

Assessing Multidimensional Relative Deprivation of Sub-castes in India

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Abstract

This study estimates poverty, wealth inequality, and financial inclusion, for the first time, at the sub-caste level in both Hindus and Muslims using a unique survey data collected from 7124 households in Uttar Pradesh, India, during 2014-2015. The results confirm the existing hypothesis that Brahmins, Thakurs, and other Hindu general castes have higher wealth accumulation, lower poverty, and lesser exclusion from formal financial services than Dalits. Exclusion from formal financial services forces Dalits to depend primarily on informal financial sources for borrowing—which leads to financial misfortune and further dragging them into a vicious cycle of poverty.

Keywords

Caste, Poverty, Wealth inequality, Financial inclusion, Uttar Pradesh, India

1. Introduction

The holistic aim of Sustainable Development Goals (SDGs) is "to leave nobody behind" through the focus on equality of opportunity, equality of outcomes, no discrimination before law, policies and programmes, participation in social and cultural practices, and inclusive socioeconomic development shows global commitment for achieving the good for all (SDGs, 2017). Nevertheless, so far, the notion of "all" is discussed widely in the context of age, sex, disability, race, ethnicity, origin, religion, or economic status. Caste¹ which is specific to the Indian sub-continent did not receive much attention under SDGs (SDGs, 2017). The discrimination or injustice based on the caste affects one-fifth of the global population and mostly in the regions of South Asia and their diasporas (Mosse, 2018). India provides an interesting setting with the complex intersecting nature of poverty and identities in terms of caste, class, and religion to examine the role of caste (Kumar, Fahimuddin, Trivedi, & Goli, 2020; Mosse, 2018). Caste groups, as the individual born into,

¹ Historically, the socioeconomic progress in India continues to suffer from the inflexibility of a rigid Caste system and Caste-based discriminations. The traditional Hindu Varnas (translated into English as Castes) were five, Brahmins (priests, teachers), Kshatriyas (warriors, royalty), Vaisyas (moneylender, traders), and the Sudras (menial job) and the Ati Sudhras and Dalits (the untouchables, doing lowest of the menial jobs).

remained the most significant determinants of a lifetime opportunity, source of embarrassment, and social and economic discrimination (Borooah, Diwakar, Mishra, Naik, & Sabharwal, 2014; A. Deshpande & Ramachandran, 2017; Gang, Sen, & Yun, 2008; Mosse, 2018; Roohi, 2019). The presence of a higher concentration of wealth with upper caste and decreasing odds of participation in higher profile occupations, returns on education and capital assets as we move down the caste hierarchy, while a substantial increase in the level of poverty, was termed as "graded inequality" by S. Thorat and Madheswaran (2018). The inequality in socioeconomic development across the caste groups has not improved significantly, rather worsened when measured through Caste Development Index (A. Deshpande, 2001). It follows directly from a famous quip, which states, "Indians don't cast their votes, they vote their castes".

Broadly, there are five social groups in India: "Hindu Upper Castes" "Other Backward Classes (OBCs)"² "Scheduled Castes (SCs)" "Scheduled Tribes (STs)" and Muslims that are often used for all administrative and governance purposes by the Government of India under Articles 341 and 342 of the Constitution of India (GOI, 1956; Lamba & Subramanian, 2020). The constitution of India granted special status or reservations in employment and education for SCs and STs to break the caste hierarchy in social and economic status. This special status was extended to OBCs in the 1990s (Fontaine & Yamada, 2014). Though no special status has been awarded to minority religious groups, like Muslims. As documented widely, the history of the origin of the caste system largely refer to the Hindu religion, but over the period this social evil has been assimilated or diffused into other religion as well. There is sufficient literature to back the existence of caste hierarchy in Muslims, although empirical evidence for the same is limited. Sachar Committee³ Report on the Social, Economic, and Educational Status of the Muslim Community of India in November 2006 was an important landmark in this regard. The report provided a counter-viewpoint that looked at the Indian Muslims as a homogeneous religious community. I. Ahmad (1967) rightly argue that hierarchy does not need to be an outcome of the ideology of purity and pollution, as is

² Other Backward Classes', popularly known as OBCs, this category includes mostly artisan or peasant castes that stood somewhere on the middle and lower rungs of the caste system, below the landowning high castes and above the Dalits. This is the largest and, perhaps for that reason, most diverse social category.

³ The Sachar Committee was a seven-member High Level Committee set-up in March 2005 by Government of India to investigate social, educational and economic status of the Muslim community as a whole and also referred to OBC. The committee report exhibited deficits and deprivation in practically all dimensions of development including the indicators of demographic, health status and access to social safety programmes among Muslims vis-`a-vis other social groups in India.

the case with Hindu castes, it could also be 'premised on privileges and descent' (p.3). A wide range of social science literature (Momin, 1975; S. S. Ahmad & Chakravarti, 1981; Bashir & Wilson, 2017; Sikand, 2001) has indeed claimed that a section of the Muslims in almost all the South Asian countries continues to be treated as untouchable, within the Muslim communities as well as by their upper caste patrons from the majority (Hindu) community, thus experience a "double" disadvantage. Very recently, a few studies have identified and documented empirical evidence on caste-based untouchability and occupation segregation in Muslims (Kumar et al., 2020; Trivedi, Goli, Fahimuddin, & Kumar, 2016a, 2016b). However, in absence of its legal recognition, their exclusion and marginalities have not become a part of the policy agenda in the state system.

Within the broad social groups of Hindu communities too, there has been a growing demand for reservation by various influential castes (Biradaris) across India (e.g., Marathas in Maharashtra; Patidars in Gujarat, Jats in Northern India, Kapus in Andhra Pradesh) and is a burning issue encountering the political classes of the country (A. Deshpande & Ramachandran, 2017). The 10 percent quota⁴ for the economically weaker section of upper caste people in education and employment was a well-known political move of the government ahead of parliamentary elections in 2019 (GOI, 2019). The inclusion of upper caste people in affirmative policy is believed to be beneficial in garnering votes for the ruling party. Still, it certainly breaches the idea of social justice in the constitutional framework. Implementing the 10 percent reservation⁵ on economic basis is a hardship because the definition of economic status and poverty line has always been in the political and socio-economic debate in India. However, there is limited evidence to resolve on demand for economic class-based quotas for dominant OBCs and upper castes. The highly debated and discussed report: 'Post Sachar Committee' on examining the conditions of different caste and

⁴ The quotas are a constitutional intervention for the deconstruction of the caste monopoly inherent to India.

⁵The Constitution of India assure reservation for Scheduled Castes, Scheduled Tribes and OBCs in educational institutions, government jobs and political representations of India. Reservation as a measure of 'Protective Discrimination' under the Constitution of India has been expected to help in the amelioration of the condition of these oppressed castes

⁶A disaggregated social stratification based on castes/varanas. This is a stratification observed much below the four broad social groups used in the policy and administrative documents for the ease of governance in the country. There are hundreds of castes within the four broad social groups. For clarity of reading we are calling them as 'sub-castes' in this study. A greater details on their identification and classification are given elsewhere (Kumar et al., 2020; Trivedi et al., 2016a, 2016b).

religious groups suffers from serious data-related limitations. In particular, this report focuses on broad socio-religious groups (SRGs). It does not provide any information on how different 'Biradaris (or sub-castes⁶)' are placed in terms of poverty, wealth holding, and financial inclusion (Shariff et al., 2016). The growing demand for quotas based on this report is questioned academically (Ali, 2012; Rahman, 2019) due to the limited empirical data and poor methods of assessment. Also, the sub-caste level investigation becomes critical as despite the cohesiveness in the broad socio-religious groups, there exist layers of social stratification within this group (Roohi, 2019). Within caste, inequalities can further cause and exemplify between-caste inequalities. Goli, Maurya, and Sharma (2015) have reported that 80 to 90 percent of total inequalities in wealth and education are due to within-caste inequalities in Uttar Pradesh, although they failed to explain which specific castes are advantageous and disadvantageous. The dearth of unit-level data on multidimensional developmental indicators such as education, employment, income, wealth, and household amenities at different sub-caste levels acts as an important barrier to rationalise the growing demand for quotas for some of the influential castes as mentioned above.

Against this above-said background, the objective of this article is to provide empirical datadriven evidence for assessing the multidimensional relative deprivation of different sub-castes in terms of poverty, wealth, and financial inclusion. The study contributes to the emerging literature (Anderson, Francois, & Kotwal, 2015) of identity politics, social and economic development of marginalised communities within broad social groups. Alongside using a uniquely collected robust dataset and standard econometric tools for the analytical purpose, the contribution of the paper lies in detailing the intra-caste disparities across a spectrum of socio-economic dimensions using unique survey data. The justification for the paper is clearly empirically premised on the investigation of sub-caste-wise disparities in the economic situation going beyond the typical socio-religious divisions: Upper Caste, SCs, STs, OBCs, and Muslim. Specifically, for the first time, we have examined the sub-castes level disparity in poverty, wealth inequalities, and financial inclusion. Measuring financial accessibility across social groups is also important as identified in other studies (Hong, Kubik, & Stein, 2004; Bo"nte & Filipiak, 2012). Financial access can also differ across social groups alongside individual factors, as it also depends upon social capital and political associations. For instance, in the case of Uttar Pradesh, "Jatav-Chamaars" is a dominant Dalit community in SCs politically associated with Bahujan Samaj Party (BSP), while Paasi and other Hindu Dalits are associated with Bhartiya Janta Party (BJP). Similarly, within OBCs, Yadav

is associated with Samajwadi Party, while Kurmis with BJP and Jats have their own political outfits. Within major social groups, different sub-castes hugely differ in terms of social capital and networks depending on their historical associations and occupations (Trivedi et al., 2016b; Kumar et al., 2020). In addition, this study explores a seminal question whether the ability to earn economic resources solely depends upon households and individual-level factors like family composition, occupation, education, place of residence, and state welfare policies, or continue to depend upon some attributes that are attached from birth like caste hierarchy and group identity. Findings reveal that within-group inequalities across broad social groups are huge across the multidimensional economic indicators. A study such as this could create a ground for such recognition of within-caste inequalities in both Hindus and Muslims and become a source for affirmative policy initiative, provided there is the political will to do so. The rest of the article is organised as follows: Section 2 provides existing literature. Section 3 describes the survey data, sampling techniques, and empirical methodology. Section 4 presents the results from the empirical investigation and discusses the same. Section 5 discusses the robustness checks for reliability and consistency of the results and section 6 includes conclusions derived from the study.

2. Existing literature

On a broad spectrum of the determinants of economic outcomes of the families, historically ethnic division can be considered an important one (Canelas & Gisselquist, 2018). Similarly, there have been a growing number of attempts to test several implications of caste hierarchy in Indian society⁵. While the theoretical and empirical literature on the economic impact of social and caste stratification is rich, there are relatively less focus on the sub-castes (Biradari) level analyses due to the unavailability of the relevant data. The existing literature on 'caste and economic disparities' can broadly be classified into three categories, based on their focus and scope of analysis.

The first set of studies typically analysed occupational segregation, wage, and earnings inequality across the four broad social groups. For example, B. Banerjee and Knight (1985) using survey data in Delhi found gross wage difference between scheduled and non-scheduled caste. In similar lines, Arabsheibani, Gupta, Mishra, and Parhi (2018); Das and Dutta (2007); Madheswaran and Attewell (2007) found caste-based wage gaps in different demographic groups using National

⁵ For a detailed review of literature on Caste and its impact in Indian society, especially on the economy, see (Munshi, 2019)

Sample Survey (NSS) data. Bhaumik and Chakrabarty (2006) investigated earnings differences across caste groups and between Muslims and Non-Muslims during 1987-99. Their result suggested that while earnings differences between "upper" caste and SCs/STs have declined, the same has increased between Muslims and non-Muslims. The study claims educational endowment and returns to age as one of the important explanatory factors for these differences. Canelas and Gisselquist (2018) analysed two cross-national data sets and provided estimates of horizontal inequality in terms of educational attainment for the period 1960-2010, based on census and household survey data. Darity Jr, Mason, and Stewart (2006) estimated the relationship between racial identity and racial differences in economic outcomes using the game-theoretic approach and concluded that identity norms impose both positive and negative externalities on each person's identity actions. S. Thorat and Attewell (2007) found discrimination in the job application process in private sector enterprises. R. Deshpande and Palshikar (2008); Azam (2015) investigated occupational mobility among social groups where R. Deshpande and Palshikar (2008) did not find any relationship between caste and occupational mobility, while Azam (2015) found lower mobility among SCs/STs as compared to higher castes in 1965-74 birth cohort. On the other hand, Reddy (2015) using NSS data from 1983-2012 found a decline in intergenerational mobility, especially in scheduled castes and scheduled tribes. Kumar, Heath, and Heath (2002b, 2002a); Hnatkovska, Lahiri, and Paul (2012); Gang, Sen, and Yun (2017) found the occupational structure of SC households to be converging with that of non-SC households. Borooah, Dubey, and Iyer (2007) examined the effects of reservation on the economic outcomes of SCs/STs households. The authors reveal positive discrimination in raising the proportion of SCs and STs in salaried employment, however, they find a discriminating bias for Muslims, who did not get any benefit from the policy.

The second set of studies measured the level of economic disparity in terms of consumption among the caste groups. Charles, Hurst, and Roussanov (2009) state that the differences in income are mostly explained by the caste groups that they belong to. Khamis, Prakash, and Siddique (2012) found high consumption expenditure on visible goods in OBCs as compared to upper castes while 14 percent less consumption in Muslims. Using consumption expenditure data from NSS, Motiram and Naraparaju (2015) found that economic growth in India has not equally benefitted the poor among the disadvantaged caste groups. The third set of studies examines caste disparities in financial and economic outcomes in terms of land, financial market participation, and a few on wealth. Jayadev, Motiram, and Vakulabharanam (2007); Anand and Thampi (2016) using multiple rounds of All-India survey and Investment data show that inequalities in wealth have increased over time. They have also found a continuous difference in asset holdings across social groups and asymmetry between wealth hierarchy and caste hierarchy. Using the same data Zacharias and Vakulabharanam (2011) found substantially lower wealth levels in SCs and STs than the general castes; while Hindu OBCs and non-Hindus stands in between SCs/STs and the general castes. Singh, Kumar, and Singh (2015); Goli et al. (2015); Bharti et al. (2018) estimated within caste inequalities using consumption and wealth data and concluded that it has increased during 2002-12 and suggested that treating big administrative castes as homogeneous groups is far from reality. Hong et al. (2004) find social interactions to be an important determinant of financial market participation. In a similar line, Bo"nte and Filipiak (2012) compare financial market participation in backward caste households and general castes. They concluded that backward castes are disadvantaged in terms of using financial opportunities due to a lack of financial literacy.

Though a majority of the above-said studies have estimated 'between-group' inequalities, some of them also present 'within-group' inequalities across broad social groups: SCs, STs, OBCs, and general castes. Some of the recent evidence also suggests massive within-caste inequalities not only in Hindus but also in Muslims (Trivedi et al., 2016a, 2016b; Kumar et al., 2020). We add to the existing literature by moving beyond these four broad social groups by reporting multidimensional economic outcomes by specific sub-castes among Hindus and Muslims of Uttar Pradesh using data from a unique survey. Specifically, this paper complements the existing knowledge in three additional components on at least counts: (1) The most significant contribution of this study is, for the first time, it unveils the socioeconomic situation of 15 sub-castes across 6 socio-religious groups in two religions⁶ (2) Again, for the first time, the study provides the position of different sub-castes based on the wealth value⁷ vis-a-vis other measures of economic outcomes

⁶ The concept of Socio-Religious Groups (SRGs): Hindu General, Muslim General, Hindu OBCs, Muslim OBCs, Hindu Dalits and Muslims Dalits were adopted from the Sachar Committee Report (2006). 15 sub-castes within these six SRGs were adopted from Trivedi et al. (2016a, 2016b); Kumar et al. (2020). For greater details on methodology of their derivations, see Trivedi et al. (2016a, 2016b); Kumar et al. (2020)

⁷ For the items used to compute wealth values, see Appendix 1.

such as poverty and consumption expenditure (3) Lastly, it extends the analyses to an infrequently used layer of measurement of economic discrimination in the form of formal financial services.

3. Study Area and Methodology

The state of Uttar Pradesh (UP) is the fourth-largest by area and the most populous state in India contributing around 20 percent of the country's population. Situated in a fertile Indo-Gangetic plain and about 40 percent of the UP's rural population is engaged in cultivation. Agriculture is the primary source of income, and around 75 percent of households earn less than 5000 rupees a month (SECC, 2011). In the rural areas of the state, 45 percent of households are landless, exhibiting high levels of inequality in land distribution in the state. Less than 70 percent of the population is literate which is slightly less than the national average. Also, the state per capita income is less than half of the country's average. While the state is economically poor, its social composition is cosmopolitan with 22.1 percent of SCs, 24 percent Muslims besides an equally high number of OBCs and General castes (Table 1).

	(-)	
	India	UP
Population size (2011)	1,210,193,422	19,95,81,477
Poverty rate (2011-12)	21.92%	29.43%
Literacy rate (2011)	72.99	67.68
GDP Per capita (2018-19 at 2011-12 prices)	Rs.92,565	Rs. 43,102
Religion (2011) Hindus	79.80%	79.73%
Muslims	17.83%	24.16%
Caste (2011)		
SC households	16.7%	22.1%
ST households	8.6%	0.6%

 Table 1: Macro aggregates for India versus Uttar Pradesh (UP)

Considering its large population size with cosmopolitan composition, and poor economic background, Uttar Pradesh acts as an ideal setting to study sub-caste level economic inequalities. However, there are no existing largescale surveys in India that provide information at the sub-caste level socioeconomic information. Thus, we use data from a unique primary survey collected by the

Giri Institute of Development Studies (GIDS) to assess the Social and Educational Status of OBCs and Dalit Muslims⁸ in Uttar Pradesh during 2014-2015. The survey, for the first time, identifies castes in Muslims in the state of Uttar Pradesh where caste-based discrimination and dominance are deep-rooted. Dalit Muslims who mostly do the same occupations and are as poor as Hindu Dalits (Trivedi et al., 2016a, 2016b; Kumar et al., 2020) but devoid of benefits from Government social welfare affirmative actions need the attention of the policy.

3.1 Survey design, sampling technique, and Description of the Sample

The survey uses a multi-stage stratified random sampling design for data collection. Resource limitations dictated that we have to cover the estimated sample size from 15 representative districts. Further, 15 districts were distributed according to the population share from all four regions of the state: 6 from Western, 2 from Central, 5 from Eastern, and 2 from the Bundelkhand region. In each district, the primary sampling units (PSUs) comprised Gram Panchayats/Villages/Wards and were selected based on probability proportional to size. When selecting villages, it was ensured that sample villages had a mix of castes in both religious groups. If there were no caste mixes in a village, then the neighbouring village was included in PSUs to cover the required caste distribution. Similar procedures were followed in the case of sample selection from the wards of urban areas. The sample frame for the study design and sampling is the Primary Census Abstract (PCA) of Census of India, 2011 (GOI, 2011). We have ensured a minimum sample of 150 households in a district to ensure a sufficient sample of the six socio-religious groups: Hindu General, Muslim General, Hindu OBCs, Muslim OBCs, Hindu Dalits, and Muslim Dalits. Furthermore, around 50 households from a village and 30 households from the ward in a town/city were selected for the survey. Therefore, the final cumulative sample size of the study was 7194 households from 240 PSUs spreading across 15 districts, which is higher than the estimated sample (For detailed sampling methodology see (Kumar et al., 2020; Trivedi et al., 2016a, 2016b)).

The summary statistics of the data are given in Table 2. The sample size distribution across the sub-castes and categories of other study variables are sufficient to carry-out both descriptive and multivariate econometric analyses (Table 2). The caste groups categorised here are based on the

⁸ Very recently Trivedi et al. (2016a) identified Dalit Muslims in Uttar Pradesh and report untouchability practice towards them by upper castes of both Hindus and Muslims. While, Bashir and Wilson (2017) place Dalit Muslims among lowest of social order in the Muslims.

varna system and their historical dominance in terms of social and economic status. The classification has been double verified based on state government documents and academic literature (a detailed identification methodology is reported elsewhere, see (Kumar et al., 2020).

Variable	Mean	Std. Dev.	Min	Max
Land size	1.63	0.78	1	4
ln (Wealth Value)	10.77	1.36	0	16.07
Poor	0.72	0.45	0	1
ln(MPCE)	6.97	0.59	4.99	10.23
Caste group Hindu General	0.15	0.36	0	1
Muslim General	0.09	0.28	0	1
Hindu OBC	0.32	0.47	0	1
Muslim OBCs	0.18	0.38	0	1
Hindu Dalits	0.17	0.38	0	1
Muslim Dalits	0.08	0.27	0	1
Sub-caste group				
Brahmins	0.71	0.25	0	1
Thakur/Kshatriya	0.04	0.19	0	1
Other Hindus General	0.04	0.19	0	1
Muslim General	0.08	0.28	0	1
Yadavs	0.06	0.24	0	1
Kurmis	0.02	0.13	0	1
Jaats	0.03	0.17	0	1
Lodhs	0.02	0.13	0	1
Other Hindus OBCs	0.19	0.39	0	1
Ansari Muslims	0.07	0.25	0	1
Other Muslims OBCs	0.11	0.32	0	1
Chamars	0.12	0.32	0	1
Paasi	0.01	0.12	0	1
Other Hindu Dalits	0.04	0.19	0	1
Dalit Muslims	0.08	0.28	0	1
HH head age	43.59	12.16	0	86
Women respondent age	33.79	8.40	0	71
Family size	6.11	2.29	1	19

Table 2: Summary statistics of the study variables

Proportion of females	0.48	0.15	0	1
Proportion of children	0.35	0.21	0	0.86
HH Head Education				
No Education	0.32	0.47	0	1
Below Primary	0.19	0.39	0	1
Below Secondary	0.38	0.49	0	1
Graduation and above	0.10	0.30	0	1
HH head Occupation				
Cultivation	0.28	0.45	0	1
Ag labour	0.03	0.18	0	1
Non Ag labour	0.28	0.45	0	1
Self Employed	0.24	0.43	0	1
Service & Others	0.13	0.33	0	1
Not in WF	0.04	0.19	0	1
Father's Occupation				
Cultivation	0.32	0.47	0	1
Ag labour	0.03	0.16	0	1
Non Ag labour	0.19	0.39	0	1
Self Employed	0.12	0.33	0	1
Service & Others	0.34	0.47	0	1
Not in WF	0.001	0.03	0	1
Grandfather's Occupation				
Cultivation	0.36	0.48	0	1
Ag labour	0.03	0.16	0	1
Non Ag labour	0.20	0.40	0	1
Self Employed	0.09	0.29	0	1
Service & Others	0.31	0.46	0	1
Not in WF	0.00	0.01	0	1
Public Distribution System	0.79	0.40	0	1
Govt Benefit from Old age/Widow pension	0.06	0.23	0	1
ln(remittances received)	0.26	1.44	0	11
Urban	1.28	0.45	0	1

Source: Authors estimation based on GIDS survey on "Social and Educational Status of OBC/Dalit Muslims in Uttar Pradesh

3.2 Empirical Strategy

Many potential well-being variables can be used to measure the economic and social status of households in a multi-attribute framework. In this study, we have broadly categorised the economic and social status of a household into four broad domains i.e. deprivation of lifestyle, historical deprivation, household condition and wealth, and deprivation in financial inclusion. Analysis of the patterns of both consumption, land, and wealth inequality, and financial exclusion are useful in understanding socio-economic position in the context of a developing economy like India. First, deprivation of lifestyle includes consumption expenditure and poverty status of a household, which are the widely used indicators to identify the marginalised households in policymaking. We defined rural and urban poverty through the Tendulkar Committee recommendations (Tendulkar, 2014). However, consumption expenditure solely does not account for the spending of households on various financial and real estate assets. The second category of economic status includes land ownership. Considering the high dependency on agriculture for livelihood in the state, land ownership is used as a separate measure of economic status. The possession of agricultural land in rural Uttar Pradesh is a well-known nexus of economic and political dominance (Jeffrey & Lerche, 2000). Thus, a study of caste-based inequalities in land ownership is important to understand the factors underlying inequalities in wealth, poverty, and financial inclusion.

The third category refers to the possession of wealth and household amenities. Information on physical assets like land, livestock, agriculture capitals, transport equipment, buildings, financial assets (shares, deposits, and loans) can define the wealth status of the household. A highly acclaimed book "Capital in Twenty-First Century" by Thomas Piketty underscores the importance of considering wealth as the primary measure for quantifying inequality rather than income (Piketty, 2018). There has been an increasing trend in using multidimensional approaches to measure poverty levels. In these multidimensional approaches, household living standards (i.e., housing characteristics and durable goods ownership) are a key factor and are important in participatory exercises. Access to safe drinking water, electricity, and consumer durables such as televisions, phones, bicycles, and refrigerators are directly associated with the level of wealth, the flow of income, income generation, communication, and mobility (Alkire & Santos, 2014). In this study, we constructed a wealth quintile based on the asset values reported by the respondents using factor analyses. We used asset values over asset numbers to overcome the limitations of wealth indices based on asset numbers as stated in the previous studies (Hlasny & AlAzzawi, 2019;

Wittenberg & Leibbrandt, 2017). Despite the chance of value judgment of assets, an index based on wealth values provides a higher economic disparity over an index based on asset numbers, which values every asset the same worth. The wealth index used by demographic and health surveys (Lastrapes & Rajaram, 2016; Uddin, Acharya, Valles, Baker, & Keith, 2020) and other household surveys are based on the number of assets owned; while we have generated the wealth index using the value of the asset reported by the respondent. The value reported in rupees is in linear form thus, overcomes several shortcomings identified in the assets index based on the number of reported assets (Filmer & Pritchett, 2001).

The fourth category of the economic outcome included in this study is access to financial services. Improving access to financial services is widely acknowledged among researchers to facilitate upward economic and social mobility. Conversely, lack of access to financial resources for certain groups based on race, gender, or ethnic-social identities acts as a barrier for economic mobility and perpetuates inequalities. However, the factors for the gruesome disparity in access to financial services in India are due to both supply and demand-side constraints. Demand-side constraints include rural landless or small holding agrarian-based illiterate populations with abysmal financial credibility, whereas supply-side constraints include the availability of formal banking and other financial institutions.

We divide the empirical analysis into two parts. First, we used bi-variate estimates to show the socioeconomic disparities across the sub-castes in Uttar Pradesh. In the second stage, the wealth and consumption inequalities are computed using the Theil index and are decomposed into between and within-group inequality. Theil index can be specified as:

$$Theil = \frac{1}{N} \sum_{i=1}^{N} \frac{y_i}{\bar{y}} \ln\left(\frac{y_i}{\bar{y}}\right) \tag{1}$$

Where N is the number of households covered in the survey, y_i is the variable of interest (i.e. land size, consumption expenditure, wealth value, and wealth index) and \overline{y} is the mean of the variable of interest across all households. The Theil index can further be decomposed into two components; one is the disparities within sub-caste groups, another is disparities between the caste groups. For M caste groups, the decomposition takes the following form:

$$Theil = \frac{1}{N} \sum_{i=1}^{N} s_j \frac{y_{ij}}{\bar{y}_j} \frac{y_i}{\bar{y}} \ln\left(\frac{y_i}{\bar{y}}\right) + \frac{1}{M} \sum_{i=1}^{M} s_j \frac{y_{ij}}{\bar{y}_j} \frac{y_i}{\bar{y}} \ln\left(\frac{y_i}{\bar{y}}\right)$$
(2)

Where the first term of equation (2) could be seen as representing the extent of within-group inequality across all sub-caste groups and the second term can be interpreted to represent the between-group inequality across all sub-caste groups. In the final stage of the analysis, we performed a multivariate analysis to measure the role of caste groups in defining the economic status of the household. We used multiple linear regression models to estimate the net effect of caste on selected economic indicators. The specification of the model is written as:

$$Y_{i} = \alpha_{0} + \alpha_{1}MuslimGeneral_{i} + \alpha_{2}HinduOBC_{i} + \alpha_{3}MuslimOBC_{i} + \alpha_{4}HinduDalit_{i} + \alpha_{5}MuslimDalit_{i} + \alpha_{6}X_{i} + \varepsilon_{i}$$
(3)

Where Y_i represents the different outcome variables in separate regression models; land size, current value of wealth, monthly per capita expenditure (MPCE)⁹, poor, and the outstanding loan. For caste and religious groups, Hindu General, i.e. households belonging to Hindu religion, and General Caste are taken as the reference category. Dummies for other groups (MuslimGeneral, HinduOBC, MuslimOBC, HinduDalit, and MuslimDalit) are included in the model as specified in equation (3). These variables take the value '1' if the household belongs to the specified groups, and '0' otherwise. X_i is the vector of other control variables such as land size, wealth value, occupation, etc. Additionally, we also include father's and grandfather's occupation ¹⁰ as independent variables. The definition of all the variables used in regression analysis is presented in Appendix 3.

4. Results and Discussion

This section discusses the results from the bivariate and multivariate analysis described in the previous section. As discussed in the previous section, we have categorised economic and social status into four domains; deprivation of lifestyle, historical deprivation, household condition and

⁹ For items used in calculation of MPCE, see Appendix 2.

¹⁰ Despite the cross-sectional design of the survey, it has asked the respondent's father and grandfather's occupations.

wealth, and deprivation in financial inclusion, and below we present the results for these subsections separately.

4. 1 Deprivation in Lifestyle: Poverty and Expenditure

Consumption is a commonly used measure of well-being. In this study, MPCE is estimated using a recall period of 30 days for expenditure on food and other items during the last month. The total consumption expenditure is then converted into per capita using household size. The estimate for MPCE is shown in Table 3. Results show a stark difference in per capita expenditure and poverty prevalence across the castes and sub-caste levels. The rural mean per capita expenditure is highest among Hindu General, Muslim General, Hindu OBCs, Muslim OBCs, Hindu Dalits, and Muslim Dalit. However, the mean per capita expenditure showed a much wider disparity by caste distribution. For example, Brahmins and Thakurs spend much more than the Other Hindu General and much higher than the OBCs and Dalits regardless of religion. Surprisingly, Jaats, which fall under the OBC caste - have the highest mean per capita expenditure versus Brahmins and Thakurs. Paasi is far behind and has the lowest mean per capita expenditure compared to other castes. This signifies that the deep-rooted caste-based supremacy in social and economic activity is still present in some form or other. However, it is hard to deny the fact that consumption in the states like Uttar Pradesh is not solely driven through income but has a strong association with customs, cultural values, and status. For instance, a study by A. V. Banerjee and Duflo (2007) shows that a median household in rural Udaipur spends almost ten percent of their household budget on festivals and more than five percent on the consumption of tobacco and alcohol. This pattern will be more in the states like Uttar Pradesh having many religious pilgrimages and a higher prevalence of tobacco and alcohol consumption (Kumar et al., 2020). Similarly, Khamis et al. (2012) show that the lower caste also spends a significantly higher amount on status signalling goods as compared to the higher caste groups in India. This holds even for the rural population, controlling for permanent income and family demography.

		Rura	al Area			Urba	n Area	
Caste	Mean MPCE	Rural Poverty	Share in Pop	Share in MPCE	Mean MPCE	Urban Poverty	Share in Pop	Share in MPCE
Brahmins	1688	15.9	0.07	0.12	2302	4.9	0.07	0.12
Thakur/Kshatri ya	1677	9.0	0.05	0.08	2440	7.3	0.02	0.03
Other Hindu General	1546	20.6	0.03	0.04	2362	2.0	0.08	0.14
Hindu General	1659	14.4	0.15	0.23	2346	3.9	0.17	0.29
Muslim General	1278	31.3	0.08	0.08	1529	25.0	0.09	0.09
Yadavs	1128	32.1	0.07	0.06	1399	29.6	0.04	0.04
Kurmis	1003	40.7	0.02	0.01	1998	13.9	0.03	0.01
Jaats	1956	15.3	0.03	0.06	1779	14.6	0.02	0.02
Lodhs	743	61.3	0.01	0.01	1217	43.9	0.02	0.03
Other Hindus OBCs	1060	42.3	0.20	0.19	1236	35.4	0.19	0.15
Hindu OBCs	1150	38.0	0.34	0.34	1342	32.7	0.29	0.26
Ansari Muslims	1039	39.4	0.06	0.05	1195	44.5	0.09	0.07
Other Muslims OBCs	994	37.7	0.12	0.09	1176	36.6	0.10	0.07
Muslim OBCs	1008	38.2	0.17	0.14	1186	40.4	0.20	0.15
Chamars	931	48.0	0.12	0.11	1207	44.4	0.10	0.09
Paasi	759	56.3	0.02	0.01	1116	37.5	0.004	0.003
Other Hindu Dalits	775	61.8	0.04	0.03	1163	37.8	0.05	0.04
Hindu Dalits	879	51.9	0.18	0.15	1191	42.3	0.16	0.13
Dalit Muslims	853	52.5	0.08	0.05	1058	48.4	0.09	0.07
All Hindus All Muslims	1190 1046	36.8 39.2	0.63 0.23	0.56 0.25	1569 1237	27.4 38.6	0.56 0.29	0.63 0.24
State Average (UP)	1140	37.6			1442	31.7		
NSSO Estimates (UP)	-	30.4	-	-	-	26.1	-	-

Table 3: Mean Monthly Per Capita Consumption Expenditure and Poverty Headcount Ratio by Caste

On the other hand, the poverty levels underscore the stark reality of the caste-based economic hierarchy. Results show very interesting patterns of poverty by the sub-castes. The estimates of rural poverty were as follows: Muslim Dalits (52.5 percent), Hindu Dalits (51.9 percent), Muslim OBCs (38.2 percent), Hindu OBCs (38.0 percent), and Muslim General (31.3

percent). These are much higher compared to the Hindu General (14.4 percent). At the sub-caste level, the lowest poverty levels were among the Thakur (9 percent), followed by Brahmins (15.9 percent) and Other General caste groups (20 percent). Jaats (15.3 percent) from Hindu OBCs has less poverty than Brahmins and Other Caste groups but higher than Thakurs. In urban areas, the highest per capita expenditure was found among Thakurs, Other Hindu General, Brahmins, Kurmis, and Jaats. Urban poverty is significantly lower in Other Hindu General, Brahmins, and Thakurs. Furthermore, the Kurmis and Jaats had less poverty than the other Hindu OBCs, Muslim OBCs, Hindu Dalits, and Muslim Dalits. The urban-rural disparity in poverty is higher among the Kurmis and lower among the Jaats. Our results strengthen the arguments by A. Thorat, Vanneman, Desai, and Dubey (2017) who found Dalits and Adivasis to be more susceptible to living in persistent poverty. The above result also complements the socioeconomic caste census report 2011, which shows that 4.37 percent STs and 3.96 percent SCs have government jobs while they contributed 11 percent and 18 percent of the total rural population. However, the constitutional provision of reservation of government jobs for STs and SCs is 7.5 percent and 15 percent respectively. Thus, historically disadvantaged groups are still backward in the economic sphere.

4.2 Historical deprivation: Land ownership

Cultivable or non-cultivable land ownership plays an important role in terms of propagating wealth inequality. The land is the primary source of wealth, and its concentration is not merely a perception but a reality. Knowledge about land ownership is important to delineate true poverty lines and minimise the misreporting of income. Dominant land-owning agricultural castes hold key positions in society using their economic, political, and social capital. Further dominance in politics continues the cycle of wealth accumulation. This becomes even more complex in the case of a village (rural) economy where access and ownership of land are the primary means and instruments of economic position and power relations between different sub-caste groups.

Thus, the social distribution of land plays a key role in the economic and social development of rural and agrarian-based economies like Uttar Pradesh. The results of the ownership of cultivable land by the sub-castes showed a substantial disparity (Figure 1). The most common landless households are Muslim OBCs and Dalit Muslims, followed by Paasi and Chamars i.e Hindu Dalits. While the Hindu General castes accounted for 20 percent of the sampled household, but they owned more than 30 percent of the total cultivable land. The intra-caste distribution of land showed alarming disparities. For instance, the share of land owned by Thakurs is 11 percent followed by Brahmins (15 percent), Other Hindu castes (6 percent), Yadav (13 percent), Kurmis (4 percent), and Jaats (8 percent); however, the corresponding sampled population proportion is 7 percent, 10 percent, 4 percent, 10 percent, 3 percent, and 5 percent, respectively. This indicates a large disparity within the Hindu OBCs category versus Hindu Dalits. Muslim OBCs and Dalits owned about 25 percent of the cultivable land as the rest of the sampled population. We also estimated the average size of land for landholding households: Hindu General has 2.89 acres of land followed by Muslim General (2.07), Hindu OBCs (1.97), Hindu Dalits (1.28), Muslim OBCs (1.09), and Muslim Dalits (1.05). Kurmis (3.28), Thakurs (3.08), Jaats (2.94), Brahmins (2.8), and Yadav (2.45) owned much more land on average than the rest of the caste category. In sum, historically deprived castes showed a considerably lower share of agricultural land regardless of their population size. Hindu Dalits, Muslim Dalits, Muslim OBCs, and Hindu OBCs are more likely to be landless or small landholding. The results are in tune with the report of the socioeconomic and caste census, 2011, where 4 percent of farmers owned 32 percent of agricultural land. Despite the exercise of land reform and other corrective measures for redistribution of land in rural areas, Dalit and untouchables mostly remain landless. The statistics of land purchases in the last five years also show a significant proportion of Dalits have sold their land to other higher caste (Agarwal & Levien, 2020).

Figure 1: Cultivable Land Ownership (in Acres) by Caste



4.3 Deprivation in Wealth Accumulation, Household Condition, and Amenities

The increasing inequality in income and wealth does not solely arise due to economic factors, it also depends upon the demographic, social, and political environment. The legacy of apartheid in South Africa, racial decimation in Brazil and United States of America, Oil in the Middle East are example of a non-economic issue that has an impact on persistent and growing economic inequality. India has been facing the issue of a graded caste system which perpetuates the historical disparity in access and accumulation of resources. Wealth inequality has been relatively less explored in the context of the caste hierarchy. Most of the prior studies have analysed household consumption expenditure data to measure income inequality across the castes (Anand & Thampi, 2016; Singh et al., 2015; S. Thorat & Dubey, 2012). In this study, we have examined the household wealth status among the different sub-caste groups using asset value information self-reported by respondents excluding agricultural land. The results show that a significantly higher proportion of Jaats (55 percent), Thakurs (43 percent), and Brahmin (38 percent), Other Hindu General (37 percent), and Yadav (31 percent) belong to the richest wealth quintile (Figure 2). On the other hand, about 40 percent of households of Paasi, Dalit Muslims, Other Muslim OBCs, Other Hindu Dalits, Chamars, and Lodhs belong to the poorest wealth quintile. Surprisingly, a significantly higher proportion of Paasi households (23 percent) are in the richest wealth quintile, which indicates a sharper intracaste inequality. However, the results are quite clear the Jaats have the highest percentage of wealthy members and the lowest percentage in the poorest quintiles. There were larger inequalities within Hindu OBC groups compared to their Muslim counterparts. These findings align with Anand and Thampi (2016) who found that the upper castes accumulated wealth faster than the others and their average per capita wealth is much higher than the scheduled castes categories. Furthermore, the status of wealth accumulation among the top deciles is much higher in India than that in France (55 percent), Spain (56.5 percent), and UK (50 percent). China is closer to India in terms of wealth concentration among the top deciles population (Bharti et al., 2018). Given the fact that inequality mostly coincides with economic growth, a developing economy like India might worsen its income distributions further in the future.



Figure 2: The Economic Status of the Households by Caste

4.3.1 Household Condition and Amenities

Indices for living standards based on household characteristics and durable goods ownership are increasingly being used to describe multi-dimensional poverty in developing countries. These indices can complement consumption-based poverty results by directly measuring household outcomes and access to services that may not be included in consumption measures (Ngo, 2018). The indicators used for the household condition, amenities, and ownership of assets are means rather than ends, yet, these means are very closely connected with the ends. Our results highlight differences in housing conditions across the castes (Figure 3). Despite having large landholdings and the highest per capita expenditure along with lower poverty prevalence, the Lodhs (17 percent) have a higher proportion of Kacha/Thatched houses than the General and Other OBCs. However, Paasi has the highest percentage of Kacha/Thatched houses (44 percent). The availability and accessibility of toilet facilities within the household premises are highest in Other Hindu Generals (81 percent) followed by Brahmins (72 percent), Jaats (68 percent), Thakur/Kshatriya (67 percent), and Ansari Muslims (67.9 percent). Toilets are most common among Muslim OBCs, Muslim Dalits, and all Muslim groups compared to their Hindu counterparts. This trend indicates a strong cultural and religious factor in having toilets within the house regardless of their socioeconomic conditions. Furthermore, more Hindu households have LPG connections than Muslim households. The norms of no toilet in the house premises among Brahmin of rural India are the reality in contemporary India (Coffey & Spears, 2017). However, the presence of television is higher among Muslim Groups (against their religious norms). This difference might be because the Paasi caste of Hindu Dalits has the lowest percentage of households with television, making the difference between Hindu and Muslim Dalits more striking.



Figure 3: The Economic status of the Households by Caste

Note: (a) Access to housing facility. (b) Access to flush/pit toilet. (c) Access to piped gas connection. (d) Access to Television (exposure to mass media)

4.4 Survival or Expansion of Wealth: Debt, Sources, and Rationale

An alternative instrument to safeguard consumption or survival is borrowings. Nevertheless, this argument completely depends on whether the households use loans for necessities/consumption purposes or further investments and on luxuries (De Magalhaes & Santaeula`lia-Llopis, 2018). The source from which loans are taken (i.e. formal or informal) insures the financial inclusiveness of the system and avoids families falling into a vicious cycle of debt and poverty. In the survey that we used, households were first asked whether they took a loan or not in the past 3 years. Second, the reason for the borrowing, and third is the source of the borrowings. This allows us to construct direct measures of indebtedness and credit constraints of the households due to their caste status.

We report borrowings data in Figure 4. In contrast to the household wealth status, the proportion of households who took a loan during the last three years is highest among Jaats (43 percent), Thakurs, Kurmis, Chamars, Paasi, and Brahmins. This comprises some wealthier castes and some of the poorest as well. The lowest rates of debt are seen in the Other Hindu Dalits (22 percent), followed by Brahmins, Paasi, and other Hindu OBCs. However, using this to conclude their debt status can be misleading. Thus, we analysed the reasons for the debts (Table 4) and sources of loans (Table 5). From Table 4, we observe that a majority of the upper castes took loans for agricultural activities. Nearly three-fourths of Thakurs took a loan for agricultural activities, followed by Jaats (66 percent), Brahmins (60 percent), Yadav (46 percent), and Kurmis (33 percent). The loan taken for marriage ceremonies were highest among Other Muslim OBCs (33 percent), Lodhs, Yadav, Other Hindu Dalit, Chamars, and Other Hindu OBCs. On the other hand, socioeconomically suppressed castes like Paasi and Chamars were taking loans for health reasons, marriage ceremonies, and meeting family obligations. The highest loan levels for education are seen in the Other Hindu General, followed by Lodhs and Chamars castes.



Figure 4: Percentage of households taken loan or debt during the last 3 years and average amount of loan

Caste	Agriculture	Business purposes	Education of children	Health expenditure	Marriage ceremony	Purchasing fixed assets like house	Meeting other family obligations
Brahmins	59.7	8.1	1.6	5.7	4.0	4.8	16.1
Thakur/Kshatriya	72.5	4.2	1.7	4.2	10.8	1.7	5.0
Other Hindus General	43.7	19.7	7.0	9.9	7.0	4.2	8.5
Hindu General	61.0	9.2	2.9	6.0	7.3	3.5	10.2
Muslim General	27.4	15.9	3.0	11.9	18.4	6.0	17.4
Yadavs	45.8	8.3	0.8	10.0	17.5	5.8	11.7
Kurmis	33.3	12.5	0.0	12.5	14.6	8.3	18.8
Jaats	65.9	6.8	1.1	8.0	6.8	2.3	9.1
Lodhs	12.8	10.3	5.1	33.3	20.5	0.0	18.0
Other Hindus OBCs	33.3	9.1	3.7	16.9	17.4	5.6	14.2
Hindu OBCs	38.4	9.0	2.7	15.2	16.1	5.1	13.6
Ansari Muslims	5.7	27.9	2.1	20.0	16.4	5.0	22.9
Other Muslims OBCs	3.8	15.5	1.1	25.7	32.8	3.0	17.7
Muslim OBCs	4.4	19.8	1.5	23.7	27.2	3.7	19.5
Chamars	22.1	11.9	4.8	20.1	17.4	3.4	20.4
Paasi	29.6	11.1	0.0	33.3	11.1	3.7	11.1
Other Hindu Dalits	15.9	14.3	1.6	28.6	17.5	1.6	20.6
Hindu Dalits	21.6	12.2	3.9	22.4	16.9	3.1	19.8
Dalit Muslims	7.6	12.6	1.0	27.3	20.2	3.5	27.8
All Hindus All Muslims	38.5 12.3	9.9 16.8	3.1 1.7	15.2 21.4	14.7 22.5	4.1 4.4	14.5 20.9
State Average	28.7	12.5	2.6	17.5	17.6	4.2	16.9

 Table 4: Main reason for taking loan by Caste

Furthermore, the analysis of the sources of these loans (Table 5) also showed some systematic patterns as well. Their socioeconomic position plays a pivotal role to determine the sources of the loans. The socioeconomically lower castes were mostly getting loans from friends, relatives, and local money lenders. Banks are the source as follows: Other Hindus General (44 percent), Thakur/Kshatriya (32 percent), Brahmins (27.4 percent), Paasi (26 percent), and Yadav (23.3 percent). Similarly, 69.3 percent Jaats, Thakur/Kshatriya (52 percent), Brahmins (42 percent), Yadav, and Kurmis have loans from Kisan Credit. Poor castes with less land and wealth tend to take loans from friends/relatives and other lenders. For instance, more than two-thirds of Ansari Muslims have taken a loan from their friends/relatives followed by Other Hindu Dalits (57.1 percent), Paasi (48.2 percent), Kurmis (48 percent), and Other Muslim OBCs (44.5 percent). Lodhs, Other Muslim OBCs, Chamars, Paasi, Other Hindu Dalits, and Muslim Dalits also borrow from other sources.

Caste	Banks Including Co operative Bank	o- Co-operative Credit Society	Registered Moneylenders	Kisan Credit Card	Friends/ Relatives	Othermoneylendersandothers
Brahmins	27.4	2.4	0.8	41.9	20.2	7.3
Thakur/Kshatriya	31.7	2.5	0.0	51.7	6.7	7.5
Other Hindus General	43.7	1.4	1.4	28.2	21.1	4.2
Hindu General	32.7	2.2	0.6	42.5	15.2	6.7
Muslim General	18.9	2.0	2.5	15.9	46.8	13.9
Yadavs	23.3	6.7	0.0	28.3	28.3	13.3
Kurmis	16.7	4.2	2.1	27.1	47.9	2.1
Jaats	15.9	4.6	0.0	69.3	6.8	3.4
Lodhs	2.6	0.0	23.1	12.8	38.5	23.1
Other Hindus OBCs	15.4	1.2	2.0	24.9	33.3	23.2
Hindu OBCs	16.2	2.7	2.6	30.5	30.4	17.6
Ansari Muslims	9.3	0.0	0.7	5.0	67.9	17.1
Other Muslims OBCs	7.2	1.1	9.4	3.4	44.5	34.0
Muslim OBCs	7.9	0.7	6.4	4.0	52.6	28.2
Chamars	15.3	1.4	1.7	22.1	39.1	20.4
Paasi	25.9	0.0	0.0	7.4	48.2	18.5
Other Hindu Dalits	11.1	1.6	0.0	9.5	57.1	20.6
Hindu Dalits	15.4	1.3	1.3	19.0	42.7	20.3
Dalit Muslims	9.6	0.0	1.5	6.1	56.6	26.3
All Hindus	19.6	2.2	1.8	29.6	30.8	16.1
All Muslims	11.5	1.0	4.1	8.9	50.9	23.6
State Average	16.5	1./	2.7	21.8	38.3	54.6

 Table 5: Main sources of loan by Caste

4.5 Caste and Economic Inequality

In Table 6, we report the sub-caste wise group Theil indices estimated from equation (3) along with total, between, and within-group components in Figure 5. We found land inequality is highest among all economic measures. The between-group inequality is highest in wealth value and lowest in consumption expenditure. Similarly, the inequality within the caste group is highest in terms of land distribution followed by wealth value and consumption expenditure. Furthermore, the result of the Theil index by sub-caste groups showing a higher concentration of wealth in some caste as compared to others. The inequality in land distribution also resembles the pattern evident in wealth value inequality. Inequality in consumption expenditure shows much higher values for Jaats followed by Brahmin and Kurmis caste group whereas inequality in wealth values showing higher values for Muslim Dalit followed by Paasi and Hindu Dalits. As shown in the Figure 5 and Table 6, the inequality in terms of wealth value is also much higher than MPCE, implying a greater need to focus on both consumption and wealth value inequality in empirical studies as one indicates current income inequality and the other indicates inequality in long-term accumulation. The results support increasing caste inequalities found by A. Deshpande (2001) at the sub-caste level.





Caste	Land(Rural)	MPCE	Wealth Value
Brahmins	1.47	0.291	0.531
Thakur/Kshatriya	0.71	0.19	0.592
Other Hindus General	1.57	0.18	0.42
Hindu General	1.31	0.23	0.52
Muslim General	1.92	0.24	0.81
Yadavs	1.31	0.18	0.84
Kurmis	1.02	0.25	0.77
Jaats	1.27	0.33	0.55
Lodhs	0.64	0.11	0.73
Other Hindus OBCs	2.21	0.22	0.94
Hindu OBCs	1.79	0.24	0.88
Ansari Muslims	2.88	0.15	0.83
Other Muslims OBCs	3.12	0.13	0.815
Muslim OBCs	3.17	0.14	0.97
Chamars	2.57	0.22	0.82
Paasi	2.15	0.13	1.07
Other Hindu Dalits	2.54	0.14	0.81
Hindu Dalits	2.58	0.2	0.86
Dalit Muslims	2.75	0.12	1.18
All Hindus	1.84	0.18	0.98
All Muslims	2.73	0.26	0.82

Table 6: Group-wise Theil Index

4.6 Caste Inequalities in Economic Status and Financial Inclusion: Defining Factors

Descriptive statistics reported in earlier sections motivated us to perform a regression analysis to determine how far belonging to a particular Biradari or caste can influence the economic outcomes. Thus, we performed multivariate regression analysis in the second stage as a confirmatory procedure for the above-discussed results. In particular, to show the net effects of castes on select economic indicators. Table 7 reports the regression equation (1) results from the variables summarised in Table 2. From the results, it is clear that caste identity is an important determinant of the economic outcome variables that we have chosen. The caste identity worsens the economic outcomes as we move towards the lower echelons of the caste hierarchy. As compared to Hindu General, other castes are likely to be in the lower economic strata, and the strength of the negative coefficient is always higher for the sub-groups of Muslims. Within religious groups, the negative impact of caste identity is strongest for Dalit households, followed by OBCs. The Muslim Dalits and Muslim OBCs are also found to be more indebted in urban areas as compared to their Hindu counterparts. The results are in line that repressed caste households have more debts but the sources of these loans are not banks or formal financial institutions, rather relatives or friends as reported in the previous section. Thus, the regression results complement our previous bi-variate comparisons across sub-caste groups confirming caste as a critical factor for the standard of living and reduce the economic opportunities for a household.

	Model 1	Model 2	Model 3	Model 4	Model 5A	Model 5 B
	Land size (rural only)	Wealth Value	MPCE	POOR	Debt (rural)	Debt (urban)
Caste group (ref=Hindu Gene	eral)					
Muslim General	-0.299***	-0.388***	-0.106***	0.172***	0.517	0.442
	(0.0365)	(0.0606)	(0.0247)	(0.0212)	(0.324)	(0.432)
Hindu OBC	-0.195***	-0.232***	-0.256***	0.239***	0.0727	0.418
	(0.0259)	(0.0437)	(0.0177)	(0.0153)	(0.232)	(0.330)
Muslim OBC	-0.447***	-0.537***	-0.202***	0.254***	-0.0297	0.804**
	(0.0328)	(0.0542)	(0.0219)	(0.0187)	(0.292)	(0.382)
Hindu Dalit	-0.353***	-0.533***	-0.298***	0.300***	0.125	0.571
	(0.0304)	(0.0510)	(0.0208)	(0.0178)	(0.273)	(0.380)
Muslim Dalit	-0.479***	-0.668***	-0.290***	0.283***	0.518	0.757*
	(0.0385)	(0.0637)	(0.0259)	(0.0221)	(0.343)	(0.453)

 Table 7: Linear regression estimates for the impact of caste group on economic outcomes

Standard errors in parentheses. *** p<0.01, ** p<0.05, * p<0.1. For full table, see Appendix 4.

5. Robustness Checks

We carry out a series of robustness checks to test the validity and reliability of our regression results reported in Table 7. First, since table 7 has multiple covariates, we have tested for multiple hypothesis and for brevity Bonnferroni adjusted p values for caste groups only are presented on Appendix 5. We found similar significance level even after using adjusted p values. Second, to control for village level heteroscedasticity, we clustered standard errors at the village level (Appendix 6) yielding the same results as reported in Table 7.

6. Conclusion

The study provides evidence for the first time comparing different economic indicators, at the subcaste level, in both Hindu and Muslim religious groups in state of Uttar Pradesh, India. Previous studies, using major caste groups as the unit of analysis underestimate the within-group component of economic inequalities. However, our study finds that within group inequalities are huge in all the economic indicators when compared at the sub-caste level. The second seminal contribution of the study stems from including the current value of wealth for economic comparison across the social groups for the first time. Finally, the study provides a comprehensive comparison of the economic status of different caste groups by including other indicators such as; financial inclusion and land ownership.

The findings and discussion reported in the previous sections signify important conclusions and practical implications. First, as this study finds that the persisting between-caste hierarchy and significant within-caste inequality is playing a pivotal role in determining poverty and other economic deprivation. General castes in Hindus and Muslims are far better than other counterparts. Within inequalities in General castes is significantly less compared to within inequalities observed among OBCs and Dalits of both Hindus and Muslims. Whereas the within group hierarchy has not yet gained the importance in the existing government policies. Thus, the state and central government should take the appropriate steps to ensure the reduction of between as well as within group hierarchy so that most deprived, within the "deprived groups" should not be left behind further. Some of the previous studies also advanced that most deprived communities within specific caste groups are generally seen to be missing the benefits of the numerous welfare schemes and programs implemented for them (S. Thorat & Newman, 2010; Trivedi et al., 2016a, 2016b; Kumar et al., 2020). The biggest policy takeaway from this study is the vulnerable Dalit Muslims who are equally or more deprived than Hindu Dalits but missing from affirmative actions of the government

policies. Therefore, the government policies should ensure that the welfare schemes should reach to most deprived groups for the minimisation of the influential nexus of social hierarchy and economic hierarchy. Second, the empirical analysis of the relationship between caste and financial inclusion confirms the significant impact of caste on deprivation in accessing formal financial services. Moreover, the caste-based differences in the distribution of wealth and its subsequent impact on poverty and financial inclusion are robust. Evidence from Uttar Pradesh demonstrates that efforts for eliminating poverty may include the distribution of cultivable land and inclusive financial policies as key strategies. In turn, this can enhance access to formal sources of loans and breaks the vicious circle of debt among the small and landless farmers. Third, there is a need to examine the inequalities within the broad social groups at the national level as our study confirms the existence of substantial heterogeneity across the broad social groups across the religions in Uttar Pradesh which might be true for other states as well. Therefore, this large and still increasing income and wealth inequality should be taken as a wake-up call. The state needs to initiate robust and rigorous measures of redistribution to tackle the greater accumulation of income and wealth, eradication of poverty, caste-based discrimination, and exclusion. Finally, the study points towards the scope of future research to identify the reasons behind the secular trend in increasing inequality and persistent poverty among the most deprived sub-castes in the country. Considering the crosssectional nature of the survey, we fail to identify the causes of escaping or falling into poverty and economic vicious cycle or with-group inequalities.

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Appendices

Current value of Items	Mean	Obs	Mean(Rs)	Std dev	Min (Rs)
Max(Rs)					
Sewing Machine	7103	788	1450	0	29200
Inverter	7103	1157	4376	0	150000
Mixer/Grinder	7103	268	983	0	35000
TV	7103	2908	4152	0	85000
Air Cooler	7103	665	1839	0	26000
Clock/Watch	7103	218	466	0	20000
Fan	7103	1216	2003	0	80000
Chair & Table	7103	845	1388	0	32000
Telephone/Mobile	7103	2748	3328	0	50000
Refrigerator	7103	1373	3415	0	80000
Air Conditioner	7103	237	3063	0	150000
Washing Machine	7103	605	2519	0	95000
Computer	7103	664	3879	0	60000
Credit Card	7103	1016	7127	0	99999
Bed/Mattress	7103	6441	11962	0	90800
Furniture	7103	9057	39157	0	800800
Gas stove	7103	1109	2535	0	60180
Blanket	7103	6959	12839	0	91200
Tractor	7103	6323	42679	0	700000
Cycle/motorcycle	7103	22441	45767	0	600480
Power loom	7103	1239	13367	0	220000
Handloom	7103	420	9635	0	512000

Appendix 1: Description of Items considered in Wealth Value Index

Variable	Obs	Mean (Rs)	Std. Dev.	Variable	Obs	Mean (Rs)	Std. Dev.
Rice	7103	16	13	Rent	7103	36	243
Wheat	7103	11	28	Tax	7103	18	59
Sugar	7103	34	10	Service	7103	36	359
Kerosene	7103	9	15	Med out- patient	7103	628	903
Cereal	7103	22	24	Med inpatient	7103	298	1530
Other cereal	7103	20	16	School fees	7103	482	1255
Pulse	7103	66	22	Footwear	7103	143	1095
Meat	7103	94	98	Furniture	7070	52	95
Gur	7103	64	72	Utensil	7103	39	109
Oil	7103	88	31	Fan	7103	42	118
Egg	7103	25	31	TV	7103	36	734
Milk	7103	23	22	Jewellery	7103	211	1254
Vegetable	7103	26	13	Cloth	7103	364	355
Spices	7103	306	214	Transport equipment	7103	240	620
Tea	7103	321	321	Other personal	7103	107	204
Pan	7103	184	261	Repair	7103	288	1662
Fruit	7103	220	235	Insurance	7103	127	1021
Restaurant	7103	181	330	Vacation	7103	88	163
Electricity	7103	511	440	Social Function	7103	287	1543
Entertainment	7103	50	181	Religious expense	7103	84	240
Mobile	7103	170	230	Toilet	7103	178	154
Personal Expense	7103	152	218	Household items	7103	344	266
Travel	7103	634	769				

Appendix 2: Description of Items considered in Consumption Expenditure Index

A	p	pendix	3:	Definition	of	the	variables	used	in	regression	analy	ysis

 '1' if the household belong to Hindu General Caste, '0' otherwise '1' if the household belong to Muslim General Caste, '0' otherwise '1' if the household belong to Hindu Other Backward Caste, '0' otherwise '1' if the household belong to Muslim Other Backward Caste, '0' otherwise '1' if the household belong to Hindu Dalit Caste, '0' otherwise '1' if the household belong to Muslim Dalit Caste, '0' otherwise '1' if the household belong to Muslim Dalit Caste, '0' otherwise
 '1' if the household belong to Muslim General Caste, '0' otherwise '1' if the household belong to Hindu Other Backward Caste, '0' otherwise '1' if the household belong to Muslim Other Backward Caste, '0' otherwise '1' if the household belong to Hindu Dalit Caste, '0' otherwise '1' if the household belong to Muslim Dalit Caste, '0' otherwise Occupation of the household head
 '1' if the household belong to Hindu Other Backward Caste, '0' otherwise '1' if the household belong to Muslim Other Backward Caste, '0' otherwise '1' if the household belong to Hindu Dalit Caste, '0' otherwise '1' if the household belong to Muslim Dalit Caste, '0' otherwise Occupation of the household head
'1' if the household belong to Muslim Other Backward Caste, '0' otherwise '1' if the household belong to Hindu Dalit Caste, '0' otherwise '1' if the household belong to Muslim Dalit Caste, '0' otherwise Occupation of the household head
'1' if the household belong to Hindu Dalit Caste, '0' otherwise '1' if the household belong to Muslim Dalit Caste, '0' otherwise Occupation of the household head
'1' if the household belong to Muslim Dalit Caste, '0' otherwise Occupation of the household head
Occupation of the household head
'1' if cultivation, otherwise '0'
'1' if Agricutural labourer, otherwise '0'
'1' if non- agricultural labourer, otherwise '0'
'1' if self-employed, otherwise '0'
'1' if services or others, otherwise '0'
'1' if not in workforce, otherwise '0'
Occupation of the household head's father
'1' if cultivation, otherwise '0'
'1' if Agricutural labourer, otherwise '0'
'1' if non- agricultural labourer, otherwise '0'
'1' if self-employed, otherwise '0'
'1' if services or others, otherwise '0'
'1' if not in workforce, otherwise '0'
Occupation of the household head's grandfather
'1' if cultivation, otherwise '0'
'1' if Agricutural labourer, otherwise '0'
'1' if non- agricultural labourer, otherwise '0'
'1' if self-employed, otherwise '0'
'1' if services or others, otherwise '0'
'1' if not in workforce, otherwise '0'
Age of the household head (in years)
Number of family members
Proportion of females in the household

Appendix 3 continued

Variable	Definition
HH Head Education	Education level of the household head
No education	No formal education
Below primary	Below primary education
Below secondary Below	higher secondary education
Graduation and above	Graduation and above
ln(remittances received)	Log of remittances received+1
Urban	'1' if the household lives in urban areas, '0' otherwise
Women Age	Age of the women respondent
Govt Benefit from Old age pension/Widow pension	'1' if the household received any government benefit like Old age or widow pension
Land size	Log of the land size owned by the household+1
Ln (Wealth Value)	Log of value of assets owned+1
Ln (MPCE)	Log of monthly per capita expenditure+1

Appendix 4: Linear regression estimates for the impact of caste group on economic outcomes							
	Model 1	Model 2	Model 3	Model 4	Model 5A	Model 5 B	
	Land size (rural only)	Wealth Value	МРСЕ	POOR	Debt (rural)	Debt (urban)	
Caste group (ref=Hindu C	General)						
Muslim General	-0.299***	-0.388***	-0.106***	0.172***	0.517	0.442	
	(0.0365)	(0, 0606)	(0.0247)	(0.0212)	(0.324)	(0.432)	
Hindu OBC	-0 195***	-0 232***	-0.256***	0 239***	0.0727	0.418	
Tillidu OBC	(0.0259)	(0.0437)	(0.0177)	(0.0153)	(0.232)	(0.330)	
Muslim OBC	0.447***	0.537***	0.202***	(0.0155)	0.0207	0.804**	
Mushin OBC	-0.44/***	(0.0542)	-0.202^{+++}	(0.234)	-0.0297	(0.282)	
II: d D-1:4	(0.0528)	(0.0342)	(0.0219)	(0.0187)	(0.292)	(0.582)	
Hindu Dalit	-0.353***	-0.533***	-0.298***	0.300***	0.125	0.571	
	(0.0304)	(0.0510)	(0.0208)	(0.0178)	(0.273)	(0.380)	
Muslim Dalit	-0.479***	-0.668***	-0.290***	0.283***	0.518	0.757*	
	(0.0385)	(0.0637)	(0.0259)	(0.0221)	(0.343)	(0.453)	
HH head Occupation (ref=	=Cultivation)						
Ag Labour	-0.697***	-0.162*	-0.105***	0.115***	-0.563	-1.188	
8	(0.0466)	(0.0834)	(0.0320)	(0.0268)	(0.367)	(0.878)	
Non-Ag Labour	-0.750***	-0.621***	-0.0707***	0.122***	-0.829***	-1.079**	
	(0.0276)	(0.0486)	(0.0186)	(0.0140)	(0.201)	(0.547)	
Self Employed	-0.688***	_0 372***	0.0243	0.0532***	-1 017***	_1 102**	
Self Elliployed	(0.0301)	(0.0504)	(0.0243)	(0.0552)	(0.220)	(0.524)	
Comica & Others	(0.0301)	(0.0304)	(0.0197)	(0.0155)	(0.229)	(0.324)	
Service & Others	-0.575****	-0.265***	0.0/91****	-0.0232	-1.520***	-2.005****	
	(0.0335)	(0.0537)	(0.0218)	(0.01/6)	(0.281)	(0.537)	
Not in WF	-0.331***	-0.489***	0.0169	0.0343	0.311	0.0924	
	(0.0460)	(0.0795)	(0.0307)	(0.0261)	(0.373)	(0.753)	
Father's Occupation (ref=	Cultivation)						
Ag Labour	-0.0379	-0.0308					
	(0.0719)	(0.124)					
Non-Ag Labour	-0.0714	-0.157*					
-	(0.0529)	(0.0833)					
Self Employed	-0.105*	-0.184**					
r · J · ·	(0.0611)	(0.0867)					
Service & Others	-0.0343	-0.124					
Service & Oulors	(0.0497)	(0.0758)					
Not in WF		_0.481					
	-0.130	-0.401					
Grandfather's Occupatior	(0.288) (ref=Cultivation)	(0.498)					
··· r	· · · · · · · · /						
Ag Labour	-0.182***	-0.220*					
	(0.0701)	(0.117)					
Non-Ag Labour	-0.185***	-0.167**					
2	(0.0511)	(0.0773)					

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	(0.0630)	(0.0861)				
Service & Others	-0.0814	-0.0804				
	(0.0497)	(0.0730)				
Not in WF	-0.400	-0.357				
	(0.575)	(1.112)				
HH head age	0.00322***	0.00408***	0.00223***	-0.00140***	0.0119*	0.00563
e	(0.000716)	(0.00135)	(0.000552)	(0.000476)	(0.00704)	(0.0103)
Family size	0.0262***	0.101***	-0.0892***	0.0396***	0.292***	0.223***
5	(0.00386)	(0.00672)	(0.00280)	(0.00238)	(0.0377)	(0.0599)
Proportion of females		-0.298***	-0.0186	0.00195	0.0349	0.348
		(0.0868)	(0.0352)	(0.0305)	(0.456)	(0.634)
Proportion of children		-0.746***	-0.234***	0.170***	0.446	0.469
		(0.0727)	(0.0298)	(0.0256)	(0.391)	(0.525)
HH Head Education (ref=N	o education)		()			
Below primary		0 131***	0.0555***	-0.0546***	-0.0506	-0.218
Delow printary		(0.0387)	(0.0157)	(0.0136)	(0.198)	(0.308)
Below secondary		0 301***	0 158***	-0 117***	-0.263	-0 464*
Delow secondary		(0.0347)	(0.0141)	(0.0122)	(0.182)	(0.777)
Graduation and above		0 727***	0 362***	-0 278***	-0.652**	-0.453
Graduation and above		(0.0540)	(0.0221)	(0.0189)	(0.304)	(0 393)
ln(remittances received)		0.0202**	0.0133***	-0.00771**	-0 148***	-0.0423
m(remittances received)		(0.0202)	(0.00390)	(0.00339)	(0.0454)	(0.115)
Urban		0 242***	0 145***	0 108***	(0.0454)	(0.115)
erban		(0.0362)	(0.0150)	(0.0125)		
Women Age		(0.0302)	-0.00195***	(0.0125)		
women Age			(0.001)5			
Public Distribution System			0.0249*	0.00546	0 167	-0 274
Tublic Distribution System			(0.024)	(0.0123)	(0.181)	(0.274)
Govt Benefit from Old age	nension/Widow		(0.0177)	(0.0125)	-0.268	0.505
pension	pension, widow		0.0275		0.200	0.505
			(0.0232)		(0.279)	(0.551)
Land size			0.0577***			
			(0.0103)			
Ln (Wealth Value)			0.0898***		0.0923	-0.373***
			(0.00496)		(0.0621)	(0.117)
Ln (MPCE)					1.248***	0.909***
					(0.150)	(0.248)
District dummy	Yes	Yes	Yes	Yes	Yes	Yes
Constant	2.198***	10.71***	6.627***	0.241***	-7.825***	-0.911
	(0.0450)	(0.102)	(0.0707)	(0.0366)	(1.324)	(2.038)
Observations	5,085	7,103	7,070	7,103	5,058	2,012
R-squared	0.479	0.340	0.438	0.255	0.090	0.074
• • • • • • •						

Standard errors in parentheses *** p<0.01, ** p<0.05, * p<0.1

	Model 1 Land size(rural only)	Model 2 Wealth Value	Model 3 MPCE	Model 4 Poor	Model 5A Debt(rural)	Model 5B Debt (urban)
Caste group (ref=Hindu						
General)						
Muslim General	0.1833	0.182	0.6492	0.0083	1	1
Hindu OBC	0.0002	0	0.0426	0.8242	1	1
Muslim OBC	0	0	0	0.0001	1	0.4611
Hindu Dalit	0	1	0.6055	0.0068	1	1
Muslim Dalit	0	1	0.2063	0.1594	1	1

Appendix 5: Bonnferroni Adjusted p values for the regression results presented in Table 7

	Model 1	Model 2	Model 3	Model 4	Model 5A	Model 5 B
	Land size (rural only)	Wealth Value	MPCE	POOR	Debt (rural)	Debt (urban)
Caste group (ref=Hindu	General)					
Muslim General	-0.299***	-0.388***	-0.106***	0.172***	0.517	0.442
	(0.0584)	(0.0844)	(0.0384)	(0.0304)	(0.445)	(0.431)
Hindu OBC	-0.195***	-0.232***	-0.256***	0.239***	0.0727	0.418
	(0.0521)	(0.0675)	(0.0268)	(0.0233)	(0.304)	(0.316)
Muslim OBC	-0.447***	-0.537***	-0.202***	0.254***	-0.0297	0.804**
	(0.0482)	(0.0835)	(0.0330)	(0.0264)	(0.424)	(0.401)
Hindu Dalit	-0.353***	-0.533***	-0.298***	0.300***	0.125	0.571
	(0.0491)	(0.0844)	(0.0305)	(0.0249)	(0.364)	(0.371)
Muslim Dalit	-0.048***	-0.668***	-0.290***	0.283***	0.518	0.757
	(0.0537)	(0.0889)	(0.0344)	(0.0279)	(0.482)	(0.522)
District dummy Constant	Yes 2.198*** (0.0683)	Yes 10.71*** (0.133)	Yes 6.627*** (0.176)	Yes 0.241*** (0.0426)	Yes -7.825*** (1.584)	Yes -0.911 (2.009)
Observations	5,085	7,103	7,070	7,103	5,058	2,012
R-squared	0.479	0.340	0.438	0.255	0.090	0.074

Ar	ppendix 6:	Robustness	checks usin	g clustered	l standard	errors at	village level
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Note: All the models are controlled for the same variables as in Table 7. Standard errors in parentheses are clusters at the village level.