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Escaping and Falling into Poverty in India Today

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Summary. — The study examines the dynamic nature of movements into and out of poverty over a period when poverty has fallen substantially in India. The analysis identifies people who escaped poverty and those who fell into it over the period 2005–12. Using panel data from the India Human Development Survey for 2005 and 2012, we find that the risks of marginalized communities such as Dalits and Adivasis of falling into or remaining in poverty were higher than those for more privileged groups. Some, but not all of these higher risks are explained by educational, financial, and social disadvantages of these groups in 2005. Results from a logistic regression show that some factors that help people escape poverty differ from those that push people into it and that the strength of their effects varies.

Key words — India, poverty, panel, escaping, falling, social groups

1. INTRODUCTION

The Indian economy has grown by leaps and bounds over the last two decades of its liberalized journey. The world economic crisis notwithstanding, both rural and urban poverty fell substantially over this time period although some debate remains over the magnitude of this fall. Official estimates show a decline from a high of 37% in 1993–94 to 22% in 2011–12, a decline of 15 percentage points. [1]

Though everyone agrees poverty rates have fallen over time, we are less certain about who are the people who have risen out of poverty most rapidly and what advantages they enjoyed that might have helped explain their upward mobility. Moreover, despite the overall decline in net poverty rates, many others have newly fallen into poverty but have been almost forgotten in academic and policy discourse (Krishna, 2010).

Poverty analysis in India has largely depended upon cross sectional data, relying on the "thick" quinquennial and the "thin" annual consumption expenditure surveys by the NSSO. Though highly useful for a continuous monitoring of national progress, these cross-sectional surveys do not allow for examining the dynamics of household outcomes. The lack of national panel data has prevented us from asking what household characteristics increase the odds of exiting or entering poverty? How does occupational diversification affect the risks of poverty? Are historical caste disadvantages reproduced in recent poverty dynamics?

The completion of the second wave of the India Human Development Survey (IHDS, 2016) presents a unique opportunity to observe the movements into and out of poverty by Indian households across the country during a rapidly changing economy. We find that traditional caste and religious differences remain a major impediment for escaping poverty and an equally strong risk for falling into poverty. In contrast, educational attainment and a salaried position offer protection against the danger of falling into poverty but somewhat less help in escaping once there. Urban location offers similar protections against falling into poverty but almost no advantage in escaping poverty after holding constant the educational and occupational advantages typical of urban households.

2. BACKGROUND AND MOTIVATION

Contemporary poverty in India has always been underpinned by the age-old divisions of caste and religious differences. Patterns of poverty and underdevelopment show consistent intergroup differences over time, even during phases of growth and development. India's class differentials have historically mirrored the traditional caste differentials. Brahmins and other forward castes have been the traditional decision makers through their ownership of land and capital, while *Dalits* (Scheduled Castes) have more often worked as landless laborers. Indigenous tribal groups (*Adivasis*), often set apart geographically and socially from the rest of India, have typically been the poorest of the poor.

Despite aggressive affirmative action policies by the Government of India and despite substantial improvements in incomes among all Indians, poverty continues to be concentrated among these most traditionally disadvantaged groups. A recent report based on the 2004–05 India Human Development Survey (Desai *et al.*, 2010) found that while Forward Caste Hindus experienced a 12% poverty rate, Dalit poverty was more than two and half times as high (32%) and a crippling 50% of Adivasis were poor. Intermediate castes (OBCs—Other Backward Classes) had, not surprisingly, intermediate levels of poverty (23%). Comparable estimates of

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poverty (Thorat & Dubey, 2012) based on data from National Sample Survey also show similar inter group differences. While the head count ratio (HCR) for the Dalits and Adivasis were as high as 32% and 30%, they are only 17% for the Forward caste Hindus.

Religious differences in poverty are more complex owing to different levels of urbanization, education, and non-agricultural employment. Nevertheless, 31% of minority Muslims were poor, a rate not much different from Dalits (IHDS, 2005). Other minority religious groups, Jains, Sikhs, and to a lesser extent Christians, have been relatively prosperous; together their 2005 poverty rate was only 12%, about the same as Forward Caste Hindus.

3. PANEL LITERATURE AND ANALYSIS

Poverty analyses in India have depended largely on the cross sectional National Sample Surveys (NSS) consumption expenditure data collected every five years[2] by the Ministry of Statistics and Programme Implementation. Panel data analysis has been less common; what has been available has used mostly selected rural samples from NCAER (Mehta & Bhide, 2003) and from ICRISAT, the International Crops Research Institute for the Semi-Arid Tropics (Gaiha & Imai, 2004; Singh & Binswanger, 1993). The last available year from ICRISAT is 2008 and from NCAER, 1998–99. Lacking sufficient panel data, others (Hatlebakk, 2014; Krishna, 2010) have developed retrospective methods for inquiring about transitions into and out of poverty.

(a) *Social background*

These earlier panel analyses of rural poverty persistence confirmed that the most disadvantaged groups also realized the lowest rates of escape from poverty. The evidence is clearest for Adivasis, while Dalits and especially OBCs occasionally show escape rates more similar to forward castes. For example, Mehta and Bhide (2003) studying 3,139 rural households found that while 63% of "Upper Caste" households who were poor in 1970–71 were no longer poor a decade later, only 37% of Dalits and, even fewer, 30%, of Adivasis had managed to escape poverty during that time. Escape rates for OBC households, 43%, fell between these two extremes. Dhamija and Bhide (2013) extended the analysis of the same NCAER data to 1998–99 and also found that both Dalits and Adivasis were less likely to escape poverty, although the coefficient estimating the log odds of escape for Adivasis, −1.18, was over twice that for Dalits, −0.56 (2013, p. 692).

Krishna (2003) using retrospective accounts for 6,376 Rajasthan households found that while 45% of previously poor Upper Caste households had escaped poverty a generation later, 42% of poor OBC households, 33% of Dalit households, and only 31% of Adivasi households had been able to escape. Using similar methods with 2,245 Gujarat households, Krishna, Kapila, Porwal, and Singh (2005) found escape rates of 22% for "General" Hindu households, 18%, for Dalits, and 15% for Adivasis. More surprisingly, the lowest rates of escape in Gujarat were found among poor OBC households, only 12% of whom escaped poverty. Hatlebakk (2014) using a similar retrospective method with 754 households in two Orissa districts found similar rates of escape for poor OBCs (50%) and Dalits (58%) but much lower for poor Adivasis (17%). Unfortunately, the sample size of poor forward castes was too small to estimate escape rates.

The analyses most similar to what we report here were calculated by Krishna and Shariff (2011) using income, not expenditure data, from a national panel of 13,593 rural households interviewed in 1993–94 and 2004–05. They found the familiar hierarchy of escapes associated with higher caste status: Dalits and Adivasis (46%), OBCs (53%), and forward castes (60%). Interestingly, in a multivariate state fixed effects regression controlling for other household characteristics, these caste differences proved to be not statistically significant. Their results do not indicate so much a lack of caste differences in escaping poverty but rather that a reasonably comprehensive set of intervening variables can explain much of why caste status is related to escapes from poverty.

There has been less research attention to caste differences in falling into poverty, despite widespread acknowledgment that poverty rates are a product of *both* escapes and descents. Bhide and Mehta (2008) using the NCAER data found evidence for higher rates for Adivasis falling into severe poverty and for Dalits falling into moderate poverty. Dhamija and Bhide (2013), analyzing the same data in a multivariate model, found only non-significant caste differences after controlling for other household and area characteristics. The retrospective methods in smaller state-specific samples generally find higher descent rates for disadvantaged castes than for forward castes although the differences among the disadvantaged castes varies from one location to another. Krishna and Shariff's all-India data found large caste differences for falling into poverty with 43% of non-poor Adivasis and Dalits falling into poverty a decade later, 36% of OBCs and 23% of forward castes.

Religious differences have usually been smaller. Mehta and Bhide (2003) found 48% of poor Hindus had escaped poverty compared to 40% of poor Muslims. Krishna and Shariff found only 45% of Muslims escaped poverty during 1994–2005, comparable to the low rates for Dalits and Adivasis (46%). And 39% of nonpoor Muslims fell into poverty during this period, only slightly less than for Dalits and Adivasis (43%) and well below the higher caste risk (23%).

(b) *Economic and educational background*

A review of the existing panel data literature on India as well as other countries suggests that in rural areas, households that escaped poverty over time, were those that managed to increase their land holding or to use existing land more intensively either by increasing irrigation or crop diversification, found off-farm work, increased skill or education, acquired more assets, or reduced family size. At the same time those households that fell into poverty were the ones that lost land or operational area, experienced cropping shocks, increased family size, did not accumulate wealth, did not reduce liabilities, had members who fell ill, suffered a natural calamity, belonged to lower caste, were landless, mostly less educated and could not easily change occupation (Aldeman, Subbarao, & Vashishtha, 1985; Baulch & McCulloch, 2002; Gaiha, 1989).

4. OBJECTIVE

The panel studies reviewed above, while suggestive, have various limitations: all are rural, several are based on small or local samples, and poverty definitions vary widely from one study to another and rarely conform to the standard NSS definition. This study will use a nationally representative panel data of 38,853 households for India, the India Human Development Survey (Desai *et al.*, 2010), fielded in two waves,

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2004–05 and 2011–12. This is the only nationally representative panel that has collected data on household incomes and consumption expenditures, and also includes data on many other socio-economic indicators that might protect households from poverty.

We concentrate on the prior characteristics of households that would predispose them to escape from or descend into poverty, particularly the socio-religious profile of these households. We also try to identify the economic and social resources households have to resist poverty: the household's main source of income, level of education, land ownership, social and financial capital, and household composition. For caste and religion, we first report reduced form differences in exits and entrances and then use lagged logistic regressions to investigate the conditional effects of household characteristics in exposing households to risks of falling into poverty or chances of escaping it. We are also interested in understanding how much of the caste and community disadvantages are explained by these household characteristics.

When considering poverty *transitions,* we need to take account not only of the levels of income and its determinants, but also the steadiness of that income. Steadiness and high levels are easily conflated because they often (but not always) co-occur. Salaried positions in India usually pay better than wage labor, but their advantage in poverty transitions stems also from the greater steadiness of that income as compared to hourly wages. Households with steady incomes avoid the poverty transitions that come from more volatile income sources. Cross-sectional analyses of poverty that miss the churning of exits from and entrances into poverty also miss the importance of steady incomes for protecting households from poverty.

Household characteristics that are relatively enduring properties should be especially important in protecting against falling into poverty: capital of all types—financial, physical, human, and social—can buffer a household against the risks of falling into poverty during bad years. Agricultural capital might seem to be an exception to that benefit because of the inherent volatility of agricultural production due to weather and climatic conditions. But even in agriculture, landowners are better protected from falling into poverty than are agricultural laborers who are the first to suffer from failed crops. Perhaps, more importantly, irrigation can buffer the consequences of rainfall failures and protect cultivators from falling into poverty.

Bank accounts can also provide protection against the volatility of Indian incomes; they not only can hold savings to smooth consumption spending, they can provide better access to credit. Access to banking continues to expand in India, but at the time of the first IHDS survey only a third of Indian households had an account, making this a potentially important difference for families avoiding falling into poverty. And while access to future borrowing may provide a means for households to maintain their living standards, current debt may also create a risk for falling further behind. The retrospective studies described above frequently identify debts as a common path into household poverty.

Human capital, because it remains with a worker through good times and bad, can act also as insurance against descents into poverty just as physical capital can. A college degree or a secondary school diploma remains a credential workers take with them from position to position.

Finally, social capital, like financial and human capital, can be a household resource that may help protect households from falling into poverty during bad times or help efforts to rise out of poverty after setbacks. Memberships in formal organizations, especially micro-credit societies, can provide specifically economic assistance for upward mobility; and more general informal contacts with local influentials can provide the social safety nets that protect against sudden descents or that extend a hand up when trying to recover from a setback.

Of course, the steadiness of income, the buffer of a stock of capital, or the credential that protects employment is not as much assistance if that income has not been sufficient to prevent poverty in the first place. A steady but poverty-level income is poor consolation. For this reason, we expect these predictors of steady income to be more important as protection against falling into poverty than assistance in escaping poverty.

5. METHODS

(a) *Data source*

IHDS began as a multi-topic panel study of 41,554 households from 33 states and union territories across 1,503 villages and 971 urban neighborhoods. The survey was designed to be nationally representative at its inception. In 2011–12, all of the 2004–05 households as well as any households separating from the root household but residing in the same area were selected for re-interviews.

Comparison of IHDS data with other reputable data sources such as the Census, National Sample Surveys (NSS) and National Family Health Survey (NFHS) shows that the IHDS compares well with these sources on common items (Desai *et al.*, 2010). For example, the NSS estimates poverty rate to be 37% in 2004–05 and 22% in 2011–12; IHDS estimates are similar at 38% in 2004–05 and 21% in 2011–12.

IHDS2 reinterviewed 83% of the original IHDS1 households that housed 85% of the Indian population—92% of households in rural areas and 76% in urban areas. Attrition was lower among larger, rural households, especially those who owned agricultural land. Attrition was also slightly higher for the non-poor, 13%, than for the poor, 9%. These differences raise the question of a possible selection bias in our results since we can analyze poverty transitions only for households interviewed in both surveys. Table 3 presents results from a probit analysis of attrition from which we calculated the inverse Mills' ratio included in all the analyses of poverty transitions.

(b) *Poverty*

The IHDS panel collected data on household consumption expenditures using an abridged schedule, similar to the one used by the NSS for their Employment Survey. We convert reported consumption of 47 different items (slightly revised to 52 items in 2012) to monthly per capita consumption expenditures. Head count poverty ratios have been calculated using per capita household consumption and the official poverty line (Tendulkar Committee poverty lines[3]). These poverty lines have been used by the Planning Commission, Government of India for estimating poverty ratios. (Planning Commission, 2009, see also Himanshu, 2010). While the Planning Commission acknowledged the multi-dimensionality of poverty, it maintained the historical reliance on survey consumption data but revised the Rupee cutoff values away from a calorie criterion toward a broader basket of food, health, and education expenditures.

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Our analysis compares the poverty status of a household in 2012 (round two) to its status in 2005 (round one). For poor households in round one, we investigate whether they escaped poverty or remained poor; for non-poor households, we investigate whether they fell into poverty or remained non-poor. Thus our dependent variable is the poor or non-poor statuses of a household in round two given that the household was non-poor or poor in round one. For new household splits in round two, we trace back their poverty status to the origin household in round one.

(c) *Variables*

We investigate round one household characteristics, focusing especially on caste and religion. In the multivariate models, we add highest adult education in the household, main source of income, land owned, irrigated land or not, household composition, social networks, and state dummies (see means in Table 2).

i. Caste—we divide all households into four groups, Adivasis (Scheduled Tribes), Dalits (Scheduled Castes), OBCs (Other Backward Classes) and Forward Castes (all others). We use this fourfold classification for both Hindu and non-Hindu households because in other analyses not reported here we find that the differences between self-reported caste groups among Muslims, Sikhs, Christians, and others largely parallel those among Hindus.
ii. Religion—we include four groups: Hindus, Muslims, Sikhs, and Christians, and all others which includes Buddhists, Jains, Zoroastrians, Tribals, others, and none (not reporting any religious affiliations)
iii. Highest Educated Adult—this variable gives the highest level of education attained by any adult aged 21 or over in the household; for the few households with no adult, we used the education of the person designated as the household head. We divide years of educational attainment into six groups.
iv. Main Income Source—IHDS collected detailed income data from over 50 possible sources. We group these into eight major sources (farm, agricultural wage labor, non-agricultural labor, regular salaried, self employment, family business, property or pension income, remittances, and government benefits) and classify the household according to the source of the largest income share.
v. Land Class—we first divide households into those who do and do not own agricultural land, and then for those with land, we calculate the logarithm of hectares owned. In order to avoid missing values, non-landed households are assigned a low value on landsize (0.1 ha), thus constraining the landed/landless dummy coefficient to compare non-landowners with very small landowners and reserving the analysis of land size only to households with some land. We also included a dummy variable for whether any of the household's land was irrigated.
vi. Bank account—an "eligible woman" in the household, an ever-married woman 15–49, was asked whether the household had a bank account and whether her name was on the account. Approximately 1 in 6 households did not include an eligible woman so the survey has no information on whether the household had a bank account or not. This information is important enough that we tested the role of bank accounts for these eligible woman households, substituting the mean (0.36) for missing data and adding a dummy variable to identify the households with missing data.[4]
vii. Member of credit/savings group—IHDS asked whether a household was a member of any of nine different types of organizations; we focus on membership in a "credit/ savings group".
viii. Debts—households were asked to report how much they currently owed others, from which we calculated a simple dichotomy of any debt versus no debt.
ix. Social networks—this variable captures whether a household is acquainted with a government official, a teacher or school staff, or a medical official.
x. Household structure—household size is the total number of persons in the household and the dependency ratio is the number of non-working household members per working members of the household.
xi. We also included 21 state dummies to control for the wide range of regional differences in levels of and changes in poverty. We collapse several smaller states with small survey samples into regional groups, narrowing the number of states from 31 to 22.

(d) *Analyses*

We begin by reporting simple cross-tabulations of poverty rates, exits, and entrances by caste, religion, and other background variables. We compare groups using simple percentage differences, but as will be quickly apparent, those statistics can be misleading when groups are starting at such different levels of poverty.

The more analytic part of the paper uses a dynamic logistic regression model that takes as the dependent variable the poverty status (0/1) of households in time t (the 2012 IHDS survey) separately for households who were poor or nonpoor at time period t_{-1}, factoring in a range of control.

$$\{Y_t = \propto + \beta X_{t-1} + \gamma Y_{t-1} + \lambda_{t-1} + \varepsilon_t\}$$

Y_t = Poverty status in current period.
Y_{t-1} = Poverty status in initial time period.
X_{t-1} = Set of controls in initial time period (social group, education etc.)
Y_{t-1} = Inverse Mills' ratio
ε_t = Error term

The logistic regressions have the advantage of comparing groups by their log odds of escaping or entering poverty, comparisons that are not so closely determined by their initial poverty levels, as are percentages differences. For example, a group with a 20% poverty head count ratio that fell to 10% experienced the same change in log odds as a group that began with a 50% poverty rate that fell to 31%. Although the former group changed by only 10 percentage points, its poverty rate was cut in half; while the latter group had a 19 percentage point change but its poverty rate was reduced by only 38%.

All analyses are weighted by the sample weights in the IHDS2 files to reflect the national population. We also correct the standard errors to account for clustering into the 2,435 primary sampling units.

(e) *Robustness checks*

Our main analyses use the conventional Indian measure of household poverty that is based on consumption expenditures per capita using a poverty line drawn by the Tendulkar Commission. There are many other possible ways of identifying Indian poverty, and it is possible that our results would differ with different poverty definitions. We re-compute the analysis for some although certainly not all of these possibilities. Instead of adjusting for household size by using a per capita

measure of consumption, we also use an "equivalenced" measure that divides total household consumption by the square root of the number of persons in the household—an adjustment more common in poverty measures in high-income countries. We also construct a measure of "severe poverty" with a cutoff at 80% of the official line and a measure of "near poverty" with a cutoff at 125% of the poverty line. Finally, we take advantage of the wide range of economic indicators available in the IHDS using household income and household assets as measures of economic standing, drawing the poverty lines at a level to identify an equivalent percentage of the population as with the more conventional consumption measure.

6. RESULTS

(a) *Descriptive statistics*

(i) *Poverty decline*

As with other data sources, we find that the head count ratio fell substantially over time from a high of 38% in 2004–05 to 21% in 2011–12, a drop of 17 percentage points. The decline was pervasive: all groups showed declining poverty over this period, although not always by equal amounts. By one measure, more poverty reduction happened in rural areas, which saw a 17 percentage point fall from 42% to 25%, as compared to 15 points in urban areas from 28% to 13%. However, the urban rate fell by more than half while the rural rate fell by slightly less than half so by that metric urban areas did better. The simplest overall summary is that poverty fell substantially in both rural and urban areas although the urban advantage was maintained.

A comparison across caste groups also shows substantial drops for all groups but the largest percentage point fall for Adivasis (23 points, see Figure 1). Dalits and those from other backward classes (OBC) experienced similar percentage drops of 18 to 20 points while Forward castes experienced only a 12 percentage point drop. The most vulnerable groups have had larger percentage point declines than the better-off groups, though these reductions are from very high poverty levels in the first round. So, while Forward castes and OBCs have had poverty rates fall almost in half, for Adivasis poverty declined by only a little over a third. And despite the major reductions, poverty levels are still very high for the Adivasis. Similarly, despite significant reductions for OBCs and Dalits, the caste differentials persist.

We find that Muslims have done well, registering a 21 percentage point reduction, 4 percentage points more than the Hindus. Close behind are the other minority religions and the Hindus with 16 and 17 percentage point reduction. Sikhs and Christians together show low reductions; this is not unexpected as these are already low poverty communities.

(ii) *Escaping and falling into poverty*

Nationally, escaping poverty among the previously poor was far more likely than falling into poverty among the previously non-poor. That difference was an important reason for the decline in poverty over the seven years. Of the 38% of the population who were poor in 2005, 25% had escaped by 2012, almost two-thirds of the previously poor. Slightly offsetting this, only 8% of the population newly fell into poverty, only a little over one eighth of the 62% of the population who had been non-poor. These panel results demonstrate substantial churning over time among the poor. Most households who were poor in 2005 had left poverty by 2012; some of this may be quite transient poverty, however, there remains much persistent poverty as well. The majority (61%) of poor households in wave two had also been poor in wave one. The growing prosperity pulled many households out of poverty but also left an unfortunate minority who benefited little from the economic growth. Altogether, 13% of all Indians were poor in both surveys.

In what follows, we focus on the escape rates of those who were previously poor, and the descent rates of those who were previously non-poor. These rates provide a better comparison of caste and other differences in the relative chances of poverty transitions than do the total population percentages that are more strongly determined by the initial, often very different, poverty rates.

Escape and descent rates are similar for rural and urban India, although urban areas enjoy an advantage of higher rates of escape and lower rates of falling into poverty. In urban India 71% of the poor in 2004–05 escaped poverty by 2011–12, whereas only 64% of the rural poor escaped poverty over the same period. At the same time about 16% of the rural nonpoor in 2004–05 had fallen into poverty by 2011–12, as compared to only 8% in urban areas.

The share of those escaping poverty varies even more significantly across social groups (Figure 2). Escaping poverty is closely tied to traditional privilege. The largest shares are from among the Forward Castes (73% of the previously poor had become nonpoor by 2012) followed by the OBCs with 70%

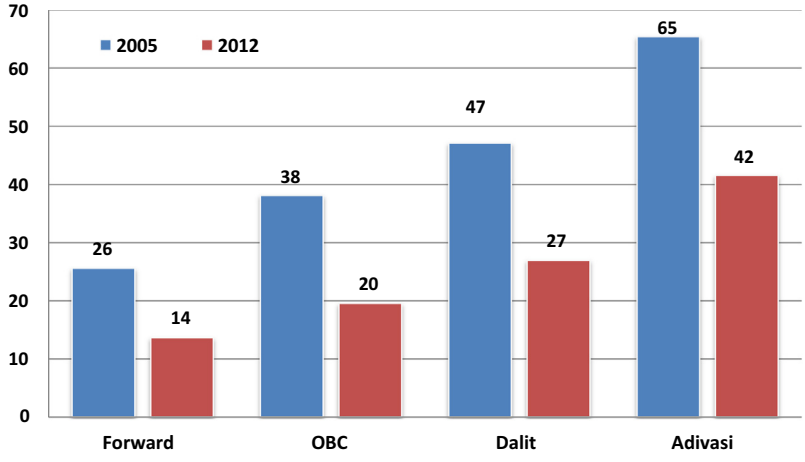

Figure 1. *Poverty Incidence in 2005 and 2012 across Social Groups (IHDS).*

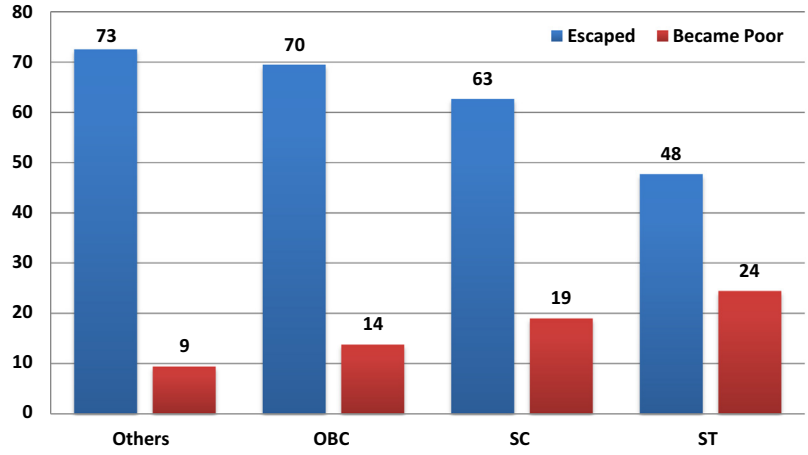

Figure 2. *Percent of those Escaping & Falling into Poverty in 2011–12 compared to 2004–05, by Social Groups (All India, IHDS).*

escaping poverty. The Dalit poor fared less at 63% escaping over seven years. But by far the most disadvantaged were the Adivasi poor among whom only 48% managed to leave poverty between the two surveys.

The risk of becoming newly poor follows the same pattern of immiseration across social groups. Among Adivasis who were not poor in 2005, 24% had become poor by 2012. Dalits follow next with 19% of the previously nonpoor falling into poverty. But only 14% of nonpoor OBCs had become poor between the two surveys, and an even lower 9% for Forward castes.

Thus, despite the fact that poverty incidence has fallen substantially and large numbers have managed to escape it, the handicap of historic exclusion and continued marginalization is still felt by the most disadvantaged groups; fewer among them are able to lift themselves out of poverty and more of them risk falling back into it. Some of the differences among social groups and between rural and urban residents probably reflect the fact that non-poor Dalits and non-poor rural residents may be closer to the poverty line than others and thus have a higher risk of falling back below that line. In the multivariate analyses, we can control for those differences.

(b) *Lagged logistic regression*

Large segments of the Indian population have moved out of poverty, but which household characteristics enabled them to escape poverty or put them at risk of falling into poverty? We run two lagged logistic regressions to tease out some of these effects. First, we measure the odds of a person who was poor in wave one becoming non-poor in wave two, given demographic, economic, and social characteristics of the household in wave one. Then we measure the odds of a person becoming poor in wave two given that the person was not poor in wave one. We proceed stepwise for each equation, first calculating a reduced form model to investigate variations across caste and religion and between urban and rural areas. These models also control for the household's economic distance from the poverty line, state fixed effects, and a selection effect based on attrition between the two surveys. Then we add controls for social background and economic resources that may explain the group and rural–urban differences: highest adult education, main income source, bank and credit resources, landholding, irrigation, social capital, dependency ratio, and household size.

(i) *Urban/rural differences*

Table 1 gives the odds ratios of escaping and falling into poverty in wave two, separately for those who were poor and nonpoor in wave one. For the social group characteristics reported in the reduced form models, the results are similar to the bivariate results reported above with some interesting exceptions.

First, urban households' advantages noted above are found only for the risk of newly falling into poverty. Among the non-poor in 2005, urban residents had less than two-thirds the odds of becoming poor in the second wave as did rural residents of the same expenditure level, living in the same state. The volatility of rural incomes is clearly reflected in this difference, but the non-significant difference for escaping poverty suggests also that urban poverty may be as persistent as rural poverty.

Rural residents' higher risk of falling into poverty is more than explained by their disadvantages in education, income sources, and other resources. In the full model with all these controls, urban residents have almost twice the risk of falling into poverty as equivalent rural residents. And their chances of escaping poverty are only about half that for similar rural residents. As we will see below, urban residents' greater human, social, and financial capital cushions them from poverty transitions; except for these advantages, their poverty transitions would be even higher than for rural residents.

(ii) *Social groups and religion*

Caste differences also follow the bivariate results reported above, but unlike the rural–urban differences, the regression results show that caste differences are quite similar for falling into and escaping poverty. The enormous handicap of Adivasis is shown well in these coefficients. Adivasis had just 40% of the odds that Forward Castes had of escaping poverty. At the same time, they were two and a half times as likely as Forward Castes to newly fall into poverty. Surprisingly little of these higher risks are explained by Adivasis' lower educational, social, and economic resources. In the full model, Adivasis still had 49% of the odds of equivalent Forward Castes of escaping poverty and 1.7 times the risk of newly falling into poverty.

Dalits also were disadvantaged both in escaping and avoiding poverty between the two surveys. They had just 64% of the chance that Forward Castes had of escaping poverty and were two times as likely to fall into poverty; not as disadvantaged as Adivasis, but still substantially more at risk than Forward Castes or even OBCs. Interestingly, most of the Dalit

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Table 1. *Regressions of 2004–05 to 2009–10 poverty transitions, on 2004–05 characteristics*

Variables	Escaping poverty		Falling into poverty	
	1 Odds ratio	2 Odds ratio	1 Odds ratio	2 Odds ratio
Urban	1.060	0.511***	0.632***	1.842**
Caste: Ref. = Forward				
OBC	0.893	1.064	1.235**	0.883
Dalits	0.637***	0.878	2.204***	1.104
Adivasis	0.403***	0.494***	2.622***	1.704***
Religion Ref.=Hindus				
Muslims	0.826**	0.789***	1.535***	1.407**
Sikhs/Christians	0.802	0.685	1.130	1.217
Others	0.991	0.926	1.098	1.182
Education: Ref.=none				
1st–4th standard		1.025		1.118
5th–9th standard		1.126		0.814**
10th–11th standard		1.218		0.618***
High school & some college		1.221		0.604***
College Grad.		1.466***		0.435***
Social, financial capital				
Bank account		1.479***		0.720***
Credit society		1.077		0.914
Some Network		1.029		0.953
Any current debt		0.958		1.263***
Income Source, Ref = Farm				
Agricultural Wage Labour		0.823*		1.079
Non-agricultural Labour		0.85		1.188
Salary		1.194		0.579***
Business		0.886		0.766**
Remittance		1.13		0.728*
Government Benefit		0.360**		0.766
Other (including property)		0.693		1.044
Land Owned or not		0.826		1.643**
Log land owned		1.133***		0.829***
Irrigation		1.277***		0.651***
HH size		1.185***		0.847***
% Of Non-Workers		1.280**		0.496***
Log of poverty ratio	2.426***	2.105***	0.403***	0.570***
Inverse Mills' Ratio	0.892	0.162***	1.185*	8.945***
State dummies	Yes	Yes	Yes	Yes
Constant	5.008***	43.260***	0.183***	0.014***
Observations	13,604	13,502	25,143	24,939

Source: Authors' analysis of India Human Development Surveys.

Note: *** = $p < .001$; ** = $p < .01$; * = $p < .05$; + = $p < .10$.

disadvantage can be explained by their lower resources included in the full model. Their lower odds of escaping poverty rise from 64 before controls to a non-significant 88% after; and their higher risk for newly falling into poverty drops from 2.0 times to a non-significant 1.1 times after controls. The smaller risks after controls may be an optimistic result; to the extent these social and economic resources are subject to policy interventions or to Dalits' own efforts, we can expect their higher poverty rates to eventually disappear.

OBCs were not very different from Forward Castes: they were not significantly different from the Forward Caste odds of escaping poverty. Their odds of falling into poverty are 1.24 times the odds for Forward Caste, a difference that is entirely explained by their lower resources.

Muslim disadvantages in poverty transitions are somewhat different. As shown in the reduced form models of Table 1, Muslims have slightly lower odds of escaping poverty and slightly higher risks of falling into poverty than Forward Caste Hindus. Their relative disadvantages are most similar to the relative risks facing OBCs. But their position looks quite different after controls for their 2005 resources are included in the full model. Compared to Forward Caste Hindus in a similar educational, social, and economic position, their odds of escaping poverty are 0.789 times the odds for Forward Castes, while their chances of falling into poverty are 1.407 times that for Forward Castes. That is, controls for their resources shows Muslims to be more, not less, vulnerable to poverty transitions.

(iii) *Resources: education*

Education is the quintessential human capital credential and provides strong and consistent protection against falling into poverty. A household with a college graduate is 0.56 times as likely to fall into poverty than an equivalent illiterate household (i.e., illiterate households are over two times as likely to fall into poverty as a household with a college graduate). Even

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for households who were poor in 2005, those with higher education were able to escape more often, but the education effect on avoiding poverty is larger and extends further down the schooling ladder than the education effect on escaping poverty. As Table 1 shows, difference between educated and illiterate households in escaping poverty is statistically significant only when an adult household member has a college degree, in contrast, even completion of primary education significantly reduces the odds of falling into poverty and this effect increases at higher levels of education. Compared to illiterate households, the odds of escaping poverty are 0.814, 0.618 and 0.435 respectively for households with 5–9 grades of education, 10–11 grades and college degree respectively.

More education is also part of the reason why urban residents escape poverty more often than rural residents and why Forward Castes escape more often than Dalits. None of these differences are completely explained by education. Logistic regressions controlling only for education (not shown) suggest that substantial differences would remain even if the groups had equal education. But educational differences are perhaps the most susceptible to policy intervention among the resources we study so their importance in reducing (although not eliminating) age-old social disadvantages should not be understated.

(iv) *Income sources*

Part of the reason education provides protection against poverty is that it may provide entrance to stable jobs. Employees with a regular monthly salary have lower odds of falling into poverty than all other households. These salaried jobs have the dual advantage of paying well and paying steadily. Only 20% of salaried households were in poverty to begin with in 2005. And the chances of the other 80% entering poverty after seven years were among the smallest for any type of household.

However, for the 20% of salaried households already in poverty in 2005, their salaried positions were not nearly as good a benefit for escaping poverty by 2012. Poor salaried households were not significantly more likely to exit poverty than were poor cultivating households. For the poor, a steady salary may also mean steady poverty. The salaried advantage is a low frequency of initial poverty because of higher than average incomes and low risk of falling into poverty because of the steadiness of incomes, but a steady salary is not much comfort if a household is already at a poverty level.

There are surprisingly few differences among other sources of income in households' odds of transitioning into or out of poverty once initial economic and social levels are held constant. Cultivators appear to have no more or no less chance of falling into or escaping from poverty than do business households or those depending on wage labor. Wage labor households are more likely to start out poor, but holding constant that initial level, they are no less likely than equivalent cultivating or business households to escape poverty—nor no more likely to fall into poverty if starting as non-poor. Nor are households primarily receiving remittances, government benefits, or property income very different, although our samples of those households are especially small so any conclusions about their transitions must be especially tentative.

Among cultivators, there is some evidence that larger landowners may have been better off due to their asset stability; the more land owned the lower the risks of falling into poverty and the greater the chances of escaping poverty. But more importantly, access to irrigation reduced subsequent poverty risks for cultivators, as they are not dependant on seasonal rains for their water needs. As Table 1 shows, landowners with irrigation are 0.651 times as likely to fall into poverty as compared to those landowners who depend on seasonal rains. Irrigation was even helpful for cultivators escaping poverty, increasing their odds to 1.277 times the odds of more rain-dependent cultivators.

(v) *Finances*

As would be expected, bank accounts help prevent falls into consumption poverty and are significant also for rising out of poverty. The expansion of banking across India offers a major opportunity to reduce the volatility of poverty transitions. Membership in a credit society appears less successful in smoothing out consumption volatility in order to avoid poverty. The IHDS results also confirm the importance of debt as a source of falling into poverty: Nonpoor households who report having some debt in 2004–05 have a 26% greater chance of having fallen into poverty seven years later; debts did not lower or raise the chances of poor households escaping poverty between the two surveys.

(vi) *Household structure*

Larger households have less chance of falling into poverty and more chance of escaping poverty once there. More people may mean more labor resources for the future and a greater flexibility to utilize all household resources. Similarly, a higher dependency ratio in 2005 also raises the chances of escaping poverty or not falling into poverty in the next seven years. This may seem counter-intuitive at first since cross sectionally, the fewer household members who work, the more likely the household is to be in poverty. But some of these dependents in 2005 can later enter the labor force, especially young men who finish their education, thus enabling the household to escape poverty or to avoid falling back into poverty. And young women may finish their schooling and marry out of the household thus raising the per capita consumption levels. Measurement issues may play a role in the household-size relationship since the poverty line is drawn on the basis of consumption *per capita,* so that larger households have a larger denominator. But, as we see in the robustness checks, poverty measures with lower penalties for household size also show larger households had higher rates of transition out of poverty and less chance of falling into poverty.

(vii) *Selection effects and distance from the poverty line*

Not surprisingly, the further above the poverty line a household is, the lower its risk of falling into poverty seven years later. And poor households closest to the poverty line are the ones most likely to escape poverty. Some of this beneficial effect can be attributed to other characteristics of those households, higher in per capita consumption: they tend to be better educated, more likely to have a salaried job, and more likely to own irrigated land. But the remaining importance of absolute levels of per capita consumption reminds us that the poor and the non-poor are not discrete categories but necessarily somewhat arbitrary lines drawn in a consumption continuum. Controlling for the household position on this continuum is nevertheless important since other differences, for instance, between Dalit and Forward Caste households, are often more a result of the fact that poor Dalit households are much poorer than the poor Forward Caste households. It is as much their greater poverty than their Dalit status that holds them back from escaping poverty or increases their risks of falling back into poverty.

The probability of a household being re-interviewed is positively related to a higher risk of falling into poverty

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or not escaping poverty. Re-interviewed households are in some ways similar to households at greater risk. This may be somewhat surprising since poverty in 2004–05 is correlated with attrition between the two surveys. Re-interviewed households have much in common with the measured social and economic characteristics of households at less risk of falling into poverty. Larger rural households with more land were more often re-interviewed in 2011–12; households with less property ties to their villages and neighborhoods were more likely to have left after seven years. The positive association between likelihood of attrition and escapes from poverty only appears after these other factors are held constant. The types of households who were not found—who had migrated out of their original villages or urban neighborhoods—resembled households who improved their economic position over the next seven years. This resemblance may also suggest that unmeasured characteristics of households who improved may be similar to the unmeasured characteristics of households who left their original homes to make a better life somewhere else. In any case, the results show some evidence of selection effects that temper our results somewhat because out-migrants are not included in the sample.

(viii) *Robustness checks*

Poverty definitions have long been an intense focus of debate both internationally (Atkinson, in press) and in India (Deaton & Kozel, 2005). For our analysis of transitions into and out of poverty, the important question is whether different definitions would yield different conclusions. Our robustness checks vary assumptions about economies of scale, about where to draw the poverty line, and about which economic dimension (consumption, income, or assets) is used to define poverty. Results for each of these measures are reported in Tables 4. For the most part, the main conclusions described above are not affected by the choice of poverty measure. For example, salaried employment protects against falls into severe poverty or into near poverty; whether consumption, income, or assets are used to rank households; and whether household size is adjusted to a per capita measure or less drastically to an "equivalenced" measure using the square root of household size. Nor do any of these alternative poverty measures reveal much effect of salaried employment on the odds of escaping poverty once there.

Some exceptions to the main patterns are understandable. For example, having a bank account protects against falls into consumption poverty or into asset poverty, but not so clearly against falls into income poverty. Also, poverty status between the two surveys is more stable when poverty is measured in terms of household assets rather than household consumption: using asset poverty, only 4% of Indians became newly poor between the two surveys and only 19% left poverty. The corresponding percentages for consumption poverty were 7% and 29%.

7. DISCUSSION

Our IHDS results reaffirm the conclusions that poverty has indeed fallen substantially over this seven-year period. In addition, they enable us to quantify the household transitions both out of but also into poverty despite the overall trend. We find that the majority (65%) of households who were poor in 2005 had escaped poverty by 2012. This is a remarkable achievement that documents how even the poor shared economic prosperity during these times.

Their successes were only partially offset by the 14% of the non-poor who fell into poverty during this period. These newly poor, however, raise the issue of transient poverty. Not all the poor have always been poor, and public policy responses to the transient poor may need to be quite different from policies for the long-term poor (Krishna, 2007). Nevertheless, long-term poverty remains a problem. Despite the fact that most of the 2005 poor had escaped poverty by 2012, most of the households who were poor in 2012 had also been poor in 2005.

(a) *Falling into poverty versus exiting from poverty*

A household's level of human and physical capital is more important in explaining who avoids falling into poverty than explaining which poor households escape poverty. Not surprisingly, more education reduces not only levels of poverty but also especially new entrances into poverty. Higher education also enhances exits from poverty but at a lower rate than reducing new entrants. While neither entering nor remaining in poverty is common among the best educated, education reduces poverty more because it reduces falls into poverty rather than helping families escape. The best educated never experience poverty at all. Or, to observe from the other end, illiteracy both raises the risk of falling into poverty and reduces the chances of escaping, but the effect on falling into poverty is much greater than the effect on remaining in poverty. As a consequence, the illiterate are especially vulnerable to spells of poverty.

Salaried employment reduces poverty in much the same way. Households with a salary income have a steady and reliable source of support that cushions them against economic misfortune. They rarely fall into poverty although on the rare instance when that happens, they are little more likely to emerge quickly than are farmers or business owners.

Irrigated land protects farmers in much the same way as higher education or a salaried income protects all households. Farmers with irrigation are less likely to fall into poverty than small farmers without irrigation, but for the minority who have become poor, these assets are somewhat helpful in escaping poverty.

Rural areas also have higher poverty rates primarily because rural households are more likely to fall into poverty. An agricultural base induces dependency on the fluctuations of seasonal weather patterns, and these fluctuations drive rural households into poverty more frequently than urban households. These fluctuations may be increasing in frequency, such as fluctuations in the Indian monsoon rains, and could be a manifestation of global climate change. However, rural households escape poverty at rates not much different than urban households; in fact in the reduced form model the rural–urban difference is not statistically significant. So, rural poverty is disproportionately a problem of higher risks of falling into poverty. This higher risk is explained by the opportunities available to rural households: less educated, less of a chance for salaried jobs, fewer bank accounts; these and other differences are important enough that in the full model comparing urban and rural households with equivalent characteristics, it is the urban residents who have a higher risk of falling into poverty.

These background factors in 2005 are somewhat better at predicting which households avoid falling into poverty than identifying households who escape from poverty. For the most part, the measures that predict exiting poverty, also predict not falling into poverty, but the odds are generally

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lower and sometimes not statistically significant. The caste variables are a partial exception to these stronger effects on entrances than exits. Our analysis shows that while Dalits and Adivasis have experienced major movements out of poverty, they still lag behind OBCs and Forward Castes in both rates of exit from poverty and avoiding new falls into poverty. Dalits and especially Adivasis suffer from the worst of both worlds: they have lower rates of escape and higher rates of entry. Much of the disadvantage for Dalits can be explained by their lower levels of human capital, especially their lower education, the lack of salaried employment, and their smaller households. But these same factors do not explain as much of the Adivasi disadvantage. Adivasis remain at a higher risk of poverty—both entries and lack of exits—than equivalent Forward Caste Hindus. They suffer equally from the risks of falling into transient poverty and of remaining there, permanently poor.

(b) *Further research*

The availability of panel data greatly expands our ability to understand the dynamics of poverty. In this paper, we have concentrated on the prior characteristics of households who escape or fall into poverty. The results help answer the question of who is most at risk of falling into poverty and who has the best prospects of escaping poverty. Many other questions can be asked of these panel data that are beyond the scope of the current paper. One fruitful area for exploration would be to investigate the intervening events between the two surveys that distinguish households who escaped poverty from those who remained; and households who fell into poverty from those who avoided that fate (e.g., Bane & Ellwood, 1986). Household divisions, deaths and illnesses, new sources of income are among the many events that may propel households out of or into poverty.

Our analyses have also concentrated on the household characteristics that predict entrances into and exits from poverty, but households' poverty transitions also depend on economic and social factors beyond the borders of the household itself. Transportation connections to employment, climate patterns, industry structure, and civil unrest are examples of the many contextual forces that need to be studied. Differences in public policies and in the implementation of those policies are especially important for poverty transitions. Other research using the IHDS data has shown that participation in the Mahatma Gandhi National Rural Employment Program may have played a useful role in reducing poverty (Desai, Vashishtha, & Joshi, 2015).

It is also important to acknowledge that many regressors included in our analyses are endogenous, thus, the observed correlation between these regressors and poverty dynamics may well be spurious. For example, many caste associations set up banks, scholarship and hostels for students and food distribution programs. Thus, caste membership may determine education, bank accounts as well as household food consumption (Desai & Dubey, 2011). This argues for caution in interpreting these results and re-examining this evidence with panel data that has more than two rounds to better understand the dynamic nature of regressors along with the poverty dynamics.

(c) *Transient and chronic poverty*

A growing literature on the dynamics of poverty has focused more on the questions of chronic poverty and poverty traps than on the questions of entries and exits that we have emphasized (Glauben, Herzfeld, Rozelle, & Wang, 2012; Naschold, 2012; Shepherd & Mehta, 2006). While analyses of poverty durations are an obvious advance over earlier research that could look only at a single moment of poverty, we believe that identifying which households exit or enter into poverty offers a useful, more dynamic, alternative to earlier work on poverty durations. The characteristics of households who remain poor over the two IHDS waves identify the factors that raise the risk of chronic poverty. Similarly, the characteristics of nonpoor households who subsequently fall into poverty identify who is most at risk of transient poverty.

We also believe that the past poverty literature often pays insufficient attention to transient poverty, as if falling into poverty was less worrisome than remaining in poverty. Is it really worse for one household to be poor for two years than for two households to be poor for a year? Certainly, few have asked the poor themselves which experience is worse (although see Davis, 2007). One can imagine that under some circumstances, transient poverty might be more distressing for previously nonpoor households than is persistent poverty for the long-term poor. Anirudh Krishna has been especially insistent that we should not neglect falling into poverty: "Falling into poverty is frequent, traumatic, frequently irreversible, and therefore serious enough to merit separate policy attention" (Krishna, 2007, p. 1951).

Nor has there been enough research on the *consequences* of transient versus persistent poverty, for the children being raised in those households, for the physical and mental health of all the household members, or for the marriage bonds that hold nuclear households together or for the filial and fraternal bonds that hold together more extended households (but see Baevrea & Kravdal, 2014; Benzeval & Judge, 2001). The sometimes too casual dismissal of transient poverty in the research literature ("being poor at a few moments in time" Barrett et al., 2013) seems to suggest that poverty consequences must accumulate over time making persistent poverty more of the problem, but that is a largely unexamined assumption. Until we have better data on these consequences, a more balanced approach between new entries into poverty and the inability to escape poverty would leave us in a better position for future understanding.

8. CONCLUSION

Poverty research in India has enjoyed a long and distinguished history. We are ready to move to the next stage by better investigating the dynamics of entries and exits into poverty. Poverty is always a misfortune, but because different types of poverty may have different causes and consequences, we need to move beyond more static investigations or even analyses of trends based on repeated cross-sections.

This first look at IHDS panel data suggests that traditional, social, and economic disadvantages are reproduced in both types of poverty transitions: Dalits and Adivasis are more susceptible both to entry into and lack of escape from poverty than are Forward Castes or even OBCs. But other characteristics prove more important for one type of transition than another. Salaried work and more education are especially important for avoiding falls into poverty but they have less or even no role in predicting escapes from poverty. Our results demonstrate each of these possible relationships and thus reinforce the need to explore poverty dynamics more fully.

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NOTES

1. These estimates are based on the "thick" rounds of Consumption Expenditure Survey for 2004–05 and 2011–12 conducted by the National Sample Survey Organisation. Planning Commission of India Press Release

2. NSS—Consumption Expenditure Data is a large countrywide sample survey conducted every 5 years and collects household-level information on rupee expenditure on consumed items. This household consumption expenditure is then used as a proxy for the household's monthly income.

3. The Government of India appointed a committee under the chairmanship of the Suresh Tendulkar. The Committee reviewed the existing methodology of estimating poverty in India and recommended new poverty lines for the rural and urban areas (Planning Commission, 2009). For details of methodology, click link to online the report (Tendulkar Committee Report Online)

4. Thus, the coefficient for having a bank account reflects the importance of banks only for the 82% of households with eligible women; we cannot test whether the estimate would be different in other households. The value of the substituted mean, 0.36, has no effect on this coefficient but determines the size of the eligible woman dummy coefficient.

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APPENDIX A.

Table 2. *Descriptive statistics*

Variable	Observations	Mean	Std. Dev.	Min	Max
Rural/Urban	38,853	0.3149821	0.4645147	0	1
Social Group	38,853	2.0872	0.9196115	1	4
Religious Group	38,853	1.262605	0.6186895	1	4
Education level (6)	38,803	6.573255	5.011102	0	15
Social Network	38,853	0.5516176	0.4973349	0	1
Main Income Source	38,853	3.162278	1.699679	1	9
Land owned or not	38,853	0.9842226	0.124615	0	1
Agri. Land owned	38,853	−1.348687	1.312536	−7.119252	4.393673
Irrigation	38,853	0.2291458	0.4202886	0	1
Membership to credit society	38,797	0.0718612	0.2582613	0	1
Current Debt	38,586	0.4431659	0.4967658	0	1
HH has Bank A/C	38,853	0.3629846	0.4370041	0	1
Eligible women absent	38,853	0.1747355	0.3797456	0	1
Log Poverty Ratio	38,809	0.2668665	0.6383013	−4.78343	4.529401
HH Size	38,853	5.849072	2.996175	1	38
Percentage of Non-workers	38,853	0.570582	0.2316604	0	1

Source: Authors' calculations from the Indian Human Development Survey.
Note: Observations have been weighted according to weights in the file to reflect the 2011 Indian population.

Table 3. *Probit analysis of attrition between survey waves*

	Coeff.		Std. err.
Urban	0.4141	***	0.0218
Any farm land	−0.3104	***	0.0207
Highest adult education	0.0073	**	0.0022
# of household assets	0.0099	***	0.0020
Household size	−0.1320	***	0.0042
Religion (ref = Hindu)			
Muslim	0.0944	***	0.0270
Christian	0.0512		0.0464
Sikh	0.0201		0.0666
Other	0.0741		0.0581
Caste (ref = Forward)			
OBC	−0.0445	+	0.0233
Dalit	0.0588	+	0.0354
Adivasi	0.1007	***	0.0206
Month of interview (ref = January)			
February	−0.0628		0.0482
March	−0.0653		0.0570
April	−0.0891		0.0581
May	−0.0062		0.0581
June	−0.0437		0.0581
July	0.0513		0.0588
August	0.1940	**	0.0602
September	0.3303	***	0.0735
October	−0.0393		0.0798
November	0.0465		0.0539
December	−0.0421		0.0529
States (ref = Tamil Nadu)			
Jammu & Kashmir	−0.2360	**	0.0813
Himachal Pradesh	−0.1484	*	0.0666
Uttarakhand	−0.0196		0.0898
Punjab	0.0171		0.0609
Haryana	0.1009	+	0.0591
Delhi	0.5909	***	0.0654
Uttar Pradesh	0.0923		0.0617
Bihar	0.1424	*	0.0713
Jharkhand	0.3116	***	0.0637

(*continued on next page*)

Table 3. (*continued*)

	Coeff.		Std. err.
Rajasthan	0.0863		0.0650
Chhattisgarh	−0.4510	***	0.0833
Madhya Pradesh	0.0362		0.0548
Northeast	0.2771	***	0.0674
Assam	0.3998	***	0.0645
West Bengal	−0.2743	***	0.0538
Orissa	0.0659		0.0541
Gujarat	0.3110	***	0.0474
Maharashtra & Goa	−0.1543	**	0.0485
Andhra Pradesh	0.3574	***	0.0514
Karnataka	0.3141	***	0.0485
Kerala	0.0392		0.0531
Constant	−0.7781	***	0.0687

Table 4a. *Logistic regression using alternate poverty measures*

Variables	Escaping poverty					
	Severe Poverty 80% of Poverty Line odds ratio	Near Poverty 125% of Poverty Line odds ratio	Equivalenced Poverty cut off For family of 5 odds ratio	Equivalenced Poverty cut off About same as Poverty line odds ratio	Asset Poverty odds ratio	Income Poverty odds ratio
Rural—Reference						
Urban	2.137***	1.360*	2.039***	2.039***	0.474***	0.935
Others—Reference						
OBC	1.006	1.009	0.937	0.937	1.079	0.825*
SC	1.233	1.336***	1.093	1.093	1.332**	0.866
ST	2.650***	2.292***	1.953***	1.953***	2.080***	1.429***
Hindus—Reference						
Muslims	1.578***	1.552***	1.239**	1.239**	0.993	1.533***
Sikhs/Christians	0.951	0.708**	1.422	1.422	0.953	1.518
Others	0.983	2.270***	1.888***	1.888***	1.065	1.217
Illiterate—Reference						
1st–4th standard	0.905	0.999	0.847*	0.847*	0.743***	0.987
5th-9th standard	0.792**	0.912	0.851**	0.851**	0.587***	1.069
10th-11th standard	0.79	0.646***	0.678***	0.678***	0.398***	1.043
High school & some col	0.725**	0.692***	0.841	0.841	0.375***	0.95
College Grad.	0.811	0.628***	0.756	0.756	0.417***	0.801
No. Contact—Reference						
Some Network	0.866*	0.93	0.961	0.961	0.937	0.944
Farm—Reference						
Agri. Wage Lbr	1.174	1.098	1.182	1.182	1.15	1.119
Non-Wage Agri. Lbr	1.1	1.216	1.074	1.074	1.141	0.942
Salary	0.897	0.812	0.824	0.824	0.826	0.931
Business	1.074	1	0.993	0.993	0.861	0.936
Remittance	1.296	1.32	0.865	0.865	0.563***	0.712*
Government Benefit	3.463**	0.839	2.817*	2.817*	3.259***	0.772
Other	0.861	1.259	1.724	1.724	0.737	1.128
Land Owned or not	1.283	1.369	1.258	1.258	1.008	1.429**
Log land owned	0.847***	0.874***	0.889***	0.889***	0.985	0.939
Irrigation	0.817	0.911	0.665***	0.665***	0.846*	0.897
Member of Credit Society	0.841	1.085	0.964	0.964	0.878	0.800*
Debt Incurred	1.094	1.11	1.018	1.018	1.066	1.195***
HH has a Bank Account	0.625***	0.732***	0.769***	0.769***	0.750***	0.803**
No Eligible Women in Household	1.216*	1.004	1.324***	1.324***	1.490***	1.109
Log of Poverty Ratio	0.624***	0.478***	0.511***	0.511***	0.523***	0.765***
HH size	0.851***	0.939	0.713***	0.713***	0.872***	0.799***
% of Non-Workers	0.938	0.737*	0.808	0.808	0.558***	1.261
IMR	6.461***	2.599**	9.680***	9.680***	2.768***	7.804***
Constant	0.0596***	0.892	0.0192***	0.0192***	0.925	0.0406***
Observations	8,300	19,457	12,667	12,667	13,647	11,859
Robust p-value			***$p < 0.01$, **$p < 0.05$, *$p < 0.1$			

Table 4b. *Logistic regression using alternate poverty measures*

Variables	Falling into poverty					
	Severe Poverty 80% of Poverty Line odds ratio	Near Poverty 125% of Poverty Line odds ratio	Equivalenced Poverty cut off for family of 5 odds ratio	Equivalenced Poverty cut off about same as Poverty line odds ratio	Asset Poverty odds ratio	Income Poverty odds ratio
Rural—Reference						
Urban	1.240**	1.273**	2.019***	2.019***	0.695**	1.17
Others—Reference						
OBC	1.046	1.06	0.96	0.96	1.097	0.763***
SC	1.317***	1.304***	1.213*	1.213*	1.290**	0.707***
ST	2.077***	1.708***	1.766***	1.766***	3.047***	1.400***
Hindus—Reference						
Muslims	1.536***	1.593***	1.410***	1.410***	1.634***	1.830***
Sikhs/Christians	1.041	0.733***	1.267	1.267	1.907**	1.212
Others	1.435**	1.118	1.339	1.339	1.195	1.202
Illiterate—Reference						
1st–4th standard	1.015	1.041	1.14	1.14	0.667***	1.111
5th–9th standard	0.894*	1.084	0.857*	0.857*	0.595***	1.037
10th–11th standard	0.680***	0.718***	0.684***	0.684***	0.366***	0.892
High school & some col	0.670***	0.801**	0.696***	0.696***	0.261***	0.744**
College Grad.	0.499***	0.585***	0.453***	0.453***	0.245***	0.587***
No. Contact—Reference						
Some Network	0.973	0.869***	0.915	0.915	0.859*	1.055
Farm—Reference						
Agr Wage Lbr	1.055	0.99	0.959	0.959	1.039	1.031
Non-Wage Agr Lbr	1.101	1.152	0.871	0.871	1.217	0.975
Salary	0.665***	0.665***	0.598***	0.598***	0.591***	0.736***
Business	0.929	0.889	0.703***	0.703***	0.630***	1.151
Remittance	0.924	1.012	0.737*	0.737*	0.487***	0.875
Government Benf.	0.822	0.585	1.319	1.319	4.217**	0.793
Other	1.905**	1.793	1.163	1.163	0.498	1.128
Land Owned or not	1.586***	1.321	1.985***	1.985***	2.411***	1.526**
Log land owned	0.878***	0.822***	0.783***	0.783***	0.753***	0.891***
Irrigation	0.686***	0.775***	0.577***	0.577***	0.713***	0.821**
Member of Credit Society	1.082	0.959	0.993	0.993	0.841	0.881
Debt Incurred	1.188***	1.105**	1.018	1.018	1.182**	1.253***
HH has a Bank Account	0.705***	0.727***	0.581***	0.581***	0.557***	0.735***
No Eligible Women in Household	1.083	1.109*	1.472***	1.472***	1.688***	1.312***
Log of Poverty Ratio	0.457***	0.488***	0.613***	0.613***	0.483***	0.667***
HH size	0.906***	0.926***	0.721***	0.721***	0.609***	0.712***
% of Non-Workers	0.538***	0.540***	0.659***	0.659***	0.524***	1.305*
IMR	4.381***	4.248***	15.12***	15.12***	69.41***	23.13***
Constant	0.116***	0.436*	0.00601***	0.00601***	0.00267***	0.00626***
Observations	30,141	24,939	24,939	24,939	24,937	24,706
Robust p-values			$^{***}p < 0.01$, $^{**}p < 0.05$, $^{*}p < 0.1$			