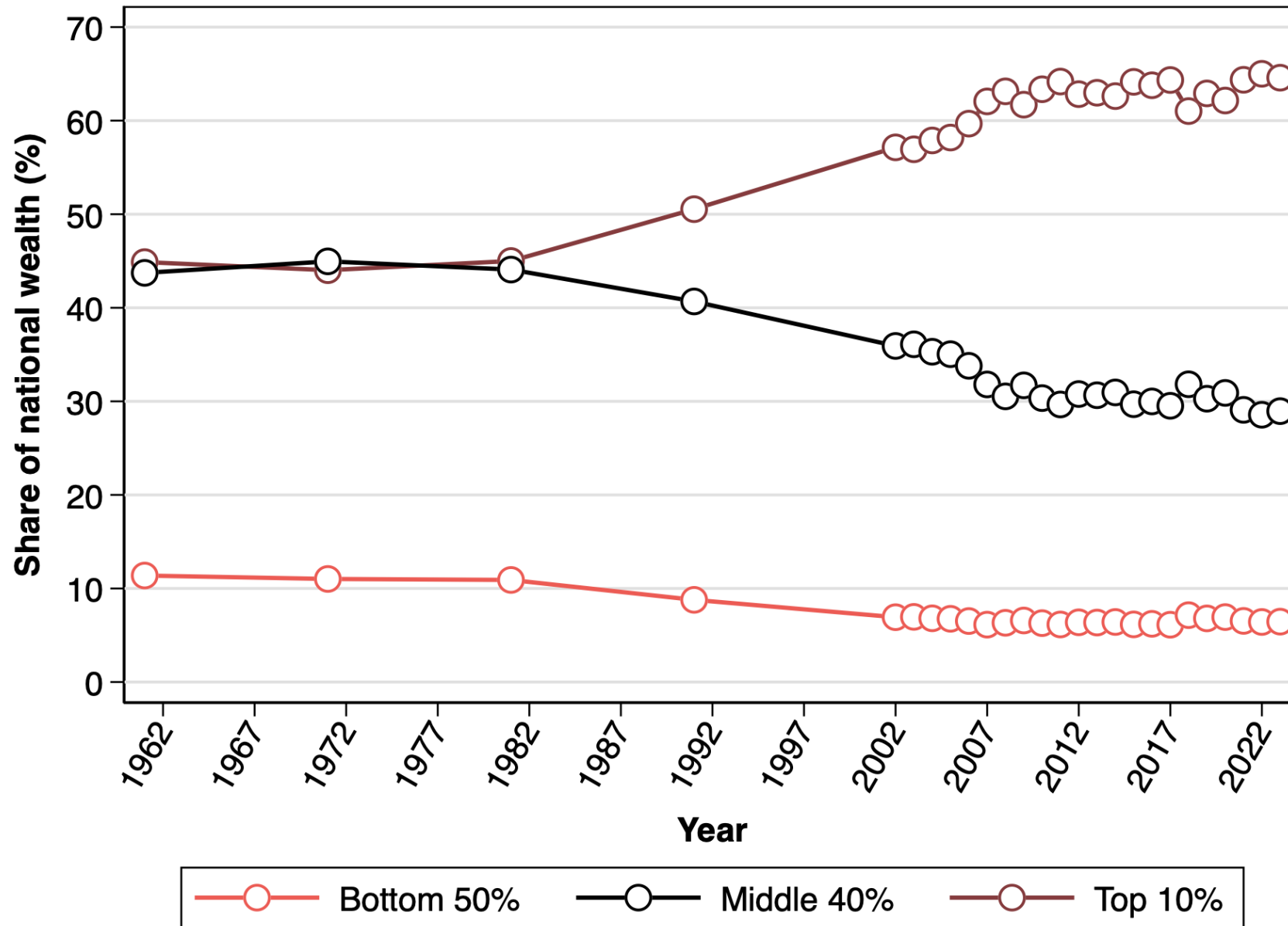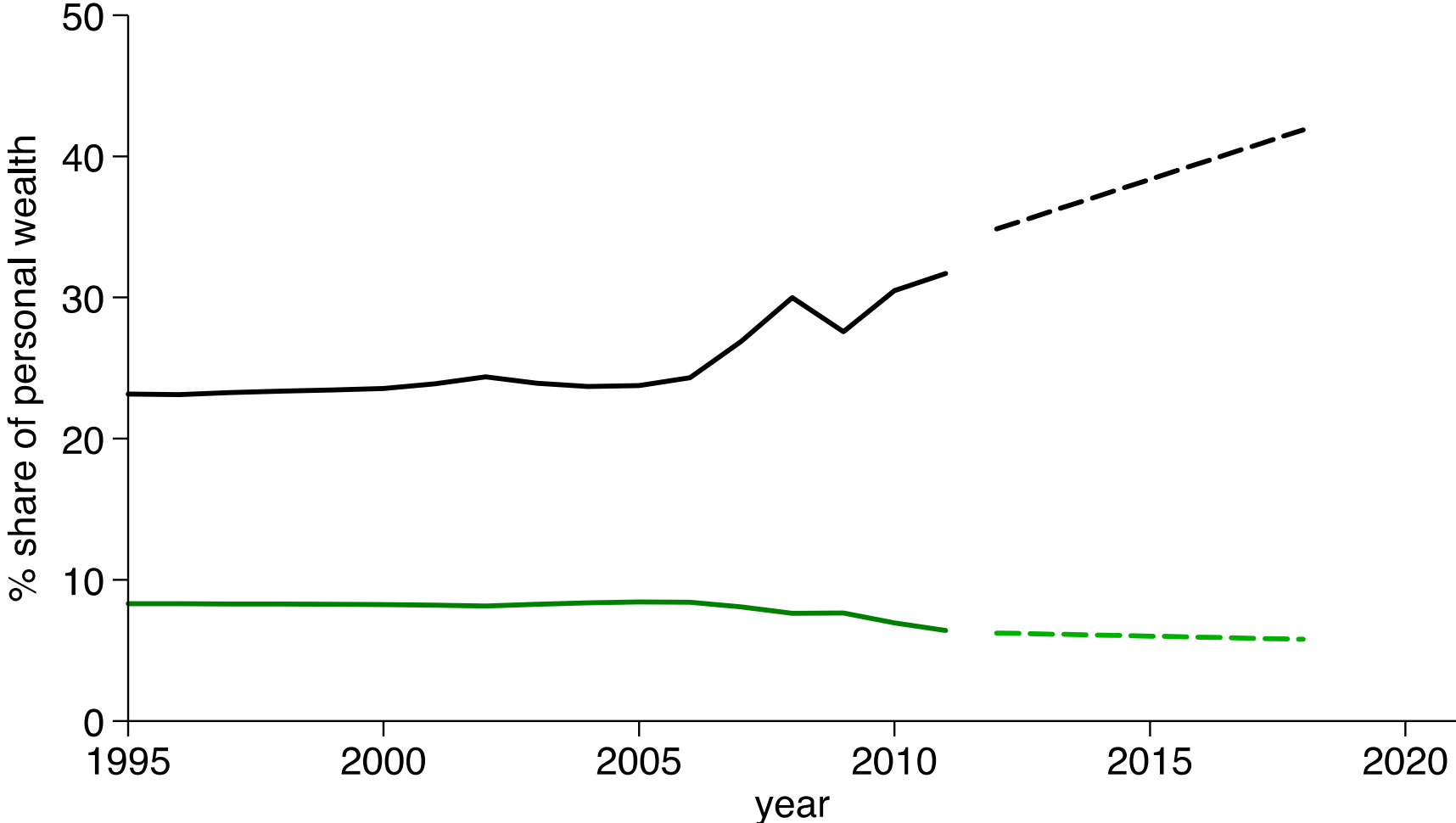Figure 7: Long Run Income Inequality in India 1951 – 2022 (Bharti et al. 2024)

Figure 8: Long-Run Wealth Inequality in India 1961 – 2023 (Bharti et al. 2024)

India: Wealth concentration since the 1990s

Legend:
— Top 1% (WID)
- - Top 1% (Anand & Kumar)
— Bottom 50% (WID)
- - Bottom 50% (Anand & Kumar)

Figure 9

India vs the world

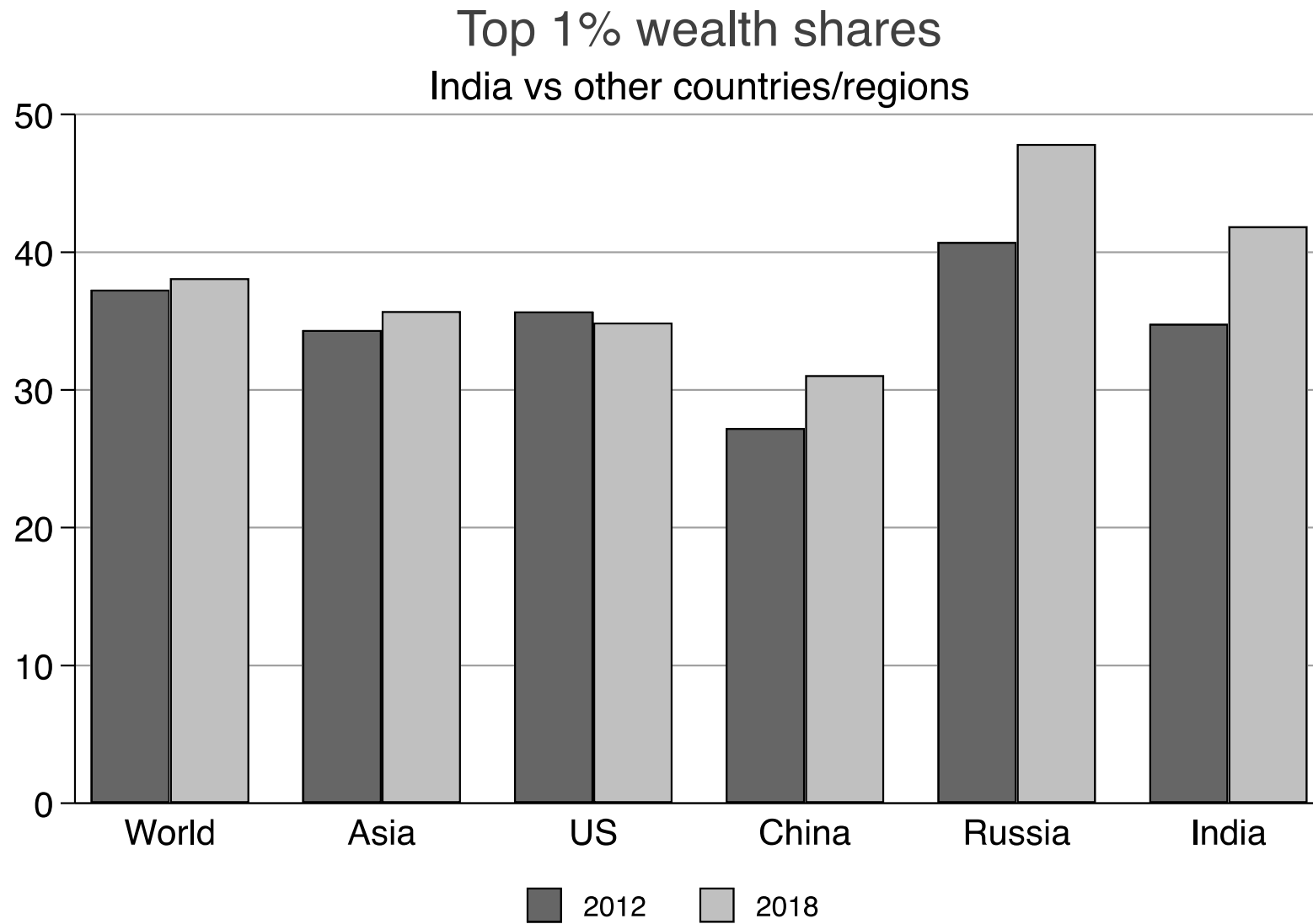**Top 1% wealth shares**
India vs other countries/regions

Figure 10

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Inequality of Growth (Rates)

- Propose a simple method to calculate specific growth rates for different income groups based on national income data and the inequality data presented in the WID (Ghatak and Xu, 2023)

- Since the WID provides income shares of specific income groups annually, one can find this out using their change along with the average growth rate

- Similar to growth incidence curves which apply it directly to time-series data on consumer expenditure

- In most of the time periods (especially during 1995 - 2005), Top 1% experienced the highest growth rates compared to other groups.

- An ever-increasing gap between the top income group with the rest of the population.

- Bottom 50% and the middle 40% witnessed very similar growth rates, which were below the average growth rate.
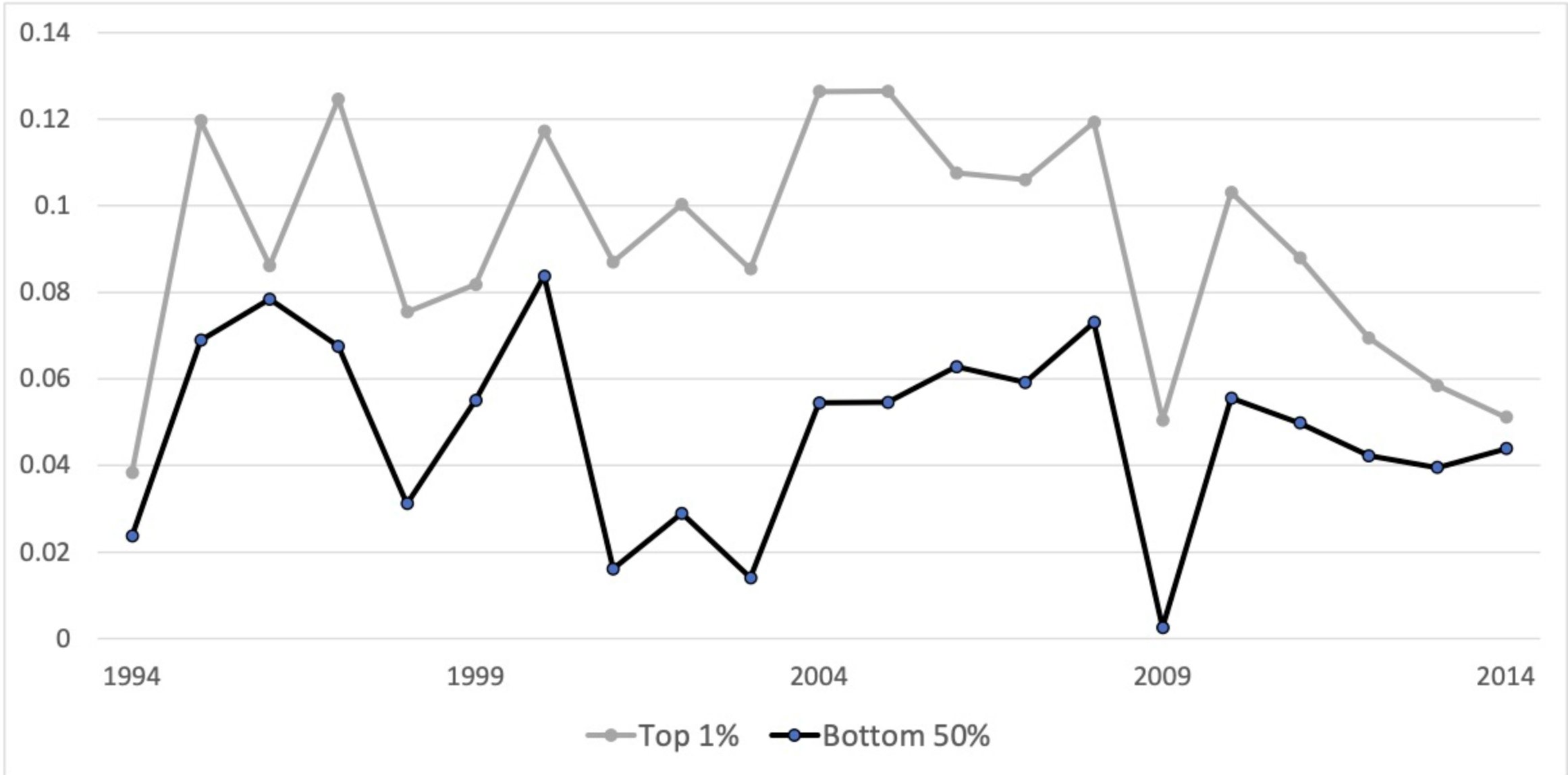
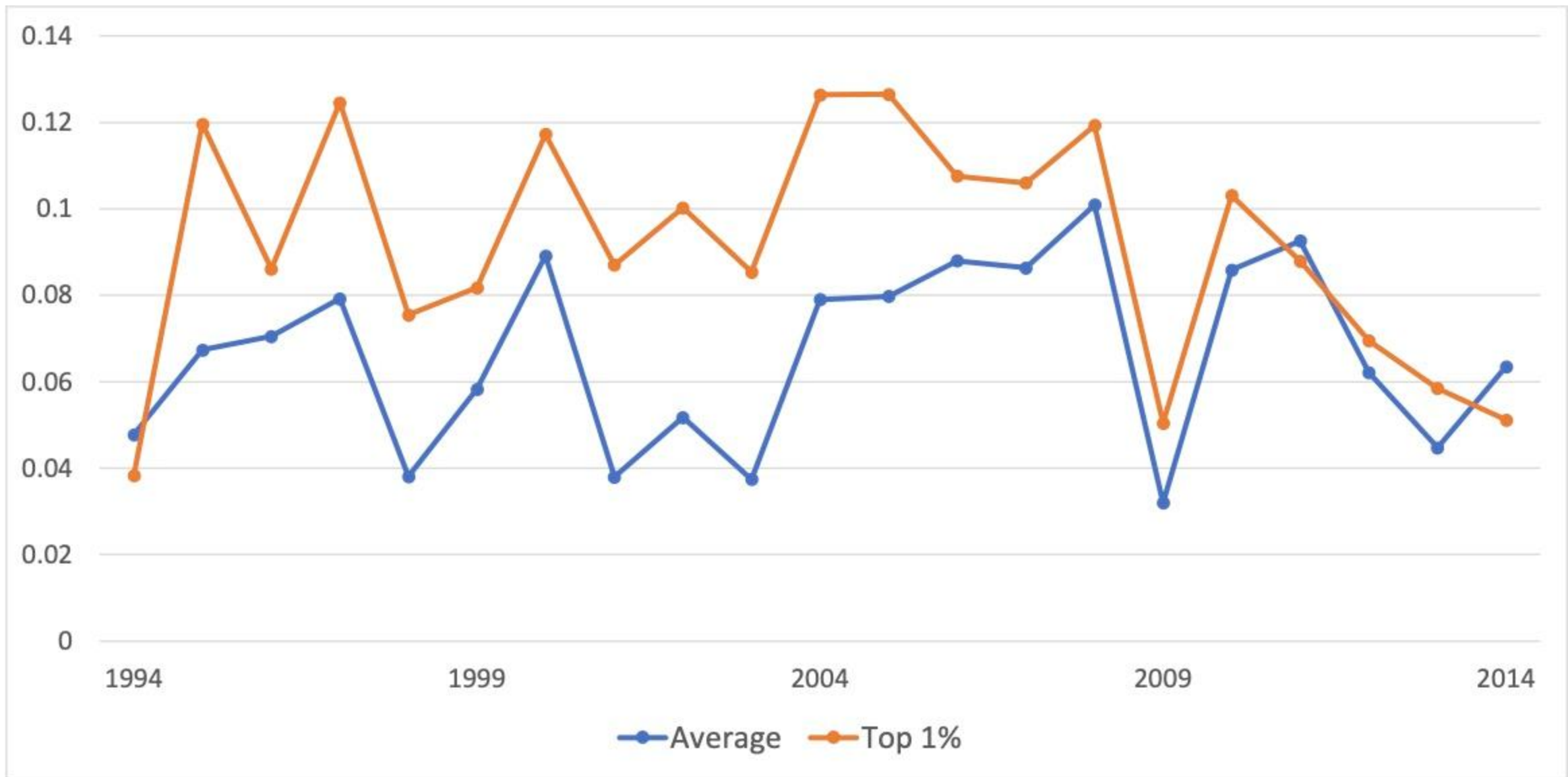- The relative economic status of the bottom 90% has not changed much.
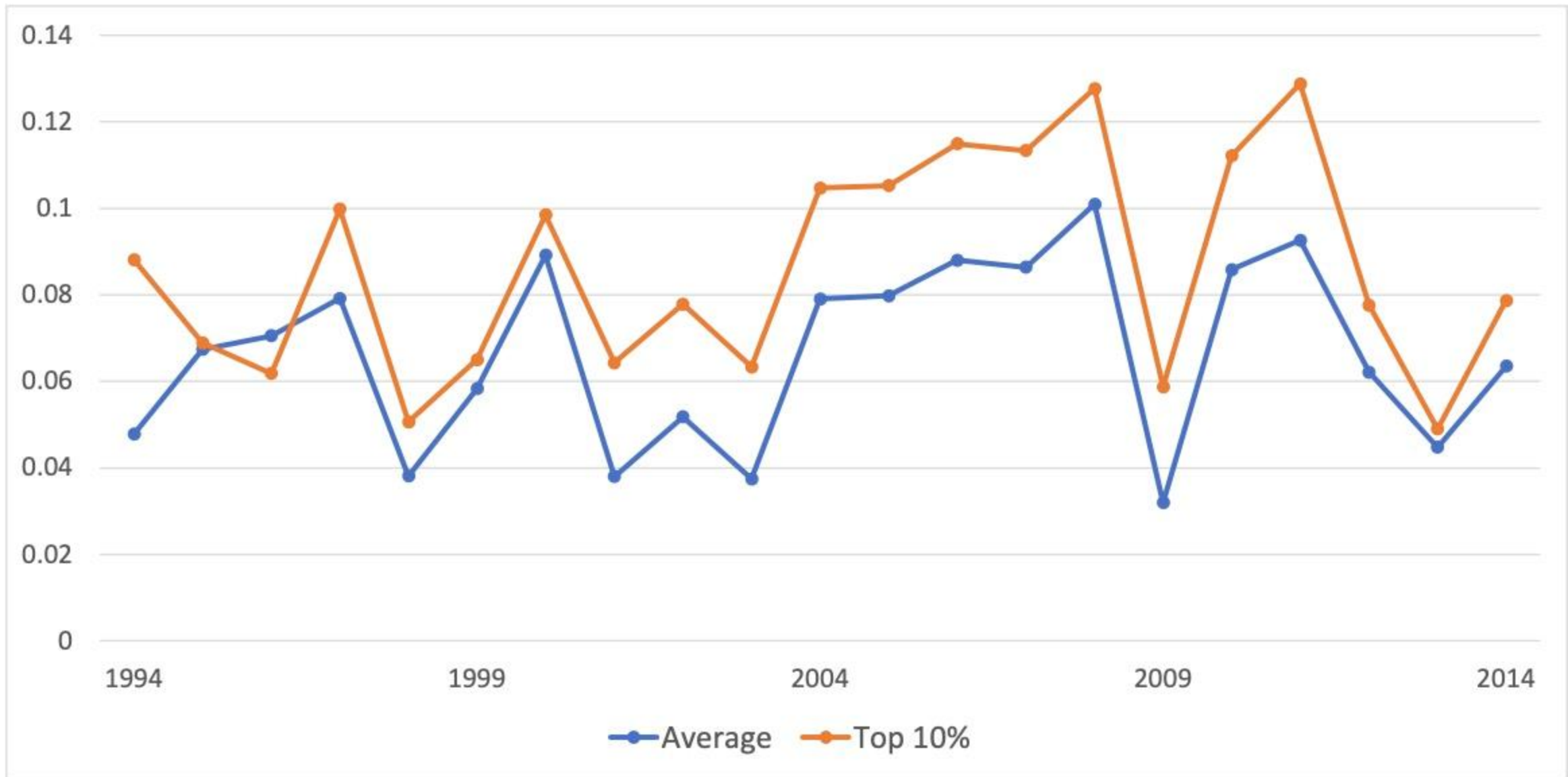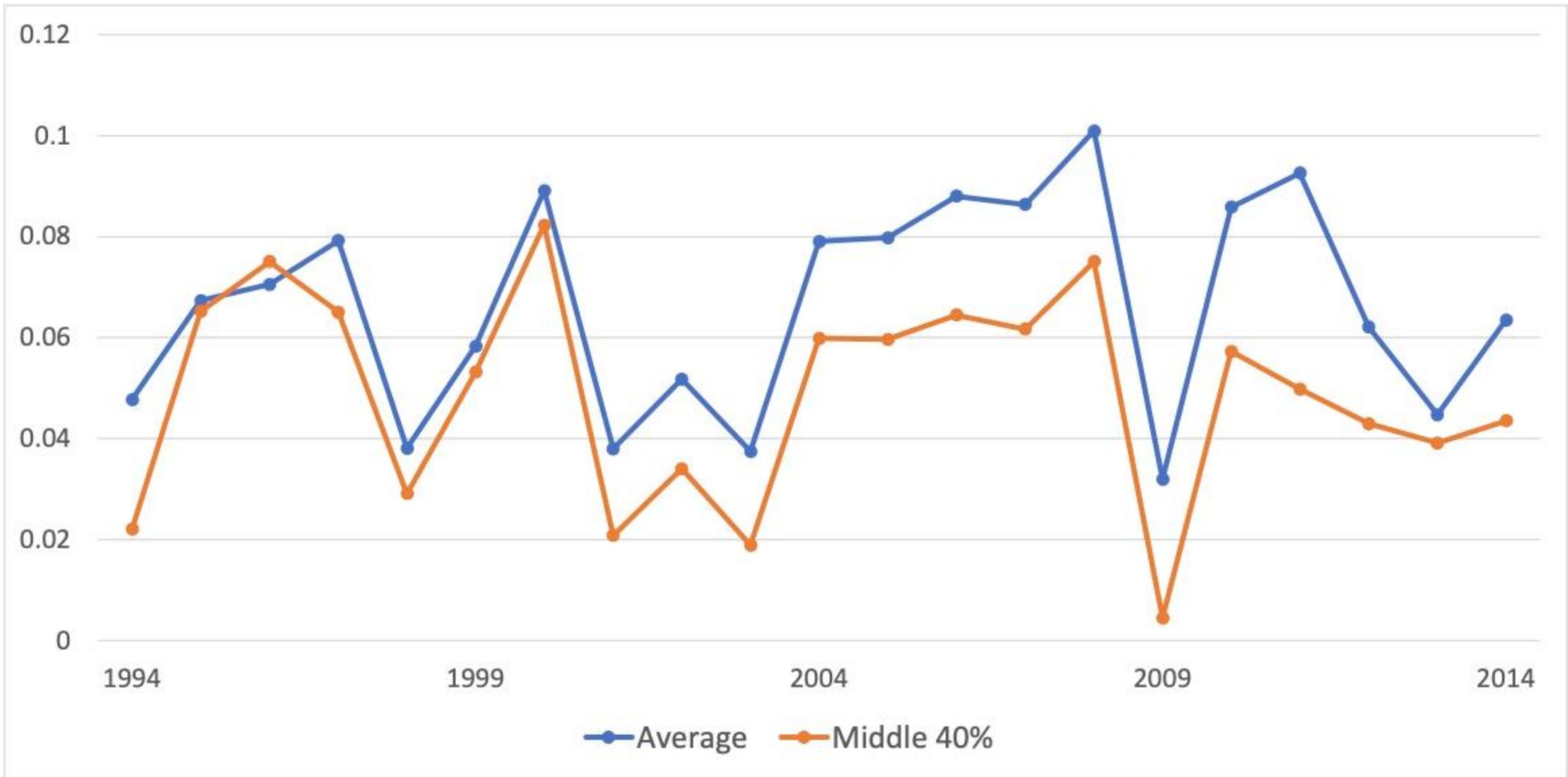
Figure 11

Figure 12

Figure 13

Figure 14
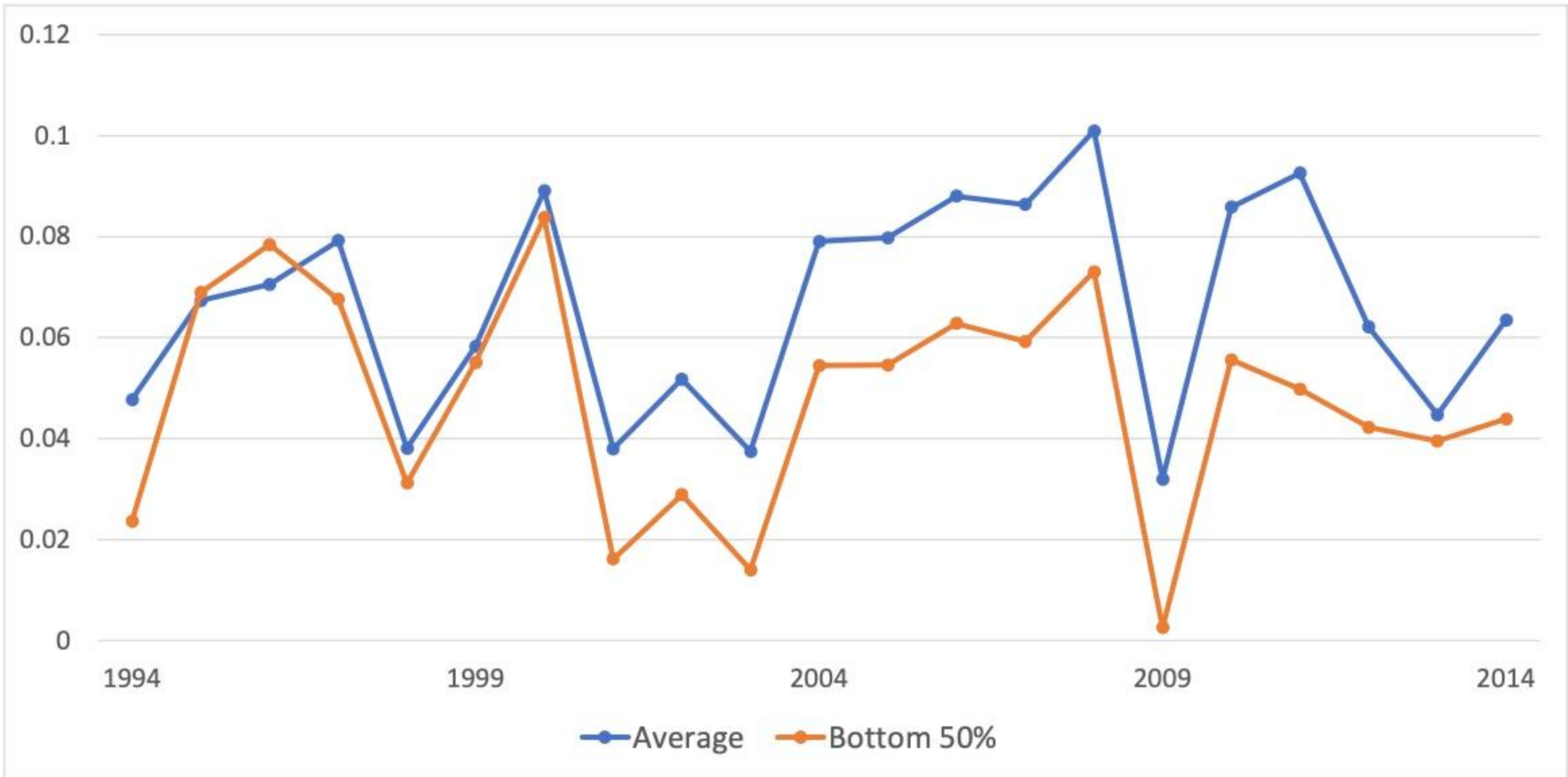
Figure 15

Is India's Growth Pattern Common?

- The recent paper by Bharti et al. (2024) also studies the Indian growth incidence curve. To the extent the richer sections benefit more from growth in general, how inclusive is the India's economic growth *relative* to other countries?

- Comparison with China which grew at a much faster rate since the 1990s in terms of the average growth rate

- When we look at the annualized growth rates by income group an interesting pattern emerges

- While in China income of all groups rose at a faster rate, the gap is particularly noticeable for the bottom 50% as well as the middle 40% (excluding the top 10% and the bottom 50%)
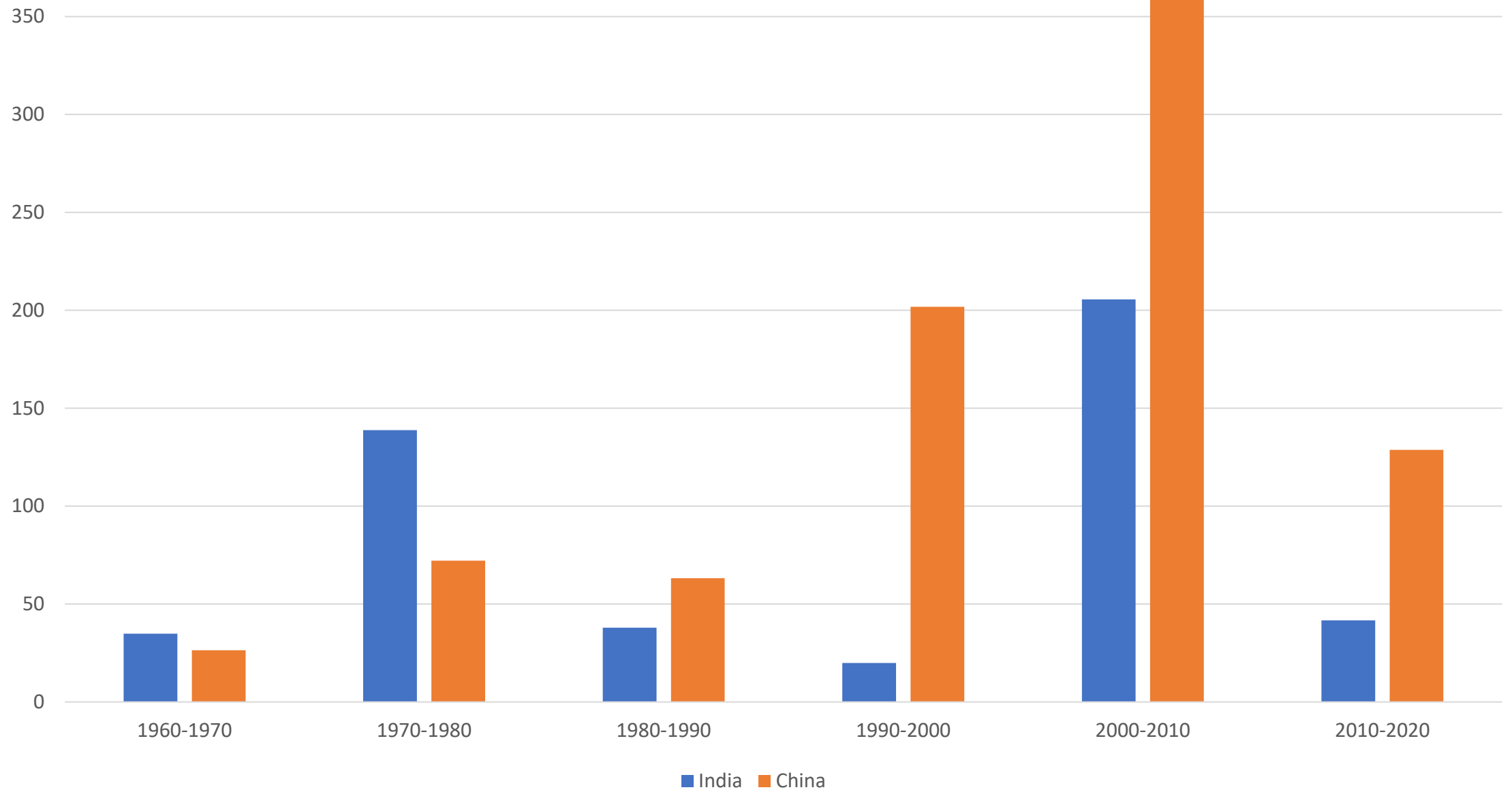
Figure 16 : Decadal Growth in Per Capita GDP, India vs China
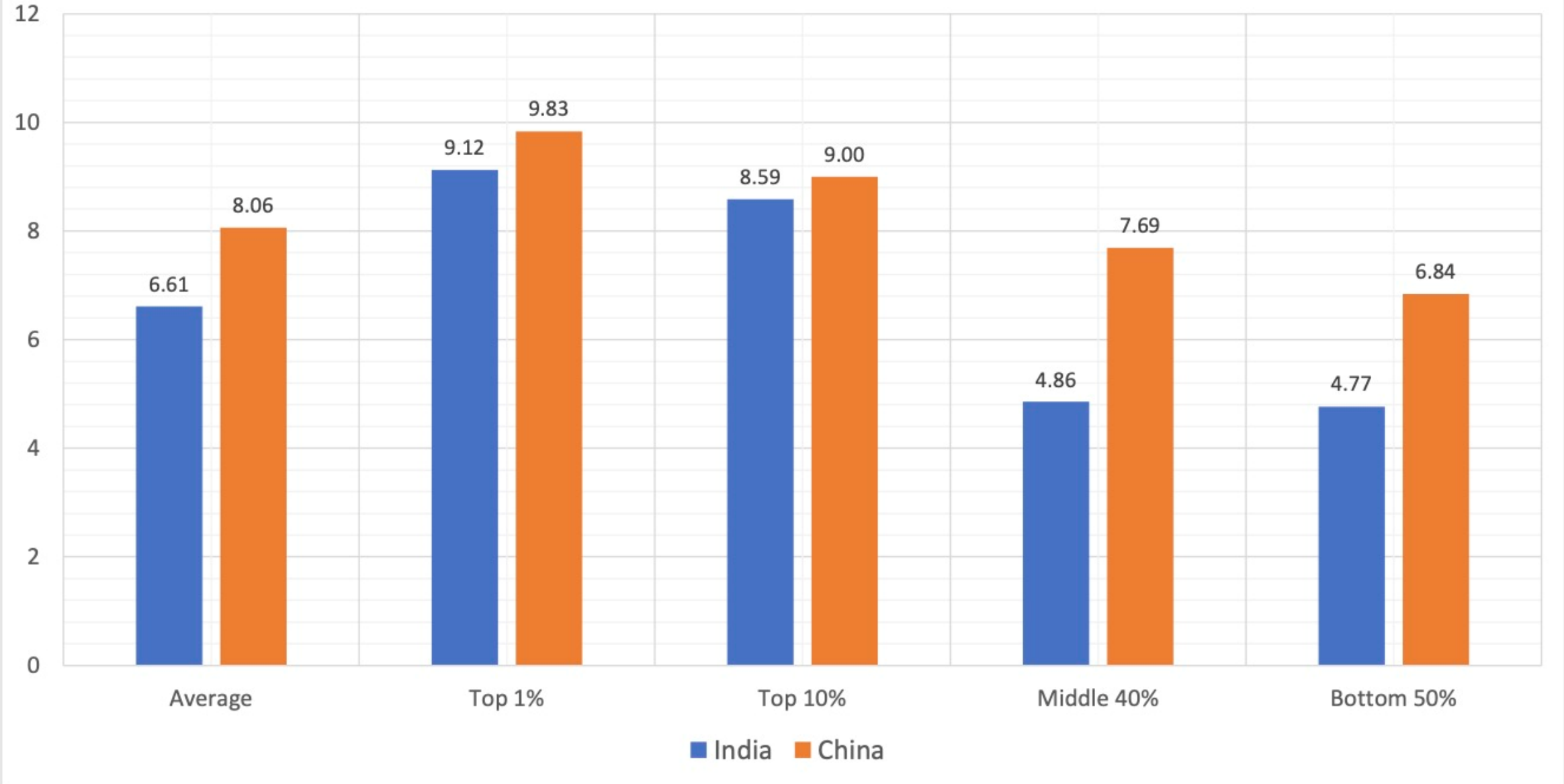
Figure 17 : Annualized Growth Rates by Income Group, India vs China

Growing apart?

- The facts presented indicate that while India's growth performance since liberalisation has been impressive, putting it in the league of the largest economies of the world in terms of GDP, the growth process has not been inclusive, i.e., there has been inequality of growth across income/wealth groups

- This has led to growth of inequality

- We conjecture that this may have slackened the overall growth process itself through the demand channel

Now we turn to what's happening to poverty

- Recent working papers from the IMF as well as the World Bank suggest that there has been a sharp reduction in extreme poverty ($1.90 per person per day)

- Due to the lack of Indian consumer expenditure data due to the government's unwillingness to publish the findings of the 2017-18 NSS Consumer Expenditure Survey it, these exercises use synthetic data, generating a hypothetical consumer expenditure distribution for 2017-18, and then applying the poverty line

- About a month ago, the Department of Statistics and Programme Implementation published a Fact Sheet that provides some summary statistics of the 2022-23 survey, and some economists (Rangarajan & Dev, S. Subramanian) have calculated poverty rates using that showing a sharp decline based on it

- These estimates are tentative in the absence of unit-level data is released

- It has been noted that the current CES 2022-23 cannot be compared with the earlier CES rounds on account of a change in methodology – both change in item coverage with inclusion of new items and merging some of the obsolete items, and changes in the questionnaire of the survey (Mehrotra and Kumar, 2024)

- Also, there is no updated current poverty line determined by NITI Aayog unlike the erstwhile Planning Commission and indeed, the factsheet does not mention poverty estimation.

- Another important issue is the Consumer Price Index (CPI) – as the latest data reveal that there have been some changes in consumption patterns between 2011-12 and 2022-23, the weights need to be adjusted (Rangarajan and Dev, 2024)

Fraction of Indian population on <1.90 PPP per-day
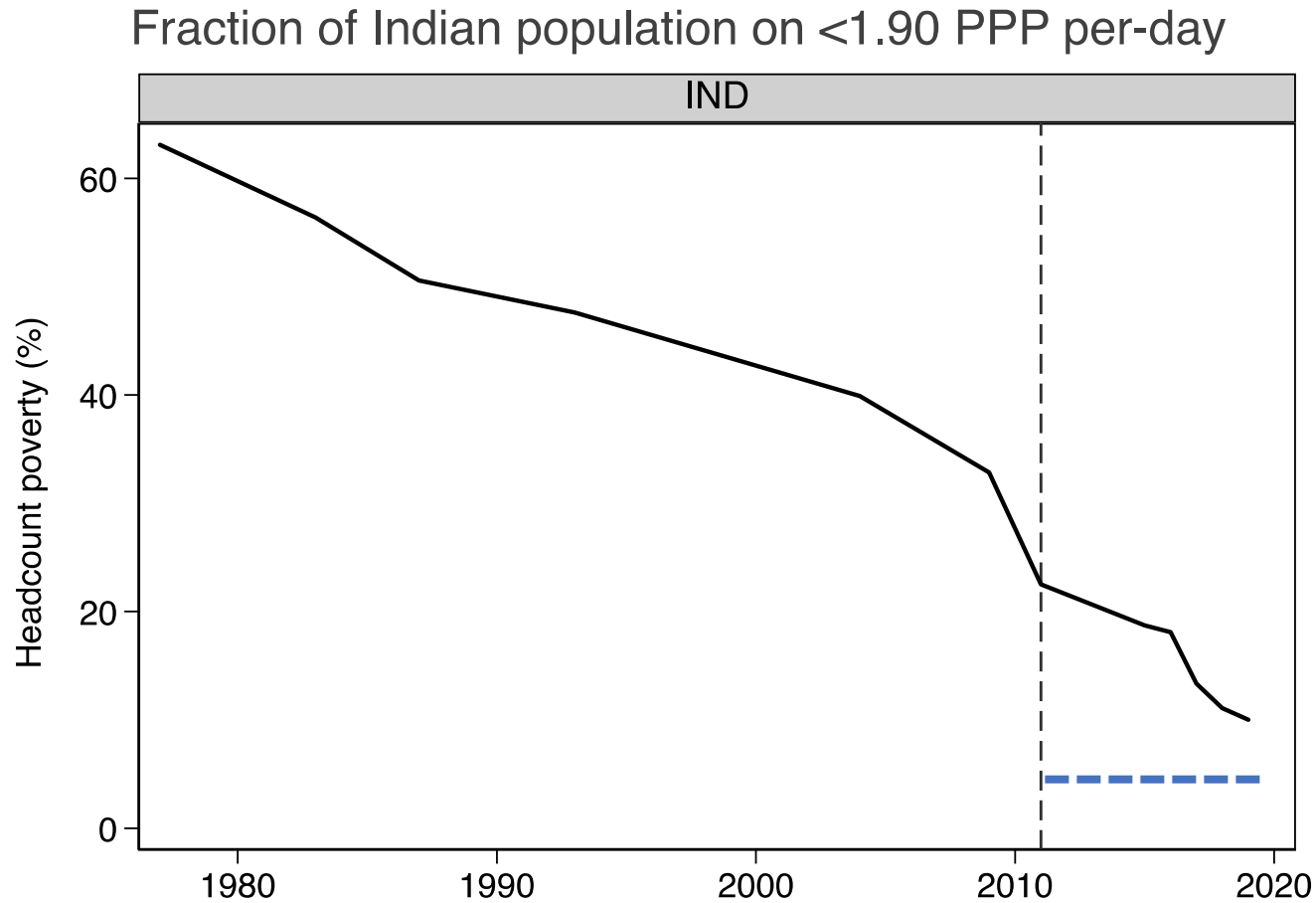
- This is India's poverty headcount acc to World Bank's new **Poverty & Inequality Platform**.

- Based on estimates by Sinha Roy and Van Der Weide (SRV) using CMIE's private CPHS dataset.

- It proposes that on the eve of the pandemic, just 1 in 10 Indians was living in extreme poverty

- These numbers are contentious, and in fact slightly higher than an even more optimistic case made by Bhalla et al (2022) in an IMF Working Paper (blue dashed line)

- Bhalla et al → by 2019, India nearly eliminated extreme poverty

- There are several problems with the IMF Working Paper estimate: they use National Accounts Statistics (NAS) for consumption

- Experts have long pointed out that household surveys and NAS numbers are not at all comparable

- Moreover, even if they were, for this method to be valid, the growth rates the consumption of the poor would have to grow at the same rate as the rich, which is not realistic from what we saw yesterday

- The World Bank uses the Consumer Pyramids Household Survey (CPHS) which is produced annually since 2014 by the Centre for Monitoring the Indian Economy (CMIE) and fills in much of the gap left by the absence of NSS data.

- Using this data, and re-weighting the sample to match the NSS 2011-12 survey the World Bank study found that poverty had declined since 2011-12 to about 9-12 percent between 2017-19, which is now part of the World Bank's official poverty statistics for India

- The NSO Consumer Expenditure Survey is a comprehensive and nationally representative survey which uses NSO's stratification parameters to construct detailed household consumption estimates.

- The alternative (CMIE CPHS) is a new private sector survey which fills the gap, but researchers (see Dreze-Somanchi 2021) have argued that its sampling approach biases it towards the rich.

- Researchers (see Dreze-Somanchi 2021) have noted that the CPHS falls far short of the nationally representative standards of NSO's surveyand in particular, undercounts the poor and its sample over-represents richer and well-educated Indians

- No amount of re-weighting can recover the "true" left tail of the consumption distribution if the poor are missing in the first place.

- The 2017-18 NSO Consumer Expenditure Survey was leaked and S. Subramanian (2019) examined it in detail

- It shows significant drops in consumption levels over 2011-12 to 2017-18 across the distribution

- This was a big deal: perhaps the first drop in many decades

- Possible factors : 2016 demonetization, droughts in 2014 & 2015, GST rollout, slowdown after 2016

- Using Subramanian's calculations, poverty went up from 22% in 2011-12 to 25% in 2017-18

- So, questions remain regarding the extent of poverty

- With Rishabh Kumar of U Mass, Boston I have examined this issue using several approaches

- We look at patterns of structural change in India over the last two decades and examine the plausibility of a sharp decrease in poverty by 10 percentage points or more, using both within India state-level comparisons, as well as cross-country comparison and argue that this is implausible

- Our own calculations with the newly published NSO numbers raise some questions – poverty seems to have declined the most in the decade where overall growth was modest

Does growth eliminate poverty?

- The main **assumption** behind all these synthetic estimates is that growth reduces poverty

- But why does growth reduce poverty? Basic Lewis model: move surplus labour from traditional, low productivity employment to modern, high productivity activities.

- That is, unconditional growth *by itself* is not universally poverty reducing unless it includes structural transformation. In particular, if growth is driven by jobs and incomes in Delhi, Mumbai, Bangalore and Hyderabad, it is less likely to be poverty reducing.

- The assumption of unconditional structural change is woven into most synthetic estimates behind India's post-2011 poverty decline.

- On inspection, structural indicators suggest 2008-present growth was not structurally transformative.

# Two main measures of structural transformation

- In conventional models and cross-country data, the traditional sector in output is usually assumed to be agriculture.

- Economic growth → fall of agriculture % of GDP.

- A second, and more robust indicator is the structure of the labour market → self-employment (vs regular, salaried employment)

- The ILO produces a measure of "Vulnerable Employment" -- an excellent predictor of GDP per-capita as poor countries tend to have >60% vulnerable employment while less than 15% of the workforce is vulnerable in rich countries .

- Self-employed workers, with the subcategories:
  (i) self-employed workers with employees (employers),
  (ii) self-employed workers without employees (own-account workers)
  (iii) members of producers' cooperatives and contributing family workers (also known as unpaid family workers).

India's long term structural composition

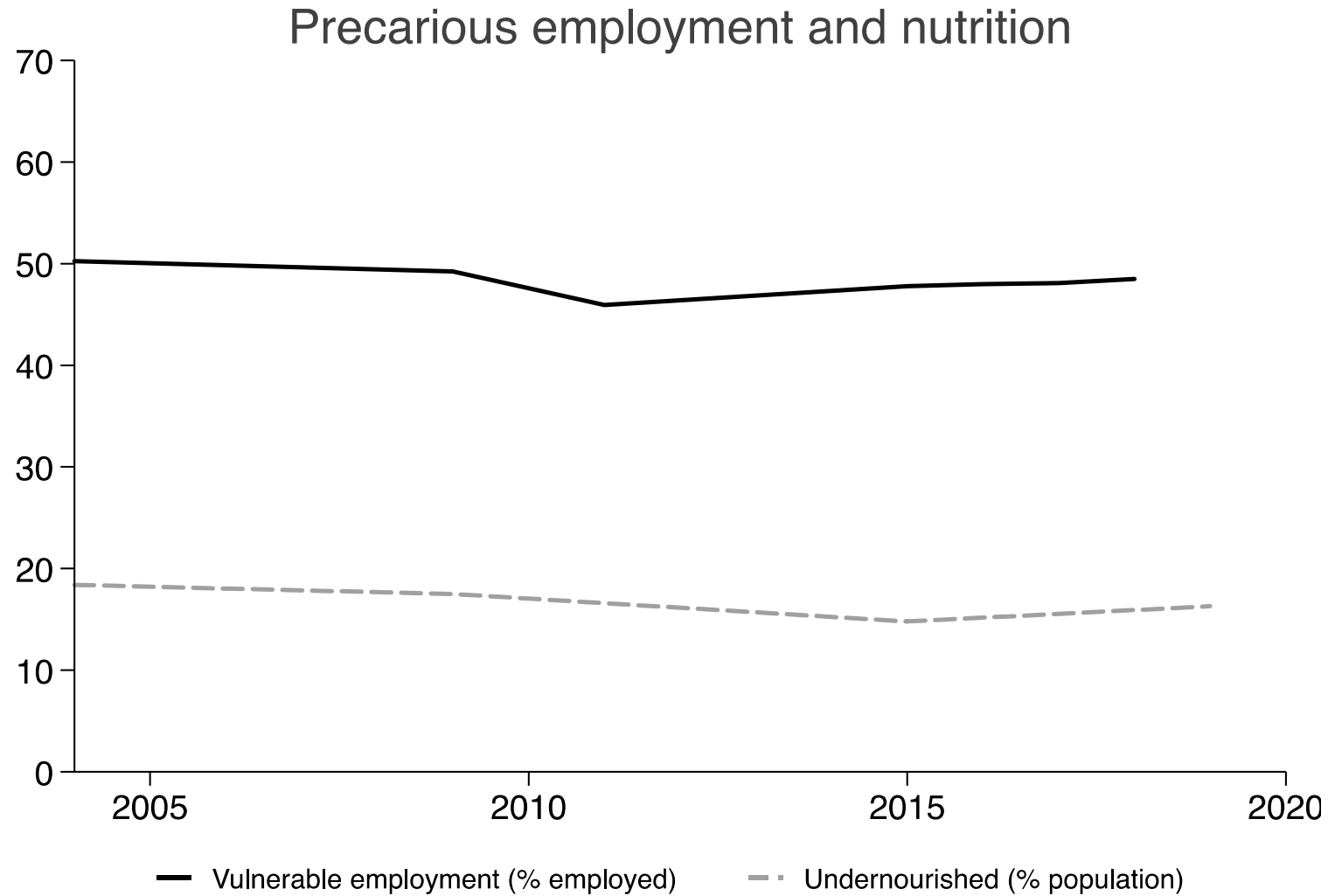India: structural composition of output
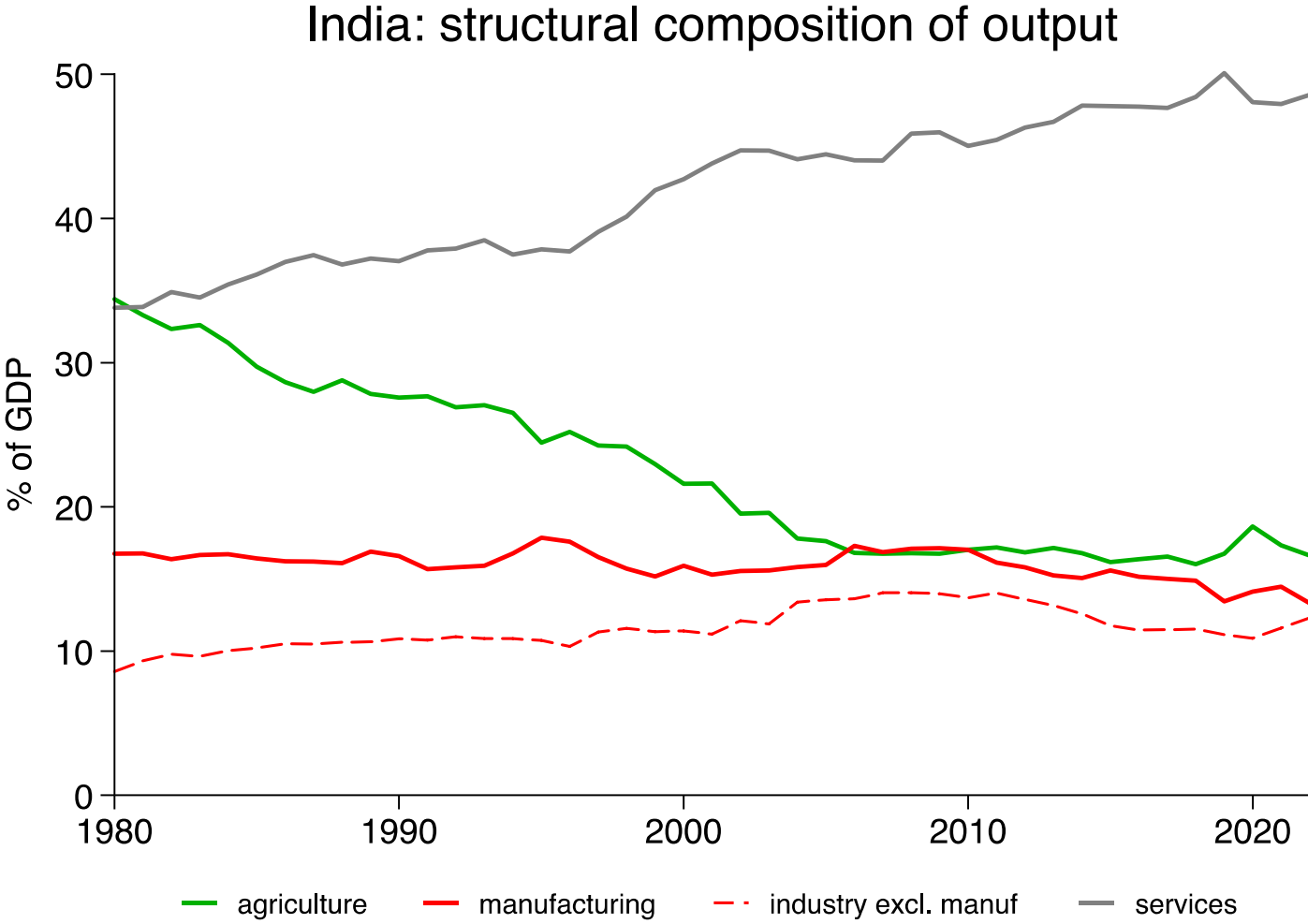
Source: World Development Indicators, World Bank

Employment composition in India
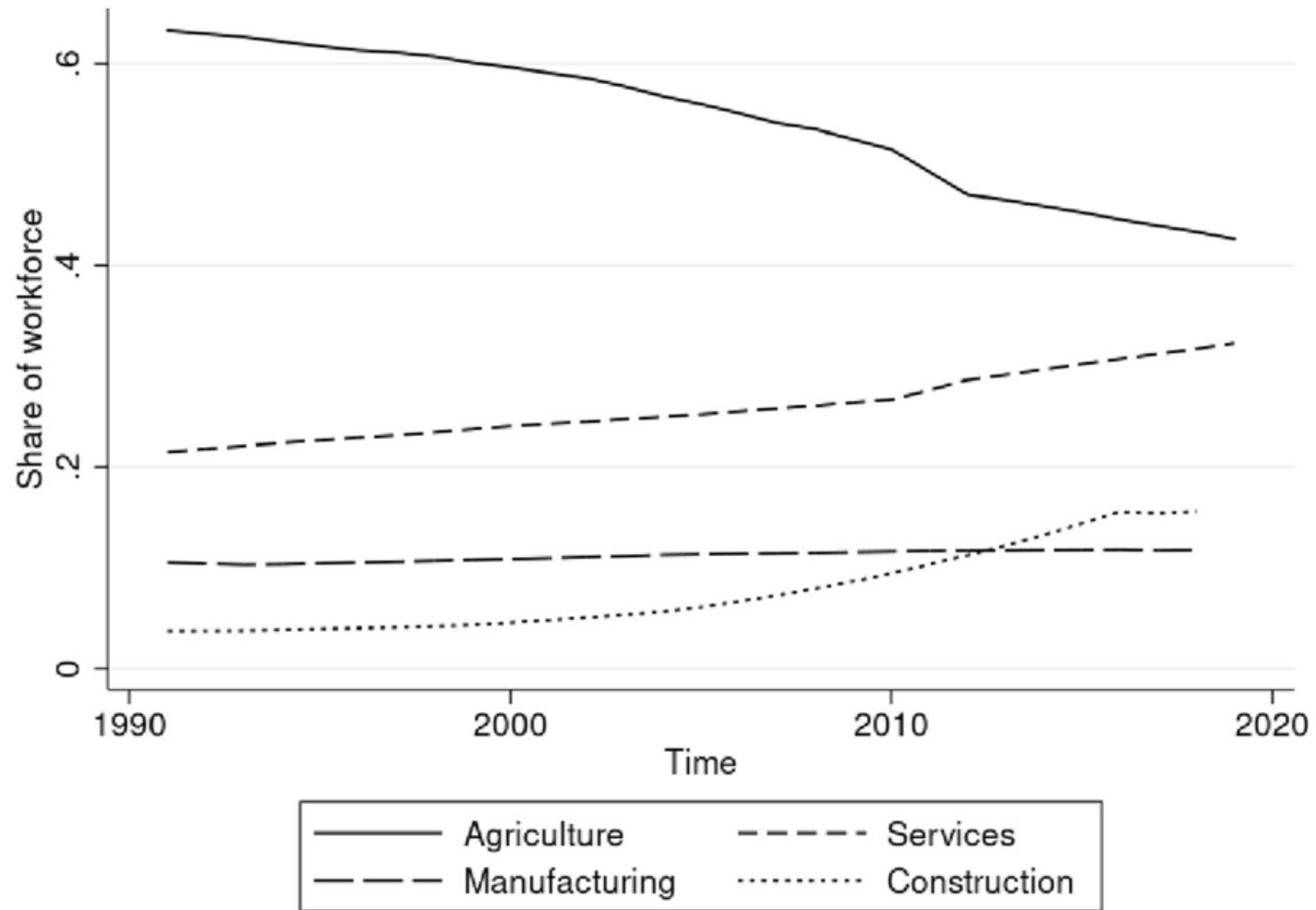
Source: Basole (2022, IJLE) from ILO STAT

How the other half lives: unchanged for two decades

Precarious employment and nutrition

— Vulnerable employment (% employed)   - - - Undernourished (% population)

- Structural transformation in India has been stable for over a decade as the figures suggest, with the share of output from agriculture being stagnant for nearly two decades at 16-17 percent of GDP.

- In a recent paper with Mrinalini Jha of O.P. Jindal University and Jitendra Singh of Ashoka University (*The India Forum*, Jan 31, 2024) we study trends in the Indian labour market using the NSS-Employment/Unemployment Survey and the PLFS and find:

  - No noticeable trends (both in the quantity and quality of job creation) that would support a sharp decline in poverty
  - Precarious forms of employment have remained stubbornly high for an economy that has otherwise grown at impressive rates since the 1990s

- In particular, we find that the improvements in LFPR and the drop in the UR since 2017-18 is largely driven by self-employment.

- However, while the fraction of the self-employed who are employers have gone up marginally by less than 1 percentage point from 3.78% in 2017-18 to 4.57% in 2021-22, the bulk of the growth in self-employment has been by the rise of unpaid family workers: that has gone up from 26% to 31.4%.

- At the most aggregate level, the all-India average real daily earnings increased by around ten rupees (in 2010 prices) between 2017-18 and 2021-22, about a 4% increase. Both rural and urban daily earnings increased on an average between ten to fourteen rupees (in 2010 prices).

- In general, the average earnings of wage and salaried workers are the highest among different categories of workers, followed by the self-employed and then the casual workers.

- The average daily earnings for the salaried and self-employed stagnated over the period showing no increase in real terms.

- Those in casual work did see an increase from Rs. 162 per day in 2017-18 to Rs. 196 per day in 2021-22, which is about a 20% increase, and this is responsible for the moderate increase in the overall average earnings of the employed.

- This must put it in context – even with a 30-day work month, casual workers were making Rs. 6000 per month at 2010 prices (or Rs. 11,520 in 2021 prices), which is barely above the poverty line

This raises the question – if poverty did decline, how did that happen?

- On a cross-country basis, there is a systematic negative relationship between the share of agriculture as percentage of GDP and poverty

- However, in comparison for India, there seems to be steep decline in the case of India poverty with a stable share of agriculture over the mid 2000s to the the present (16-17%)

- Poses a puzzle – based on this India's poverty rate should be at least 5-6 percentage points higher

- The calculations here are up to 2019-20 but the same logic applies if estimates based on the recent NSO release for 2022-23 are taken
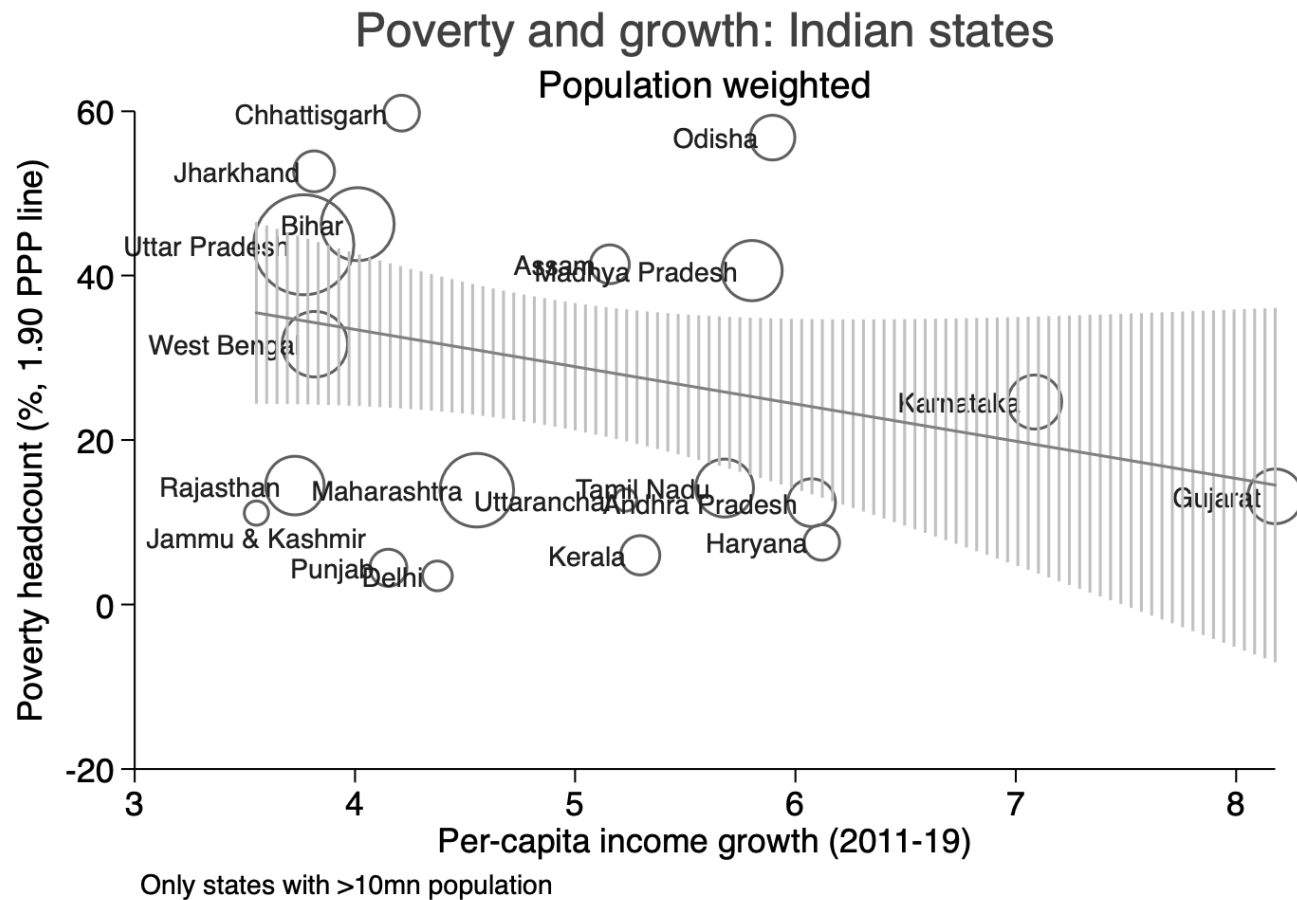
Agricultural share and poverty
Comparative decline in Asia

Indian poverty declining at fixed agriculture share
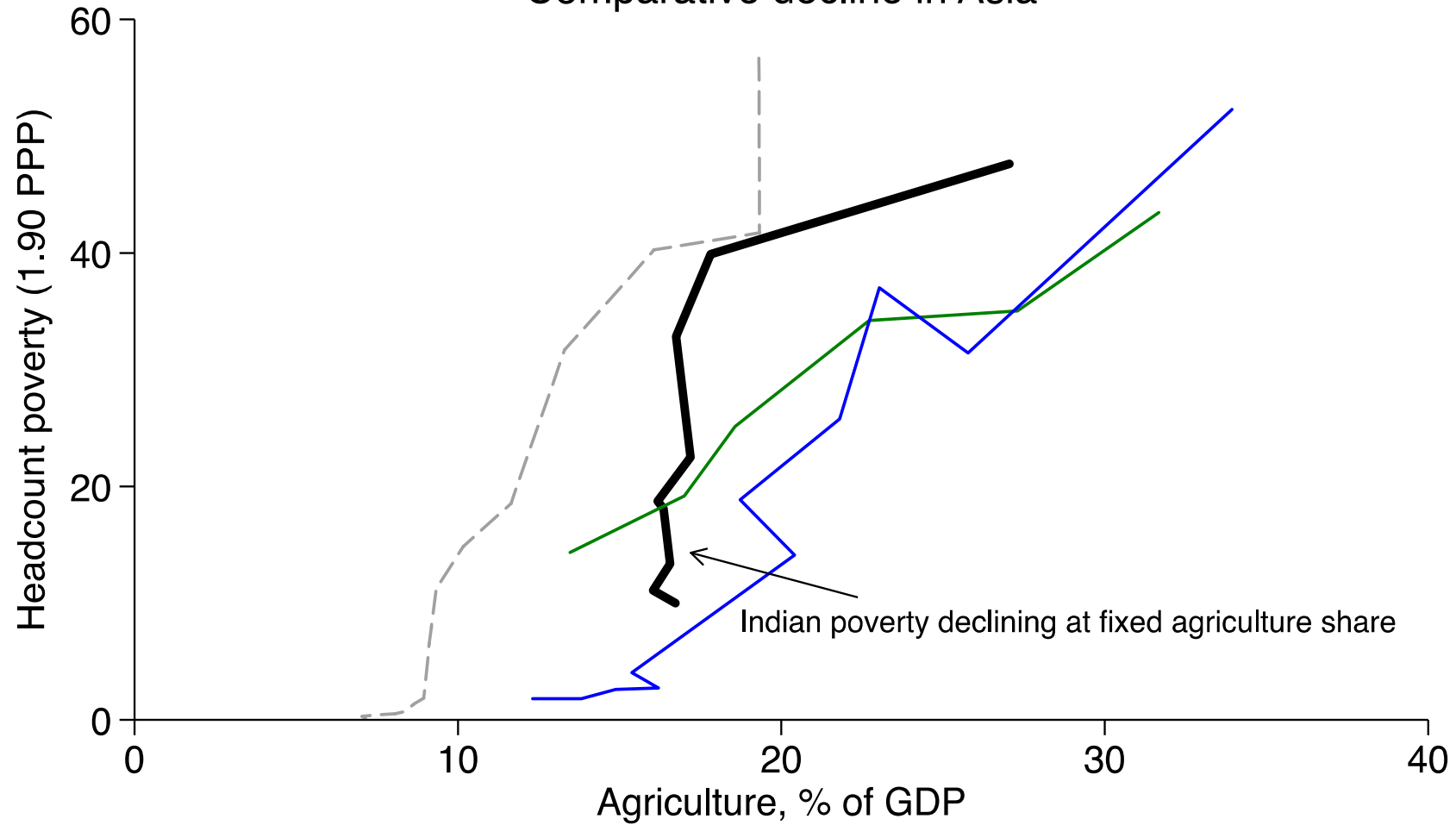
India   China   Bangladesh   Vietnam

Growth in the poorest states has been low

Poverty and growth: Indian states
Population weighted

Only states with >10mn population

- We find a negative relationship between poverty in 2011-12 and economic growth (per-capita) over the 2011-12 to 2019-20 period
- The states with the highest poverty headcounts are also the most populous, but their growth rates lag the richest states
- In fact, only a few states experience India's much cherished 5-6% per-capita growth rates

The growth dynamic *within* India is divergence

Divergence? Big time
Population weighted

Per-capita income growth (%, 2011-19)

Initial per-capita income (Rs, 2011-12)

Only states with >10mn population

Gujarat
Karnataka
Telangana
Andhra Pradesh
Haryana
Madhya Pradesh
Odisha
Tamil Nadu
Assam
Uttaranchal
Maharashtra
Punjab
Chhattisgarh
Bihar
Uttar Pradesh
West Bengal
Jammu & Kashmir
Delhi
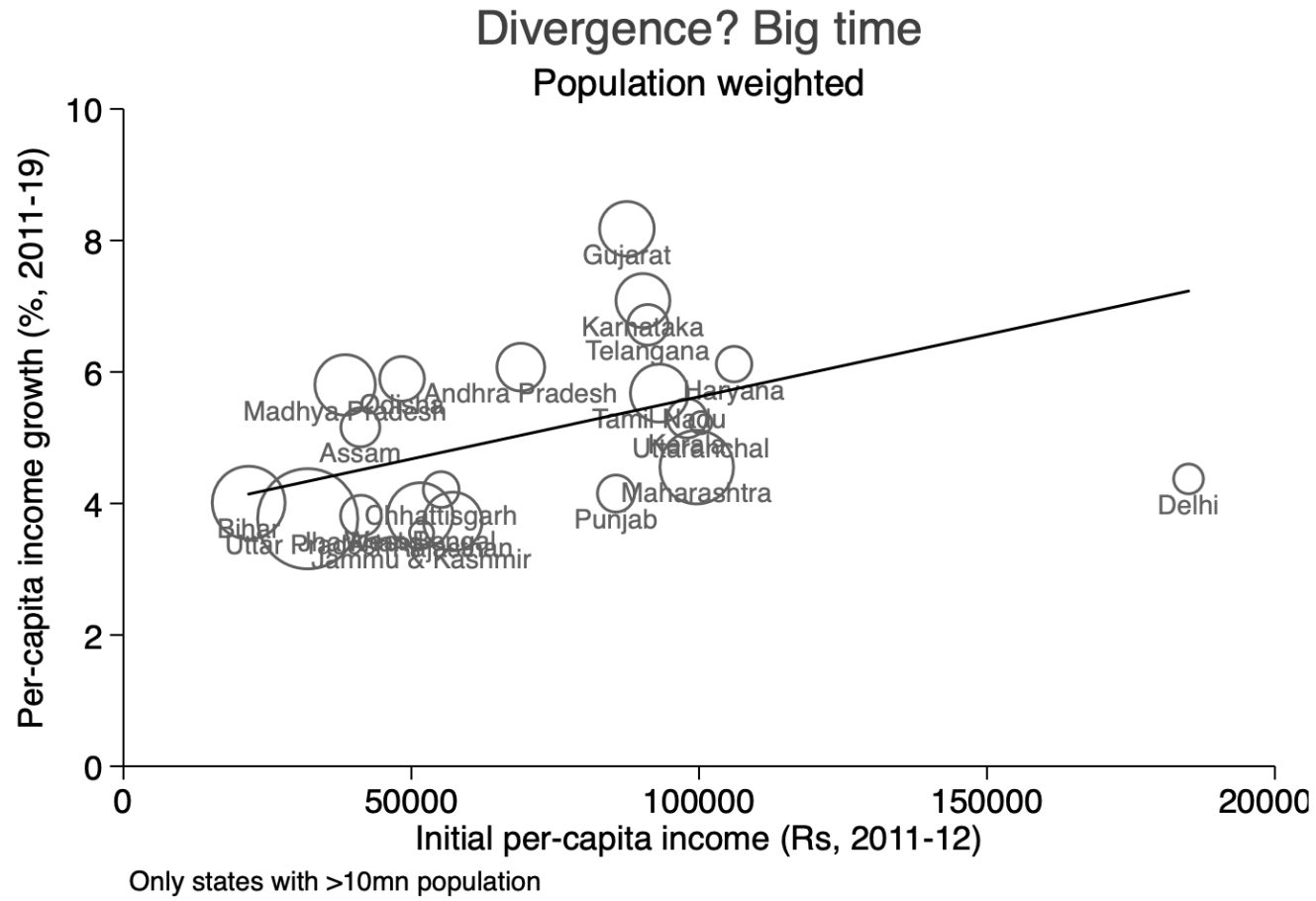
- Between Indian states, economic growth is positively related to initial per-capita income

- The vast majority of Indians live in states which experienced < 3% per-capita income growth

- Bihar-Delhi p.c. income
  12% in 2011-12
  12% in 2020-21

- The gap between the richest and poorest states of India is equal to the gap between HIC and LIC

Open questions

So, what is really happening to poverty?

To the extent it has declined sharply since 2011-12, what are the mechanisms since the macro-level correlates are at odds with this?

Better targeting of transfers to the poor? Enhanced entitlement during the pandemic which has remained in place?

Summing Up

- One has to keep in mind that extreme poverty line is very conservative and so even if there is decline in extreme poverty, that does not mean others are doing well

- Growth is undoubtedly important, if nothing for its instrumental value in terms of raising living standards of all but being an "average" measure, it is at a best an incomplete or partial measure, at worst a misleading one especially if one looks at income-group specific growth rates

- Income distribution drives demand pattern, that affects induced demand for factors of production, which drives income distribution

- The interplay of these two forces could lead to segregation of the economy in terms of income/wealth with limited trickle down or up

- Suggestive evidence (Kaul, 2023) that growth sectors in manufacturing and services seem to be luxury items as opposed to mass consumption goods (two-wheelers, small entry-level cars, train travel as opposed to air travel, Fast Moving Consumer Goods such as everyday use items from toothpaste to soap -- especially in rural areas)

- Number of households demanding work under MGNREGS is still greater than in the pre-pandemic years suggesting that the financial state of the rural poor is not really great.

- Coupled with the stagnant labour market picture, real possibility that the engine of growth has gotten disconnected with the compartments where the vast majority of the population belong.

Thank you!

Additional Slides

Group Specific Growth Rates: Methodology (I)

► Suppose that g_R is the growth rate of income among the rich, y^R_0 is their initial period total income, and y^R_t is their total income after t years. Then, y^R_0 is given by:

$$y^R_t = (1 + g_R)^t y^R_0$$

► Similarly, suppose that g_P is the growth rate of income among the poor, y^P_0 is their initial period total income, and y^P_t is the total income after t years. Then, y^P_0 is given by:

$$y^P_t = (1 + g_P)^t y^P_0$$

► Also, suppose g is the growth rate of income in the economy, y_0 is the initial period total income in the economy, and y_t is the total income in the economy after t years. Then, y_t is given by:

$$y_t = (1 + g)^t y_0$$

Group Specific Growth Rates: Methodology (II)

► Dividing the first equation by the third, we get:

$$\frac{y_t^R}{y_t} = \frac{(1 + g_R)^t y_0^R}{(1 + g)^t y_0}$$

► Dividing the second equation by the third, we get:

$$\frac{y_t^P}{y_t} = \frac{(1 + g_P)^t y_0^P}{(1 + g)^t y_0}.$$

► Typically, $\frac{y_t^R}{y_t}$, $\frac{y_t^P}{y_t}$, and g are known. The expression $\frac{y_t^R}{y_t}$ is the share of income held by the rich in the economy and $\frac{y_t^P}{y_t}$ is the share of income held by the poor in the economy. We can then obtain g_R by taking logarithms and simplifying:

$$\log \frac{y_t^R}{y_t} - \log \frac{y_0^R}{y_0} = t \log \frac{1 + g_R}{1 + g} \approx t(g_R - g)$$

# Group Specific Growth Rates: Methodology (III)

► We obtain:

$$g_R = g + \frac{1}{t} \log \frac{y_t^R}{y_t} - \log \frac{y_0^R}{y_0}$$

$$g_P = g + \frac{1}{t} \log \frac{y_t^P}{y_t} - \log \frac{y_0^P}{y_0}$$

► To calculate yearly growth rate, we take $t = 1$. We consider group i's (which could be top 1%, top 10%, middle 40% and bottom 50%) growth rate as

$$g_t^i = g_t + \log \frac{y_t^i}{y_t} - \log \frac{y_{t-1}^i}{y_{t-1}} .$$

where g_t is the average growth rate, and g_t^i is the growth rate for income group i.

► The intuition: the group specific growth rate equals the average growth rate plus the change of such group's income share (i.e. the change in inequality).

Rural (decile means)

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Urban (decile means)

1983 · · · 1993 — 2004 · · · 2012 — 2023
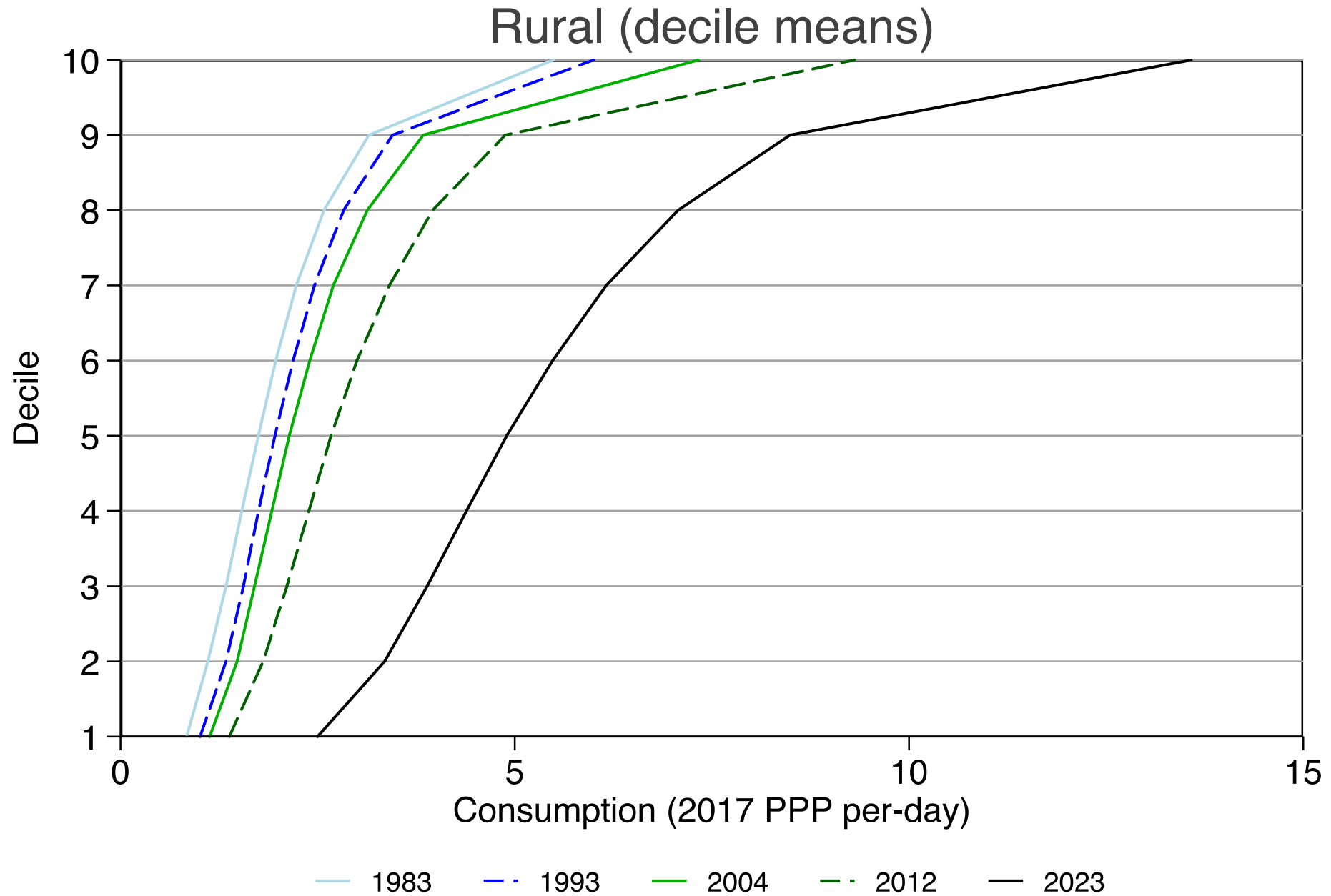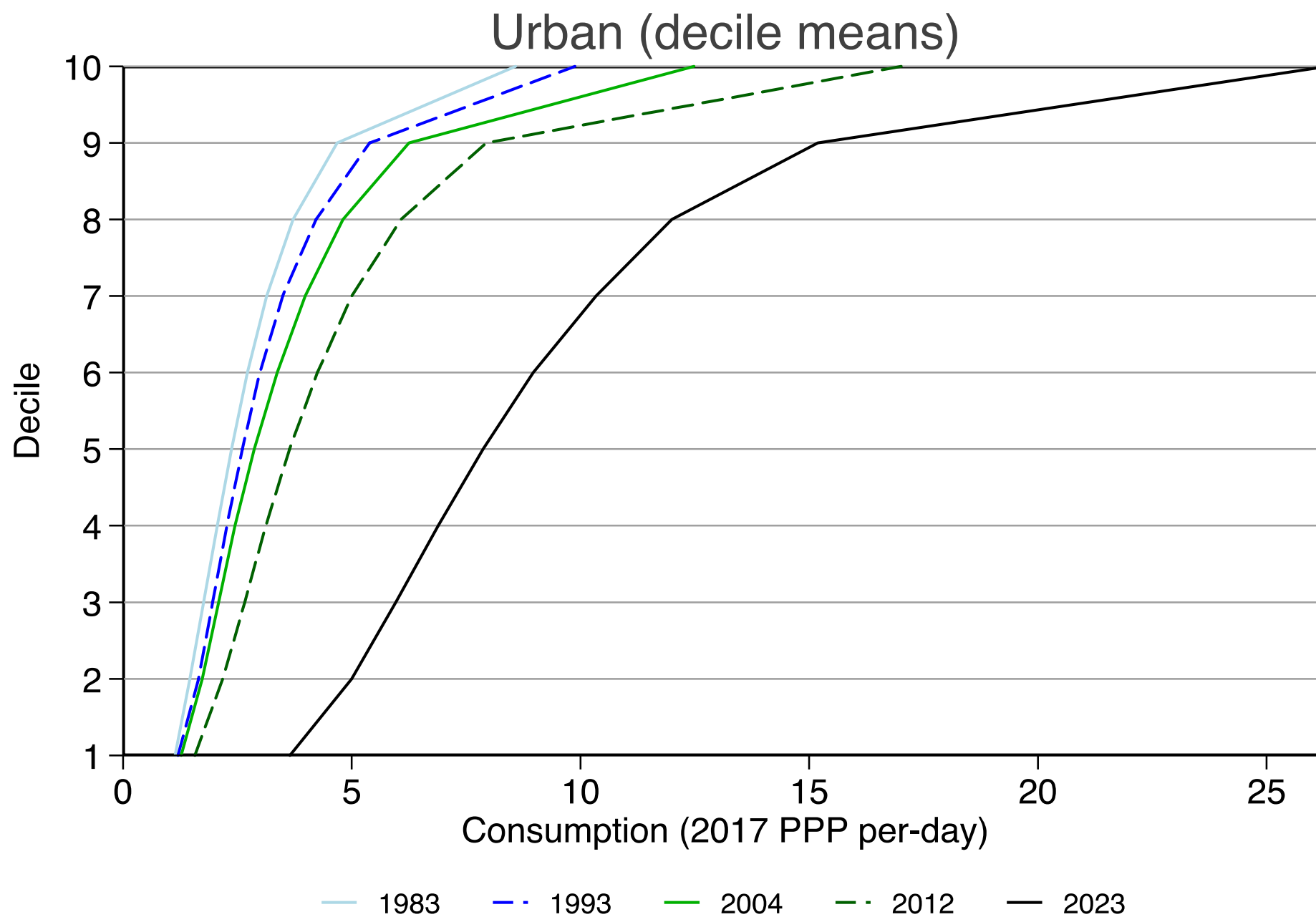
	Annualized Growth Rates of Real GDP per capita
1983-1993	2.8%
1993-2004	4.3%
2004-2012	5.2%
2012-2022	4.6%

Data Source: World Bank Development Indicators
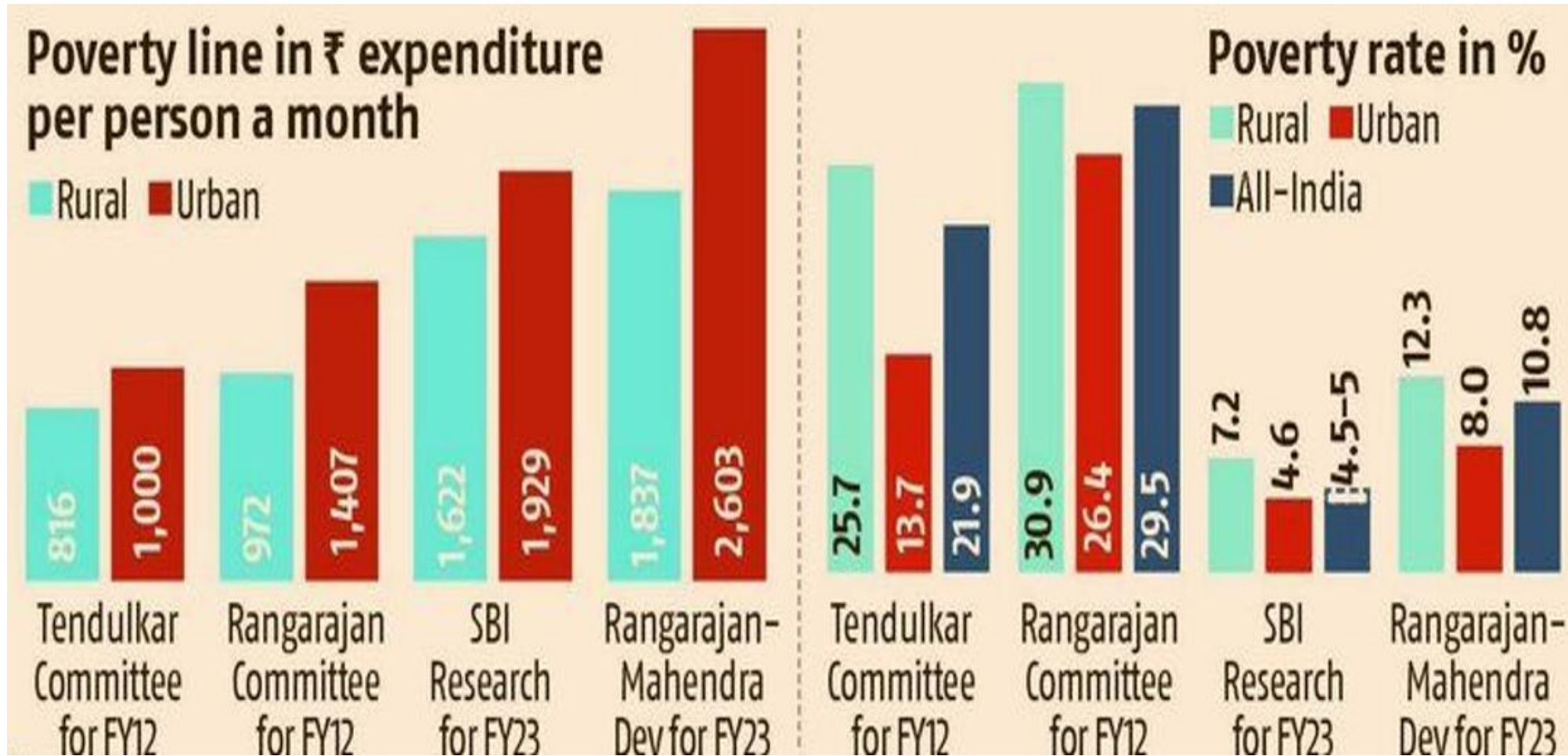
Source: C. Rangarajan and S. Mahendra Dev (2024

Tendulkar Committee Poverty Lines			
Year↓/Sector→	Rural	Urban	Combined
2011-12	17.5	9	14.8
2022-23	3.1	2.8	3.0
% decline in headcount ratio	82.3	68.9	79.7

Rangarajan Committee Poverty Lines			
Year↓/Sector→	Rural	Urban	Combined
2011-12	30.9	26.4	29.5
2022-23	7.5	10.0	8.4
% decline in headcount ratio	75.7	62.1	71.5

Source: S. Subaramainan (Forthcoming, 2024)

It should be noted that the headcount ratios for the Tendulkar Committee poverty lines in 2011-12 are lower than the officially reported headcount ratios: this is because the official estimates have been calculated from the Mixed Reference Period (MRP) distributions, while the estimates in this article have been calculated, for consistency, from the Modified Mixed Reference Period (MMRP) distributions, and the MRP average per capita consumption levels are lower than their MMRP counterparts. This is reflected in the magnitudes of the headcount ratios. (Author's note)