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Issues in upward mobility: Study based on longitudinal data from Delhi slums

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ABSTRACT

This study based on two primary surveys of the same households in two different years (2007/08 and 2012) assesses the extent of inter-temporal change in income of the individual workers and makes an attempt to identify important correlates of upward mobility in alternate econometric models, envisaging endogeneity problem. The findings are indicative of a rise in the income of workers across a sizeable percentage of households though many of them remained below the poverty line notwithstanding this increase. Inadequate education reduces the probability of upward mobility while education above a threshold level raises it. Savings are crucial for upward mobility impinging on the importance of asset creation. Views that entail neighbourhood spill-over effects also received validation.

1. Conceptual framework

This paper for evolving an effective policy support focuses on the income-mobility outcomes, particularly of those who are located at the lower echelons of the socio-economic ladder. Mobility can be conceptualized in a number of ways. For example, the Legatum Prosperity Index at the country level considers not only GDP per capita but also the host of entrepreneurial opportunities and other factors including quality of life and wellbeing aspects. Krueger (2012) introduced the "Great Gatsby Curve" based on the data of Corak (2013) and demonstrated less mobility by taking inequality in the horizontal axis and generational earnings elasticity in the vertical axis. At the individual level usually mobility is studied in terms of occupation and also income though the latter is widely used. It can cover a period ranging from one or two years to much longer period involving intergenerational change (Narayan & Petesch, 2012).

Fox and Mille (1965) studied the intergenerational mobility across countries in terms of occupational shift from manual to non-manual or vice versa in relation to the determinants such as GDP per capita, education, urbanization, political stability and achievement motivation. A shift from an occupation which bears more manual work to an occupation with less manual work can be treated as upward mobility though it is not necessarily a shift in terms of class defined on the basis of hierarchy at work (Weber, 1968).[1] McAllister (1995) talked about three forms of occupational mobility of the migrants: intergenerational mobility, career mobility and migratory mobility. Several studies noted, an overwhelmingly large proportion of migrants in low status jobs in the early years upon arrival, and later the job status improved significantly conforming to a u-shaped curve (Bagahna, 1991; Melendez, 1994; Nguyen, Haile, & Taylor, 2005; Raijman & Semyonov, 1995).

Fields (2000),[2] describes five basic approaches to income mobility: time dependence measures the extent of change in one's current position determined by the past position; positional movement gauges changes to an individual's position in the income distribution; share movement captures changes in the share of

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[1] Social class concept is grounded in the presumption that the social location of individuals is determined primarily by their employment status and job characteristics (Grusky & Kanbur, 2006).
[2] As summarized by Narayan and Petesch (2012).

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income; symmetric income movement identifies the magnitude but not the direction of movements and directional income movement weighs fraction of upward and downward movers and the change in the average amount of the gainers and losers. Baulch and Hoddinott (2000) present studies using household longitudinal data ranging from 18 months to 18 years to examine poverty dynamics and economic mobility. In studying such movements households which move in and out of poverty over time can be identified and so also their vulnerability changes in relation to changes in their endowments and the returns to those assets.

We in this paper are not in a position to study the intergenerational mobility – we cover only the mobility (or its absence) of individuals who have been working earlier and now, with a time gap of around five years. Further, in the context of the urban slums dominated by the low income households the upward mobility cannot be visualized unless one is able to take a long time horizon of at least a decade or so.[3] But, though five years duration is too short a period, Delhi being a high growth centre and also the national capital, this time frame is adequate to decipher mobility, if any.

Keeping in view the analytical frame the major hypotheses we test while analyzing the income mobility are as follows: higher is the initial level of income lower is the incremental increase, education is likely to facilitate mobility, location specific characteristics impinge on mobility, women workers due to their less bargaining power are less likely to experience increase in income, ethnic background and mobility are linked suggesting not all migrants have the equal propensity to strive in the labour market and undergo a rise in income and finally, the younger workers are more likely to experience upward mobility than the older workers as the informal sector comprises mostly manual jobs. However, we may also note that those who are already in relatively high income strata are less likely to undergo further increase within a short time frame. Similarly those with higher levels education are likely to have been placed in jobs of desirable status and thus, for them upward mobility actually can be sluggish within a limited time range. With increase in educational levels, wage differentials increase, with which the probability of formal sector employment again rises (Gong & van Soest, 2002; Gong, van Soest, & Villagomez, 2004). However, if such differentials already existed in the base year further increase in the income of the educated ones is less probable to occur.

The details related to the database of the study are discussed in the next section. The rest of the paper is structured as follows. Section 3 delineates certain broad patterns, Section 4 presents the econometric analysis and Section 5 summarises the major findings with policy implications.

The broad methodology followed in the study is as follows:

First we estimate a probit (and also tobit) model based on workers' income in order to capture the phenomenon of upward mobility. But the problem of endogeneity arises because it was a household survey and not a survey of individual workers.

Second, in order to overcome this problem of endogeneity we have adopted two alternative exercises:

a. First, we estimate a probit model making a distinction between workers and non-workers from the household level information and then the derived probabilities for workers are used as instrument in the workers' income function which is estimated (i) by pooling the base year and the terminal year incomes and (ii) by taking terminal year income as a function of base year income in order to capture mobility.
b. We estimate the household per capita income function (i) by pooling the base and terminal year incomes and (ii) by taking the terminal year income as a function of base year income in order to capture mobility.

2. Data Collection and problem of attrition

We were motivated to carry out our survey of population with least development and located in one of the high growth centres in India. Hence, we collected data from two rounds of slum household survey in Delhi (the national capital): the first round was conducted between November 2007 and March 2008 and the second round was commenced from March to September 2012. Residence based sampling rules as Rosenzweig (2003) suggests, affect estimates of economic mobility in the presence of nonrandom household division. We have, therefore, pursued a three-stage stratified random sampling technique for our first survey. In the first stage, using the *Jhuggi-Jhompadi* (rudimentary dwellings) list prepared by the Delhi Government, slum clusters with 200 or more households in all the nine revenue districts were considered. Since the sample was confined to a total of 50 clusters due to time and financial constraints, the population of the number of clusters in each district to the total number was used as weight in deciding the number of clusters to be selected from each district; and then the specific clusters were randomly selected. In the second stage, the proportion of the number of households in each of the sample clusters to the total number of households in the 50 clusters was used as weight to determine the distribution of 417 sample households across the city. In the final stage, based on interviews with the slum chief or informal leaders in the selected clusters regarding various socio-economic aspects of the slums and the residents, households were randomly selected for interviews. For the second round of survey, we tried to revisit the same 417 households. However, out of 50 slums, 4 were demolished by the time the second round was carried out. We therefore opted for a slum cluster in the same district which showed the same number of households. Further, not all the households selected for interview in the first survey could be identified in the second survey. In fact, 279 (66.9%) out of 417 households from 46 slum-clusters were revisited, and the rest were selected on random basis from the same clusters.

In the first survey a three stage stratified random sampling technique was followed to select 417 sample households from 50 clusters. However, out of 50 slums, 4 were demolished by the time the second round was conducted. Further, within the 46 clusters not all the households selected for interview in the first survey could be identified in the second survey. In fact, 279 (66.9%) out of 417 households from 46 slum-clusters were revisited and in our analysis we have confined to these 279 households which could be identified in both the rounds. One important question which may still arise is whether the 279 households selected finally can be interpreted as a random draw. More concisely, whether the distribution of 417 households and that of 279 households follow the same logic of sample selection?

As we examine the distribution of the 279 households in retrospect, proceeding in the backward direction, we are able to verify that their distribution pattern remains by and large the same as that of the 417 households. If we were to select only 279 households from 46 clusters instead of 417 households from 50 clusters in the first survey itself and distribute them across different spatial units (districts) using the same weights, the distribution pattern appears to be almost the same. Only the share of East Delhi district declined from 10 per cent in the first survey to 5 percent in

[3] See Rosenzweig (2003) suggesting that household-level panel surveys that cover time periods of a decade or more have the potential for studying economic mobility.