*OCCASIONAL PAPER*

71

# Distress financing for out-of-pocket hospitalization expenses in India: An analysis of Pooled National Sample Survey Data

**Priyanka Dasgupta**
**Subrata Mukherjee**

**March 2021**

**INSTITUTE OF DEVELOPMENT STUDIES KOLKATA**
**DD 27/D, Sector I, Salt Lake, Kolkata 700 064**
**Phone : +91 33 2321-3120/21 Fax : +91 33 2321-3119**
**E-mail : idsk@idskmail.com, Website: www.idsk.edu.in**

# Distress financing for out-of-pocket hospitalization expenses in India: An analysis of Pooled National Sample Survey Data

**Priyanka Dasgupta**[1]
**Subrata Mukherjee**[2]

**Abstract**

Resorting to distressing means such as selling of physical assets, borrowings or seeking contribution from friends/relatives by households for financing out-of-pocket hospitalization expenses is a matter of concern in a developing country like India where large part of the population is not covered by any health insurance. This paper analyses the changes in the incidence and correlates of distress financing for meeting hospitalization expenses between 2014 and 2017-18 — a period when the government-sponsored *Rashtriya Swasthya Bima Yojana* (RSBY) was the major contributor of insurance coverage for the poor population. The paper uses two rounds of National Sample Survey data (71$^{st}$: 2014 and 75$^{th}$: 2017-18), separately and pooling them together. It is found that incidence of distress financing due to hospitalization episodes fell from 26.04 per cent in 2014 to 16.83 per cent in 2017-18. However, for both years, burden of distress financing disproportionately falls on socially backward groups, those suffering from chronic ailments, having multiple hospitalization episodes and covered with government-

1 PhD Student, Institute of Development Studies Kolkata. Email: pdg0812@gmail.com
2 Associate Professor, Institute of Development Studies Kolkata. Email: msubrata100@gmail.com

funded insurance programs. The 71st round (2014) and pooled data show higher incidence of distress financing among the poor having government sponsored insurance coverage as opposed to those having other insurance coverages. This clearly highlights the limitation of government sponsored schemes to financially protect the vulnerable households and calls for a redesigning of the government health insurance system for efficient targeting and better coverage.

**Keywords**: distress financing, inpatient care, hospitalization expenditure, NSSO, India

**JEL Classification: I12, I13, I18**

**Introduction**

In the past two decades, hospitalisation rates in India, measured by number of hospitalisation cases per 1000 population, has more than doubled, from 13 per 1000 person in 1995-96 to 29 per 1000 person in 2017-18.The average cost per hospitalisation (in absolute figures) also rose from 3921 in 1995-96 to 20135 in 2017-18, registering a nominal rise of more than 5 times (National Sample Survey Organisation (NSSO) 1998, 2019). However, the rural and urban areas of the country did not experience similar rise in average cost of hospitalisation, not even in nominal values. For instance, the average medical expenditure per hospitalization in rural areas increased from 3202 in 1995-96 to 16676 in 2017-18, indicating a rise of 5.2 times, while during the same period in urban areas it increased from 3921 to 26475 depicting a rise by 6.75 times (NSSO,1998, 2019).

It has also been estimated that around 63 per cent of the total health expenditure in India is paid as out-of-pocket (OOP) expenditure by households (National Health Systems Resource Centre (NHSRC), 2019), with households predominantly relying on their incomes or savings to finance them. But when households are faced with huge health expenditures beyond their current capacity, they resort to borrowing, selling of assets and/or seek contribution from friends or relatives to finance them (Leive & Xu, 2008; Kruk, Goldmann & Galea, 2009; Joe, 2015; Kumar, Singh, James, McDougal, & Raj, 2020). Such coping strategies are generally used in financially distressing situations (Sauerborn, Adams,& Hien, 1996). In low and middle-income countries (LMICs), the financial risks associated with seeking healthcare is higher among the poorer sections of the population with little health insurance coverage (Kruk et al., 2009).

In India, only 17 per cent of the total population are covered by any type of health insurance (Insurance Regulatory and Development Authority (IRDA), 2016) and consequentially, the uninsured population have to pay out-of-pocket if they incur

high healthcare expenses (Dilip & Duggal, 2002). The deprived social groups such as SCs (Scheduled Castes), STs (Scheduled Tribes), religious minorities and females are more likely to depend on distressing sources such as borrowing, selling of assets, seeking contributions from friends or relatives to finance their health care expenses, eventually inviting considerable welfare loss in future as compared to others (Dhanaraj, 2014; Joe, 2015).In fact, measures like exhausting the savings, borrowing from formal and informal sources and sale of assets finance a substantial share of the hospitalisation costs in rural and urban India respectively (Dilip & Duggal, 2002; Joe, 2015) The latest available NSSO data shows that 13.4 per cent of rural households and 8.5 per cent of urban households resort to borrowing to finance hospitalization expenses (NSSO,2019).

This study aims to assess the extent of distress financing that households are resorting to for meeting hospitalisation expenses. We conceptualize distress financing by looking at how hospitalisation expenses are financed by the households (Flores et al., 2008; Kruk et al., 2009). Empirical literature identifies six major sources of financing OOP health care expenses namely current income, savings, contribution by relatives and friends, borrowing without interest, borrowing with interest and selling assets. The sources such as borrowing, selling of assets, seeking contribution from relatives and friends indicate a household's financial distress in paying for healthcare expenses. (Kruk et al., 2009; Steinhardt, Waters, Rao, Naeem, Hansen, & Peters, 2009; Asfaw, Klasen, & Lamanna, 2010). The selling of productive assets (such as land, cattle) which yield income at regular intervals leads to loss of future income. For borrowings with interest, the burden is realized in the form of additional interest on loan amount. Many of these sources accentuate economic distress for the households over time (Flores et al., 2008).

A number of empirical studies on distress financing have used previous rounds of NSS data. Joe (2015) assessed the situation

of distress financing using NSS data for 2004 (60th round). The overall scenario with regard to OOP health expenses has significantly changed since the introduction of publicly-funded Rashtriya Swasthya Bima Yojana (RSBY) for the poor in 2008. Disease-specific distress financing due to burden of hospitalization costs has been examined by Kastor & Mohanty (2018a) using 2014 NSS data (71st round), while Sangar (2019) using both 2004 and 2014 (71st round) data, examined the socioeconomic inequalities in utilizing various financing sources in two time points. A recent study used 2017-18 NSS data (75th round) to assess gender differentials in distress financing for the young, adult and older population (Kumar et al., 2020). However, none of these papers based on NSS data have examined the role of government funded health insurance schemes as an effective strategy for reducing distress financing. Since a detailed information on health insurance coverage for household members became available only from 2014 survey, an analysis considering both 2014 and 2017-18 surveys would provide us important insights on the extent of distress financing at two time points. Against this backdrop, this paper intends to find out (i) the incidence of distress financing for different population sub-groups; (ii) how distress financing has changed between two time points; and (iii) how the incidence of distress financing is correlated with various individual, household and contextual factors. The questions are answered using the latest two rounds of NSS data (viz. 71st round: 2014 and 75th round: 2017-18). The paper is organised in the following way: Section 2 describes the data, variables and methods used in the analysis. The results are presented in Section 3 and discussed in Section 4. The concluding remarks are made in Section 5.

## 2. Data and Methods

### 2.1 Data

We use data from two latest rounds of NSS-71st round (2014) and 75th round (2017-18) (NSS 2016, 2019). The 71st round survey was conducted during January- June 2014 and the 75th

round survey was conducted during July 2017 to June 2018. In addition to detailed household and individual level information, the surveys collected a rich set of information on reported morbidity, health care utilization and health care expenditure from the sample households. Details about all hospitalisation episodes which took place 1 year preceding the survey were collected. The surveys covered the entire country and adopted multi-stage stratified sampling methods. While the 71st round covered 65932 households, much larger number of households (113822) were covered in the 75$^{th}$ round. These sample households provide us 57456 and 93917 hospitalisation cases from 71st and 75th round survey respectively for the analysis. Apart from analysing the data round/period wise, we also carry out an analysis by pooling the cross-sectional rounds together. The pooled sample increases the statistical precision remarkably by increasing the sample size(Dale and Davies,1994).

**2.2 Variables**

The NSS classifies major and secondary sources of financing for meeting out-of-pocket hospitalization expenses into five sources, namely, (i) household income and/or savings; (ii) borrowings; (iii) sale of physical assets; (iv) contribution from friends/ relatives; and (v) other sources. We define distress financing as a situation when a household is not able to finance its out-of-pocket hospitalisation expenses from its income and/or savings. In other words, a household resorts to distress financing when it finances its out-of-pocket hospitalisation expenses by borrowing, sale of assets, contribution from friends or relatives or other sources. The incidence of distress financing is expected to be correlated with a number of individual, hospitalisation related, household and contextual variables (Flores et al., 2008; Mondal et al, 2014; Joe, 2015; Sangar, 2019). Among the individual-level variables, we consider sex, age group and type of insurance that the hospitalised individual is covered with (including no coverage). The economic class (measured by per capita consumption expenditure), caste, number of hospitalisations in

the household in last one year are considered as household-level variables. The place of residence (rural/urban) and country-region can be considered as contextual-characteristics. Among the hospitalisation level variables, type of ailment, type of hospital utilised and hospitalisation expenses are considered. Two separate variables are used to capture the type of ailment – whether the ailment is a chronic one or not; broad type of ailments (Table 1).

Demographic characteristics of an individual such as sex and age group may be important in determining distress financing. For example, females and elderly generally show higher incidence of hospitalisation and they are often the demographic groups facing discrimination in intra-household resource allocation (Asfaw, Klasen, & Lamanna, 2008; Sen & Iyer, 2012). Socio-economic status of the household proxied by per capita consumption expenditure and caste identity may affect the likelihood of distress financing as households vary in their capacity to pay and social capital based on socio-economic positions (Sangar, 2019). Type of hospital and number of hospitalisations are expected to have direct influence on the possibility of distress financing (Kastor & Mohanty, 2018b). A typical hospitalisation in a private facility is expected to cost much higher than that in a public facility. Similarly, as number of hospitalisation episodes increases in a household in a given year, it may become more and more difficult to finance the expenses from current income or savings if there are no other alternatives such as employer provision or insurance (Ir et al., 2019). The total cost of hospitalisation must have a direct effect on the likelihood of distress financing conditional on insurance coverage. To capture the contextual and spatial effects, place of residence (rural/urban) and country-region variables are included (Kastor & Mohanty,2018b; Sangar, 2019).

### 2.3 Methods

We first analyse distress financing by its composition at the

aggregate level. In the next stage, incidence of distressed financing is estimated and compared across population sub-groups based on individual-, ailment-, utilization-, household- and contextual-level characteristics. Concentration index values (CIs) are computed to assess the socio-economic related inequality in distress financing (O'Donnell, van Doorslaer, Wagstaff, & Lindelow, 2007). A negative value of CI indicates that the incidence of distress financing is concentrated more among the poor, while a positive value implies a pro-rich distribution. The concentration index can be given as

$$2\sigma_r^2\left(\frac{h_i}{\mu}\right)=\alpha+\beta\, r_i+\varepsilon_i$$

Where $\sigma_r^2$ is the variance of the fractional rank, $h_i$ is the health sector variable, $\mu$ is its mean, $r_i$ is the fractional rank of individual i in the living standard distribution, with i = 1 for the poorest individual and i = N for the richest individual. The OLS estimate of β is an estimate of the concentration index equivalent to that obtained from the equation $C=\frac{2}{\mu}\,\mathrm{cov}(h,r)$

Finally, logistic regressions are estimated to explore the correlates of distress financing across relevant individual-, household-level, contextual variables as well as variables capturing type of ailment and choice of hospital.We estimate the logistic regression represented by the following equation:

$$L_i=\log_e\left(\frac{Prob(Y_i=1)}{1-Prob(Y_i=1)}\right)=\beta_0+\sum_{i=1}^{n}\beta_i X_i+\varepsilon_i$$

where Yi = 1 if the $i^{th}$ hospitalisation episode resorts to distress financing; = 0 otherwise. $L_i$ is the logit favouring distress financing for the $i^{th}$ hospitalisation episode; $\beta_0$ is the constant term, $\beta_{i's}$ are the corresponding coefficients for the independent variables $X_i$ and $\varepsilon_i$ is the error term. The parameter $\beta_0$ estimates

log odds of distress financing for the reference group and the parameter $\beta_{i's}$ estimate differential log odds of distress financing associated with the independent variables $X_{i's}$, as compared to the reference category.

The estimated logistic models are used to compute the marginal effects (i.e., differences in predicted probabilities) between different levels of independent variables. Marginal effects are estimated as average marginal effects, which means that other variables in the model are used as observedfor each case. They provide an easy-to-follow interpretation of the relationship between the dependent and independent variables than the direct interpretation of logistic regression coefficients or their exponential form (i.e., odd ratio attached to each independent variable) (Bogard, 2016). In addition, the predicted probabilities for a set of intersections among covariates of distress financing has been estimated using the margins command and the delta method has been used to examine the statistical significance of group comparisons (Williams, 2012). The marginal effects for the outcome variable for combination of economic group (poor and non-poor), hospitalisation expenditure (high and low), place of hospitalisation (government and private) and time (2014 and 2017-18) with type of insurance coverage (government sponsored, other types of insurance and no insurance) is estimated to find out the overlapping effects. All analyses are conducted using statistical software Stata 14 taking into account sample weights. For the pooled regression analysis, relative weights have been calculated in the individual data sets, after which they have been pooled together.

## 3. Results

### 3.1 Incidence of distress financing forhospitalisation and outpatientcare

A comparison of the distribution of first and second major sources by type of financing shows that 73.51 per cent financed hospitalisation expenses from their current income or past

savings in 2014, which rose to almost 83 per cent in 2017-18 (Table 2). However, the share of distress financing fell from 26.04 per cent in 2014 to 16.83 in 2017-18. The dependence on distress means of financing is not high for outpatient care as 88.64 per cent of the individuals in 2014 and 89.13 per cent in 2017-18 are able to finance their OOP expenses from current income/savings leaving only very low percentage of individuals resorting to distress finance (Appendix Table A1).

### 3.2 Incidence of distress financing across individual, household, contextual and healthcare characteristics

Although there has been a fall in the overall incidence of distress financing from 2014 to 2017-18, the change in the incidence has been different for various socio-economic and demographic groups as well as across healthcare related characteristics of the hospitalisation episodes. A comparison of incidence and pattern of distress financing for population sub-groups based on individual, ailment, household and contextual characteristics shows that share of distress financing is higher for the male members as opposed to the females (Table 3). The incidence of distress financing is also higher for the elderly (aged 60 years and above) and middle-age group (40-59 years) as compared to the younger age groups (0-12 and 13-39 years). Also,the hospitalised members of households having government-sponsored health insurance (GSI) coverage bear a higher burden of distress financing in both time points (36.18 and 26.09 per cent in 2014 and 2017-18 respectively) in comparison to those covered by other types of insurance (employer-supported, insurance arranged by household with insurance companies and other schemes) or without any insurance.

There is also a significant rural-urban difference as 27.65 per cent and 17.71 per cent of the rural households in 2014 and 2017-18 respectively resorted to distress financing as opposed to relatively lower shares (22.70 and 14.96 per cent in 2014 and 2017-18 respectively) among urban households. Region-

wise analysis also shows that in both the years, southern region had a higher share of distress financing as compared to other regions. However, both southern and eastern regions have experienced a marked fall in the incidence of distress financing. The analysis also reveals that being hospitalised in a private facility, having more than two hospitalisation episodes in the household, higher hospitalisation expenditure (captured by hospitalisation expenditure quintiles) and suffering from any chronic ailment led to higher incidence of distress financing.

It is also evident from Figure 1A (refer to Table A2) that in 2014, SC and OBC (Other Backward Caste) had a higher incidence of distress financing as compared to ST and other caste groups and similar pattern is followed in 2017-18 as well. Over the years, SC and OBC experienced the highest percentage decrease in distress financing, followed by ST and other caste groups respectively. Across expenditure quintiles (Figure 1B, also refer to Table A2), the incidence of distress financing is highest among households in the second expenditure quintile in 2014, which gradually decreased for the higher expenditure quintiles. However, in 2017-18, the incidence of distress financing is relatively high for the third expenditure quintile followed by the higher quintiles. Over the years, the second and first expenditure quintile witnessed the highest fall in percentage of distress financing followed by the fourth, fifth and third quintiles respectively.

To examine how the caste- and class-related inequality in the incidence of distress financing changed between 2014 and 2017-18, CIs have been estimated. It is found that CI for social group is -0.049 in 2014 and -0.018 in 2017-18, which implies that the incidence of distress financing is more concentrated among the disadvantaged social groups in both the years. However, a reduction in CI from 2014 to 2017-18 reflects a statistically significant decrease in the incidence of distress financing for the disadvantaged social groups between the two time periods.

On the contrary, CI for the expenditure quintile group is pro-rich in both the years, but it has reduced from 0.046 in 2014 to 0.018 in 2017-18. This difference in CI has been found to be statistically significant, thereby suggesting that the incidence of distress financing is becoming less pro-rich over the years of analysis.

Ailment specific analysis further reveals that in 2014, distress finance has been higher for hospitalised members with ailments such as cancer (43.48 per cent), psychiatric and neurological ailments (37.31 per cent), skin related ailments (37.07 per cent) and genito urinary ailments (35.77 per cent) followed by other ailment categories (Table 4). In 2017, hospitalised members with ailments such as cancer (28.27), psychiatric and neurological ailments (24.66), injuries (24.07) and blood related ailments (22.50) had a higher incidence of distress financing in comparison with the other ailment categories.There has also been a change in the relative ranking of ailments in terms of distress financing. For instance, in 2014, the top 5 ailments with high incidence of distress financing are cancer, psychiatric and neurological ailments, skin related ailments, genito-urinary ailments and injuries in their respective order. In 2017-18, although the top 2 ailments remained the same as in 2014, the last 3 are injuries, blood diseases and genito-urinary ailments respectively.

### 3.3 Incidence of distress financing across major Indian states

The change in incidence of distress financing across major Indian states over the years 2014 to 2017-18 have been shown in Figure 2 (also refer to Table A3). The analysis reveals that in 2014, the incidence of distress financing was higher than the national average for southern states such as Andhra Pradesh (50.54 per cent), Telangana (43.95 per cent), Karnataka (40.53 per cent), Tamil Nadu (38.67 per cent) and Kerala (31.26 per cent) and for few eastern states such as Odisha (29.93 per cent), West Bengal (27.51 per cent) and Bihar (27.28 per

cent). In 2017-18, the incidence of distress financing in Madhya Pradesh and Jharkhand rose above the national average (17.85 and 17.01 per cent respectively), while for the eastern states viz. West Bengal, Bihar and Odisha, the incidence of distress financing fell below the national average (16.42 per cent, 12.1 per cent and 12.95 per cent respectively). The southern states, however retained their positions of having incidence of distress financing higher than the national average in 2017-18 as well, with Andhra Pradesh having the highest incidence of distress financing in both the time points. This implies that the southern states had higher incidence of distress financing as compared to other states in both 2014 and 2017-18, although there have been drastic reductions in incidence of distress financing among southern states from 2014 to 2017-18 as well. While there has been a fall in incidence of distress financing from 2014 to 2017-18 across all the major Indian states, Assam and Delhi witnessed a rise in distress financing from 4.75 per cent and 4.63 per cent in 2014 to 5.76 per cent and 4.96 per cent in 2017-18 respectively.

### 3.4 Covariates of distress financing

The marginal effects in percentages for the outcome variable 'distress financing' are presented for three different models (Table 5). While Model 1 and Model 2 presents marginal effects for 2014 and 2017-18 respectively, Model 3 presents the marginal effects for the pooled data. In all three models, the probability of distress financing is significantly lower for the females compared to the males (25.15 vs 27.34 in Model 1, 16.11 vs 17.89 in Model 2, 20.98 vs 23.08 in Model 3). Even the probability of distress financing is found to be 2.47 and 1.81 percentage points lower for the elderly population than the young age group (13-39 years) in Model 1 and Model 3 respectively. Interestingly, the probability to distress finance is 5.18 percentage points higher for those having GSI than those without any insurance coverage in Model 2. In both Models 1 and 3, hospitalised persons belonging to backward social groups such as ST, SC and OBC have higher

probability to face distress financing than the others/general castes (28.44, 31.37, 26.33 for ST, SC, OBC respectively vs 21.59 for general castes in Model 1 and 22.50, 25.33, 21.91 for ST, SC, OBC respectively vs 19.10 for general castes in Model 3). Only in Model 2, SC and OBC are more probable to resort to distress financing than their better-off counterparts (19.07 and 16.68 for the SC and OBC respectively vs 15.37 for the general castes).

The probability of distress financing is also found to be 5.97 and 9.77 percentage points higher in Model 1 and 4.16 and 5.11 percentage points higher in Model 2 and 5.28 and 8.11 percentage points higher in Model 3 for having 2 or more than 2 hospitalisations respectively as compared to single hospitalisation events. Although place of hospitalisation does not play any role in increasing the probability to distress financing in Model 1, private hospitalisation increases the probability to distress financing in Model 2 and Model 3 by 3.28 and 2.01 percentage points respectively as compared to hospitalisation in government facility. Quite obviously, high hospitalisation expenditure has been found to be increasing the probability of distress financing by 19.52, 3.53 and 12.93 percentage points in Model 1, Model 2 and Model 3 respectively. Disease specific analysis reveals that in all the 3 models, hospitalised persons having cancer, psychiatric and neurological ailments, gastro intestinal ailments, musculo skeletal ailments and injuries have higher probability to resort to distress financing mechanisms for paying hospitalisation expenses. Assessing the impact of distress financing over a period of 4 years shows that probability to distress finance is lower by 8.11 percentage points for hospitalisation events in 2017-18 as compared to their hospitalised counterparts in 2014. Sectoral and region wise analysis shows that urban and southern regions have significantly higher probability to resort to distress finance than their respective counterparts in all the 3 models.

Table 6 presents the marginal effects for interaction amongst

economic class, hospitalisation expenditure, type of hospital and time-point with type of insurance coverage. In Model 1 and Model 3, it is found that poor having other types of government insurance have 10.92 per cent and 14.83 per cent less predicted probability of distress financing respectively as compared to those poor having GSI coverage or their richer counterparts having any type of insurance coverage. Also,in Model 1 and Model 3, having high hospitalisation expenditure along with government sponsored insurance increases the predicted probability of distress financing by 22.33 and 12.54 percentage points as compared to having high hospitalisation expenditure but other types of insurance coverage. This implies that GSI schemes are inadequate in contrast to other types of insurance coverage and leads to distress financing when hospitalised persons are poor and are faced with high hospitalisation expenses. Hospitalisation in private facilities also increases the predicted probabilities of distress financing, as there is a difference of 7.70 and 6.72 percentage points in between those hospitalised in private facility versus hospitalised in government facility, both covered with GSI in Model 1 and Model 3. In Model 2, none of the interaction terms are significant. It is also observed from Model 3 that the predicted probability of distress financing has reduced by 9.73 percentage points in 2017-18 for those having GSI coverage as compared to their counterparts in 2014. This shows that over time, GSI has been overall effective in reducing the probability of distress financing for hospitalisation events. However, it has failed to protect the poor, those having high hospitalisation expenses and those hospitalised in private facilities from resorting to distress modes of financing hospitalisation expenses.

## 4. Discussion

A significant percentage of households in India resort to distress financing to cope up with their out-of-pocket hospitalisation expenses. This is found in our study as well studies based on previous rounds of NSS as well as primary data (Peters,Yazbeck, Sharma, Ramana, Pritchett, & Wagstaff, 2002; Binnendijk, Koren,

& Dror, 2012;Joe, 2015; John and Kumar, 2017; Sangar, 2019). We find that households' resort to distress financing more for hospitalization and little for outpatient care. This is quite expected as the cost of a typical hospitalization is much higher than that of an outpatient care. The considerably lower incidence of distress financing for the females compared to the males indicates that households are usually not as desperate to explore all possible ways of financing for the female members as they do it for the male members. This indirect evidence of gender discrimination with regard to households' resource allocation for health care seeking goes in line with existing literature which ascertains that the role of men in Indian society in terms of bread earners and household decision makers act as important determinants in healthcare utilization and financing (Asfaw et al., 2008; Sen & Iyer, 2012; Kumar et al.,2020).

The results of the logistic regressions also reveal that socially vulnerable groups such as ST, SC, OBC are more likely to depend on distress means for financing their health care costs (Joe, 2015; Sangar, 2019). This can trap them in vicious circle of poverty along with indefinite indebtedness (Deshpande, 2000; Joe, 2015). It is also evident from the analysis that the poor are less likely to resort to distress financing than the rich. Perhaps the poor households' low asset holding or lack of social capital does not always allow them to get credit in the formal or informal markets or get help from relatives or friends. This suggests that the analysis probably captures only the observed incidence of distress financing as the relatively better-off households are in a position to sell assets or borrow, resulting in a higher incidence of distress financing than the poor. For the poor, distress might take the form of delaying health care or resorting to low quality healthcare. What this indicates is that the actual need for financial protection is greater than what is revealed from the analysis of distress financing.

It is also evident from the results that presence of a chronic

ailment, high hospitalisation expenses and higher number of hospitalisation episodes in the family (significant only for 2014 and 2017-18) increase the probability of distress financing. Events of hospitalization and presence of chronic illness might make the households incur indirect costs such as loss of income of the hospitalized member as well as other family members along with transportation and accommodation costs. One would expect that people choosing private hospitals are more likely to face distress financing than people going to government hospitals as cost of hospitalisation at former is likely to be much higher than the latter. This finding is evident in our bivariate analysis for both the years 2014 and 2017-18. It is also evident in the multivariate analysis for the year 2017-18 and pooled years, where hospitalisation in private facilities increases the likelihood of distress financing.The main reasons for valuing private hospitals over public hospitals are better perceived quality, less waiting time, availability of specific services and geographical access to the facility (Jena & Roul, 2020).

The results of our study further indicate that suffering from chronic ailments such as cancer, psychiatric and neurological ailments, gastro intestinal ailments, musculo skeletal ailments and injuries increases the probability of distress financing at both time points. Seeking inpatient care for such ailments put households at a greater risk of indebtedness (Dilip & Duggal, 2002; Joe, 2015; Kastor & Mohanty, 2018b; Sangar, 2019). The duration of hospital stay coupled with high treatment costs aggravates not only the direct hospitalization expenses but also escalates the indirect expenses of food, lodging and transportation cost of care givers and bystanders.

The study findings point to the fact that for southern states such as Andhra Pradesh, Telangana, Karnataka, Tamil Nadu, and Kerala, incidence of distress financing is higher than national averages and other major states in both 2014 and 2017-18. This could be possibly due to higher utilization of hospital

care and increase in insurance coverage which tends to make households spend more on hospitalisation. It has been found that utilization of inpatient care has indeed improved, particularly for the poor population among the Indian states (Ghosh, 2014a). Also, there has been supportive evidence regarding the increase in percentage of population covered with insurance programs in the southern states (Reddy et al., 2011). However, evidence also suggests that private hospitals dominated both empanelment of facilities under the publicly-funded insurance programs as well as utilization of hospital care in the southern states (Ranjan, Mukhopadhyay & Sundararaman, 2018; Garg, Chowdhury &Sundararaman, 2019). This coupled with the limited cap amounts of those programs, advertently leads to OOP and catastrophic health expenses for paying hospitalisation expenses (Reddy et al., 2011; Ranjan et al., 2018; Garg et al., 2019).

Our study finds a substantial decline in the incidence of distress financing in between 2014 and 2017-18. However, during the same period the coverage of government sponsored insurance experienced an insignificant increase from 13 to 13.5 per cent in rural areas and from 12 to 12.2 per cent in urban areas (NSSO, 2019). Therefore, it may not be the population covered by government insurance but some other factors which contributed to this decline. The marginal effects of the interaction terms indicate that GSI schemes have limited success to reduce the chances of distress financing, in contrast to being protected by other types of insurance or even no insurance. And this likelihood further increases with high hospitalisation expenditure and hospitalization at private facilities. It is worth noticing that the chances of distress financing increases for those poor who are protected by GSI programs. Although 84 per cent of the health insurance schemes in India are government-funded (Jena & Roul, 2020) and have been designed to be entirely cashless for the patients, there is evidence of high OOP payments by the patients. In the context of RSBY, it has been found that families enrolled in RSBY incur OOP spending on drugs and diagnostics

during hospitalization as well as following hospitalization (Rathi, Mukherji, & Sen, 2012; Devadasan, Seshadri, Trivedi, & Criel, 2013). Beneficiaries often spend a substantial amount on drugs which are not prescribed as per RSBY guidelines and hence are bought from outside the empanelled hospitals at higher prices (Rathi, et al., 2012; Devadasan et al., 2013; Karan, Yip, & Mahal, 2017). A number of studies have pointed out the plausible reasons for the ineffectiveness of GSI schemes in financially protecting the poor (Reddy et al., 2011; Devadasan et al., 2013; Ghosh, 2014b). It has been found that hospitals showed reluctance, even refused to admit patients covered by government insurance schemes fearing delayed reimbursement of the funds. Further, the limited cap amount of RSBY (30,000) might have forced them to spend substantial amount out of their pockets. Overall, pan-India RSBY made with limited success in implementation of the services due to low coverage, lack of awareness among beneficiaries, poor delivery and frauds (Pilla & Saraswathy, 2018). Ever since the launch of RSBY in 2008 it could bring about only 66 percent of targeted BPL families in its ambit by 2018 which indicates that there are still a substantial number of eligible but uncovered families who are lacking financial protection from the healthcare expenses (Mukherjee and Chowdhury, 2018).

The findings of our study have direct policy implications as the notion of distress financing is an alternative measure of the effectiveness of health financing policy as opposed to the idea of catastrophic health payments as popularised by Wagstaff and van Doorslaer (2003). Our key finding that government sponsored insurance schemes have attained very limited success in protecting poor households from distress financing is a matter of great concern.

The Government of India has recently announced the Pradhan Mantri Jan Aarogya Yojana (PMJAY), which aims to cover 10 crore families thereby encompassing 50 crore beneficiaries in

its ambit. This scheme intends to cover bottom 40 per cent of the India's vulnerable population and offers a coverage of Rs. 5 lakh insurance to each beneficiary family, which is more than 16 times the previous RSBY cap amount (National Health Authority (NHA), 2018). One can expect that with the new health insurance scheme, distress financing for meeting hospitalisation expenses will substantially be less for the vulnerable groups.

Our analysis too is not free from limitations. First, it does not consider those financing as distressed if they are funded from current income or savings. For a poor household with little social capital, borrowing, selling assets or getting financial help from friends/families may not be a feasible option. When a poor household spends on health care from current income or savings, one cannot rule out the possibility of long-term negative impact as consumption of other basic necessities may be compromised. Therefore, the real extent of distress financing would be higher than what our study suggests. Second, hospitalisation for a poor also means substantial indirect and intangible costs in the form of forgone income which never gets accounted in the cost of hospitalisation. Our approach to measure distress financing fails to capture this aspect mostly due to limitation of data.

## 5. Conclusion

Distress financing for meeting hospitalisation expenses is a matter of great concern in Indian context as the onus predominantly falls on the vulnerable sections of the society such as poor, female members and backward caste groups. Our findings indicate to the myopic and narrow focus of GSI schemes which concerns hospitalization treatment as the single solution to health problems, keeping preventive and promotive healthcare at hindsight. It is important to note that hospitalisation at government facilities is not enough in reducing the likelihood of distress financing. Our findings question the policy prescription which argues for higher public provisioning of health care for protecting people from incurring high OOP expenses. The

public hospitals, in their current functioning form, do not seem to protect people from incurring high OOP hospitalisation expenses always. The incidence of distressed financing also shows an unjust correlation with gender, age-group and caste and there is strong evidence that GSI schemes are ineffective in reducingthe incidence of distress financing and rather increases it. This disturbing pattern coupled with growing burden of non-communicable diseases and population ageing can further worsen the situation. Association between types of ailments and likelihood of distressed financing clearly calls for disease-specific enhanced coverage under health insurance schemes.

**References**


Asfaw, A., Klasen, S., & Lamanna, F. (2008). *Intrahousehold health care financing strategy and the gender gap: Empirical evidence from India* (No. 177). Discussion papers, Ibero America Institute for Economic Research.

Asfaw, A., Lamanna, F., & Klasen, S. (2010). Gender gap in parents' financing strategy for hospitalization of their children: evidence from India. *Health economics*, *19*(3), 265-279. doi:10.1002/hec.1468

Binnendijk, E., Koren, R., & Dror, D. M. (2012). Hardship financing of healthcare among rural poor in Orissa, India. *BMC health services research*, *12*(1), 23. doi: 10.1186/1472-6963-12-23

Bogard, M. (2016). Marginal effects vs odds ratio. *Econometric Sense*.

Dale, A., & Davies, R. B. (Eds.). (1994). *Analyzing social and political change: a casebook of methods*. Sage.

Deshpande, A. (2000). Does caste still define disparity? A look at inequality in Kerala, India. *American Economic Review*, *90*(2), 322-325.

Devadasan, N., Seshadri, T., Trivedi, M., & Criel, B. (2013). Promoting universal financial protection: evidence from

the Rashtriya Swasthya Bima Yojana (RSBY) in Gujarat, India. *Health Research Policy and Systems*, *11*(1), 29. doi: 10.1186/1478-4505-11-29

Dhanaraj, S. (2014). *Health shocks and coping strategies: State health insurance scheme of Andhra Pradesh, India* (No. ٠٠٣/٢٠١٤). WIDER Working Paper. doi: 10.35188/UNU-WIDER/2014/724-0

Dilip, T. R., & Duggal, R. (2002). *Incidence of non-fatal health outcomes and debt in urban India*. Mumbai: CEHAT.

Erreygers, G. (2009). Correcting the concentration index. *Journal of health economics*, *28*(2),504-515.

Flores, G., Krishnakumar, J., O'Donnell, O., & Van Doorslaer, E. (2008). Coping with healthcare costs: implications for the measurement of catastrophic expenditures and poverty. *Health economics*, *17*(12), 1393-1412. doi: 10.1002/hec.1338.

Garg, S., Chowdhury, S., & Sundararaman, T. (2019). Utilisation and financial protection for hospital care under publicly funded health insurance in three states in Southern India. *BMC health services research*, *19*(1), 1-11.

Ghosh, S. (2014a). Trends and differentials in health care utilization pattern in India. *Journal of Health Management*, *16*(3), 337-363.

Ghosh, S. (2014b). Publicly-financed health insurance for the poor: understanding RSBY in Maharashtra. *Economic and political weekly*, 93-99.

Insurance Regulatory and Development Authority of India (2016). *Annual Report 2015–16*. Hyderabad: IRDAI.

Ir, P., Jacobs, B., Asante, A. D., Liverani, M., Jan, S., Chhim, S., & Wiseman, V. (2019). Exploring the determinants of distress health financing in Cambodia. *Health policy and planning*, *34* (Supplement_1), i26-i37.

Jena, B. B., & Roul, M. K. (2020). Estimates of Health Insurance Coverage in India. *Economic & Political Weekly*, *55*(37), 61.

Joe, W. (2015). Distressed financing of household out-of-pocket health care payments in India: incidence and correlates. *Health policy and planning*, *30*(6), 728-741.doi: 10.1093/heapol/czu050

John, D., & Kumar, V. (2017). Exposure to hardship financing for healthcare among rural poor in Chhattisgarh, India. *Journal of Health Management*, *19*(3), 387-400.doi: 10.1177/097206341771787

Karan, A., Yip, W., & Mahal, A. (2017). Extending health insurance to the poor in India: An impact evaluation of Rashtriya Swasthya Bima Yojana on out of pocket spending for healthcare. *Social Science & Medicine*, *181*, 83-92. doi: 10.1016/j.socscimed.2017.03.053

Kastor, A., & Mohanty, S. K. (2018a). Disease and age pattern of hospitalisation and associated costs in India: 1995–2014. *BMJ open*, *8*(1), e016990. doi: 10.1136/bmjopen-2017-016990

Kastor, A., & Mohanty, S. K. (2018b). Disease-specific out-of-pocket and catastrophic health expenditure on hospitalization in India: Do Indian households face distress health financing?. *PloS one*, *13*(5), e0196106. doi:10.1371/journal.pone.0196106

Kruk, M. E., Goldmann, E., & Galea, S. (2009). Borrowing and selling to pay for health care in low-and middle-income countries. *Health Affairs*, *28*(4), 1056-1066. doi: 10.1377/hlthaff.28.4.1056

Kumar, K., Singh, A., James, K. S., McDougal, L., & Raj, A. (2020). Gender bias in hospitalization financing from borrowings, selling of assets, contribution from relatives or friends in India. Social Science & Medicine, 260, 113222. doi:10.1016/j.socscimed.2020.113222

Leive, A., & Xu, K. (2008). Coping with out-of-pocket health payments: empirical evidence from 15 African countries. *Bulletin of the World Health Organization*, *86*, 849-856C.

Mondal, S., Lucas, H., Peters, D. H., & Kanjilal, B. (2014). Catastrophic out-of-pocket payment for health care and its impact on households: Experience from West Bengal, India. *Economics Bulletin, 34(2),* 1303–1316.

Mukherjee, S.,& Chowdhury, S. (2018). Hardly a gamechanger, *The Hind*u, February 12, 2018.Accessed from https://www.thehindu.com/todays-paper/tp-opinion/hardly-a-gamechanger/article22725419.ece on February 12, 2018.

National Health Authority. (2018). *About Pradhan Mantri Jan Arogya Yojana (PM–JAY)*. New Delhi, India: Author. Retrieved from https://pmjay.gov.in/about/pmjay

National Health Systems Resource Centre. (2019). *National Health Accounts Estimates for India (2016-17).* New Delhi, India: Author.

National Sample Survey Organisation. (1998). *Morbidity and Treatment of Ailments: NSS 52nd Round (July 1995–June 1996)*. New Delhi: Department of Statistics, Government of India.

National Sample Survey Organisation. (2016). *Key indicators of social consumption in India: Health, NSS 71st Round (January–June 2014)*. New Delhi: Ministry of Statistics and Programme Implementation, Government of India.

National Sample Survey Organisation. (2019). *Key indicators of social consumption in India: Health, NSS 75th Round (July 2017-June 2018)*. New Delhi: Ministry of Statistics and Programme Implementation, Government of India

O'Donnell, O., van Doorslaer, E., Wagstaff, A., & Lindelow, M. (2007). *Analyzing health equity using household survey*

*data: a guide to techniques and their implementation*. The World Bank. doi: 10.1596/978-0-8213-6933-3

Peters, D. H., Yazbeck, A. S., Sharma, R. R., Ramana, G. N. V., Pritchett, L. H., & Wagstaff, A. (2002). *Better health systems for India's poor: findings, analysis, and options*. The World Bank.

Pilla, V. and M. Saraswathy. (2018, September 26). Will Modicare Be a Game Changer or Turn into Another Rashtriya Swasthya Bima Yojana? *Money Control*. Retrieved from https://www.moneycontrol.com/news/trends/healthtrends/will-modicare-be-a-game-changer-orturn- into-another-rashtriya-swasthya-bimayojana-2976471.html.

Ranjan, A., Dixit, P., Mukhopadhyay, I., & Thiagarajan, S. (2018). Effectiveness of government strategies for financial protection against costs of hospitalization Care in India. *BMC public health*, *18*(1), 501.

Rathi, P., Mukherji, A., & Sen, G. (2012). Rashtriya Swasthya Bima Yojana: evaluating utilisation, roll-out and perceptions in Amaravati district, Maharashtra. *Economic and Political Weekly*, 57-64.

Reddy, K. S., Selvaraj, S., Rao, K. D., Chokshi, M., Kumar, P., Arora, V., Bhokare, S., & Ganguly, I. (2011). A critical assessment of the existing health insurance models in India. *Public Health Foundation of India*, *4*, 1-15.

Sangar, S., Dutt, V., & Thakur, R. (2019). Distress financing of out of pocket health expenditure in India. *Review of Development Economics*, *23*(1), 314-330.doi:10.1111/rode.12540

Sauerborn, R., Adams, A., & Hien, M. (1996). Household strategies to cope with the economic costs of illness. *Social science & medicine*, *43*(3), 291-301. doi:10.1016/0277-9536(95)00375-4

Sen, G., & Iyer, A. (2012). Who gains, who loses and how: leveraging gender and class intersections to secure health entitlements. *Social science & medicine*, *74*(11), 1802-1811. doi:10.1016/j.socscimed.2011.05.035

Steinhardt, L. C., Waters, H., Rao, K. D., Naeem, A. J., Hansen, P., & Peters, D. H. (2009). The effect of wealth status on care seeking and health expenditures in Afghanistan. *Health policy and planning*, *24*(1), 1-17. doi:10.1093/heapol/czn043

Wagstaff, A., & Doorslaer, E. V. (2003). Catastrophe and impoverishment in paying for health care: with applications to Vietnam 1993–1998. *Health economics*, *12*(11), 921-933.

Williams, R. (2012). Using the margins command to estimate and interpret adjusted predictions and marginal effects. *The Stata Journal*, *12*(2), 308-331.

**Tables**

**Table 1: Variables for multivariate logistic regression on the likelihood of distress financing for meeting hospitalization expenses**

| Variable | Definition / categories |
|---|---|
| Distress financing | 1 if out-of-pocket expenses are made through borrowings, sale of assets and contribution from friends and relatives<br>0 = financing from income/ savings |
| Sex | Male, Female |
| Age group | 0-12 years, 13-39 years, 40-59 years, 60 years & above |
| Health insurance coverage | Government sponsored, Not sponsored by government (arranged by household, sponsored by employer, others), No insurance |
| Monthly per capita consumption category | Poor (bottom 2 quintiles as per monthly per capita consumption expenditure); non-poor (top 3 quintiles) |
| Social group | ST, SC, OBC, Others |
| Number of hospitalizations | 1, 2, 3 or more |
| Sector | Rural, Urban |
| Region | North-central, East, North-East, West, South |
| Type of Hospital | Private, Government |
| Level of hospitalization expenditure | Low (bottom 2 quintiles as per hospitalization expenses), high (top 3 quintiles) |
| Whether suffering from chronic ailments | Yes, No |
| Type of ailments | Infections, Cancers, Blood diseases, Endocrine and metabolic, Psychiatric and neurological, Eye, Ear, Cardio-vascular, Respiratory, Gastrointestinal, Skin, Musko skeletal, Genito urinary, Obstetric, Injuries, Others |
| Time / Year | 2014, 2017-18 |

**Table 2: Distribution of first and second major sources for meeting hospitalization expenses by type of financing**

| Major sources of finance for meeting hospitalisation expenses | NSS 71st round (2014) (N=57456) | | NSS 75th round (2017-18) (N=93917) | |
|---|---|---|---|---|
| | 1st Source | 2nd Source | 1st Source | 2nd Source |
| Income/savings | 73.51 | 15.33 | 82.98 | 8.12 |
| borrowings | 20.33 | 13.18 | 9.49 | 14.64 |
| Sale of assets | 0.52 | 0.41 | 0.26 | 0.31 |
| Contribution from friends /relatives | 4.31 | 9.01 | 3.12 | 9.18 |
| Other sources | 0.88 | 1.15 | 3.96 | 1.98 |
| No second source | - | 60.93 | - | 65.78 |
| Total | 100 | 100 | 100.0 | 100.0 |

Source: Estimated from NSS 71st (2014) and NSS 75th (2017-18) Health Rounds

**Table 3: Incidence of distress financing by individual, household, contextual and ailment characteristics (in percentages)**

| Variables | NSS 71st round (2014) | NSS 75th round (2017-18) |
|---|---|---|
| *Sex* | | |
| Male | 31.30 | 20.29 |
| Female | 22.90 | 15.00 |
| *Age Group (years)* | | |
| 0-12 | 28.20 | 16.61 |
| 13-39 | 22.70 | 15.01 |
| 40-59 | 30.80 | 19.44 |
| 60 & above | 28.50 | 19.96 |
| *Type of health insurance coverage* | | |
| Government sponsored insurance | 36.18 | 26.09 |
| Other types of insurance | 16.64 | 14.63 |
| Not covered | 24.33 | 14.96 |
| *Number of hospitalizations in household* | | |

*(Continued)*

| Variables | NSS 71st round (2014) | NSS 75th round (2017-18) |
|---|---|---|
| 1 | 21.93 | 14.87 |
| 2 | 31.73 | 21.26 |
| ≥2 | 37.27 | 24.92 |
| *Sector* | | |
| Rural | 27.65 | 17.71 |
| Urban | 22.70 | 14.96 |
| *Region* | | |
| North Central | 18.60 | 14.95 |
| East | 27.40 | 14.76 |
| North East | 5.30 | 6.14 |
| West | 15.20 | 9.80 |
| South | 39.70 | 25.86 |
| *Type of hospital* | | |
| Government | 19.10 | 13.71 |
| Private | 31.80 | 20.05 |
| *Hospitalization Expenditure Quintile* | | |
| Bottom | 8.90 | 14.93 |
| 2nd | 18.70 | 10.43 |
| Middle | 26.80 | 14.15 |
| 4th | 35.40 | 17.96 |
| Top | 40.20 | 26.60 |
| *Whether suffering from any Chronic Ailment* | | |
| Yes | 36.00 | 22.89 |
| No | 23.93 | 15.04 |
| **Total** | **26.04 (14954)** | **16.83 (15757)** |

Source: Estimated from NSS 71st (2014) and NSS 75th (2017-18) Health Rounds

**Table 4: Incidence of distress financing for select ailments types (in percentages)**

| Ailments | NSS 71st round (2014) | NSS 75th round (2017-18) |
|---|---|---|
| Infection | 23.82 | 14.20 |
| Cancers | 43.48 | 28.27 |
| Blood diseases | 31.85 | 22.50 |
| Endocrine and metabolic | 29.26 | 17.63 |
| Psychiatric and neurological | 37.31 | 24.66 |
| Eye | 17.79 | 15.09 |
| Ear | 23.11 | 19.86 |
| Cardio-vascular | 29.80 | 20.19 |
| Respiratory | 26.02 | 20.77 |
| Gastro-intestinal | 34.70 | 19.62 |
| Skin | 37.07 | 17.35 |
| Musko skeletal | 31.58 | 19.99 |
| Genito urinary | 35.77 | 22.48 |
| Obstetric | 19.45 | 15.12 |
| Injuries | 33.99 | 24.07 |
| Others | 18.25 | 13.11 |
| Total | 26.04 | 16.83 |

Source: Estimated from NSS 71st (2014) and NSS 75th (2017-18) Health Rounds

**Table 5: Results of logistic regression (Marginal Effects in percentages)**

| Variables | Model 1 | Model 2 | Model 3 |
|---|---|---|---|
| *Sex* | | | |
| Male | 27.34 | 17.89 | 23.08 |
| Female | 25.15* | 16.11* | 20.98* |
| *Age group (in years)* | | | |
| 0-12 | 26.90 | 16.03 | 21.80 |
| 13-39 | 26.44 | 17.23 | 22.22 |
| 40-59 | 26.47 | 16.65 | 22.04 |
| 60 & above | 23.97* | 16.09 | 20.41* |
| *Type of Insurance Coverage* | | | |
| GSI | 29.84 | 20.96* | 25.80* |
| Other types of Insurance | 16.43 | 14.32 | 18.36 |
| No insurance | 25.77 | 15.78 | 21.14 |
| *Economic class* | | | |
| Poor | 25.41 | 16.10 | 19.98 |
| Non-poor | 26.36 | 17.01 | 24.98 |
| *Social group* | | | |
| ST | 28.44* | 16.82 | 22.50* |
| SC | 31.37* | 19.07* | 25.33* |
| OBC | 26.33* | 16.68* | 21.91* |
| Others | 21.59 | 15.37 | 19.10 |
| *Number of hospitalizations in the household* | | | |
| One | 23.32 | 15.56 | 19.72 |
| Two | 29.29* | 19.72* | 25.00* |
| more than two | 33.09* | 20.67* | 27.83* |
| *Sector* | | | |
| Rural | 21.46* | 14.04* | 23.26* |
| Urban | 28.42 | 18.18 | 18.86 |
| *Region* | | | |
| North Central | 19.63* | 15.61* | 17.46* |
| East | 30.24* | 15.90* | 22.60* |

*(Continued)*

| Variables | Model 1 | Model 2 | Model 3 |
|---|---|---|---|
| North East | 7.52* | 8.09* | 7.61* |
| West | 15.14* | 10.07* | 13.27* |
| South | 35.99 | 22.63 | 30.96 |
| *Type of hospital* | | | |
| Government | 25.36 | 15.06 | 20.63 |
| Private | 26.49 | 18.34* | 22.64* |
| *Hospitalization Expenditure* | | | |
| High Expenditure | 33.95* | 18.10* | 26.87* |
| Low Expenditure | 14.43 | 14.57 | 13.94 |
| *Whether suffering from chronic ailment?* | | | |
| Yes | 28.95* | 18.53* | 24.31* |
| No | 25.31 | 16.15 | 21.09 |
| *Ailments Category* | | | |
| Infection | 24.43 | 13.88 | 19.54 |
| Cancers | 32.15* | 23.14* | 28.36* |
| Blood diseases | 29.82 | 21.71* | 26.30* |
| Endocrine and metabolic | 23.83 | 14.49 | 19.65 |
| Psychiatric and neurological | 31.91* | 21.96* | 27.05* |
| Eye | 18.89* | 13.96 | 16.38* |
| Ear | 20.27 | 18.64 | 19.53 |
| Cardio-vascular | 25.61 | 18.05* | 22.30* |
| Respiratory | 23.28 | 18.37* | 20.81 |
| Gastro-intestinal | 31.49* | 18.49* | 25.95* |
| Skin | 35.98* | 16.87 | 26.99* |
| Musko skeletal | 26.85 | 17.10* | 22.47* |
| Genito urinary | 29.02* | 19.29* | 24.81* |
| Obstetric | 22.28 | 15.26 | 18.08 |
| Injuries | 30.34* | 21.82* | 26.39* |
| Others | 23.26 | 15.49 | 19.67 |
| *NSS Round* | | | |
| 71$^{st}$ round | | | 24.85 |
| 75$^{th}$ round | -- | -- | 17.88* |

Source: Estimated from NSS 71st (2014) and NSS 75th (2017-18) Health Rounds

Note: * indicates significance at 5 per cent level

Model 1: NSS 71st (2014), Model 2: NSS 75th (2017-18), Model 3: Pooled sample (combining NSS 71st and NSS 75th)

GSI: Government sponsored insurance

**Table 6: Results of marginal effects (in percentages) for distress financing by economic group, medical expenditure, place of hospitalization, time by type of insurance coverage**

| Interaction terms | Model 1 | Model 2 | Model 3 |
|---|---|---|---|
| Non-Poor and having GSI | 29.32 | 21.61 | 29.54 |
| Non-Poor and having other types of insurance | 18.80 | 16.36 | 24.01 |
| Non-Poor and having no insurance | 26.16 | 15.94 | 24.04 |
| Poor and having GSI | 31.03 | 19.76 | 23.57 |
| Poor and having other types of insurance | 10.92* | 10.54 | 14.83* |
| Poor and having no insurance | 24.86 | 15.48 | 19.39 |
| High hospitalization expenditure and having GSI | 38.41* | 22.11 | 31.02* |
| High hospitalization expenditure and having other types of insurance | 16.08* | 14.17 | 18.48* |
| High hospitalization expenditure and having no insurance | 33.73 | 17.17 | 26.28 |
| Low hospitalization expenditure and having GSI | 15.82 | 18.92 | 16.87 |
| Low hospitalization expenditure and having other types of insurance | 16.99 | 14.58 | 18.16 |
| Low hospitalization expenditure and having no insurance | 13.97 | 13.34 | 13.05 |
| Hospitalized in government hospital and having GSI | 25.07 | 18.24 | 21.89 |

*(Continued)*

| Interaction terms | Model 1 | Model 2 | Model 3 |
|---|---|---|---|
| Hospitalized in government hospital and having other types of insurance | 15.91 | 13.05 | 16.75 |
| Hospitalized in government hospital and having no insurance | 26.00 | 14.28 | 20.61 |
| Hospitalized in private hospital and having GSI | 32.77* | 23.51 | 28.61* |
| Hospitalized in private hospital and having other types of insurance | 16.83 | 15.55 | 19.87 |
| Hospitalized in private hospital and having no insurance | 25.63* | 17.10 | 21.49 |
| Having GSI in 2014 | -- | -- | 28.65 |
| Having other types of insurance in 2014 | -- | -- | 22.17 |
| Having no insurance in 2014 | -- | -- | 17.92 |
| Having GSI in 2017-18 | -- | -- | 18.92* |
| Having other types of insurance in 2017-18 | -- | -- | 24.42 |
| Having no insurance in 2017-18 | -- | -- | 16.93 |

Source: Estimated from NSS 71st (2014) and NSS 75th (2017-18) rounds

Note: * indicates significance at 5 per cent level; Model 1: NSS 71st (2014), Model 2: NSS 75th (2017-18), Model 3: Pooled sample (combining NSS 71st and NSS 75th); GSI: government sponsored insurance

**Figures:**

Figure 1

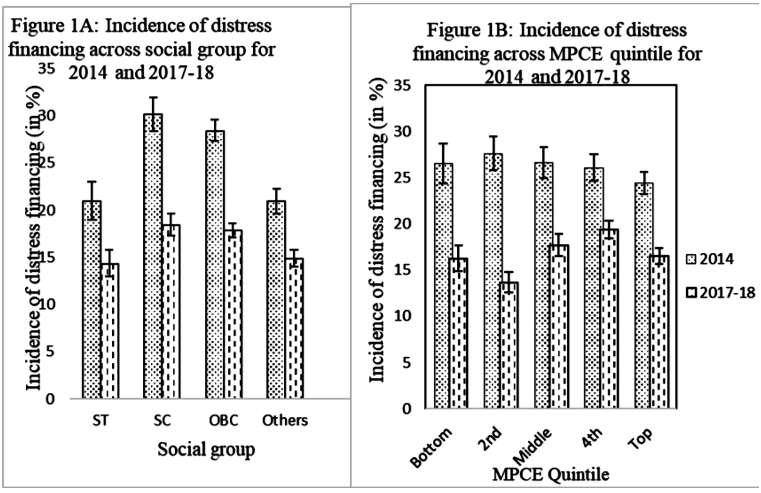
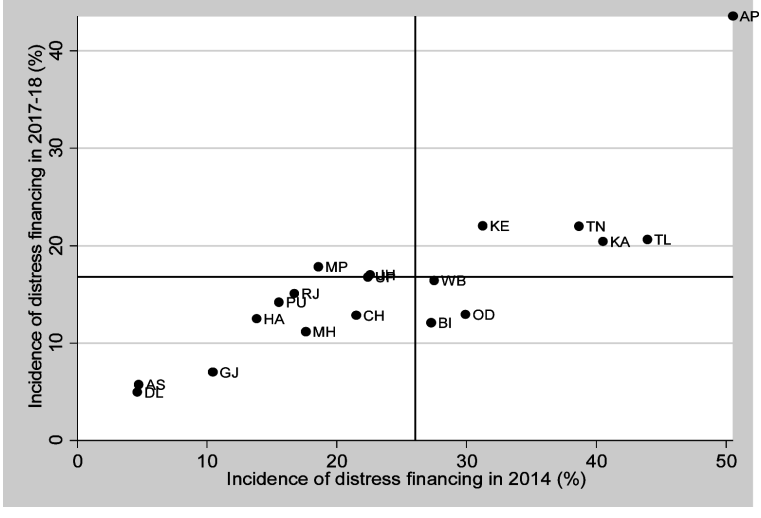



Figure 2: Incidence of distress financing in 2014 and 2017-18 for major states



## Appendix Tables

**Table A1: Distribution of first major sources of financing for meeting outpatient expenses for ailments (15-day recall period)**

| First major source | Percentage of outpatient cases | |
|---|---|---|
| | 2014 (n=33911) | 2017-18 (n=43239) |
| No out-of-pocket expenses | 7.38 | 6.13 |
| Income/savings | 88.64 | 89.13 |
| borrowings | 2.57 | 1.58 |
| Sale of assets | 0.01 | 0.01 |
| Contribution from friends /relatives | 1.15 | 0.93 |
| Other sources | 0.24 | 2.23 |
| Total | 100 | 100 |

Source: Estimated from NSS 71st (2014) and NSS 75th (2017-18) Health Rounds

**Table A2: Incidence of distress financing by social group and MPCE quintiles (in percentages)**

| Social group / MPCE Quintiles | NSS 71st round (2014) | NSS 75th round (2017-18) |
|---|---|---|
| *Social Group* | | |
| ST | 20.90 | 14.31 |
| SC | 30.10 | 18.41 |
| OBC | 28.40 | 17.80 |
| Others | 20.90 | 14.86 |
| *MPCE Quintile* | | |
| Bottom | 26.50 | 16.20 |
| 2nd | 27.60 | 13.63 |
| Middle | 26.60 | 17.67 |
| 4th | 26.10 | 19.35 |
| Top | 24.40 | 16.51 |
| Total | 26.04 (14954) | 16.83 (15757) |

Source: Estimated from NSS 71st (2014) and NSS 75th (2017-18) Health Rounds

**Table A3: Incidence of distress financing across major Indian states(in percentages)**

| Major States | NSS 71st round (2014) | NSS 75th round (2017-18) |
|---|---|---|
| Andhra Pradesh (AP) | 50.54 | 43.55 |
| Assam (AS) | 4.75 | 5.76 |
| Bihar (BI) | 27.28 | 12.1 |
| Chhattisgarh (CH) | 21.49 | 12.85 |
| Delhi (DL) | 4.63 | 4.96 |
| Gujarat (GJ) | 10.45 | 7.02 |
| Haryana (HA) | 13.83 | 12.51 |
| Jharkhand (JH) | 22.58 | 17.01 |
| Karnataka (KA) | 40.53 | 20.44 |
| Kerala (KE) | 31.26 | 22.04 |
| Maharashtra (MH) | 17.61 | 11.18 |
| Madhya Pradesh (MP) | 18.59 | 17.85 |
| Odisha (OD) | 29.93 | 12.95 |
| Punjab (PU) | 15.56 | 14.21 |
| Rajasthan (RJ) | 16.74 | 15.08 |
| Telangana (TL) | 43.95 | 20.64 |
| Tamil Nadu (TN) | 38.67 | 21.99 |
| Uttar Pradesh (UP) | 22.41 | 16.79 |
| West Bengal (WB) | 27.51 | 16.42 |
| India | 26.04 | 16.83 |

Source: Estimated from NSS 71$^{st}$ (2014) and NSS 75$^{th}$ (2017-18) Health Rounds

## OCCASIONAL PAPERS

1. *Keynes, Kaldor and Development Economics* by Amiya Kumar Bagchi, July 2004.
2 *Epar Ganga Opar Ganga - A creative statement on displacement and violence* by Subhoranjan Dasgupta, July 2004.
3. *Samkhya and Vyanjanii: Understanding Underdevelopment* by Prasanta Ray, July 2004.
4. *Gender, History and the Recovery of Knowledge with Information and Communication Technologies: Reconfiguring the future of our past* by Bamita Bagchi, July 2004.
5. *Kerala's Changing Development Narratives* by Achin Chakraborty, October 2004.
6. *The Development Centrifuge: A Retrospect in Search of a Theory and a Centre* by Pinaki Chakraborti, February 2005.
7. *Capital Inflows into India in the Post-Liberalization Period: An Empirical Investigation by Indrani Chakraborty*,July 2005
8. *The Construction of the Hindu Identity in Medieval Western Bengal? The Role of Popular Cults* by Jawhar Sircar, July 2005
9. *Does Financial Development Cause Economic Growth? The Case of India* by Indrani Chakraborty, January 2007.
10. *China India Russia: Moving Out of Backwardness*, or, *Cunning Passages of History* by Amiya Kumar Bagchi, May 2007.
11. *Rethinking Knowledge as Ideology: Reflections on the Debate from Max Scheler to Theodor Adorno* by Sudeep Basu, September 2007.
12. *Financial Development and Economic Growth in India: An Analysis of the Post-Reform Period* by Indrani Chakraborty, January 2008.
13. *Migration, Islam and Identity Strategies in Kwazulu-Natal: Notes on the Making of Indians and Africans* by Preben Kaarsholm, April 2008.
14. *Socio Economic Profile of Patients in Kolkata: A Case Study of RG Kar and AMRI* by Zakir Husain, Saswata Ghosh and Bijoya Roy, July 2008.
15. *Education for Child Labour in West Bengal* by Uttam Bhattacharya, October 2008.

16. *What Determines the Success and Failure of '100 Days Work at the Panchayat Level? A Study of Birbhum District in West Bengal* by Subrata Mukherjee and Saswata Ghosh, February 2009.
17. *The Field Strikes Back: Decoding Narratives of Develop-ment* by Dipankar Sinha, March 2009.
18. *Female Work Participation and Gender Differential in Earning in West Bengal* by Indrani Chakraborty and Achin Chakraborty, April 2009.
19. *Rosa Luxemburg's Critique of Creativity and Culture* by Subhoranjan Dasgupta, May 2009.
20. *MDG-Based Poverty Reduction Strategy for West Bengal* by Achin Chakraborty, October 2009.
21. *The Dialectical Core in Rosa Luxemburg's Vision of Democracy* by Subhoranjan Dasgupta, January 2010.
22. *Contested Virtue: Imperial Women's Crisis with Colonized Womanhood* by Sukla Chatterjee, November 2010.
23. *Encountering Globalization in the Hill Areas of North East India* by Gorky Chakraborty, December 2010.
24. *Arundhati Roy: Environment and Literary Activism* by Debarati Bandyopadhyay, April 2011.
25. *Nineteenth Century Colonial Ideology and Socio-Legal Reforms: Continuity or Break?* by Subhasri Ghosh, June 2011.
26. *Long-Term Demographic Trends in North-East India and their Wider Significance 1901-2001* by Arup Maharatna and Anindita Sinha, 2011.
27. *Employment and Growth under Capitalism: Some Critical Issues with Special Reference* to India by Subhanil Chowdhury, July 2011.
28. *No Voice, No Choice: Riverine Changes and Human Vulnerability in The 'Chars' of Malda and Murshidabad* by Jenia Mukherjee, July 2011.
29. *Does Capital Structure Depend on Group Affiliation? An Analysis of Indian Corporate Firms* by Indrani Chakraborty, July 2011.
30. *Healing and Healers Inscribed: Epigraphic Bearing on Healing-Houses in Early India* by Ranabir Chakravarti and Krishnendu Ray July 2011.

31. *Pratyaha: Everyday Lifeworld* by Prasanta Ray, October 2011.
32. *Women, Medicine and Politics of Gender: Institution of Traditional Midwives in Twentieth Century Bengal* by Krishna Soman, November 2011.
33. *North East Vision 2020: A Reality Check* by Gorky Chakraborty, 2011.
34. *Disabled definitions, Impaired Policies: Reflections on Limits of Dominant Concepts of Disability*, by Nandini Ghosh, May 2012.
35. *Losing Biodiversity, Impoverishing Forest Villagers: Analysing Forest Policies in the Context of Flood Disaster in a National Park of Sub Himalayan Bengal, India* by Bidhan Kanti Das, July 2012.
36. *Women Empowerment as Multidimensional Capability Enhancement: An Application of Structural-Equation Modeling* by Joysankar Bhattacharya and Sarmila Banerjee, July 2012.
37. *Medical Education and Emergence of Women Medics in Colonial Bengal* by Sujata Mukherjee August 2012.
38. *Painted Spectacles: Evidence of the Mughal Paintings for the Correction of Vision* by Ranabir Chakravarti and Tutul Chakravarti, August 2012.
39. *Roots and Ramifications of a Colonial 'Construct': The Wastelands in Assam* by Gorky Chakraborty, September 2012.
40. *Constructing a "pure" body: The discourse of nutrition in colonial Bengal* by Utsa Roy, November 2012.
41. *Public-Private Partnerships in Kolkata: Concepts of Governance in the Changing Political Economy of a Region* by Sonali Chakravarti Banerjee, May 2013.
42. *Living Arrangement and Capability Deprivation of the Disabled in India* by Achin Chakraborty and Subrata Mukherjee, November 2013.
43. *Economic Development and Welfare: Some Measurement Issues* by Dipankar Coondoo, January 2014.
44. *Exploring Post-Sterilization Regret in an Underdeveloped Region of Rural West Bengal* by Saswata Ghosh, April 2014.
45. *Promoter Ownership and Performance in Publicly Listed Firms in India: Does Group Affiliation Matter?* by Ansgar Richter and Indrani Chakraborty, February 2015.

46. *Intersectionality and Spaces of Belonging: Understanding the Tea Plantation Workers in Dooars* by Supurna Banerjee, March 2015.

47. *Is Imperialism a Relevant Concept in Today's World?* by Subhanil Chowdhury, March 2015.

48. *Understanding Northeast India through a 'Spatial' Lens* by Gorky Chakraborty and Asok Kumar Ray, April 2015.

49. *Influence of Son Preference on Contraceptive Method Mix: Some Evidences from 'Two Bengals'* by Saswata Ghosh and Sharifa Begum, April 2015.

50. *Purchasing Managers' Indices and Quarterly GDP Change Forecast: An Exploratory Note Based on Indian Data* by Dipankor Coondoo and Sangeeta Das, January 2016.

51. *Role of Community and Context in Contraceptive Behaviour in Rural West Bengal, India: A Multilevel Multinomial Approach by* Saswata Ghosh and Md. Zakaria Siddiqui, February 2016.

52. *Employment Growth in West Bengal : An Assessment* by Subhanil Chowdhury and Soumyajit Chakraborty, March 2016.

53. *Effects of Ownership Structure on Capital Structure of Indian Listed Firms: Role of Business Groups vis-a-vis Stand-Alone Firms* by Indrani Chakraborty, March 2016.

54. *From 'Look East' to 'Act East' Policy: continuing with an Obfuscated Vision for Northeast India* by Gorky Chakraborty, March 2016.

55. *Rural Medical Practitioners: Who are they? What do they do? Should they be trained for improvement? Evidence from rural West Bengal* by Subrata Mukherjee & Rolf Heinmüller, February 2017.

56. *Uncovering Heterogeneity in the Relationship between Competition, Corporate Governance and Firm Performance using Quantile Regression on Indian Data* by Indrani Chakraborty, March 2017.

57. *The Railway Refugees: Sealdah, 1950s-1960s* by Anwesha Sengupta, March 2017.

58. *Underemployment in India: Measurement and Analysis* by Subrata Mukherjee, Dipankor Coondoo & Indrani Chakraborty, November 2017.

59 *Caste-Gender Intersectionalities and the Curious Case of Child Nutrition : A Methodological Exposition,* by Simantini Mukhopadhyay & Achin Chakraborty, February 2018.

60 *Changing socioeconomic inequalities in child nutrition in the Indian states: What the last two National Family Health Surveys say,* by Simantini Mukhopadhyay & Achin Chakraborty, July 2018

61 *Measuring households' multidimensional vulnerability due to health shocks: Evidence from National Sample Survey 71st round data* by Subrata Mukherjee & Priyanka Dasgupta, August 2018.

62. *In search of nationalist trends in Indian anthropology: opening a new discourse* by Abhijit Guha, September 2018

63. An approach toward methodological appraisal of social research by Achin Chakraborty, January 2019

64. *Can Ayushman Bharat National Health Protection Mission protect health of India's Poor?* by Subhanil Chowdhury & Subrata Mukherjee, January 2019

65. *Debt-Financing and Product Market Competition in an Emerging Economy: Evidence from India,* Indrani Chakraborty, March 2019

66. *Class Processes and Cooperatives*, Manas R Bhowmik & Achin Chakraborty, June 2019

67. *Human Connection in the Light of the Writings of Karl Marx and Amartya Sen* by Simantini Mukhopadhyay, February 2020

68. *Outpatient care and expenses: Can they be ignored in health insurance programmes* by Subrata Mukherjee & Anoshua Chaudhuri, February 2020

69. *Solidarities in and through Resistance: Rethinking Alliance-building through Protests in Plantations in India*, Supurna Banerjee, March 2020

70. *Bengali Migrant Workers in South India : An inquiry into their earnings and living*, Monalisha Chakraborty, Subrata Mukherjee & Priyanka Dasgupta, March 2020

## SPECIAL LECTURES

1. *Education for Profit, Education for Freedom* by Martha C. Nussbaum, March 2008.
2. *Always Towards : Development and Nationalism in Rabindranath Tagore* by Himani Bannerji, May 2008.
3. *The Winding Road Toward Equality for Women in the United States* by Diane P. Wood, June 2008.
4. *Compassion : Human and Animal* by Martha C. Nussbaum, July 2008.
5. *Three 'Returns' to Marx : Derrida, Badiou, Zizek (*Fourth Michael Sprinker Lecture) by Aijaz Ahmad, March 2012.
6. *Inequality: Reflections on a Silent Pandemic* by Ashwani Saith, December 2009.
7. *A Study in Development by Dispossession* by Amit Bhaduri, March 2015.

## WORKING PAPERS

1. *Primary Education among Low Income Muslims in Kolkata: Slum Dwellers of Park Circus* by Zakir Husain, July 2004.
2. *Impact of District Primary Education Programme (DPEP) on Primary Education: A study of South 24 Parganas* by Suman Ray, July 2004.
3. *Representation of Public Health in the Print Media : A Survey and Analysis* by Swati Bhattacharjee, January 2009.
4. *Maternal Anthropometry and Birth Outcome Among Bengalis in Kolkata* by Samiran Bisai, April 2009.
5. *Transfer of Technology and Production of Steel in India*, An interview of Anil Chandra Banerjee by Amiya Kumar Bagchi, December 2013.

## BOOKS

1 *Economy and the Quality of Life - Essays in Memory of Ashok Rudra*, Amiya Kumar Bagchi, Manabendu Chattopadhyay and Ratan Khasnabis (editors), Kolkata, Dasgupta & Co.,2003.

2 *The Developmental State in History and in the Twentieth Century,* Amiya Kumar Bagchi, Regency Publications, New Delhi, 2004.

3 *Pliable Pupils and Sufficient Self –Directors: Narratives of Female Education by Five British Women Writers*, 1778-1814 Barnita Bagchi, Tulika, New Delhi, 2004.

4 *Webs of History: Information, Communication and Technology from Early to Post-colonial India,* Amiya Kumar Bagchi, Dipankar Sinha and Barnita Bagchi (editors), New Delhi, Manohar, 2004.

5 *Maladies, Preventives and Curatives: Debates in public health in India*, Amiya Kumar Bagchi and Krishna Soman (editors), Tulika, New Delhi, 2005.

6 *Perilous Passage: Mankind and the Global Ascendancy of Capital,* Amiya Kumar Bagchi**,** Rowman and Littlefield Lanham, Maryland, USA, 2005.

7 *Globalisation, Industrial Restructuring, and Labour Standards: Where India meets the Global*, Debdas Banerjee**,** Sage Publication, 2005.

8 Translation with an introduction of Rokeya S. Hossain: *Sultana's Dream and Padmarag,* Barnita Bagchi**,** Penguin Modern Classics, 2005.

9 *The Evolution of State Bank of India, Vol. I, The Roots 1806-1876*, Amiya Kumar Bagchi, The Penguin Portfolio edition, Penguin Books, 2006.

10 *Capture and Exclude: Developing Economies and the Poor in Global Finance*, Amiya Kumar Bagchi and Gary Dymski (editors), Tulika, New Delhi, 2007.

11 *Labour, Globalization and the State: Workers, Women and Migrants Confront Neoliberalism*, Edited, Michael Goldfield and Debdas Banerjee (editors), Routledge, London and New York, 2008.

12 *Eastern India in the Late Nineteenth Century, Part I: 1860s-1870s*, Amiya Kumar Bagchi and Arun Bandopadhyay (editors), Manohar and Indian Council of Historical Research, New Delhi, 2009.

13 *Indian Railway Acts and Rules 1849-1895: Railway Construction in India : Selected Documents (1832-1900),* Vol. IV, Bhubanes Misra (editor); Amiya Kumar Bagchi (General Editor), Indian Council of Historical Research, New Delhi, 2009.

14 *Colonialism and Indian Economy,* Amiya Kumar Bagchi**,** New Delhi, Oxford University Press, 2010.

15 *Market Media and Democracy*, compiled, Buroshiva Dasgupta**,** Institute of Development Studies Kolkata, 2011.

16 *Four Essays on Writing Economic History of Colonial India*, Institute of Development Studies Kolkata and Progressive Publishers, 2011.

17 *Rabindranath: Bakpati Biswamana***,** Volume 2, Sudhir Chakravarti (editor), Rabindranath Tagore Centre for Human Development Studies, 2011.

18 *Rabindranath: Bakpati Biswamana***,** Volume1**,** Sudhir Chakravarti**,** Rabindranath Tagore Centre for Human Development Studies, 2011.

19 *Eastern India in the Late Nineteenth Century, Part II: 1880s-1890s* , Amiya Kumar Bagchi & Arun Bandopadhyay (editors), Manohar and Indian Council of Historical Research, New Delhi 2011.

20 *Universally Loved: Reception of Tagore in North-east India***,** Indranath Choudhuri (editor), Rabindranath Tagore Centre for Human Development Studies and Progressive Publishers, 2012.

21 *The Politics of the (Im)Possible***,** Barnita Bagchi (editor), Sage, 2012.

22 *Transformation and Development: The Political Economy of Transition in India and China*, Amiya Kumar Bagchi and Anthony P.D'Costa (editor), Oxford University Press, 2012.

23 *Market, Regulations and Finance: Global Meltdown and the Indian Economy,* Indrani Chakraborty and Ratan Khasnabis (editors), Springer, March 2014.

24 *Indian Skilled Migration and Development: To Europe and Back*, Uttam Bhattacharya and Gabriela Tejada, *et al.*, (editors), New Delhi: Springer, 2014.

25 *The Look East Policy and Northeast India*, Gorky Chakraborty and Asok Kumar Ray (editors), Aakar Books, 2014.

26 *An Introduction to the History of America***,** Jenia Mukherjee and C. Palit (editors), New Delhi: Cambridge University Press, 2014.

27 *History and Beyond: Trends and Trajectories*, Jenia Mukherjee and C. Palit (editors), New Delhi: Kunal Books, 2014.

28 *Biodiversity Conservation in India: Management Practices, Livelihood Concerns and Future Options,* Bidhan Kanti Das, Ajit Banerjee (editors), Concept Publishing Co. Ltd.,2014.

29 *Marxism: With and Beyond Marx,* Amiya Kumar Bagchi and Amita Chatterjee (editors), Routledge, 2014.

30 *Democratic Governance and Politics of the Left in South Asia,* Subhoranjan Dasgupta (editor) Aakar Books, New Delhi, 2015.

31 *Southern India in the Late Nineteenth Century, Vol. 1, Part IA : 1860s-1870s,* Amiya Kumar Bagchi & Arun Bandopadhyay (editors) Manohar, New Delhi 2015.

32 *Southern India in the Late Nineteenth Century, Vol. 1, Part IB : 1860s-1870s*, Amiya Kumar Bagchi & Arun Bandopadhyay (editors) Manohar, New Delhi 2015.

33 *Pratyaha : Everyday Lifeworld : Dilemmas, Contestations and Negotiations,* Prasanta Ray and Nandini Ghosh (editors) Primus Books, 2016.

34 *Interrogating Disability in India: Theory and Practice in India,* Nandini Ghosh (editor), Springer India, 2016.

35. *Impaired Bodies, Gendered Lives: Everyday Realities of Disabled Women,* Nandini Ghosh, Primus Books, 2016.

36 *Rethinking Tribe in the Indian Context: Realities, Issues and Challenges***,** Bidhan Kanti Das and Rajat Kanti Das (editors), Rawat Publishers Pvt. Ltd., 2017.

37 *The Land Question in India : State, Dispossession and Capitalist Transition*, Achin Chakraborty and Anthony P. D'Costa (editors), Oxford University Press(UK), 2017.

38 *Activism and Agency in India : Nurturing Resistance in the Tea Plantations*, Supurna Banerjee.

39. *Sustainable Urbanization in India: Challenges and Opportunities,* Jenia Mukherjee (editor), Springer, 2017.

40. *Water Conflicts in Northeast India*, Gorky Chakraborty, K.J. Joy, Partha Das, Chandan Mahanta, Suhas Paranjape, Shruti Vispute (editors), Routledge, 2017.

41. *Caste and Gender in Contemporary India : Power, Privilege and Politics,* eds. Supurna Banerjee and Nandini Ghosh, New Delhi and South Asxia Routledge, 2019.

42. *Limits of Bargaining: Capital, Labour and the State in Contemporary India,* Achin Chakraborty, Subhanil Chowdhury, Supurna Banerjee and Zaad Mahmood, Cambridge University Press, 2019.

43. *Changing Contexts and Shifting Roles of the Indian State: New Perspectives on Development Dynamics* eds. Achin Chakraborty and Anthony P. D'Costa, Springer, 2019.