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To what extent has the Goods and Services Tax (GST) benefited the poorest half in India between 2017 and 2025?

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Abstract
Debate over whether India's Goods and Services Tax (GST) is progressive or regressive has generally treated tax design, household tax burdens and redistribution as separate questions. This study integrates these dimensions through a structured narrative synthesis of evidence from 2017–2025, a descriptive analysis of inflation-adjusted government and Centrally Sponsored Scheme (CSS) expenditure, and an exploratory fiscal-incidence model using 2023–2024 Monthly Per Capita Consumption Expenditure (MPCE) data and the 2017 GST-rate schedule. The synthesis shows that apparently conflicting findings often measure different outcomes: higher-consumption households pay more GST in absolute terms, while lower-income households may bear a greater burden relative to income. CSS expenditure did not show a sustained increase as a proportion of total government expenditure during the post-GST period examined. Between 2016–2017 and 2023–2024, the cumulative increase in real CSS expenditure was equivalent to approximately 9.4% of the cumulative increase in real total expenditure. Under the model's assumptions, the bottom 50% of the MPCE distribution has an estimated positive net fiscal position of ₹1,716 per person annually, compared with estimated net burdens of ₹633 for the middle 30% and ₹5,251 for the top 20%. Relative to a joint uniform-tax and no-transfer baseline, the differentiated GST-rate structure accounts for approximately 30.3% of the modeled improvement in the position of the bottom 50%, whereas the assumed transfer allocation accounts for approximately 69.7%. The study's central contribution is to show that absolute GST payments, burdens relative to income and combined tax-and-transfer incidence describe distinct dimensions of distributional effect and should not be treated as interchangeable measures of progressivity. The resulting positive position of the bottom 50% is modest, assumption-dependent and driven predominantly by modeled redistribution; it cannot be interpreted as a causal benefit produced or financed by GST revenue. This decomposition motivates future evaluation of whether greater progressivity could be incorporated directly into GST design through consumer-tiered rates on essential goods.

Keywords
Goods and Services Tax, GST incidence, Fiscal redistribution, Tax progressivity, Indirect taxation, Consumption inequality, Household expenditure, Social spending, India, Fiscal policy

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1. Introduction

Economic inequality remains a central concern in the evaluation of public policy. Although inequality between countries has declined in some measures, inequality within countries has increased in many settings, directing greater attention toward the national institutions that shape access to resources, living standards and the distribution of economic opportunity (1). Taxation and public expenditure are among the principal mechanisms through which governments can modify these distributions. Their effects, however, cannot be inferred from statutory tax rates or aggregate expenditure alone; they depend on who pays, who receives public benefits and how those payments and benefits compare with household economic capacity.

This study examines the distributional position associated with India's Goods and Services Tax (GST), with particular attention to the lower half of the population. The expression "poorest half" requires careful qualification because the literature does not employ a single measure of economic position. Some studies rank households by income, whereas the quantitative analysis in the present study ranks population groups by Monthly Per Capita Consumption Expenditure (MPCE). References to the bottom 50% therefore retain the classification used by the underlying source: income groups when discussing income-based studies and MPCE groups when reporting the present fiscal-incidence model.

The study combines three forms of evidence: a structured narrative synthesis of research published in the broader 2017–2025 period; a descriptive analysis of inflation-adjusted total government and Centrally Sponsored Scheme expenditure; and an exploratory fiscal-incidence model using 2023–2024 household-consumption data and the 2017 GST-rate schedule. The analysis distinguishes absolute GST payments from burdens relative to income or consumption and then compares the estimated tax burden with a modeled allocation of public expenditure. It does not estimate a causal effect of GST on household welfare or assume that Centrally Sponsored Scheme expenditure was financed specifically by GST revenue.

The analysis indicates that India's differentiated GST rates reduce the absolute burden imposed on lower-MPCE groups relative to a uniform-rate counterfactual. Under the model's assumed allocation of Centrally Sponsored Scheme expenditure, the bottom half of the MPCE distribution also has a positive net fiscal position. That result is driven predominantly by the modeled transfer allocation rather than by the differentiated GST-rate structure itself. The relevant distributional question is therefore not simply whether poorer households pay less GST in rupee terms, but whether the combined incidence of consumption taxation and public expenditure produces a more favorable fiscal position for them.

1.1 Inequality and deprivation in India

The distributional consequences of the GST must be interpreted within the broader and multidimensional structure of inequality in India. Inequality may be measured using income, consumption, wealth or non-monetary

dimensions of deprivation, and these measures need not move in the same direction. The Gini coefficient summarizes the degree to which a particular resource is distributed unequally, but its interpretation depends critically on whether the underlying measure is income or consumption.

Official household-consumption estimates indicate that the Gini coefficient of consumption expenditure declined from 0.283 in 2011–2012 to 0.266 in 2022–2023 in rural India and from 0.363 to 0.314 in urban India (2). The corresponding coefficients declined further in 2023–2024, to 0.237 in rural India and 0.284 in urban India (3). These consumption-based estimates should not be interpreted as demonstrating correspondingly low income or wealth inequality because the measures capture different dimensions of economic distribution. These estimates suggest that measured consumption expenditure became more equally distributed over the period examined. They should not, however, be interpreted as evidence that India is correspondingly equal in income or wealth. Consumption is generally distributed more evenly than income because households may smooth expenditure through savings, borrowing or transfers, while consumption surveys may not fully capture expenditure at the extremes of the distribution.

Measures of deprivation likewise show that substantial economic vulnerability persists despite the decline in measured consumption inequality. India's Multidimensional Poverty Index of 0.067 indicates that approximately 16% of the population experiences overlapping deprivation in health, education and living standards (4). At the World Bank's revised lower-middle-income poverty line of $4.20 per person per day in 2021 purchasing-power-parity terms, an estimated 23.9% of India's population lived below the threshold in 2022–2023 (5). These measures capture dimensions of material disadvantage that cannot be inferred from the consumption Gini alone.

These poverty indicators coexist with pronounced concentration at the upper end of the distribution: estimates for 2022–2023 indicate that the top 1% received 23.3% of national income and held 40.1% of national wealth (6). The number of billionaires is not itself a comprehensive measure of wealth inequality, but its coexistence with widespread monetary and multidimensional poverty illustrates why a favorable movement in average consumption inequality does not resolve broader questions of distributive justice. India simultaneously exhibits rapid aggregate economic growth, substantial wealth accumulation and continuing deprivation of basic needs. This combination makes the incidence of taxation and public expenditure particularly consequential.

1.2 The GST and the distributional question

The GST, introduced in 2017, represents one of India's most consequential recent fiscal reforms. It replaced multiple central and state indirect taxes with a more integrated value-added tax on the supply of goods and services. Although the legal liability is collected through firms along the production and distribution chain, the economic incidence of the tax may

ultimately be passed to consumers through prices.

The original GST structure assigned goods and services to several statutory rates, principally 0%, 5%, 12%, 18% and 28%, according to their classification and perceived necessity. The rate structure underwent further rationalization in September 2025. Under the original design, many essential goods were exempt or assigned comparatively low rates, whereas numerous discretionary, luxury and demerit goods were taxed more heavily. The reform was promoted as a means of simplifying indirect taxation, reducing cascading taxes and lowering the costs of goods and services for consumers (7). Lower rates on necessities also gave the structure a potentially progressive distributional feature because lower-consumption households devote a larger share of their expenditure to essential goods.

Product differentiation alone does not establish that the GST reduces inequality. All purchasers of a particular product ordinarily face the same statutory rate, even though the payment may represent very different proportions of their respective incomes. A lower-income household may therefore pay less GST in absolute rupees while experiencing a greater sacrifice relative to income. Conversely, a higher-consumption household may pay more in absolute terms because it purchases more goods overall and allocates more expenditure to highly taxed categories.

The distributional effect of a fiscal system cannot be inferred from statutory tax rates alone: it requires comparison of household resources before and after taxes and transfers, while also identifying households that pay more in taxes than they receive in benefits (8). Consequently, the incidence of the GST must be considered alongside the distribution of the expenditure notionally associated with the fiscal system. An indirect tax that appears regressive relative to income could form part of a progressive overall fiscal system if the associated public expenditure disproportionately benefits lower-income households. Conversely, a differentiated tax structure that appears progressive in absolute payments may fail to improve the position of poorer households if the resulting public resources are not distributed progressively. Evaluating the GST therefore requires analysis of both the tax burden and the incidence of public expenditure, while avoiding the unsupported assumption that a particular expenditure program was financed directly by GST revenue.

1.3 Study objectives and scope

The principal aim of this study is to assess the extent to which India's GST is associated with a favorable fiscal position for the poorest half of the population during the broader period from 2017 to 2025. The specific objectives are to

1. reconcile apparently conflicting findings that characterize the GST as progressive or regressive by distinguishing among absolute tax payments, tax burdens relative to income or consumption, and the effects of public transfers.
2. examine whether changes in total government expenditure following the introduction of the GST were accompanied by

corresponding changes in expenditure on Centrally Sponsored Schemes.
3. estimate the annual per-capita GST burden, modeled transfer benefit and resulting net fiscal position of MPCE groups using 2023–2024 household-consumption data.
4. use uniform-tax and no-transfer counterfactuals to examine the respective contributions of the differentiated GST-rate structure and the modeled transfer allocation to the fiscal position of the bottom 50% of MPCE groups.

The components of the study have different temporal scopes. The structured narrative synthesis addresses evidence concerning the broader 2017–2025 period. The government-expenditure analysis examines fiscal-year data from 2015–2016 through 2023–2024, allowing descriptive comparison around the introduction of GST. The quantitative fiscal-incidence model represents a single illustrative year, 2023–2024, and applies the 2017 GST-rate schedule to that year's consumption data. It therefore does not estimate a longitudinal fiscal position for every year from 2017 to 2025 or incorporate subsequent changes in statutory rates.

The study's contribution lies in placing tax design, absolute household tax burdens and modeled redistribution within a common analytical framework. This approach permits the progressive and regressive findings in the literature to be interpreted as potentially complementary rather than mutually exclusive and provides the basis for distinguishing the limited protection generated by differentiated product rates from the larger modeled contribution of public transfers.

2. Institutional and distributional context of India's GST

The distributional consequences of India's Goods and Services Tax (GST) must be considered against the limited redistributive effect of the country's wider fiscal system. In 2011, before the introduction of the GST, India recorded the smallest reduction in income inequality after taxes and transfers among the selected countries presented in Figure 1 (9). Although this comparison predates the GST and does not establish the distributional effect of the subsequent reform, it illustrates the comparatively weak equalizing effect of India's tax-and-transfer system at that time.

The GST was introduced in 2017 primarily to replace and simplify what had been described as a "complex and fragmented" system of indirect taxation (10). The preceding regime comprised multiple central and state taxes, including excise duties, value-added taxes and service taxes, which were applied at different rates and to different tax bases. In addition to increasing administrative burdens and making final prices more difficult to determine, this structure permitted tax cascading, in which tax imposed at one stage of the supply chain became part of the price on which tax was subsequently calculated. The GST sought to reduce this complexity by subsuming many overlapping indirect taxes within a common framework and was consequently promoted under the description "One Nation, One Tax" (10).

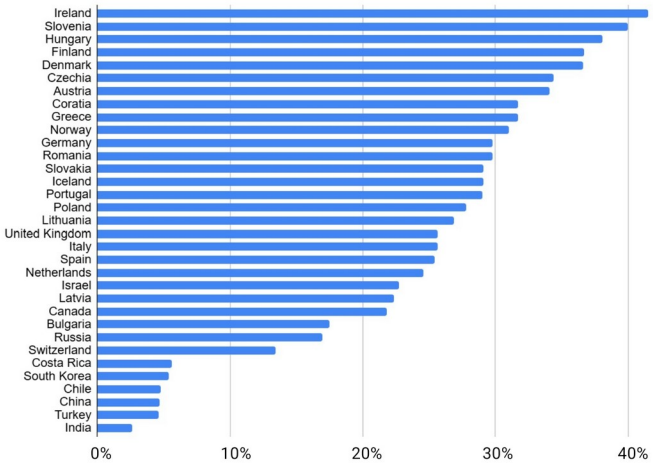

Figure 1. Percentage reduction in income inequality after taxes and transfers across selected countries, 2011(9)

The reform did not, however, eliminate every pre-existing indirect levy or create a literally uniform tax on all transactions. Customs duties continue to apply to international trade; excise duties remain applicable to specified products, including petroleum and tobacco products; state value-added taxes continue to apply to products such as fuel; and stamp duties remain payable on designated legal documents, with their application varying by state (11). The Indian indirect-tax system therefore became more integrated under the GST without becoming a single tax in every substantive sense.

The GST was promoted as a reform that would benefit multiple stakeholders, including consumers, through lower costs, simpler procedures and greater use of technology. Its distributional consequences nevertheless generated substantial public and academic debate. Commentators and economists have questioned whether a broad consumption tax can be progressive when households possess markedly different capacities to pay. Lower-income households generally devote a larger proportion of their income to consumption, particularly essential goods and services, and retain less capacity to save. Consequently, even when such households pay less GST in absolute monetary terms, the tax may absorb a larger proportion of their income than it does for wealthier households. This distinction between absolute payment and burden relative to income underlies the argument that the GST may impose a disproportionately large economic sacrifice on lower-income households.

These concerns justify examining the GST's distributional consequences more than seven years after its introduction, particularly in the context of India's persistent disparities in income and consumption. Household-consumption data for 2022–2023 show a substantial difference in Monthly Per Capita Consumption Expenditure between the lower and upper parts of the consumption distribution. Based on the reported fractile-specific MPCE values, average expenditure

among the top 20% was approximately 3.8 times that of the bottom 20% in rural India and approximately 4.8 times that of the bottom 20% in urban India (12). This disparity means that higher-consumption households can pay considerably more GST in absolute terms even if lower-income households bear a greater burden relative to income. It therefore reinforces the need to distinguish carefully among consumption rank, income rank, absolute tax payments and proportional economic burden when assessing whether the GST benefits or disadvantages the lower half of the population.

3. Conceptual framework: absolute, relative and net fiscal incidence

Whether a fiscal policy "burdens" or "benefits" a particular population group depends on the outcome being measured and the denominator against which that outcome is evaluated. The same policy may impose a tax burden, provide a public benefit and alter the distribution of economic resources simultaneously. Consequently, statements that a policy benefits or burdens a group are incomplete unless they specify whether they refer to absolute monetary amounts, amounts relative to income or consumption, or the combined incidence of taxation and public expenditure.

An absolute tax burden is the total monetary amount of tax paid by an individual or household. A relative tax burden expresses that payment in relation to an economic measure such as household income or consumption expenditure. A higher-income or higher-consumption household may pay more tax in absolute terms because it purchases more goods and services, while a lower-income household may surrender a larger proportion of its income despite paying less tax in rupees. A tax can therefore appear progressive when assessed through absolute payments but regressive when assessed relative to income. These findings are not necessarily contradictory because they describe different dimensions of incidence.

The same distinction applies to government expenditure. An absolute spending benefit is the monetary value of public expenditure or publicly provided resources received by an individual or household, whereas a relative spending benefit evaluates that amount in relation to income, consumption or another measure of economic capacity. Higher-income groups may receive a greater absolute monetary value from some forms of government expenditure when access, utilization or benefit value increases with consumption or service use. Conversely, lower-income groups may receive a larger benefit relative to their available resources even when the absolute amount received is smaller. The distributional effect of spending therefore cannot be inferred solely from the total expenditure allocated to a program; it depends on which groups ultimately receive the benefits and on the economic significance of those benefits to the recipients.

A complete fiscal-incidence assessment must consequently examine taxation and public expenditure together. For a given household or population group, the net fiscal position may be represented as the estimated value of transfer or expenditure benefits received minus the tax

burden paid. A positive net fiscal position indicates that the modeled monetary benefit exceeds the estimated tax burden, whereas a negative position indicates that the estimated burden exceeds the modeled benefit. This accounting measure does not, by itself, establish that the tax financed the benefit or that either component caused a change in household welfare.

This study draws on the multidimensional treatment of taxation, expenditure and equity presented in the World Bank publication *Taxes, Spending and Equity: International Patterns and Lessons for Developing Countries* (13). In that framework, a fiscal intervention is formally progressive when it contributes to a more equal distribution of economic resources and regressive when it contributes to a less equal distribution (13). Establishing such an overall equalizing or unequalizing effect ordinarily requires comparison of an inequality measure before and after the relevant tax or transfer.

The present study does not calculate a pre-fiscal and post-fiscal Gini coefficient or another summary measure of inequality. It therefore uses "progressive" and "regressive" more narrowly when discussing its own quantitative results. A tax structure is described as progressive in an absolute-incidence sense when lower-MPCE groups bear smaller per-capita tax burdens than higher-MPCE groups or when differentiated rates reduce their burden relative to a uniform-rate counterfactual. The modeled tax-and-transfer distribution is described as progressive when lower-MPCE groups have more favorable net fiscal positions than higher-MPCE groups. These uses indicate the direction of modeled incidence across the MPCE distribution; they do not demonstrate a measured reduction in national income or consumption inequality.

This distinction is especially important because income rank and consumption rank are related but not interchangeable. The literature reviewed in this paper includes studies that evaluate tax payments relative to income, whereas the quantitative model ranks the population using Monthly Per Capita Consumption Expenditure. The model can therefore estimate absolute GST burdens, effective rates relative to consumption and modeled net fiscal positions across MPCE groups. It cannot determine the GST burden as a proportion of household income because corresponding income data are not available in the HCES source used. Maintaining these distinctions permits apparently conflicting findings to be interpreted within a common framework rather than being treated as mutually exclusive conclusions.

4. Product differentiation, absolute incidence and fiscal capacity

Evidence describing India's GST as progressive generally rests on two distinct arguments. The first concerns the differentiated rate structure and the distribution of absolute GST payments across the consumption distribution. The second concerns the additional fiscal capacity that GST revenue may create for redistributive public expenditure. These mechanisms should be considered separately because higher tax payments by higher-consumption households

do not, by themselves, establish that the resulting revenue is redistributed to lower-income groups.

4.1 Differentiated rates and the distribution of GST payments

The GST rate structure differentiates among goods and services according to their perceived necessity. Many goods considered essential for basic consumption are exempt or assigned lower rates, whereas numerous discretionary and luxury goods are assigned higher rates. This structure may reduce the tax burden on lower-consumption households if their expenditure is concentrated in exempt and lower-rate categories, while higher-consumption households allocate a larger proportion of their expenditure to more highly taxed goods and services.

Analyses by Mukherjee and Shekhar use household-consumption data to examine this mechanism (14,15). The 2022–2023 Household Consumption Expenditure Survey conducted by the National Sample Survey Office indicates that lower-MPCE groups devote a larger share of their expenditure to essential goods, whereas higher-MPCE groups spend relatively more on non-essential and discretionary consumption (14,15). Because these are expenditure-based classifications, the groups are more accurately described as consumption or MPCE groups than as directly observed income groups.

Mukherjee finds that lower consumption fractiles, particularly in rural areas, allocate a larger proportion of their expenditure to goods taxed at rates between 0% and 5%, whereas higher fractiles consume relatively more goods assigned to higher rate categories (14). The share of average Monthly Per Capita Consumption Expenditure devoted to food also declines as the fractile class rises. Because many food items are exempt or taxed at comparatively low rates, this consumption pattern reduces the absolute GST burden imposed on lower fractiles.

Mukherjee reports that, in rural areas, the bottom 50% and middle 30% of the distribution each account for approximately 31% of the estimated absolute household GST burden, while the top 20% account for approximately 37% (14). In urban areas, the corresponding shares are approximately 29% for the bottom 50%, 30% for the middle 30% and 41% for the top 20% (14). These estimates indicate that the upper part of the consumption distribution pays a disproportionately large share of GST in absolute monetary terms.

Shekhar reports a comparable pattern in the distribution of estimated per-capita GST expenditure (15). Higher-consumption groups contribute a larger share of household GST because they consume more overall and allocate more expenditure to goods and services subject to higher rates. As summarized in Figure 2, the bottom 50% account for approximately 28% of the GST attributed to household consumption but approximately 9.6% of the broader GST total considered in Shekhar's analysis, which also incorporates government consumption and business transactions (15). The two percentages therefore use different denominators and should not be interpreted as alternative estimates of the same quantity.

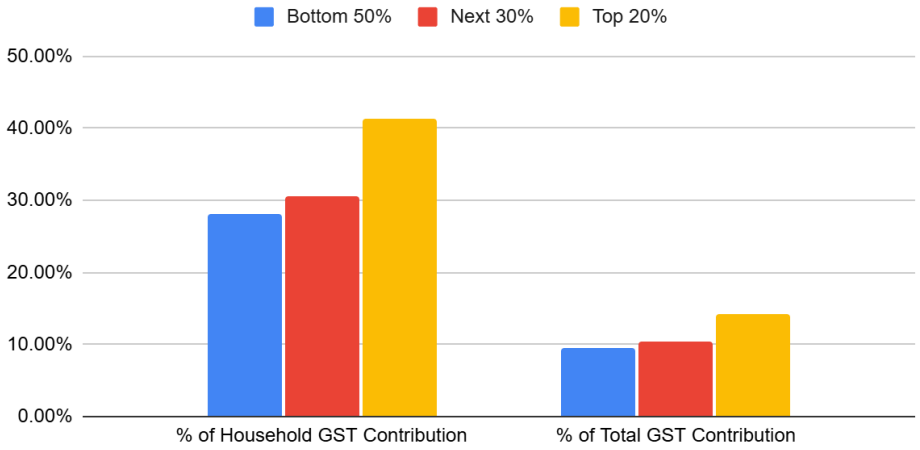

Figure 2. Estimated Shares of Household and Total GST Contributions by Population Group in India The distribution in GST contribution by the bottom 50%, next 30% and top 20% of income earners in India. The % of Household GST Contribution represents the share of total GST collected from household consumption from different income groups. The % of Total GST Contribution represents the share of total GST collected from all household consumption, government consumption, and business transactions from different income groups.

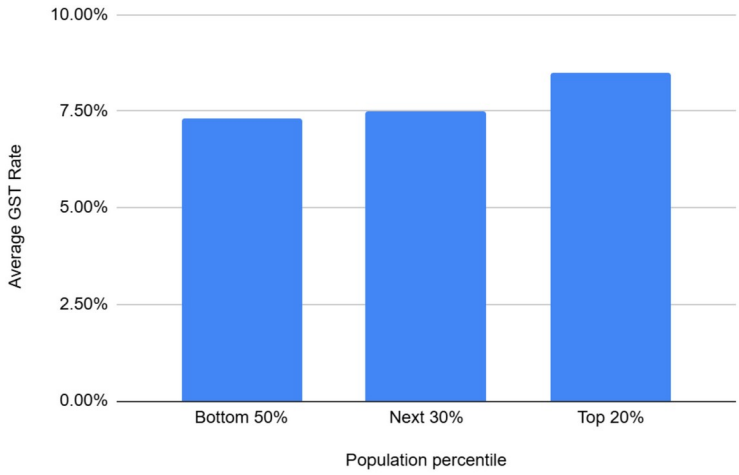

Figure 3. Estimated Average GST Rate on Consumption by Population Group in India. The average GST rates that different population percentiles are taxed on average, based on their consumption patterns.

Shekhar also estimates the average effective GST rate on consumption across the population groups shown in Figure 3 (15). The bottom 50% face an estimated average rate of 7.3%, with higher groups facing progressively higher average rates (15). Mukherjee similarly reports higher effective rates for upper consumption groups under the scenario in which goods

assigned to a rate category are taxed at the lower bound of that category. In that scenario, the mean estimated rate for the bottom 50% in urban areas is approximately 4.9%, approximately 10% lower than the rate estimated for the top 10% (14).

Together, these studies provide evidence of progressivity in two limited senses. First, higher-MPCE groups pay more GST per person and account for a larger share of absolute household GST payments. Second, their consumption baskets may face somewhat higher average effective GST rates because they contain a greater proportion of goods assigned to higher statutory rates. These results do not mean that higher-income households pay a higher rate than lower-income households when purchasing the same product; the statutory rate on a given product is ordinarily identical for all purchasers. Nor do the results establish that the GST burden is lower for poorer households as a proportion of income. They show instead that product differentiation, combined with unequal consumption levels and differing consumption baskets, shifts a larger absolute burden toward higher-consumption groups.

4.2 Revenue mobilization and potential redistributive capacity

A second argument concerns the GST's contribution to government revenue and the possibility that additional fiscal resources may support redistributive expenditure. The Economic Survey 2022–2023 reports that GST collections grew at a compound annual rate of 10.9% during FY2019–FY2023, compared with nominal GDP growth of 9.6% over the same period (16). The buoyancy of indirect taxation—the responsiveness of tax revenue growth to economic growth—has also been estimated to have risen from approximately 0.99 before GST implementation to approximately 1.19 afterward (17). A buoyancy of 0.99 indicates that indirect-tax revenue grew at approximately the same rate as gross domestic product, whereas a value of 1.19 indicates that revenue grew more rapidly than the economy.

These before-and-after comparisons are consistent with greater indirect-tax revenue mobilization following the GST, but they do not isolate the causal contribution of the reform. Nominal economic growth, inflation, changes in consumption, enforcement, formalization and other fiscal developments may also affect revenue and buoyancy. The estimates should therefore be interpreted as evidence of an observed post-GST change rather than as proof that GST alone produced the entire increase.

Greater revenue can nevertheless expand the government's capacity to finance public expenditure. Wai-Poi et al. argue that increases in indirect taxation may be associated with higher social expenditure on "education, health, subsidies, and social protection" (13). One proposed explanation is that administrative and other non-social expenditures may be less responsive to marginal changes in revenue, allowing part of an increase in fiscal resources to support social expenditure. Under this mechanism, an indirect tax could contribute to a more progressive overall fiscal position even

if the tax considered independently imposes burdens on lower-income households.

The existence of this potential channel does not establish that GST revenue was actually allocated to social expenditure or that higher-income groups financed a particular set of benefits received by the bottom 50%. GST receipts enter general government revenue alongside other taxes, non-tax revenue and borrowing. Whether increased fiscal capacity produces a progressive outcome therefore depends on the scale, composition and incidence of the expenditure ultimately financed. The proposition that GST may benefit lower-income groups through redistribution must consequently be evaluated using expenditure data rather than inferred from revenue growth alone.

5. Income-relative burdens, taxable necessities and equity concerns

Evidence characterizing India's GST as regressive generally focuses on dimensions that are not captured by comparisons of absolute tax payments alone. These include the proportion of household income absorbed by indirect taxation, the treatment of necessities within the rate structure, differences in tax burdens among economically comparable households, and whether public expenditure adequately compensates lower-income groups. These arguments do not necessarily contradict evidence that higher-consumption households pay more GST in rupee terms; rather, they evaluate the burden using different denominators and concepts of equity.

5.1 Indirect taxation relative to household income

One of the most widely cited claims concerning the regressive incidence of India's indirect-tax system appears in Oxfam's *Survival of the Richest* report (18). Using consumption information based on the 2011–2012 NSSO survey and a selection of food and non-food items, the report estimates that the bottom 50% of the income distribution pay 64.3% of the total absolute indirect-tax amount considered in its analysis (18). This estimate differs sharply from the more recent consumption-based estimates discussed in Section 4. Its interpretation therefore depends on the precise taxes, products, population weights and denominator included in the Oxfam calculation. Because the report does not provide the same level of item-level detail as the studies using the later HCES data, the numerical estimates should not be treated as directly comparable without reconstruction of their respective methods.

Oxfam also frames regressivity in relation to household income. The report estimates that the bottom 50% pay "six times more on indirect taxes as a percentage of income" than the top 10% (18). The underlying mechanism is plausible: lower-income households generally consume a larger proportion of their income and possess less capacity to save. A consumption tax may therefore absorb a larger share of their income even when their absolute tax payment is substantially lower than that of a wealthier household.

This distinction is central to interpreting the literature. Absolute tax incidence asks which

groups pay the greatest monetary amount. Income-relative incidence asks how large the payment is in relation to the household's capacity to pay. A finding that higher-consumption households pay more GST in rupees cannot, by itself, refute a finding that lower-income households surrender a larger proportion of income to indirect taxation. The present study cannot directly test the latter claim because its quantitative analysis uses MPCE groups and does not contain corresponding household-income data.

5.2 Product classification and the taxation of necessities

A second line of criticism concerns the allocation of particular goods among GST rate categories. Roy uses Engel curves—which describe how the share of household expenditure devoted to a commodity changes as income rises—to distinguish goods consumed disproportionately by lower- and higher-income households (19). On this basis, Roy argues that some goods consumed relatively more by higher-income groups are excluded from GST or taxed comparatively lightly, whereas several necessities used disproportionately by lower-income households remain subject to positive rates (19).

Examples identified by Roy include foreign liquor, toddy and electricity, which are outside or excluded from the ordinary GST structure despite being consumed relatively more by higher-income groups (19). By contrast, tea leaves, sugar, spices, liquefied petroleum gas, coal and several basic household products—goods that may represent a larger share of lower-income consumption—are assigned positive tax rates (19). The issue is therefore not simply whether essential goods receive lower average rates than luxury goods, but whether the classification of individual products consistently corresponds to their distribution across household economic groups.

Chakravartti similarly argues that several necessities with relatively inelastic demand remain taxable, including personal-hygiene products, medicines and everyday consumables (20). Demand is inelastic when the quantity purchased changes comparatively little in response to price because consumers have limited ability to avoid or postpone the purchase. A positive tax on such a necessity may impose a larger economic burden on poorer households because the item occupies a greater proportion of their expenditure and cannot readily be substituted or abandoned. The rate structure may therefore contain progressive features in aggregate while retaining specific classifications that generate regressive effects.

These observations are sensitive to the period studied because GST classifications and rates have subsequently changed. They nevertheless identify an enduring design problem: a product-based tax schedule treats every purchaser of a given product alike even when the item represents very different proportions of household resources. A low rate reduces the burden for all purchasers, while an exemption benefits higher- and lower-income consumers by the same amount per unit. Product differentiation may consequently reduce regressivity without fully aligning tax liability with ability to pay.

5.3 Vertical and horizontal equity

Chakravartti's analysis extends this criticism by examining the incidence of goods within the 5%, 12% and 18% GST categories across household-consumption quintiles (20). The study argues that necessities with inelastic demand may weaken vertical equity, the principle that households with greater economic capacity should bear a greater tax burden. When the same taxable necessity is consumed throughout the income distribution but occupies a larger share of poorer households' expenditure, an identical statutory rate may impose a greater proportional burden on the lower-income household.

The analysis also raises concerns regarding horizontal equity, according to which households in comparable economic circumstances should bear comparable tax burdens (20). Two households with similar incomes may have different effective GST burdens when their consumption needs differ. A household required to spend more on medicines, personal-hygiene goods, fuel or other taxed necessities may pay more GST than an otherwise comparable household whose expenditure is concentrated in exempt or lower-rate categories. Equal statutory rates therefore do not necessarily produce equal burdens among households with similar capacity to pay.

These vertical- and horizontal-equity concerns qualify, rather than wholly negate, the progressive features described in Section 4. Differentiated rates can reduce the average burden on lower-consumption groups while individual product classifications continue to impose relatively high burdens on particular households. Aggregate estimates may consequently conceal substantial variation within the same income or MPCE group.

5.4 Whether public expenditure offsets the tax burden

The final question is whether the benefits of government expenditure are sufficient to compensate lower-income households for the burden imposed by consumption taxation. Wai-Poi et al. observe that subsidies and public spending may be designed progressively while still providing higher-income households with larger absolute benefits from some programs because those households consume or use more services in total (13). Universal exemptions and reduced tax rates may likewise provide a greater total monetary benefit to wealthier households when they purchase larger quantities of the exempted or concessionally taxed goods (13).

The redistributive effect of public expenditure therefore depends not only on the amount budgeted but also on beneficiary coverage, utilization, benefit value and the proportion of expenditure that ultimately reaches households. Increased government revenue does not automatically imply that the additional resources are directed toward lower-income groups. If the scale or targeting of transfers is insufficient, public expenditure may fail to offset the income-relative burden imposed by indirect taxation. Conversely, sufficiently progressive expenditure could produce a favorable overall fiscal position even when the tax considered independently is regressive relative to income.

The apparent disagreement between studies reporting progressive and regressive effects consequently arises in substantial part from differences in the outcomes measured. Studies reporting progressive effects generally examine absolute GST payments, consumption baskets or effective rates relative to consumption. Studies reporting regressive effects more often examine tax payments relative to income, the treatment of particular necessities, or unequal burdens among households with similar resources. These findings can coexist: higher-consumption groups may pay more GST in absolute terms and face somewhat higher average rates on their consumption, while lower-income households simultaneously surrender a larger proportion of income to consumption taxes or experience disproportionate burdens from specific necessities. A complete assessment must therefore examine both the tax structure and the incidence of the public expenditure that may offset it.

6. Methods

6.1 Study design and scope

This study combines three forms of analysis: a structured narrative synthesis of published studies and policy reports concerning the distributional effects of India's GST; a descriptive analysis of government expenditure and Centrally Sponsored Scheme expenditure; and an exploratory fiscal-incidence model estimating GST burdens, modeled transfer benefits, and net fiscal positions across Monthly Per Capita Consumption Expenditure groups. The study is descriptive and model-based. It does not use a causal research design and therefore does not estimate the amount of social expenditure directly caused or financed by GST revenue.

The narrative component compares studies that evaluate different dimensions of progressivity, including absolute GST payments, effective GST rates relative to consumption, tax payments relative to income, and the taxation of necessities. These studies are interpreted using the absolute-versus-relative burden framework defined in Section 3. Because the literature was not identified through a documented systematic-search and screening protocol, this component is treated as a structured narrative synthesis rather than a systematic review.

6.2 Data sources

Centrally Sponsored Scheme expenditure is used in this study as an author-defined operational proxy for social or pro-poor expenditure. CSS constitute a heterogeneous class of schemes implemented through Centre–State fiscal arrangements; consequently, total CSS expenditure should not be treated as expenditure financed specifically from GST revenue or as expenditure accruing exclusively to poorer households (21). Household-consumption data were obtained from Table A10F of the NSSO Household Consumption Expenditure Survey 2023–2024 (22). GST rates were assigned using the Government of India's GST rate schedule dated 3 July 2017 (23). Consequently, the burden estimates combine 2023–2024 consumption with the 2017 rate structure and do not incorporate subsequent rate changes. Other expenditure categories were excluded because they benefit

multiple population groups and could not be classified consistently as predominantly pro-poor expenditure.

Transfer-allocation weights were derived from the distribution across consumption groups of households receiving at least one free food item, as reported in the Asian Development Bank study of subsidies and transfers in India (24). Total CSS expenditure for 2023–2024 was obtained from the Union Budget expenditure profiles (25), and the population denominator was taken from the cited population series (26). Annual total expenditure and CSS expenditure were assembled from the relevant Union Budget expenditure profiles (27–34) and adjusted for inflation using the official CPI All India General Index: Combined (base 2012 = 100), compiled by the National Statistics Office and published in the Reserve Bank of India's Handbook of Statistics on the Indian Economy (35).

6.3 Government-expenditure analysis

Nominal total government expenditure and CSS expenditure were converted into inflation-adjusted values. values at constant 2015-2016 prices using the CPI All India General Index: Combined (base 2012 = 100), taken as the annual average of months for each fiscal year from Table 34 of the RBI Handbook of Statistics on the Indian Economy (35). Real values were calculated as: Real value = Nominal value × CPI(2015-2016) ÷ CPI(year). Because both the CPI series and the budget data refer to fiscal years (April-March), no conversion between calendar and fiscal years was required; all years reported in this paper are fiscal years. For each year, CSS expenditure was expressed as a percentage of total government expenditure. Year-to-year changes in real CSS expenditure and real total expenditure were then calculated. The ratio of the annual change in real CSS expenditure to the annual change in real total expenditure was calculated for every year as:

Marginal CSS share = (change in real CSS expenditure ÷ change in real total expenditure) × 100.

This ratio represents the share of additional government spending allocated to CSS only when both changes are positive. When the two changes have opposite signs the ratio is negative, indicating that CSS and total expenditure moved in opposite directions, and when both are negative it describes the relative size of a contraction. To reduce the influence of single-year volatility, the cumulative change in each series between 2016-2017, the last full fiscal year before the GST, and 2023-2024 was also calculated.These calculations are used to describe whether social expenditure increased proportionately with total expenditure. They do not establish that observed changes in CSS expenditure were financed by GST revenue.

6.4 Estimation of the GST burden

For each HCES MPCE fractile, the reported rural and urban expenditure per person per 30 days was averaged without population weighting. Missing item values (reported as "–") were treated as zero. Each of the 402 items in the HCES item-level table was given

an explicit include/exclude flag. Eight items were excluded: seven bundled categories (item codes 1, 2 and 92-96, such as “coarse grains”, “other fresh fruits” and “other fuel”) whose component items are also reported separately, which were excluded to avoid double counting; and imputed house rent (item code 539), which is a notional value for owner-occupied housing rather than an actual purchase and therefore involves no GST payment. Excluding imputed rent reduces total consumption but does not change the estimated GST burden, because it would fall in the 0% slab. The remaining 394 consumption items were assigned to the applicable 0%, 3%, 5%, 12%, 18%, or 28% GST-rate slab and aggregated within each MPCE fractile using formulas linked directly to the item-level data, so that the fractile totals in Table 2 equal the sum of the included items. Monthly expenditure was multiplied by 12 to estimate annual expenditure.

Because the HCES expenditure values include GST, the tax embedded in expenditure (C) at GST rate (R) was calculated as $\text{GST paid} = C - \frac{C}{1+\frac{R}{100}}$. The amounts estimated for the individual rate slabs were summed to obtain the annual per-capita absolute GST burden for each MPCE fractile. The average GST rate was calculated by dividing the estimated tax burden by total consumption and multiplying by 100. The 0–5% and 5–10% fractiles and the 90–95% and 95–100% fractiles were subsequently combined to produce decile-level estimates.

6.5 Transfer allocation and modeled net fiscal position

Transfer-allocation weights were derived from the ADB estimates of the percentage of households in each consumption quintile receiving at least one free food item: 76.6%, 74.0%, 65.2%, 52.0% and 26.2% from the poorest to the richest quintile (24). Each quintile’s value was divided by the sum of the five values (294.0) and multiplied by 100, so that the quintile shares sum to 100%. Because the ADB source reports these values only by quintile, each quintile’s share was split equally between its two deciles; for example, the poorest quintile’s share of 26.05% gives a weight of 13.03% to each of the 0-10% and 10-20% deciles. No other adjustment was made. These weights were applied to total nominal CSS expenditure of ₹4,444,164,900,000 (₹4,44,416.49 crore) for 2023–2024, the same year as the consumption data. Each MPCE decile was assumed to contain 10% of India’s population of 1,428,627,663. The modeled annual per-capita transfer benefit for each decile was calculated by dividing the allocated CSS expenditure by the estimated population of that decile. For each decile, the modeled net fiscal position was calculated as,

Modeled net fiscal position = modeled per-capita transfer benefit - estimated per-capita GST burden

This measure is not termed a “net GST benefit” because the modeled transfer component includes CSS expenditure financed from GST revenue, other taxes, and borrowing. It

therefore represents an assumed overall fiscal position rather than a benefit causally attributable to the GST. Results for the bottom 50%, middle 30% and top 20% of MPCE groups are the simple means of the decile values in each group; because every decile contains the same population, these means are per-person averages for the group.

6.6 Counterfactual analysis

Two counterfactual scenarios were constructed. In the uniform-rate counterfactual, all included consumption expenditure—including consumption assigned to the 0% slab in the primary analysis—was assigned a 10% GST rate while observed consumption and the modeled transfer allocation were held constant. In the no-transfer counterfactual, the modeled transfer benefit was set to zero while the estimated GST burden was retained. A joint uniform-tax and no-transfer baseline was then used to compare the improvement associated with the differentiated GST-rate structure with the improvement associated with the modeled transfer allocation.

These counterfactuals are mechanical comparisons under explicitly chosen assumptions. They should not be interpreted as causal estimates of what would actually occur following a change in GST rates or government transfers. No statistical uncertainty analysis or sensitivity analysis was performed; the resulting estimates are therefore exploratory point estimates.

7. Government spending results

Table 1. Inflation-adjusted total government and centrally sponsored scheme expenditure in India, 2015–2016 to 2023–2024

Year	Spending on CSS	Marginal CSS	Total spending	Marginal total spending	Share of Marginal total spending allocated to marginal CSS	CSS expenditure as a share of total spending
2015-2016	203317.48	-	1537761.1	-	-	-
2016-2017	230427.22	27109.74	1617926.71	80165.61	33.82%	14.24%
2017-2018	263204.22	32777.00	1735485.46	117558.76	27.88%	15.17%
2018-2019	264342.06	1137.85	1793142.32	57656.86	1.97%	14.74%
2019-2020	263824.27	-517.79	2003556.78	210414.46	-0.25%	13.17%
2020-2021	308299.26	44474.99	2475948.61	472391.84	9.41%	12.45%
2021-2022	345909.53	37610.27	2436846.82	-39101.79	-96.19%	14.19%
2022-2023	312322.96	-33586.57	2464828.69	27981.87	-120.03%	12.67%
2023-2024	301025.18	-11297.78	2366829.03	-97999.66	11.53%	12.72%

Notes. Marginal CSS expenditure and marginal total expenditure represent year-to-year changes in inflation-adjusted spending. The marginal CSS-to-total expenditure ratio is calculated as marginal CSS expenditure divided by marginal total expenditure and multiplied by 100. When both changes are positive, the ratio represents the proportion of additional total expenditure associated with additional CSS expenditure. When the two changes have opposite signs, the ratio is negative and indicates that CSS and total expenditure moved in opposite directions. When both changes are negative, it represents the relative size of the CSS contraction and should not be interpreted as an allocation of additional spending. CSS expenditure as a share of total expenditure is calculated by dividing

total CSS expenditure by total government expenditure and multiplying by 100. All monetary values are reported in ₹ crore and have been adjusted to constant 2015-16 prices using the CPI All India General Index: Combined (base 2012 = 100), annual average of months, from the RBI Handbook of Statistics on the Indian Economy, Table 34: *Real Value = Nominal Value × CPI of 2015-16 ÷ CPI of Year*. (Years here are fiscal years)
Source. Computed using *Summary of Expenditure*, Union Budget, Government of India (25,27–34) and data from the Reserve Bank of India (35).

Table 1 reports inflation-adjusted CSS expenditure and total government expenditure from 2015–2016 to 2023–2024. Real CSS expenditure increased from ₹203,317.48 crore in 2015–2016 to a maximum of ₹345,909.53 crore in 2021–2022, before declining to ₹301,025.18 crore in 2023–2024. Real total expenditure increased from ₹1,537,761.10 crore in 2015–2016 to ₹2,475,948.61 crore in 2020–2021 and was ₹2,366,829.03 crore in 2023–2024. CSS expenditure represented between 12.45% and 15.17% of total expenditure during the reported period. The marginal CSS-to-total expenditure ratio varied from −120.03% to 33.82%; negative values occurred when the annual changes in CSS and total expenditure had opposite signs, except in 2023–2024, when both expenditures declined.

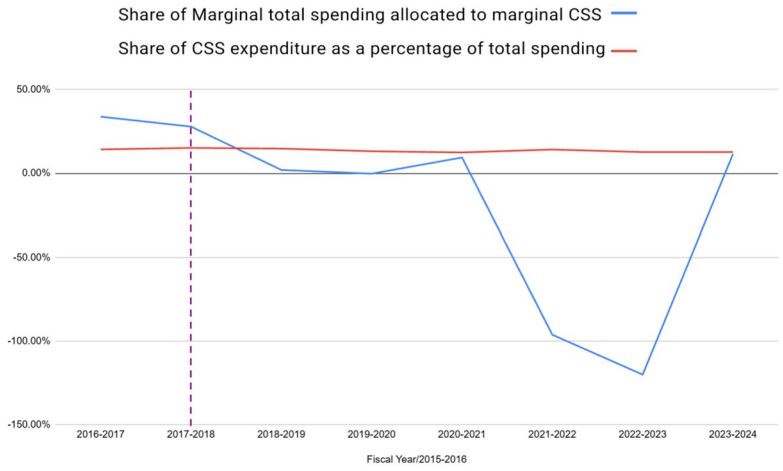

Figure 4. Inflation-Adjusted Centrally Sponsored Scheme Expenditure Relative to Total Government Expenditure, 2016–2017 to 2023–2024. The pattern of how the share of marginal total spending allocated to marginal CSS and share of CSS expenditure as a percentage of total spending change between the years 2016-2017 and 2023-2024. The dotted purple line represents the time period in which the GST was introduced. Values are in constant 2015-2016 prices, calculated as Real value = Nominal value × CPI(2015-2016) ÷ CPI(year) using the CPI All India General Index: Combined (base 2012 = 100). Negative values indicate that marginal CSS and marginal total expenditure moved in opposite directions. Computed using data from Indiabudget.gov (25,27-34) and the Reserve Bank of India (35).

8. Fiscal incidence estimates

8.1 GST-burden estimates

Table 2 reports estimated annual per-capita consumption within each GST-rate slab for the twelve MPCE fractiles. Total annual

consumption increased from ₹24,355.2 in the 0–5% fractile to ₹182,685.5 in the 95–100% fractile. Consumption assigned to each of the six rate slabs increased across the MPCE distribution. In every fractile, the largest component was expenditure assigned to the 0% slab, followed by expenditure assigned to the 5% and 18% slabs. The final two columns report monthly consumption and the corresponding annual amount obtained by multiplying monthly consumption by 12.

Table 2. Estimated annual per-capita consumption by GST rate slab and MPCE fractile, 2023–2024.

Fractile Class of MPCE	0%	5%	12%	18%	28%	3%	Total Monthly Consumption	Total Annual Consumption
0-5%	11904.6	6440.76	1723.32	3340.2	812.04	134.28	2,029.6	24,355.2
5-10%	15134.76	8051.16	2441.52	4417.44	1097.04	212.04	2,612.8	31,354.0
10-20%	17744.04	9301.2	3052.32	5317.32	1315.44	279.72	3,084.2	37,010.0
20-30%	20717.64	10549.44	3708.48	6281.88	1547.4	363.48	3,597.4	43,168.3
30-40%	23531.4	11627.16	4314.12	7197	1764.48	457.68	4,074.3	48,891.8
40-50%	26422.2	12666.84	4972.2	8126.76	2023.92	550.92	4,563.6	54,762.8
50-60%	29800.68	13775.04	5625.72	9126.48	2233.92	672.48	5,102.9	61,234.3
60-70%	33699.36	15140.4	6508.92	10321.32	2589.12	790.56	5,754.1	69,049.7
70-80%	39256.32	16704.72	7534.44	11926.8	3010.8	1014.84	6,620.7	79,447.9
80-90%	47277.84	19285.8	9428.16	14422.44	3694.92	1316.16	7,952.1	95,425.3
90-95%	58786.08	23084.88	11932.2	18011.76	4725.48	1942.32	9,873.6	118,482.7
95-100%	88847.4	32873.64	18596.88	27179.16	11782.56	3405.84	15,223.8	182,685.5

Notes. The six GST-rate columns report annual per-capita consumption (₹) in each rate slab, calculated from the 394 included items. The six slab values in each row sum to the Total Annual Consumption column, which equals 12 times the Total Monthly Consumption column.
Source. Computed using data from NSSO HCES 2023-2024

Table 3 reports the estimated annual per-capita GST embedded in the consumption expenditure presented in Table 2. Total estimated GST burden increased from ₹1,182.4 in the 0–5% MPCE fractile to ₹10,380.5 in the 95–100% fractile. The estimated burden increased between every successive fractile. Across the first eleven fractiles, the average GST rate ranged from 4.9% to 5.2% of annual consumption; it was 5.7% in the 95–100% fractile. In absolute terms, the 18% slab contributed the largest slab-specific GST amount in every fractile. The total burden equals the sum of the amounts calculated for the six rate slabs.

Table 3. Estimated annual per-capita GST burden by rate slab and MPCE fractile, 2023–2024

Fractile class of MPCE	0%	5%	12%	18%	28%	3%	Total GST burden	Average GST rate
0–5%	0.0	306.7	184.6	509.5	177.6	3.9	1,182.4	4.9%
5–10%	0.0	383.4	261.6	673.8	240.0	6.2	1,565.0	5.0%
10–20%	0.0	442.9	327.0	811.1	287.8	8.1	1,877.0	5.1%
20–30%	0.0	502.4	397.3	958.3	338.5	10.6	2,207.0	5.1%
30–40%	0.0	553.7	462.2	1,097.8	386.0	13.3	2,513.1	5.1%
40–50%	0.0	603.2	532.7	1,239.7	442.7	16.0	2,834.4	5.2%
50–60%	0.0	656.0	602.8	1,392.2	488.7	19.6	3,159.1	5.2%
60–70%	0.0	721.0	697.4	1,574.4	566.4	23.0	3,582.2	5.2%
70–80%	0.0	795.5	807.3	1,819.3	658.6	29.6	4,110.2	5.2%
80–90%	0.0	918.4	1,010.2	2,200.0	808.3	38.3	4,975.2	5.2%
90–95%	0.0	1,099.3	1,278.5	2,747.6	1,033.7	56.6	6,215.6	5.2%
95–100%	0.0	1,565.4	1,992.5	4,146.0	2,577.4	99.2	10,380.5	5.7%

Notes. Values are estimated annual per-capita amounts in ₹. The slab-specific GST burdens were calculated as (C-[C/(1+R/100)]), where (C) is GST-inclusive consumption expenditure and (R) is the applicable GST rate. Total GST burden is the sum of the six slab-specific amounts. Average GST rate equals total GST burden divided by total annual consumption, multiplied by 100. Values were calculated using unrounded amounts and may therefore differ slightly from sums based on the displayed rounded values.
Source. Computed by the author using NSSO HCES 2023–2024 data and the 2017 GST-rate schedule.

8.2 Transfer-allocation estimates

Table 4. Assumed transfer-allocation weights by MPCE decile using the food-benefit receipt proxy, 2023–2024

Decile of MPCE	% of Redistribution
0–10%	13.03
10–20%	13.03
20–30%	12.59
30–40%	12.59
40–50%	11.09
50–60%	11.09
60–70%	8.84
70–80%	8.84
80–90%	4.46
90–100%	4.46
Total	100.00%

Notes. Each value equals the ADB quintile value (76.6, 74.0, 65.2, 52.0, 26.2) divided by their sum (294), multiplied by 100 and split equally between the two deciles of that quintile. Values are rounded to two decimal places; the unrounded weights sum to exactly 100%. Source: computed using ADB data (24)

Table 4 reports the assumed percentage of total modeled transfers assigned to each MPCE decile. The assigned weight was 13.03% for each of the lowest two deciles, 12.59% for each of the next two deciles, 11.09% for the 40–50% and 50–60% deciles, 8.84% for the 60–70% and 70–80% deciles, and 4.46% for each of the highest two deciles. The paired values reflect the division of each source quintile weight equally between its two constituent deciles. The unrounded decile weights sum to 100%.

Table 5. Modeled annual per-capita CSS transfer benefit by MPCE decile, 2023–2024

Decile of MPCE	% of Redistribution	Transfers Received	Population	per person benefit
0–10%	13.03	578,950,733,571	142,862,766	4,052.5
10–20%	13.03	578,950,733,571	142,862,766	4,052.5
20–30%	12.59	559,299,664,286	142,862,766	3,914.9
30–40%	12.59	559,299,664,286	142,862,766	3,914.9
40–50%	11.09	492,788,352,857	142,862,766	3,449.4
50–60%	11.09	492,788,352,857	142,862,766	3,449.4
60–70%	8.84	393,021,385,714	142,862,766	2,751.0
70–80%	8.84	393,021,385,714	142,862,766	2,751.0
80–90%	4.46	198,022,313,571	142,862,766	1,386.1
90–100%	4.46	198,022,313,571	142,862,766	1,386.1

Notes. Allocated CSS expenditure equals total 2023–2024 CSS expenditure multiplied by the assumed allocation share. The modeled annual per-capita transfer benefit equals allocated CSS expenditure divided by the assumed population of the corresponding decile. Values are modeled amounts rather than observed household receipts and may differ slightly because of rounding.

Source. Computed by the author using Union Budget CSS expenditure (25), the allocation weights derived from ADB data (24), and the population denominator (26).

Table 5 applies the allocation weights in Table 4 to total CSS expenditure of ₹4,444,164,900,000 in 2023–2024. Because each decile is assigned the same population denominator of 142,862,766, differences in the modeled per-capita amounts follow directly from differences in the allocation weights. The modeled annual per-capita transfer benefit was ₹4,052.5 in each of the lowest two deciles, ₹3,914.9 in each of the next two deciles, ₹3,449.4 in the 40–50% and 50–60% deciles, ₹2,751.0 in the 60–70% and 70–80% deciles, and ₹1,386.1 in each of the highest two deciles.

8.3 Modeled net fiscal position

Table 6 reports the modeled transfer benefit, estimated GST burden and resulting net fiscal position for each MPCE decile. The net fiscal position was positive in the six deciles from 0–10% through 50–60% and negative in the four deciles from 60–70% through 90–100%. It declined from ₹2,678.8 in the 0–10% decile to −₹6,911.9 in the 90–100% decile. The value closest to zero was ₹290.2 in the 50–60% decile, followed by −₹831.1 in the 60–70% decile.

Table 6. Modeled annual per-capita net fiscal position by MPCE decile, 2023-2024

Decile of MPCE	Modeled transfer benefit	Absolute tax burden	Net fiscal position
0–10%	4,052.5	1,373.7	2,678.8
10–20%	4,052.5	1,877.0	2,175.5
20–30%	3,914.9	2,207.0	1,707.9
30–40%	3,914.9	2,513.1	1,401.9
40–50%	3,449.4	2,834.4	615.0
50–60%	3,449.4	3,159.1	290.2
60–70%	2,751.0	3,582.2	-831.1
70–80%	2,751.0	4,110.2	-1,359.2
80–90%	1,386.1	4,975.2	-3,589.1
90–100%	1,386.1	8,298.0	-6,911.9

Figure 5 aggregates the decile values in Table 6 by calculating the unweighted mean within each reported MPCE group. The mean annual per-capita net fiscal position was ₹1,715.8 for the bottom 50%, −₹633.4 for the middle 30% and −₹5,250.5 for the top 20%. The displayed values are group means of the constituent decile estimates, not population totals.

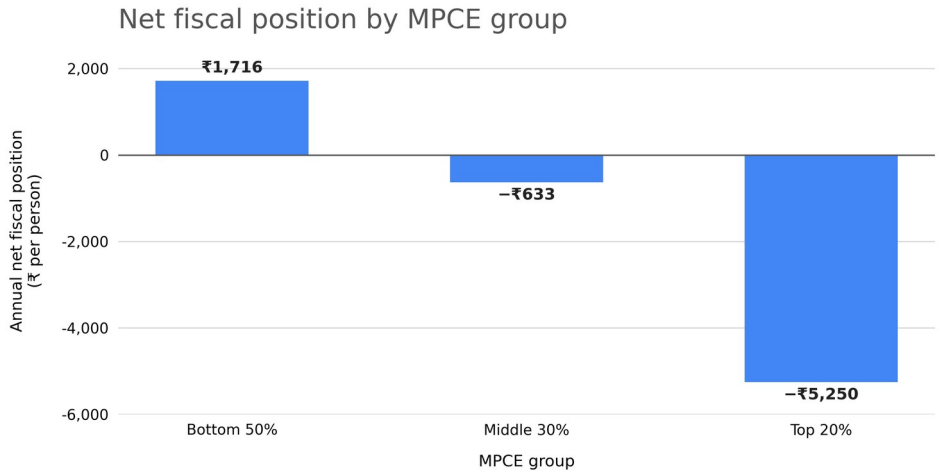

Figure 5. Modeled annual per-capita net fiscal position by MPCE group, 2023–2024. Each bar represents the mean net fiscal position of the constituent MPCE deciles reported in Table 6. Positive values indicate that the modeled transfer benefit exceeds the estimated GST burden; negative values indicate that the estimated GST burden exceeds the modeled transfer benefit.

To summarize, using the average of the modeled net fiscal positions of the deciles in each group, under this framework and its assumptions, the bottom 50% MPCE group face a benefit of Rs. 1,716, the middle 30% face a burden of Rs. 633 and the top 20% face a burden of Rs. 5,251 in a year, as seen in figure 5. The modeled net fiscal position is

positive for each of the six lowest deciles (0-60%) and negative for every decile from 60-70% upward.

8.4 Counterfactual results

8.4.1 *Case 1- uniform tax counterfactual*

Table 7 reports the estimated GST burden, unchanged modeled transfer benefit and resulting net fiscal position for each MPCE decile under the uniform 10% GST-rate counterfactual. The estimated uniform-rate burden increased from ₹2,532.2 in the 0–10% decile to ₹13,689.5 in the 90–100% decile. Net fiscal positions were positive in the two lowest deciles, at ₹1,520.3 and ₹687.9, and negative from the 20–30% decile upward. The value for the 20–30% decile was −₹9.4, and that for the 90–100% decile was −₹12,303.4. The modeled transfer amounts are identical to those reported in Table 6.

Table 7. Modeled net fiscal position under the uniform 10% GST-rate counterfactual by MPCE decile

Fractile Class of MPCE	Tax Burden	Tax Benefit	Net Fiscal Position
0-10%	2,532.2	4,052.5	1,520.3
10-20%	3,364.5	4,052.5	687.9
20-30%	3,924.4	3,914.9	-9.4
30-40%	4,444.7	3,914.9	-529.8
40-50%	4,978.4	3,449.4	-1,529.1
50-60%	5,566.8	3,449.4	-2,117.4
60-70%	6,277.2	2,751.0	-3,526.2
70-80%	7,222.5	2,751.0	-4,471.5
80-90%	8,675.0	1,386.1	-7,288.9
90-100%	13,689.5	1,386.1	-12,303.4

Table 8 reports the unweighted mean of the decile-level net fiscal positions in Table 7 for the three aggregated MPCE groups. Under the uniform 10% counterfactual, the mean annual per-capita net fiscal position was ₹28.0 for the bottom 50%, −₹3,371.7 for the middle 30% and −₹9,796.1 for the top 20%.

Table 8. Aggregate net fiscal position under the uniform 10% GST-rate counterfactual

MPCE Quantile	Net Benefit
bottom 50%	28.0
middle 30%	-3,371.7
top 20%	-9,796.1

8.4.2 *Case 2- No-transfer counterfactual*

Table 9 reports the estimated annual per-capita GST burden for each MPCE decile when the modeled transfer component is set to zero. The

burden increased from ₹1,373.7 in the 0–10% decile to ₹8,298.0 in the 90–100% decile. Because no transfer is included, the corresponding net fiscal position is the negative of the burden shown in each row; for example, the 0–10% and 90–100% deciles have net positions of −₹1,373.7 and −₹8,298.0, respectively.

Table 9. Estimated annual per-capita GST burden under the no-transfer counterfactual by MPCE decile.

Fractile Class of MPCE	Absolute Tax Burden
0-10%	1,373.7
10-20%	1,877.0
20-30%	2,207.0
30-40%	2,513.1
40-50%	2,834.4
50-60%	3,159.1
60-70%	3,582.2
70-80%	4,110.2
80-90%	4,975.2
90-100%	8,298.0

Table 10. Aggregate fiscal position under the no-transfer counterfactual

Quantile	Net Benefit
bottom 50%	-2,161.0
middle 30%	-3,617.2
top 20%	-6,636.6

Table 10 reports the unweighted mean of the decile-level net fiscal positions under the no-transfer counterfactual. The mean annual per-capita net fiscal position was −₹2,161.0 for the bottom 50%, −₹3,617.2 for the middle 30% and −₹6,636.6 for the top 20%.

Table 11. Decomposition of the improvement from the joint uniform-tax and no-transfer baseline for the bottom 50% of MPCE groups.

Component of improvement	Improvement, ₹ per person	Contribution
Differentiated GST-rate structure	1,687.8	30.3%
Modeled transfer allocation	3,876.8	69.7%

Notes. The reported contributions represent improvements relative to a joint counterfactual baseline in which all goods are taxed uniformly at 10% and no transfers are provided. Under this baseline, the bottom 50% of MPCE groups have an estimated net fiscal position of ~ -₹3,849 per person annually, equal to the negative of the mean uniform-tax GST burden of the five lowest deciles in Table 7. The differentiated GST-rate structure improves this

position by ~ ₹1,688, while the modeled transfer allocation improves it by ~ ₹3,877. Together, these two improvements (~ ₹5,565) offset the negative baseline and produce the final modeled net fiscal position of ~ ₹1,716. The percentages of 30.3% and 69.7% therefore represent each component's share of the combined improvement from the joint baseline, not its percentage of the final ₹1,716 position. These values are model-dependent counterfactual contrasts and should not be interpreted as a causal decomposition of GST effects.
Source. Computed by Author

Table 11 compares the two modeled components of the improvement from the joint uniform-tax and no-transfer baseline for the bottom 50% of MPCE groups. The first component is the change associated with replacing the uniform 10% rate with the differentiated GST-rate structure. The second is the change associated with adding the modeled transfer allocation. The final column expresses each component as a percentage of the combined improvement from the joint baseline.

9. Discussion

9.1 Reconciling progressive and regressive findings

Apparently conflicting conclusions about India's GST often arise because studies use different definitions of progressivity and examine different outcomes. Some evaluate the statutory rate structure, the composition of household consumption or the absolute amount of GST paid. Others examine the tax paid relative to household income or focus on the taxation of particular essential goods. These measures answer different questions and need not produce the same classification. A tax system can collect more revenue from higher-consumption households in absolute terms while simultaneously imposing a larger burden relative to income on poorer households.

Studies describing the GST as progressive generally emphasize its differentiated rate structure. Goods consumed disproportionately by lower-MPCE households are more likely to be exempt or assigned lower rates, whereas numerous discretionary or luxury goods are taxed at higher rates. The present analysis supports the limited conclusion that this structure reduces the absolute GST burden of lower-MPCE groups relative to that of higher-MPCE groups. Estimated annual per-capita GST payments increase across the MPCE distribution, and the uniform-rate counterfactual shows that replacing the differentiated rates with a uniform 10% rate would substantially increase the burden on the lower deciles.

A lower absolute tax payment does not, however, establish that the GST improves the relative economic position of poorer households. Higher-MPCE households pay more GST partly because they consume more goods and services in total. Their higher payments therefore reflect both the rate structure and their greater consumption expenditure. Moreover, households purchasing the same taxed essential item face the same GST rate regardless of their ability to pay. Absolute payments consequently describe who contributes more tax in rupee terms but do not measure the sacrifice imposed relative to income or available resources.

Studies characterizing the GST as regressive generally use this relative-burden perspective. Because lower-income households tend to spend a larger proportion of their income on consumption, even a lower absolute tax payment may represent a greater proportion of their income. This is a conceptually valid concern, particularly for essential goods that remain taxable. Nevertheless, the present study cannot test it directly because the HCES data classify households by MPCE and do not provide corresponding income estimates. The results therefore should not be used either to confirm or to reject claims about GST payments as a proportion of income.

Differences among published findings may also reflect differences in survey years, consumption baskets, item inclusion rules and methods of assigning GST rates. Analyses based on pre-GST consumption data avoid behavioral responses to the tax but may not represent contemporary consumption patterns. Analyses based on post-GST data are more current but may incorporate changes in purchasing behavior following the introduction of GST and other economic developments. Estimates based on selected food and non-food items are also not directly comparable with estimates derived from a substantially broader item-level consumption basket. These methodological differences limit the extent to which apparently conflicting numerical results can be treated as direct replications or refutations of one another.

Transparency is therefore more important than classifying one side of the literature as categorically stronger. A reproducible incidence analysis should identify the included and excluded consumption items, specify the rate assigned to each item, state whether expenditure values include GST, explain the treatment of missing values and unequal fractile widths, and distinguish absolute tax payments from payments relative to consumption or income. In the present analysis, the estimated GST burden increases with MPCE, while average GST rates relative to consumption remain comparatively similar across most groups. These findings support the conclusion that higher-MPCE groups pay more GST in absolute terms, but they do not establish how the burden compares relative to household income.

The progressive and regressive findings in the literature are therefore better understood as complementary rather than mutually exclusive. The differentiated rate structure provides some protection to lower-MPCE groups and reduces their absolute liability relative to a uniform-rate system. At the same time, lower-income households may remain more vulnerable to consumption taxation when the burden is evaluated relative to income, particularly where essential goods are taxed. Neither perspective alone determines whether the poorest half benefits from the fiscal system as a whole. That question additionally depends on the distribution of the public expenditure associated with general government revenue, which is examined through the modeled net fiscal position in the following section.

9.2 Interpretation of the modeled net fiscal position

The government-expenditure analysis provides

little evidence of a sustained increase in the relative priority given to Centrally Sponsored Schemes after the introduction of the GST. CSS expenditure remained between approximately 12% and 15% of total government expenditure over the period examined. It peaked at 15.17% in 2017–2018 and declined to 12.72% in 2023–2024, below the 2016–2017 value of 14.24%. Between 2016–2017 and 2023–2024, the cumulative increase in real CSS expenditure was equivalent to approximately 9.4% of the cumulative increase in real total expenditure. These descriptive trends show that the share of CSS expenditure did not increase consistently during the post-GST period. They do not, however, establish that GST caused the observed spending pattern.

The annual marginal-spending measure was highly volatile because changes in CSS expenditure and total expenditure did not always occur in the same direction. The marginal CSS share was 33.82% in 2016–2017 and 27.88% in 2017–2018, but ranged from −120.03% to 11.53% between 2018–2019 and 2023–2024. Negative ratios occurred when CSS expenditure and total expenditure moved in opposite directions; the positive value in 2023–2024 occurred because both measures declined and therefore describes a relative contraction rather than an allocation of additional spending. These values should not be interpreted as a stable measure of annual redistributive commitment. The cumulative comparison provides a less volatile summary, but it similarly cannot reveal how much CSS expenditure was financed by GST revenue.

Within the fiscal-incidence model, the estimated GST burden increases with MPCE. The differentiated GST-rate structure reduces the absolute burden on lower-MPCE groups because a larger proportion of their included consumption falls within lower-rate categories. When the modeled CSS transfer allocation is added, the net fiscal position is positive for the lowest six deciles and negative from the 60–70% decile upward. The mean annual net fiscal position is approximately ₹1,716 per person for the bottom 50% of the MPCE distribution, compared with net burdens of approximately ₹633 for the middle 30% and ₹5,251 for the top 20%.

The counterfactual results clarify how this pattern arises. Under a uniform 10% GST rate, while retaining the modeled transfers, the mean net position of the bottom 50% falls to approximately ₹28 per person annually. When transfers are removed while the differentiated GST rates are retained, the bottom 50% instead has a mean net burden of approximately ₹2,161. Relative to a joint baseline with a uniform 10% tax and no transfers, the differentiated rate structure accounts for approximately ₹1,688, or 30.3%, of the modeled improvement in the position of the bottom 50%, whereas the transfer allocation accounts for approximately ₹3,877, or 69.7%. Redistribution is therefore the larger modeled contributor.

This decomposition helps reconcile the apparently progressive and regressive features of the GST. The differentiated rate structure is progressive in the limited sense that it lowers the absolute tax burden on lower-MPCE groups

relative to a uniform-rate system. It does not eliminate their tax burden, and it does not determine whether that burden is high relative to income. The positive modeled position of the bottom 50% emerges only after the assumed transfer allocation is included. It therefore represents the combined incidence of consumption taxation and modeled public expenditure rather than a benefit generated by GST alone.

The estimated ₹1,716 annual benefit—approximately ₹143 per person per month—is also modest and dependent on the model's assumptions. In particular, the transfer allocation is inferred from receipt of free food and then applied to the entire CSS budget, although CSS encompasses programs with different beneficiaries and modes of expenditure. Moreover, CSS is financed through general government resources rather than an identifiable pool of GST revenue. The analysis consequently cannot determine whether GST financed the modeled transfers or whether the bottom 50% would have occupied the same fiscal position in the absence of GST. The results are best understood as an illustrative estimate of the distribution produced by the specified tax-and-transfer assumptions, not as a causal estimate of the effect of GST.

9.3 Limitations and directions for validation

The analysis suggests that the distributional effects of the GST should be evaluated jointly with the public expenditure system. Differentiated GST rates reduce the absolute tax burden on lower-MPCE groups relative to a uniform-rate structure, but the modeled positive fiscal position of the bottom 50% depends predominantly on the assumed allocation of public expenditure. Consequently, modifying GST rates alone may have a smaller distributional effect than improving the scale, coverage and targeting of transfers. Policies intended to protect lower-consumption households should therefore consider both the taxation of essential consumption and the incidence of the expenditure financed through general government revenue.

The transfer component of this study is subject to substantial uncertainty. The allocation weights are derived from the proportion of households in each consumption quintile receiving at least one free food item. This binary measure does not capture the monetary value of benefits received, participation in non-food schemes, differences in benefit intensity, or the share of CSS expenditure that ultimately reaches households. Applying this participation pattern to the entire CSS budget assumes that all Centrally Sponsored Schemes have a distribution similar to that of food assistance. The equal division of each quintile's allocation between its two constituent deciles introduces a further assumption that may conceal within-quintile differences. The resulting allocation should therefore be treated as an illustrative proxy rather than a measured distribution of CSS benefits. Rural and urban expenditure values were combined using an unweighted mean rather than national survey weights. Because urban expenditure is higher, this choice may modestly overstate the estimated GST burden; population weighting would likely make the modeled fiscal position slightly

more progressive, without materially changing the direction of the results.

The study also does not identify the source of financing for CSS expenditure. GST revenue forms part of general government revenue, but CSS expenditure is financed through a combination of taxes, other revenue and borrowing. The modeled transfer benefit consequently cannot be attributed specifically to GST. Establishing such an association would require a transparent fiscal-financing decomposition or identifiable links between GST receipts and particular expenditure programs.

Future research should replace the proxy allocation with scheme-level benefit-incidence data reporting the number of beneficiaries, monetary value of benefits and expenditure reaching households in each MPCE group. A sensitivity analysis should then recalculate the net fiscal positions under several plausible transfer-allocation schedules. Additional specifications should use population-weighted rural and urban expenditure, incorporate changes in GST rates after 2017, examine multiple survey years and vary the treatment of excluded or ambiguously classified consumption items. These analyses are necessary to determine whether the positive modeled position of the bottom 50% persists under alternative defensible assumptions; its robustness cannot be inferred from the present results.

The present analysis therefore supports a limited policy conclusion. India's differentiated GST-rate structure reduces the absolute tax burden imposed on lower-MPCE groups relative to a uniform-rate counterfactual, but the modeled positive position of the bottom 50% arises mainly from the assumed redistribution of CSS expenditure. Improving the distributional performance of the fiscal system consequently requires attention to both the design of consumption taxes and the effective delivery of public transfers.

9.4 Policy extension: A consumer-tiered GST for essential goods

The counterfactual decomposition in this study provides a direct rationale for investigating a consumer-tiered GST. Relative to the modeled joint baseline of a uniform 10% tax and no transfers, the differentiated GST-rate structure accounts for approximately 30.3% of the improvement in the net fiscal position of the bottom 50% of MPCE groups, whereas the modeled transfer allocation accounts for approximately 69.7%. Although these values depend on the study's transfer-allocation assumptions, they indicate that product-based rate differentiation alone produces substantially less modeled progressivity than the subsequent allocation of public expenditure.

This finding raises a policy question that is not tested in the present analysis: could part of the redistributive effect currently modeled through public expenditure instead be incorporated directly into the GST rate structure? The existing GST differentiates principally among products but ordinarily charges every purchaser the same rate for a given product. A consumer-tiered GST would retain product classifications while adding household economic position as a second statutory dimension. Lower-income

households would therefore pay lower GST rates on defined essential goods at the time of purchase, reducing their tax burden before revenue was collected rather than depending on its subsequent redistribution through government programs. This approach would integrate part of the redistributive mechanism into GST design itself and could reduce reliance on later transfers whose financing, targeting and incidence may be uncertain.

Table 12. Illustrative comparison of the current product-based GST with a consumer-tiered GST for essential goods

Essential-goods category	Representative goods	Current GST rate*	G1: lowest economic tier	G2: low economic tier	G3: lower-middle tier	G4: upper-middle tier	G5: highest economic tier
Basic breads	Bread, roti, chapati and similar Indian breads	0%	0%	0%	2%	5%	10%
Packaged staple foods	Taxable pre-packaged rice, flour, pulses and cereals	Generally 5%	0%	1%	3%	5%	10%
Basic cooking ingredients	Edible oils and other taxable basic cooking ingredients	Generally 5%	0%	2%	3%	5%	10%
Personal-hygiene essentials	Toilet soap, toothpaste, toothbrushes and shampoo	Generally 5%	1%	2%	3%	5%	12%
Medicines	Most drugs and medicines, excluding specifically exempt medicines	Generally 5%	0%	1%	2%	3%	5%
Basic clothing and footwear	Apparel and footwear priced at or below ₹2,500 per item or pair	5%	1%	2%	3%	5%	10%
Basic household goods	Designated essential tableware, kitchenware and household-use articles	Generally 5%	1%	2%	3%	5%	12%
Non-essential and luxury goods	Premium cosmetics, luxury accessories and other discretionary goods	Product-specific higher rate	Existing rate	Existing rate	Existing rate	Existing rate	Existing rate

Notes. The proposed rates are illustrative and do not represent finalized recommendations. Their purpose is to demonstrate how a two-dimensional GST schedule could operate. Under the present system, the applicable GST rate is determined principally by product classification. Under the proposed system, the rate for designated essential goods would be determined jointly by the product's HSN classification and the purchaser's GST consumer tier. The

current-rate column reflects the rate structure following the GST rationalization effective from September 22, 2025; individual products may be subject to classification-specific exemptions or qualifications (36). The quantitative analysis in the present study uses the 2017 GST schedule and is not recalculated using either the current or proposed rates.

Source. Current rates compiled from the recommendations of the 56th GST Council and associated rate rationalization (36). Proposed consumer-tiered rates developed by the author for illustration.

Under this model, designated essential-goods categories—such as basic food, cooking ingredients, soap, medicines, clothing and footwear—would be divided into several consumer-specific GST rates. The applicable rate would be determined by the intersection of the product's Harmonized System of Nomenclature (HSN) classification and the purchaser's centrally assigned GST consumer tier. Households with the least economic capacity would pay the lowest rates on essential goods, with rates increasing gradually across higher economic tiers. Non-essential and luxury goods could retain their existing rates irrespective of the purchaser's tier.

The consumer-tiered rate schedule would be incorporated into the GST infrastructure itself rather than administered through refunds, subsidies or subsequent government transfers. Each household would be assigned a category such as G1 to G5. At the point of sale, approved billing software would combine the HSN code of the purchased product with the authenticated household tier and automatically apply the corresponding statutory rate. The vendor would not determine the purchaser's income, select the tier, maintain an account of benefits or seek reimbursement from the government. The vendor would collect and remit only the GST automatically calculated by the authorized billing system. The reduced rate would therefore benefit the eligible consumer immediately, before payment.

The household tier could be incorporated into a secure Aadhaar- or PAN-linked GST credential. The credential should encode only the tier, an effective date, an expiry date and a digitally verifiable signature; it should not disclose the household's income or financial records to the vendor. The complete rate schedule should remain in the GST billing system rather than being permanently encoded on the physical card because rates may be amended through subsequent GST policy. A digitally signed QR code could permit offline verification, enabling both cash and electronic purchases to receive the appropriate rate without transmitting an itemized history of each purchase to a central government database.

The assigned tier should be dynamic rather than permanent. Household income may rise or fall, and the applicable GST category should change correspondingly. Where an income-tax return is available, declared household income could provide the primary basis for periodic reassessment. Existing verified socioeconomic classifications could be used for people outside the income-tax system. Residential PIN-code characteristics could provide supplementary information regarding local economic conditions but should not determine the tier independently because households with substantially different incomes may live in the same area. Each credential could expire after a defined period and be digitally renewed after

reassessment, allowing economic mobility in either direction without replacing the underlying Aadhaar or PAN card.

Proxy purchasing may transfer part of the rate differential to lower-tier intermediaries, but its incidence would depend on bargaining power, transaction costs and the emergence of organized resale and should therefore be modeled empirically.

Before implementation, the proposed system would require a fiscal-incidence simulation using household-level consumption and economic-status data. Such an analysis should estimate changes in tax burdens for each household tier, revenue gained from higher-tier rates, revenue forgone through lower-tier rates, administrative costs and the likely extent of proxy purchasing. The proposed rates should be calibrated to determine whether the policy can improve progressivity while remaining approximately revenue-neutral. Alternative tier boundaries and rate matrices should be compared to identify abrupt threshold effects and determine whether gradual rate changes produce a more equitable result.

A limited pilot could subsequently test whether consumer tiers can be authenticated reliably at the point of sale, including in cash transactions and locations with unreliable internet access. The pilot should measure transaction time, authentication failure, incorrect classification, exclusion of eligible households, vendor compliance, privacy risks and consumer responses. It should also compare a consumer-tiered GST with the existing product-only structure using prespecified outcomes, including effective GST burden by household economic position, government revenue, administrative cost and error rates. Until such modeling and piloting are conducted, the proposed matrix should be treated as a testable policy framework rather than an empirically validated alternative to the current GST system.

The proposed consumer-tiered structure is therefore a logical extension of the present study's decomposition rather than an unrelated policy suggestion. The analysis indicates that differentiated product rates provide some protection to lower-MPCE groups, but that the positive modeled fiscal position of the bottom 50% depends predominantly on the assumed transfer allocation. A consumer-tiered GST would test whether a greater proportion of this progressivity could be produced directly at the point of taxation. It would not eliminate the need for public expenditure, because government programs provide services and benefits that cannot be delivered through tax reductions alone. It could, however, reduce the GST burden on essential consumption immediately and make the distributional objective explicit within the tax schedule rather than relying entirely on the uncertain connection between general tax revenue and subsequent redistribution.

10. Conclusion

This study shows why India's GST cannot be characterized as progressive or regressive by examining statutory rates, absolute tax payments, or tax burdens relative to income in isolation. Higher-MPCE groups pay more GST in absolute terms, while lower-income households may still bear a greater proportional

burden because consumption taxes absorb a larger share of their income. The distributional character of the fiscal system therefore depends not only on who pays the tax, but also on how the resulting pool of government resources is redistributed.

The principal contribution of this study is to bring these dimensions into a common exploratory framework. By combining item-level consumption expenditure, differentiated GST rates and an assumed allocation of Centrally Sponsored Scheme expenditure, the analysis estimates both the tax burden and modeled transfer benefit across MPCE groups. Under the model's assumptions, the bottom 50% of the MPCE distribution has a positive annual net fiscal position of approximately ₹1,716 per person, compared with net burdens of approximately ₹633 for the middle 30% and ₹5,251 for the top 20%. The counterfactual analysis further shows that approximately 30% of the modeled improvement in the position of the bottom 50% relative to a uniform-tax, no-transfer baseline is associated with the differentiated GST-rate structure, whereas approximately 70% is associated with the modeled transfer allocation. The positive position of the bottom half is therefore driven predominantly by redistribution rather than by the GST rate structure alone. The counterfactual decomposition also motivates future evaluation of a consumer-tiered GST, under which part of the redistributive objective would be incorporated directly into the tax applied to essential consumption rather than depending exclusively on subsequent public expenditure.

These findings reconcile apparently conflicting claims in the existing literature. The GST can be progressive in terms of absolute payments and differentiated rates while remaining regressive relative to household income. More importantly, a progressive overall fiscal position does not establish that GST itself produced the benefit. CSS expenditure is financed from general government revenue, borrowing and multiple taxes, and this study does not identify the portion financed specifically by GST. The transfer estimates also depend on using receipt of free food as a proxy for the distribution of the entire CSS budget. Accordingly, the estimated positive position of the bottom 50% should be understood as an assumption-dependent modeled fiscal position, not as a causal estimate of benefits generated by GST.

The evidence nevertheless demonstrates the value of evaluating consumption taxes and public expenditure jointly. Assessments based only on tax rates or tax payments provide an incomplete account of distributional effects. Future studies should link GST revenue to identifiable expenditure streams, use scheme-level benefit-incidence data, incorporate changes in GST rates over time, apply population-weighted rural–urban estimates and test alternative transfer-allocation assumptions. Until such evidence is available, the most defensible conclusion is that India's differentiated GST structure reduces the absolute burden on lower-MPCE groups, but whether GST has benefited the poorest half depends principally on the scale and targeting of redistribution rather than on the tax alone.

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Monetary units and conversions and data availability
Indian government expenditure is commonly reported using the lakh–crore numbering system. One lakh equals ₹100,000, and one crore equals ₹10,000,000. At the time of writing, US$1 = ₹93.77 (RBI reference rate: ₹93.7650 on November 12, 2026).

The accompanying supplementary files contain data needed to reproduce the results of this study.

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