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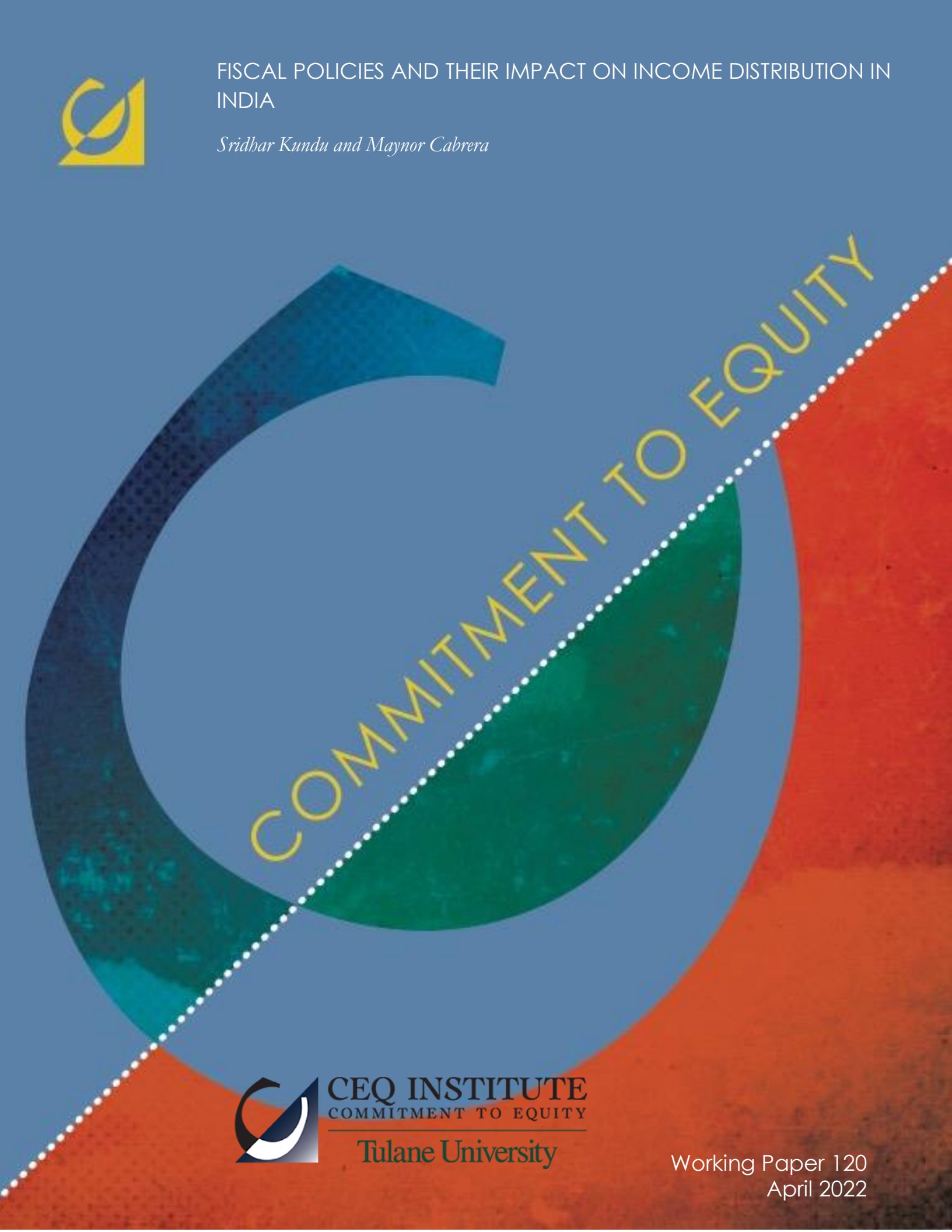

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Sridhar Kundu (Indian School of Business, Mohali) and Maynor Cabrera (CEQ Institute)†

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ABSTRACT

Fiscal policies play a key role in reshaping income distribution in India. There are differences in policies at the Union, State, and Municipal or city level, which have an individual and combined impact on the country's standard of living. These policies include decisions on direct and indirect taxes, subsidies, pensions, and other direct transfers, as well as public spending on education and health.

This Commitment to Equity (CEQ) study tries to analyse the individual and combined impact of these policies on poverty and income distribution in India. The report has used household consumption expenditure data from the National Sample Survey (NSS) of such expenditure, undertaken in 2011-12, as the base for its income-distribution analysis. It has also used other surveys, such as the NSS survey of household consumption expenditure on Education and Health, conducted in 2014, the Indian Human Development Survey, and NSS Employment and Unemployment survey in 2011-12, to impute values of cash and in-kind transfers, as well as direct taxes. After a detailed examination of all the policies, we found that government interventions play a significant role in reshaping income distribution by reducing poverty and inequality. India's taxation policies are progressive, as the lion's share of taxes is collected from the top 10 per cent of the population. Similarly, policies such as the Public Distribution System (PDS) subsidy, spending on education and health, and direct cash transfers through the rural employment scheme MGNREGS play an equalising role in overall income distribution.

JEL Codes: D31, E62, H22, I14, I24, I38

Keywords: Fiscal Policies, poverty, inequality, direct and indirect taxes, PDS, Electricity Subsidy, MGNREGS, Pensions

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* This CEQ India study is an initiative by the Centre for Budget and Governance Accountability, New Delhi, to analytically explain the depth of fiscal policy interventions and their impact on income distribution. The CEQ Institute, University of Tulane, was actively involved in quality control of the database, methodology and many other experiments during the study. The Authors thank Prof. Nora Lustig and the CEQ team for their sincerity and interest in the India study. Mr Subrat Das, Executive Director of CBGA, has always been supportive of this study.
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FISCAL POLICIES AND THEIR IMPACT ON INCOME DISTRIBUTION IN INDIA[1]

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1. Introduction

Fiscal policies play a key role in reshaping income distribution in a country (Lustig, 2018). These policies include taxation, subsidies, pensions, cash and in-kind transfers, social sector spending on education and health, as well as other developmental programmes. Evidence from more than 50 countries studied using Commitment to Equity (CEQ) methodology shows that all these policies help channel resource distribution towards the poor and, thus, favourably impact people's standard of living in channelling at the bottom of the income pyramid.

Poverty and Inequality remain two of the biggest challenges India faces today. Even when the country witnessed higher economic growth in the wake of the macro-economic reforms of 1991, it was primarily centred around urban cities and their periphery (Chandan & Shankar, 2012). So, while the country attracts attention globally for its rising economic growth and advances on various other socio-economic indicators, Poverty and Inequality remain a major concern.

In the last decade, India has developed its road, power, telecommunication, and infrastructure sectors to a certain extent. However, when it comes to redistribution of resources and developing people's living standards at the bottom of the ladder, the country has not made adequate progress. The sufferings of poor and migrant labourers during the Covid-19-induced lockdown in 2020 stand witness to the inequality in India. The post-lockdown phase has also seen rising levels of distress and joblessness and poverty, hunger, and malnutrition in rural areas.

The fact is, India has been unable to reduce inequality significantly. Indeed, numerous studies, both at the national and international level, show a rising trend in inequality. For instance, Dang & Lanjouw (2018) estimated that inequality in India had risen during the 1983-2012 period. Again, according to a World Bank estimate (2020), inequality estimated by the Gini coefficient increased from 0.344 in 2004 to 0.357 in 2012.

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Looking at past inequality trends in India, economic growth has not trickled down to the poor. According to the World Bank estimate (2020), economic growth (growth of Gross National Income) in India has averaged about 6.7 per cent during 2004 and 2012, far exceeding the average growth rate in the South Asian region, other lower-middle-income countries, and throughout the world. During the same period, the country's per capita income (at constant 2015 prices) increased by 1.5 times, from $898 to $1348 (World Bank, 2020). Much of this growth can be attributed to growing and diversified exports, as well as increased private consumption (Sufaira, 2016). However, despite this marked increase in overall and personal income, India has not been able to reduce inequality.

Inequality in India has witnessed a rising trend since 1973. While the urban Gini index has risen faster than the rural Gini index (Himanshu, 2015), public sources[4] confirm that the Gini consumption coefficient increased in rural and urban areas between 1973 and 2011 (Report of the Expert Group to Review the Methodology of Estimation of Poverty, Planning Commission, 2014). Besides, the labour income Gini coefficient also increased between 1993-94 and 2010-11 (Himanshu, 2015).

Wealth is also heavily concentrated in India — the wealthiest 1 per cent holds over half of India's wealth. Moreover, there are disparities in access to income across groups — the most impoverished State has an average income nine times lower than that of the wealthiest State. Inequality across castes/religious groups is also high. For example, the Adivasi and Dalit social groups have been affected by low social mobility and have the highest chronic poverty rates in India (Balcazar et al., 2016).

The lack of income data is another issue. Chancel & Piketty (2019) wrote: "We repeatedly stress that there are strong limitations to available data sources and that more democratic transparency on income and wealth statistics is highly needed in India." According to those authors' estimations, which combined tax returns, national accounts and survey information, the share of income captured by the top 1 per cent is rising exponentially between 1992 and 2015.

On the front of poverty, as measured by the Tendulkar methodology (poverty line), the level declined steadily between 1993-94 and 2011-12 across all sections, states, and rural and urban sectors. (Planning Commission, 2014; Government of India, 2018). It is found that poverty has decreased relatively more for the poorest sections of society from scheduled castes and scheduled tribes' section, leading to convergence across all sections in terms of poverty ratio. — (Niti Aayog, 2016). However, the nearly equal pace of fall in poverty ratio in both rural and urban areas during the same period shows a slight possibility of convergence as rural poverty ratio stands significantly higher above the urban.

[4] The latest official information available on inequality was for 2011-12. However, it is essential to mention here that household surveys did not capture the expenditure or income of top income earners, so inequality is likely higher. Considering that India has experienced high economic growth rates, inequality may have increased, but official figures are not available and so there are caveats in measuring inequality.

The decrease in the poverty ratio, as measured by people living below the poverty line, shows that economic growth, to a large extent, has somehow helped reduce poverty. Structural changes account for much of the decrease in poverty India witnessed between 1993 to 2012 (Planning Commission, 2014). However, even though people have been able to emerge from poverty, the mean income remains close to the poverty line — especially in rural areas — while vulnerability and inequality remain high. As of 2011, 80 per cent of India's poor lived in rural areas, and half of the country's workforce was employed by the agriculture sector (Niti Aayog, 2016). However, agriculture accounted for only 17 per cent of GDP in 2011-2012. Diversifying income sources is therefore critical to ensure stable growth and poverty reduction. Adivasis and Dalits[5] still face structural disadvantages that reduce the likelihood of rising out of poverty (Balcazar et al., 2016).

Since every individual/citizen is an integral part of the fiscal system, their income, and contributions (such as a pension) are affected by fiscal policies at the Union, State, Municipal and Panchayat levels. Of these, the Union and State Budgets control a substantial part of the total public finance in India. Consequently, the policies of the Union and State Governments shape a large part of the country's policy landscape.

Using CEQ methodology, the present study attempted to cover most of the fiscal policy interventions of the Union and State Governments and their impact on resource distribution. It also studies the effects of fiscal policies on an individual's and a household's income. Under this method, an attempt has been made to calculate every household's contribution to taxes, subsidies, government spending on education and health, direct transfers, pensions etc.

2. Fiscal Policies and Income Redistribution: Existing Studies

The steady increase in government revenue and expenditure paints a clear picture of the expansionary role fiscal policies play in economic activities. Between 1990 and 2017, the total revenue of the Union and State governments increased from 17 per cent to 22 per cent of GDP. At the same time, the Union and State governments' combined expenditure went up from 26 per cent to 29 per cent of GDP (IPFS, 2017-18). A few studies have identified the increase in fiscal interventions in various sectors, including social sector expenditure. Both Union and State government spending on this sector show an upward trend. However, State governments shoulder the maximum burden of social sector development (Chattopadhyay, 2018).

Social sector development is directly correlated to the development of people in the lower-income group and fairer income distribution. Bowser et al. (2019), Agarwal and Chakraborty (2017), Mitra (2015) and Ehmke (2016) have analysed the progress of social sector spending. Mitra (2015) has stated that public expenditure on higher education in India is regressive. On the other hand, Bowser et al. (2019), using National Sample Survey data on health, 2004, found that inpatient and delivery services are pro-poor, while outpatient visits are pro-rich. In general,

[5] Adivasis (Scheduled Tribes) and Dalits (Scheduled Castes) are underprivileged social sections of society. According to Census 2011, Adivasis constitute about 8 per cent and Dalits constitute about 15 per cent of India's total population.

government spending on health is pro-poor, but there is vast inequality in utilisation rates and benefits in different States and rural areas compared to urban regions.

Some studies have clearly established that the size of social sector spending in India is small compared to the growing economic dimension of the country. Das (2011), CBGA (2016) and Mitra (2015) have noted that public spending is growing at a lower rate and that the size of service delivery to the country's vast population is below average.

Along with the public spending on education and health, government spending on various subsidised programmes, such as the Public Distribution System (PDS), and spending on various development programmes, such as the Mahatma Gandhi National Rural Employment Scheme (MGNREGS), has a direct correlation with poverty and income distribution.

Among the various development programmes run by the Union and State governments, PDS is perhaps closest to the poor due to its direct food and nutrition supply at low and subsidised prices. Radhakrishnan et al. (1997) and Dev (1998) have discussed the net welfare gain of PDS and its positive impact on poverty reduction.

MGNREGS provides direct cash transfers to people at the bottom of the social ladder. It is a wage employment programme that guarantees 100 days of work. Ehmke (2016) studied the quality of access and benefits under the programme using Census data from 2011-12 for the relevant population and the International Labour Organization's recommendation on National Floors of Social Protection, No. 202 (Ehmke, 2016). Despite the Act's (MGNREGA's) attempts to include every group while providing jobs, the programme fails to allocate jobs fairly. Instances of people not receiving employment are higher among poorer groups, with such households having limited access to the scheme. Vij et al. (2017) looked at participation by rural women from Telangana and Andhra Pradesh in the job guarantee programme and the subsequent improvement in their living standards.

Unnikrishnan, V. & Imai, K. S. (2020) studied the Indira Gandhi National Old Age Pension Scheme (IGNOAPS) to see if it improved household welfare. Under this scheme, people above 60 living below the poverty line are entitled to an old-age pension. People of this age group are primarily dependent on their children in the absence of employment. Therefore, cash transfers help them, even if the actual amount transferred varies from State to State. In their paper, Unnikrishnan and Imai state that "IGNOAPS participation increased consumption expenditure, food and non-food expenditure and assets".

Contrary to studies on public spending and its impact on income distribution, few studies on taxes and their redistributive and welfare effects are available. Malhotra and Kundu (2015) tried to estimate the incidence of State Value Added Tax (VAT)[6]. Their study found that the average

[6] From decades ago, we found other studies like Jha and Srinivasan (1989), which found that indirect taxes "are progressive or proportional. Only taxes on cereals are regressive." According to Aggarwal (1995) "the distribution of the burden of indirect taxes was progressive in both rural and urban areas, but more so in rural areas; the distribution of the burden of individual tax components was also progressive."

tax burden is different across States. However, the average burden on people living below the poverty line is the same as those above.

All the studies cited above have discussed fiscal policies and their role in income distribution regarding a particular policy or linking fiscal policies with poverty alleviation. Unfortunately, no analytical tool was used to measure the effects of individual policies or combined policies.

The CEQ India study tries to fill this gap. It has looked at various fiscal instruments such as taxation, government spending on direct and indirect subsidies, direct cash, in-kind transfers, and spending on education and health. The impact of each fiscal policy and the combined effect of all the policies is analysed under the broader CEQ analytical framework. We discuss the detailed methodology in the next section.

3. Methodology

This study is based on the Commitment to Equity (CEQ) methodology (Lustig, 2018). CEQ is a comprehensive incidence analysis approach to assess the impact of taxes, direct transfers, subsidies, and social spending (education and health) on poverty and inequality. This analysis enables the creation of 'income concepts' — ways to measure income — that exclude (pre-fiscal) and include (post-fiscal) policy elements. In turn, these income concepts enable an examination of the extent to which redistribution has been accomplished and, thereby, the impact of the fiscal system on poverty and inequality (see Figure 1).

The CEQ methodology considers two scenarios: pensions as deferred income (PDI) and pensions as government transfers (PGT). In the first scenario, the contributory pensions[7] result from past savings. The pre-fiscal income concept in this scenario is Market Income plus Pensions. The PGT scenario assumes that the Central government subsidises contributory pensions using public funds. Market Income is the pre-fiscal income concept in this scenario. This paper discusses results only for the PDI scenario because the contributory pensions included in it are from savings and are not subsidised. We have also produced results for the PGT scenario[8].

The CEQ analysis uses data from household surveys and macroeconomic accounts to assess the impact of fiscal policy on inequality and poverty. Most components to estimate Market Income and Market Income plus Pensions can be extracted directly from microdata when the household survey includes income information. However, in India, the available household survey data only includes consumption data, so "we assume that the latter equals Disposable Income and work backwards to 'construct' the previous income concepts" (Lustig and Higgins, 2018, p. 242). Figure 1 summarises the construction of PDI scenario income concepts. Market Income plus

[7] Contributory pensions are defined as those resulting from a pension scheme where to receive a pension in the future is necessary to make payments or contributions. In contrast, non-contributory pensions are those where the members do not have to pay into the scheme to receive a pension.
[8] The results for that scenario are available on request.

Pensions and Net Market Income are estimated going backwards, while Consumable and Final Income are calculated going forward.

The first step in the process was to estimate Disposable Income. Because the primary data referenced in this study was from the NSS 68th Round Household Consumer Expenditure survey, we used per capita consumption as disposable income. To this end, consumption expenditure was estimated using the NSS survey's mixed reference period (MRP)[9]. The Government of India also uses this measure to estimate poverty[10].

$$Disposable\ Income = Per\ Capita\ Consumption$$

Secondly, the next income concept used in this analysis is Consumable Income. It is derived from Disposable Income by subtracting indirect taxes and adding the subsidies received by households. The indirect taxes in this study are Value Added Tax (VAT)[11], service tax, Union excise, State excise and entertainment tax.

$$Consumable\ Income = Disposable\ Income - Indirect\ Taxes + Indirect\ Subsidies$$

For all Indirect Taxes, the taxes paid by households are estimated by using detailed item-wise expenditure data from the NSS 68th Round and the statutory rates applicable in States on the value of these goods and services. For excise levies, because of the higher degree of diversity in tax rates at the State level, we have applied effective rates by State.[12]

The CEQ analysis for India includes household subsidies towards electricity consumption for domestic purposes and subsidies received by availing commodities through the Public Distribution System (PDS). We simulate electricity subsidies as the difference between the State's average cost of electricity supply and tariffs charged per kilowatt. The PDS subsidy is estimated as the difference between the average market price and the PDS price by units consumed, following the methodology stated in Coady and Prady (2018).

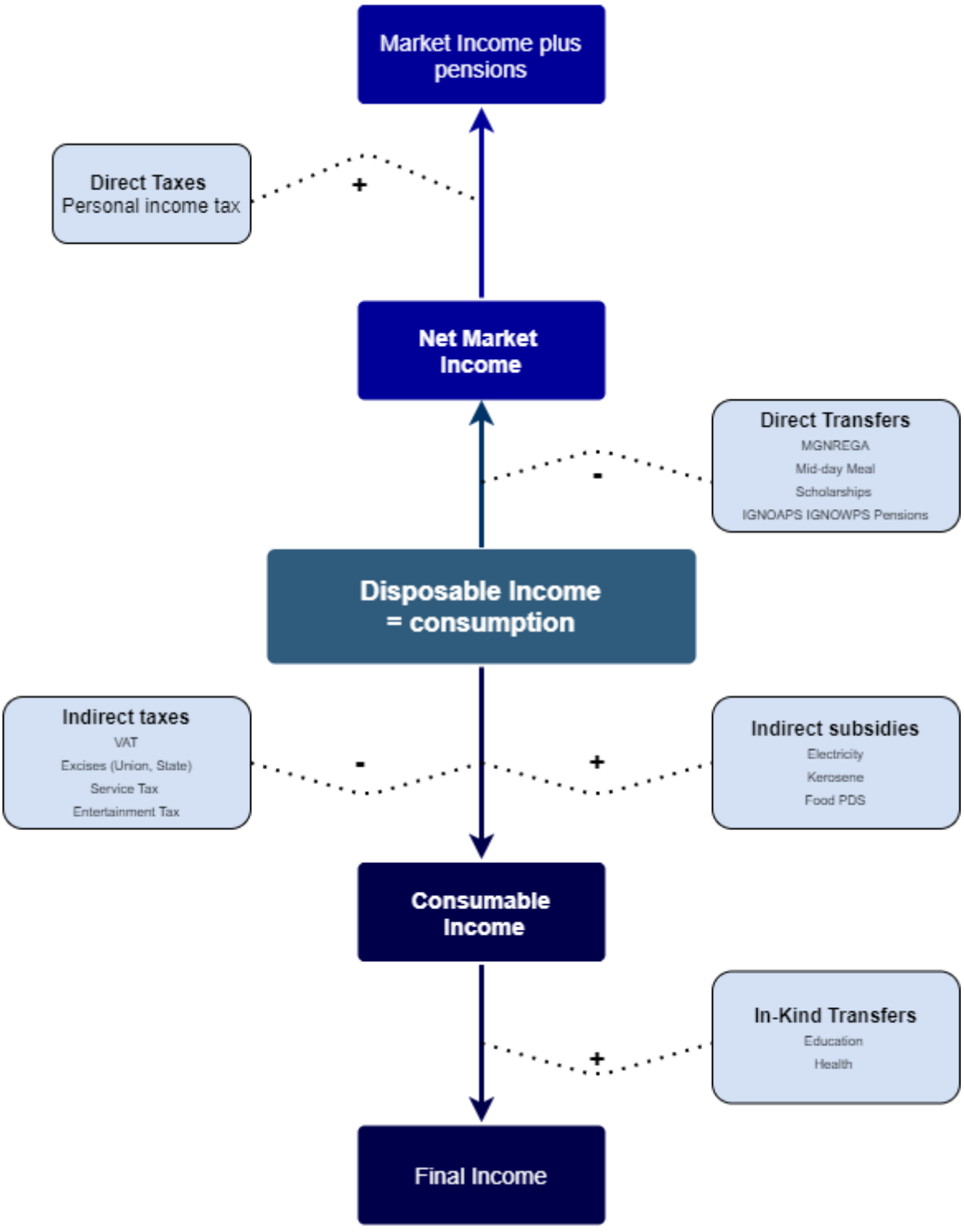
[9] See Planning Commission (2013). The survey provides information about monthly consumption expenditure estimated through a uniform reference period (URP) and a mixed reference period (MRP). In the URP, monthly consumption expenditure is estimated by using the last 30 days' consumption expenditure uniformly across all items. However, in MRP, daily use, short-term, and long-term consumable items are categorised through 7-day, 30-day, and 365-day questionnaires in the consumption survey.

[10] Figures reported by the World Bank, like those in the Povcal repository, are different because, among other reasons, that institution uses a Uniform Reference Period (URP).

[11] The study has used the 2011-12 database to estimate the impact of fiscal interventions; the government introduced the Goods and Services Tax (GST) in 2017.

[12] Effective rates were estimated as the tax collection ratio divided by the estimated consumption of taxed goods (ganja, toddy, country liquor, beer, foreign liquor, other intoxicants). Because we do not know the state-wise consumption level of these goods, we estimated them multiplying the Gross State Domestic Product by the ratio of the figures at the national level of the consumption of these goods to GDP.

Figure 1 Definition of CEQ Income concepts



Source: Authors, based on Lustig (2018)

Third, the Final Income is arrived at by adding the monetised benefits received for education and health to the Consumable Income of households. For education, we estimated benefits for public and government-aided private schools, and for health, we included Health Sub-Centres, Public Health Centres and Public Hospitals.[13]

$$Final\ Income = Consumable\ Income + In\ Kind\ Education\ Transfers + In\ Kind\ Health\ Transfers$$

Various levels of education, such as elementary, secondary, tertiary, and adult education, have been considered in this study. However, the lack of access to adequate information proved a hurdle in estimating households' benefits from public spending on pre-school education. Therefore, pre-school education has not been covered in this study. The study has factored in benefits from the public and government-aided private school categories for all the levels of education in its estimation.

To estimate the benefits received from education, we identified enrolled students in 2011-2012 per decile, educational level, and type of school (private, public, and government-aided private schools). We then imputed average public expenditure according to each group. The number of students per group in 2011-2012 was estimated using enrolment statistics from the Ministry of Education[14] for that period and the distribution, as a percentage, of students per educational level and school type across deciles from the NSS 71st round social consumption survey on education for 2014. We randomly selected a similar enrolment in 2011-2012 from the NSS 68th round for each group. For students of public and government-aided private educational institutions, we imputed the estimated average spending on education using Ministry of Human Resource Development (2015) data for the elementary, secondary, and tertiary level and enrolment data published by the same ministry (2014). For Adult Education, we used the enrolment estimated from the NSS 68th round expenditure survey.

We used the NSS 71st round social consumption survey on health for 2014 to identify the distribution of household beneficiaries of public spending on Health Sub-Centres, Public Health Centres, and Public Hospitals. Households were divided into ten groups based on their consumption per State and categorised into rural and urban areas. The percentage of household members availing of the services provided by health centres was estimated. This percentage, with higher preference to people under the age of 14 and above 65 years, was randomly selected from similar decile groups for each State and both for rural and urban areas from the NSS 68th round consumption expenditure survey. State-level per-capita expenditure in all three levels of

[13] State-wise per capita expenditure has differences that we could not reconcile, so we decided to use national averages for HSC and hospital users. We have also imputed national averages for outliers in PHCs (those above and below the inter-quartile range were substituted by the mean).

[14] The Ministry of Human Resource Development was renamed as the Ministry of Education in 2020, according to the new National Education Policy.

healthcare has been imputed and allocated among the selected household members to estimate the benefits received by the households[15].

Fourth, Net Market Income is estimated by subtracting direct transfers from the disposable income. Household consumption expenditure has been taken as disposable income in this study's incidence analysis[16]. Direct transfers include various cash-transfer programs such as the Mahatma Gandhi National Rural Employment Guarantee Scheme (MGNREGS), Indira Gandhi National Old-Age Pension Scheme (IGNOAPS), Indira Gandhi National Widow Pension Scheme (IGNOWPS), and near-cash transfers such as Mid-Day meals, Scholarships, and Textbooks. Net Market Income is estimated backwards, as shown in Figure 1. Conceptually, disposable income is equivalent to Net Market Income plus contributory pensions and direct transfers minus direct taxes and social security contributions. So, to arrive at Net Market Income, we subtracted direct transfers from Disposable Income.

$$Disposable\ Income = Market\ Income\ plus\ Pensions - Direct\ Taxes + Direct\ Transfers$$

Because

$$Net\ Market\ Income = Market\ Income + Pensions - Direct\ Taxes$$

So,

$$Disposable\ Income = Net\ Market\ Income + Direct\ Transfers$$

Rearranging terms

$$Net\ Market\ Income = \ Disposable\ Income - \ Direct\ Transfers$$

The 68th round of the NSS employment and unemployment survey, 2011-12, and the Ministry of Rural Development's annual report were the sources for MGNREGS benefit estimates. The average value of annual MGNREGS wages is the result of total wages reported by the Ministry of Rural Development divided by the state-wise number of individuals employed based on the NSS 68th Round Employment and Unemployment survey 2011-2012, adjusted by leakage factors estimations of Imbert and Papp (2011). Then, using the same survey, we got the number of beneficiaries and range of ages by sex per decile of those beneficiaries. Then we randomly select a similar number of beneficiaries in NSS 68th Round Consumption in the decile, sex, and age range for those population reported not being salary earners.

For IGNOAPS and IGNOWPS, we used the India Human Development Survey (IHDS) survey 2011-2012 to identify beneficiaries per decile Statewise. Then, from the NSS 68th round survey, we randomly selected a similar number of beneficiaries in each decile and State having a ration card and older than 60 years for IGNOAPS. We then imputed the benefit according to the age

[15] Available information does not allow us to estimate benefits for public health insurance schemes.

[16] Income-based calculation of Net Market Income under CEQ methodology subtracts direct taxes and contributions from market income plus pensions. However, net market income is constructed backward for CEQ India, adding direct transfers to disposable income. See Lustig (2018, p. 265).

of the beneficiary. For IGNOWPS, using the information from the IHDS, we randomly selected a similar number of widow beneficiaries aged 45 to 59 years from those who reported having a ration card.

The sources and methodology used to estimate the benefits from mid-day meals, scholarships, and textbooks are like those used to calculate education benefits. The average benefit was estimated using figures in the Analysis of Budgeted Expenditure on Education — 2014-15, and enrolment data provided by the Ministry of Human Resources. Data for public and government-aided private education, if applicable, have been selected.

Fifth, original income, named *Market Income plus Pensions* under CEQ methodology, is estimated by adding Direct Taxes to Net Market Income at the household level[17]. *Market Income plus pensions* are calculated backwards, as shown in Figure 1. Conceptually, disposable income includes market income plus contributory pensions and direct transfers minus direct taxes and social security contributions. So, to arrive at Market Income plus Pensions, we add direct taxes and social security contributions and subtract direct transfers.

$$Disposable\ Income = Market\ Income\ plus\ Pensions - Direct\ Taxes + Direct\ Transfers$$

$$Net\ Market\ Income = Market\ Income\ plus\ Pensions - Direct\ Taxes$$

Rearranging terms

$$Market\ Income\ plus\ Pensions = Net\ Market\ Income + Direct\ Taxes$$

It must be noted here that the NSS 68th Round Consumption Survey 2011-2012 does not contain information on incomes. Consequently, we have used an alternative survey, i.e., the India Human Development Survey (IHDS) of 2011-12, to estimate income. We calculated the ratio of labour income to consumption per consumption decile. This ratio has then been applied to those in a formal job[18], according to the NSS 68th Round Consumption survey. Using the estimated labour income for those selected as formal workers, we have applied statutory rates as defined in the year 2011, considering the sex and age of the taxpayer, i.e., the characteristics of the household head.

This analysis also includes an estimation of contributory pensions and contributions to pensions. According to CEQ Income definitions, these fiscal interventions are part of pre-fiscal income in the PDI scenario. In this case, we estimate two pension schemes: The Employment Pension System is included in the Employment Provident Fund (EPF) and the National Pension System (NPS). Because NPS was introduced in 2005, we consider only contributions to NPS. In the case of EPS, we also consider pension benefits and contributions.

[17] Disposable income from household consumption expenditure survey includes contributory pensions. As a result, market income which is estimated from disposable income is inclusive of pensions and has therefore been named 'Market Income Plus Pensions.'

[18] We have taken those working in Government, those working in the private sector as salaried workers, as well as self-employed people in urban areas as formal workers. We have excluded those working in agriculture, those who are household employees, and those in extraterritorial activities from the formal worker category.

We have considered only public employees in our estimation, and we assume that those aged less than 34 years in 2011 belong to the NPS system, while older public employees were part of the EPS.

For NPS, we selected those under 34 years in 2011 (taking 27 years as the late age for entrance to the job market in 2005, when NPS was introduced). People in this cohort contributed 10 per cent of their income, while the employer contributed an equal amount towards the NPS. We used the income we estimated for Personal Income Tax in our calculation. For those aged 34 to 57, we applied EPF rates.[19] In both cases, we compared the contributions concerning the total collection and number of payers State-wise and excluded some outliers.[20] Finally, according to the average State-wise pension, we estimated the value of EPF pensions for those who have retired. We assumed that no NPS pensions were received in 2011-2012.

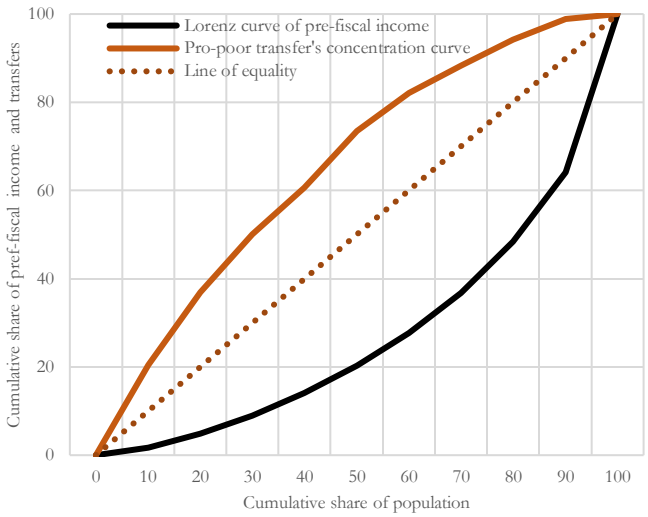
This study analyses the effects of taxes and transfers on poverty inequality. First, the criteria to determine if a tax or transfer reduces inequality is when adding the fiscal item to an income concept reduces measured inequality, i.e., the Gini coefficient is lower with the tax or with the transfer. Second, a transfer or tax could be pro-poor, progressive or regressive. A transfer is pro-poor if the population living below the poverty line receives more benefits in absolute terms than other groups, implying that the per capita government spending on the transfer tends to fall with pre-fiscal income. In a Lorenz curve figure, pro-poor transfers' concentration curve would lie above and to the left of the line of equality[21].

[19] Employee contributions = Labour Income *0.0833, Employer contributions = Labour Income* 0.016 (Government as employer). See Page 43 of the 59th Annual Report, Employees' Provident Fund, 2011-2012 http://search.epfoservices.org:81/Annual_Reports/AR_2011-12.pdf

[20] For EPF we compared the number of contributors and the total contributions against figures from the Employees Provident Fund Organization (EPFO). We divided the distribution of contributions by region in the same proportion as the regions. However, because collections as a percentage of disposable income were higher than EPS contribution as a percentage of GDP, we estimated the same ratio (.15% of disposable income). Then, we estimated the contributions State-wise using the same proportions of EPS (Appendix A-11). Because the total was higher in the first estimation, we assigned zero to the lowest values. For NPS, we compared the estimated ratio of contributions vs the national accounts ratio. So, we had two exercises, using the lowest values of contributions and the highest values of contributions. Using the highest values, the contributions as a percentage of disposable income were closer to 0.20%. Excluding the lowest values, the ratio was 0.34%. So, we used the lowest values (excluding the highest values) so the ratio of pensions in the survey is closer to the ratio observed according to national accounts.

[21] A tax could not be pro-poor, only progressive or regressive because by definition taxes decrease income.

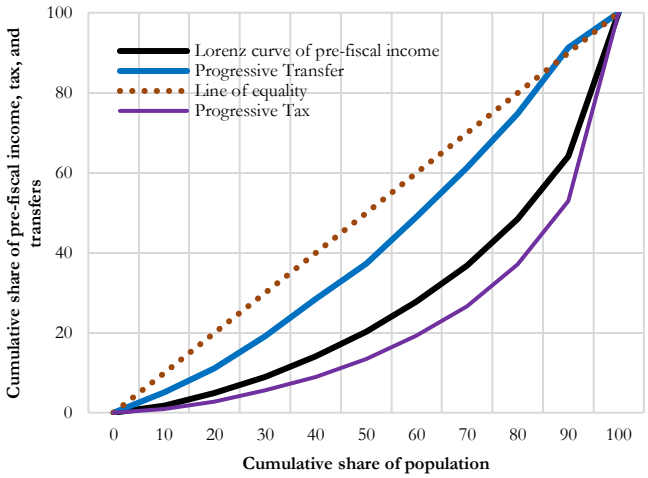
Figure 2. Pro-poor transfer



Source: Authors

Third, a transfer is progressive if, when pre-fiscal income levels rank households, the cumulative household shares of the transfer are higher than the cumulative household shares of pre-fiscal income. In a Lorenz curve figure, a progressive transfer's concentration curve would lie above and to the left of the Lorenz curve for pre-fiscal income. This study is called a transfer progressive when the transfers received decline with income, measured as a share or fraction of pre-transfer income. On the other hand, a tax is progressive if, when pre-fiscal income levels rank households, the cumulative household shares of the tax are less than the cumulative household shares of pre-fiscal income. In a Lorenz curve figure, a progressive tax's concentration curve would lie above and below and to the right of the Lorenz curve for pre-fiscal income. This study is called a tax progressive when the taxes paid rise with income, measured as a share or fraction of pre-transfer income.

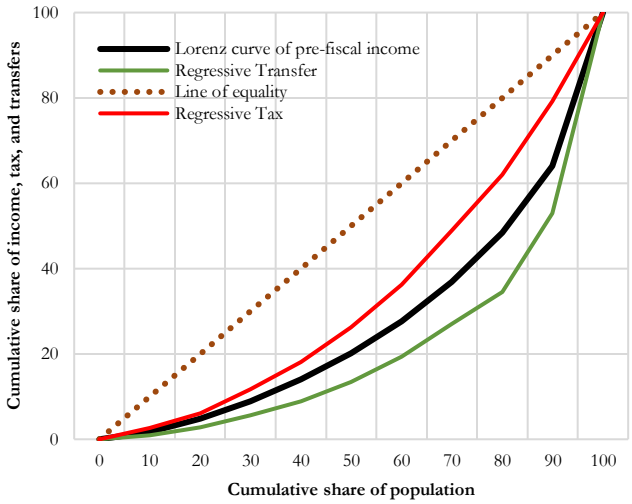
Figure 3. Progressive tax and progressive transfer



Source: Authors

Fourth, a transfer (tax) is regressive if, when households are ranked by pre-fiscal income levels, the cumulative household shares of the transfer (tax) are less (greater) than the cumulative household shares of pre-fiscal income. In a Lorenz curve figure, a progressive transfer's (tax's) concentration curve would lie above and to the left (below and to the right) of the Lorenz curve for pre-fiscal income. This study calls a transfer (tax) regressive when the transfers received, measured as a share or fraction of pre-transfer income, rise (decline) with income. When taxes paid (measured as a share of pre-tax income) increase with income levels, they are by definition progressive.

Figure 4. Regressive tax and regressive transfer



Source: Authors

4. India's Fiscal Scenario

In India, fiscal policies are framed at both the Union and State levels, with the Union government enjoying a better financial position. Total fiscal revenue in 2011-2012 stood at 19.2 per cent of GDP. Table 1 provides an overview of public revenue sources for the fiscal year 2011-2012. Tax revenues are the most important source of revenue (88 per cent of the total), with non-tax revenues accounting for the rest (12 per cent). Tax revenue collection in 2011-2012 amounted to Rs 14,678.9 billion.

This study focuses on personal income tax, VAT, State and Union excise levies, entertainment tax and service tax. We also include estimations for EPF and NPS contributions to pensions. The government revenue considered in this paper amounted to 8.7 per cent of GDP and 50 per cent of tax revenue in 2011-2012. The most important source of tax revenue is the value-added tax (VAT), which accounted for 22.5 per cent of tax revenue. The final column of Table 1

presents the ratio between total collections estimated from household surveys and the one reported by fiscal data.

Table 1. India's total revenue in 2011-2012

	Included	Fiscal Accounts		A portion of fiscal accounts analysed			Total in HHD Survey	Ratio between survey total and fiscal accounts analysed (%)
		Rs Billion	% GDP	Rs Billion	% GDP	% Of total	Rs Billion	
Total Revenue & Grants		**16,770.6**	**19.2**	**7,605.2**	**8.7**	**45.3**	**1,774.1**	**10.6**
Taxes		14,678.9	16.8	7,343.1	8.4	50.0	1,707.1	11.6
Direct Taxes	-	5,014.0	5.7	848.9	1.0	16.9	105.8	2.1
Personal Income Tax	*Yes*	1,645.3	1.9	848.9	1.0	51.6	105.8	6.4
Others (Corporate Income Tax, Property Tax)	*No*	3.4	0.0				-	
Indirect Taxes	-	9,665.0	11.1	6,494.2	7.4	67.2	1,601.4	16.6
VAT	*Yes*	3,303.3	3.8	3,303.3	3.8	100.0	747.8	22.6
State Excise	*Yes*	747.6	0.9	747.6	0.9	100.0	197.3	26.4
Union Excise	*Yes*	1,449.0	1.7	1,449.0	1.7	100.0	387.1	26.7
Service Tax	*Yes*	975.1	1.1	975.1	1.1	100.0	264.1	27.1
Entertainment Tax	*Yes*	19.2	0.0	19.2	0.0	100.0	5.0	26.1
Custom Duties	*No*	1,493.3	1.7				-	
Other indirect taxes	*No*	1.7	0.0				-	
Social Contributions	*Yes*	262.1	0.3	262.1	0.3	100.0	67.0	25.6
Non-Tax Revenue	*No*	1,718.7	2.0					
Grants	*No*	29.6	0.0					

Source: Indian Public Finance Statistics 2013-2014, Combined Finance and Revenue Accounts, 2011

Major direct taxes such as income tax and corporate tax fall under the regulatory framework of the Union government. Direct taxes constituted about 34 per cent of India's total revenue in 2011-2012. In 2017, this figure dropped to 32 per cent (IPFS, 2017-18). Along with this, indirect taxes such as customs and Union excise are other important revenue sources for the Union government, accounting for close to 66 per cent of total tax revenue in the fiscal year 2011-2012. The Union Government shares its revenues from various sources with States in accordance with the recommendations of the Finance Commission, which makes these recommendations every five years.

As far as State governments are concerned, Sales Tax, known as VAT, remains an important source of revenue. Besides this, States have taxes such as State excise, entertainment tax and other levies[22]. State governments can amend laws related to these taxes, and as a result, tax rates are different across States. VAT is one of the most important taxes in India, and VAT rates differ across States for various categories of products[23].

Excise duty is collected by both the Union and State governments. The Union government collects union excise, and its proceeds are shared with States. Union excise is imposed on most

[22] These taxes existed in the pre-GST period. After the introduction of GST, these taxes are merged into one tax i.e., GST (Goods and Services Tax)

[23] In fiscal year 2011/2012, rice, dal, salt, and firewood were exempted from VAT. Coffee, coir, cotton, edible oil, and medicines had a VAT rate of 4-5%. Durable goods paid between 12.5-13.5%, while liquor and cigarettes paid over 20%.

manufactured goods, including tobacco products. In 2011-12, general union excise rates stood at 10 per cent. However, for some goods such as leather footwear and sports goods, the rate was 5 per cent. State excise is imposed on liquor, beer, foreign liquor, ganja, opium, hemp, and other drugs.

Excise duty rates on different items are listed under the Excise Act, and they are one of the important sources of State revenues. States change and modify their excise policy concerning their revenue needs. The definition of the rates and products varies by state, depending on whether the product is purchased at a supermarket, a canteen (armed forces store) or is imported from other States.

There is also a Service Tax that covers medical, personal, communication, and other services. Finally, entertainment tax is a State-level tax mainly levied on cinemas, theatres, fairs, picnics, club fees etc. States have their policies regarding entertainment tax.

Intending to unify the indirect tax structure in the country, the Goods and Services Tax (GST) Act came into effect in 2017. GST replaced most of the taxes under States' purview, such as VAT, excise, entertainment tax etc. Service tax, a part of GST, was earlier regulated by the Union government. Under the GST regime, Central GST is collected by the Union Government, while State governments collect state GST. In addition, integrated GST is collected by the Union government and shared with States. GST aims to simplify the indirect tax system by removing small taxes at various levels for commodity transactions.

Besides taxes, both the Union and State governments earn some of their revenue from non-tax sources. In 2017-18, this accounted for about 13 per cent of their combined revenue. Among non-tax revenue sources are the net profit from Public Sector Undertakings (PSUs), the RBI, and other government-owned units. In addition, the Central government earns some capital receipts through the disinvestment of PSUs, with States sometimes taking this route with PSUs under their purview.

The Union government collects revenue from various sources, as explained above, to spend on public goods. There is always a demand for increased government expenditure on education, health, nutrition, water, sanitation etc. (CBGA, 2021). The annual average growth of total government expenditure was around 14 per cent between 1995-96 and 2017-18.

The total fiscal expenditure of the government in 2011-2012 stood at Rs 23,478.635 billion, representing about 26.9 per cent of GDP (see column 2, Table 2). Table 2 presents the composition of India's expenditure for the fiscal year. Public social spending (social protection, health, education, and another social spending) came to around 5.9 per cent of GDP. Drilling down, education accounted for two-thirds of that spending and 3.9 per cent of GDP. Health and social protection follow in importance, accounting for 0.7 per cent and 0.6 per cent of GDP, respectively. Together, these expenses represented 21.9 per cent of total social expenditure (health: 12.1 per cent and social protection: 9.8 per cent). Finally, spending on other sectors —

such as housing, community services, sports, recreation, culture, and religious activities — amounted to 11.7 per cent of total social expenditure and 0.7 per cent of GDP.

Table 2. India's Total Expenditure in 2011-2012

		Fiscal Accounts		A portion of fiscal accounts analysed			Total in household Survey	Ratio between survey total and fiscal accounts analysed (%)
		Rs Billion	% GDP	Rs Billion	% GDP	% Of total	Rs Billion	
Total Expenditure		**23,478.3**	**26.9**	**4,844.5**	**5.5**	**20.6**	**3,537.1**	**15.1**
Social protection	-	506.2	0.6	452.8	0.5	89.4	177.0	35.0
Contributory pensions	*Yes*	*76.4*	*0.1*	*76.4*	*0.1*	*100.0*	*18.9*	*24.8*
Conditional & unconditional cash transfers	-	*253.6*	*0.3*	*253.6*	*0.3*	*100.0*	*125.0*	*49.3*
MGNREGS	*Yes*	232.8	0.3	232.8	0.3	100.0	*119.4*	*51.3*
Scholarships	*Yes*	20.8	0.0	20.8	0.0	100.0	*5.6*	*26.9*
Non-contributory pensions	-	*53.5*	*0.1*	*53.5*	*0.1*	*100.0*	*57.4*	*107.5*
Near Cash Transfers	-	*122.8*	*0.1*	*122.8*	0.1	100.0	*33.0*	*26.9*
Mid-Day Meal	*Yes*	114.7	0.1	114.7	0.1	100.0	30.9	*26.9*
Textbooks (elementary & secondary)	*Yes*	8.1	0.0	8.1	0.0	100.0	2.2	*26.8*
Education	-	3,445.9	3.9	2,522.3	2.9	73.2	2,062.2	*59.8*
Pre-school	*No*	103.1	0.1		-			
Primary [Elementary]	*Yes*	1,491.6	1.7	1,248.1	1.4	83.7	1,248.1	*83.7*
Secondary	*Yes*	855.7	1.0	814.1	0.9	95.1	814.1	*95.1*
University	*No*	548.3	0.6	322.6	0.4	58.8	322.6	*58.8*
Technical	*Yes*	443.6	0.5	134.0	0.2	30.2	134.0	*30.2*
Adult	*No*	3.5	0.0	3.5	0.0	100.0	3.5	*99.9*
Health	-	629.2	0.7	416.9	0.5	66.3	416.3	*66.2*
Contributory	*No*	14.4	0.0	-	-		-	
Non-contributory	*Yes*	614.9	0.7	416.9	0.5	67.8	416.3	*67.7*
HSC	*Yes*	8.9	0.0	8.9	0.0	100.0	8.9	*99.8*
PHC	*Yes*	102.1	0.1	102.1	0.1	100.0	102.1	*100.0*
Public	*Yes*	305.9	0.4	305.9	0.4	100.0	305.3	*99.8*
Other	*No*	197.9	0.2		-			
Housing & Urban	*No*	561.2	0.6	-	-	-	-	-
Another social spending	*No*	45.9	0.1	-	-	-	-	-
Subsidies	-	2,537.5	2.9	1,452.5	1.7	57.2	881.7	34.7
Electricity	*Yes*	383.4	0.4	383.4	0.4	100.0	213.3	*55.6*
Fuel	*Partial*	684.8	0.8	300.0	-		132.1	
Food	*Yes*	769.2	0.9	769.2	0.9	100.0	536.2	*69.7*
On agricultural inputs	*Yes*	700.1	0.8		-			
Other expenses	*No*	15.8	0.0		-			

Source: Indian Public Finance Statistics, 2013-2014, Combined Finance and Revenue Accounts, 2011

Among other things, both the Union and State governments spend about 3 per cent of their total expenditure subsidising food and 12 per cent on social security and welfare. The Union government mostly bears the food subsidy. State governments contribute additional resources to this effort to run their programmes. Subsidised food provided under the Public Distribution System (PDS) is one of the important programmes in the country to fulfil food and nutrition requirements.

State governments mainly bear the electricity subsidy. State governments distribute electricity to domestic, agricultural, industrial consumers and others. There are State-level differences in the prices charged for electricity use by different categories of consumers. As a result, spending on the electricity subsidy varies across States.

One important employment programme run in the country is the Mahatma Gandhi National Rural Employment Guarantee Scheme (MGNREGS). Under this programme, people in rural areas are guaranteed 100 days of employment. The Union government introduced the

programme in 2005 to provide job opportunities to people from the agriculture sector who remain seasonally unemployed. People who enrol for a job under MGNREGS are issued a job card. Both men and women are provided work by the government within a 5 km radius of their homes. Once a person is registered under the scheme, they are guaranteed 100 days of work and wages. The Union and State governments run this programme, with 75 per cent of the funding provided by the Union government and the rest by state governments.

We also analysed two pension programmes in this study: the National Pension System (NPS) and the Employees' Pension Scheme (EPS — run by the Employees' Provident Fund Organisation or EPFO). NPS is a voluntary, defined contribution retirement savings scheme designed to enable subscribers to make optimum decisions regarding their future through systematic savings during their working life. NPS seeks to inculcate the habit of saving for retirement among citizens. It is an attempt towards finding a sustainable solution to the problem of providing adequate retirement income to every citizen of India. Under NPS, individual savings are pooled into a pension fund and invested by professional fund managers overseen by PFRDA, the pension regulator. Under approved guidelines, fund managers invest the corpus at their disposal into diversified portfolios comprising government bonds, bills, corporate debentures, and shares. These contributions grow and accumulate over the years, depending on the returns earned on the investment. In the ordinary course, at the time of exiting the NPS, subscribers may use their accumulated corpus to purchase a life annuity from a PFRDA empanelled life insurance company, apart from withdrawing a part of the corpus in a lump sum. (Source: prfda.org.in). The mechanism of payment is a bank deposit.

Along with the above programmes, both the Union and State governments spend their revenues by building education and health infrastructure. Elementary education is universal, accessible, and compulsory for all citizens in the country under the 'Right of Children to free and compulsory education Act, 2009'. The 86th amendment of the Constitution ensures free and compulsory education for children aged 6-14 years as a fundamental right. Elementary education includes classes up to the seventh standard and secondary education until the 10th standard. Higher education includes colleges and universities. However, technical universities such as IITs (Indian Institutes of Technology) and NITs (National Institute of Technology) come under the technical education category. Adult education is provided to people (illiterate and unable to avail of education facilities) above the age of 15 to improve the literacy rate in the country. Various State governments provide free education with textbooks and uniforms as part of their development initiatives.

India has a mixed healthcare system, where the public and private sectors co-exist. Private healthcare service providers are concentrated in urban centres and mainly provide secondary and tertiary healthcare services. The public sector dominates the primary healthcare system in the country. Total public spending on health constituted 0.7 per cent of India's GDP in 2011-12. Health spending by the Union government accounted for 0.12 per cent while State governments' share stood at 0.58 per cent of total GDP. Primary healthcare has remained the priority in India's public health care system. Fifty-one per cent of the total government spending goes towards

primary healthcare, followed by 23.3 per cent for secondary and 13 per cent for tertiary healthcare services. Some State governments provide free medicines and have initiated various healthcare programmes such as free vaccination in government hospitals.

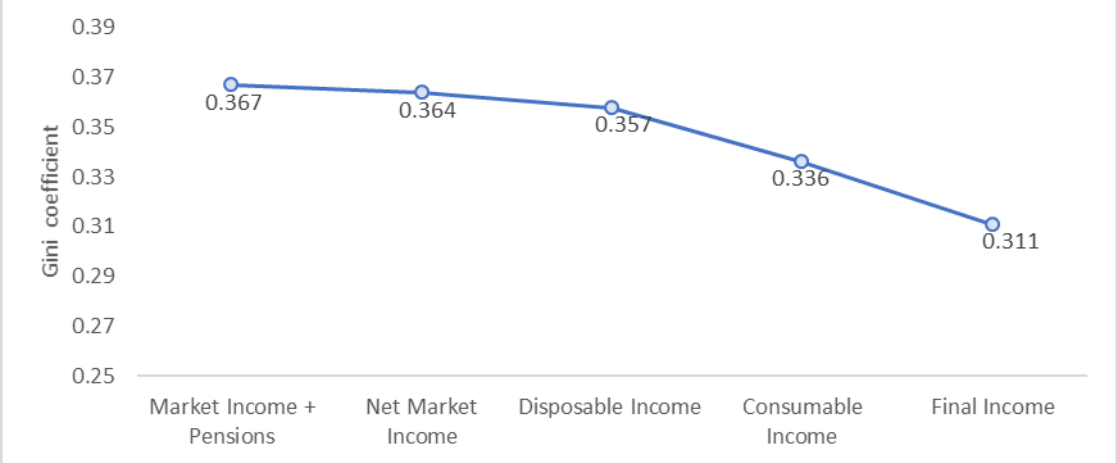
In the years 2017-2018, the developmental expenditure of the Union and State governments accounts for about 51 per cent of total spending (IPFS, 2017-18). Nearly half of the resources were spent on various non-developmental programmes. The gap between revenue collected and expenditure incurred in a year is the fiscal deficit. In 2017-18, the overall budgetary deficit stood at 6.4 per cent of GDP (IPFS, 2017-18). This fiscal deficit is primarily financed by internal market borrowings, apart from external debt. As in 2017-18, the combined debt of the Central and State governments stood at 72 per cent of India's GDP (IPFS, 2017-18).

5. Impact Analysis: Results

a. Net impact of the fiscal system on inequality

India's fiscal policy has a significant impact on inequality reduction. The Gini coefficient shows a declining trend under every income concept, starting from Market Income plus Pensions to Final Income. Inequality, measured by the Gini coefficient, contracts from 0.367 to 0.311, reducing 0.056 Gini points. This means that income distribution improved after adding taxes, indirect subsidies, and transfers (including education and health services), which tend to benefit the poor in relative terms. Even when the monetised value of education and health is excluded, a reduction of inequality is still evident, reducing the Gini coefficient by 0.031 points. If we only consider the impact of direct transfers, the inequality reduction is 0.009 Gini points.

Figure 5. Inequality (Gini coefficient) under the pre- and post-fiscal income concepts

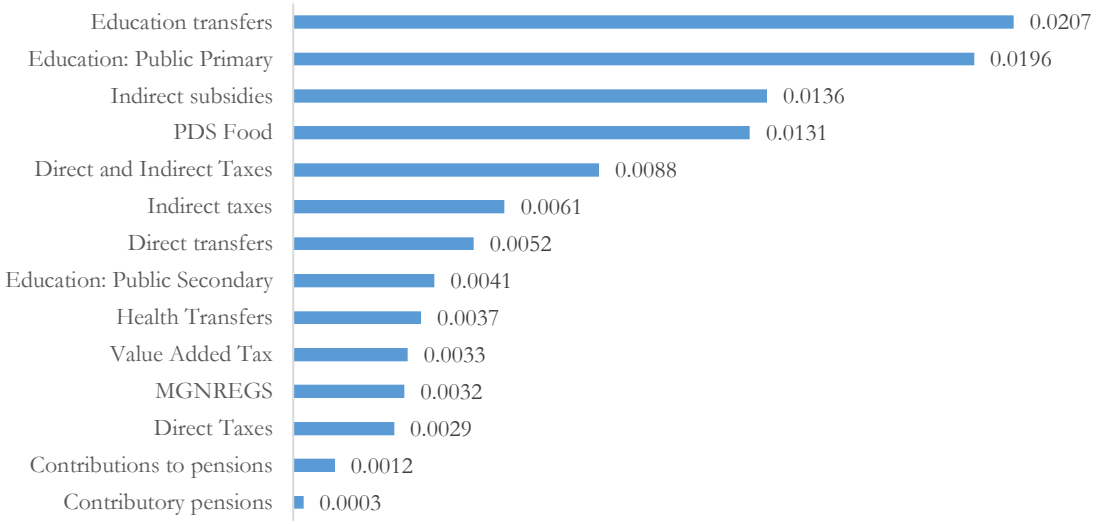


Source: Kundu & Cabrera, CEQ MWB, June 2020

The PDS programme makes the most significant contribution towards inequality reduction. The effect of this programme reduces the Gini coefficient by 0.01 points. To a lesser degree, MGNREGS also plays an essential role in reducing inequality. Value-added tax (VAT) and

personal income tax also have a lower inequality effect. When final income is considered, public primary education has the most significant impact on inequality reduction, even bigger than the PDS. Public secondary education has a higher redistributive effect than health transfers. However, technical education has an unequal impact.

Figure 6. Marginal contributions to inequality

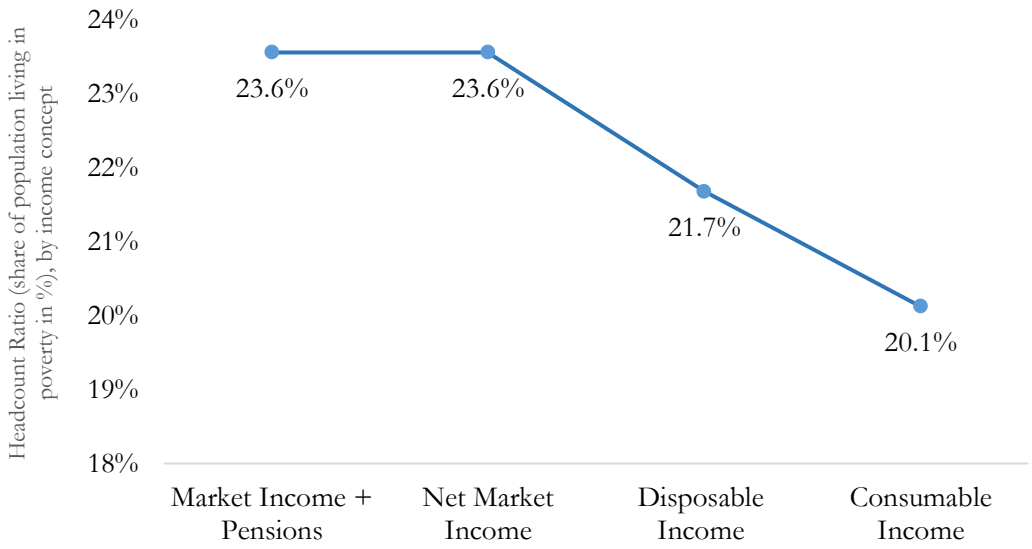


Source: Kundu & Cabrera, CEQ MWB, June 2020

b. The impact on poverty

Fiscal policy also has a significant impact on poverty reduction. In the case of poverty, the headcount ratio was reduced from 23.6 to 20.1 using the national poverty line and from 28.8 to 25.6 using USD1.9 PPP 2001. Direct transfers reduced poverty from 23.1 to 21.7, and the poverty reduction came almost entirely from MGNREGS (a decrease of 1.1 percentage points). In contrast with other countries, poverty in India does not increase from disposable to consumable income because of the significant effect of total subsidies compared to indirect taxes. Even though total indirect taxes increase poverty by 5.2 points, indirect subsidies reduce poverty by 5.9 points, so the net effect is poverty reduction. The programme that has a higher contribution to poverty reduction is the PDS food programme, with a contribution equal to 4.4 points of poverty reduction.

Figure 7. Poverty impacts of the fiscal system (measured using national poverty line)



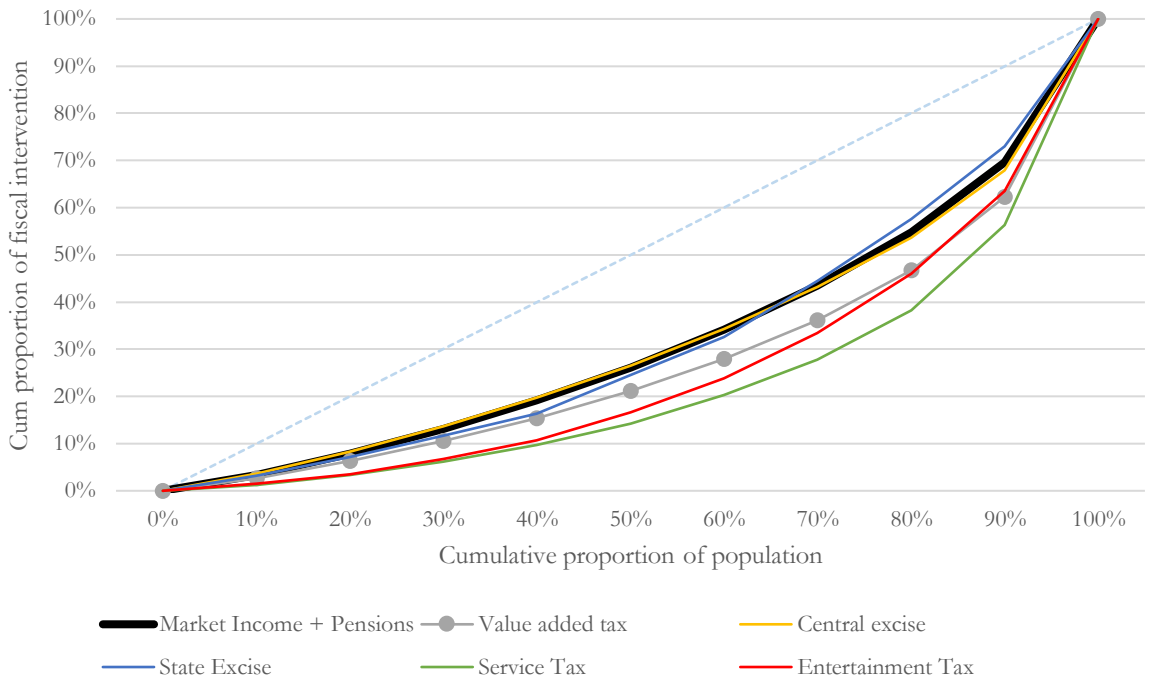
Source: Kundu & Cabrera, CEQ MWB, June 2020

c. Effect of taxes

Indirect taxes and subsidies

We have taken monthly expenditure from the 2011-12 NSS household consumption expenditure survey as disposable income. This consumption expenditure includes various taxes paid and subsidies received by households. The structure of the household consumption basket reveals that taxes paid by households during a purchase are value-added tax (VAT), State excise, Central excise, entertainment tax and service tax. We estimated each tax paid by a household in its total consumption expenditure. In doing so, we found that VAT, service tax and entertainment tax are progressive. At the same time, Central Excise and State Excise are proportional to income or neutral to pre-fiscal distribution (see Figure 8).

Figure 8. The progressiveness of indirect taxes concerning Market Income plus Pensions



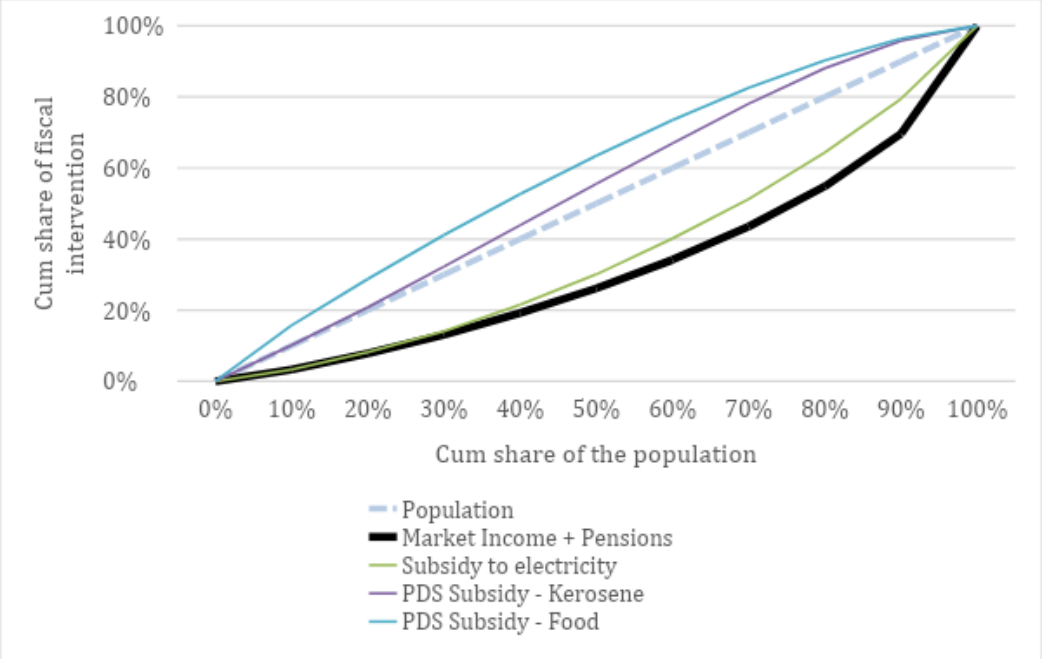
Source: Kundu & Cabrera, CEQ MWB, June 2020

For a tax to be considered progressive, the concentration curves should lie below the Lorenz income curve, Market Income plus Pensions. As seen in Figure 8, the concentration curves for VAT, Entertainment Tax and Service Tax meet this condition, and all are considered progressive. Moreover, since the VAT and Service Tax concentration curves lie far below the others, these taxes represent a higher degree of progressiveness. The accumulated share of Service Tax paid by the first three deciles is only 5 per cent of the total, probably because most services under this tax are not very representative of the consumption basket of the poorest households. Entertainment tax has a pattern similar to Service Tax. For VAT, the first three decile classes account for about 10 per cent of the total collection. In contrast, the accumulated share of taxes paid by the ninth and tenth deciles under Entertainment Tax, Service Tax and VAT is more than 50 per cent of the total. State and Central excise and Entertainment Tax are neutral or proportional to income. So, the distribution of the tax payments in the population mimics the income distribution.

The progressiveness of VAT can be seen in the tax exemption on goods consumed mainly by the lower-income deciles. Another explanation for this is that the incidence analysis is consumption-based and factors in the higher savings of the top income levels. Cubero and Vadklova (2010) explained, "Consumption tends to be more evenly spread than income, and as a result, the ratio of consumption to income for the poorest income groups tends to be much higher than for the richer ones."

The concentration curves should lie above the Lorenz income curve for a subsidy to be considered progressive. If the concentration curve lies above the line of equality, the subsidy could be regarded as pro-poor. Some of the important subsidies provided by the Union and State governments are the food subsidy and the kerosene subsidy provided under the Public Distribution System (PDS). The distribution curves for these two subsidies lie above the equity line (45^0 line), showing that they are pro-poor. In the case of the electricity subsidy, the concentration curve lies below the line of equality but above the Lorenz income curve. Hence, this subsidy is progressive because its income share is more significant for lower-income households. In the case of the PDS, the absolute value of these subsidies is higher for the poorest households.

Figure 9. The progressiveness of indirect subsidies with respect to Market Income plus Pensions



Source: Kundu & Cabrera, CEQ MWB, June 2020

If the distribution curve is above the equity line, it indicates that a larger share of total resource allocation goes to the poorest sections of society. As presented in Figure 9, the distribution of the food subsidy under PDS is fairer to the lower decile classes. About 30 per cent of the total allocation goes to the first two decile classes, while the 10^{th} decile receives only 3 per cent. The distribution curve for kerosene lies below the food subsidy curve and is very close to the equity line, indicating that resource allocation is equal across all decile classes. The electricity subsidy curve lies below the equity line, representing its regressiveness in resource allocation. People in the lower-income class receive fewer electricity subsidy benefits as a share of their income. The first decile class receives 3 per cent of the electricity subsidy allocation, while the last decile receives 20 per cent.

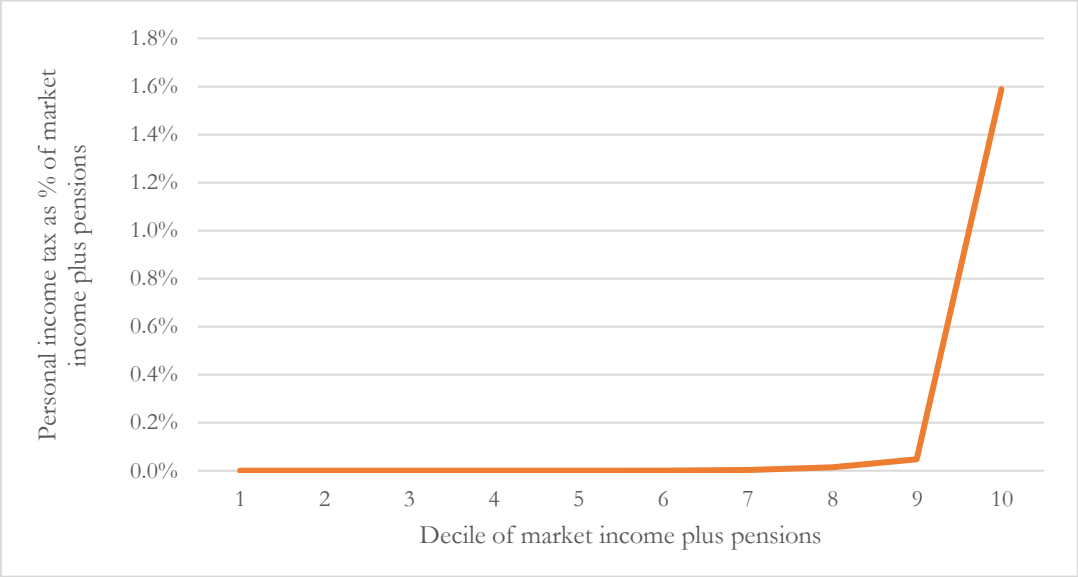
It is known that taxes are an outgo of income, while subsidies add value to pay. Net taxes, i.e., taxes minus subsidies, have a particular impact on the payment of households in each decile. The net effect of indirect taxes and subsidies on poverty reduction is 0.56 points, with inequality falling by 0.02 points.

Direct Taxes

Income tax forms a large part of government revenue in India. In 2011, it amounted to around 1.9 per cent of India's GDP.

Income tax is paid mainly by people at the top of the income pyramid. Our estimate found that India's income tax contribution comes from the 10th income class decile, except for a contribution of less than 0.04 per cent from the ninth decile (Figure 10). No individual from the first to eighth decile class pays income tax.

Figure 10. Personal Income tax incidence by decile (as % of market income plus pensions)



Source: Kundu & Cabrera, CEQ MWB, June 2020

Income tax is a progressive tax, and there are a few reasons for this. First, the tax's structure itself underlines its progressive nature. For instance, in the fiscal year 2011-12, the lowest tax bracket — the starting point for annual income to be taxable — was Rs 2.5 lakh, keeping an extensive section of the population outside the tax net.

Secondly, the country's economic structure excludes a large section of the population from the tax net. Income from agriculture, a critical sector that contributed about 17 per cent of India's GDP in 2011-2012, remains outside the tax net. Beyond the Agriculture sector, there is a broader informal economy. According to the NSSO 2015-16 report, unincorporated non-agricultural enterprises, excluding those from the construction sector, constitute about 9 per cent of India's GDP. These two large informal sectors account for over 80 per cent of the employment

generation in the country. Wages paid to and received by employees in the informal sector remain outside the book of accounts and, therefore, outside the tax net.

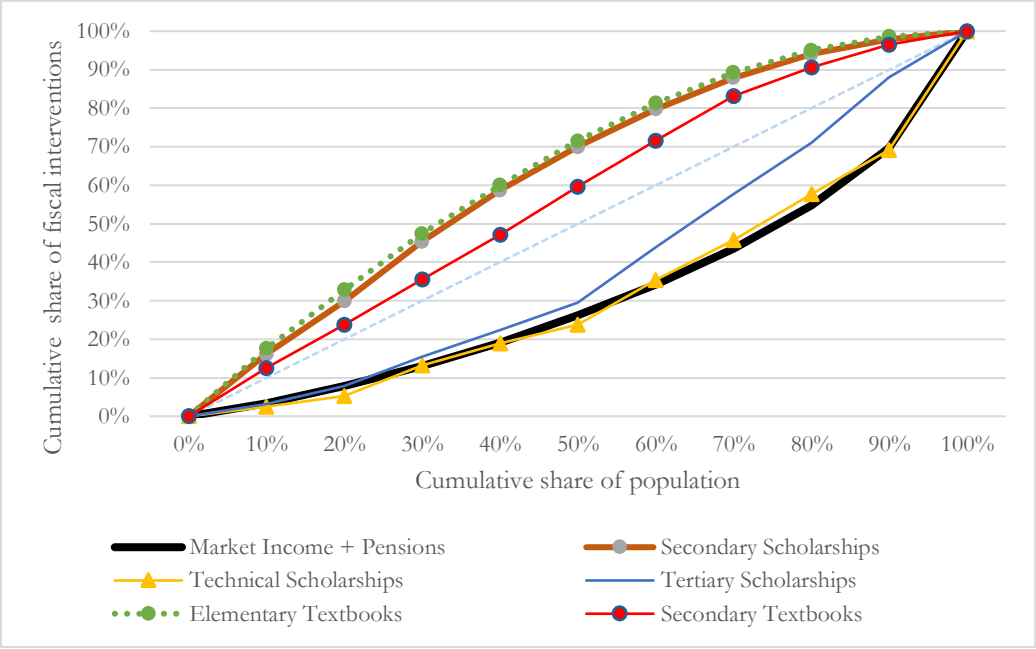
Employees, mostly the salaried class and those working informal sectors, make up India's registered income tax-paying population. Some belong to the ninth decile, and most fall in the 10th decile. Despite various limitations, income tax in India reveals its progressive nature by not touching people at the bottom of the pyramid. At the same time, it contributes a big chunk of government revenue, which is then used for various developmental programmes.

d. Social spending

Direct Transfers

Most government programmes classified as direct transfers, such as Mid-Day-Meals[24], non-contributory pensions (IGNOAPS, IGNOWPS), scholarships for elementary education and MGNREGS, are pro-poor per capita transfer is higher for lower-income households. Distribution curves for all these programmes lie above the equity line, indicating the distribution of resources to the lower end of the income pyramid. Consequently, these programmes directly influence people's living standards in the lower-income deciles.

Figure 11. The progressiveness of Direct Transfers with respect to Market Income plus Pensions



Source: Kundu & Cabrera, CEQ MWB, June 2020

[24] CEQ methodology classified school food programmes, such as Mid-day meals, as near-cash transfers. It assumes that "although not cash, (these) are considered a direct transfer because they have a well-defined market value and are close substitutes for cash." (Higgins and Lustig, 2018, p. 248).

Students at the elementary level receive Mid-Day-Meals (MDM) to reduce dropout ratios while improving nutrition levels through food supplements. According to our estimates, 32 per cent of the total beneficiaries of this programme are from the 1st, and 2nd market income plus pensions decile and only 5 per cent are from the 9th and 10th decile.

Along with MDM, both old-age pension schemes, IGNOPAS (old-age) and IGNWPS (widows), have a significant and beneficial impact on the standard of living of aged people. In the case of these pensions, a large share of public spending goes to the lower-income sections of society. Our estimates found more than 30 per cent of the total benefits concentrated in the first two deciles while around 12 per cent benefited the top two deciles.

Scholarships at the elementary level help lower-income students. In a way, this benefit significantly impacts poverty and income distribution. The distribution curve for scholarships lies above the equity line, indicating its progressiveness. Moreover, the benefits of elementary scholarships are concentrated with the poorest households. In contrast, the benefits increase for upper-income deciles when the educational level is higher, as evident in the following table.

Table 3. Distribution of scholarship beneficiaries per Market Income plus Pensions decile

Decile	Elementary	Secondary	Technical	University
1	21.4	16.2	2.5	3.2
2	16.6	13.8	2.7	4.6
3	16.1	15.5	8.0	7.7
4	13.9	13.4	5.8	6.9
5	10.8	11.2	5.0	7.1
6	7.7	9.8	11.5	14.3
7	6.1	8.2	10.6	13.9
8	4.3	6.1	11.9	13.4
9	2.3	3.8	11.4	16.8
10	0.9	2.2	30.9	12.0
Total	100.0	100.0	100.0	100.0

Source: Authors' estimation using CEQ Methodology

MGNREGS is another important direct-transfer initiative. The programme has made a substantial contribution in helping improve the standard of living of people at the bottom of the pyramid. The main feature of MGNREGS is that it guarantees 100 days of wage employment to rural households, thereby providing them with a livelihood. Workforce participation in this programme is mostly seasonal in nature. The programme helps in employing labourers from the agriculture sector who find no work after the harvest is over and remain unemployed between the two agriculture seasons in a year. The MGNREGS programme provides them short-term employment during this period.

The distribution curve for MGNREGS spending lies above the equity line, showing its progressive nature. About 70 per cent of MGNREGS spending is concentrated with income groups in the first four deciles. The progressiveness of the programme is evident from the fact

that its beneficiaries are from rural areas and mostly seasonally unemployed agricultural workers. About 17 per cent of rural households engaged in agriculture do not own agricultural land (NSSO, 2013). They, however, depend on agriculture for a living, either leasing land from others or working on other landowners' fields. It is pertinent to note here that these labourers have meagre paying jobs that are not very sustainable — agriculture does not provide them employment throughout the year.

The impact of direct transfers can be seen in reducing the poverty ratio by about 2 per cent and reducing Gini inequality by 0.01 points with the addition of direct transfers to the household income.

Education

CEQ findings for India show that public spending on education is closely linked to inequality reduction. Total education expenditure contributes to inequality reduction and, according to our estimation, reduces the Gini coefficient by 0.03 points. Even though the CEQ methodology has not evaluated the effects of education on poverty, several other studies have found that education is key to poverty reduction[25].

The total expenditure in education for all levels is progressive. Elementary education is pro-poor because the sum monetised benefits of education going to public and transfers to private school are higher for lower-income households. Secondary education is not pro-poor and only progressive because the sum of public and transfers to private schools' expenditure are proportionally higher for lower-income households[26]. Tertiary education (public and transfers to private schools) is neutral or proportional to pre-fiscal income as well as Technical education. Finally, adult education is pro-poor. So, the sum of public education and government-aided private schools is progressive. However, while tertiary and technical education is neutral, secondary education is progressive, and elementary and adult education are pro-poor.

School education, which includes both elementary and secondary education, remains a priority in the drive to reduce inequality due to its broader coverage in terms of population. The 71st round of the NSS household social consumption survey on education, 2014, found that about 273.7 million students attend educational institutions at various levels. Of them, about 78 per cent are in school, while the rest are in other groups. Of the total enrolment in school education, back; 64 per cent is in the elementary level, and 15 per cent is in the secondary level (NSSO, 2014). Most of these beneficiaries belong to rural areas — 73 per cent in the case of elementary and 62 per cent in the case of secondary education.

Public spending on school education, both at the elementary and secondary level, is pro-poor as it benefits a large section of the rural poor. According to our estimates, close to 80 per cent of

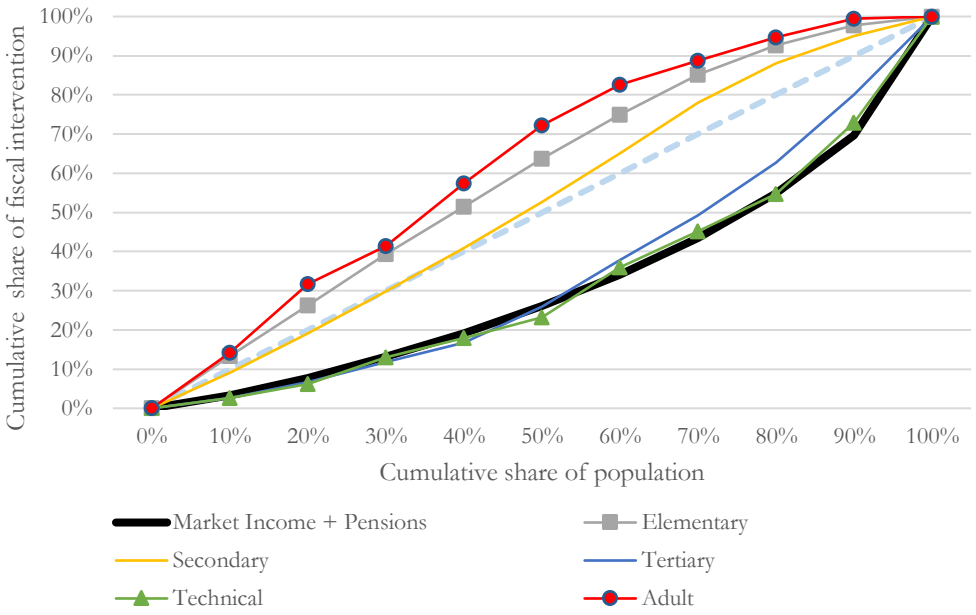
[25] For example, in a study of Delhi slum dwellers, Tsujita (2014) found that education "enhances the earnings of male slum dwellers in particular, the overwhelming majority of whom suffer from informality and instability of employment. It also emerges that education plays an important role in the ability to participate with confidence in the public sphere."

[26] However, there is a massive drop in attendance levels at the secondary level of education. According to World Bank data, gross enrolment stood at 108 per cent for elementary education in 2011 but was at 66.3 per cent for secondary education.

the elementary and secondary education recipients reside in rural areas. Besides, the concentration curve of elementary and secondary education benefits is far above the equity line, as presented in Figure 12. For elementary education, about 40 per cent of the total benefits are concentrated in the first three deciles, whereas only 2 per cent of benefits lie in the 10th decile. Similarly, the 10th decile accounts for 5 per cent of total public spending benefits in the case of secondary education.

Public spending on tertiary and technical education provided by various public institutions is neutral or proportional to income[27]. The distribution curve for these two indicators is close to the Lorenz curve for market income plus pensions. This indicates that public spending in these two areas is concentrated similarly in market income plus pensions. The concentration is above 20 per cent in the 10th decile. People at the bottom of the income pyramid benefit the least from tertiary and technical education.

Figure 12. The progressiveness of public education with respect to Market Income plus Pensions



Source: Kundu & Cabrera, CEQ MWB, June 2020

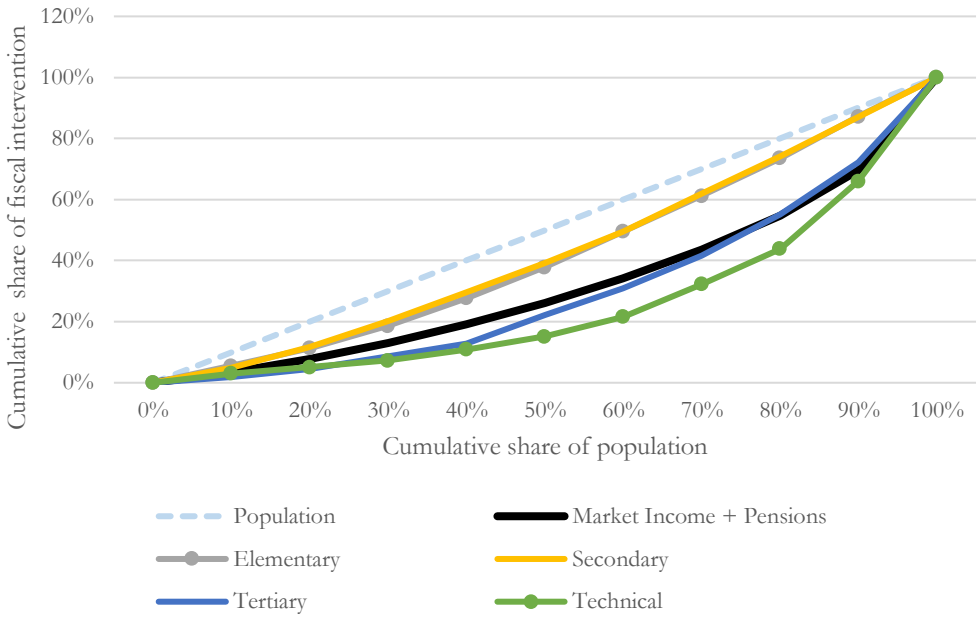
Private aided spending on school education, both at the elementary and secondary level, is progressive but not pro-poor, as this expenditure is relatively higher for lower-income households. However, the per capita expenditure here is not as high as public education for the poorest sections.

Government-aided to tertiary and technical private education is regressive, so higher expenditure for upper-income households. In the case of technical education, a mere 20 per cent of

[27] According to our estimates, the Kakwani coefficient for technical education is only 0.01, while it is 0.05 for tertiary education. Besides, the marginal contribution for both fiscal interventions is zero (-0.0002 for tertiary and -0.0003 for technical education).

government-aided private education expenditure goes to 60 per cent of households. About 30 per cent of expenditure goes to the first six deciles for tertiary education.

Figure 13. The progressiveness of government-aided private education with respect to Market Income plus Pensions

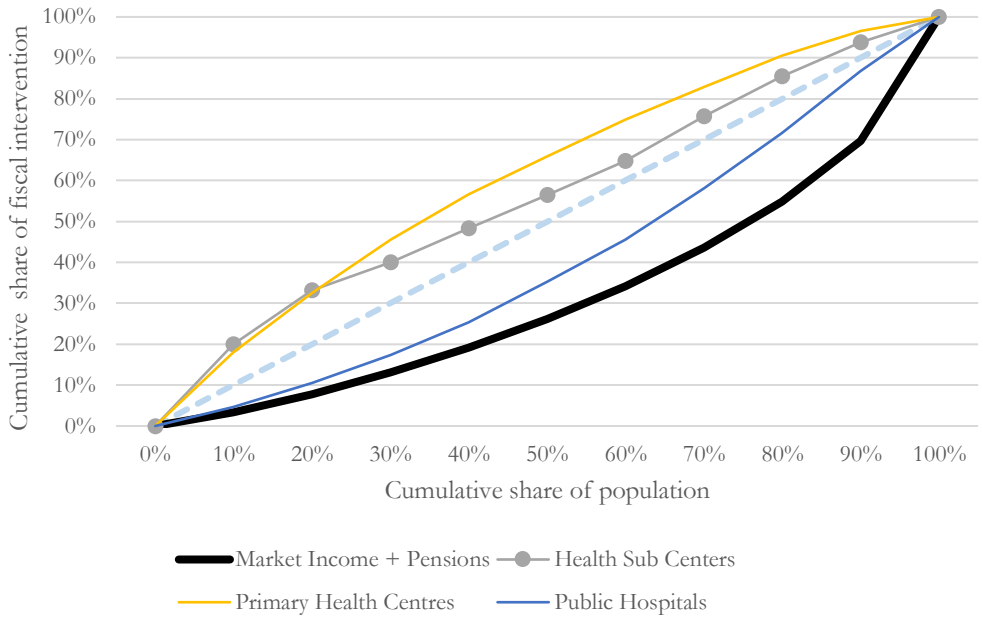


Source: Kundu & Cabrera, CEQ MWB, June 2020

Health

Along with school education, the level of public healthcare has a strong link with poverty levels. Government hospitals provide free treatment to people and remain the lifeline of the poor. Hospital infrastructure and doctor services are free because of government funding. Among government hospitals, there is a large chain of primary health centres (PHCs) across villages in India.

Figure 14. The progressiveness of health benefits with respect to Market Income plus Pensions



Source: Kundu & Cabrera, CEQ MWB, June 2020

The distribution curve for public spending on PHCs across deciles lies above the equity line, indicating its progressiveness. Households from the lower two deciles received about 33 per cent of the total health sub-centre spending, whereas the top two deciles share only seven per cent. The progressiveness of PHCs results from their wider spread in rural areas. There are about 25,000 PHCs providing healthcare services to over 0.5 million villages across the country. Because of the extensive network in rural areas, people from lower-income economic backgrounds benefit from these services.

Health sub-Centres (HCs) are pro-poor because of their reach in rural and backward areas. They provide services to people from lower-income deciles. In Figure 14, the concentration curve for HCs lies above PHCs for the first two deciles.

Our findings show that spending on public hospitals is progressive. These hospitals are primarily located in sub-district and district headquarters and have many hospital beds, doctors, and other infrastructure facilities. Services in these hospitals are free, and people from every corner of the district access them. We found that people from the 7th to 10th deciles avail the maximum benefits, about 54 per cent of the total benefits. People in the lower-income deciles avail relatively fewer benefits from public hospital services. In some cases, it is observed that people from rural hinterland faces financial problems combined with inadequate transport facilities to come to the district headquarters to avail the benefits of public hospitals. But, no doubt, public hospitals are the institutions set up to cater services to the people. In terms of the distribution of benefits from a public hospital, it is found that the lowest 40 per cent receives 24 per cent of

the total benefits. However, their income share is 19 per cent. This still means they receive more benefits from public spending on hospitals relative to their income share.

The concept of final income defines the overall impact of public spending on education and health. The progressiveness of school education and PHC services positively impacts income distribution. The Gini coefficient of inequality shows a reduction of 0.05 points because of public spending on education and health from 0.36 at the disposable income stage.

6. Conclusion

Fiscal policies play a key role in reshaping income distribution in India. There are differences in policies at the Union, State, and Municipal or city level, which have an individual and combined impact on the country's standard of living. These policies include decisions on direct and indirect taxes, subsidies, pensions, and other direct transfers, as well as public spending on education and health.

This study tries to analyse the individual and combined impact of these policies on poverty and income distribution in India. The report has used household consumption expenditure data from the National Sample Survey (NSS) of such expenditure, undertaken in 2011-12, as the base for its income-distribution analysis. It has also used other surveys, such as the NSS survey of household consumption expenditure on Education and Health, conducted in 2014, the Indian Human Development Survey, and NSS Employment and Unemployment survey in 2011-12, to impute values of cash and in-kind transfers, as well as direct taxes.

After a detailed examination of all the policies, we found that government interventions play a significant role in reshaping income distribution by reducing poverty and inequality. India's taxation policies are progressive, as the lion's share of taxes is collected from the top 10 per cent of the population. Similarly, policies such as the Public Distribution System (PDS) subsidy, spending on education and health, and direct cash transfers through the rural employment scheme MGNREGS play an equalising role in overall income distribution.

PDS food subsidies are pro-poor, while the remaining subsidies are progressive. All indirect taxes are progressive in relative terms, with some exceptions, such as excise, that are neutral. Hence, we did not find a regressive effect in indirect taxes that could reduce the effect of PDS subsidies, which were not only pro-poor but, due to their size, had a significant impact in terms of inequality reduction.

Public spending on elementary and adult education is pro-poor, while secondary education is progressive, and tertiary and technical education is neutral. Public elementary and secondary education are pro-poor, while government-aid to tertiary and technical education institutions are regressive. In addition to education, public spending on healthcare directly impacts poverty reduction. Primary Health Care (PHC) services are more progressive among government health services.

Direct transfers are pro-poor, mainly through programmes such as MGNREGS. The marginal effect of MGNREGS is essential in terms of inequality, as evident from the reduction of 0.004 Gini points. Therefore, the programme serves the purpose it was designed for by providing employment to the lower-income deciles from rural areas. Moreover, near-cash transfers, such as the Mid-Day Meal scheme, scholarships, and free textbooks at the primary school level, are pro-poor and, due to their size, have a significant effect on reducing inequality.

According to our estimates, Personal Income Tax is concentrated in the 10th decile, barely paid by those in the 8th and 9th deciles, and not paid at all by those in the 1st to 7th deciles. This is the reason for this tax being progressive.

The study found that the overall impact of fiscal policies contributes to poverty and inequality reduction. However, there is a need for a sustained effort to ensure these policies reach the right people. There is also a need to allocate adequate resources towards public education, public health and MGNREGS, as they directly address the problems of the poor. As part of its commitment to achieving the SDG goal of eliminating poverty and reducing inequality to a minimum level by 2030, India must redouble its efforts.

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