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Abstract

Although research in entrepreneurship has examined its pecuniary and non-pecuniary benefits in advanced economies, the rewards of entrepreneurship are under-researched in emerging economies, as is a focus on the household as the unit of analysis. We study the relationship between entrepreneurship and objective (household income and consumption) and subjective economic wellbeing in emerging markets, where a majority of entrepreneurs belong to households that have low to middle income. Using unique panel data of Indian households, we find that starting an enterprise in these markets can lead to multiple benefits for a household, such as positive effects on household income, household consumption, and subjective assessment of economic wellbeing.

Keywords: emerging market, entrepreneurship, economic wellbeing, subjective economic wellbeing, entrepreneurship and development, India human development survey

JEL Codes: D12 (Consumer Economics: Empirical Analysis), I31 (General Welfare, Well-Being), J24 (Human Capital • Skills • Occupational Choice • Labor Productivity), L26 (Entrepreneurship)

1. Introduction

In recent years, research on entrepreneurship has shifted from a focus on the personality of entrepreneurs to a focus on the entrepreneurial process as an interaction of situational, social, cultural and economic factors. In this light, studies have given importance to both the pecuniary gains (e.g. Hamilton, 2000) and non-pecuniary rewards (e.g. Hurst and Pugsley, 2011) from entrepreneurship. However, research in this domain has focused on entrepreneurs in advanced economies with less focus on emerging markets (e.g. Viswanathan et al., 2010). Emerging markets are becoming major economic forces globally, and entrepreneurship has a crucial role in their economic development (Bruton et al., 2008). A unique feature of emerging markets is that the majority of entrepreneurs belong to low to middle income categories (Gindling and Newhouse, 2014; Prahalad, 2005), and the objective and subjective economic wellbeing of the households are closely tied to entrepreneurship. However, there is paucity of research that examines this multifaceted nature of economic gains from entrepreneurship, particularly in emerging markets, and with households as the unit of analysis.

Prior work on financial rewards to entrepreneurship has predominantly used measures such as self-employment income (e.g. Blanchflower and Shadforth, 2007). However, entrepreneurial rewards are multidimensional and self-employment income estimates may not accurately capture the benefits (Carter, 2010). There is also a rich literature in the context of developed economies that has explored non-pecuniary benefits of entrepreneurship such as job satisfaction, autonomy, flexibility and upward mobility of the individual entrepreneurs (Astebro et al., 2014; Blanchflower, 2004; Blanchflower and Oswald, 2004; Shane, 2008; Wasserman, 2017; Quadrini 2000) and positive effect of entrepreneurship on household savings (Gentry and

Hubbard, 2004). In this light, it is argued that the economic gains from starting an enterprise should encompass the subjective economic outcomes (e.g. higher living standards, sense of economic well-being) in addition to the immediate and objective economic gains from entrepreneurship (Carter, 2010). As discussed above, in the context of emerging economies, entrepreneurship is a means for improving household wellbeing, both objective economic wellbeing (i.e., income and consumption) and subjective economic wellbeing. To our knowledge there is virtually no empirical research in the context of emerging markets that has explored how starting an enterprise impacts the objective and subjective wellbeing of the household.

However, research on non-pecuniary benefits of entrepreneurship is limited to the various spheres of job satisfaction and autonomy, and not extended to examine overall household subjective wellbeing.

From the household's perspective in emerging markets, entrepreneurship is a means for not just better income, but also to meet the imminent consumption needs of the households.

Using a household panel data from India, and examining the relationship between starting an enterprise and household income, consumption, and subjective economic wellbeing, we contribute to the literature on entrepreneurship in emerging markets and also to the entrepreneurship literature in general. We argue that starting an enterprise in these markets can lead to objective and subjective economic benefits for a household. We find that starting an enterprise has a positive effect on household income and consumption. We also demonstrate that starting an enterprise can enhance the subjective perception that the household is economically faring better, even after accounting for the economic gains associated with entrepreneurship. Further, we examine the economic rewards of entrepreneurship to low income households, where

the primary motivation of entrepreneurship is the 'necessity' of meeting household consumption needs (Viswanathan et al., 2010; Reynolds et al., 2001). We find that the positive effects of entrepreneurship on objective and subjective economic wellbeing are relatively higher for low income households.

The rest of the paper is organized as follows. We first provide a brief overview of the key features of entrepreneurship in emerging markets and develop hypotheses on the effect of starting an enterprise on objective (income and consumption) and subjective indicators of economic wellbeing in these markets. Next, we present the empirical methodology and results. Finally, we discuss the theoretical and practical implications of our findings.

2. Conceptual Background and Hypotheses Development

Emerging markets are low income countries that are growing rapidly through economic liberalization (Hoskisson et al., 2000). Due to the transitionary nature of their economic system, emerging markets have high institutional uncertainties and a relatively higher proportion of low to middle income households compared to developed countries (Tracey and Phillips, 2011). Under such conditions, entrepreneurship is one of the preferred types of employment in emerging markets (Peng, 2001). This has been highlighted in the literature on the 'bottom of the pyramid' (e.g. Prahalad, 2005), and subsistence marketplaces and informal markets (e.g. Viswanathan et al., 2010). Further, a study on self-employment revealed that nearly half the workers are self-employed, and three quarters of these self-employed workers are from low income households (Gindling and Newhouse, 2014).

In low income settings, the primary motivation of starting a business is to address the socio-economic challenges of the entrepreneur's household (Tobias et al., 2013) – hence called 'necessity entrepreneurship' by Reynolds et al. (2001). In this vein, scholars argue that the economic gains from starting an enterprise should encompass the overall effect on the household and living standards, and not just the immediate economic gains from entrepreneurship (Carter, 2010). As for economic gains, entrepreneurship has been shown to positively influence household savings (Gentry and Hubbard, 2004), upward mobility (Quadrini, 2000) and consumption (Ruben, 2001). However, economic rewards from entrepreneurship are multifaceted, involving both objective and subjective benefits to the entrepreneur's household. Hence, to better understand the economic rewards from entrepreneurship, examining the effects at the household level has become crucial (Granovetter and Swedberg, 1992).

A majority of businesses in emerging markets are small businesses, owned by an individual or a family. In such family owned small businesses, the traditional firm-level goal of profit-maximizing is coupled with social goals (Wheelock and Baines, 1998). Hence, the behaviors of such firms typically lie at the intersection of the household and the market (Wheelock and Mariussen, 1997). This view has long held support in family business literature, that have consistently stated that it is more prudent to focus on the household than the individual entrepreneur as a unit of economic behavior (Ram et al, 2000; Sieger et al., 2011). Further, scholars have argued for a family-embeddedness perspective for entrepreneurship research in general, to denote the involvement and interaction of household members in the business (Aldrich and Cliff, 2003; Pearson et al., 2008). The household of an entrepreneur is considered a setting where tradition, values and economic rationality are combined – thereby blurring the boundaries between the business and personal lives of entrepreneurs (Brannon et al., 2013). As a

consequence of blurred boundaries, decision making and formulating business strategy often require the involvement of household members (Alsos et al., 2014). Appreciating the multifaceted nature of economic wellbeing in emerging markets and the significance of the business-household relationship, we develop hypotheses on the effects of starting an enterprise on income, consumption and subjective economic wellbeing at the household level.

2.1 Starting an Enterprise and Household Income

Empirical research in advanced economies suggests that income from self-employment is lower than for salaried individuals (e.g., Hamilton, 2000; Moskowitz and Vissing-Jorgensen, 2002). However, individuals are reported to prefer self-employment employment due to the non-pecuniary benefits of being an entrepreneur (Benz and Frey, 2006; Schjoedt, 2009). In emerging markets, however, the main motivation for starting a business is self-employment, as there is a lack of opportunities for earning an income (Acs, 2006). A large segment of these business owners are from low and middle income groups. In these groups, the decision to start an enterprise emerges from the necessity to meet income needs of the household rather than to seize business opportunities in the market, resulting in a reduction of unemployment rate (Audretsch and Thurik, 2000). At the macro-economic level, small business ownership leads to wealth creation and consequent economic growth in transition economies (Peng, 2001). Hence, in emerging markets, we hypothesize that even at the micro-economic level of the household, starting an enterprise will lead to an increase in household income.

H1a: Household income increase will be greater for households starting an enterprise in comparison with households that do not.

Among low income households, engaging in entrepreneurship is often the result of resource constraints and the lack of other income generating opportunities such as salaried positions (Prahalad, 2005; Venugopal et al., 2015). As noted earlier, this has been termed as 'necessity entrepreneurship', born out of the necessity to maintain the income and consumption needs of the household. A special issue of World Development on 'Rural Nonfarm Employment and Incomes in Latin America' showed a consistent, positive relationship between non-farm self-employment, and household income in low income groups (Berdegué et al., 2001; Deininger and Olinto, 2001; Lanjouw, 2001; Reardon et al., 2001). The authors in this special issue note several reasons for the positive relationship between entrepreneurship and household income. One of the primary reasons is the opportunity that entrepreneurship provides for household income diversification (Reardon, 1997). Many households in the lower and middle income categories in emerging markets are 'pluriactive' in terms of occupation (De Silva and Kodithuwakku, 2011), and entrepreneurship allows for a greater diversification of the occupational portfolio and income of a household (Alsos et al., 2011). Therefore, we hypothesize that the relationship between entrepreneurship and household income to be stronger for relatively lower income levels.

> H1b: Relatively lower income households who start an enterprise will have greater increase in household income when compared to relatively higher income households who start an enterprise.

2.2 Starting an Enterprise and Household Consumption

The broad relationship between entrepreneurship and consumption was made by Bradbury (1996), who observed that entrepreneurial households have greater consumption capability by subsidizing household expenditure due to consumption of business-related goods.

Bradbury (1996) also presents one of the few studies that link business ownership to a better quality of life due to increased consumption capability among households. The author uses the household as the unit of analysis of the outcome of business ownership, attributing increased consumption capability to the personal consumption of business-related goods. As noted earlier, household consumption and entrepreneurship in emerging markets are intertwined. In marketplaces with resource constraints, a key motivation of starting a business is to overcome the economic challenges of the entrepreneur's household, such as meeting household consumption needs. Alsos et al. (2014) also make the point that, due to permeable boundaries between the business and the household, there is active resource sharing between the two – with regard to earnings, wealth, expenditure and consumption. Therefore, we predict a positive relationship between starting an enterprise and household consumption.

H2a: Household consumption increase will be greater for households starting an enterprise when compared to households that do not.

We suggest this effect will be accentuated for households with relatively lower income when compared to higher income households. Research has shown that chronic and periodic consumption constraints influence entrepreneurial intentions. Specifically, lower income households have higher entrepreneurial intention in order to overcome consumption constraints (Venugopal et al., 2015). Income diversification with non-farm entrepreneurship has also been found to result in greater generation of cash income and resultant increase in food consumption, when compared with households depending on farm-based livelihoods among low income households (Barrett et al., 2001). The strong relation between the propensity to consume and life satisfaction in low income households was explained by Duesenberry (1949). The concept of

'utility' derived from consumption reflecting overall wellbeing was observed by Deaton and Muellbauer (1980), who also state that the utility function of consumption may be higher for households with income constraints.

> H2b: Relatively lower income households who start an enterprise will have greater increase in household consumption when compared to relatively higher income households who start an enterprise.

2.3 Starting an Enterprise and Household Subjective Economic Wellbeing

Subjective economic wellbeing, or an individual's perception of his or her economic situation and satisfaction (Kahneman et al., 1999), goes beyond measurement of income (Devicienti and Gualtieri, 2007; Fusco, 2016). In the case of entrepreneurship, subjective satisfaction of the entrepreneur has been explored from a human-resources perspective, in addition to the realm of monetary benefits. Researchers argue that even when the monetary benefits of small business ownership may be low, other benefits such as individual autonomy and job satisfaction may make up for the low earnings (Blanchflower, 2004; Blanchflower and Oswald, 2004; Shane, 2008). Several studies show that a better sense of wellbeing among business owners may be attributed to the flexibility and autonomy permitted by being 'one's own boss' (Astebro et al., 2014; Benz and Frey, 2008; Hamilton, 2000; Hurst and Pugsley, 2011; Shane and Venkataraman, 2000; Wasserman, 2017). This is in line with studies that show entrepreneurs reporting higher levels of job satisfaction, irrespective of income differences between entrepreneurs and other occupational groups (Blanchflower and Oswald, 2004; Shane and Venkataraman, 2000).

Subjective economic benefits of entrepreneurship in low and middle income households may extend beyond parameters such as flexibility in work hours and autonomy. Dolan et al. (2008) note that whereas there is a positive relationship between income and wellbeing, there may be a range of other variables that influence this relationship. We suggest that households in emerging economies will have both objective and subjective economic gains from starting an enterprise. Households that start an enterprise are more likely to report that their household is better economically both for material reasons such as higher levels of income and consumption; and for psychological reasons such as greater autonomy and control. In these markets, one of the primary motivations of starting an enterprise is to enhance household income and to meet consumption needs. Both increased income and higher consumption have been shown to have a positive impact on the subjective evaluation of one's satisfaction (Deaton and Muellbauer, 1980; Douthitt et al., 1992). We hypothesize that, compared to households that do not start an enterprise, households that start an enterprise will derive a higher subjective sense of economic wellbeing even after controlling for increase in income and consumption. Thus, independent of material benefits, there are psychological benefits to households in emerging markets.

> H3a: Households that start an enterprise will have improved subjective economic wellbeing in comparison to households that do not start an enterprise, after controlling for income and consumption.

We further suggest that the subjective wellbeing effect will be higher for lower income households. At a macro level, the role of entrepreneurship in leading to growth and reduced inequality have been studied (Kimhi, 2010). In emerging markets, entrepreneurship also serves as a livelihood strategy that enables the entrepreneur to diversify income and meet the

consumption needs of the household (De Silva and Kodithuwakku, 2011; Reardon, 1997). Additional economic activities, such as starting an enterprise, may help alleviate poverty and bring in several social transformations – a phenomenon termed as 'transformative entrepreneurship' in prior research (Sridharan et al., 2014; Tobias et al., 2013). In their research, Tobias et al. (2013) show how economic wellbeing may depend on factors such as social trust, going beyond income and consumption. Clark et al. (2008) compared the regression of slopes of happiness on income in developed economies and developing countries and found a positive estimated coefficient on income. Interestingly, they find that the slope is steeper for developing countries than for developed countries, suggesting a stronger relationship. Households with income constraints have been shown to obtain greater utility from consumption, and hence a higher sense of wellbeing (Deaton and Muellbauer, 1980). Hence, we hypothesize the positive effects of starting an enterprise on subjective economic wellbeing to be relatively higher for low income households.

> H3b: Relatively lower income households who start an enterprise will have more improved subjective economic wellbeing when compared to relatively higher income households who start an enterprise, after controlling for income and consumption.

3. Method

3.1 Datasets

To test our hypotheses, we analyse a comprehensive, longitudinal household database. In 2004, University of Maryland and the National Council of Applied Economic Research organized and conducted a nationally representative survey of Indian households. Entitled the

India Human Development Survey (IHDS), it covers 42,554 households across all the 33 states and union territories (Desai et. al, 2005). In 2011, IHDS II was conducted and majority of the households interviewed in 2004 (83%) were re-interviewed (Desai and Vanneman, 2011). We merged the two surveys, and excluded the households that had split in 2011, to create a panel of 34,621 households. Further, we also used the deflators[1] specified in IHDS II to convert all amounts (income and expenses) in 2011 to 2004 values.

The waves of the survey captured a number of variables - whether the household members owned an enterprise (of any scale) and if so, the details, including revenues, expenses, net income and the list of household members participating in the business. Using data from both survey waves, we retained a subset of households that match the following criteria – i) households that did not report an enterprise in 2004 and 2011 (henceforth referred to as 'non-entrepreneur households' – the control group) and ii) households that did not report an enterprise in 2004, but reported at least one enterprise in 2011 (henceforth, 'entrepreneur households' – the treatment group). In other words, households in both control and treatment groups did not run an enterprise in 2004. However, by 2011, the households in the treatment group had started an enterprise[2]. There were 3,496 households in the treatment group that contribute 6,992 observations and 23,965 households in the control group that contribute 47,930 observations.

[1] 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.

[2] Due to the limitations of the data, it is not possible to ascertain the exact year when an enterprise was started by a household. We use the term, "starting an enterprise", to refer to initiation of a business or an entrepreneurship initiative by a household between 2004 and 2011.

3.2 Operationalization of Key Variables

3.2.1 Household income. Total annual household income was computed based on responses to approximately 50 items in each of the survey waves[3]. We used the log of the total annual household income as an outcome variable.

3.2.2 Monthly consumption. IHDS covers detailed consumption information (47 categories in 2004 and 52 in 2011) at the household level. The total monthly consumption is estimated and included in the IHDS dataset based on responses to these consumption related items in the questionnaires[4]. We used the log of the total monthly consumption as another outcome variable.

3.2.3 Subjective economic wellbeing. Whereas conventional measures of subjective wellbeing (Dolan et al., 2008; Helliwel et al., 2015) are operationalized as satisfaction with life, or happiness, subjective economic wellbeing requires a more direct approach to assess changes in evaluation of respondent's economic conditions. Subjective economic wellbeing has been operationalized through a variety of methods such as evaluating one's own income or difficulty in making ends meet (Cracolici et al., 2013). Subjective economic wellbeing has also been measured by asking respondents to self-report the rung of income they belong to: wherein the poor are the first rung and the rich are the ninth rung (Ravallion and Lokshin, 2002). For the India household survey database that we analyze, individuals were asked if they are better, the same, or worse off compared to some years ago. Prior research has used similar

[3] Total annual income was calculated from several sources including, agricultural wages, nonagricultural wages, business income, agricultural income, remittances, income from property and so on.
[4] Monthly consumption expenses are computed based on the household's expenses on items such as food (rice, wheat, sugar, etc), medical expenses, education expenses, entertainment expenses, expenses on personal goods, expenses on durables, etc.

operationalization (e.g. Jaikumar et al., 2017) and a number of barometers also use a similar approach (Dugan, 2014; Eurobarometer, 2017). In 2011, the head of all households surveyed were asked: 'Compared to 7 years ago, would you say your household is economically doing the same, better, or worse today'. The same question was also asked in 2004, but respondents were asked to evaluate themselves compared to 1994. The responses were coded as 1 - worse, 2 - same and 3 – better, increasing order of Subjective Economic Wellbeing (SEWB).

3.2.4 Control variables. IHDS has detailed information on household composition and demographics in 2004 and 2011 enabling us to account for several household level characteristics in our analysis. Specifically, we control for composition of the household (number of adults and children in the household) and the literacy level (based on the number of years of education of the most literate adult in the household). The number of adults in the household and the literacy level may act as proxy for the earning potential of the household. Further, we also account for number of children in the household, by adding them as a separate control variable. We also control for the location of the household (urban / rural), as the increased opportunities in the urban areas may have an effect on the decision to start an enterprise. Finally, we also include social group to which the household belongs[5], to account for any potential differences in opportunities among the social groups.

3.3 Descriptive Measures

The descriptive measures of the key variables in the control and treatment groups are presented in Table 1. We also present some stylized facts from our data to illustrate how starting

[5] The sample is divided into seven social groups (exclusive) – Brahmins, forward castes, other backward classes, Dalits, Adivasis, Muslims and Christians, Sikhs and Jains.

an enterprise has an impact on income, consumption and SEWB in 2011 (Table 2). Consistent with our hypotheses, percentage increases in income, consumption and SEWB are higher for the treatment group. For instance, income increases by 86.8% for the treatment group (entrepreneur households) in 2011 whereas the increase is 42.6% for the control group (non-entrepreneur households).

[Insert Tables 1 and 2 here]

We also note that, in 2004, though the control and treatment groups did not have an enterprise, there were differences between the two groups. The average income (annual) of the treatment group in 2004 was Rs. 52,518 whereas that of the control group was Rs. 45,561. Similarly, consumption (monthly) in 2004 was also higher for the treatment group (Rs. 4,542) compared to the control group (Rs. 3,812). The descriptive measures suggest that households with relatively higher income are more likely to start an enterprise. We address the issues of comparability of the two groups in our empirical analysis using propensity score matching.

We also classify the households in our sample into either relatively lower income or higher income group in 2004. Specifically, we use a state level[6] median split using the household income information in 2004. Within a state, if income for a specific household in 2004 was lower than the median, we classify it as a relatively lower income household and vice versa. This classification enables us to estimate whether starting an enterprise had a differential impact on relatively lower versus higher income households (in terms of income, consumption and SEWB). The state level median incomes in 2004 range from a minimum of Rs. 16,877 (*Orissa*) to a

[6] India was comprised of 28 states and 7 union territories at the time of the surveys (currently India has 29 states and 7 union territories). Data was captured from 28 states and 5 union territories (2 union territories – Andaman and Nicobar, and Lakshadweep - are islands and were not covered in the surveys). We refer to these states and union territories as 'states', and hence, the survey has data from 33 states.

maximum of Rs. 105,450 (*Mizoram*), with the median of the state level median incomes being at Rs. 33,520 (*Rajasthan*).

3.4 Income and Consumption - Panel Fixed-Effects Regression

We begin our analysis with panel fixed-effects regression to estimate the average effect of starting an enterprise on household income and consumption. There are several reasons for using a panel fixed-effects model in our estimation. First, using a fixed-effects model enables us to account for household specific time-invariant factors in the estimation. Second, having household-level time-varying variables allow us to control for a number of confounding factors, such as composition of the household (number of adults and children in the household) and literacy level (based on the number of years of education of the most literate adult in the household). These household level variables control for unobservable factors that could affect the likelihood of starting an enterprise or household earning potential, among others. Finally, we also include several fixed effects such as social group-year fixed effects, location-year fixed effects (urban/rural) and state-year fixed effects to account for extrinsic confounding factors whose effect may vary with time[7]. We begin by estimating the average effect of starting an enterprise on household income and consumption, using the control and treatment groups identified earlier. We estimate the following fixed-effects panel regression:

Eqn. (1) $$Y_{it} = \beta_0 + \beta_1 Year_t + \beta_2 Treat_i + \beta_3 (Year * Treat)_{it} + \beta_3 HH_{it} + \alpha_i + \varepsilon_{it}$$

where i = 1,..27,461 households, t= 1,2 (panel time period: 1 – 2004 and 2 - 2011), Y_{it} refers to the outcome variable – log(income) or log(consumption), $Year_t$ takes the value of 0 in 2004 and

[7] State-year fixed effects account for policy changes at the state level that may have an impact on the decision to start an enterprise. Similarly, location-year and social group-year fixed effects account for the effect of opportunities and/or discrimination against specific groups of households.

1 in 2011, $Treat_i$ takes the value of 1 if household *i* belongs to the treatment group or 0 otherwise, HH_{it} refers to a vector of covariates which represent the household characteristics (number of adults, number of children, highest education) and α_i refers to the time-invariant household specific fixed-effects that are accounted for in a panel fixed-effects regression. The coefficient of interest is β_3 (coefficient of *Year * Treat*) which captures the average difference in the outcome variable between the control and treatment groups in 2011 (when *Year*=1 and *Treat*=1). We include several additional fixed effects to Eqn.(1): state-year fixed effects, urban-year fixed effects and social group-year fixed effects (to account for time-varying state specific, location specific and social group specific effects on the decision to start an enterprise).

Finally, to identify whether starting an enterprise had a differential effect on income and consumption for the lower income group (compared to the higher income group), we add an interaction term $(Year * Treat * LowIncomeGroup)_{it}$ to Eqn. 1 and test the coefficient for direction and significance (*LowIncomeGroup* takes the value of 1 when the income of household *i* is below the state level median in 2004).

3.5 Subjective Economic Wellbeing – Ordered Probit Regression

SEWB in 2011 captures household perceptions of economic wellbeing compared to 2004. Hence, to examine the effect of starting an enterprise on SEWB (i.e., to test H3a), we model the relationship between SEWB and the treatment condition as a random-effects ordered probit model. The three levels of SEWB have a clear hierarchy (worse, same, better). Ordered probit models utilize this additional order information effectively in computing the likelihood of a household to report each of these responses. Using a linear model (or a non-linear probit model)

would not effectively utilize the additional embedded order information in the response to SEWB. Hence, we model the relationship as:

Eqn. (2) $$\Pr(y_i > k|\kappa, \delta x_i, X_{i,}\vartheta_i) = \Phi(Treat_i\beta_1 + \delta x\beta_i + X_i\gamma_i + \vartheta_i - \kappa_k)$$

where i = 1,..27,461 households, y_i is the SEWB of household i in 2011, and $Treat_i$ takes the value of 1 if household i belongs to the treatment group or 0 otherwise. δx_i refers to the vector of covariates that indicate the changes in x_i in 2011 compared to 2004. X_i refers to the vector of covariates that are used as additional control variables, ϑ_i are independent and identically distributed with N(0, σ^2_ϑ), κ is a set of cutpoints κ_1,… κ_{K-1}, where K is the number of possible outcomes (in this case K=3 and hence there are only two cut-points – 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). We control for changes in income, consumption and education levels (δx_i), number of adult members and children, location of the household (urban / rural), and SEWB reported in 2005 (X_i). We also account for state level effects and changes in state mean incomes (as a proxy for statewide economic growth).

Finally, we add an interaction term $(Treat * LowIncomeGroup)_i$ to Eqn. 2 and test for direction of effect and significance. The coefficient of this interaction term helps identify whether starting an enterprise had a differential effect on SEWB for the lower income group (compared to the higher income group).

3.6 Results

3.6.1 Effect of starting an enterprise on income – H1a and H1b. Results of the panel fixed-effects regression (Eqn. 1), with log(income) as the outcome variable, are presented in

Table 3. The fourth column corresponds to the full model with all control variables. As predicted, the coefficient of interest β_3 (*Year * Treat*) is found to be consistently positive and statistically significant ($p < .001$), supporting hypothesis H1a. Specifically, households in the treatment group (households that started an enterprise) reported 17.4% higher income (based on results in column 4) than those in the control group (households that did not start an enterprise). The fifth column displays an added interaction term $(Year * Treat * LowIncomeGroup)_{it}$. The coefficient of the interaction term is found to be positive and significant ($p < .05$), supporting hypothesis H1b. Results indicate that relatively lower income households that started an enterprise had 7.1% higher income than relatively higher income households that started an enterprise.

[Insert Table 3 here]

3.6.2 Effect of starting an enterprise on consumption – H2a and H2b. Results of the panel fixed-effects regression (Eqn. 1), with log(consumption) as the outcome variable, are presented in Table 4. As predicted, the coefficient of interest, β_3 (*Year * Treat*) is found to be consistently positive and statistically significant ($p < .001$), thus supporting hypothesis H2a. Specifically, households in the treatment group (households that started an enterprise) spent 9.3% more on consumption than those in the control group (households that did not start an enterprise). The coefficient of the interaction term $(Year * Treat * LowIncomeGroup)_{it}$ in column 5 (Table 4) is found to be positive and significant ($p < .05$), thus supporting hypothesis H2b. Results indicate that relatively lower income households that started an enterprise had 4.6% higher consumption expenses than relatively higher income households that started an enterprise.

[Insert Table 4 here]

3.6.3 Effect of starting an enterprise on SEWB – H3a and H3b. Results of the ordered probit regression (Eqn. 2), with SEWB as the outcome variable, are presented in Table 5. The fourth column presents the full model with all control variables. As expected the coefficient of interest, β_1 $(Treat)_i$ is found to be consistently positive and statistically significant ($p < .001$), supporting hypothesis H3a. An examination of the marginal effects of starting an enterprise on SEWB reveals that households that started an enterprise were 2.3% less likely to report 'worse' SEWB, 3.5% less likely to report 'same' SEWB, but 5.8% more likely to report 'better' SEWB, compared to households that did not start an enterprise (all marginal effects are significant at $p<.05$, and covariates are at mean levels). The fifth column presents results with an added interaction term $(Treat * LowIncomeGroup)_i$. The coefficient of the interaction term is found to be positive and significant ($p < .05$), supporting hypothesis H3b. An analysis of marginal effects reveals that, among the households that started an enterprise, relatively lower income households were 3.1% less likely to report 'worse' SEWB, 3% less likely to report 'same' SEWB, but 6.1% more likely to report 'better' SEWB (all marginal effects are significant at $p<.05$, and covariates are at mean levels).

[Insert Table 5 here]

3.7 Robustness Checks: Comparability of Control and Treatment Groups – Propensity Score Matching

Our dataset provides information regarding starting an enterprise, a decision which is likely to be influenced by a number of observable and unobservable factors at the household level. For instance, descriptive measures in Table 1 show that the control and treatment groups differ in terms of income and consumption in 2004. This difference between the two groups

could potentially introduce a bias, i.e., on an average, households with relatively higher income and consumption in 2004 were more likely to start an enterprise in the period between 2004 and 2011. In other words, household starting an enterprise between 2004 and 2011, start from different baselines in 2004 than the households that did not start an enterprise during this time period. Thus to address this issue and ensure that households that started an enterprise (treatment) against those that did not (control) are comparable, we employ propensity score matching (PSM).

In particular, we use a set of covariates to compute the propensity scores for each household in the two groups (propensity score, here, refers to the likelihood of the household to start an enterprise). The households in the control and treatment groups are then matched using the propensity scores (Smith and Todd, 2008). After matching, the reduced sample (referred to as the 'matched sample'), the control and treatment groups will have similar distributions of the covariates used to compute propensity scores. We then re-estimate Eqn. 1 and Eqn. 2 with the matched sample to obtain unbiased effects of starting an entrepreneurship on income, consumption and SEWB.

We use the following covariates to compute the propensity score of starting an enterprise (treatment variable) for a household: income in 2004, total consumption in 2004, number of adults in 2004, number of children in 2004, education in 2004, and location of the household (urban vs. rural). We use probit function for computing propensity scores, applying a caliper of .01 and 'nearest neighbor' matching (Dehejia and Wahba, 2002) for selecting households. Further, we maintain the ratio of control to treatment as 2 (i.e., we identify two matching control households for every treatment household, to fully utilize the large sample in the control group).

After matching, the average values of the covariates in the treatment and control groups are presented in Table 6. In the matched sample, the two groups are comparable in terms of income, consumption, household composition and education levels in 2004. The distribution of propensity scores and the balance of covariates in the treatment and control groups are presented in Figures 1a and 1b. Further, the average of the covariates in the matched control and treatment groups are presented in Table 6. Overall, we find that the distribution of covariates are similar and balanced in the two groups. In the matched sample, we have 20,752 observations ($N_{Treatment}$= 3,469 and $N_{Control}$= 6,907, over two periods). We argue that, given the similar distribution of 2004 values (in terms of income, consumption, household characteristics and not owning an enterprise) in the control and treatment groups, the only observed difference after 2004 is that the treatment group has started an enterprise (sometime between 2004 and 2011). This enables us to account for the bias introduced by differences between the two groups in 2004 and estimate the impact of starting an enterprise.

[Insert Figure 1 here]

[Insert Table 6 here]

3.7.1 Effect of starting an enterprise on income and consumption. We re-estimate Eqn. 1 using the matched sample, and with log(income) and log(consumption) as outcome variables. Results of the panel fixed-effects regression using the matched sample are presented in Table 7. In the matched sample, starting an enterprise is associated with an increase in household income of 15.6% (coefficient of *Year*Treat* is significant at $p<.05$, in column 1 of Table 7), supporting H1a. Further, among the households that started an enterprise, relatively lower income households had 8.5% higher income (coefficient of *Year*Treat*LowIncomeGroup* is

significant at p<.05, in column 2 of Table 7), supporting H1b. Similarly, we find support for H2a when we use the matched sample – starting an enterprise is associated with an increase in household consumption by 11.2% (p<.05). However, H2b is not supported in the matched sample (coefficient of *Year*Treat*LowIncomeGroup* is insignificant, in column 4 of Table 7).

[Insert Table 7 here]

3.7.2 Effect of starting an enterprise on SEWB. As we describe earlier, SEWB in 2011 captures household perceptions of economic wellbeing compared to 2004. To ensure consistency with hypotheses 3a and 3b, our estimations have to demonstrate that starting an enterprise has a positive effect on the perception of household economic wellbeing even after controlling for income and consumption. In the probit results reported earlier in Table 5, we demonstrate that effect by controlling for changes in household income, consumption and education levels (δx_i), number of adult members and children, location of the household (urban / rural), and SEWB reported in 2005 (X_i), in equation 2.

We now undertake two additional robustness checks to further demonstrate that starting an enterprise has a positive effect on the perception of household economic wellbeing even after controlling for income and consumption. Specifically, we use two matching strategies to examine the effect of starting an enterprise on SEWB. In the first robustness test, we use the same set of covariates used earlier (household income in 2004, total consumption in 2004, number of children in 2004, education in 2004 and location of the household) to match the control and treatment households. Using this matched sample (20,752 observations; $N_{Treatment}$= 3,469 and $N_{Control}$= 6,907, over two periods), we then examine the effect of starting an enterprise on SEWB. We find that starting an enterprise is associated with higher probability of reporting

'better' SEWB (coefficient of *Treat* in column 1 of Table 8) and that this effect is higher for relatively lower income households (coefficient of *Treat*LowIncomeGroup* in column 2 of Table 8). Thus, the results using this matched sample support H3a and H3b.

In the second robustness check, we use further stringent matching covariates to eliminate other potential confounds. For instance, it is possible, that an improvement in SEWB in 2011 may be due to increase in income, increase in consumption or starting an enterprise between 2004 and 2011. In other words, SEWB in 2011 may be dependent on income and consumption in 2011. Though we control for these observable increases (changes in income, consumption and education levels) in our empirical framework (refer Eqn. 2), there may be unobservable factors that depend on these differences in income and consumption in 2011, that could also impact SEWB in 2011. To address this potential issue, we employ additional covariates to the matching procedure. In addition to the covariates used above (income in 2004, total consumption in 2004, number of children in 2004, education in 2004 and location of the household) for matching, we also use income in 2011 and consumption in 2011. The rationale for adding these two covariates in computing propensity scores is that income in 2011 may act as a proxy for the 'earning potential' of a household in 2004, whereas consumption in 2011 may act as a proxy for the 'motivation to change lifestyle' for a household in 2004. It is possible that these two factors may also predict the propensity score of a household to start an enterprise. Thus, by matching on income and consumption in 2011, we also eliminate any potential confounding of these factors on SEWB in 2011. Hence any difference in SEWB between the two household groups in 2011 can be directly attributed to starting an enterprise (and not to income and consumption).

After this more stringent matching, the distribution of propensity scores and the balance of the covariates in the treatment and control groups (after adding income in 2011 and consumption in 2011) are presented in Appendix 1b. With the matched sample (20,480 observations; $N_{Treatment}$= 3,439 and $N_{Control}$= 6,801, over two periods), we re-estimate the coefficients of Eqn. (2), with SEWB as the dependent variable. Results of the ordered probit regression with this matched sample are presented in columns 3 and 4 of Table 8. As expected, starting an enterprise is associated with higher probability of reporting 'better' SEWB (coefficient of *Treat* in column 3 of Table 8) and this effect is higher for relatively lower income households (coefficient of *Treat*LowIncomeGroup* in column 4 of Table 8). Results from this second robustness check provide further support for hypotheses H3a and H3b, suggesting that starting an enterprise has a direct effect on SEWB after controlling for any increase in household income and consumption. Further, this effect is stronger for relatively lower income households.

[Insert Table 8 here]

4. General Discussion

Using a large longitudinal dataset of Indian households that were surveyed in 2004 and 2011, we empirically examine the effect of starting an enterprise on household income, consumption and subjective economic wellbeing (SEWB). We find that starting an enterprise is positively related to income and consumption of households. We also find that when income and consumption are controlled for, the subjective economic wellbeing of households also increases for the group that starts an enterprise. Furthermore, each of these positive effects of starting an enterprise is accentuated for households that have low income.

Research on entrepreneurship and wellbeing in advanced economies predominantly supports the 'poor but happy' theorizing of entrepreneurship, which suggests that while entrepreneurs may earn less than salaried employees, they are happier due to the non-pecuniary benefits of job-satisfaction, autonomy and job-flexibility (Moskowitz and Vissing-Jorgensen, 2002; Hamilton, 2000). Our findings show that, in emerging markets, starting an enterprise results in objective economic gains, such as higher income and consumption. While past research has found that entrepreneurship contributes to the economic development of emerging markets (Bruton et al., 2008), we provide empirical evidence to show similar economic gains at the micro-economic level of the household as well.

These findings have several implications for entrepreneurship research. First, our results call for renewed inquiry into entrepreneurship in emerging markets in view of their unique social and economic setting. A large section of entrepreneurs in emerging markets function in the informal economy, having a social and economic environment very different from the formal sector (Kaynak and Dana, 2013). Our findings show that these unique socio-economic characteristics may influence the economic gains from starting an enterprise. Second, we examine the economic gains from starting an enterprise not from the firm-level standpoint of profit-optimization, but from the broader social goal of the entrepreneur to meet the income and consumption needs of the household. This is in line with the current thought of examining entrepreneurship as a process embedded in economic, social, cultural and situational factors (Shaw and Carter, 2007). For instance, in the context of emerging economies, we hypothesised that the economic gains of starting an enterprise would extend to meeting the imminent needs of the household, which is one of the primary drivers of entrepreneurship among the larger set of entrepreneurs in these markets. Third, our findings provide empirical evidence that self-

employment through starting an enterprise can serve as potent tool for economic development in emerging markets – a thought that is now gaining currency globally (Seelos and Mair, 2005).

In our study, we broaden our analysis of the gains of starting an enterprise to include both objective and subjective economic wellbeing. Our motivation to adopt this framework is drawn from authors who suggest that both pecuniary and non-pecuniary benefits of entrepreneurship must be examined comprehensively (Carter, 2010). We observe that, even when the objective economic gains are controlled for, there is an increase in subjective economic wellbeing among households that start an enterprise. The reasons for this finding could be the psychological outcomes of sense of autonomy, higher job-satisfaction and job-flexibility, as suggested in previous research cited earlier in this paper. However, our investigation of subjective economic wellbeing is at the level of the household, and not at the level of the individual entrepreneur. This suggests that there could be other factors also that lead to a higher sense of wellbeing (Martin and Hill, 2012). Our findings suggest that the causal factors for an enhanced sense of economic wellbeing in households that have an entrepreneur is a potential area for future research.

As mentioned before, majority of the entrepreneurs in emerging markets belong to the low and middle income categories. We find that the objective and subjective economic gains from entrepreneurship are accentuated for low income households. This supports the premise of strands of literature on transformative entrepreneurship (Tobias et al., 2013) and necessity entrepreneurship (Venugopal et al., 2015; Reynolds, 2001), which state that in low income settings, entrepreneurship serves as a means of livelihood, and a strategy to overcome income and consumption constraints of households. Our findings on the effects of starting an enterprise on relatively lower income households have important theoretical and practical implications for

entrepreneurship in emerging markets and the entrepreneurship literature in general. In emerging markets, entrepreneurship is a means for households to acquire resources to meet their consumption requirements. In such cases, entrepreneurship involves using limited means in resourceful ways to achieve the basic needs of entrepreneurs and their households, which has been called 'means entrepreneurship' (Viswanathan and Venugopal, 2015). Hence, entrepreneurial strategy can be viewed as a creative process driven by the economic and social environment of entrepreneurs, as suggested by Sarasvathy (2001).

Whereas entrepreneurship has been found to contribute to the economic development of emerging markets, our findings show similar economic gains at the micro-economic level of the household as well (Bruton et al., 2008). These findings also have implications for the role of entrepreneurship in leading to growth and reduced inequality in low and middle income segments of emerging markets (Kimhi, 2010). Our results show, that lower income households can move up to higher income levels over time. An interesting future research direction is to understand why some low income entrepreneurial households succeed in improving their income and consumption significantly. This research could build on prior work (Sridharan et al., 2014) that have suggested that there are a range of subsistence entrepreneurs. Thus, a nuanced understanding of subsistence entrepreneurship can provide a basis to design pathways to transformative entrepreneurship that moves people into lower-middle and middle income.

Finally, we contribute to the entrepreneurship literature by using the household as the unit for analysing economic rewards. In emerging markets, prior work has shown that entrepreneurship is strongly embedded in the social setting, and the motivations of entrepreneurs for starting a business are household-specific. This makes the household a logical choice for

analysing the benefits accrued from entrepreneurship. Furthermore, research suggests that in small businesses, the business-household relationship is highly permeable, the strengths and risk of one complementing the other. Our rich household level data and empirical estimation approach, suggest that our choice of household as a unit for studying the economic and psychological benefits of entrepreneurship is appropriate. In doing so, we provide evidence from the household panel data, which suggests that both objective and subjective wellbeing accrue to households from starting an enterprise in emerging markets. Our findings follow through on suggestions by a number of scholars that this relationship is important to explore.

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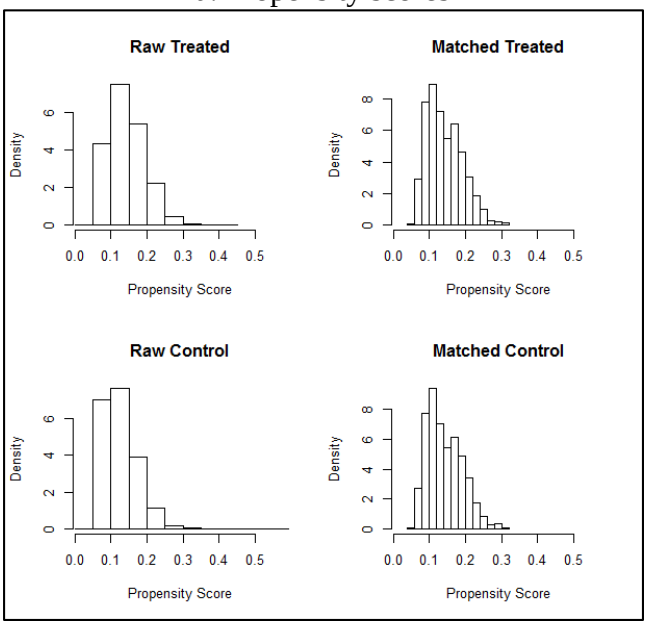
Figure 1. Balance of covariates before and after matching

a. Propensity scores



b. Covariate distributions

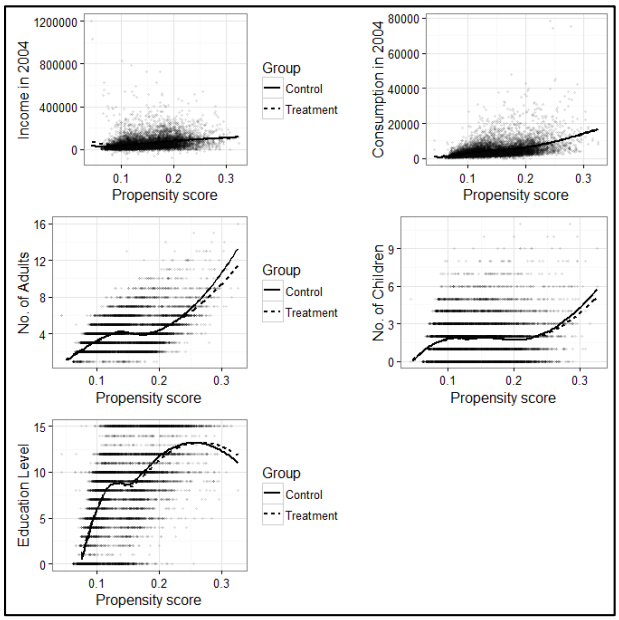


Table 1. Control and treatment groups – Descriptive measures

Entre Group	**Control**		**Treatment**	
Year	**2004**	**2011**	**2004**	**2011**
Income (Rs.)	45,561	64,953	52,518	98,103
	(63,512)	(88,069)	(64,672)	(173,236)
Consumption (Rs.)	3,812	5,015	4,542	6,700
	(3,711)	(4,891)	(4,607)	(6,408)
SEWB (compared to 2004)	% of households			
1 – worse	10.78%		7.49%	
2 – same	52.79%		45.34%	
3 – better	36.43%		47.17%	

- standard deviations are presented in parentheses

Table 2. Control and treatment groups – Percentage changes

Entre Group	**Control**	**Treatment**
Income (Rs.)	42.6%	86.8%
Consumption (Rs.)	31.6%	167.9%
SEWB	29.5% more households 'better' SEWB in the treatment group	

Table 3. Effect of starting an enterprise on household income

	Dependent variable: log(income)				
Explanatory variables	(1)	(2)	(3)	(4)	(5)
Year (=1 if 2011)	.313***	.302***	.303***	.139***	-.185***
	(.007)	(.007)	(.031)	(.042)	(0.040)
Year * Treat	.206***	.157***	.164***	**.174*** **	.175***
	(.020)	(.019)	(.019)	**(.019)**	(.024)
Year * LowIncomeGroup					.736***
					(.013)
Year*Treat*LowIncomeGroup					**.071** **
					(.035)
No. of adults in HH		.139***	.139***	.141***	.112***
		(.004)	(.004)	(.004)	(.004)
No. of children in HH		.037***	.038***	.035***	.030***
		(.004)	(.004)	(.004)	(.004)
Education		.029***	.028***	.028***	.026***
		(.002)	(.002)	(.002)	(.002)
Constant	10.27***	9.517***	9.670***	9.658***	9.726***
	(.005)	(.017)	(.050)	(.049)	(.046)
Observations	53,944	53,899	53,882	53,882	53,882
R-squared	.094	.163	.166	.187	.283
Number of Households	27,431	27,430	27,430	27,430	27,430
Social Group-Year FE[a]			Yes	Yes	Yes
Urban-Year FE			Yes	Yes	Yes
State-Year FE				Yes	Yes

Notes:
Standard errors in parentheses
*** p<0.01, ** p<0.05, * p<0.1
a – FE refers to fixed effects

Table 4. Effect of starting an enterprise on household consumption

	Dependent variable: log(consumption)				
Explanatory variables	(1)	(2)	(3)	(4)	(5)
Year (=1 if 2011)	.274***	.281***	.209***	.320***	.290***
	(.005)	(.004)	(.019)	(.026)	(.026)
Year * Treat	.135***	.090***	.090***	**.093*** **	.076***
	(.013)	(.012)	(.012)	**(0.012)**	(.016)
Year * LowIncomeGroup					.066***
					(.009)
Year*Treat*LowIncomeGroup					**.046** **
					(.023)
No. of adults in HH		.127***	.126***	.125***	.123***
		(.002)	(.002)	(.002)	(.002)
No. of children in HH		.054***	.054***	.053***	.053***
		(.002)	(.002)	(.002)	(.002)
Education		.017***	.017***	.017***	.016***
		(.001)	(.001)	(.001)	(.001)
Constant	7.992***	7.332***	7.351***	7.347***	7.354***
	(.003)	(.011)	(.031)	(.030)	(.030)
Observations	54,871	54,828	54,810	54,810	54,810
R-squared	.150	.267	.268	.291	.293
Number of Households	27,461	27,461	27,461	27,461	27,461
Social Group-Year FE[a]			Yes	Yes	Yes
Urban-Year FE			Yes	Yes	Yes
State-Year FE				Yes	Yes

Notes:
Standard errors in parentheses
*** p<0.01, ** p<0.05, * p<0.1
a – FE refers to fixed effects

Table 5. Effect of starting an enterprise on SEWB

	Dependent variable: SEWB 2011				
Explanatory variables	(1)	(2)	(3)	(4)	(5)
Treat (=1)	.257***	.216***	.149***	**.151*** **	.064**
	(.021)	(.021)	(.022)	**(.022)**	(.031)
LowIncomeGroup (=1)					-.268***
					(.017)
Treat*LowIncomeGroup					**.166*** **
					(.043)
Δ Household income		.000***	.000***	.000***	.000***
		(.000)	(.000)	(.000)	(.000)
Δ Household consumption		.000***	.000***	.000***	.000***
		(.000)	(.000)	(.000)	(.000)
Δ Education		.013***	.009***	.008***	.011***
		(.002)	(.002)	(.002)	(.002)
No. of adults in HH			.064***	.065***	.050***
			(.005)	(.005)	(.005)
No. of children in HH			.004	.011**	.014***
			(.005)	(.005)	(.005)
Urban (1=yes)			.148***	.146***	.080***
			(.016)	(.017)	(.017)
SEWB 2005			.229***	.206***	.168***
			(.010)	(.010)	(.011)
Δ State mean income				-.000	-.000
				(.000)	(.000)
κ1	-1.233***	-1.196***	-.610***	-.558***	-.827***
	(.011)	(.011)	(.050)	(.065)	(.067)
κ2	.344***	.397***	1.027***	1.092***	.833***
	(.008)	(.009)	(.050)	(.065)	(.067)
No. of households	26,992	26,992	26,958	26,958	26,958
Social group			Yes	Yes	Yes
State level effects				Yes	Yes

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

Table 6. Balance of covariates before and after matching

	All households		Matched households	
	Treatment group	Control group	Treatment group	Control group
Distance[a]	0.143	0.125	0.142	0.142
Income (in Rs.)*	52,530	45,597	51,898	52,431
Consumption (in Rs.)*	4,545	3,815	4,462	4,458
No. of adults*	3.876	3.521	3.849	3.894
No. of children*	1.758	1.690	1.744	1.768
Education*	8.107	6.795	8.077	8.188

Notes:
a – Average distance measure in the treatment and control groups (distance is computed based on the covariates)
* Values in 2004

Table 7. Effects on income and consumption using the matched sample

Dependent variable:	*log(income)*		*log(consumption)*	
Explanatory variables	(1)	(2)	(3)	(4)
Year (=1 if 2011)	.123*	-.142***	.371***	.329***
	(.068)	(.064)	(.042)	(.042)
Year * Treat	**.156*** **	.128***	**.112*** **	.108***
	(.022)	(.028)	**(.014)**	(.019)
Year * LowIncomeGroup		.723***		.107***
		(.024)		(.016)
Year*Treat*LowIncomeGroup		**.085** **		**.013**
		(.040)		**(.027)**
No. of adults in HH	.133***	.104***	.116***	.112***
	(.006)	(.006)	(.004)	(.004)
No. of children in HH	.031***	.027***	.052***	.052***
	(.006)	(.006)	(.004)	(.004)
Education	.031***	.028***	.019***	.018***
	(.003)	(.003)	(.002)	(.002)
Constant	9.830***	9.898***	7.321***	7.332***
	(.086)	(.082)	(.054)	(.054)
Observations	20,400	20,400	20,722	20,722
R-squared	.208	.304	.301	.305
Number of Households	10,365	10,365	10,376	10,376
Social Group-Year FE[a]	Yes	Yes	Yes	Yes
Urban-Year FE	Yes	Yes	Yes	Yes
State-Year FE	Yes	Yes	Yes	Yes

Notes:
Standard errors in parentheses
*** p<0.01, ** p<0.05, * p<0.1
a – FE refers to fixed effects

Table 8. Effect on SEWB using the matched sample

	Dependent variable: SEWB 2011			
	PSM 1[a]		*PSM 2*[b]	
Explanatory variables	(1)	(2)	(3)	(4)
Treat (=1)	**.115*** **	.021	**.121*** **	.042
	(.025)	(.035)	**(.025)**	(.035)
LowIncomeGroup (=1)		-.304***		-.282***
		(.030)		(.030)
Treat*LowIncomeGroup		**.190*** **		**.167*** **
		(.049)		**(.050)**
Δ Household income	.000***	.000***	.000***	.000***
	(.000)	(.000)	(.000)	(.000)
Δ Household consumption	.000***	.000***	.000***	.000***
	(.000)	(.000)	(.000)	(.000)
Δ Education	.012***	.015***	.005*	.008***
	(.003)	(.003)	(.003)	(.003)
No. of adults in HH	.057***	.042***	.049***	.035***
	(.007)	(.008)	(.007)	(.008)
No. of children in HH	.002	.005	-.001	.001
	(.008)	(.008)	(.008)	(.008)
Urban (1=yes)	.149***	.088***	.146***	.089***
	(.025)	(.026)	(.025)	(.026)
SEWB 2005	.186***	.148***	.197***	.163***
	(.017)	(.017)	(.017)	(.018)
Δ State mean income	-.000*	-.000	.000	.000
	(.000)	(.000)	(.000)	(.000)
κ1	-.742***	-1.003***	-.554***	-.804***
	(.110)	(.113)	(.109)	(.112)
κ2	.859***	.608***	1.051***	.809***
	(.110)	(.113)	(.109)	(.112)
No. of households	10,180	10,180	10,055	10,055
Social group	Yes	Yes	Yes	Yes
State level effects	Yes	Yes	Yes	Yes

Notes:
Standard errors in parentheses
*** p<0.01, ** p<0.05, * p<0.1
a – PSM (propensity score matching) using income in 2004, total consumption in 2004, number of children in 2004, education in 2004 and location of the household as covariates
b – PSM (propensity score matching)using all covariates in (a), and income in 2011 and consumption in 2011 as additional covariates