Class, Caste and Conspicuous Consumption in India

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Abstract

Using nationally representative household-level panel data from India, we study status-signalling through conspicuous consumption across castes, religions and economic classes. Conditional on permanent income, Scheduled Castes (SC) and Scheduled Tribes (ST) spend more, while Muslims and Christians spend less on visible consumption compared to upper-caste Hindus. There is no significant difference between the visible expenditures of the upper caste and the Otherwise Backward Castes (OBC) and Sikhs and Jains. Lower-income households spend more on conspicuous consumption regardless of caste and religion than their richer counterparts. Conspicuous spending is higher during festivals and lower in areas with higher property crime rates and visible inequality. Among OBCs, SCs and Muslims, visible spending is higher among those receiving government transfers than those without public transfer income.

Keywords: conspicuous consumption, caste, religion, income class
JEL Codes: D12, D70, O10

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1 Introduction

"It is because mankind are disposed to sympathize more entirely with our joy than with our sorrow, that we make parade of our riches, and conceal our poverty...From whence, then, arises that emulation which runs through all the different ranks of men, and what are the advantages which we propose by that great purpose of human life which we call bettering our condition? To be observed, to be attended to, to be taken notice of with sympathy, complacency, and approbation, are all advantages which we can propose to derive from it...The man of rank and distinction...is observed by all the world...His actions are the objects of the public care."

— Smith (1759)

Almost one-and-a-half century after Adam Smith's characterization of universal human nature to desire higher social rank accompanied by a display of wealth, Veblen (1899) dubbed consumption that aims to demonstrate economic status to observers "conspicuous consumption".[1] In this paper, we study the spending pattern on such conspicuous consumption items across various caste and religious groups and economic classes in India and uncover their important role in status-signalling beyond the direct consumption value.

Our focus on the differences in conspicuous or visible consumption across caste and religious groups is motivated not only by the fact that such group identities are strongly correlated with economic status in India but also because social identities are fungible through the alignment of consumption (see Atkin, Colson-Sihra and Shayo (2021)). For example, Dey and Srikanth (2023) find that SCs, STs, OBCs and Muslims dissociate themselves from their 'devalued identities' by trying to consume like upper-caste Hindus.

The role of visible spending as a status-signalling device is arguably more relevant for caste and religious groups in India than for different racial groups in countries like the US and South Africa. This is because caste and class differences are not revealed in random anonymous social interactions, unlike racial identities, which are revealed in most cases through skin colour differences regardless of individuals' consumption patterns.[2] Thus, the comparison of conspicuous consumption across races, e.g., in Charles, Hurst and Roussanov (2009) for the US, and in Kaus (2013) and Chai, Kaus and Kiedaisch (2019) for South Africa, has a different context than the cross-caste and cross-class comparisons in our work. Moreover, it is worth noting that although Indians prefer to conduct their social lives within caste and religious boundaries, perceived caste-based discrimination in India remains low (see Evans et al. (2021)). Therefore, the role of conspicuous consumption in overcoming social identity barriers in India is arguably different from that in racially-segregated societies with high levels of race-based discrimination.

[1] Relative concern and peer effects are not confined to consumption choices but are relevant to a variety of household decisions, like labour supply (see Arrow and Dasgupta (2009) and Anukriti, Kwon and Prakash (2020)), asset portfolio choices (see Galí (1994)) and borrowing (see Georgarakos, Haliassos and Pasini (2014)).

[2] Although we focus on random, anonymous social interactions across castes, religions and economic classes, network effects on consumption can emanate from groups with finer information about an individual's income and wealth, e.g., peer groups based on the workplace (see De Giorgi, Frederiksen and Pistaferri (2020)) and individuals revising their spending patterns based on changing perceptions about their peers' income through continued socializing (see Candia et al. (2024)).

Any empirical study of conspicuous consumption requires an operational definition of the expenditure category. While income elasticities or slopes of Engel curves being greater than one have often been used to define luxury items, it is not necessary that items considered conspicuous or visible by society are the same as luxury items. Therefore, we rely on a classification of conspicuous items by Khamis, Prakash and Siddique (2012), based on a survey of Indian graduate students, and then show that a basket of such items indeed has an income elasticity of greater than one for all caste and religious groups in our data from the Consumer Pyramids Household Survey (CPHS) between May 2014 and December 2019. We find that despite large differences in income and total expenditures across caste and religious groups, every group spends, on average, about 10-12% of the total expenditure on conspicuous consumption. Note that this constant share of expenditure on conspicuous items across social groups is despite the within-group income elasticities of greater than one for the conspicuous basket, which would predict that richer groups spend more on conspicuous items. Therefore, the fact that lower-income groups (which are typically the lower-caste and minority-religious groups) spend the same fraction of their total expenditure on conspicuous items as their richer counterparts suggests a higher motivation for status-signalling and "catching-up-with-the-Joneses" effect among the lower socio-economic strata.

We formally test whether, conditional on permanent income, lower-caste and minority religion groups and lower economic classes spend more on conspicuous consumption. Our monthly frequency household-level panel data allows us to improve upon the empirical approach originally proposed by Charles, Hurst and Roussanov (2009), where conspicuous expenditure is regressed on indicator variables for different socio-economic groups and controls for observable household-level characteristics and permanent income. We can not only control for time fixed effects that reduce any endogeneity arising from macroeconomic conditions and aggregate preferences but also use arguably better controls for permanent income. Since the related literature so far has used cross-sectional data, authors had to rely on proxies for permanent income based on a single observation of income or expenditure. With multiple observations for the same household in our panel data, we can use functions of time-averaged income and expenditure as better controls for permanent income.

Our baseline results suggest that conditional on permanent income, SCs and STs spend significantly more than upper-caste Hindus on conspicuous consumption, while Muslims and Christians spend significantly less. OBCs, Sikhs and Jains have no significant difference from the upper-caste Hindus regarding conspicuous expenditure conditional on income. Some of these findings are contrary to those in Khamis, Prakash and Siddique (2012), who do not find that SCs and STs spend more than the upper-caste Hindus on visible items. We argue that such differences in results can at least partly be explained by genuine changes in societal behaviour in an atmosphere of caste consolidation pursued by the ruling political regime in India. Beyond comparing castes and religions, we are the first to also study conspicuous consumption patterns by economic class. We document that the bottom three quartiles of households in terms of time-averaged income spend more on visible goods than the top quartile households. Our results on differential visible expenditures by economic class

complement 'trickle-down consumption' results in Bertrand and Morse (2016) who show that the budget share allocation by nonrich households to visible items rises with top income levels.

In our baseline specification, we include state fixed effects so that we can compare different socioeconomic groups within a state, and results are not driven by differences in consumption patterns across states. This is important because the relevant reference group for consumption decisions and status-signalling is typically within one's state of residence. This is particularly so in a diverse country like India, where state boundaries were created along cultural and linguistic lines. We show that ignoring state fixed effects materially changes our conclusions, particularly for the STs and Christians, both geographically concentrated groups in India. Moreover, we find that within-state distribution of own group income has additional explanatory power beyond state fixed effects for most categories of conspicuous expenditure. The estimated relationships between various state-level group characteristics and conspicuous spending are consistent with a framework of status-signalling with unobservable income and wealth but visible expenditures (see, for example, Bagwell and Bernheim (1996) and Glazer and Konrad (1996)). Such status-signalling motives are not only present across identity groups whereby lower-caste and minority-religious groups try to catch up with the upper-caste Hindus but also within each group. We find strong evidence of status-signalling motives within not only some lower-caste groups like OBCs and SCs but also within the upper-caste Hindus, suggesting social contingency in visible expenditure even among the higher social strata. Echoing results in Roychowdhury (2017), we also find that irrespective of caste and religious identity, households spend more on visible items when the inequality in visible consumption is lower in their district, suggesting higher status competition in areas of lower visible inequality.

One aspect of conspicuous spending is that it may lead to socially undesirable outcomes if households divert resources from essential goods like food, health and education. For example, at the very extreme, Bellet and Sihra (2016, 2018) show that Indian households below the poverty line spend on socially valued aspirational goods at the cost of nutrition, and lower-caste households do so more severely when the upper-castes are richer in their region. Roychowdhury (2017) shows that additional conspicuous spending in response to lower visible inequality in one's village is financed by diverting resources from education spending. Such evidence suggests that to achieve better social objectives, government assistance to targeted groups should be in-kind rather than monetary (see Ireland (1994) and König and Lausen (2016)). In the presence of strong peer effects in consumption (see Roychowdhury (2019) and Lewbel et al. (2022) for estimates on India), whereby any additional spending by one's peers leads to increased perceived needs and reduced utility,[3] there is also a case for the government to provide more public goods rather than private goods (see Lewbel et al. (2022)). Our findings on whether Indian households sacrifice 'productive' expenses for higher conspicuous spending are more nuanced. Our results suggest that while some undesirable reallocation away from educational spending towards conspicuous expenditure happens for SCs and STs, the lower educational spending by OBCs, Muslims and Christians does not translate to higher visible spending. In

[3] Roychowdhury (2018) finds adverse psychosocial health impacts of relative deprivation in visible consumption.

fact, regardless of caste and religion, we find that the bottom three income quartiles of households spend significantly more on health and education than the richest group, suggesting aspirational spending to catch up with the rich in terms of human capital investments. Moreover, we find that OBC, SC and Muslim households receiving government monetary transfers spend more on visible items than those with no public transfer income, suggesting the desirability of in-kind government transfers.

Property crimes have been shown to reduce spending on visible items in the US, likely because conspicuous consumption reveals information about the economic status of potential victims (see Mejía and Restrepo (2016)). We corroborate this relationship between property crime rates and conspicuous consumption levels across Indian states. Moving beyond property crime, we also study the relationship between consumption levels of SCs and STs and the rates of hate crime perpetrated specifically against these groups. One can argue that states with higher rates of crime against SC/STs should discourage these groups from spending on conspicuous items. We find that while overall expenditure is lower for SC/STs in states where crime rates against them are high, there is no significant correlation between conspicuous consumption and such hate crime. This suggests that there might be general barriers to freedom of consumption for SC/STs, like internalized discrimination manifest in preference towards lower consumption or lack of access to high-quality goods, in parts of India where crimes against them are more prevalent.

Spending on festivals like weddings and religious festivals is an important part of the budget of even extremely poor households (see Banerjee and Duflo (2007)). Since such festivals are times of more intense social interactions, it is natural to expect conspicuous spending to increase for such occasions. In fact, using data from rural south India, Bloch, Rao and Desai (2004) find that the size of wedding celebrations is used as a signal of the quality of the new groom's family and, by extension, the enhanced social status of the bride's family. While family weddings are not readily recorded in the CPHS, our high-frequency panel data allows us to test whether conspicuous spending increases during major Indian festivals where people across castes and religions participate. Since most of these festivals happen to be in the third quadrimester of the year, we test whether conspicuous spending by caste and religious groups increases during that time. Corroborating our expectations, we find that conspicuous spending is higher for all social groups in the September-December period of major festivals, while the immediately subsequent January-April quadrimester is a period of relative lull for conspicuous expenditure.

The rest of the article is organized as follows. Section 2 presents details about the dataset, including an operational definition of conspicuous expenditure and some summary statistics of key socio-economic characteristics of different religious and caste groups in India. Section 3 discusses the empirical strategy, while Section 4 presents the results and discusses some potential channels through which conspicuous consumption can be affected. Finally, Section 5 concludes with the key takeaways.

2 Data and Summary Statistics

2.1 Dataset

We use nationally representative household-level longitudinal data at the monthly frequency from the Consumer Pyramids Household Survey (CPHS) conducted by the Centre for Monitoring Indian Economy Pvt. Ltd. (CMIE). Our dataset covers the period between May 2014 and December 2019. We truncate our observations in 2019 because of the concern of the COVID-19 pandemic impacting household consumption patterns from 2020. Further, during the five-year period between 2014 and 2019, inflation in India was low and stable relative to the previous decade, which is useful in ignoring the heterogeneity of relatively small price increases between conspicuous and non-conspicuous goods (see Jaravel (2021)). The panel survey started with roughly 236,000 households, and the sampled units were interviewed every quadrimester about their socio-economic and demographic characteristics as well as their income and item-wise expenditure in each of the previous four months.

There are several benefits of using the CPHS over other Indian household consumption datasets. The National Sample Survey (NSS), while collecting extensive data on item-wise household expenditure, does not contain information on household income, making it difficult to include crucial socio-economic characteristics as controls in our analyses. The Indian Human Development Survey (IHDS), which many researchers have used in the literature on conspicuous consumption, has the benefit of collecting both income and consumption and detailed socio-economic characteristics of the households. However, researchers have so far used only one wave of the IHDS, working with a single cross-section of individuals. For at least three important reasons, having a panel dataset with monthly frequency matters for our research question. First, we can use a better proxy for permanent income, which we can allow to depend not just on the current income but on the time-averaged income over the entire duration we observe the household in the panel. Second, we can include time fixed effects to control for changing macroeconomic conditions like business cycle effects and uniform preference shifts across all households. Third, we can study the timing of conspicuous consumption expenditure within a year, which can be potentially interesting to check whether visible spending is higher during festivals.

2.2 Defining Conspicuous Consumption

We need an operational definition of conspicuous consumption for our empirical analysis. Heffetz (2011) shows that consistent with a signalling-by-consuming model à la Veblen (1899), income elasticities are correlated with the visibility or conspicuous nature of consumer expenditures. While an item is formally defined as a luxury good if its income elasticity is greater than one, some items can be considered conspicuous by the general population due to cultural reasons, even if it does not satisfy the formal definition of a luxury good. Therefore, combining the formal definition based on income elasticity with the general public notion of conspicuous consumption is important. Further, the level

of aggregation at which items are reported in a survey also matters for the definition of a conspicuous good, e.g., food and clothing may be necessities for certain qualities within the broad categories, but higher quality clothing or restaurant food may be considered a luxury or a conspicuous good.

Table 2.1: Defining Conspicuous Consumption: Income Elasticities

	Income Elasticity across Social Groups							
Expenditure Category	**All**	**Upper Caste**	**OBC**	**SC**	**ST**	**Muslim**	**Sikh & Jain**	**Christian**
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
A. Conspicuous Basket	1.743***	1.917***	1.738***	1.748***	1.351***	1.886***	1.739***	1.862***
	(0.112)	(0.081)	(0.131)	(0.189)	(0.233)	(0.169)	(0.094)	(0.100)
No. of observations	9,346,936	2,641,849	3,080,007	1,784,119	440,977	901,985	302,446	147,808
B. Food	0.621***	0.610***	0.627***	0.667***	0.691***	0.656***	0.416***	0.610***
	(0.020)	(0.027)	(0.022)	(0.016)	(0.031)	(0.019)	(0.025)	(0.020)
No. of observations	9,346,936	2,641,849	3,080,007	1,784,119	440,977	901,985	302,446	147,808
C. Health	0.838***	0.901***	0.742***	0.871***	0.846***	0.826***	0.670***	0.653***
	(0.063)	(0.062)	(0.089)	(0.092)	(0.161)	(0.098)	(0.104)	(0.148)
No. of observations	9,346,947	2,641,855	3,080,008	1,784,122	440,977	901,986	302,446	147,808
D. Education	0.781***	0.599***	0.636***	0.166	0.785**	0.871**	1.978***	0.677***
	(0.120)	(0.167)	(0.175)	(0.307)	(0.327)	(0.360)	(0.263)	(0.218)
No. of observations	9,346,936	2,641,849	3,080,007	1,784,119	440,977	901,985	302,446	147,808

Note: Each coefficient in the table is estimated from a separate regression of the inverse hyperbolic sine transform of household consumption in each expenditure category on the inverse hyperbolic sine of total household expenditure. All specifications control for family size, average age of household members, number of children below 12 years of age, number of old family members above 60 years of age, a categorical variable for educational attainment of all the household members, a dummy for rural or urban residence, and fixed effects for time and state of residence. Robust standard errors, clustered at the state level, are reported in parentheses. See Section 2.2 for the definition of the conspicuous consumption basket in panel A. Food in panel B refers to expenditure on food except food at restaurants and packaged food like read-to-eat items; Heath in panel C refers to the total expenditure on health-related goods and services; Education in panel D refers to educational expenses except those on professional educational services.

Charles, Hurst and Roussanov (2009) surveyed 320 students at the University of Chicago's Harris School and Graduate School of Business to classify items in the Consumer Expenditure Survey (CEX) as conspicuous or not. In particular, they treated items that were deemed to be easily observed and having reported income elasticities greater than one by at least 30% of the students as 'visible' or 'conspicuous' goods. Khamis, Prakash and Siddique (2012) adapted the technique of classification from Charles, Hurst and Roussanov (2009), but instead of relying on the public notion of conspicuous consumption in the U.S., they interviewed graduate students in India to get a truer picture of what expenditure items in the IHDS are considered conspicuous by Indians. Although the crosswalk from IHDS to CPHS expenditure categories requires some nominal adjustment, we follow Khamis, Prakash and Siddique (2012) as closely as possible in classifying expenditure items into conspicuous and non-conspicuous categories. In particular, we include the following items in the conspicuous consumption basket: (i) clothing and footwear; (ii) jewellery and accessories (including bindis, bangles, artificial jewellery, bags, wallets, watches, glasses, gems and precious jewellery, etc.); (iii) house

rent; (iv) furniture and furnishings; (v) monthly instalment payment on vehicle loan; (vi) holiday and tourism; (vii) recreational goods (household appliances, mobile and related accessories); (viii) entertainment (movies, clubs, parties, etc.); (ix) social and religious obligations; and (x) repairs and maintenance. All other consumption categories are dubbed 'non-conspicuous'.

Since we use a novel dataset different from previous studies, we verify whether the above classification of consumption categories into conspicuous and non-conspicuous holds up to the formal definition of conspicuous items being luxury goods, that is, having an income elasticity larger than one, in our dataset. Panel A of Table 2.1 reports the income elasticities of the conspicuous basket of expenditure items for different castes and religious groups in the CPHS survey. The point estimates of the income elasticities, along with the standard errors, suggest that our conspicuous consumption basket is a luxury for all caste and religious groups. In panels B, C and D of Table 2.1, we show that the income elasticities of three expenditure categories, which by common sense should be non-conspicuous, are indeed lower than one for most caste and religious groups. This difference in income elasticities between our conspicuous consumption basket and items that are typically considered non-conspicuous lends credence to the application of the IHDS-based definition in Khamis, Prakash and Siddique (2012) to our CPHS dataset.

2.3 Summary Statistics

Table 2.2 presents the summary statistics of key household characteristics for various caste and religious groups in India. Across all reported characteristics, namely, age of household members, years of education, family size and levels of income and expenditure, the upper-caste Hindus share similarities with the Sikh, Jain and Christian households in our sample. They have, on average, older and fewer household members, and their educational attainment and economic outcomes are noticeably better than the national average. On the other hand, OBC, SC, ST and Muslim households are typically younger and larger and have worse economic indicators than the national average. For example, in our sample, upper-caste Hindu households have a median total expenditure that is about 11% higher than Muslim households, 14% larger than OBC households, 20% higher than SC households, and 39% higher than ST households. On the other hand, Sikhs and Jain households have 14% higher total expenditure than upper-caste Hindus, on average. We find that all other caste and religious groups allocate between 9% and 10% of their total expenditure for the conspicuous consumption basket that we defined in Section 2.2, except Sikhs and Jains, who spend about 12% of their total expenditure on conspicuous consumption. This shows that despite the large differences in average total expenditure across caste and religious groups, the fraction of the total expenditure spent on conspicuous consumption is relatively similar.

There have been no recent rounds of the National Sample Survey (NSS), India's only official data on household expenditure, after the 68^{th} round in 2011-12. However, some summary statistics on expenditure distribution were published recently in the 2022-23 Survey on Household Consumption Expenditure (NSSO (2023)). Reassuringly, key characteristics of the expenditure distribution in our

sample are comparable to the HCES 2022-23 statistics. For example, HCES 2022-23 reports that SC households in rural (urban) India spend 15% more (2% less) than their ST counterparts per capita, while in our sample, SC total expenditure is 11% larger than the corresponding ST figure per capita. According to the HCES 2022-23, OBC per capita expenditure is 11% and 16% higher than SC expenditure in rural and urban areas, respectively, while our sample suggests the corresponding figure to be 12%. This broad consistency of the CPHS-based statistics with the latest NSSO data in expenditure patterns across caste groups is comforting for our analyses.

Table 2.2: Summary Statistics

Household Characteristics	**All**	**Upper Caste**	**OBC**	**SC**	**ST**	**Muslim**	**Sikh & Jain**	**Christian**
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
A. Age, Education & Size								
Mean age of members	34.93	37.76	34.64	32.61	32.04	31.77	38.45	38.76
Mean years of education	7.30	9.70	6.60	5.10	4.40	4.70	9.30	9.50
Mean family size	4.02	3.82	4.02	4.18	4.11	4.48	3.62	3.73
Mean no. of adult members	2.96	2.87	2.95	3.03	2.98	3.22	2.77	2.71
B. Monthly Income								
Mean	19,776.44	24,819.66	17,779.77	15,541.72	13,903.64	16,764.41	33,352.26	22,303.28
Median	11,133.35	14,144.89	10,718.05	9,980.09	8,335.34	10,532.39	15,379.96	13,777.94
1^{st} Quartile	5,752.91	6,460.99	5,680.56	5,822.79	4,120.80	6,265.41	5,842.70	7,539.74
3^{rd} Quartile	17,979.39	24,160.68	16,560.17	14,980.61	12,922.12	16,038.97	27,139.05	21,984.55
C. Monthly Total Expenditure								
Mean	11,240.60	12,796.38	10,616.35	9,884.34	8,729.89	10,875.17	14,650.39	13,493.28
Median	8,303.76	9,178.26	8,072.82	7,619.26	6,623.34	8,267.34	11,262.17	9,472.55
1^{st} Quartile	5,460.54	5,960.53	5,410.83	5.076.70	4,084.57	5,651.04	5,928.28	5,787.14
3^{rd} Quartile	11,262.99	12,640.12	10,734.98	10,148.59	9,017.93	10,911.20	15,120.62	13,584.42
D. Monthly Conspicuous Expenditure								
Mean	1,140.73	1,238.16	1,097.00	929.51	869.40	1,028.25	1,707.35	1,754.11
Median	565.44	393.79	362.92	303.72	298.56	321.24	822.38	636.29
1^{st} Quartile	112.54	91.67	80.69	61.98	67.12	61.99	214.00	155.09
3^{rd} Quartile	1,340.23	3,431.89	3,059.07	2,598.61	2,380.57	2,920.95	4,253.45	4,779.71
No. of unique households	204,047	47,234	73,036	40,852	11,784	20,421	6,583	4,137
No. of observations	9,253,243	2,605,127	3,042,134	1,778,420	436,816	898,912	296,189	147,821

Note: *Upper Caste* refers to those recorded in the CPHS as belonging to the upper and intermediate castes among the Hindus. Since the head of the household in India is often defined by the interviewee based on family norms and not based on some economic criteria like being the primary earner, we report the average characteristics of all members of the family (viz., age and education) instead of reporting them for just the household head. Income is measured as the total household income of all members from all sources. Expenditure measures have not been equivalized to account for the number and age of household members. See Section 2.2 for the definition of conspicuous expenditure.

3 Empirical Strategy

Our main goal in this paper is to determine whether underprivileged castes, religious groups, or poorer sections of society are trying to catch up with the upper-caste Hindus or the richest stratum of the economic class in terms of conspicuous consumption. For this purpose, we follow the basic structure of the regression specification in Charles, Hurst and Roussanov (2009) and Khamis, Prakash and Siddique (2012), wherein the visible consumption expenditure of a household is regressed on

the dummies for various socio-economic groups along with controls for the permanent income and other observable characteristics of the household, namely, age, education, family structure, and location. However, we differ from the aforementioned papers in two important ways. First, since we have panel data unlike the previous literature, we can include time fixed effects, which control for macroeconomic conditions and aggregate preferences, as well as use a better proxy for a household's permanent income that depends on time-averaged resources over the entire duration we observe the household in the panel. Second, following Bellemare and Wichman (2020), we transform the dependent variable using inverse hyperbolic sine function instead of a logarithmic transformation to avoid the selection problem arising from frequent zero values of expenditure on conspicuous items (i.e., the dependent variable).

$$\sinh^{-1}\left(\text{Conspicuous}\right)_{ht} = \sum_{g \in G} \beta_g g_h + \beta_t D_t + \beta_X X_{ht} + \gamma \left(\text{Permanent Income}\right)_{ht} + \varepsilon_{ht} \tag{3.1}$$

For a household h in month t, the variable Conspicuous_{ht} refers to the expenditure on the conspicuous consumption basket defined in Section 2.2, g_h denotes the dummy for the socio-economic group g that household h belongs to, D_t is the month-year or time dummy, X_{ht} is a vector of observable characteristics of the household, and ε_{ht} is the error term. The vector X_{ht} includes the family size, average age of household members, number of children below 12 years of age, number of old family members above 60 years of age, a categorical variable for educational attainment of all household members, and state of residence fixed effects. Inclusion of the state fixed effects implies that we are essentially comparing different caste and religious groups within a certain state. This is important for interpreting our results as peer effects in conspicuous consumption because it is unlikely that households residing in different states get influenced by each other's consumption patterns.

The key coefficient of interest is β_g for the socio-economic group g. We estimate regression (3.1) to compare across various caste and religious groups using upper-caste Hindus as the reference group. In addition, we also compare conspicuous expenditure across different quartiles of households based on time-averaged income using the richest quartile as the reference group. Standard consumption theory à la Friedman (1957) would predict that once permanent income and other relevant household characteristics like family size have been controlled for, there should be no difference in consumption levels across households, i.e., β_g should be zero $\forall g \in G$. Any contrary finding would suggest the presence of different utilities from conspicuous consumption for different socio-economic groups.

We present results for six alternative specifications of regression (3.1) depending on how we measure the Permanent Income control variable. Case A does not include any control for permanent income. Case B controls for a third-order polynomial in current income, i.e., income in time t, and its higher order terms up to a cubic are used as controls. Case C controls for a third-order polynomial in current total expenditure. Cases D, E and F control for the parts of the current total expenditure predicted by current income, time-averaged income and time-averaged expenditure, respectively. Some variations of cases A through D have been used in the existing literature. However, our most

preferred specifications are cases E and F since they bypass not only the endogeneity of using current total expenditure as an explanatory variable for one of its components (namely, current conspicuous expenditure) but also the endogeneity of using functions of current income as a control for current consumption. Since the existing literature typically uses data from a single year to estimate the specification in (3.1), they cannot use time-averaged expenditure or time-averaged income as predictors for permanent income. Consequently, current income or current consumption, used to proxy permanent income, introduces an endogeneity bias in their results. Being able to bypass such endogeneity is one of the key contributions of our work.

We go beyond the baseline estimation of which socio-economic groups spend more or less on conspicuous consumption. In particular, we explore the composition and funding of such luxury expenditure for each group, that is, which visible items are preferred by which group and which non-conspicuous expense is curtailed to fund such luxury spending (see Section 4.2).

We test whether the differential expenditure on conspicuous items by various caste or religious groups is due to status signalling (see Section 4.3.1). We do this by including within-state mean and dispersion of own-group income as additional controls in regression (3.1). A standard status signalling model predicts that the mean own-group income should be negatively correlated with the level of conspicuous expenditure. This is because the richer one's group members are in one's surroundings, the less need to signal through luxury spending that one is richer than one truly is. The theoretical relationship between the dispersion of own-group income and conspicuous consumption is ambiguous. A by-product of testing for the status signalling model is that we can also ascertain whether generic state-level characteristics, as captured through the state fixed effects, have any more predictive power for the pattern of conspicuous expenditure in India, beyond what is explained by the within-state own-group income distribution (i.e., the mean and standard deviation). We also test for potential status signalling within each identity group and verify whether lower visible inequality in one's local area increases conspicuous expenditure by households through heightened status competition.

Extending further our understanding of the spatial distribution of conspicuous expenditure in India, we test whether states with high rates of property crime and crime aimed against lower caste groups (SCs and STs) impact people's freedom to spend on visible items (see Section 4.3.2). Finally, we test for any cyclical pattern in the timing of conspicuous expenditure for the various caste and religious groups through a calendar year (see Section 4.3.3). The idea behind this test is to see whether the timing of religious festivals that allow for heightened social interactions aligns with a spike in conspicuous expenditure.

4 Results

In this section, we present all the empirical results. Section 4.1 shows baseline estimates for the regression specification in (3.1), which details which socio-economic group spends more or less on

visible expenditure than the top income-earners or the upper-caste Hindus. Section 4.2 then further breaks down the conspicuous consumption basket to see which specific items are favoured by which group and which non-conspicuous item's consumption they are curtailing to fund their spending on that visible item. Finally, Section 4.3 studies the spatial and temporal dimensions of conspicuous consumption in India. Regarding spatial heterogeneity, we study whether certain state-level characteristics like property crime rates, crime rates against lower caster groups, and the mean and dispersion of own group income within a state can explain conspicuous consumption among various socio-economic groups. For the temporal variation, we are particularly interested in seeing whether big pan-Indian socio-religious festivals during the final four months of a year contribute to larger spending on conspicuous items.

4.1 Baseline Results

Table 4.1 presents the estimated β_g coefficients from regression (3.1) for six caste and religious groups in columns (1) through (6). A positive (negative) coefficient indicates a higher (lower) conspicuous consumption of that group relative to the upper-caste Hindus. We report these coefficients for six alternative specifications (A through F) of the permanent income control in the regression. The negative coefficients for all lower caste groups and Muslims and Christians in specification A highlight the fact that upper-caste Hindus are, on average, richer and, therefore, spend more on conspicuous consumption. Controlling for a polynomial in current income does not change this conclusion. This suggests that current income is not a good proxy for the permanent economic status of Indian households. However, once we control for permanent income using current total expenditure, either on its own or instrumented with income measures or time-averaged expenditures, we find that the negative significant coefficients for the SCs and STs flip to positive and significant. Taken together, we find that conditional on permanent income, SCs and STs spend more, but Muslims and Christians spend less on conspicuous consumption than upper-caste Hindus.

Our headline estimates for conspicuous consumption patterns across caste and religious groups in India in specifications E and F of Table 4.1 are not in line with the findings in Khamis, Prakash and Siddique (2012). They find that not only Muslims but also Sikhs and Jains spend less, while OBCs spend significantly more on conspicuous consumption than upper-caste Hindus, conditional on permanent income. The difference between the upper-caste Hindus and the SCs, STs and Christians is negligible for conspicuous consumption once permanent income is controlled for in their results. However, the apparent divergence between our results and theirs masks a consistent pattern of how the estimated coefficients change as we progressively use better controls for permanent income. Like us, consistent with the unconditional higher spending of upper-caste Hindus, Khamis, Prakash and Siddique (2012) also find that all lower-caste and minority religious groups spend less on conspicuous consumption when permanent income is not controlled for. While their significant negative coefficients increase and get closer to zero for SCs and STs when permanent income is included as a control, our negative coefficients increase more and become significantly positive for SCs

and STs. It should also be noted that the results in Khamis, Prakash and Siddique (2012) were based on the 2004-05 round of the IHDS data, and a part of the difference between our results and theirs can be explained by the fact that we are using much more recent data between 2014 and 2019. For example, using the 2011-12 wave of the IHDS data, Kandpal and Maiti (2022) find that SC/STs spend about 7% more than the upper-caste Hindus on conspicuous expenditures after controlling for state fixed effects and permanent income of the household. These estimates are much closer to ours in specifications E and F in Table 4.1.

Table 4.1: Estimated Gap in Conspicuous Expenditures with Upper Caste Hindus

Permanent Income Controls in Various Specifications	**OBC**	**SC**	**ST**	**Muslim**	**Sikh & Jain**	**Christian**
No. of observations = 9,299,202	(1)	(2)	(3)	(4)	(5)	(6)
A. No control	-0.083	-0.101**	-0.150*	-0.331***	0.135	-0.208
R-squared = 0.227	(0.052)	(0.049)	(0.084)	(0.100)	(0.103)	(0.133)
B. Current income controls	-0.081	-0.113**	-0.150*	-0.340***	0.132	-0.226
R-squared = 0.231	(0.054)	(0.050)	(0.086)	(0.101)	(0.090)	(0.140)
C. Current total expenditure controls	0.019	0.146***	0.219***	-0.194**	-0.133	-0.161**
R-squared = 0.342	(0.039)	(0.038)	(0.061)	(0.088)	(0.108)	(0.075)
D. Current expenditure instrumented with current income	0.035	0.184**	0.274**	-0.173*	-0.174	-0.155**
R-squared = 0.340; 1^{st} Stage F-stat = 128908.7	(0.036)	(0.080)	(0.115)	(0.099)	(0.127)	(0.069)
E. Current expenditure instrumented with average income	-0.015	0.064**	0.096*	-0.239***	-0.044	-0.177**
R-squared = 0.330; 1^{st} Stage F-stat = 4513.1	(0.038)	(0.032)	(0.054)	(0.090)	(0.099)	(0.088)
F. Current expenditure instrumented with average expenditure	-0.005	0.088**	0.132**	-0.226***	-0.071	-0.173**
R-squared = 0.336; 1^{st} Stage F-stat = 6739.1	(0.038)	(0.042)	(0.055)	(0.086)	(0.102)	(0.083)

Note: The table reports the coefficients on the social group dummies from a regression of the inverse hyperbolic sine transform of household visible consumption on social group dummies and other controls. All specifications control for family size, average age of household members, number of children below 12 years of age, number of old family members above 60 years of age, a categorical variable for educational attainment of all the household members and fixed effects for time and state of residence. Robust standard errors, clustered at the state level, are reported in parentheses. ***, ** and * denotes statistical significance at 1%, 5% and 10% levels.

It is worth noting that in all our specifications, we include state fixed effects as controls. This implies that the conspicuous consumption of all the caste and religious groups is being compared to one another within a state, and cross-state differentials in spending habits are not influencing our results. Our results are quite different, particularly for STs and Christians, when we omit state fixed effects as controls, and we discuss this case in Section 4.3.1.

In Table 4.2, we present the difference in the conspicuous expenditure of the bottom three quartiles of households with that of the top quartile, based on time-averaged income. Similar to the caste and religion results in Table 4.1, there is a sign flip in the estimated coefficients for all three income quartiles when moving from specifications where we either do not control for income or control

only for current income (cases A and B) to specifications where we use expenditure (whether instrumented or on its own) as permanent income control (cases C, D and F). This, once again, highlights the importance of correctly controlling for permanent income. We find that the bottom three income quartiles spend more on conspicuous items than the richest quartile, suggesting that households try to catch up with their richer counterparts in terms of visible spending, even when their economic class dictates otherwise.

Table 4.2: Estimated Gap in Conspicuous Expenditures with the Top Quartile of Average Income

Permanent Income Controls in Various Specifications	**1^{st} Quartile**	**2^{nd} Quartile**	**3^{rd} Quartile**
No. of observations = 9,346,947	(1)	(2)	(3)
A. No additional control	-0.886***	-0.602***	-0.368***
R-squared = 0.231	(0.067)	(0.049)	(0.037)
B. Current income controls	-0.782***	-0.521***	-0.312***
R-squared = 0.234	(0.072)	(0.049)	(0.037)
C. Current total expenditure controls	0.443***	0.321***	0.244***
R-squared = 0.343	(0.083)	(0.055)	(0.044)
D. Current expenditure instrumented with current income	0.874*	0.622*	0.446*
R-squared = 0.331; 1^{st} Stage F-stat = 148912.0	(0.510)	(0.359)	(0.235)
F. Current expenditure instrumented with average expenditure	0.126	0.102*	0.100**
R-squared = 0.337; 1^{st} Stage F-stat = 7324.7	(0.082)	(0.061)	(0.045)

Note: The table reports the coefficients on the average income quartile dummies from a regression of the inverse hyperbolic sine transform of household visible consumption on the quartile dummies and other controls. All specifications control for family size, average age of household members, number of children below 12 years of age, number of old family members above 60 years of age, a categorical variable for educational attainment of all the household members and fixed effects for time and state of residence. Robust standard errors, clustered at the state level, are reported in parentheses. ***, ** and * denote statistical significance at 1%, 5% and 10% levels, respectively. Note that specification E, which uses time-averaged income as the instrument for current expenditure, is not being reported in this table because the income quartiles themselves have already been defined based on that income measure.

4.2 Composition and Funding of Conspicuous Consumption

In Table 4.3, we study how expenditure on various consumption categories (both conspicuous and otherwise) differs across socio-economic groups. This exercise aims to understand which conspicuous items are favoured by which socio-economic group and which non-conspicuous items are sacrificed to fund such luxury expenses. While the magnitudes of the caste/religion/class coefficients are small and rarely statistically significant for the various expenditure categories in Table 4.3, a few

interesting patterns emerge.

Table 4.3: Estimated Gap in Expenditure Categories across Socioeconomic Groups

	Income Class Relative to Richest Quartile *No. of Observations = 9,346,947*			**Caste & Religious Group Relative to Upper Caste Hindus** *No. of Observations = 9,299,202*					
	1^{st} Quartile	**2^{nd} Quartile**	**3^{rd} Quartile**	**OBC**	**SC**	**ST**	**Muslim**	**Sikh & Jain**	**Christian**
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
A. Conspicuous Consumption Categories									
Clothing & Footwear	-0.012	-0.030	0.023	-0.074*	0.074**	0.125*	-0.027	-0.086	-0.171
	(0.136)	(0.090)	(0.046)	(0.041)	(0.031)	(0.066)	(0.071)	(0.113)	(0.108)
Jewellery & Accessories	-0.131	-0.083	-0.070	-0.081	-0.192	0.205	-0.622***	-0.272	-0.850***
	(0.265)	(0.127)	(0.094)	(0.197)	(0.118)	(0.146)	(0.146)	(0.260)	(0.244)
House Rent	0.095***	0.086***	0.081**	0.018	-0.032	-0.016	0.006	-0.026	0.016
	(0.031)	(0.030)	(0.034)	(0.014)	(0.021)	(0.017)	(0.012)	(0.038)	(0.029)
Furniture & Furnishings	0.051	0.018	0.008	0.006	0.019	0.008	0.021	-0.015	-0.021**
	(0.056)	(0.027)	(0.018)	(0.007)	(0.016)	(0.021)	(0.018)	(0.018)	(0.009)
Vehicle EMI	0.000	-0.022	-0.034	0.015	0.023*	0.053**	0.026	-0.045*	-0.023
	(0.029)	(0.030)	(0.025)	(0.013)	(0.012)	(0.022)	(0.018)	(0.027)	(0.052)
Holiday & Tourism	-0.005	-0.016	-0.021**	-0.002	-0.004	-0.005	-0.016	0.000	0.042**
	(0.016)	(0.012)	(0.009)	(0.004)	(0.008)	(0.010)	(0.010)	(0.016)	(0.017)
Recreational Goods	-0.129*	-0.113*	-0.046	0.020	0.055*	-0.046	-0.072*	0.035	-0.041
	(0.076)	(0.061)	(0.039)	(0.033)	(0.029)	(0.052)	(0.037)	(0.159)	(0.025)
Entertainment	-0.148**	-0.150***	-0.113***	0.023	0.050**	-0.005	-0.012	-0.011	-0.015
	(0.064)	(0.055)	(0.032)	(0.022)	(0.022)	(0.032)	(0.038)	(0.131)	(0.029)
Social & Religious Obligations	0.255***	0.146**	0.089	0.058	0.090	0.070	-0.212	0.102	-0.127
	(0.089)	(0.071)	(0.054)	(0.042)	(0.057)	(0.090)	(0.158)	(0.093)	(0.145)
Repairs & Maintenance	-0.009	-0.000	0.008	-0.010	-0.011	0.004	-0.018*	0.001	-0.014
	(0.062)	(0.040)	(0.024)	(0.018)	(0.017)	(0.018)	(0.010)	(0.018)	(0.027)
B. Other Expenditure Categories									
Health	0.131*	0.104*	0.067**	-0.003	0.044	-0.030	0.022	-0.117***	-0.116
	(0.068)	(0.050)	(0.034)	(0.023)	(0.027)	(0.035)	(0.040)	(0.037)	(0.121)
Education	1.243***	0.819***	0.525***	-0.079**	-0.190***	-0.236***	-0.322**	-0.111	-0.119*
	(0.183)	(0.110)	(0.060)	(0.039)	(0.043)	(0.091)	(0.148)	(0.086)	(0.071)
Restaurant	-0.106	-0.155*	-0.114*	0.096	-0.006	0.075	-0.049	0.039	0.330
	(0.122)	(0.093)	(0.068)	(0.102)	(0.113)	(0.142)	(0.122)	(0.223)	(0.255)
Meat	0.006	0.007	0.005	0.015***	0.025***	0.015**	0.047***	-0.003	0.013
	(0.016)	(0.011)	(0.008)	(0.005)	(0.004)	(0.006)	(0.008)	(0.010)	(0.011)

Note: The table reports the coefficients on the socioeconomic group dummies from a regression of the inverse hyperbolic sine transform of household expenditure on individual consumption categories. The set of controls is the same as in specification F of Tables 4.1 and 4.2. ***, ** and * denote statistical significance at 1%, 5% and 10% levels, respectively.

SCs and STs spend significantly more on clothing and footwear than their upper-caste Hindu counterparts, and this luxury spending is financed by significantly lower expenditure on education. One can interpret this as evidence of these caste groups sacrificing human capital investment in favour of social status signalling through visible consumption. However, this evidence can also be interpreted as the higher availability and access of subsidized public education by lower caste groups, while upper castes choose to spend on private education. The quality differential between public and private education in India is not unambiguously in favour of the latter. Therefore, concluding that lower education spending translates to lower quality education attained by the SCs and STs is not straightforward. Nevertheless, this is consistent with the general observation of lower educational

attainment of the lower caste groups in India compared to the upper castes. While the Muslims share their lower education spending pattern with the SCs and STs, they also spend considerably less on key conspicuous items like jewellery and accessories and recreational goods. Lower-caste Hindus and Muslims spend more than the upper-caste Hindus on meat consumption, which is consistent with the anecdotal narrative of dietary patterns along religious and caste lines in India.

The finding in Table 4.2 that lower economic classes spend more on conspicuous items than their richer counterparts is not uniform across the sub-categories of visible expenditure items. The bottom three income quartiles of households spend more on house rent and socio-religious obligations but less on recreational goods, entertainment and restaurant food than the richest quartile. The bottom three quartiles also spend significantly more on health and education than the richest group, suggesting a tendency to catch up on human capital investments by the lower-income groups. Therefore, it is not a mechanism of sacrificing essential expenses in favour of luxury spending but rather a reallocation among various visible items that leads to the net positive effect of conspicuous consumption for lower-income households.

One concern that has often surfaced about conspicuous consumption as a status signalling device is that households may be diverting resources from spending on important items like healthcare, education and savings to fund their purchase of visible items (see Frank (2000)). This has prompted research into whether in-kind transfers to households may lead to superior outcomes than monetary transfers (see Ireland (1994) and König and Lausen (2016)). We try to investigate this issue in our data by grouping households by their status of receipt of monetary government transfers and checking how their conspicuous expenditure varies according to this status. In Table 4.4, we show that there is no significant difference in conspicuous spending among upper-caste Hindus depending on their government transfer income status. We also find that relative to the upper-caste Hindus, OBCs with positive government transfers spend more on conspicuous items. This is despite our finding that OBCs, on average, do not spend any differently on conspicuous items compared to the upper-caste Hindus. Interestingly, the overall higher visible spending by SCs and STs relative to their upper-caste counterparts is concentrated among the SCs with positive government transfers but among the STs with no government transfer income (albeit the difference is statistically insignificant among STs depending on their government transfer income status).[4] Even among the Muslims, those with government transfer income spend significantly more than those without public transfer income. In fact, the overall finding of Muslims spending less on visible goods than upper-caste Hindus vanishes when we focus on Muslims with positive government transfers. This heterogeneity in visible spending by public transfer income status is an important policy-relevant finding that suggests that public assistance to weaker socio-economic groups may be better designed as in-kind transfers.

[4]Receipt of government transfers should ideally be negatively correlated with the overall economic status of households. However, it is possible that hard-to-reach groups may not be receiving government transfers even when they are economically worse off than others. Therefore, based on the results in Table 4.4, it should not be immediately concluded that richer STs and Muslims but poorer OBCs and SCs spend more on visible goods.

Table 4.4: Conspicuous Consumption by Government Transfer Income Status across Castes and Religions

	Government Transfer Income Status		Test of Equality
No. of Observations = 9,299,202	**Zero Transfer**	**Positive Transfers**	**p-value**
	(1)	(2)	(3)
Upper Caste Hindu	-	0.058	-
		(0.069)	
OBC	-0.036	0.141*	0.055*
	(0.047)	(0.081)	
SC	0.061	0.227***	0.008***
	(0.041)	(0.072)	
ST	0.179***	-0.007	0.133
	(0.065)	(0.123)	
Muslim	-0.281***	0.001	0.016**
	(0.101)	(0.103)	
Sikh & Jain	-0.114	0.119	0.223
	(0.128)	(0.151)	
Christian	-0.129	-0.247	0.421
	(0.085)	(0.151)	

Note: All coefficients in columns (1) and (2) are based on a single regression with the caste/religious group dummies interacted with the government transfer income status dummy. Upper-caste Hindus with zero government transfer income are treated as the base group. Additional control variables include family size, average age of household members, number of children below 12 years of age, number of old family members above 60 years of age, a categorical variable for educational attainment of all the household members and fixed effects for time and state of residence. Robust standard errors, clustered at the state level, are reported in parentheses. The p-value for the test of equality of the coefficients in columns (1) and (2) for each caste or religion is noted in column (3). ***, ** and * denote statistical significance at 1%, 5% and 10% levels, respectively.

4.3 Space and Time of Conspicuous Consumption in India

In this section, we study how the patterns of conspicuous expenditure for caste and religious groups vary across states and over different seasons within a year. In particular, we focus on whether households' conspicuous spending is sensitive to their own identity group's average income and income inequality in their state of residence, whether property crime rates and rates of crime against SCs and STs influence conspicuous spending across states, and whether conspicuous spending spikes during festivals in India.

4.3.1 Role of State-level Own Group Characteristics

We study whether the conspicuous consumption of households belonging to a particular identity group is sensitive to the income distribution of their group in their states of residence. A standard model of status signalling predicts that the mean group income should be negatively correlated with the level of conspicuous spending. Since income, unlike conspicuous spending, is not observed directly by others, individuals' incentive of status signalling to distinguish themselves from others by spending on visible goods increases when the income of their reference group decreases. In contrast, the sign of the correlation between own group income inequality and visible expenditure is theoretically ambiguous and depends on whether the relationship between conspicuous consumption and income is concave or convex.

In columns (3) and (4) of Table 4.5, we find that while the mean own group income in the state of residence is negatively correlated with conspicuous consumption, the coefficient is not statistically significant. However, as we show in Appendix Table A.1, this coefficient is negative and statistically significant for many individual conspicuous consumption categories, namely, house rent, vehicles, holiday and tourism, recreational goods and entertainment items. Consistent with the theoretical prediction of the status signalling model, the mean own group income coefficients are not significantly positive for any of the individual visible expenditure items. The coefficient of variation of own group income within the state, measuring own group income inequality, is also insignificantly negative for the conspicuous basket as a whole (see column (4) of Table 4.5) but significantly negative and positive for certain specific visible items, e.g., positive for house rent and negative for jewellery and accessories.

It is worth noting that controlling for within-state own group income distribution makes the higher conspicuous spending of the SCs and STs statistically insignificant (comparing column (2) with columns (3) and (4) in Table 4.5). In fact, for many of the individual categories of conspicuous consumption, the SC and ST coefficients turn negative and significant when controlling for reference group income distribution (see Appendix Table A.1). This highlights the importance of the incomes of individuals' caste reference groups within their states of residence in explaining the gap in conspicuous consumption across castes. However, own-group income distribution is not the only state-level characteristic relevant to conspicuous spending. This is highlighted by comparing columns (1) and (2) of Table 4.5, where we first show results without including state fixed effects and then include them as in our baseline. The positive coefficients for STs and Christians are significantly reduced by including the state fixed effects. In fact, the Christian coefficient turns negative in our baseline specification with state fixed effects. This is consistent with the strong geographical isolation and concentration of these groups in India, e.g., the STs are similar to the Native Americans in the US, the First Nations people in Canada or the Aboriginals in Australia, while Christians are concentrated in a few Indian states like Kerala, Tamil Nadu, Goa and the north-eastern states. State fixed effects thus play a crucial role in explaining the conspicuous consumption gap of these groups. Therefore, unlike

Charles, Hurst and Roussanov (2009), who find that state fixed effects cannot explain any part of the conspicuous spending gap of the Black and Hispanic race groups relative to their White counterparts and within-state own race income distribution explains almost all of the gap, we find that in India, both state fixed effects and within-state own group income distribution are important in explaining the conspicuous consumption pattern across caste and religious groups.

Table 4.5: Conspicuous Consumption across Castes & Religions: Role of State-Level Characteristics

	Alternative State-level Controls			
No. of Observations = 9,299,202	(1)	(2)	(3)	(4)
OBC	0.094	-0.005	-0.020	-0.023
	(0.142)	(0.038)	(0.069)	(0.073)
SC	0.042	0.088**	0.066	0.055
	(0.092)	(0.042)	(0.109)	(0.131)
ST	0.575***	0.132**	0.105	0.100
	(0.183)	(0.055)	(0.100)	(0.104)
Muslim	-0.352*	-0.226***	-0.246**	-0.256**
	(0.204)	(0.086)	(0.111)	(0.112)
Sikh & Jain	-0.237	-0.071	-0.067	-0.041
	(0.194)	(0.102)	(0.105)	(0.142)
Christian	0.420*	-0.173**	-0.183***	-0.191**
	(0.224)	(0.083)	(0.069)	(0.075)
Mean own caste/religion income in state (asinh)			-0.053	-0.061
			(0.186)	(0.196)
Coefficient of variation of income for own caste/religion in state				-0.063
				(0.213)
State fixed effects included	No	Yes	Yes	Yes

Note: The table reports the results of the regression of inverse hyperbolic sine transform of visible consumption on caste and religion dummies and other controls. All specifications control for the same set of variables as in specification F in Table 4.1, except in column (1), where the state fixed effects are omitted. Additionally, as indicated above, columns (3) and (4) include the inverse hyperbolic sine transform of the within-state mean and/or the within-state coefficient of variation of income for one's caste or religious group. Robust standard errors, clustered at the state level, are reported in parentheses. ***, ** and * denote statistical significance at 1%, 5% and 10% levels, respectively.

If status signalling is an important driver of conspicuous consumption, then the negative correlation between a household's conspicuous expenditure and the mean income of its reference group should hold not only *across* identity groups (like we show above) but also *within* a group. In Table 4.6, we show the correlations between conspicuous expenditure across households and the income distribution of their reference group, namely, the mean and coefficient of variation of their own-group income in their state of residence. We find evidence of strong status-signalling motives within upper-

caste Hindus, OBCs, SCs and Christians. However, for STs and Muslims, contrary to the status-signalling mechanism, we find a strong positive correlation between their own-group mean income and their conspicuous expenditure. We have already shown that Muslims spend significantly less on visible items, so their lack of preference towards such items is unsurprising. However, STs not only spend more on conspicuous goods relative to the upper-caste Hindus but also their excess spending vanishes when controlling for own-group mean income, thereby suggesting that status-signalling motives are present for STs when comparing themselves to upper-caste Hindus. However, STs appear to not derive utility from status signalling to their fellow STs.

Table 4.6: Heterogeneity in the Effect of Own-Group Income Distribution on Conspicuous Spending

	State-Level Group Income	
	Mean	**Coefficient of Variation**
	(1)	(2)
Upper Caste Hindu	-6.51***	-15.70***
Observations: 2,641,885	(0.09)	(0.33)
OBC	-1.37***	-24.57***
Observations: 3,080,008	(0.09)	(0.61)
SC	-9.79***	-78.66***
Observations: 1,784,122	(0.17)	(1.58)
ST	14.98***	-94.32***
Observations: 440,977	(0.23)	(1.59)
Muslim	1.96***	-17.25***
Observations: 901,986	(0.19)	(0.62)
Sikh & Jain	0.141	21.31***
Observations: 302,445	(0.09)	(2.43)
Christian	-1.16***	-9.74***
Observations: 147,808	(0.11)	(0.24)

Note: Each row of the table reports the results of a regression of the inverse hyperbolic sine transform of visible consumption for a particular caste or religious group on the state-level mean (inverse hyperbolic sine transform) and coefficient of variation of income of that identity-group. All specifications control for the same set of variables as in specification F in Table 4.1. Robust standard errors, clustered at the state level, are reported in parentheses. *** denotes statistical significance at 1% level.

In column (2) of Table 4.6, we report the correlation between the conspicuous expenditure of households and the dispersion of their own-group income in their state. While the status-signalling model does not have an unambiguous prediction for the sign of this correlation, we find that the correlation is strongly negative for all identity groups, except Sikhs and Jains. This suggests that

households increase their visible spending when the economic status of their reference group becomes less unequal. This is consistent with the idea that status competition is intensified and more visible spending is required to distinguish oneself from one's identity group when there is less inequality in that reference group. In Appendix Table A.2, we further corroborate this idea by showing a negative correlation between households' conspicuous expenditure and the level of visible inequality in their local area, irrespective of their social identity. In particular, we find that lower inequality in conspicuous spending in one's district of residence is correlated with higher visible expenditure, even after controlling for permanent income and state fixed effects. Overall, we take these results as evidence of strong status-signalling motives of conspicuous consumption within one's reference group.

4.3.2 Role of Property Crime and Crime Against SC and ST

Mejía and Restrepo (2016) show that property crime in the U.S. reduces visible goods consumption because such conspicuous consumption reveals information about a potential victim's economic status. Similarly, we study the relationship between conspicuous consumption and property crime rates across Indian states. In particular, we run a regression of the following type for each caste and religious group:

$$\sinh^{-1}(\text{Conspicuous})_{hst} = \beta \sinh^{-1}(\text{Prop. Crime Rate})_{st} + \beta_t D_t + \beta_X X_{hst} + \gamma\,(\text{Perm. Income})_{ht} + \varepsilon_{hst} \tag{4.1}$$

and report the regression coefficients β in Table 4.7. Here, the subscript hst denotes a household h residing in state s at time t.

Table 4.7: Correlation between Property Crime and Conspicuous Consumption by Caste and Religion

	All	**Upper Caste**	**OBC**	**SC**	**ST**	**Muslim**	**Sikh & Jain**	**Christian**
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Property Crime Rate	-74.27*	-58.87*	-102.10	-110.30**	-287.4	-29.52	-22.54	57.71
	(40.21)	(30.10)	(72.81)	(49.69)	(240.80)	(59.38)	(24.14)	(99.53)
No. of observations	813,831	235,348	267,036	152,535	40,265	80,887	24,441	13,319

Note: The table reports the caste and religion-specific coefficients on the inverse hyperbolic sine transform of property crime rates (i.e., number of reported crime incidents per capita) in Indian states between 2014 and 2019 from a regression of the inverse hyperbolic sine transform of household conspicuous expenditure on social group dummies and other controls. The permanent income control is our preferred specification of current total expenditure instrumented by time-averaged expenditure. Results are similar when controlling for current total expenditure instrumented by time-averaged income. Additional control variables include family size, average age of household members, number of children below 12 years of age, number of old family members above 60 years of age, a categorical variable for educational attainment of all the household members and fixed effects for calendar year and state of residence. Robust standard errors, clustered at the state-year level, are reported in parentheses. ***, ** and * denote statistical significance at 1%, 5% and 10% levels, respectively.

The coefficient β in equation (4.1) above likely does not have a causal interpretation because of the potential reverse causality between crime rates and conspicuous consumption. On the one hand,

higher crime rates can cause conspicuous spending to be lower if people become apprehensive of crime, while on the other hand, higher conspicuous consumption can trigger perpetrators into committing more crimes. Nevertheless, we find that conspicuous consumption is lower, on average, in Indian states with higher property crime rates. The overall negative correlation between conspicuous expenditure and property crime rates is driven primarily by the upper-caste Hindus and the SCs. While other caste and religious groups also consume less of the conspicuous basket in high property-crime states, their effects are not statistically significant.

Table 4.8: Effect of Crime Against SC/STs on Consumption

Effect on	**Total**		**Conspicuous**	
Consumption	**SC**	**ST**	**SC**	**ST**
	(1)	(2)	(3)	(4)
Crime Against SC	-4901**	-	6309	-
	(1982)		(4106)	
Crime Against ST	-	-3761**	-	-4562
		(1488)		(5325)
No. of observations	152,535	40,265	152,535	40,265

Note: The table reports the coefficients of the inverse hyperbolic sine transform of the per capita rates of crime perpetrated against the SC and ST communities on the inverse hyperbolic sine transform of household expenditure (total and conspicuous) in Indian states between 2014 and 2019. Control variables include family size, the average age of household members, the number of children below 12 years of age, the number of old family members above 60 years of age, a categorical variable for the educational attainment of all the household members, fixed effects for the calendar year and state of residence. Robust standard errors, clustered at the state-year level, are reported in parentheses.

Centuries of caste discrimination often find expression in physical violence against members of the SC and ST communities, even in present-day India. Given this social context, the National Crime Record Bureau (NCRB) collects data on crimes committed against the SC and the ST communities. We use state-year level variation in this type of crime to explain consumption patterns for SC and ST households. We find that while total expenditure is lower for SC and ST households in states with higher crimes against those communities, the level of conspicuous consumption for these groups is not significantly different across states along this dimension. Since we do not find lower conspicuous expenditure by SC/STs in states with higher crime rates against them, we do not think that they spend overall lower amounts than their counterparts in lower crime states because they fear being noticed by the upper caste but because there may be other forms of frictions (like discrimination in access to certain goods and services or internalized preference towards lower consumption due to historical discrimination) that prevent them from spending their income for consumption.

4.3.3 Role of Religious Festivals

Festivals in India almost always have a religious origin. Still, the major ones are often observed by all rungs of the society irrespective of one's economic status or religious and caste identities. Because of the heightened intensity of social interactions, it is natural to expect status signalling through conspicuous consumption to spike during festivals.

Table 4.9: Caste and Religion Differences in Timing of Conspicuous Consumption

	Quadrimester in a Year		
No. of Observations = 9,299,202	**January-April**	**May-August**	**September-December**
Upper Caste Hindu	-	0.143***	0.479***
		(0.053)	(0.086)
OBC	0.032	0.148**	0.435***
	(0.043)	(0.070)	(0.087)
SC	0.113***	0.205***	0.570***
	(0.041)	(0.076)	(0.109)
ST	0.078	0.354***	0.569***
	(0.073)	(0.093)	(0.093)
Muslim	-0.307**	0.0773	0.169**
	(0.125)	(0.076)	(0.086)
Sikh & Jain	-0.005	0.049	0.372***
	(0.095)	(0.118)	(0.127)
Christian	-0.178*	0.075	0.207*
	(0.094)	(0.111)	(0.110)

Note: All coefficients are based on a single regression with the caste/religious group dummies interacted with quadrimester dummies being included as explanatory variables. Upper-caste Hindus in the first quadrimester (January-April) are treated as the base group. Additional control variables include family size, average age of household members, number of children below 12 years of age, number of old family members above 60 years of age, a categorical variable for educational attainment of all the household members and fixed effects for year and state of residence. Robust standard errors, clustered at the state level, are reported in parentheses. ***, ** and * denote statistical significance at 1%, 5% and 10% levels, respectively.

Lunar calendars determine the timing of Hindu and Islamic religious festivals; hence, they fall on different calendar dates each year. However, most large Hindu festivals are typically observed in the last quadrimester (September-December). Of course, this is also when Christmas is observed. Muslim festivals are spread throughout the year, with Muharram and Id ul Zuha typically being in the third quadrimester between 2015 and 2019 and Id ul Fitr being in the second quadrimester. Since most major religious festivals fell in the third quadrimester for the period under study, we can expect conspicuous consumption to be higher during the September-December period relative to other

times of the year. We test this hypothesis by interacting the caste and religion dummies in our baseline specification with indicators for each quadrimester of the year. We treat the upper-caste Hindus in the first quadrimester as the base group against which all other groups' conspicuous consumption is compared. The results, shown in Table 4.9, clearly point towards an increase in conspicuous spending by all caste and religious groups during the third quadrimester, consistent with our expectation of higher visible spending during festivals. Our results are qualitatively similar when using only expenditure on religious and social obligations instead of the full conspicuous consumption basket (see Appendix Table A.3).

These results suggest that while SCs and STs always spend more on visible items relative to the upper-caste Hindus, even Muslims and Christians who, on average throughout the year, spend less than their upper-caste Hindu counterparts (see Table 4.1), spend more during the third quadrimester. Also, OBCs, who were shown to have similar levels of conspicuous expenditure as the upper-caste Hindus (see Table 4.1), spend more during the last eight months of the year compared to what upper-caste Hindus spend during the first four months.

5 Conclusion

We document heterogeneity in patterns of expenditures on visible consumption goods across economic classes, castes, and religious groups in India. We find that lower-caste groups like SCs and STs spend more, while religious minorities like Muslims and Christians spend less on visible consumption compared to upper-caste Hindus, controlling for permanent income differences. There is no significant difference between OBCs and Sikhs and Jains on the one hand and the upper-caste Hindus on the other in terms of conspicuous spending. Regarding economic class, households with lower permanent income spend more than the richest quartile on luxury items. Crucially, we find that SCs, OBCs and Muslims who receive government transfer income spend more on visible items at the cost of lower education expenditure. This suggests that public assistance may be better designed as in-kind transfers instead of monetary transfers to these groups to achieve a socially superior outcome with spending on human capital instead of myopic status signalling. We also investigate the role of state-level characteristics in explaining the conspicuous consumption gap between the various caste and religious groups and the upper-caste Hindus. We find that generic state-level factors, as captured by state fixed effects in our regressions, are important in explaining a substantial part of the gap for geographically concentrated groups like the STs and Christians. Moreover, consistent with a model of status signalling, we find that within-state own group income distribution is predictive of the conspicuous consumption pattern across caste and religious groups, particularly for some specific visible items like house rent, holiday and tourism, and recreational and entertainment goods. Such status signalling is not only present across identity groups but also within many caste and religious groups. Lower visible inequality in one's local area strengthens competitive status signalling and consequently leads to higher conspicuous consumption. Higher rates of property crimes are

associated with reduced visible goods consumption across states, likely because such conspicuous consumption reveals information on a potential victim's economic status. Finally, in terms of timing, we find that visible spending peaks during the September-December period for all caste and religious groups, suggesting the crucial role of large festivals during that period in facilitating status signalling through conspicuous consumption.

This paper has attempted to capture how consumption is used to satisfy the aspirations of modern Indian society. Our finding of status-signalling by lower-caste groups through higher visible spending highlights how India is redefining the basis of social identities away from hierarchical notions of inherited caste and religion and towards identities based on economic and professional success in a globalized market economy. Some of the earlier works on conspicuous consumption in India, e.g., Khamis, Prakash and Siddique (2012), using data from 2004-05, did not find such higher spending on visible items by the SCs and STs. We believe a part of the difference in findings between this paper and studies using relatively older data can be explained by the changing behavioural patterns of Indian households over time. After the coming into power of a populist government in 2014, there has arguably been an attempt to blur caste identities to consolidate all Hindu voters under one umbrella. This, coupled with the reluctance of the government to conduct a Caste Census after the last one in 2011 despite repeated demands from the opposition parties, shows how the political regime is trying to redefine social identities. It is, therefore, natural in such a socio-political climate that aspirational lower-caste groups are asserting their evolving identities through more economic status signalling. Further research can shed light on the precise mechanisms through which the political narrative could have influenced the consumption choices of Indian households.

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Appendix

A Appendix Tables

Table A.1: Conspicuous Consumption Categories across Castes & Religions: Role of State-Level Group Income

	Caste & Religious Group Relative to Upper Caste Hindus						State-Level Group Income	
No. of Observations = 9,299,201	**OBC**	**SC**	**ST**	**Muslim**	**Sikh & Jain**	**Christian**	**Mean**	**Coeff. of Var.**
Conspicuous Consumption Categories								
Clothing & Footwear	-0.114*	-0.003	0.053	-0.098	-0.009	-0.215**	-0.135	-0.162
	(0.059)	(0.107)	(0.124)	(0.122)	(0.137)	(0.091)	(0.200)	(0.163)
Jewellery & Accessories	0.010	0.002	0.016	-0.336***	0.055	-0.248***	-0.104	-0.324**
	(0.060)	(0.080)	(0.109)	(0.089)	(0.129)	(0.075)	(0.157)	(0.154)
House Rent	-0.033**	-0.097***	-0.105***	-0.048**	-0.061*	-0.006	-0.189***	0.124**
	(0.017)	(0.024)	(0.029)	(0.021)	(0.032)	(0.031)	(0.056)	(0.061)
Furniture & Furnishings	-0.025	-0.026	-0.045*	-0.018	-0.013	-0.040***	-0.108	0.014
	(0.022)	(0.027)	(0.027)	(0.029)	(0.030)	(0.012)	(0.067)	(0.046)
Vehicle EMI	-0.018	-0.025	-0.004	-0.015	-0.040	-0.044	-0.116**	0.012
	(0.021)	(0.026)	(0.038)	(0.029)	(0.050)	(0.043)	(0.047)	(0.088)
Holiday & Tourism	-0.028***	-0.046**	-0.051**	-0.052***	0.016	0.022	-0.092***	-0.022
	(0.009)	(0.017)	(0.020)	(0.018)	(0.031)	(0.020)	(0.027)	(0.045)
Recreational Goods	-0.076	-0.126**	-0.218***	-0.236***	0.202	-0.142***	-0.323***	-0.353**
	(0.053)	(0.057)	(0.077)	(0.061)	(0.129)	(0.042)	(0.122)	(0.144)
Entertainment	-0.032	-0.059	-0.105*	-0.112**	0.106	-0.079*	-0.184*	-0.254*
	(0.038)	(0.046)	(0.058)	(0.050)	(0.100)	(0.040)	(0.094)	(0.130)
Social & Religious Obligations	0.119	0.180	0.176	-0.135	0.091	-0.088	0.216	-0.014
	(0.103)	(0.194)	(0.187)	(0.168)	(0.168)	(0.112)	(0.317)	(0.272)
Repairs & Maintenance	-0.021	-0.026	-0.014	-0.031*	0.000	-0.020	-0.038	0.009
	(0.018)	(0.022)	(0.017)	(0.018)	(0.027)	(0.025)	(0.041)	(0.041)

Note: Each row reports the coefficients on the socioeconomic group dummies from a regression of the inverse hyperbolic sine transform of household expenditure on a conspicuous consumption category and the state-level group income's mean and coefficient of variation. The set of controls is the same as in specification F of Tables 4.1 and 4.2. ***, ** and * denote statistical significance at 1%, 5% and 10% levels, respectively. In effect, each row is a version of column (4) of Table 4.5 for separate consumption categories.

Table A.2: Correlation between Local Visible Inequality and Conspicuous Consumption

	Definition of Local Area	
	Homogeneous Region[a]	**District**
	(1)	(2)
Visible Inequality	-0.068***	-0.060***
	(0.015)	(0.015)
Observations	9,346,945	9,346,737

Note: Each column reports the coefficient of visible inequality (measured as the coefficient of variation of conspicuous spending in the local area of residence of a household) from a regression of the inverse hyperbolic sine transform of conspicuous consumption on local visible inequality and other control variables. The permanent income control is as in specification F of Table 4.1. Additional control variables include family size, average age of household members, number of children below 12 years of age, number of old family members above 60 years of age, a categorical variable for educational attainment of all the household members and fixed effects for month-year and state of residence. Robust standard errors, clustered at the state level, are reported in parentheses. ***, ** and * denote statistical significance at 1%, 5% and 10% levels, respectively.

[a] The CPHS defines a Homogeneous Region (HR) as a set of neighbouring districts within a state that has similar agro-climatic conditions, relatively similar urbanization levels and relatively similar female literacy and are of a similar size in terms of households as per the 2011 Census. The 640 districts of the 2011 Census have been organized into 110 HRs.

Table A.3: Caste and Religion Differences in Timing of Expenditure on Social & Religious Obligations

	Quadrimester in a Year		
No. of Observations = 9,299,202	**January-April**	**May-August**	**September-December**
Upper Caste Hindu	-	0.068*	0.361***
	-	(0.039)	(0.061)
OBC	0.101**	0.130	0.387***
	(0.049)	(0.079)	(0.072)
SC	0.113**	0.158**	0.435***
	(0.054)	(0.080)	(0.084)
ST	0.065	0.192	0.376***
	(0.101)	(0.130)	(0.118)
Muslim	-0.295*	0.008	0.068
	(0.179)	(0.136)	(0.168)
Sikh & Jain	0.111	0.222**	0.409***
	(0.096)	(0.106)	(0.123)
Christian	-0.173	0.046	0.172
	(0.182)	(0.165)	(0.144)

Note: All coefficients are based on a single regression with the caste/religious group dummies interacted with quadrimester dummies being included as explanatory variables. Upper-caste Hindus in the first quadrimester (January-April) are treated as the base group. Additional control variables include family size, average age of household members, number of children below 12 years of age, number of old family members above 60 years of age, a categorical variable for educational attainment of all the household members and fixed effects for year and state of residence. Robust standard errors, clustered at the state level, are reported in parentheses. ***, ** and * denote statistical significance at 1%, 5% and 10% levels, respectively.