Indian Institute of Management Calcutta

Working Paper Series

WPS No 834/February 2020

Effects of income inequality in an emerging economy: Does conspicuous consumption result in 'false' perceptions of economic wellbeing?

Saravana Jaikumar *
Assistant Professor, Marketing, Indian Institute of Management Calcutta, India,
saravana@iimcal.ac.in

Ankur Sarin
Assistant Professor, Public Systems Group, Indian Institute of Management Ahmedabad, India,
asarin@iima.ac.in

Priya Narayanan
Doctoral Candidate, Marketing, Indian Institute of Management Ahmedabad, India,
priyan@iima.ac.in

(* Corresponding author)

Indian Institute of Management Calcutta
Joka, D.H. Road
Kolkata 700104

URL: http://facultylive.iimcal.ac.in/workingpapers

Effects of income inequality in an emerging economy: Does conspicuous consumption result in 'false' perceptions of economic wellbeing?

Saravana Jaikumar [1], Ankur Sarin[2], Priya Narayanan[3]

Abstract

In this paper, we study the effects of rising income inequality on households' perceptions of their economic wellbeing and their consumption decisions. In the context of an emerging economy, we argue that an increase in income inequality increases conspicuous consumption in addition to diminishing households' self-perceptions of their economic wellbeing. However, the increased conspicuous consumption serves to mitigate the adversarial effects of increased inequality. Using a panel of 34,621 households from India Human Development Survey (2004 and 2011) and using multiple empirical approaches (generalized structural equation modeling and KHB – Karlson, Holm and Breen – methods) we find that households tend to suppress the negative effect of income inequality by consuming more conspicuous goods, resulting in perhaps a false sense of economic wellbeing. While the framework developed in this study helps better understand the ill-effects of income inequality, our findings raise questions for firms that may play significant role in influencing consumers in high income inequality regions. Given that this increase in conspicuous consumption is likely to divert from other productive investments such

[1] Corresponding Author. Assistant Professor, Marketing
Indian Institute of Management Calcutta, E-mail:saravana@iimcal.ac.in

[2] Assistant Professor, Public Systems Group,
Indian Institute of Management Ahmedabad, India, Email: asarin@iima.ac.in

[3] Doctoral Student, Marketing,
Indian Institute of Management Ahmedabad, India,
Email: priyan@iima.ac.in

as education and savings, especially in emerging economies, it is likely to exacerbate income inequality in the long term. Hence, there is a pressing ethical need for firms to engage in responsible advertising and promotion practices in the face of high income inequality.

Keywords: Income Inequality, Conspicuous Consumption, Subjective Economic Wellbeing

JEL Codes: D12 (Consumer Economics: Empirical Analysis), I31 (General Welfare, Well-Being), D19 (Other)

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Introduction

Businesses often engage in activities that enhance the value of products as signals of social status (Mason, 1985; Villaran, 2017). Further, firms tend to induce social obsolescence of status goods as opposed to material or functional obsolescence (Mason, 1985) to drive sales of more sophisticated variants. In resource-constrained households, such expenditure is likely to come at the expense of basic necessities and other productivity enhancing investments (Memushi, 2014; van Kempen, 2004). Often justified as potentially enhancing consumer wellbeing, what are the responsibilities for firms if the consumption promoted by them feeds off lowered perceptions of economic wellbeing induced by rising levels of income inequality? We provide empirical evidence that points to this possibility and argue that the nature of the relationships necessitate that firms with a stake in social and economic stability engage with this question.

Income inequality has been a subject of growing concern over the past decade, in developed as well as developing nations (Jaumotte et al., 2013). The increasing trend in inequality observed in several nations (McSpadden, 2015) may pose a serious threat to social prosperity, innovation and growth, especially in emerging markets (Deaton, 2016). Research in social science has studied the social and psychological consequences, evaluating the effect of income inequality on health (Kawachi and Kennedy, 1997), happiness (Oishi et al., 2011), education and crime (eg. Neckerman and Torche, 2007). Drawing on this, many organizations have realized the need to better understand income inequality, as part of a broader collective concern for the health of the economic system (Beal and Astakhova, 2017). The emphasis in

prior management literature has primarily been on economic performance and efficiency, and ways to curb income inequality to avoid any disruptions in the market system (George, 2014). Given the overwhelming influence of business on society, there is an increasing need for research to understand how modes of behavior significantly impacting and being impacted by business are influenced by inequality. As management perspective is largely absent in inequality theorizing (Beal and Astakhova, 2017), the potential for business practices to address the negative effects of increased income inequality consequently remain under examined. In this paper, we address this lacuna by studying the relationship between income inequality, conspicuous consumption and subjective economic wellbeing. We argue that increasing income inequality is associated with lowered perceptions of economic wellbeing for households in an emerging economy. Further, drawing on prior empirical work, we argue that increasing income inequality is likely to result in increased conspicuous consumption, as households attempt to 'keep up with the Joneses' (eg. Christen and Morgan, 2011; Jaikumar and Sarin, 2015). Finally, based on extant research, we describe how increased conspicuous consumption is among other things, a likely manifestation of a coping mechanism being used by households to obtain a 'false' sense of economic wellbeing (eg. Jaikumar et al., 2017). In other words, to obtain a false sense of better economic wellbeing, a greater amount may be spent on conspicuous goods. Not only might this be damaging to households but the increased conspicuous consumption also threatens to increase income inequalities further. This may result in a vicious cycle as the failure of households to invest in their future exacerbates inequality further in the long-term. If left unchecked, the cycle poses significant threats to social and economic stability (George, 2014; Weeden and Grusky, 2014). We suggest that this poses difficult questions for firms *vis-a-vis*

their decisions to promote products as status goods in societies with high income inequality levels, especially in emerging economies (Hammond et al., 2007).

Prior research has shown that consumers have a desire to spend on luxury products that are highly visible/conspicuous to showcase status and social image (Schultz and Jain, 2018; Sengupta, 2007). The 'New Luxury 15' index, consisting of fifteen publicly traded companies that focus on premium goods, grew by 19% in 2002-2003, compared to 3% GDP growth in the same period in the US (Silverstein et al., 2008). Consumption of products with high visibility are expected to increase globally to US $ 40 trillion by 2020 (Schultz and Jain, 2018) with exponential growth from emerging economies such as India and China (Chadha and Husband, 2007). While the demand side for conspicuous consumption focuses on the desire to exhibit status and wealth, the supply side has also played its role in promoting products as status goods. Belk and Pollay (1985) find that the percentage of advertisements emphasizing 'luxury/pleasure' has sharply increased over 1905-1975 while the percentage of advertisements emphasizing 'practical/functional' themes has sharply fallen over the same period. In emerging markets such as India, brands such as Gucci, Prada, Channel and Bulgari have established a strong presence with the intent of promoting their products as status goods (Schultz and Jain, 2018). Further, status-laden brands and products typically target markets that are status-conscious (O'Cass and Frost, 2002) such as those with high prevailing income inequalities. Firms promoting such status products are more likely to focus their message on what one does not have (Gulas and McKeage, 2000; Richins, 1991). This results in consumers to identify themselves with lower income groups and increase the consumption of status displaying goods (Mazzocco et al., 2012).

The questions are even more pertinent in the resource constrained environments, like the context of an emerging economy, where we study the phenomena. Households redirecting

essential resources to consumption of such goods in such contexts are likely to have graver consequences for the households themselves and societies they live in. The fact that low-income consumers in such emerging markets may not possess the expertise or capabilities required to handle persuasive marketing communications (Bertrand et al., 2004; 2006) on status consumption, increases the onus on businesses. The United Nations Global Compact observes that "businesses increasingly see that growing inequality stifles growth and contributes to political and social instability where they operate" (UNGC-Inequality, 2018). Further, the Global Compact emphasizes the need for firms to proactively identify and manage negative business impacts on people, as part of social sustainability agenda. Firms are expected to undertake due diligence to reduce or eliminate any adverse impacts on people and society that may be related to their activities (UNGC-Social Sustainability, 2018). Hence, there is a pressing need for firms to incorporate ethical policies with regard to promotion of products and introduction of variants with conspicuous values, as such products may affect the consumers by inducing a false sense of economic wellbeing, and may result in adverse effects to the society as a whole. This falls within the realm of responsible advertising, wherein advertising from firms are not only expected to not do any harm to any stakeholder, but also encourage behaviors that are consistent with long-term social welfare (Hyman, 2009). As the key element of responsibility is accountability for the firm's actions and consequences, businesses need to understand the long-term negative effects of highlighting social status through consumption in high income inequality regions. This necessity to act ethically and responsibly is essential across all stakeholders such as advertising agencies, regulatory bodies, and consumers (Polonsky and Hyman, 2007). Further, CSR (corporate social responsibility) initiatives aimed at development in emerging economies (Tan, 2009) need to also focus on educating consumers on the negative effects of conspicuous consumption.

Using a panel of 34,621 households from India Human Development Surveys (IHDS conducted in 2004 and 2011), we examine the direct and indirect effects of an increase in income inequality (at the state level and district level) on subjective economic wellbeing (SEWB) of households. We assess the indirect influence via the suppressing effect[4] of conspicuous consumption using two empirical strategies – generalized structural equation modeling (GSEM) and KHB (Karlson, Holm and Breen) method (Karlson et al., 2012). Finally, we segregate districts into two groups based on whether they underwent an (i) increase or (ii) decrease in income inequality in 2011 compared to 2004. We use baseline (2004) district level measures and apply propensity score matching to match the districts in the two groups. We conduct suppression (mediation) analysis using the households in the matched sample of districts. Consistently, our results suggest that an increase in income inequality negatively affects SEWB and that this negative effect is suppressed by households via conspicuous consumption. Our findings suggest that firms have an ethical responsibility to reconsider the promotion of products as status goods, especially in emerging economies with high prevalent income inequalities.

The rest of the paper is organized as follows. First, we present the conceptual background on conspicuous consumption, income inequality and SEWB, followed by our conceptual framework. Second, we describe the dataset and measures used in the study. Third, we present our empirical strategy and results. Finally, we discuss theoretical and managerial implications of our findings.

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[4] Statistically suppression is the same as mediation – measuring the change in the relationship between two variables after adding a third variable. While suppression and mediation use same statistical estimation (of effects and standard errors), the two can be distinguished only on conceptual grounds (MacKinnon et al., 2000).

Conceptual Background

Income inequality and subjective perceptions of economic wellbeing

The effect of income inequality on subjective wellbeing (SWB)[5] has been well researched (eg. Dolan et al., 2008; Helliwell et al., 2015). A key finding in the study of SWB is that the society's economic growth does not necessarily increase SWB – a phenomenon termed as Easterlin paradox (Easterlin, 1995). According to the Easterlin paradox, "raising the incomes of all, does not increase the happiness of all, because the positive effect of higher income on SWB is offset by the negative effect of higher living level norms brought about by the growth in incomes generally" (Easterlin, 1995, p.36). Specifically, people may emphasize their relative standing in society rather than absolute increases in income to gauge their happiness (Layard, 2005). Oishi and Kesebir (2015) provide empirical evidence on the Easterlin paradox and partly attribute the paradox to the concurrence of economic growth and increasing income inequality. Contrary to the expectation that this reduced SWB would occur only for individuals in the lower rung of the income ladder, Cooper et al. (2013) find this detrimental effect of income inequality on life satisfaction to occur irrespective of the relative position of the individual in the income distribution.

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[5] We consider subjective wellbeing, happiness and life satisfaction to represent the same construct. The measures used for SWB include happiness (eg. Alesina et al., 2004; Oishi et al., 2011), life satisfaction (eg. Berg and Veenhoven, 2010; Senik, 2004), as well as others. A recent review by Schneider (2016) reveals that the multi-faceted nature of SWB may result in inconsistent results especially when examining the effects of economic variables such as income inequality. SWB measures used in the literature incorporate life expectancy, general health, life satisfaction and overall happiness (Diener et al., 1999), all of which extend beyond the economic aspects of life. Further, SWB is predominantly an affective component, which may be influenced by mood and emotions. Non-economic effects, such as marital status and age group (Hayo and Seifert, 2003) typically overshadow economic effects, such as those of income inequality, on SWB. The notion that SWB may not accurately reflect the effects of economic variables has thus gained acceptance. Hence, we argue that perceptions of economic situation, termed subjective economic wellbeing (SEWB) may prove to be a better measure of standard of living (Kahneman et al., 1999), and examining this construct would enable us to better understand the psychological manifestations of income inequality. However, since the underlying concepts are similar, we draw upon the literature on SWB and present our arguments on why income inequality is likely to result in negative SEWB.

Research on the Easterlin paradox and SWB, and literature on psychology and sociology, reveal that people tend to evaluate their economic conditions based on their relative position in the society rather than their absolute income (eg. Jaikumar and Sarin, 2015). Prior research has also shown that this social comparison when faced with high income inequality is likely to have a deleterious effect on economic and social life (eg. Cheung and Lucas, 2016; Gornick and Jäntti, 2014), and health (eg. Lynch et al., 2000; Pickett and Wilkinson, 2015). Additionally, Christen and Morgan (2005) provide empirical evidence for the argument that when income gaps widen, households at the lower end of the distribution become increasingly dissatisfied with their levels of overall material possession in comparison to those at the higher end. Upward social comparison is cited as the main reason for this negative effect of income inequality on socioeconomic perceptions, especially in the low-income segment (Oishi et al., 2011; Schor, 1998; Walasek and Brown, 2015; Wood, 1989). This social comparison, in turn, is accompanied by increasing dissatisfaction with the current economic conditions of the household. Drawing on this work, we argue that rise in income inequality may result in lowered subjective economic wellbeing at the household level. Specifically, we hypothesize that increase in income inequality is likely to result in households feeling worse-off economically than objective measures might suggest.

Conspicuous consumption

Conspicuous consumption is defined as the consumption that may be readily visible or observable by others and may create a perception of one's better economic status in others' minds (Jaikumar et al., 2017; RoyChowdhury, 2017). Prior research has revealed that conspicuous consumption is not just observed in developed economies, but also in emerging economies, especially by those households in the lower rung of the income ladder (eg. Banerjee

and Duflo, 2011; Case et al., 2013; Linssen et al., 2011). Consumers in emerging economies, especially low-income households, resort to consumption of conspicuous goods, sometimes at the expense of basic necessities (Memushi, 2014; van Kempen, 2004), in order to avoid shame and social exclusion (Alkire, 2005). Further, a lack of future orientation may result in households losing self-control and resorting to short term status goals (conspicuous consumption) rather than financial wellbeing in the long-term (savings and education) (Mullainathan, 2007; Lynch and Zauberman, 2006). We argue that this effect is likely to be more pronounced in societies facing high income inequality. Hence, valuable household resources in emerging economies are diverted to conspicuous consumption rather than education and savings (Jaikumar and Sarin, 2015; Mason, 1985) in an attempt to obtain a false sense of economic wellbeing.

Businesses have continued to exploit consumers' inherent need for social comparison and the consequent purchase of status goods, thus promoting status-seeking as an 'acceptable' and perhaps even a desirable form of consumer behavior (Mason, 1985). Through planned social obsolescence of goods, which evokes a need for repeat purchase (Mason, 1985), as well as through manipulative advertising (Villaran, 2017), businesses tend to promote conspicuous consumption in order to boost revenue. These promotional activities by firms have led to a culture of conspicuous consumption, wherein the objective is to elevate status in the eyes of peers rather than accruing functional benefits. Consumers in societies with high income inequality levels may be more susceptible to the status benefits highlighted by firms, as these consumers have a strong social motivation to uphold their status compared to their peers (Alderson and Katz-Gerro, 2016; Cheung and Lucas, 2016; Firebaugh and Schroeder, 2009) and might not find other means to do so. This social motivation may be strong enough to coerce consumers to even purchase counterfeit brands of products with high conspicuous value

(Davidson et al., 2017; Wilcox et al., 2009). Such consumption in emerging economies may result in reduced household resources for other essential expenses. For instance, deprivation may occur in the short term, wherein children may not get necessities due to parents' consumption preferences (Mason, 1985). Further, spending on education and savings for future use may be adversely affected (Jaikumar et al., 2017). The financial impact could go beyond reduction in savings to uptake of credit for the purpose of conspicuous consumption (Christen and Morgan, 2005; Mason, 1985). Hence, it is imperative from an ethics and responsibility perspective that firms better understand the role played by income inequality as an antecedent to conspicuous consumption.

Income Inequality and conspicuous consumption

Prior research on income inequality has revealed that consumers are more likely to resort to conspicuous consumption when income inequality levels rise. For instance, Walasek and Brown (2015) find that, within the U.S., consumers in states with high income inequality search more for conspicuous goods such as expensive jewelry and luxury clothing. This was further corroborated in a cross-national study (Walasek and Brown, 2016). However, this effect is not limited to developed nations. Several studies have shown that consumers in emerging economies are more susceptible to the psychological effects of income inequality (Graham and Felton, 2006), and turn to conspicuous consumption in an effort to 'keep up with the Joneses' (Jaikumar and Sarin, 2015; Linssen et al., 2011). Several characteristics of emerging economies, such as low returns to education (Moav and Neeman, 2012) and lack of access to financial institutions (Basu, 2006; Jaikumar and Sarin, 2015), drive households to engage in conspicuous consumption to attain status among their peers instead of saving, investing, or spending on education. Hence,

in line with prior research findings in emerging economies, we expect increase in income inequality to result in higher household conspicuous consumption.

Conspicuous consumption and SEWB

One of the primary objectives of conspicuous consumption is to signal information about unobservable characteristics such as relative wealth or power (Corneo and Jeanne, 1997; Frank, 1999). By consuming in a conspicuous fashion, the individual or household 'signals' the presence of wealth that they can afford to expend on what might be superfluous objects or luxuries that their less wealthy counterparts might not be easily able to afford. This signaling effect is enhanced in the presence of the phenomenon of 'status competition'. Status competition refers to competition with significant others through the medium of material goods, for the purpose of substantiating one's status claims (Wang and Lin, 2009). In the process of status competition, a significant role is played by what is often termed the 'possession gap' (Ordabayeva and Chandon, 2011). Possession gap denotes the difference between what one owns and what others own. Observed possession gap could lead to social envy and dissatisfaction on the part of groups that are perceived to occupy positions of lower status (Christen and Morgan, 2005; Elster, 1991). Thus, at higher levels of possession gap, spending on status goods is expected to increase in order to overcome the gap through compensatory behavior (Jaikumar and Sarin, 2015). Consequently, the path of conspicuous consumption provides a means of overcoming a lack of other means of signaling status, which are either not visible or accessible, in addition to being unobservable. Under such situations, households 'anchoring' their sense of economic wellbeing on relative income (Layard, 2005) are likely to resort to conspicuous consumption in order to signal status (Jaikumar et al., 2017). For such households, perceptions of economic wellbeing are enhanced through conspicuous consumption. Such an effect has been

found to exist beyond objective indicators of economic wellbeing and economic growth (Jaikumar et al., 2017). Hence we hypothesize that higher conspicuous consumption is likely to result in households feeling better-off economically.

Conceptual framework

In summary, we present our conceptual framework in Figure 1. We expect an increase in income inequality to lower SEWB among households. Further, we hypothesize an increase in income inequality to increase conspicuous consumption. Finally, we expect this increase in conspicuous consumption to have a positive effect on SEWB. In other words, income inequality has – i) a direct negative effect on SEWB, and ii) an indirect suppression effect through its positive impact on conspicuous consumption. After controlling for household characteristics and objective economic indicators (such as household income), a better SEWB resulting from higher conspicuous consumption is an indication that such consumption may have perhaps resulted in a 'false' sense of economic wellbeing (to the extent it does not correspond to objective measures of economic conditions).

[Insert Figure 1 here]

Data and Measures

This study uses a panel of Indian households surveyed by the India Human Development Survey (IHDS) in 2004 and 2011. IHDS 2004 and 2011 were conducted as a joint effort by the University of Maryland and the Indian National Council of Applied Economic Research (NCAER). In the first wave (2004) that covered all states and union territories, 41,554 households across India were surveyed. 1,503 villages and 971 urban areas were covered, to obtain a sample of 27,010 rural and 13,126 urban households (Desai et al., 2005). In the second

wave (2011), 1,420 villages and 1,042 urban areas across the country were covered. The sample consisted of 42,152 households, with 83% of the households being participants of the first wave (Desai and Vanneman, 2011). The two survey waves were merged to create a panel of 34,621 households, resulting in 69,242 observations. All amounts (Indian Rupees) reported in 2011 were converted to 2004 values, using official deflators[6] included in the dataset. Among its merits over other survey waves conducted in emerging economies is the fact that the IHDS panel dataset includes detailed income and consumption information on all households. Thus, the panel with its detailed information is able to provide rich insights into changes at the household level in 2011, compared to 2004.

Operationalization of key variables

Subjective economic wellbeing (SEWB). Subjective economic wellbeing (SEWB) refers to the respondent's perception of how well the household is performing economically, in comparison to the past (reference is the household's own past economic conditions). In line with this definition, the household heads in 2011[7] were asked: 'Compared to 7 years ago [2004], would you say your household is economically doing the same, better, or worse today'. The responses were coded as 1 - worse, 2 - same and 3 - better (increasing order of SEWB - recoded from original responses). We use the response to this question in 2011 as our measure of SEWB and the dependent variable in our empirical analysis. SEWB has been operationalized using the same method in past literature (eg. Jaikumar et al., 2017). Unlike this measure of SEWB, other conventional measures of subjective wellbeing (refer Dolan et al. (2008) and Helliwel et al. (2015) for a detailed discussion) ask respondents to provide a more explicit evaluation of their

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[6] Income and consumption expenses in 2011 survey data were converted to 2004 values using deflators. The deflators are based on CPI (Consumer Price Index) and are month adjusted.
[7] In 2004 also, the same question was posed (comparison period was 10 years – 1994).

wellbeing relative to that of a specific reference group (eg. neighbours) or a particular anchor (eg. Cantrill's ladder). The SEWB measure in the IHDS survey waves explicitly prompted respondents for their economic circumstances in subjective terms, with the assessment being based on their own perceptions of how well they were doing economically, compared to the past. In doing so, we believe it captures an important and distinct economic wellbeing construct hitherto unexplored in the context of an emerging economy.

Income inequality. Income inequality refers to the extent of dispersion of income (distribution of income). As the IHDS survey is representative at the state level, we compute state-level income inequalities in 2004 and 2011. We use Gini coefficient, the most commonly used inequality measure, as an indicator of statistical dispersion of income (income inequality) in a state (the value of the coefficient can range from 0.0 - perfect equality, to 1.0 - total inequality). Since changes in SEWB are referenced to a particular time period (household's perception of changes in economic wellbeing between 2011 and 2004), we compute changes in income inequalities in 2011 compared to 2004 (difference of Gini values for each state). This enables us to examine the impact of increase (decrease) of Gini coefficients on the household's reported SEWB in 2011 (compared to 2004).

While income inequality at the state level is a robust measure of inequality and used in prior research (eg. Jaikumar and Sarin, 2015), one may argue that inequality at state level may not be observed by a household. Instead, inequality at a more disaggregated level, (that of the district in the Indian context) may be more indicative of income distribution that is readily visible to the household. Hence, as further evidence for our hypotheses, we conduct the analysis with income inequality at the district level, as a robustness check to establish the conceptual validity of changes in the income inequality measure.

To construct our measure of changes in income inequality (district level), we followed several steps. First, we use official district identity (from census 2001) to group households into districts (the same classification is used in 2004 and 2011). Second, we dropped the households that reported different district codes in the two periods. 351 households were dropped from further analysis as they reported different districts in 2011 (migrated sometime between 2004 and 2011). As our variable of interest is income inequality (and no other official measure of district level income inequality is available for 2004 and 2011), we construct the district level income inequality with reported income of households. Analysis sample based on changes in income inequality at the district level consists of 34,270 households (68,540 observations).

Conspicuous consumption. The survey captures household consumption information across 47 categories. We follow the classification schemes used in prior research (Jaikumar and Sarin, 2015; Khamis et al., 2012; Roychowdhury, 2017) and classify 12 of these items as conspicuous (listed in Appendix A). In line with our definition of conspicuous consumption, the 12 items meet the following two criteria: (i) be readily visible/observable by others, and (ii) create the perception that households consuming these items are, on average, economically better off than those who consume less of them (Roychowdhury, 2017). We use the amount spent on these 12 items as a measure of visible or conspicuous consumption.

Control variables. Having detailed income, consumption, household composition, education and demographics in 2004 and 2011, allows us to account for a number of household level characteristics in our estimation. For economic measures, we compute the differences (2011 values – 2004 values, both in 2004 real amounts). For instance, we compute Δ household income (2011-2004) as an objective indicator of changes in economic status of the household. We also control for reported changes in SEWB in the years before 2004, thus controlling for any

underlying differences in a household's interpretation of the SEWB measure used by us.

Descriptive measures

We present the summary statistics of household level metrics from 2004 and 2011 in Table 1. In Table 2, we present the changes in income inequality for each of the Indian states in 2011 (compared to 2004) and the corresponding changes in (mean values) of conspicuous consumption and reported SEWB measures. In line with what the conceptual framework suggests, the descriptive statistics suggest that in states with the highest increase in income inequality (Chhattisgarh: .1310 and Delhi: .1212), the increase in conspicuous consumption is also positive and relatively high (Chhattisgarh: Rs. 261 and Delhi: Rs. 679). Further, to present some stylized facts (Table 3), we separate the sample into two groups – households in the states with i) decrease in income inequality in 2011, compared to 2004 (group 1), and ii) increase in income inequality in 2011, compared to 2004 (group 2). We find that the proportion of households reporting better SEWB in 2011 in group 2 (37.70%) is relatively lesser than those in group 1 (40.80%). Further, we find the increase in conspicuous consumption in group 2 (Rs. 295 in 2004 real values) is relatively higher than that in group 1 (Rs. 172 in 2004 real values). However, since conspicuous consumption and subjective economic wellbeing are likely to be influenced by other factors that might also be correlated with inequality, we turn next to our empirical strategy for isolating the relationships between income inequality, conspicuous consumption and subjective economic wellbeing.

[Insert Tables 1, 2 and 3 here]

Empirical strategy

Direct effect of income inequality on SEWB

We employ two approaches in our empirical framework, as our independent variable of interest is operationalized in two ways – changes in income inequality at the state level and at the district level. We utilize the panel nature of our data, and compute changes in income inequality (state/district level), household level changes in income, assets, consumption and education. Our relationship of interest is between changes in income inequality and SEWB. We employ ordered probit model to test our hypotheses using the data from the two survey waves. The three levels of SEWB have a clear hierarchical order (worse, same, better – increasing order). Ordered probit models utilize this additional order information effectively in computing the likelihood of a household reporting each of these responses. Specifically, we estimate:

$$\Pr(y_i > k | \kappa, \delta x_i, \vartheta_i) = \Phi(\delta x_1 \beta_1 + X_i \beta_i \, \vartheta_i - \kappa_k) \tag{1}$$

where $i = 1,..34{,}621$ households, y_i is the SEWB measure for household i in 2011, δx_1 refers to the focal variable - change in income inequality (state/district level), X_i refers to the vector of covariates, ϑ_i are independent and identically distributed $N(0, \sigma^2_\vartheta)$, κ is a set of cutpoints $\kappa_1,…$ κ_{K-1}, where K is the number of possible outcomes (in this case $K=3$ and hence there are only two cutpoints – κ_1 and κ_2), and $\Phi(.)$ is the standard normal cumulative normal distribution function. The response variable y, in this case, may take one of three values (1, 2 or 3), where 1 - worse, 2 - same and 3 – better. We conduct the analysis with multiple sets of controls (X_i)– (1) with just the variable of interest: change in income inequality (state/district), (2) controlling for state/district level changes in mean income and district/state level effects (dummy variable for each state/district), (3) controlling for changes in objective indicators of economic wellbeing:

changes in i) annual income, ii) monthly consumption, iii) household assets[8] and iv) number of years of education (of the most literate member of the household), and (4) controlling for further household characteristics: location (urban/rural, metro city), number of members in the household, SEWB in 2004 and social group[9].

Suppressing (indirect) effect of conspicuous consumption

We now examine the effect of adding another variable – conspicuous consumption – to Equation (1). Specifically, we are interested in examining whether adding this variable helps us clarify the relationship between income inequality and SEWB. Statistical estimation of suppression and mediation (coefficients and standard errors) follow the same procedures. However conceptually, the two (mediation and suppression) are distinct (MacKinnon et al., 2000). In mediational context, the mediator explains part (parital mediation) or full (complete mediation) relationship between the two focal variables. However, a suppression effect would be observed when the direct and indirect effects of an independent variable on a dependent variable have opposite signs – also termed inconsistent mediation (eg. Mackinoon et al., 2000; McFatter, 1979; Tzelgov and Henik, 1991). In our framework (Figure 1), we expect income inequality to have a negative effect on SEWB. However, we expect the magnitude of this negative effect to be reduced when we include the third suppressing variable, namely conspicuous consumption. That is, in suppression context, adding the third variable (conspicuous consumption) is expected to reduce the effect of income inequality on SEWB (MacKinnon et al., 2000). We use two empirical strategies to examine the suppressing (indirect) effect of conspicuous consumption - generalized structural equation modeling (GSEM) and KHB (Karlson, Holm and Breen) method.

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[8] Household assets refers to sum of 30 dichotomous items measuring household possessions and housing quality.
[9] The sample is divided into seven social groups (exclusive) – Brahmins, forward castes, other backward classes, Dalits, Adivasis, Muslims and Christians, Sikhs and Jains.

Generalized structural equation modeling. We use generalized structural equation modeling (GSEM) to assess the suppression (inconsistent mediation) effect, as SEWB is an ordered variable. While we do not have latent or higher order constructs in our framework, we use GSEM as it allows multivariate estimation for outcome variables that are not continuous (refer Palmer and Sterne, 2015; Williams, 2015 for a detailed discussion on GSEM). We specify the relationships between i) income inequality and SEWB, and, ii) conspicuous consumption and SEWB, as ordered probit models. Further, we specify the relationship between income inequality and conspicuous consumption using an OLS (ordinary least squares) model. GSEM estimates the coefficients of all three paths in the model specified in Figure 1.

KHB method. Traditional suppression (mediation) method would involve estimating the ordered probit model (Eqn. 1 - uncontrolled) on the effect of income inequality (independent variable, x) on SEWB (dependent variable, y). Then, conspicuous consumption (control variable, z) is included as an additional variable (controlled). Finally, the coefficients in the uncontrolled and controlled models are compared to estimate the effect of adding the control variable z (Iacobucci, 2012). However, including a control variable, z, in an ordered probit model would anyways alter the coefficient of x, whether or not z has any influence on x (adding a variable that has an influence on the dependent variable would result in reduction of error variance). The problem arises because in ordered probit (and also logit and probit) model, the coefficients from the two models are not measured on the same scale and hence, not directly comparable. To address this issue, Karlson et. al (2012) developed the KHB method to arrive at unbiased comparisons of ordered probit coefficients of the same variable, after including control or mediating variables. The method partitions the differences in coefficients into two components – i) part attributable to the suppression (mediation) effect, and ii) part attributable to the change in

scale of the coefficient. This method is also found to outperform other approaches, such as y-standardization (eg. Long, 1997) and average partial effects (Wooldridge, 2002). The KHB method decomposes the total effect of income inequality into its direct effect on SEWB and its indirect effect (suppression via conspicuous consumption).

Results

Direct effect of income inequality on SEWB

The results of the random-effects ordered probit regression are presented in Table 4. In columns 1 to 4, the independent variable of interest is the state level income inequality whereas in columns 5 to 8, the independent variable of interest is the district level income inequality. In column 9, we present the results (with all control variables) after dropping all districts with less than 100 households in the panel. Consistently the results indicate that the effect of a change in income inequality on SEWB is negative and significant.

[Insert Table 4 here]

Marginal effect of state level income inequality. Across columns 1 to 4, the effect of income inequality is found to be consistently negative and significant. To examine the effect, we compute the predicted probabilities of reporting the SEWB values, when there is a 1% change in income inequality. The semi-elasticity measures (changes in probability of reporting different SEWB values, for a 1% change in income inequality) based on the results of the full model (column 4 in Table 4) are presented in Table 5. We find that 1% increase in Δ income inequality results in 8.6% lesser probability of reporting 'better' SEWB, but increases the probability of reporting 'worse' (3.6%) and 'same' (5%) SEWB values. Overall, the results support our hypothesis that increases in income inequality have a detrimental effect on SEWB.

22

Marginal effect of district level income inequality. As the results are consistent irrespective of the sample used (all districts – column 8 and districts with at least 100 households – column 9), we discuss the results with all districts (column 8 in Table 4). Consistently, the coefficient of change in income inequality is found to be negative and significant. The predicted probabilities (semi-elasticity) for 1% change in Δ income inequality is presented in Table 5. As expected, the effect sizes are lower (as Δ income inequality is at the district level). However, the predicted probabilities are in the same direction as reported earlier with Δ income inequality at the state level.

[Insert Table 5 here]

Suppressing (indirect) effect of conspicuous consumption

Generalized structural equation modeling. Results of the GSEM model (after including all control variables) are presented in Table 5a. We also illustrate results using state level income inequality in Figure 2a and discuss the coefficients. As expected, we find the direct effect of income inequality on SEWB to be negative and significant (ordered probit model, p<.05). We also find the effect of income inequality on conspicuous consumption to be positive and significant (OLS regression coefficient is 1,352.79, p<.05). Finally, we find the effect of conspicuous consumption on SEWB to be positive and significant (ordered probit model, p<.05). Overall, results from GSEM support our hypotheses.

KHB method. Results of the framework using the KHB method is presented in Table 5b. We also illustrate results using state level income inequality in Figure 2b and discuss the coefficients. As expected, we find the direct effect of income inequality on SEWB to be negative and significant (-.913, p<.05). We find that conspicuous consumption has a suppression effect, as

the indirect effect is positive and (marginally) significant (.006, p<.10). Overall, results from KHB method also support our hypotheses.

[Insert Table 6 and Figure 2 here]

Post-hoc comparison of low-income vs. high-income households

As post-hoc analysis, we also examine the framework in Figure 1 for low-income and high-income households separately. We separate the households in our sample into low-income and high-income based on state level median split of income in 2004. Results of GSEM and KHB approaches are presented in Table 7. From GSEM results, we find that, while the negative effect of income inequality (state) on SEWB is prevalent in both low-income and high-income households, the positive suppressing effect of conspicuous consumption on SEWB is significant only for the low-income households. Similarly, the KHB results indicate that the direct effect of income inequality (state) on SEWB is negative and significant for both groups of households. However, the indirect suppressing effect is significant only for the low-income households. While this finding requires further empirical validation[10], the results suggest that the suppressing effect of conspicuous consumption may be primarily driven by the responses of low-income households to income inequality. In other words, low-income households may be more susceptible to perceiving a false sense of economic wellbeing as a result of consuming more conspicuous goods, as suggested by prior research (Jaikumar et al., 2017).

[Insert Table 7 here]

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[10] A thorough empirical validation of this difference between low-income and high-income households would involve a moderated mediation framework, where in each of the relationships in Figure 1 is moderated by income group of the household. Such an analysis is beyond the scope of the current research work and we present the low-income vs. high-income comparison as a preliminary finding.

Robustness test: Propensity score matching of districts in 2004

To ensure robustness of our results, we separate the districts into two groups – i) decrease in income inequality in 2011 (Δ income inequality is negative), and, ii) increase in income inequality in 2011 (Δ income inequality is positive). The summary statistics of the two groups of districts in 2004 are presented in Table 7 (first 2 columns). The measures indicate that there are several differences between the groups of districts in 2004 and that they are not comparable. To eliminate non-comparability of districts in 2004, we employ propensity score matching (Smith and Todd, 2008) at the district level. Specifically, we compute the propensity score for each district for whether income inequality will decrease (control) or increase (treated) using the following covariates: average district income in 2004, average consumption per capita in 2004, income inequality (district level) in 2004, number of households below poverty line in 2004 and sample size. We use probit model to compute propensity scores and 'nearest neighbor' matching with a caliper of .01 to match the districts (Dehejia and Wahba, 2002). After matching, we have 63 districts in the 'decrease' condition and 108 districts in the 'increase' condition. On average, the two groups have similar propensity scores (balance of the two groups and balance of the covariates are presented in Figures 3a and 3b respectively, and covariate averages are presented in Table 7 – last 2 columns). The matched sample has 16,835 households (6,182 households that experienced a decline in income inequality and 10,653 that experienced an increase). We redo the analysis to estimate the impact of an increase vs a decrease in income inequality. As expected, we find the effect of district level income inequality on SEWB to be negative and significant[11]. Using the households in the matched sample of districts, we estimate the suppression effect of conspicuous consumption using GSEM and KHB methods. We find the

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[11] Available on request.

results to be consistent with those presented earlier[12]. Further, the pattern of results is consistent when we do the analysis for low-income and high-income households separately. Overall, we find strong empirical support for our conceptual framework.

[Insert Table 8, Figure 3 here]

General discussion

Inequality has been called as "one of the primary causes for an erosion of public trust in capitalism" (Barton et al., 2016, p.323). The adverse effects of inequality on health (Mayer and Sarin, 2005) and education, besides other social outcomes are well documented (Basu and Stiglitz, 2016). We suggest a new pathway, and one that is particularly relevant for business, through which income inequality promotes behavior inimical to social stability. Our results suggest that increased inequality makes households feel worse off economically as well as increase conspicuous consumption. We demonstrate that increased conspicuous consumption induced by inequality is associated with households feeling better off economically than they actually are. By suppressing the adversarial effect of income inequality on subjective economic wellbeing, conspicuous consumption, among other things, serves as a compensation measure being used by households otherwise made worse off by inequality. Preliminary results also indicate that, while the negative effect of income inequality on SEWB may be present for all households, the suppressing effect of conspicuous consumption may be prevalent primarily among low-income households. Our findings have significant theoretical and managerial implications.

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[12] Available on request.

Theoretical implications

In this work, we point to income inequality as an important determinant of subjective economic wellbeing, with conspicuous consumption being a suppressing variable. First, by conceptually developing a framework and empirically validating the same, we further our understanding of the psychological manifestations of inequality, the study of subjective economic wellbeing and the dilemmas posed to business in environments of increasing inequality. Our conceptual framework brings together research on conspicuous consumption to bear upon the link between income inequality and SEWB. The role of conspicuous consumption as a coping mechanism under high income inequality brings in the management perspective that is largely absent in inequality theorizing. Prior research has suggested that conspicuous consumption prompted by social comparison (Cheung and Lucas, 2016; Firebaugh and Schroeder, 2009) is an important consequence of high income inequality (Christen and Morgan, 2011; Jaikumar and Sarin, 2015). Current research extends our understanding on how this increase in conspicuous consumption has a suppressing effect on the negative impact on SEWB, thus raising SEWB independent of objective economic status.

Second, our work contributes to the domain of wellbeing by examining how an economic variable such as income inequality affects perceptions of economic wellbeing. Prior research on the implications of inequality on wellbeing has focused on life satisfaction and happiness (eg. Alesina et al., 2004; Berg and Veenhoven, 2010). As the review by Schneider (2016) points out, the theoretically ambiguous measures of wellbeing that encompass both economic and non-economic effects may lead to misleading interpretations of research results. We use a specific measure of subjective wellbeing - own perceptions of changes in economic status termed subjective economic wellbeing, and relate that to changes in income inequality while controlling

for actual changes in economic status. In doing so, we contribute to the theoretical clarification of the elements of wellbeing that are related to income inequality.

Third, prior literature has studied materialism in the context of marketing's social responsibility (Muncy and Eastman, 1998), the link between materialism and happiness (Dyan and Ravina, 2007; Nepomuceno and Laroche, 2017), and the impact of materialism on counterfeit purchase (Davidson et al., 2017). This stream of research has focused on happiness, whereas perceptions of economic wellbeing are distinct and may influence several decisions that have long-term impact on financial health of the household. In this context, our findings indicate the role of conspicuous consumption in providing households a false sense of SEWB (even after accounting for objective measures of economic welfare). Insofar as materialism involves consumption for its inherent pleasure, the findings of the current research add to the marketing and social responsibility stream of research.

Finally, there has been a strong plea in literature for businesses to incorporate moral economics and ethics (Kohls and Christensen, 2002; Tsalikis and Fritzsche, 1989), and to take into consideration national wellbeing (Ip, 2010). In this respect, this paper highlights the kind of role that businesses can take upon themselves as they strive to be ethical in their marketing and related practices. Some of the avenues for exploration as exhorted by Kohls and Christensen (2002) and others, include reducing promotion of products as status goods and engaging in appropriate CSR activities that compensate for the emphasis on luxury/status.

Managerial implications

Our results suggest that households turn to conspicuous consumption when facing high income inequality, which in turn, induces a 'false' sense of economic wellbeing. This finding has

significant implications for firms in terms of product promotion practices, especially in emerging economies with rising levels of income inequality. Extant research shows how manipulative advertising (Villaran, 2017) by firms can lead to increased perception of brands as signals of status. Such advertising encourages conspicuous consumption for the purpose of displaying and enhancing status. One way firms could reduce promotion of conspicuous consumption is through lower 'brand prominence' (Han et al., 2010). Brand prominence refers to the extent of visibility or conspicuousness of the brand logo on the product. In reducing brand prominence, the brand's logo is presented less conspicuously on the product, and is more visible to the owner than to an observer. Given the findings of this paper and that of other research (eg. Charles et al., 2009) showing how conspicuous consumption is used as a visible indicator of (desired) social status, it is important for firms to design products in a manner that reduces extreme emphasis on brands at the cost of highlighting functional benefits. Further, firms could also focus on catering to the emerging markets through affordable luxury products (Silverstein and Fiske, 2003) that answer the consumers' needs without overemphasizing status. In terms of design, luxury businesses are already finding ways to engage in CSR activities that are beneficial to society, such as by reusing material from unsold products (Janssen et al., 2014). Such activities need to gain momentum.

At a broader level, firms need to go beyond transactional and relationship marketing, and engage in wellbeing marketing. In wellbeing marketing, the core is consumer wellbeing and the focus is on the consumer's life satisfaction (Sirgy and Lee, 2008). Wellbeing marketing refers to the adoption of marketing strategies focusing on improving consumer wellbeing through the consumer and product life cycles. This requires extending beyond long-term relationships with target consumers, and linking the consumer's satisfaction with his or her overall life satisfaction

(Sirgy and Lee, 2008). This is possible when firms are ethical in their promotion of products as status goods, taking into consideration the effect that such promotion can have in the form of conspicuous consumption. Firms need to be especially cognizant of how consumers' attitudes towards marketing contribute to not just overall wellbeing, but perceptions of economic wellbeing as well.

Finally, considerations regarding conspicuous consumption are even more important in the case of low-income consumers who might be cognitively less able to cope with and hence less able to arrive at suitable consumption decisions in the face of marketing communication (Mani et al., 2013). Poverty has been indicated to affect consumption through psychological mechanisms (Chakravarti, 2006). The poor have also been viewed as relatively more vulnerable consumers whose consumption choices might not reflect their true desires, while reflecting their immediate contingencies and compulsions (Karnani, 2009). Conspicuous consumption is found to be the coping mechanism when faced with high income inequality, particularly for low-income households, as evidenced in this study as well as in prior research (eg. Jaikumar et al., 2017). In these low-income households, conspicuous consumption might take place at the cost of expenses towards necessities (Mason, 1985) or other long-term investments such as savings and education. This may result in a vicious cycle of the poor remaining poor in the long-term and contributing to further increases in inequality (Jaikumar and Sarin, 2015). Hence, the findings of this paper gain more significance in the case of lower income groups. Here, social marketing can play a significant role in raising awareness and empowering households against the harmful effects of conspicuous consumption aimed at improving one's own perceptions of economic wellbeing.

Limitations and further research

While we believe our work points to an important arena for further research, we acknowledge its limitations and point to future directions. Further worker is needed to sharpen our understanding of the mechanisms by which income inequality affects subjective economic wellbeing and other adverse consequences that emerge. We point to one important coping mechanism, the increase in conspicuous consumption but there are likely others as well that remain unexplored. Theoretically and empirically, there is a need to better understand the societal implications of conspicuous consumption. Given that we find conspicuous consumption to be 'positively' compensating for households left worse off by inequality, does that imply conspicuous consumption should be looked at positively for its psychological benefits? How sustainable is this feeling of being better off, given that it seems to exist independently of actual economic status (which we control for)? What are the long-term implications for households engaging in conspicuous consumption and societies they live in?

The current study also emphasizes the need for organizations and management scholars to further contribute to research on income inequality and its effects. As Beal and Astakhova (2017) highlight, it is essential to acknowledge that business practices might lead to a rise in income inequality, and hence, it is important to theorize causal links between income inequality and business practices. It would then become possible for businesses to consider corrective action. Such action often necessitates a macromarket perspective and an understanding of the role of organizations in increasing income inequality.

Finally, our findings are based on a specific emerging economy context. The question of whether our results are specific to the culture, social thought and distinguishing attributes of

India, which is itself undergoing a rapid phase of transition (Roberts, 2017), needs further empirical analysis. Given that increasing income inequality is a global phenomena, we hope our work will provoke similar inquiries in other contexts as well.

Compliance with Ethical Standards

Ethical approval: This article does not contain any studies with human participants or animals performed by any of the authors.

Informed consent: The study uses secondary data from India Human Development Surveys (IHDS 2004 and 2011) conducted by University of Maryland, US and the National Council of Applied Economic Research (NCAER), India. The IHDS website has clearly mentioned that data was collected after informed consent was obtained from all participants included in the study.

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Figure 1   Conceptual Framework

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                         ┌─────────────────────────────┐
                         │  Conspicuous consumption    │
                         └─────────────────────────────┘
                    (+)                          (+)
                              (+) Indirect effect
                          (suppression of direct effect)

┌──────────────────────┐                        ┌──────────────────────┐
│  Income inequality   │──── (-) Direct effect ─▶│  Household SEWB       │
└──────────────────────┘                        └──────────────────────┘
```
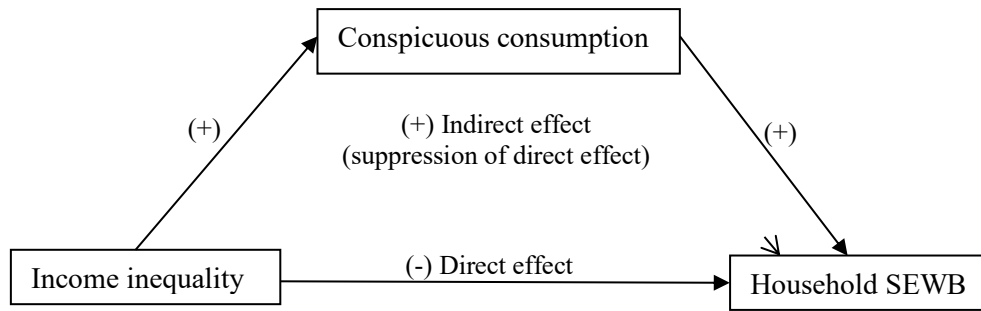
Figure 2   Results from generalized structural equation modeling

a. Results from generalized structural equation modeling

Conspicuous consumption

Controls

5.68 e-6***
(1.78 e-6)

OLS

1,352.79***
(452.139)

Ordered probit

Income inequality

-16.131***
(6.215)

Ordered probit

Household SEWB

b. Results from the KHB method

Conspicuous consumption

Controls

Indirect suppression effect **.006*****
(.004)

Income inequality

Direct effect **–.919***
(.145)

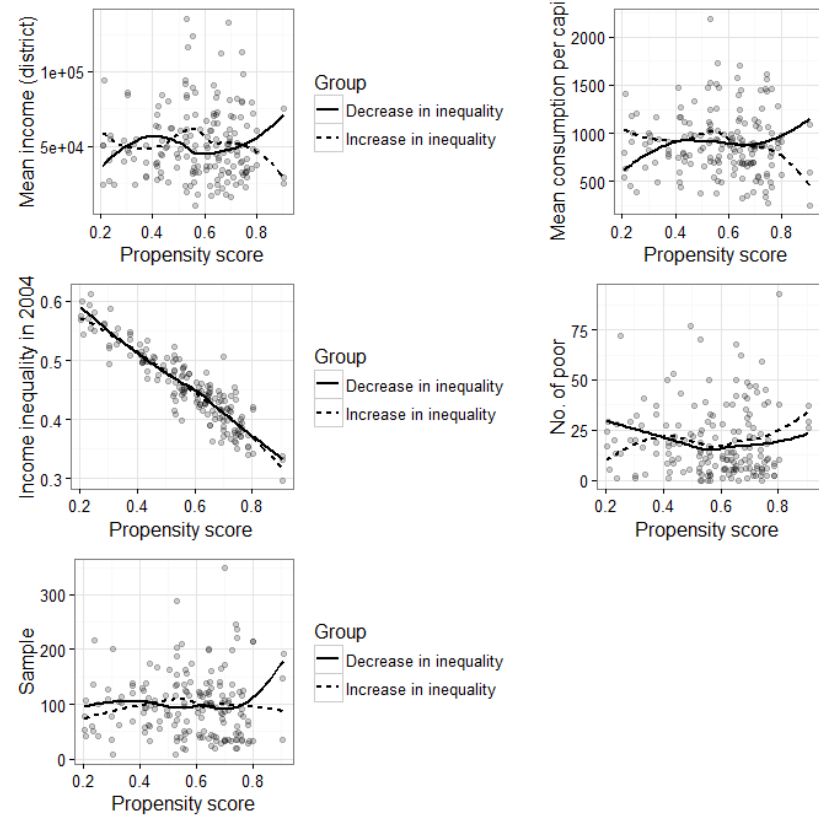Household SEWB
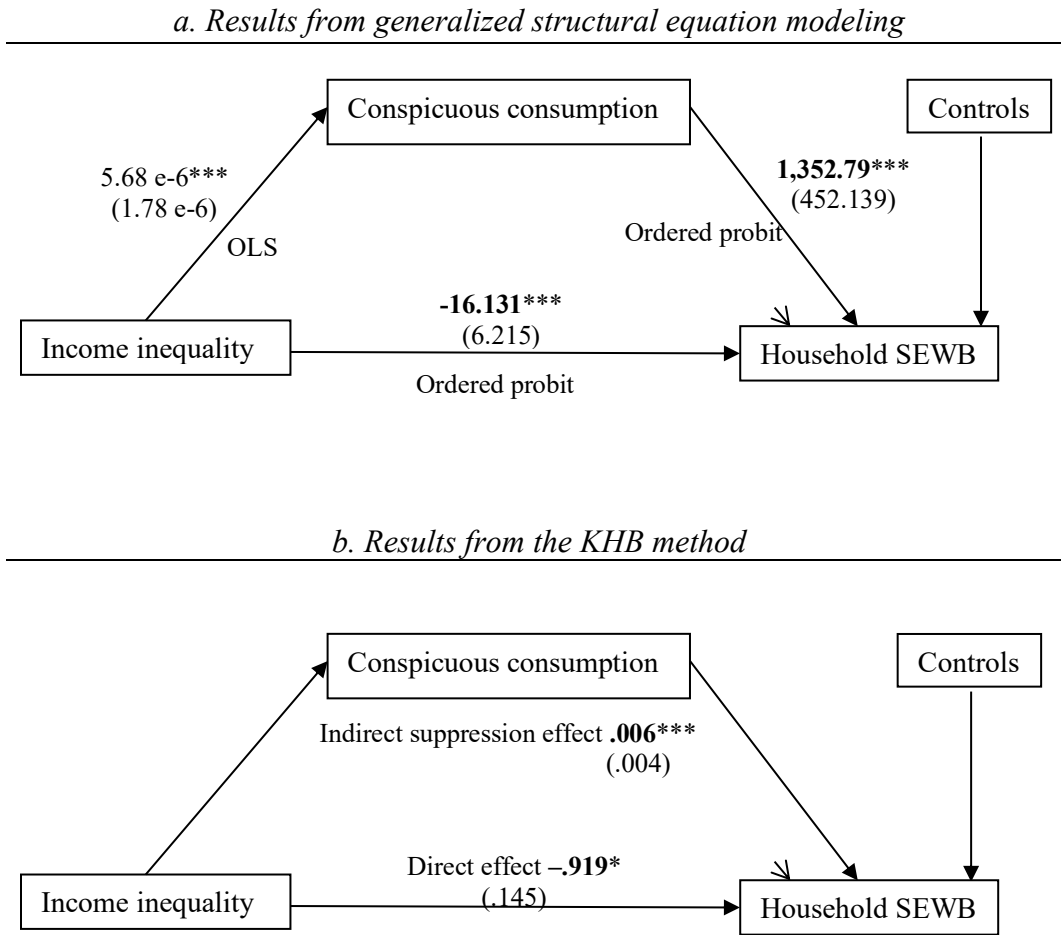
Notes:
Standard errors in parentheses
*** p<0.01, ** p<0.05, * p<0.1

Figure 3   Propensity scores and balance of covariates for the two district groups

a. Propensity score distribution (before and after matching)   b. Balance of covariates after matching
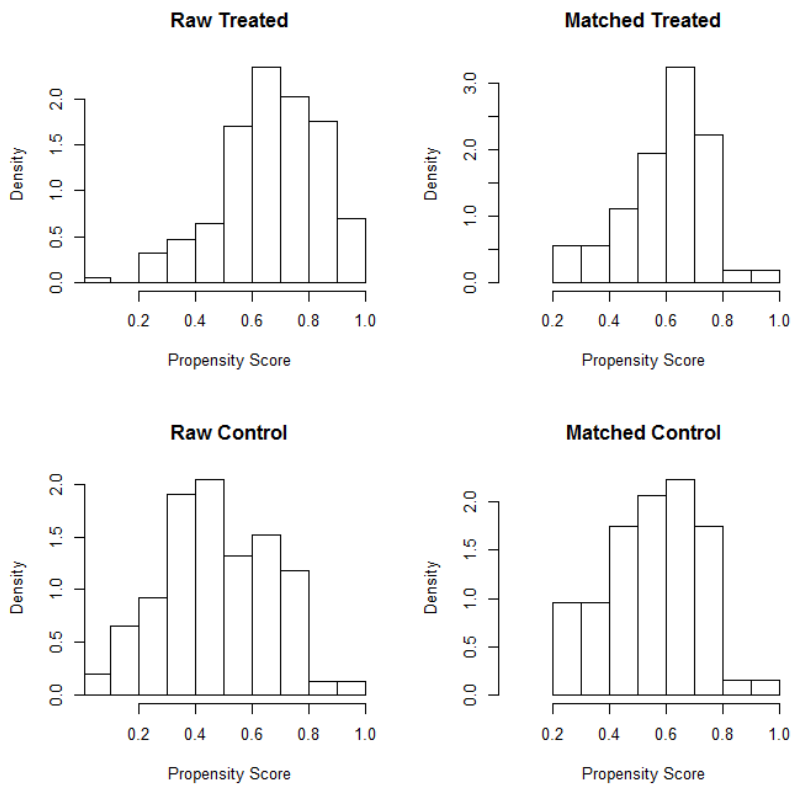
Table 1   Descriptive measures: Household characteristics

a. Time invariant characteristics		
	Mean	Standard deviation
Location of the household		
Urban	.308	.462
Rural	.692	.462
Social group of the household[a]		
Brahmin	.054	.225
Forward caste	.164	.371
OBC[b]	.346	.476
Dalit	.209	.407
Adivasi	.084	.277
Muslim	.110	.313
Christain / Sikh / Jain	.033	.178

b. Time variant measures				
	2004		2011	
	Mean	Standard deviation	Mean	Standard deviation
Conspicuous consumption (Rs.)[c]	808	2,333	1,055	3,186
Household annual income (Rs.)[d]	51,213	77,454	71,889	122,921
Monthly consumption (Rs.)[e]	4,154	4,116	5,434	5,493
Education[f]	7.364	5.043	8.209	5.058
Number of households	34,621			
Observations	69,242			

Notes:
a – The sample is divided into seven social groups (exclusive)
b – Other backward castes
c – Monthly expenses on 12 consumption items classified as conspicuous goods
d – Total annual income of the household from all sources (farming, salary, business, etc)
e – Total monthly consumption expenses of the household
f – Number of years of education of the most literate person in the household

Table 2   State level descriptive measures

State	Δ Income inequality	Δ Conspicuous consumption	SEWB in 2011		
			1-worse	2-same	3-better
Andhra Pradesh	.0119	756	11.21%	55.40%	33.39%
Assam	.0207	441	5.60%	64.25%	30.15%
Bihar	-.0151	112	16.65%	54.29%	29.06%
Chhattisgarh	.1310	261	5.75%	67.56%	26.69%
Delhi	.1212	679	8.22%	43.56%	48.22%
Gujarat	.0391	510	6.65%	49.49%	43.86%
Haryana	.0764	168	12.12%	48.83%	39.05%
Himachal Pradesh	.0361	-536	2.32%	51.36%	46.33%
Jammu and Kashmir	-.0095	982	17.45%	39.90%	42.65%
Jharkhand	.0155	117	10.16%	35.64%	54.20%
Karnataka	-.0453	261	10.13%	43.85%	46.02%
Kerala	-.0378	504	10.55%	41.64%	47.81%
Madhya Pradesh	.0420	434	8.56%	66.57%	24.87%
Maharashtra and Goa	.0041	-55	9.19%	45.47%	45.34%
Northeast	.0100	357	5.86%	55.93%	38.21%
Orissa	-.0308	-39	12.70%	47.86%	39.43%
Punjab	.0244	586	8.30%	48.17%	43.53%
Rajasthan	.0351	444	11.03%	57.92%	31.04%
Tamil Nadu	-.0212	82	11.14%	45.27%	43.59%
Uttar Pradesh	-.0177	30	8.94%	54.47%	36.59%
Uttarakhand	.0541	-16	12.38%	42.08%	45.54%
West Bengal	.0544	165	14.99%	49.33%	35.69%

Table 3   Comparison of states with increase vs. decrease in income inequality

	Group 1[a]			Group 2[b]		
	2004	**2011**	**Difference (Δ)**	**2004**	**2011**	**Difference (Δ)**
SEWB						
1-worse	15.60%	11.10%	**-4.50%**	13.70%	9.40%	**-4.30%**
2-same	35.10%	48.20%	**13.10%**	38.80%	52.90%	**14.10%**
3-better	49.30%	40.80%	**-8.50%**	47.50%	37.70%	**-9.80%**
Conspicuous consumption (Rs.)	884	1,056	**172**	758	1,053	**295**
Annual income (Rs.)	47,039	65,952	**18,913**	53,967	75,805	**21,838**
Monthly consumption (Rs.)	4,154	5,341	**1,187**	4,154	5,495	**1,341**
Education	7.42	8.28	**0.86**	7.33	8.16	**0.83**

Notes:

Descriptive measures of households in the states where income inequality

a – decreased in 2011 (compared to 2004)

b –increased in 2011 (compared to 2004)

Table 4 Effect of changes in income inequality on SEWB

Explanatory variables	State level income inequality				District level income inequality				
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)[a]
Δ Income inequality[b]	-.797***	-21.193***	-19.942***	-16.676***	-.036	-.328***	-.204***	-.165**	-.206*
	(.137)	(6.008)	(6.039)	(6.232)	(.075)	(.078)	(.079)	(.080)	(.108)
Δ Mean income[c]		.000***	.000***	.000***		.000***	.000***	.000***	.000***
		(.000)	(.000)	(.000)		(.000)	(.000)	(.000)	(.000)
Δ Household income			.000***	.000***			.000***	.000***	.000***
			(.000)	(.000)			(.000)	(.000)	(.000)
Δ Household consumption			.000***	.000***			.000***	.000***	.000**
			(.000)	(.000)			(.000)	(.000)	(.000)
Δ Household assets			.038***	.042***			.039***	.043***	.043***
			(.002)	(.002)			(.002)	(.002)	(.002)
Δ Education			.006***	.005***			.006***	.005***	.004**
			(.002)	(.002)			(.002)	(.002)	(.002)
Urban (1=yes)				.178***				.172***	.183***
				(.015)				(.014)	(.019)
Metro (1=yes)				.107***				.017	.021
				(.029)				(.026)	(.030)
No. of household members				.036***				.033***	.036***
				(.003)				(.003)	(.003)
SEWB 2005				.228***				.249***	.242***
				(.009)				(.009)	(.011)
κ1	-1.290***	-1.216***	-1.095***	-.510***	-1.276***	-1.208***	-1.109***	-.540***	-.528***
	(.009)	(.038)	(.039)	(.061)	(.009)	(.011)	(.012)	(.046)	(.055)
κ2	.270***	.363***	.513***	1.140***	.287***	.359***	.487***	1.102***	1.116***
	(.007)	(.038)	(.038)	(.061)	(.007)	(.009)	(.010)	(.046)	(.055)
No. of households	34,031	34,031	34,031	33,989	33,683	33,683	33,683	33,641	21,924
State effects		✓	✓	✓					
District effects						✓	✓	✓	✓
Social group				✓				✓	✓

Notes:
Standard errors in parentheses
*** p<0.01, ** p<0.05, * p<0.1
a – Districts with sample size less than 100 in the panel are dropped
b – Independent variable of interest in – i) columns 1 – 4: income inequality at the state level, ii) columns 5-9: income inequality at the district level
c – Control variable in – i) columns 1 – 4: change in mean state income, ii) columns 5-9: change in mean district income

Table 5   Semi-elasticity: Predicted probabilities for 1% increase in income inequality

	Marginal effect of 1% increase in Δ income inequality	
	State level income inequality[a]	District level income inequality[b]
1 - 'worse'	.036***	.0004**
	(.013)	(.0002)
2 - 'same'	.050***	.0005**
	(.019)	(.019)
3 - 'better'	-.086***	-.0009**
	(.032)	(.032)

Notes:
Standard errors in parentheses
*** p<0.01, ** p<0.05, * p<0.1
The covariates are at the mean level
a – Semi-elasticity computed based on results in column 4 of Table 2
b – Semi-elasticity computed based on results in column 8 of Table 2

Table 6   Suppression effect of conspicuous consumption

a. GSEM estimates	(1)	(2)
Direction of effect		
Δ Income inequality[a] → SEWB	-16.131***	-.252***
	(6.216)	(.080)
Δ Income inequality[a] → CC[b]	1,352.793***	1,090.703***
	(452.139)	(248.522)
CC[b] → SEWB	5.68e-6***	4.80e-6***
	(1.78e-6)	(1.76e-6)
Control variables	✓	✓

a. KHB estimates	(1)	(2)
Decomposition		
Full	-.919***	-.289***
	(.145)	(.079)
Reduced (direct)	-.913***	-.284***
	(.145)	(.079)
Difference (indirect - suppression)	.006*	.005**
	(.004)	(.002)
Control variables	✓	✓

Notes:
Standard errors in parentheses
*** p<0.01, ** p<0.05, * p<0.1
(1) – Model using state level income inequality
(2) – Model using district level income inequality
a – Independent variable of interest in – i) column 1: income inequality at the state level, ii) column 2: income inequality at the district level
b – Conspicuous consumption (in 2004 real Rs.)

Table 7   Low-income vs. high-income households

	State level income inequality		District level income inequality	
a. GSEM estimates	(1)	(2)	(1)	(2)
Direction of effect				
Δ Income inequality[a] $\rightarrow$ SEWB	-15.974*	-15.215*	.052	-.584***
	(8.692)	(8.968)	(.112)	(.117)
Δ Income inequality[a] $\rightarrow$ CC[b]	226.997*	2485.618***	429.444*	1813.495***
	(430.528)	(796.734)	(233.044)	(446.000)
CC[b] $\rightarrow$ SEWB	1.70e-5***	2.50e-6	1.48e-5***	2.05e-6
	(3.93e-6)	(2.03e-6)	(3.87e-6)	(2.01e-6)
Control variables	✓	✓	✓	✓
a. KHB estimates	(1)	(2)	(1)	(2)
Decomposition				
Full	-.425**	-1.367***	.014	-.646***
	(.206)	(.206)	(.110)	(.115)
Reduced (direct)	-.417**	-1.363***	.025	-.642***
	(.206)	(.206)	(.110)	(.115)
Difference (indirect – suppression)	.008**	.004	.012**	.003
	(.004)	(.005)	(.005)	(.003)
Control variables	✓	✓	✓	✓

Notes:
Standard errors in parentheses
*** p<0.01, ** p<0.05, * p<0.1
(1) – Low-income households (below state level median income in 2004)
(2) – High-income households (above state level median income in 2004)
a – Independent variable of interest in – i) column 1: income inequality at the state level, ii) column 2: income inequality at the district level
b – Conspicuous consumption (in 2004 real Rs.)

Table 8   Balance of covariates before and after matching

	All districts		After matching	
	Group 1[a]	*Group 2[b]*	*Group 1[a]*	*Group 2[b]*
Distance[c]	.67	.47	.60	.60
Mean income (district)	50,074	51,743	52,627	50,024
Mean COPC (district)	864	895	897	902
Income inequality (Gini-district)	.415	.487	.446	.448
Number of poor	19	20	19	19
Sample	91	95	99	100

Notes:

Descriptive measures of households in the districts where income inequality

    a – decreased in 2011 (compared to 2004)

    b –increased in 2011 (compared to 2004)

c – Overall distance measure among districts based on covariates included in the propensity score model

Appendix A - Conspicuous items

Items	Easily observable (% respondents reporting)	Income elasticity ≥ 1 (% respondents reporting)
Personal transport equipment	52.83	31.37
Footwear	39.42	23.30
Vacations	33.02	48.08
Furniture and fixtures	32.08	25.24
Social functions	28.85	35.92
Repair and maintenance	27.36	22.12
House rent	25.71	25.96
Entertainment	23.81	50.49
Clothing and bedding	23.81	27.18
Jewelry and ornaments	22.86	53.40
Recreation goods	20.95	45.63
Personal goods	20.95	44.12

Source: Khamis et al. (2012)