Inequality and Growth: Conflict or Convergence?

04
CHAPTER

Poverty is the parent of revolution and crime.

—Aristotle

The Economic Survey 2019-20 argued that ethical wealth creation – by combining the invisible hand of markets with the hand of trust – provides the way forward for India to develop economically. An often-repeated concern expressed with this economic model pertains to inequality. Some commentary, especially in advanced economies post the Global Financial Crisis, argues that inequality is no accident but an essential feature of capitalism. Such commentaries, thus, highlight a potential conflict between economic growth and inequality. Could the fact that both the absolute levels of poverty and the rates of economic growth are low in advanced economies generate this conflict? If so, could it be that a developing economy such as India can avoid this conflict – at least in the near future – because of the potential for high economic growth, on the one hand, and the significant scope for lifting millions out of poverty, on the other hand? This question becomes pertinent especially because of the inevitable focus on inequality following the COVID-19 pandemic.

In this chapter, the Survey examines if inequality and growth conflict or converge in the Indian context. By examining the correlation of inequality and per-capita income with a range of socio-economic indicators, including health, education, life expectancy, infant mortality, birth and death rates, fertility rates, crime, drug usage and mental health, the Survey highlights that both economic growth – as reflected in the income per capita at the state level –and inequality have similar relationships with socio-economic indicators. Thus, unlike in advanced economies, in India economic growth and inequality converge in terms of their effects on socio-economic indicators. Furthermore, this chapter finds that economic growth has a far greater impact on poverty alleviation than inequality. Therefore, given India's stage of development, India must continue to focus on economic growth to lift the poor out of poverty by expanding the overall pie. Note that this policy focus does not imply that redistributive objectives are unimportant, but that redistribution is only feasible in a developing economy if the size of the economic pie grows.

INTRODUCTION

4.1 The Economic Survey 2019-20 argued that ethical wealth creation – by combining the invisible hand of markets with the hand of trust – provides the way forward for India to develop economically. An often repeated concern expressed with this economic model pertains to inequality. In the advanced economies, Wilkinson and Pickett (2009), Atkinson (2014) and Piketty (2020) show that higher inequality leads to adverse socio-economic outcomes but income per capita, a measure that reflects the impact of economic growth, has little impact. Some commentary, especially in advanced economies post the Global Financial Crisis, argues that inequality is no accident but an essential feature of capitalism. Such commentaries, thus, highlight a potential conflict between economic growth and inequality[1]. The significant reduction in poverty that high economic growth has delivered in India and China presents the most striking challenge to this notion of conflict between economic growth and inequality. Could the fact that both the absolute levels of poverty and the rates of economic growth are low in advanced economies generate this conflict? If so, could it be that a developing economy such as India can avoid this conflict because of the potential for high levels of economic growth, on the one hand, and the significant scope for poverty reduction, on the other hand, ? This question becomes pertinent especially because of the inevitable focus on inequality following the COVID-19 pandemic.

4.2 The question remained important for India even before the pandemic. Choices in economic policy always present inherent trade-offs. Resolving these trade-offs in a manner that suits the specific economic context of the day is, therefore, critical to lay out clear policy objectives. The advanced economies may choose to focus on alleviating inequality given their stage of development, their potential rate of economic growth and the absolute levels of poverty that they face. Thus, they may resolve the trade-off between growth and inequality by leaning towards alleviating inequality. However, despite facing the same trade-off, the policy objective of focusing on inequality may not apply in the Indian context given the differences in the stage of development, India's higher potential rate of economic growth and the higher absolute levels of poverty. Given these motivations, in this chapter, the Survey examines if inequality and growth conflict or converge in the Indian context in an effort to identify the correct policy objective for India.

4.3 By examining the correlation of inequality and per-capita income, which reflects the impact of economic growth, with a range of socio-economic indicators, the Survey highlights that both economic growth and inequality have similar relationships with socio-economic indicators. Thus, unlike in advanced economies, in India economic growth and inequality converge in terms of their effects on socio-economic indicators. Furthermore, this chapter finds that economic growth has a far greater impact on poverty alleviation than inequality. Therefore, given India's stage of development, India must continue to focus on economic growth to lift the poor out of poverty by expanding the overall pie. Note that this policy focus does not imply that

[1]See Wilkinson and Pickett, 2009; Picketty, 2013 among others for the research on inequality, mostly focused on advanced economies.

redistributive objectives are unimportant, but that redistribution is only feasible in a developing economy if the size of the economic pie grows. In sum, for a developing country such as India, where the growth potential is high and the scope for poverty reduction is also significant, the focus must continue on growing the size of the economic pie rapidly at least for the foreseeable future.

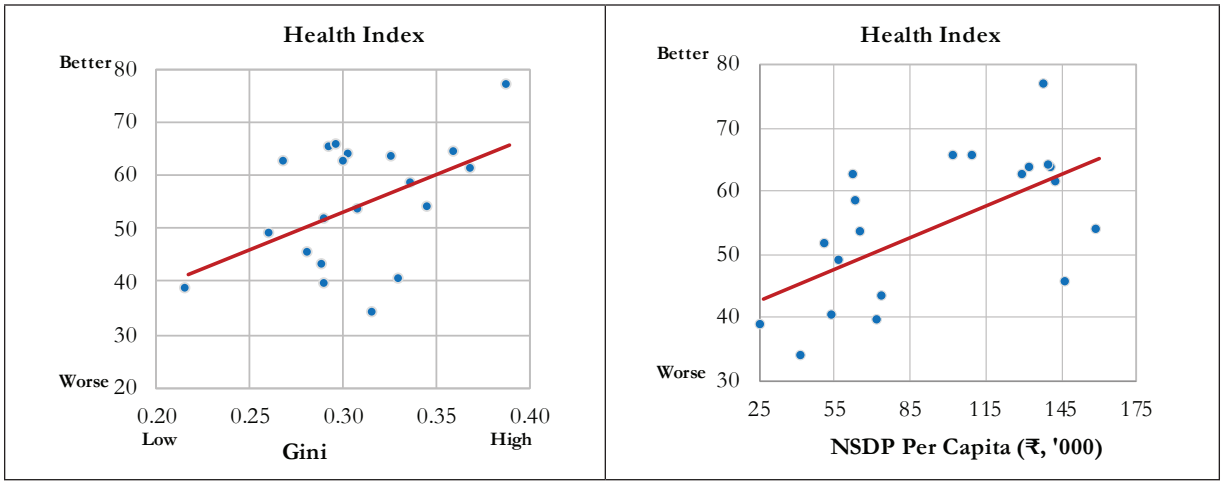
GROWTH, INEQUALITY, AND SOCIO-ECONOMIC OUTCOMES: INDIA VERSUS THE ADVANCED ECONOMIES

4.4 In the advanced economies, Wilkinson and Pickett (2009), Atkinson (2014) and Piketty (2020) show that higher inequality leads to adverse socio-economic outcomes but income per capita, a measure of economic growth, has little impact. This section examines whether these findings apply to India. For this purpose, Figures 1-7 display simultaneously the correlation of socio-economic outcomes with inequality and income per capita across advanced economies and across Indian states. In each figure, the top panel displays these correlations for the Indian states while the bottom panel displays the same for the advanced economies; the chart on the left displays the correlation with inequality while the chart on the right displays the same with income per capita. These figures demonstrate clearly across a range of socio-economic outcomes the stark contrast between India and the advanced economies in the correlation of socio-economic outcomes with inequality and income per capita. Across the Indian states, it is observed that both inequality and income per capita correlate similarly with socio-economic outcomes. In these figures, inequality across Indian states is measured as the Gini coefficient of consumption. As it is demonstrated in the Appendix to the chapter, the results remain robust to using other measures of inequality.

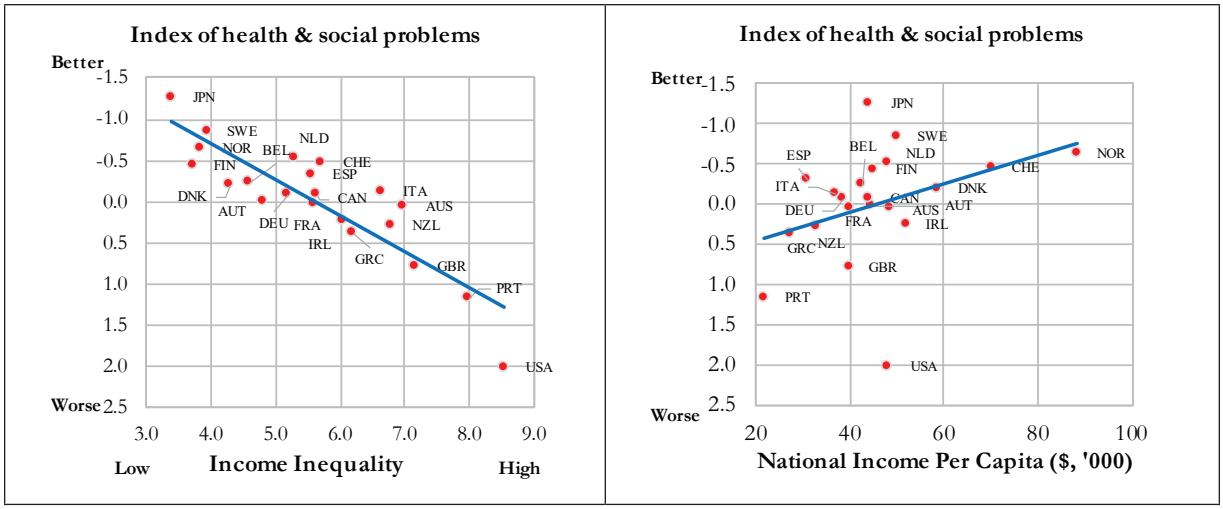
4.5 Figure 1 shows clearly that the index of health outcomes correlates positively with both inequality and income per capita across the Indian states. However, across the advanced economies, inequality correlates negatively with the index of health and social outcomes while income per capita correlates positively. Thus, while the conflict between growth and inequality is clearly seen across the advanced economies, inequality and growth converge in their effects on health among Indian states. Figures 2-5 show the same result using the index of education, life expectancy, infant mortality and crime respectively. It is clearly evident from Figure 6 that neither inequality nor income per capita among Indian states correlate strongly with drug usage; however, inequality correlates strongly with drug usage in the advanced economies. On mental health, Figure 7 shows that the effects of inequality and income per capita remain similar across the Indian states and the advanced economies.

Figure 1: Correlation of inequality and growth (as reflected in income per capita) with health outcomes: India versus Advanced Economies

States in India



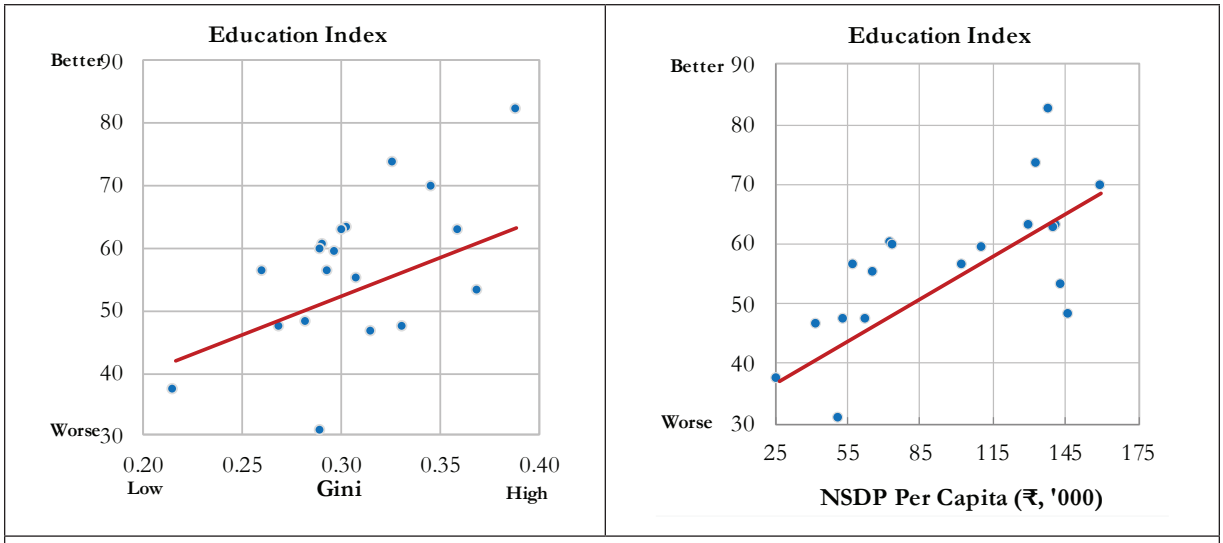
Advanced Economies



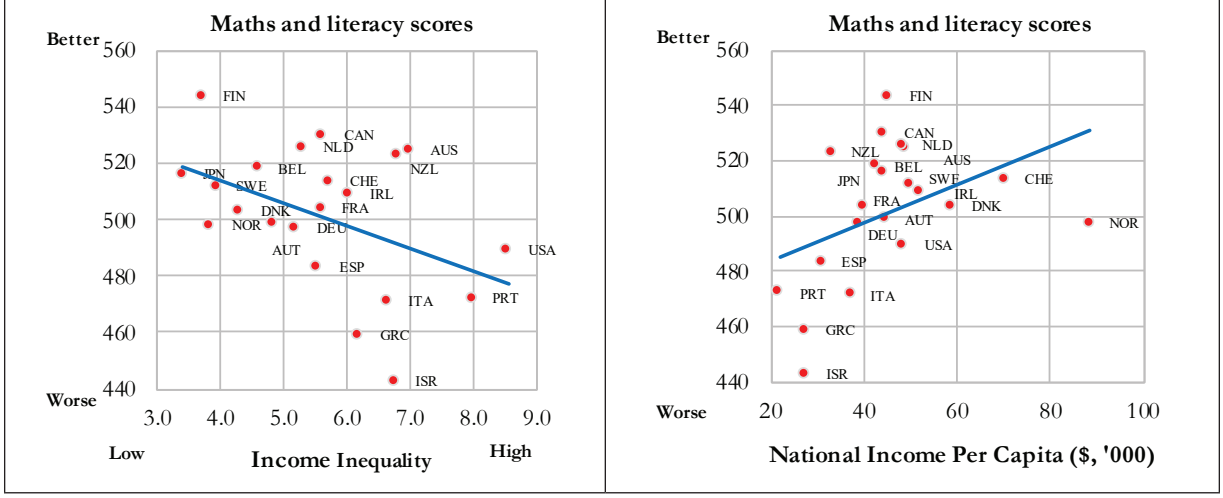
Source: States in India: Health Index (2017-18) is from NITI Aayog, Inequality is measured by the Gini coefficient based on consumption (from NSS database 2011) and growth by per capita Net State Domestic Product (NSDP) 2017-18 in Rupees at constant prices, MoSPI. (Note: Health Index is a composite score incorporating 23 indicators covering key aspects of health sector performance., measured on a scale of 0-100, higher score indicating better performance). Advanced Economies: The index of health and social problems is a composite index including components like distrust, mental illness, life expectancy, and obesity etc (Data for each component is collected from a distinct source, http://www.equalitytrust.org.uk/why/evidence/methods for details on the construction of the Index, and references for all components listed above), Inequality is measured by Average of the 20:20 (the ratio of top 20 per cent to bottom 20 per cent) income inequality published in the United Nations Development Program. Human development reports for years 2003, 2004, 2005, 2006, Oxford University Press: New York.

Figure 2: Correlation of inequality and growth (as reflected in income per capita) with education outcomes: India versus Advanced Economies

States in India



Advanced Economies

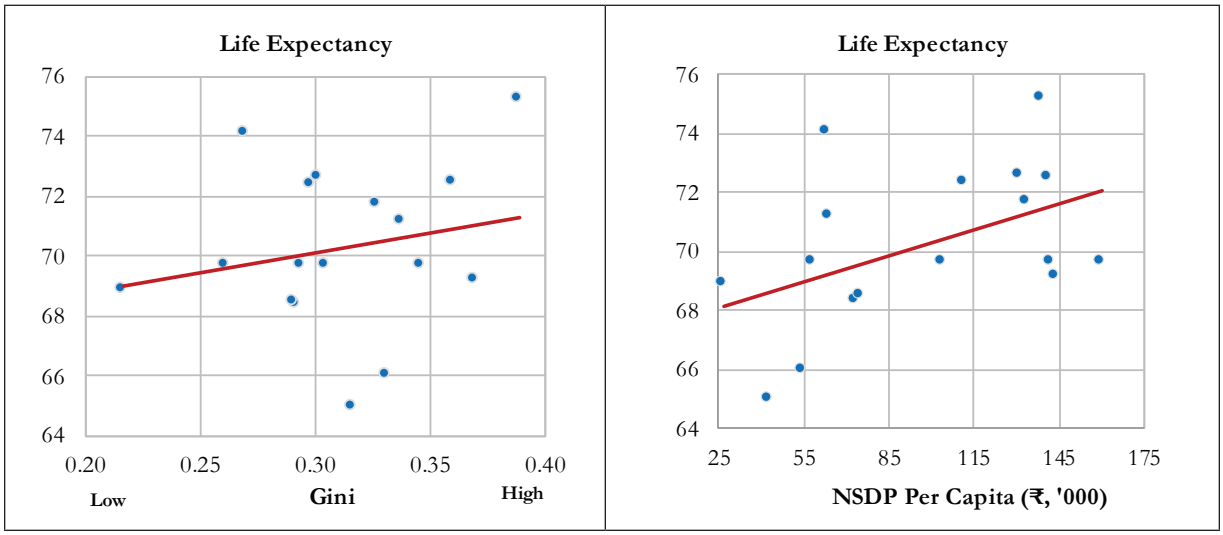


Source: States in India: Education Index (2016-17) from NITI Aayog, (Note: SEQI (School education Quality Index) is based on a set of indicators that measure the overall effectiveness, quality and efficiency of the Indian school education system, measured on a scale of 0-100, higher score indicating better performance). Advanced Economies: Maths and literacy scores (2003) from OECD, Education at a glance 2003, in OECD Indicators. 2004, OECD: Paris.

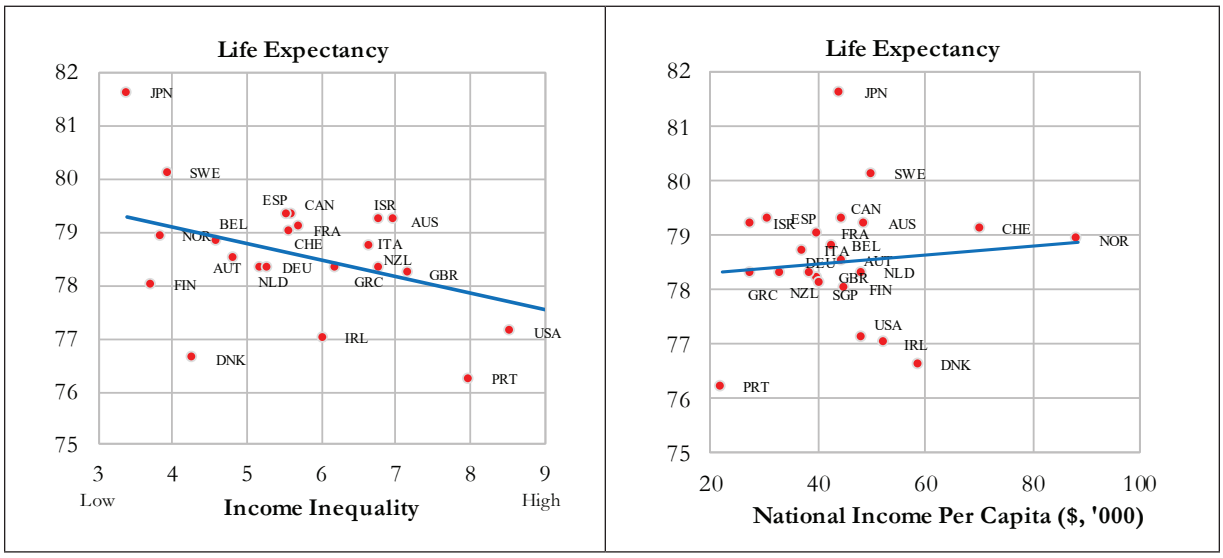
Note: These are the combined maths and reading literacy scores of 15 year olds

Figure 3: Correlation of inequality and growth (as reflected in income per capita) with life expectancy: India versus Advanced Economies

States in India



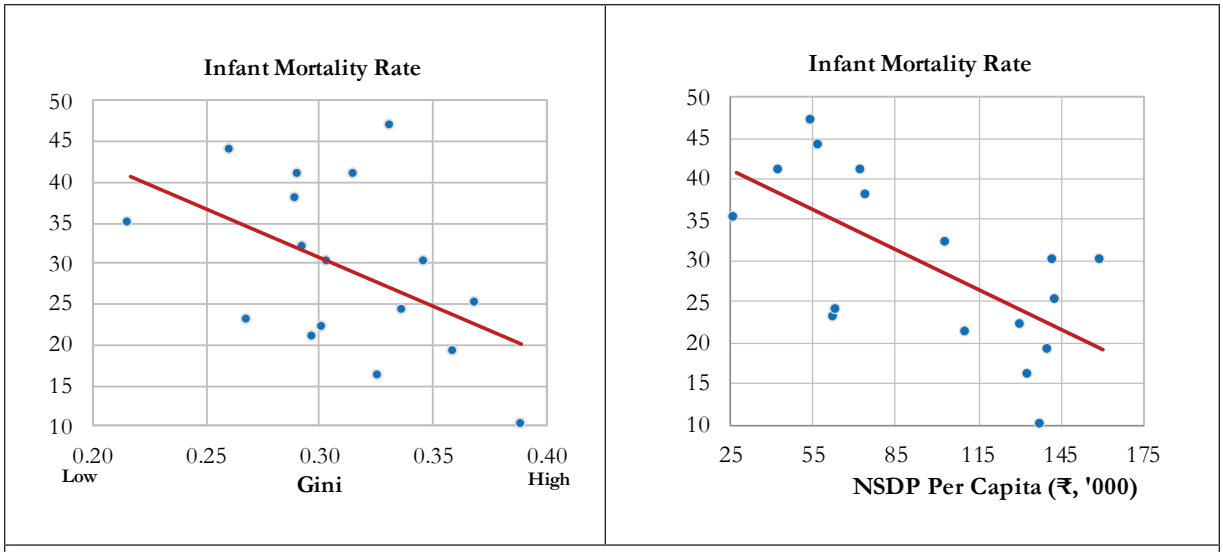
Advanced Economies



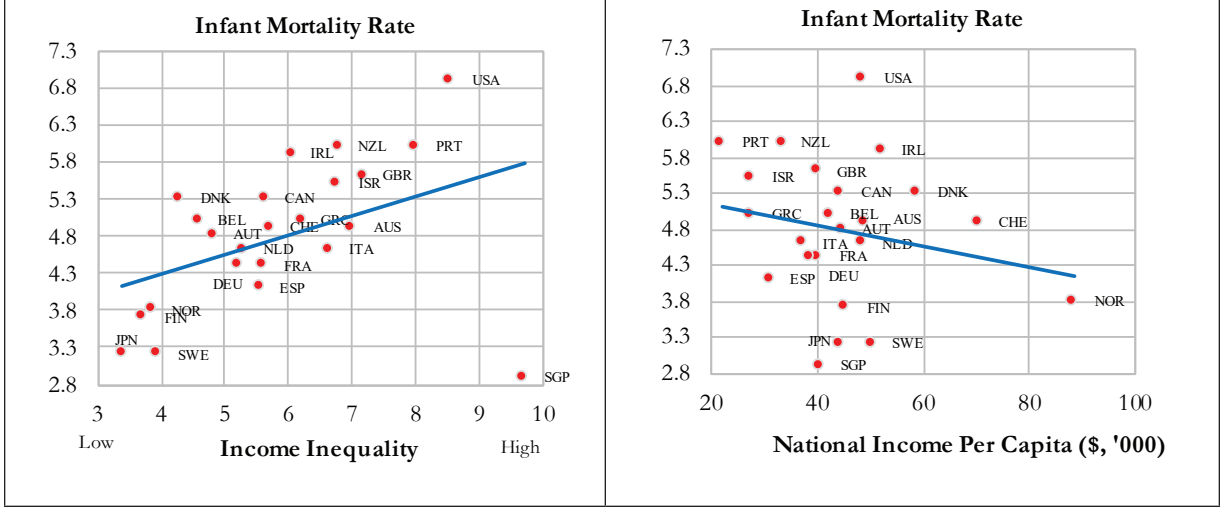
Source: States in India: Life Expectancy (2013-17) from Office of the Registrar General of India, Ministry of Home Affairs. Note: Life expectancy at birth indicates the number of years a new born infant would live if prevailing patterns of mortality at the time of its birth were to stay the same throughout its life. Advanced Economies: UN Human Development Report (2004).

Figure 4: Correlation of inequality and growth (as reflected in income per capita) with infant mortality: India versus Advanced Economies

States in India



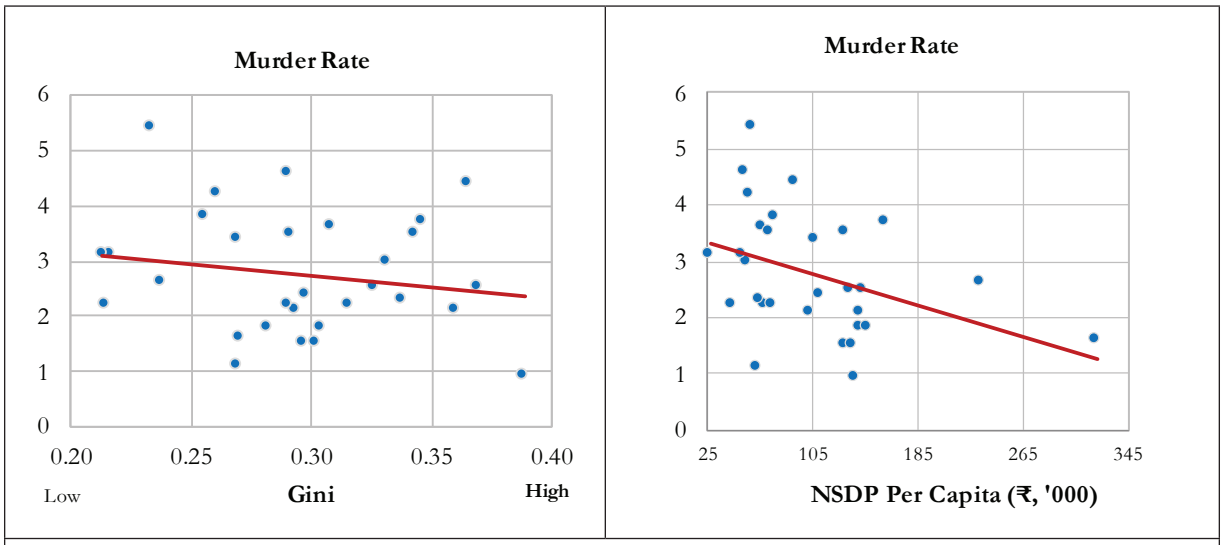
Advanced Economies



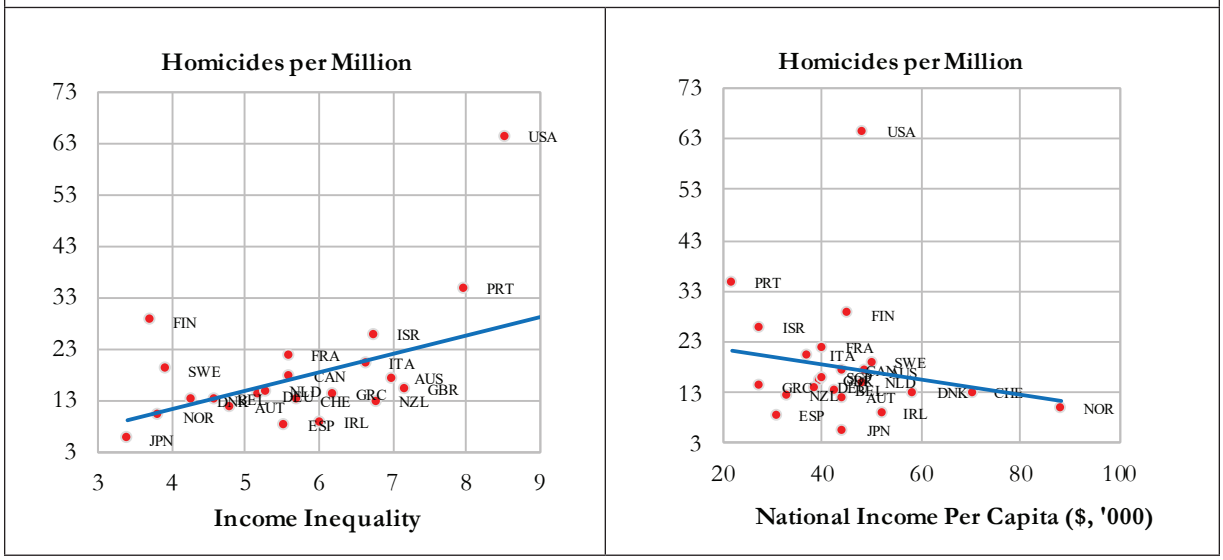
Source: States in India: Infant Mortality Rate (2017) from Office of the Registrar General of India, Ministry of Home Affairs. Note: It is defined as the infant deaths (less than 1 year) per thousand live births. Advanced Economies: Infant Mortality Rate (2005) from OECD, UNICEF Innocent Research Centre, Child poverty in perspective: An overview of child well-being in rich countries.

Figure 5: Correlation of inequality and growth (as reflected in income per capita) with crimes: India versus Advanced Economies

States in India



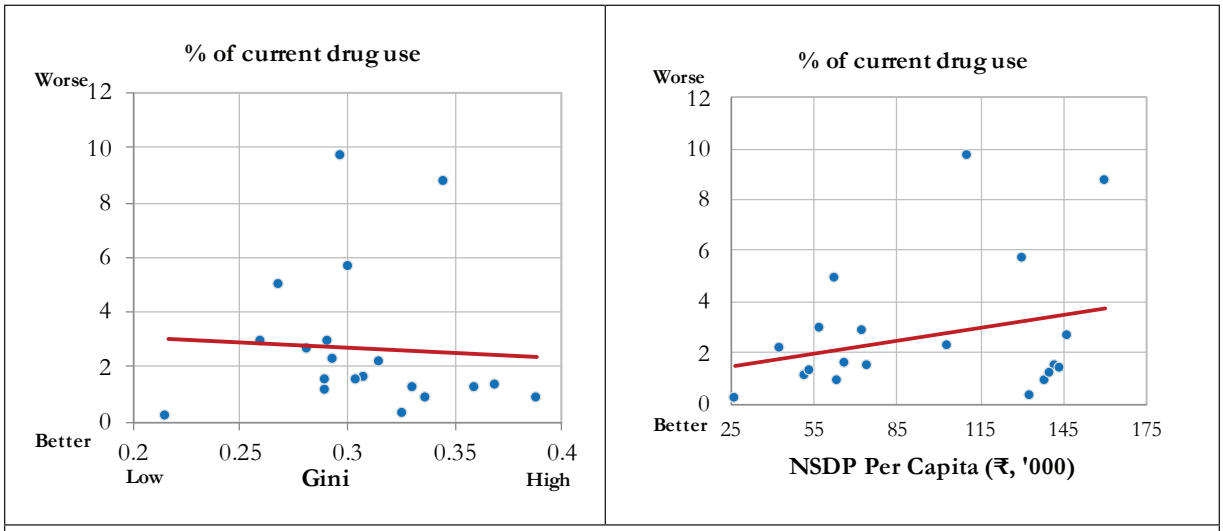
Advanced Economies



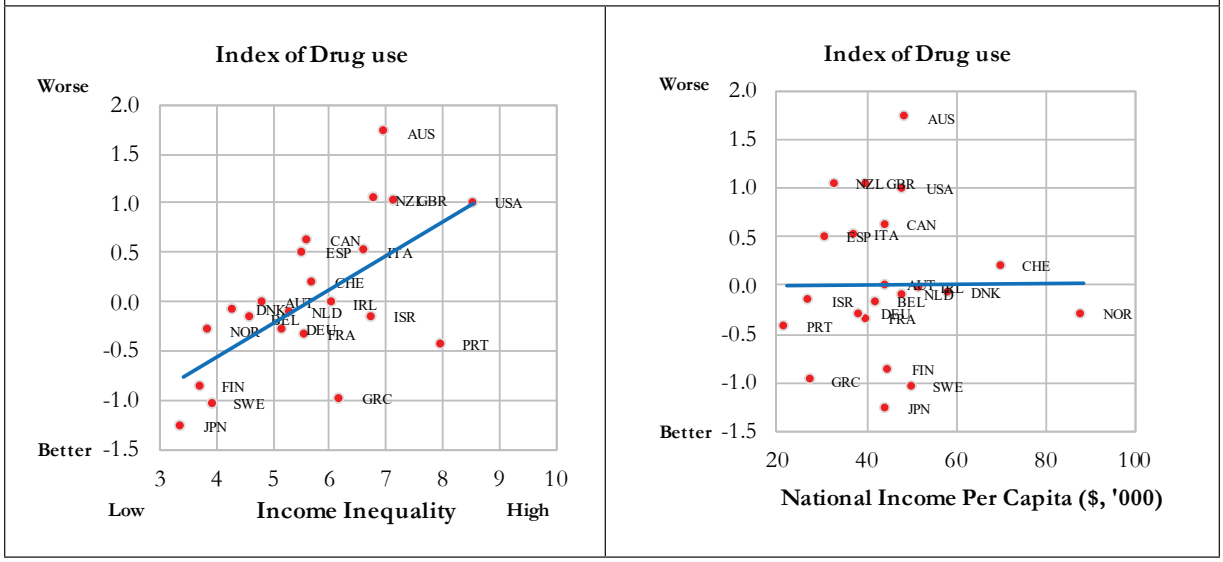
Source: States in India: Crime data (2015) from National Crime Records Bureau, Ministry of Home Affairs. Advanced Economies: Homicides per million, period average for 1999-2000, United Nations Crime and Justice Information Network.

Figure 6: Correlation of inequality and growth (as reflected in income per capita) with drug usage: India versus Advanced Economies

States in India



Advanced Economies

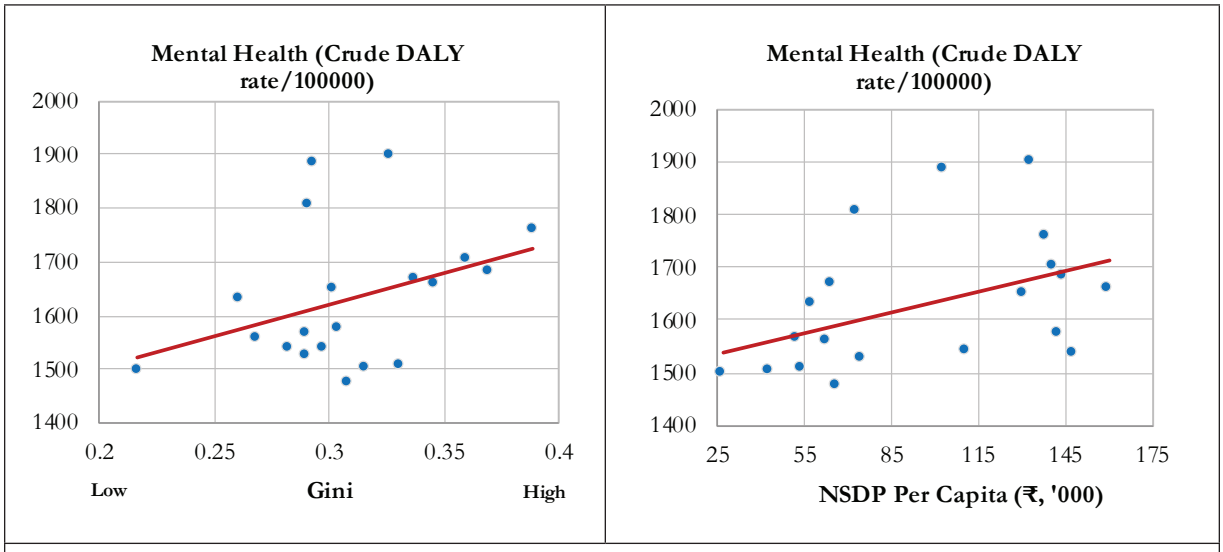


Source: States in India: Drug usage data (2018), Magnitude of Substance Use in India, Ministry of Social Justice and Empowerment, Government of India (2019). Note: Opioids consumption data is used. OPIOIDS refers to Opium (including doda/phukki/poppy husk), Heroin (including brown sugar/smack) and Pharmaceutical Opioids. Current use of any substance is defined as use (even once) within preceding 12 months unless specified. Advanced Economies: United Nations Office on Drugs and Crime (2007).

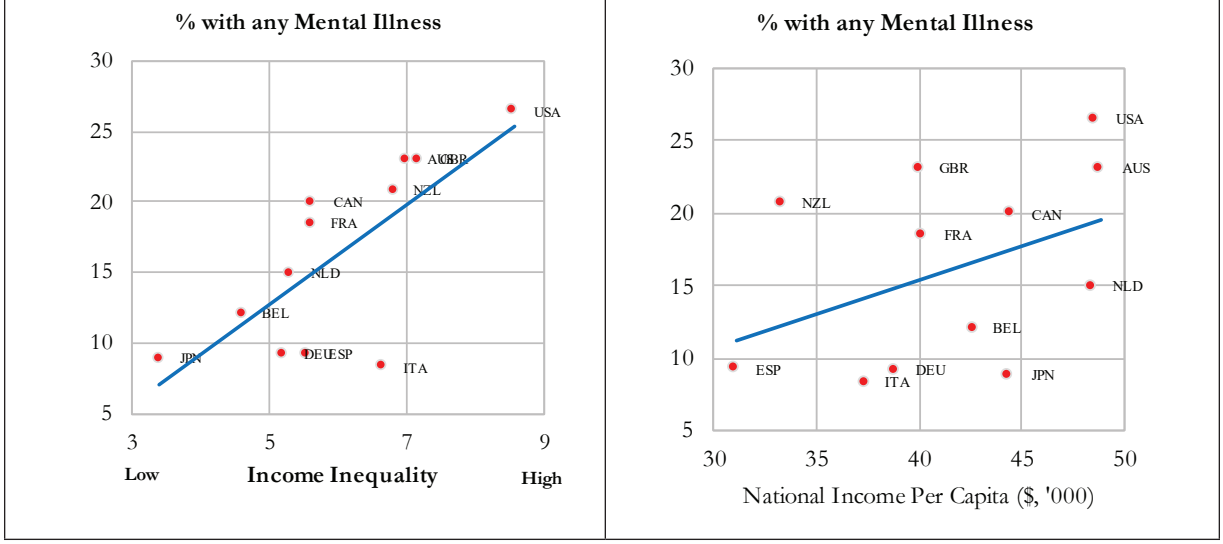
Note: It is an index of opiate, cocaine, cannabis, ecstasy and amphetamine use (average z-scores).

Figure 7: Correlation of inequality and growth (as reflected in income per capita) with mental health outcomes: India versus Advanced Economies

States in India



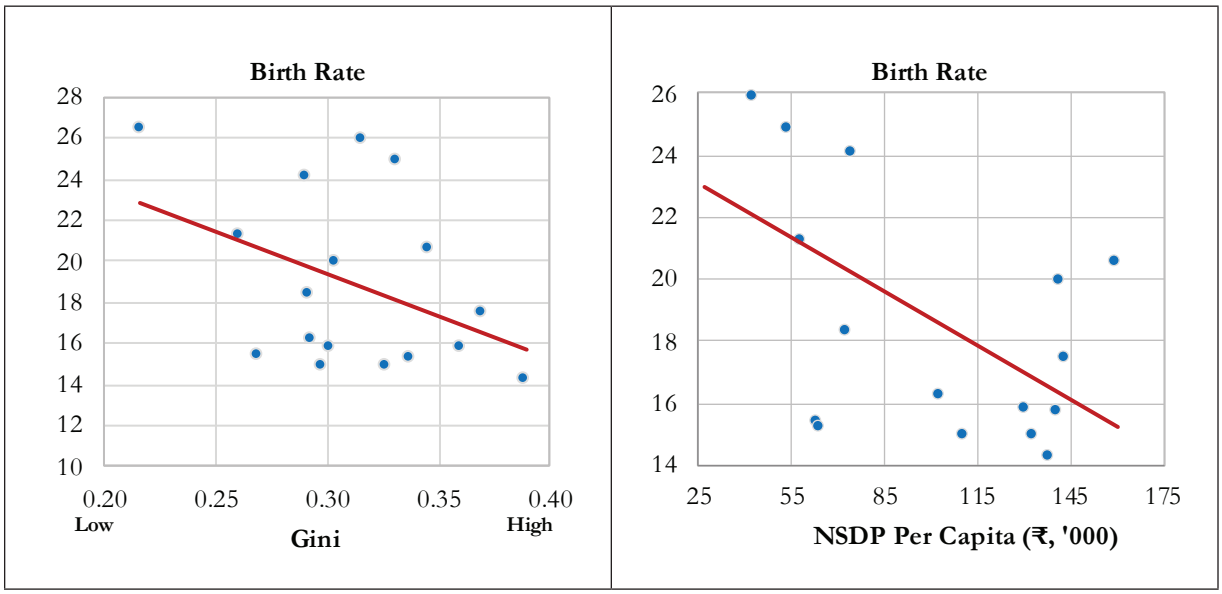
Advanced Economies



Source: States in India: Mental Health data (2017), Lancet Psychiatry (2020). The burden of mental disorders across the states of India: the Global Burden of Disease Study 1990–2017. Note: the mental health indicator is a composite indicator including Crude DALY i.e. (The disability-adjusted life year)- a measure of overall disease burden, expressed as the number of years lost due to ill-health- from various mental issues like depressive disorders, anxiety disorders. Advanced Economies: Mental Illness (2001-2003), World Health Organization and official national surveys for Australia, New Zealand and Canada.
Note: This measures the prevalence of any mental illness in previous 12 months in adults.

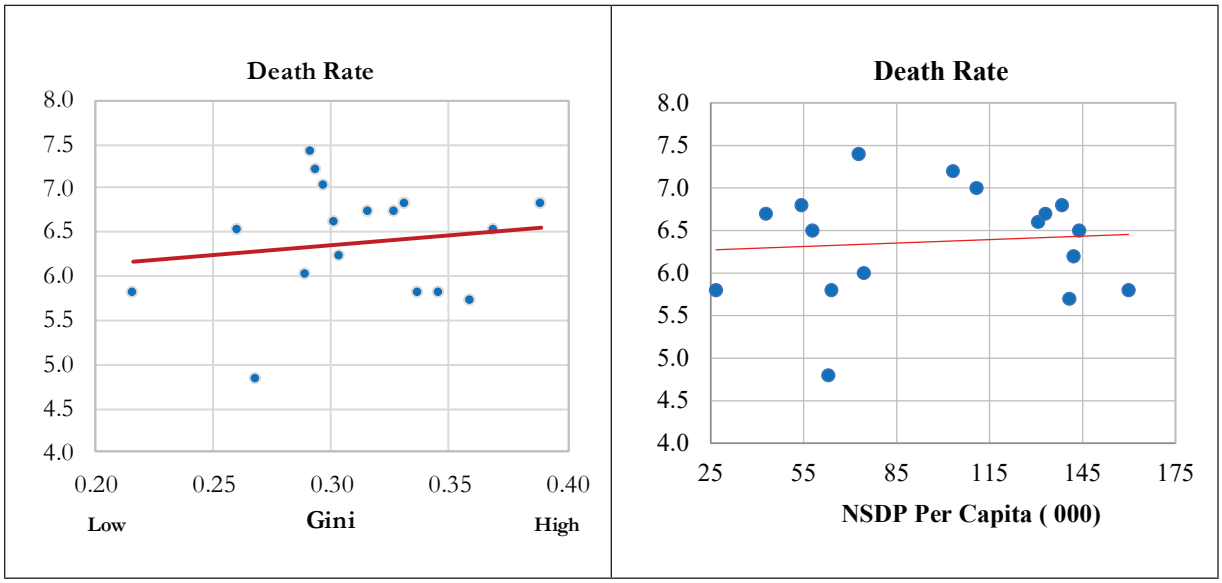
4.6 In addition, figures 8-10 use birth, death and fertility rates to argument the finding that inequality and income per capita correlate similarly with socio-economic outcomes across the Indian states. While birth and fertility rates decline with inequality and income per capita, death rates do not correlate with either inequality or income per capita.

Figure 8: Correlation of inequality and growth (as reflected in income per capita) with birth rate in Indian States



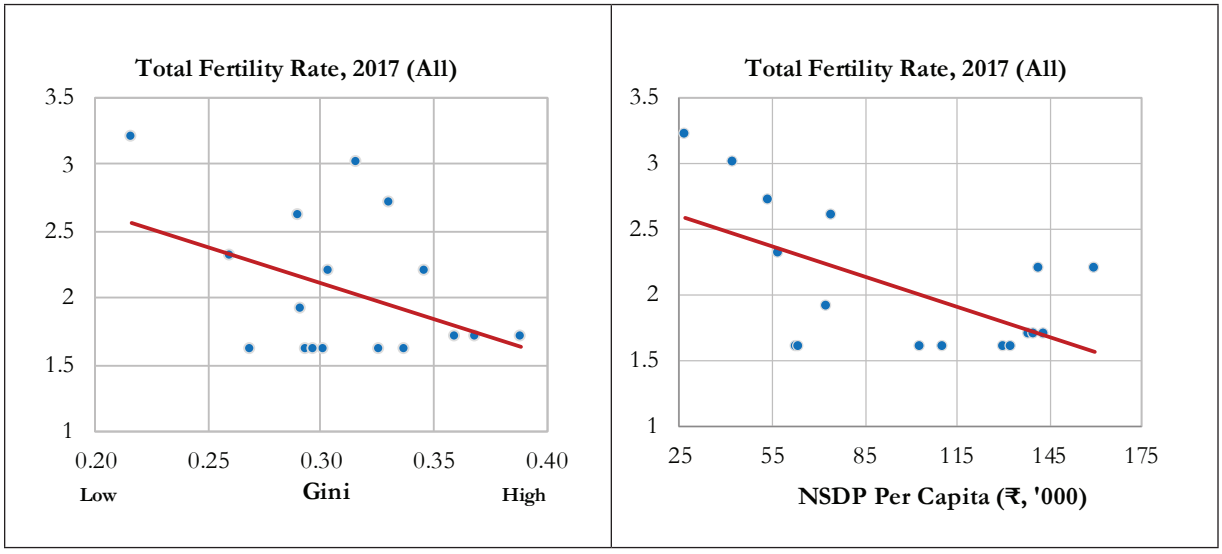
Source: Birth Rate (2017) from Office of the Registrar General of India, Ministry of Home Affairs

Figure 9: Correlation of inequality and growth (as reflected in income per capita) with death rate in Indian States



Source: Death Rate (2017) from Office of the Registrar General of India, Ministry of Home Affairs

Figure 10: Correlation of inequality and growth (as reflected in income per capita) with total fertility rate in Indian States



Source: Total fertility rate (2017) from Office of the Registrar General of India, Ministry of Home Affairs

Are the patterns similar across different types and measures of inequality and different time periods?

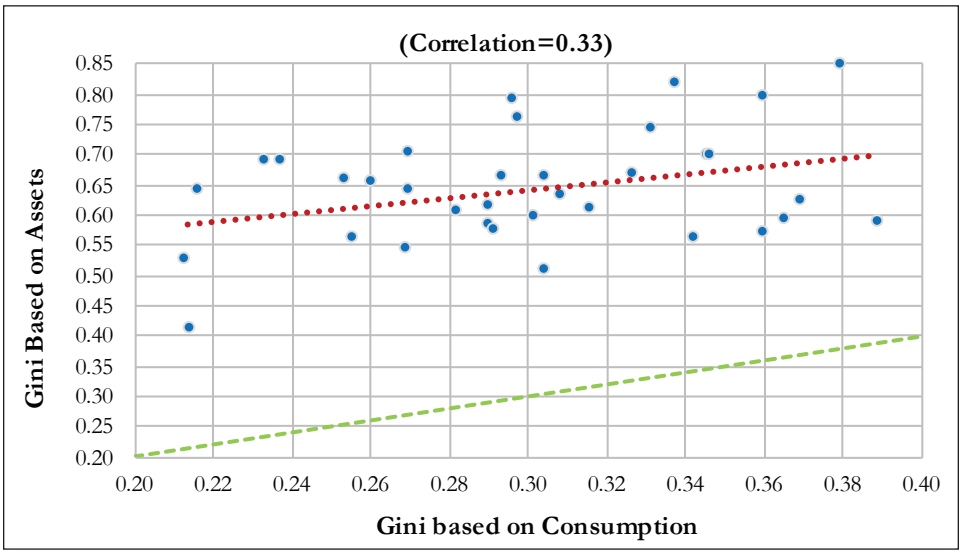
4.7 Figure 11 depicts the relationship between the two types of inequality in Indian states i.e., the inequality in the ownership of asset measured by the Gini coefficients based of assets and inequality of consumption measured by the consumption based Gini. The graph suggests a weak positive (0.33) relationship between the two inequalities in India, implying that the states with greater consumption inequality are the ones facing greater asset inequality as well. Further, the line of equality or the 45º line is used to conclude that in Indian states, asset inequality is much higher than consumption inequality as the all the data points lie far above the line of perfect equality. Inequality of consumption is what matters the most rather than inequality of assets or inequality of income. The permanent income hypothesis posits that individuals and households attempt to smooth their consumption over time by borrowing or saving. Thus, while the income of an individual varies from year to year, consumption is more permanent as individuals tend to smooth their consumption over time. Measures of calculating income do not take into consideration all the available resources that result into well-being. Further, savings and borrowing practices vary across the income groups as the propensity to save is typically higher among the rich than among the poor. Therefore, inequality of income does not reflect the true inequality that individuals and households as consumers encounter.[2] Second, in the context of inequality, the divergence in assets among the rich and the poor do not necessarily correlate strongly with the divergence in consumption (Cochrane, 2020).

4.8 As shown in Appendix A, the correlation between socio-economic indicators and inequality are robust irrespective of the measure of inequality used - Gini coefficient based on

[2]Meyer Bruce. When It Comes to Inequality Consumption is What Matters. Income Inequality in America: Myths and Facts. https://economics21.org/html/when-it-comes-inequality-consumption-what-matters-978.html

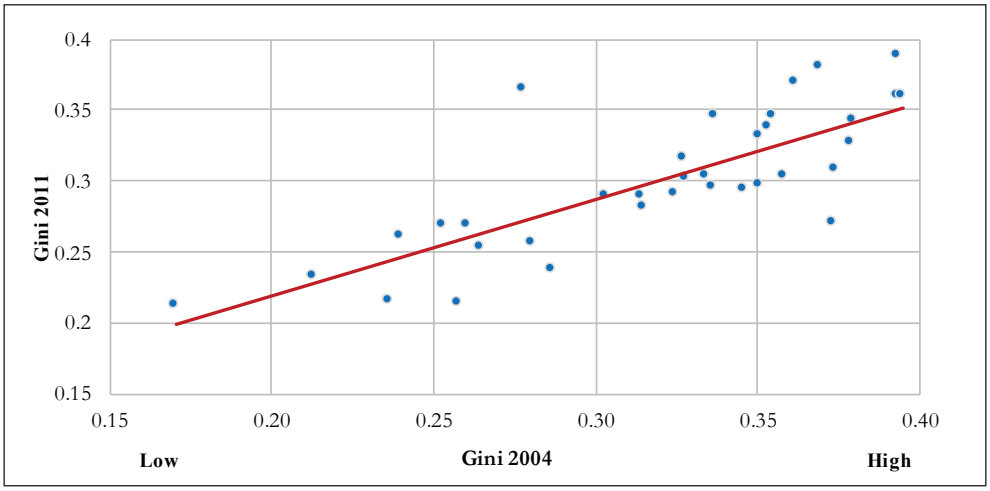
assets or the ratio of the consumption of top 5 per cent of the population to bottom 5 per cent of the population. Also, the relationships remain similar across different time periods. Figure 12 highlights the strong positive correlation between the inequality in 2004 with inequality in 2011. The states which had lower inequality in 2004 also experienced low inequality in 2011 as well and vice versa.

Figure 11: Relationship between consumption inequality and asset inequality among Indian States



Source: Gini based on Assets from All India Debt and Investment Survey (AIDIS) conducted by NSS 70th Round 2012-13, Ratio of top 5 per cent to bottom 5 per cent using MPCE (Monthly per capita expenditure) data from NSS Consumption Surveys

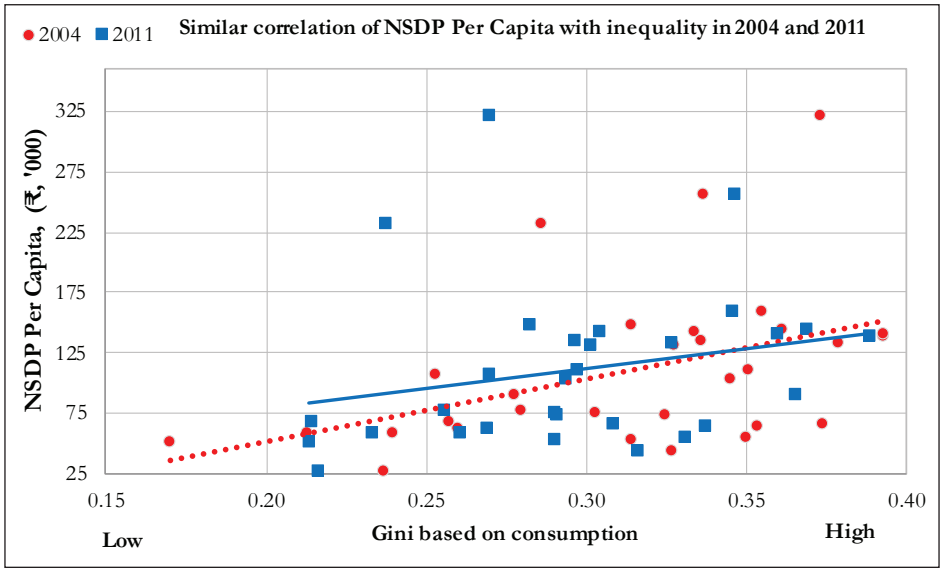
Figure 12: Relationship between consumption based gini coefficient for the year 2004 and gini coefficient for the year 2011 in Indian states



Source: Survey calculations based on NSS consumption expenditure data for 2004-05 and 2011-12.

4.9 Figure 13 shows the correlation between inequality measured by Gini based on consumption for the period 2004 and 2011 with the per capita net state domestic product. The figure showcases that the relationship is almost identical in 2004 and 2011.

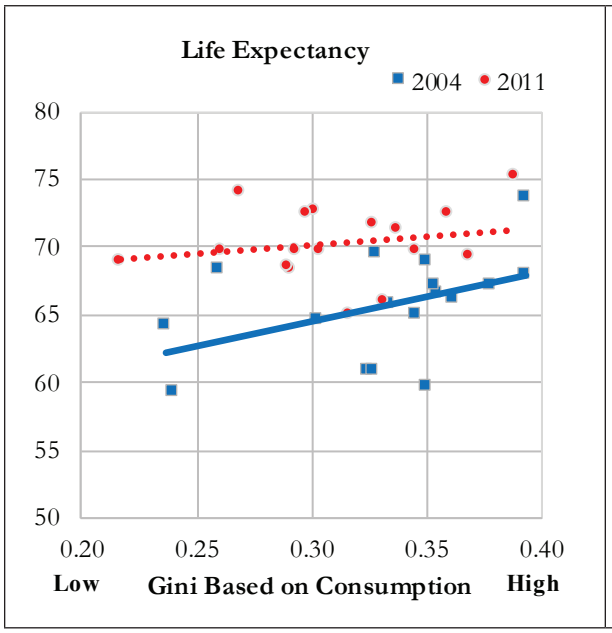
Figure 13: Relationship between NSDP per capita and consumption based gini coefficient, 2004 and 2011 in Indian states



Source: Survey calculations based on NSS consumption expenditure data for 2004-05 and 2011-12and NSDP from MoSPI

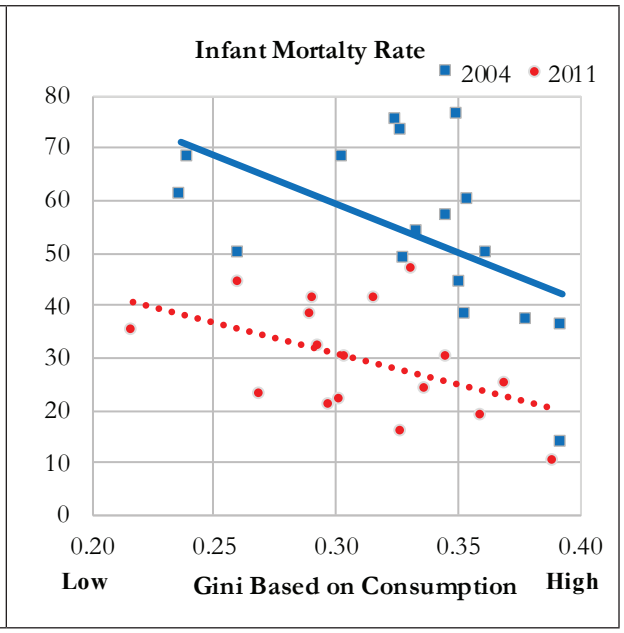
4.10 In the series of graphs below i.e., Figure: 14 (1-5), the correlations between inequality and socio economic outcomes is plotted, which broadly remain similar for 2004 and 2014.

Figure 14 (1): Correlation of inequality and life expectance in the year 2004 and 2011 in Indian states



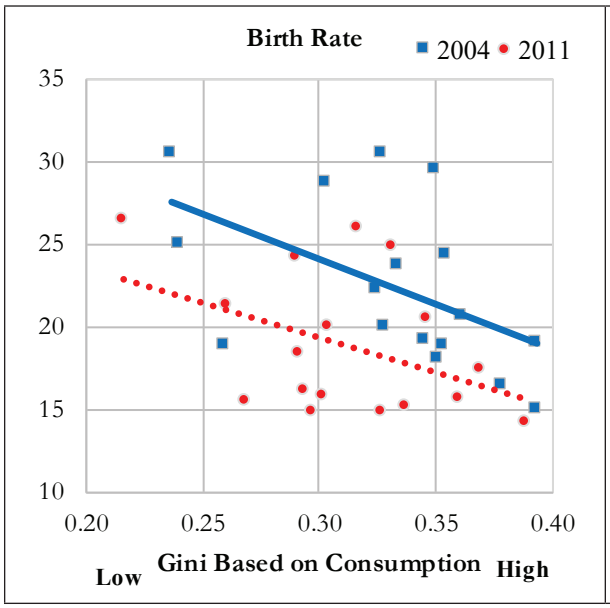
Source: Life Expectancy (2013-17) from Office of the Registrar General of India, Ministry of Home Affairs

Figure 14 (2): Correlation of inequality and infant mortality rates in the year 2004 and 2011 in Indian states



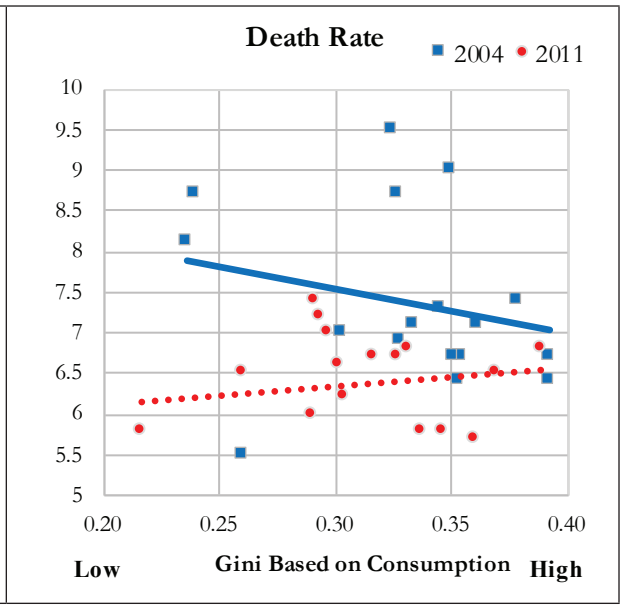
Source: Infant Mortality Rate data (2017) from Office of the Registrar General of India, Ministry of Home Affairs

Figure 14 (3): Correlation of inequality and birth rate in the year 2004 and 2011 in Indian states



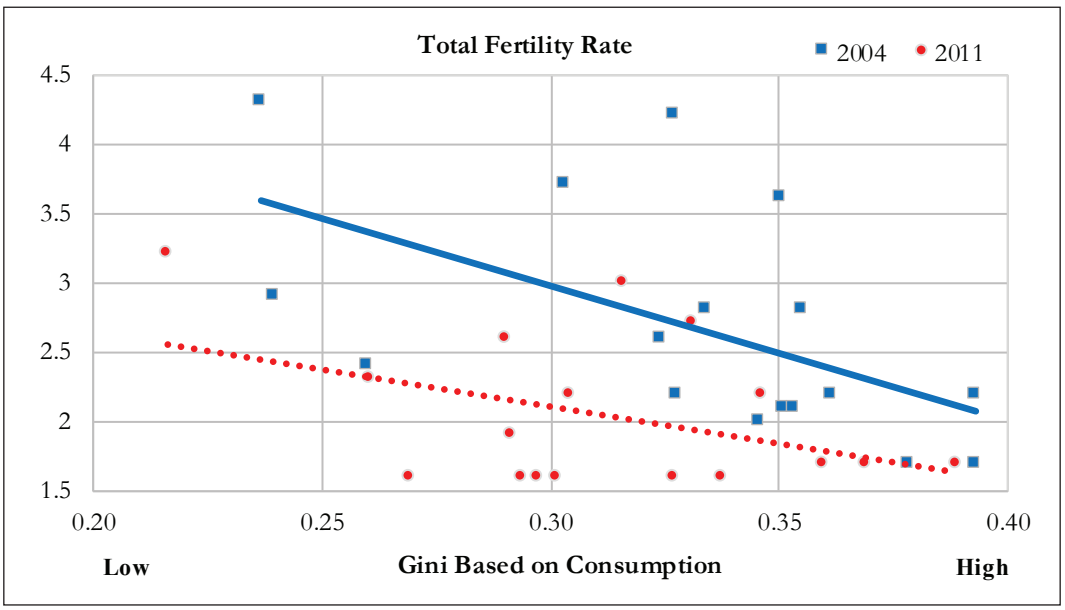
Source: Birth Rate (2017) from Office of the Registrar General of India, Ministry of Home Affairs

Figure 14 (4): Correlation of inequality and death rate in the year 2004 and 2011 in Indian states



Source: Death Rate (2017) from Office of the Registrar General of India, Ministry of Home Affairs

Figure 14 (5): Correlation of inequality and total fertility rate in the year 2004 and 2011 in Indian states



Source: Total Fertility Rate (2017) from Office of the Registrar General of India, Ministry of Home Affairs

4.11 The findings that inequality and income per capita converge in terms of their correlation with socio-economic outcomes, thereby implying the absence of a trade-off between economic growth and inequality, are buttressed by the Chinese experience as well (see Box 1). Thus, the conflict between inequality and economic growth that is observed in advanced economies

does not seem to manifest in countries that have high growth rates and high levels of absolute poverty.

Box 1: POVERTY AND INEQUALITY TRADEOFF IN CHINA

China has made exceptional strides in reducing its extreme poverty rates since 1970s. As per data from China National Bureau of Statistics, the head count ratio of poverty has reduced by 94 per cent from 1980 to 2015 in rural China. By the official poverty line, which is about 21 per cent higher than the line that is set at USD 1.9 per day (2011 PPP), since 1980, the country has made remarkable progress in reducing poverty.

In contrast, the Gini coefficient of income distribution among rural residents in China rose from 0.241 in 1980 to 0.39 in 2011 or by 62 per cent according to the official estimation. In the 32 years between 1980 and 2012, per capita net income among the rural population rose by an annual average of 6.9 per cent. During the period, the income for the bottom 20 per cent and 40 per cent households increased 4.5 per cent and 6 per cent annually respectively, while the top quintile household increased their income at an annual rate of 7.5 per cent, as per World Bank[3]. The huge fall in poverty came from the poorest quintile increasing their annual income over a long time, while the rise in inequality stemmed from top quintile increasing their income much faster than their poor counterparts.

The same World Bank research also argues that benefits of China's sustained economic growth have really trickled down. Accelerating industrialization and urbanization in a country of over one billion people has transformed a large number of the agricultural surplus labor in the countryside into urban employment in China. Between 1978 and 2015, the number of people in nonfarm jobs as a percentage of total employment increased from 29 per cent to 70 per cent. This change also occurred in poor areas and to poor households. Official data indicates that, while the number of those that moved away for nonfarm jobs out as a percentage of the total size of the local labor populations was slightly lower in poverty-stricken areas than in the nation as a whole, the gap between the growth rates of the number of people shifting to nonfarm jobs in poor areas and in the nation as a whole was reduced to close to zero for the 1996-2009 period. Between 2002 and the end of 2012, earnings from wage and salaries as a percentage of total household income rose from 26 per cent to 43 per cent for rural households in the bottom 20 percentile, at a rate that was roughly comparable to the national average. Evidently, low-income rural households have benefitted proportionally from the changes in the country's employment pattern engendered by the dual process of industrialization and urbanization.

This was also aided by a good system of equal land ownership reforms, social development programs in rural areas since 2000 (including universal compulsory education up to grade 9, rural medical cooperative system, social pension system for rural residents, and a minimum living allowance scheme) and targeted poverty reduction programs, in place nationally since 1986. China is now on road to end extreme poverty by 2030.

[3]Wu, Guobao. 2016. 'Ending poverty in China: What explains great poverty reduction and a simultaneous increase in inequality in rural areas?'. World Bank blogs. (Ending poverty in China: What explains great poverty reduction and a simultaneous increase in inequality in rural areas? (worldbank.org))

IS PERFECT EQUALITY OPTIMAL?

4.12 Having established that inequality and income per capita do not diverge in their relationship with socio-economic outcomes in India, now it is worth asking : is perfect equality optimal? In most cases, inequality of opportunity is much more objectionable than inequality of outcomes, as individuals' opportunities are influenced by endowments that are related to parents and other adults, peers, and a variety of chance occurrences throughout their lifetimes.

4.13 Note that perfect equalisation of outcomes ex-post, i.e., after the efforts have been exerted to obtain those outcomes, can reduce individuals' incentives for work, innovation and wealth creation. A benevolent social planner seeks to maximize aggregate welfare: an economy in which each individual possesses 2 units of wealth is preferable to one in which each individual possesses only 1 unit of wealth. This is true even if the planner assigns greater weight to the poor than the rich, i.e., the planner's social welfare function depends on not just the size of the pie but also how it is distributed.

4.14 In sum, for a developing country such as India, where the growth potential is high and the scope for poverty reduction is also significant, a policy that lifts the poor out of poverty by expanding the overall pie is preferable as redistribution is only feasible if the size of the economic pie grows rapidly.

Box 2: How do people view inequality: Fairness, self-interest and morality

Do people aspire for a perfectly equal society? Experimental evidence suggests that this idea is surprisingly uncertain. Norton and Ariely (2011) conducted a study in the U.S. where participants were shown three pie charts picturing the wealth distribution of hypothetical countries: a perfectly equal one, one with moderate levels of inequality (inspired by Sweden) and an unequal one (representing the U.S.). Most participants chose the second option as the nation they preferred to live in, thus expressing their desire for *some* inequality. Moreover, when describing their ideal world, they reportedly wished for the richest quintile of the U.S. to own about 32 per cent of total wealth, more than three times the wealth they wished for the poorest quintile. It appears that even when imagining an ideal world, people aim for social stratification. This phenomenon manifests when the subjects are asked not only about distribution of income, but also wealth and CEO-worker pay gaps. Kiatpongsan and Norton (2014) show that Americans wish for a ratio of 7:1 in CEO-worker pay gaps so that a CEO should ideally earn $7 for every $1 earned by a factory worker[4]. Ironically, what leads people to choose a moderate level of inequality is their sense of fairness reflected in the idea that people with certain inherent characteristics and abilities deserve more than others.

However, inequality in reality is far worse that what people desire. Yet, why does it persist in a democratic polity? If people were made more aware about the reality of where they stand in the income ladder, would that generate a societal preference for redistribution to reduce inequality? Hauser et al. (2016) study this question in the U.S. in groups of five participants who played a public goods game. Players in the game were assigned an 'income' reflecting each quintile in the U.S. Then, participants contributed to a common pool and were given the possibility to punish and reward fellow

[4]Kiatpongsan S, Norton M. 2014. How much (more) should CEOs make? A universal desire for more equal pay. Perspectives on Psychological Science; 9(6): p. 587-593

players, if they believed that someone contributed more or less than they should. Results showed that when participants were aware of the income of the other players, they rewarded poorer participants and punished richer ones. This leads us to believe that information – at least in contexts and societies similar to the U.S. – could be the key to the issue of redistribution and inequality. However, this strategy, however, seems to be successful only when it is self-serving: when people learn that they are overestimating their own position in the distribution, i.e. they are poorer than what they believed, they lend more support to redistribution. Those who underestimate their position, i.e. they are richer than what they believed, instead, support redistribution less, especially when they believe that their position in the distribution stems from their personal effort. This evidence is consistent with other research investigating self-interest theories: people will tolerate, support or reject inequality depending on what favours their own position (Curtis and Andersen, 2015; Katadija et al. 2017).

INEQUALITY OR POVERTY?

4.15 Inequality needs to be distinguished from poverty. Inequality refers to the degree of dispersion in the distribution of assets, income or consumption. Poverty refers to the assets, income or consumption of those at the bottom of the distribution. Poverty could be conceptualised in relative terms or in absolute terms. People feel themselves to be poor, and think others to be poor if they have substantially less than what is commonplace among others in their society. Poverty, in this view, is relative deprivation. (Brady 2003; Iceland 2003). If the poverty is conceptualized in relative terms, there is no need to distinguish it from inequality. A relative measure of poverty is indeed a measure of inequality.

4.16 On the other hand, if poverty is conceptualized in an absolute sense, that is, focusing on the absolute levels of assets, income or consumption of those at the low end of the distribution, then increases in inequality may be accompanied by reduction in poverty. Feldstein (1999) disagrees with the common reaction of the popular press and academic discussions that regards inequality and not poverty as the problem. He postulates that policy should aim at addressing poverty rather than inequality. He explains with an example of a magic bird providing $1000 to each of the Public Interest (the journal in which Feldstein's article was published) subscriber, everyone would see it as a good thing. However, since each subscriber has greater average-income, it will result into greater inequality in the nation. Feldstein finds it inaccurate to contemplate the $1000 bonanza as morally suspect.

4.17 The Feldstein-type challenge is consistent with a variety of other views about distributive justice. Perhaps the best known is that of John Rawls (1971). Rawls argued that the most reasonable way to decide upon a fair distributive principle is to imagine that you must make this decision knowing you will be born into the world but not knowing anything about what your assets and characteristics – intelligence, personality traits, parents, neighbourhood, gender, skin colour, etc. – will be. Rawls referred to this hypothetical scenario as the "original position." He suggested that in such a situation a rational person would choose a distributive principle requiring that any increase in inequality increase the income of those at the bottom. In Feldstein's example, according to the Rawlsian criterion the $1,000 windfall given to the well-to-do would only be justifiable if it was accompanied by some increase for those at the low end. Rawls's distributive principle is a "maximin" one: whatever distribution maximizes the income of the poorest (and provides basic liberties) is to be preferred.

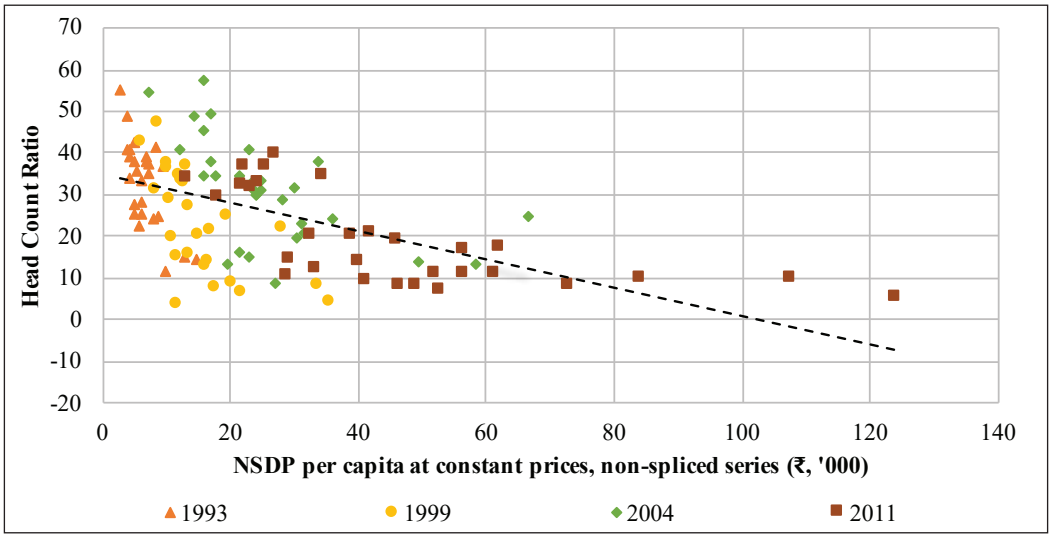
4.18 Experimental evidence suggests that the maximin principle is not how people in the "original position" would choose. In experiments in which five or so participants are placed in a situation approximating Rawls' "original position," most participants do not choose based on this distributive principle. Instead, they choose a principle in which the average income is maximized with a floor under the incomes of those at the bottom (Frohlich, Oppenheimer, and Eavey, 1987). In this view, as long as the poor have "adequate" incomes, an increase in the incomes of the rich need not benefit the poor to be considered just. The results of such experiments suggest that (absolute) poverty should be of greater concern than inequality.

4.19 Of course, it is possible that if the incomes of the rich pull too far away from the rest of society, growing frustration may lead to rising crime, withdrawal from civic engagement, and loss of social cohesion (Krugman 2002). In this context, the evidence provided in Section 2 above against the conflict between inequality and income per capita among the Indian states suggests that at the level of development that India is currently in, the focus on poverty alleviation through growth must be central to India's economic strategy.

RELATIVE IMPACT OF ECONOMIC GROWTH AND INEQUALITY ON POVERTY IN INDIA

4.20 Given the above discussion, which highlights that poverty alleviation through growth must remain the economic focus for India, this section examines whether income per capita or inequality impacts poverty the most in India. The correlations between income and poverty and inequality and poverty in the Indian states is estimated. To analyse the relationship between income and poverty, per capita NSDP (actual series and spliced series) and the official head count ratio are plotted (Figure 15-16). The data for four years (1993, 1999, 2004 and 2011) suggests an overall strong negative relationship, implying that the states with greater income or high per capita NSDP experienced low rates of poverty and vice versa. However, such strong

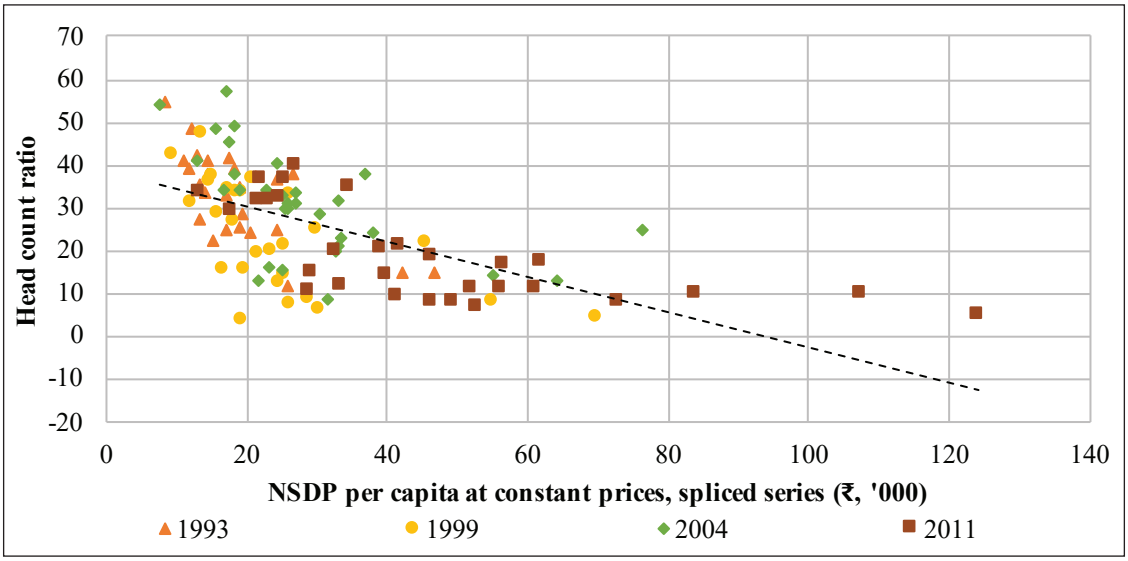
Figure 15: Relationship between income (NSDP per capita at constant prices, non-spliced series (INR)) and poverty (Head count ratio) in Indian states



Source: Survey calculations based on MoSPI data on NSDP and official poverty estimates of erstwhile Planning Commission.

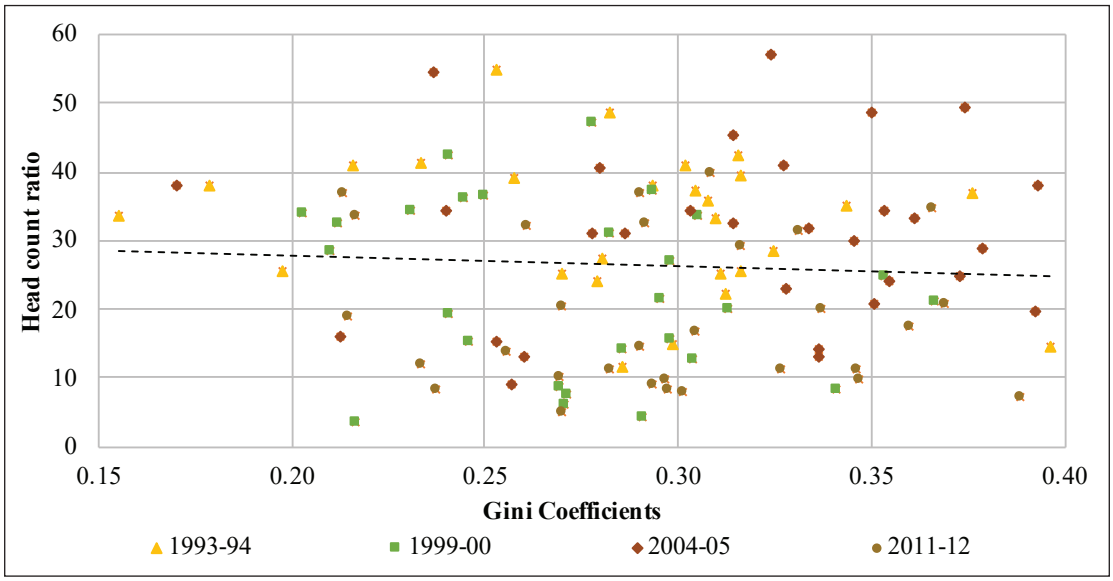
relationship is absent between inequality and poverty. As illustrated in Figure 17, there does not exist any correlation between inequality and poverty among the Indian states leading to an ambiguous conclusion.

Figure 16: Relationship between income (NSDP per capita at constant prices, spliced series (INR)) and poverty (Head count ratio) in Indian states



Source: Survey calculations based on MoSPI data on NSDP and official poverty estimates of erstwhile Planning Commission.

Figure 17: Relationship between inequality (Gini based on consumption) and poverty (Head count ratio) in Indian states



Source: Survey calculations based on NSS consumption round data for various thick rounds and official poverty estimates of erstwhile Planning Commission.

4.21 Using a panel of 21 states for 4 years, 1993-94, 2004-05, 2009-10 and 2011-12, the relationship between economic growth and poverty is analysed (Table 1)[5]. The variables used in the regression are as defined in Box 3.

Table 1: Impact of Economic Growth on Poverty

Dependent variable is log of Head Count Ratio:	Rural+Urban		Rural		Urban	
Ln (Real NSDP per capita)	-0.453***	-0.711*	-0.448***	-0.650*	-0.445***	-0.623*
	(-4.76)	(-2.47)	(-3.78)	(-2.16)	(-4.86)	(-2.28)
Ln(Real Government Welfare		-0.149**		-0.144**		-0.176***
expenditure per BPL family)		(-3.54)		(-3.29)		(-4.42)
Inflation rate (in percent)		-0.0014		-0.00145		-0.00157
		(-0.52)		(-0.51)		(-0.61)
Rich to poor ratio of MPCE		0.595*		0.618*		0.406
		(2.23)		(2.22)		(1.6)
Literacy rate percent (in 1991)		-0.00232		-0.00604		0.00491
		(-0.17)		(-0.43)		(0.38)
Life expectancy at		0.0281		0.0482		-0.0178
birth-years (in 1991)		(0.69)		(1.13)		(-0.46)
Gini for land		-3.385		-4.972		0.595
distribution (in 1991)		(-1.01)		(-1.42)		(0.19)
State Fixed Effects	Yes	Yes	Yes	Yes	Yes	Yes
R-squared	0.27	0.38	0.19	0.31	0.28	0.44
N	84	63	84	63	84	63

t-statistics in parentheses; * p<0.05, **p<0.01, *** p<0.001

Box 3: Sources and definitions of variables used in panel regressions in Table 1

- The fraction of population below the poverty line, measured in terms of headcount ratio (POVR), estimated by Tendulkar Committee for 2011-12 (erstwhile Planning Commission) is used as the dependent variable.
- For income, real per capita Net State Domestic Product (PCY) at 2011-12 prices is sourced from Ministry of Statistics and Programme Implementation.
- Consumer Price Index for Agriculture Labour (base = 1986-87) sourced from Labour Bureau is taken as measure of inflation rate (INF).
- Cumulative average of social sector expenditure (EXP) by states per below poverty line person for the years 1993-94, 2004-05, 2009-10 and 2011-12 is sourced from Reserve Bank of India reports on Handbook of Statistics on State Government Finances and State Finances: A Study of State Budgets. Cumulative average captures the accumulated effect of public sector expenditure on poverty better compared to the expenditure in a particular year.

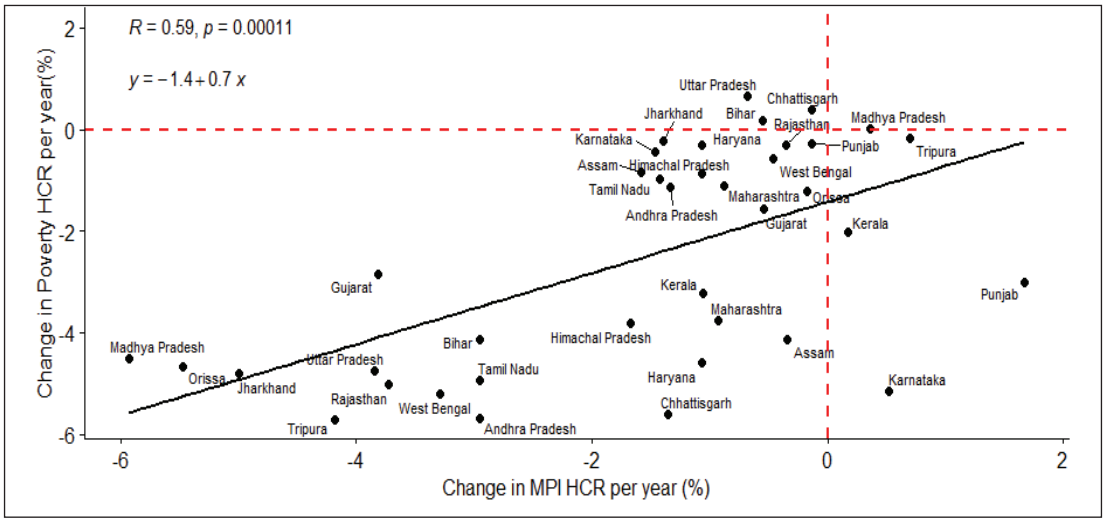
[5]Based on availability of data, 21 major states were covered, excluding Union Territories, North Eastern States except Tripura, Goa and Jammu & Kashmir. Because of the issues of comparability, as the design of the 55th round 1999-2000 questionnaire was different from that in earlier rounds, estimates of poverty for 1999-2000 are not used in the analysis.

- Rich to poor ratio (INQ) is taken as a measure of inequality from the study by Chauhan et. al. (2015) defined as ratio of richest to the poorest consumption quintile for 1993-94, 2004-05, and 2011-12.
- To control for initial level of development, Gini coefficient for land distribution (LAND) sourced from National Sample Survey Office report on Operational Land Holdings in India 1991-92, literacy rate (LIT) from Census 1991, and life expectancy (LIFE), 1991 are taken from Sample Registration System, Bulletin.

4.22 To shed light on post 2011-12 evidence on the impact of economic growth on poverty, the information on multidimensional poverty headcount ratio from Global Multi-dimensional Poverty Report 2018 for 2005-06 and 2015-16, and from Alkire and Seth (2013) for the year 1998-99 is used. MPI is based on three dimensions – education, health and standard of living – using ten indicators viz; education attainment, year of education; nutrition and mortality; and electricity, drinking water, sanitation, cooking gas, housing, and assets. Headcount ratio counts persons as multi-dimensionally poor if their composite score is more than 0.33. HCR of MPI is interpreted as proportion of population that is multi-dimensionally poor.

4.23 First, note that states that witnessed large reduction in poverty, using the official estimates based on consumption, experience proportional reductions in multi-dimensional poverty as well. Figure 18 plots state's values of change in MP-HCR per year against change in this measure of poverty HCR per year.[6] The regression line shows that the association between MPI and poverty has been positive. It indicates that improvement in poverty also alleviates poverty measured along multiple dimensions and vice versa.

Figure 18: Correlation between poverty based on consumption and multi-dimensional poverty

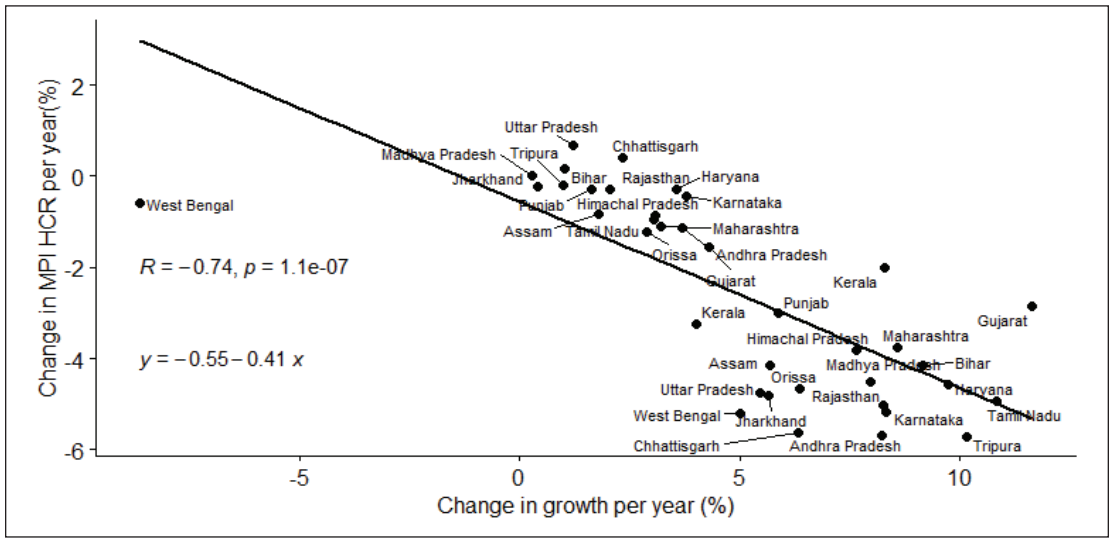


Source: Survey calculations based on official poverty estimates of erstwhile Planning Commission and MPI.

[6]The change in poverty HCR is calculated between '1993-94 and 2004-05', and for the period between 2004-05 and 2011-12. The corresponding figures for MPI are for '1999 and 2005-06' and '2005-06 and 2015-16' for which estimates are available.

4.24 Finally, Figure 19 plots value of change in MP HCR per year against growth of real NSDP per year between 1998-99 and 2005-06, and between 2005-06 and 2015-16. The association between growth and change in MP is negative, reinforcing the idea that growth leads to poverty reduction.

Figure 19: Correlation between economic growth and multi-dimensional poverty



Source: Survey calculations based MoSPI and MPI data.

4.25 These findings are consistent with the historical evidence as well. World Bank (2000) find that India could achieve sustained decline in poverty during 1970s-1990s only when the GDP growth picked up from 3.5 per cent in the initial years. Also, rise in the growth of mean consumption was responsible for approximately 87 per cent of the cumulative decline in poverty, while redistribution contributed to only 13 per cent. Similarly, Kraay (2004) uses the evidence from 80 countries to demonstrate that in medium to long run, growth in average incomes contributed to 66-90 per cent of the variations in changes in poverty. Agrawal (2015) highlights that economic growth had a bigger impact on reducing poverty. The findings reinforce previous studies on the empirical relation between growth and poverty in India (see Nayyar (2005)). More recently, analysing six decades of data from 1957 to 2012 for India, Dutt *et. al*., (2019) find that growth reduced poverty, and their association has acquired more strength after the 1991 reforms. They also find that the pattern of growth has changed significantly after 1991. Poverty is concentrating more and more in urban areas, as now one-in-three poor is living in urban areas, which was about one-in-eight in the early 1950s. In the post-liberalisation period urban growth and non-agricultural growth has emerged as a major driver of national poverty reduction including rural poverty.

SUMMARY AND CONCLUSIONS

4.26 This chapter shows that the relationship between inequality and socio-economic outcomes, on the one hand, and economic growth and socio-economic outcomes, on the other hand, is different in India from that observed in advanced economies. By examining the correlation of inequality and per-capita income with a range of socio-economic indicators, including health, education, life expectancy, infant mortality, birth and death rates, fertility rates, crime, drug usage

and mental health, the Survey highlights that both income per capita (as a proxy for economic growth) and inequality have similar relationships with socio-economic indicators. Thus, unlike in advanced economies, in India economic growth and inequality converge in terms of their effects on socio-economic indicators. Furthermore, this chapter finds that economic growth has a far greater impact on poverty alleviation than inequality. Therefore, given India's stage of development, India must continue to focus on economic growth to lift the poor out of poverty by expanding the overall pie. Note that this policy focus does not imply that redistributive objectives are unimportant, but that redistribution is only feasible in a developing economy if the size of the economic pie grows.

CHAPTER AT A GLANCE

- The relationship between inequality and socio-economic outcomes, on the one hand, and economic growth and socio-economic outcomes, on the other hand, is different in India from that observed in advanced economies.
- By examining the correlation of inequality and per-capita income with a range of socio-economic indicators, including health, education, life expectancy, infant mortality, birth and death rates, fertility rates, crime, drug usage and mental health, the Survey highlights that both economic growth – as reflected in the income per capita at the state level –and inequality have similar relationships with socio-economic indicators.
- Unlike in advanced economies, economic growth and inequality converge in terms of their effects on socio-economic indicators in India.
- Economic growth has a far greater impact on poverty alleviation than inequality.
- Given India's stage of development, India must continue to focus on economic growth to lift the poor out of poverty by expanding the overall pie.
- Redistribution is only feasible in a developing economy if the size of the economic pie grows.

REFERENCES

Agrawal, Pradeep. 2015. Reducing Poverty in India: The Role of Economic Growth. IEG Working Paper No. 349

Brady, David. 2003. "Rethinking the Sociological Measurement of Poverty." Social Forces 81: 715-752.

Cervone, Carmen, Scatolon Andrea. 2019. Fair Enough? The Inequality Paradox, Inequality Awareness, and System Justification. https://www.in-mind.org/article/fair-enough-the-inequality-paradox-inequality-awareness-and-system-justification?gclid=EAIaIQobChMI6qW51NaW7gIV8oJLBR3S0QU3EAMYASAAEgI7vfD_BwE

Cochrane John H., Lee E. Ohanian, George P. Shultz, 2015. "Conclusions and Solutions," Book Chapters, in: Tom Church & Chris Miller & John B. Taylor (ed.),Inequality & Economic Policy, chapter 7, Hoover Institution, Stanford University.

Cochrane, John H. The Scholar Responds. Growth is good: Why Slow Growth Can't Be The New Normal.https://www.policyed.org/intellections/growth-is-good/office-hours-john-cochrane-answers-your-questions-economic-growth

Cochrane, John H. 2020. Stop Worrying About Wealth Inequality: Don't Focus On Wealth Focus on Consumption. Chicago Booth review. https://review.chicagobooth.edu/economics/2020/article/stop-worrying-about-wealth-inequality

Curtis J, Andersen R. 2015. How social class shapes attitudes on economic inequality: The competing forces of self-interest and legitimation. International Review of Social Research; 5(1): p. 4-19.

Feldstein, Martin. 1999. "Reducing Poverty, Not Inequality." The Public Interest, Fall: 33-41.

Freeman, Richard. 1998. "Is the New Income Inequality the Achilles' Heel of the American Economy?" Pp. 219-229 in The Inequality Paradox, edited by James A. Auerbach and Richard S. Belous. National Policy Association.

Frohlich, Norman, Joe A. Oppenheimer, and Cheryl L. Eavey. 1987. "Laboratory Results on Rawls's Distributive Justice." British Journal of Political Science 17: 1-21.

Hauser O, Kraft-Todd G, Rand D, Nowak M, Norton M. 2016. Invisible inequality leads to punishing the poor and rewarding the rich. In Academy of Management Proceedings. NY: Academy of Management; p. 13841

Henderson, David. 2018. Income Inequality Isn't The Problem. https://www.hoover.org/research/income-inequality-isnt-problem

Iceland, John. 2003. Poverty in America. Berkeley: University of California Press.

ILO Monitor (2020). COVID-19 and the world of work. Second edition Updated estimates and analysis. International Labour Organization

Jones, Charles I. 2015. "The Economic Determinants of Top Income Inequality," Book Chapters, in: Tom Church & Chris Miller & John B. Taylor (ed.),Inequality & Economic Policy, chapter 3, Hoover Institution, Stanford University

Karadja M, Mollerstrom J, Seim D. Richer. 2017. (and holier) than thou? The effect of relative income improvements on demand for redistribution. Review of Economics and Statistics; 99(2): p. 201-212.

Kiatpongsan S, Norton M. 2014. How much (more) should CEOs make? A universal desire for more equal pay. Perspectives on Psychological Science; 9(6): p. 587-593

Kraay, A. (2004). When is growth pro-poor? Cross-country evidence. International Monetary Fund.

Krugman, Paul. 2002. "For Richer." New York Times Magazine, October 20.

Mulligan, Casey B. 2015. "The Effects of Redistribution Policies on Growth and Employment," Book Chapters, in: Tom Church & Chris Miller & John B. Taylor (ed.),Inequality & Economic Policy, chapter 5, Hoover Institution, Stanford University

Miller, Matthew. 2003. The Two Percent Solution. New York: Public Affairs

Murphy Kevin M, Saez Emmanuel. 2015. " Income and Wealth in America," Book Chapters, in: Tom Church & Chris Miller & John B. Taylor (ed.),Inequality & Economic Policy, chapter 6, Hoover Institution, Stanford University.

Norton M, and Ariely D. 2011. Building a better America - One wealth quintile at a time. Perspectives on psychological science.

Phelps, Edmund S. 1997. Rewarding Work. Cambridge, MA: Harvard University Press

Picketty, Thomas. 2013. Capital in the Twenty First Century, MA: Harvard University Press.

Picketty, Thomas. 2020. Capital and Ideology, The Belknap Press of Harvard University Press

Rawls, John. 1971. A Theory of Justice. Cambridge, MA: Harvard University Press.

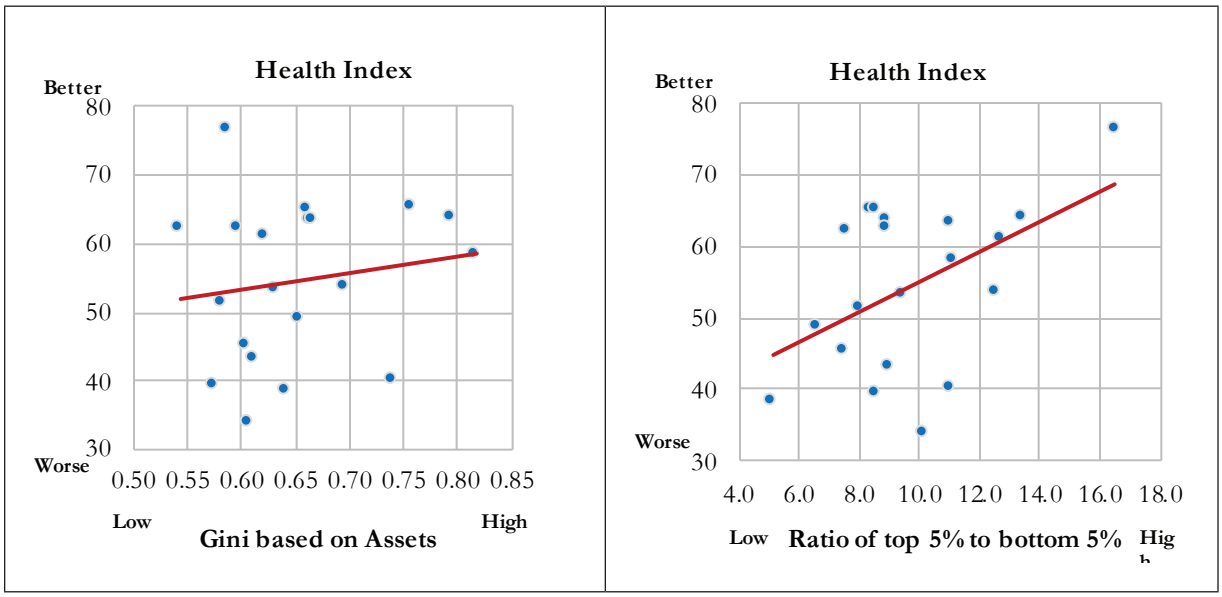
Roemer, John E. 1998. Equality of Opportunity. Cambridge, MA: Harvard University Press.

Smith, Noah. 2014. Whats Wrong With Ignoring Inequality. https://www.bloomberg.com/opinion/articles/2014-10-01/what-s-wrong-with-ignoring-inequality

World Bank. 2000. India Reducing Poverty, Accelerating Development. A world Bank Country Study. Oxford University Press

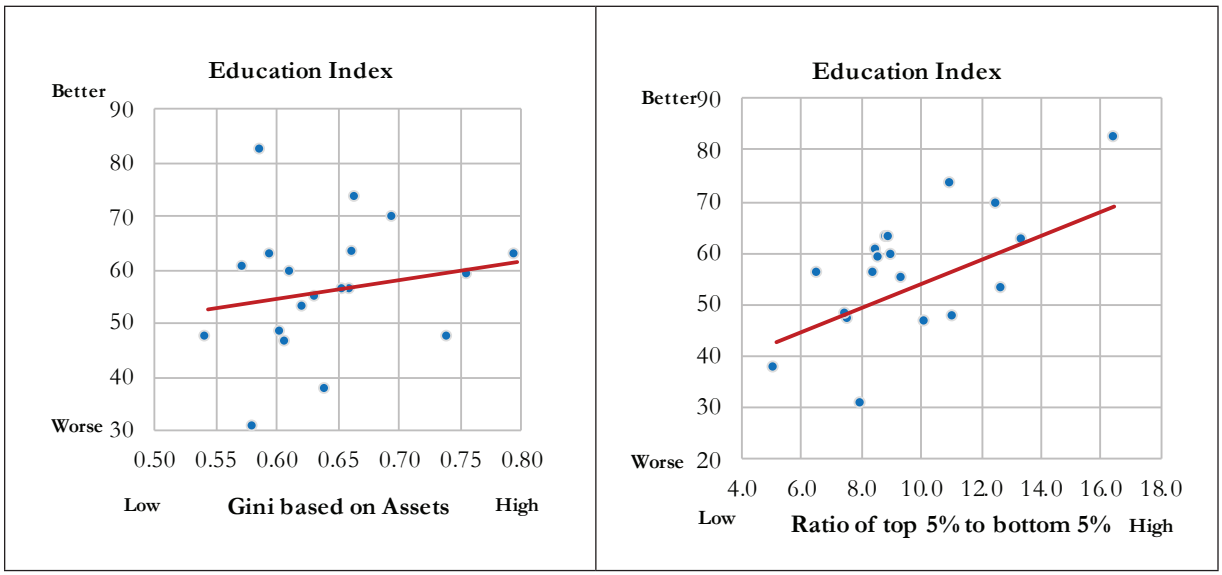
Appendix A: Robustness of the correlation of socio-economic indicators to alternative definitions of inequality

Figure 20: Correlation of asset and consumption inequality with health outcomes in Indian states



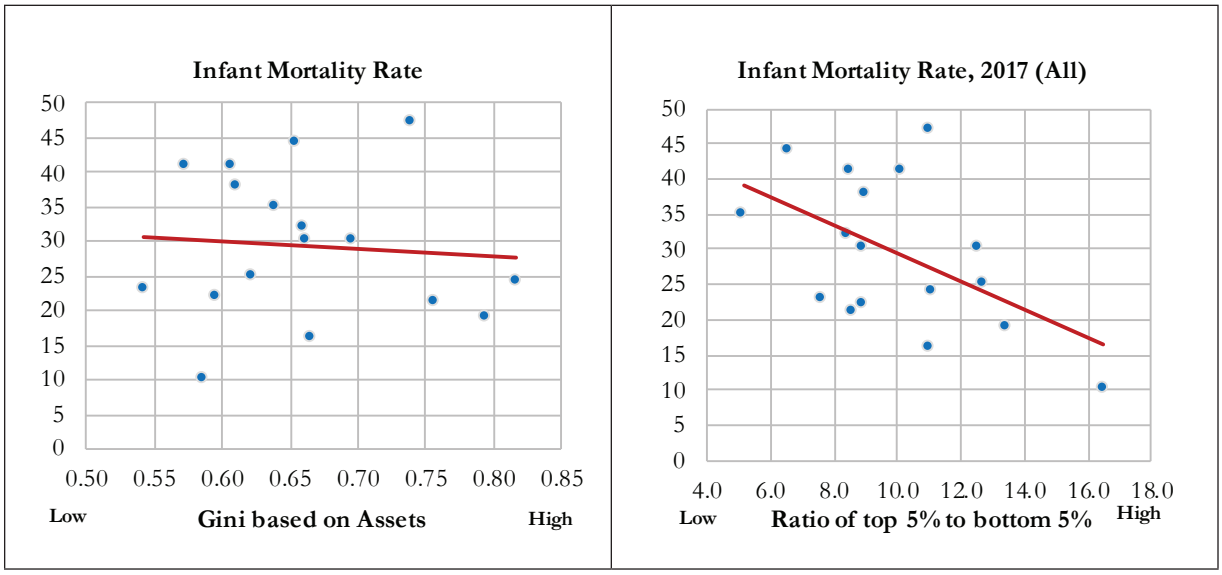
Source: Health index (2017-18) from NITI Aayog, Gini based on Assets from All India Debt and Investment Survey (AIDIS) conducted by NSS 70th Round 2012-13, Ratio of top 5 per cent to bottom 5 per cent using Monthly per capita expenditure data from NSS Consumption Surveys

Figure 21: Correlation of asset and consumption inequality with education outcomes in Indian states



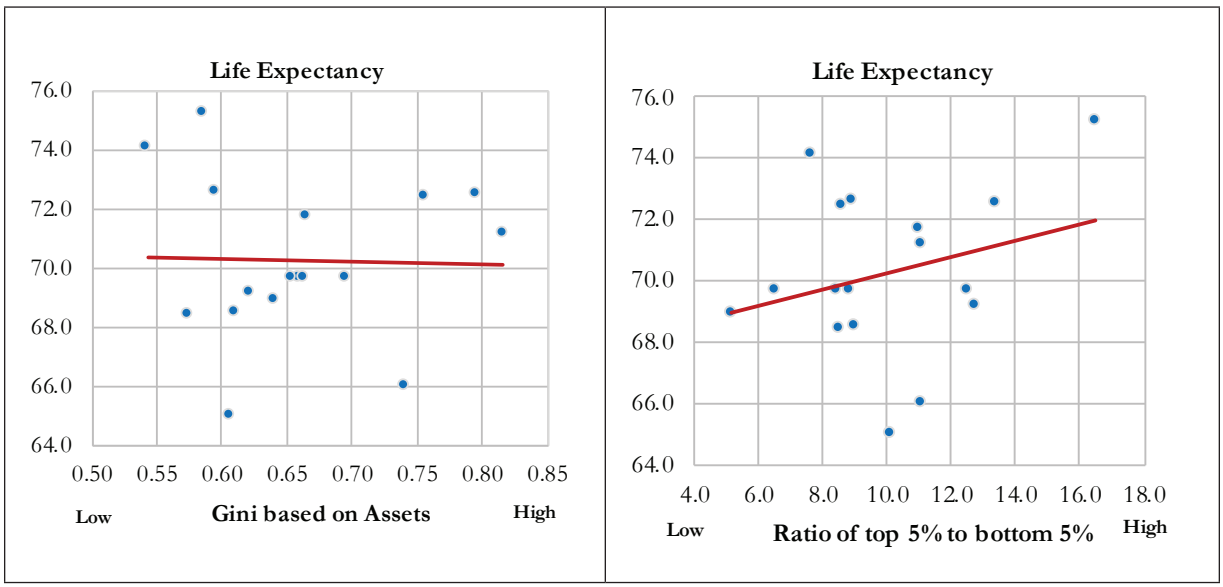
Source: Education index (2016-17) from NITI Aayog

Figure 22: Correlation of asset and consumption inequality with infant mortality in Indian states



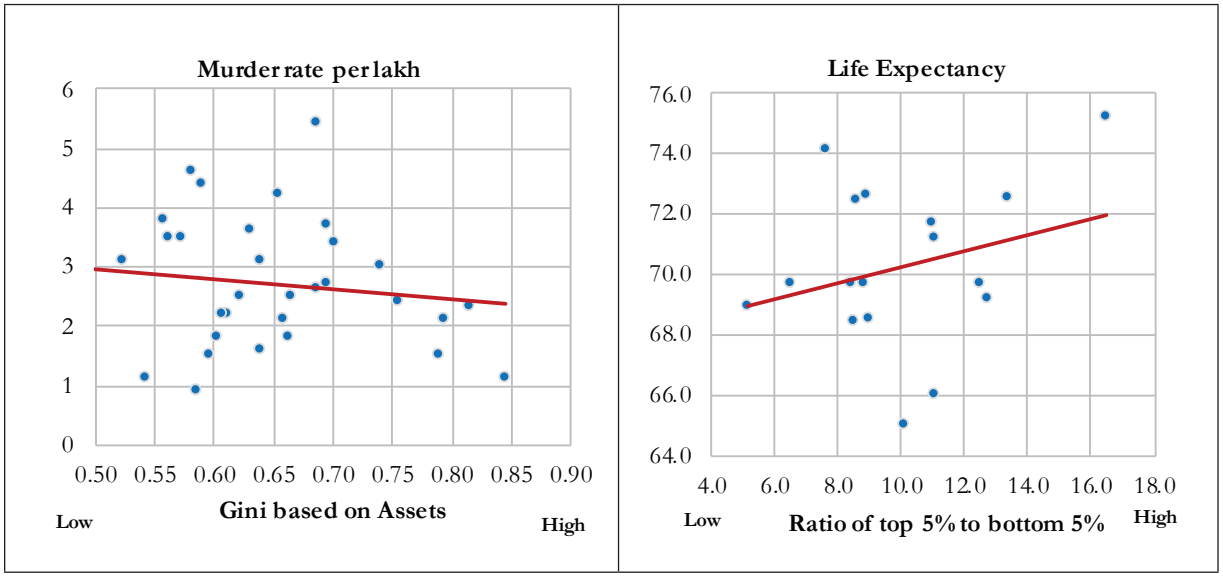
Source: Infant Mortality Rate data (2017) from Office of the Registrar General of India, Ministry of Home Affairs

Figure 23: Correlation of asset and consumption inequality with life expectancy in Indian states



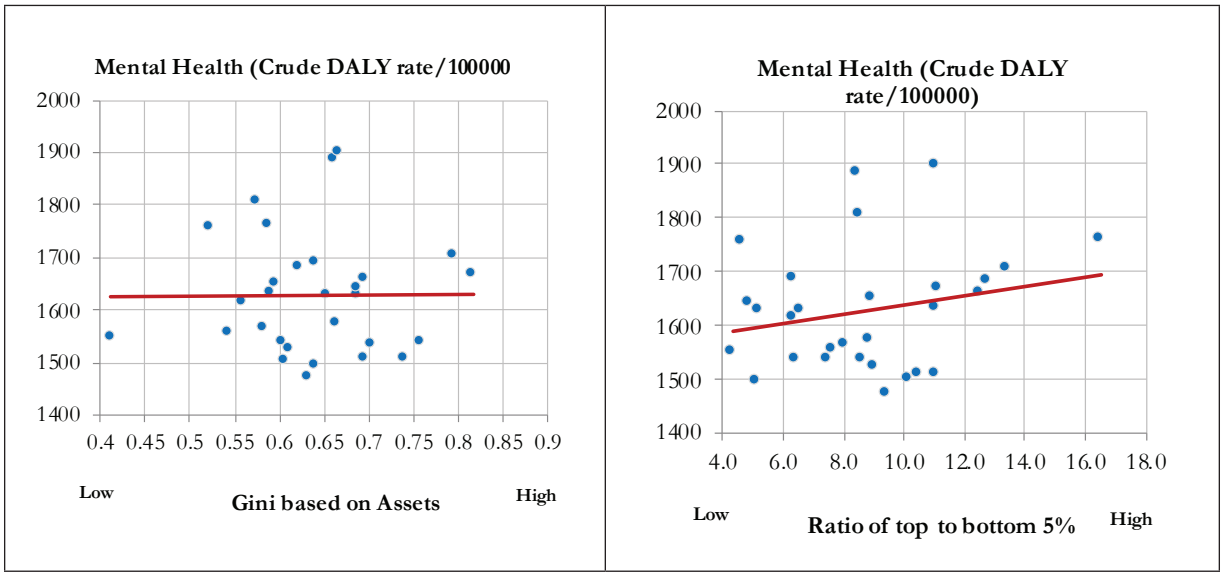
Source: Life Expectancy data (2013-17) from Office of the Registrar General of India, Ministry of Home Affairs

Figure 24: Correlation of asset and consumption inequality with crime rates in Indian states



Source: Crime data (2015) from National Crime Records Bureau, Ministry of Home Affairs

Figure 25: Correlation of asset and consumption inequality with mental health outcomes in Indian states



Source: Mental Health data (2017), Lancet Psychiatry (2020). The burden of mental disorders across the states of India: the Global Burden of Disease Study 1990–2017. Note: the mental health indicator is a composite indicator including Crude DALY i.e. (The disability-adjusted life year)- a measure of overall disease burden, expressed as the number of years lost due to ill-health- from various mental issues like depressive disorders, anxiety disorders