# **Dynamics of Impoverishment Impact of Health Care Payments** in Nepal: An Analysis of **Synthetic Panel Data between** 2004 and 2011

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### Rationale



- Analyzing the trends of poverty provides comparative static, not poverty dynamics
- Poverty dynamics captures the economic mobility of households and focuses on inter-temporal changes in poverty of the households
- Mobility of into and out of poverty: poverty dynamics

### Rationale

- Poverty is not a state of static reality
- What is % of remaining in poverty,
- What is % of moving up from poverty,
- What is % of falling down into the poverty during the given period of time
- Evidence on poverty dynamics is important for policy makers to design appropriate anti-poverty policies.
- Without knowing the dynamics of poverty, the policy may not be realistic to target poverty reduction





# Impoverishment impact of health care payment (OOPH)

- The OOPH causes hardship to people if there is an absence of adequate financial protection mechanism such as health insurance.
- OOPH is impoverishing when the push the household into poverty further into poverty



### Impact on poverty dynamics

• Dynamics of poverty is also determined by the health care payment. There are four different scenarios when we analyse the impoverishment impact of OOPH:

a) may increase in poverty level or OOPH pushes non-poor to poor;

b) may increase chronic poverty or increase the possibility being poor to poor

c) may reduce the capacity of being non-poor from poor;

d) may reduce the capacity of being non-poor to non-poor households.

### Chronic and transitory poverty



### Two research questions

(1) what is the status/situation dynamics of poverty in Nepal;

(2) what are the impacts of OOPH on the household economy in terms

of poverty dynamics?

# Methods of estimating poverty dynamics

- Panel data is central to obtaining a better understanding of poverty dynamics
- longitudinal data that tracks individuals or households over time
- Lack of longitudinal/panel data
- Creating panel data from two or more cross sectional data: synthetic panel data/ hybrid data / pseudo-panel using time-invariant variables such as household head's ethnicity, education and sex of the household
- Synthetic panels based on cohorts have been widely used to track income and consumption outcomes over time
- Methodology developed by Dang et al., 2014; Dang and Lanjouw, 2013
- Poverty dynamics captures only two periods: 2003/04 and 2010/11

### **Four categories**

a) Probability of being poor in 2003/04 remaining poor in 2010/11.

$$P(y_{i1} \le z_1 \text{ and } y_{i2} \le z_2) = \phi\left(\frac{z_1 - \beta_1' x_{i1}}{\sigma_{\varepsilon_1}}, \frac{z_2 - \beta_1' x_{i2}}{\sigma_{\varepsilon_2}}, \rho\right)$$

b) Probability of being poor in 2003/04 and non-poor in 2010/11.

$$P(y_{i1} \le z_1 \text{ and } y_{i2} \ge z_2) = \phi\left(\frac{z_1 - \beta_1' x_{i1}}{\sigma_{\varepsilon_1}}, -\frac{z_2 - \beta_1' x_{i2}}{\sigma_{\varepsilon_2}}, -\rho\right)$$

c) Probability of being non-poor in 2003/04 and poor in 2010/11.

$$P(y_{i1} \ge z_1 \text{ and } y_{i2} \le z_2) = \phi \left( -\frac{z_1 - \beta_1' x_{i1}}{\sigma_{\varepsilon_1}}, \frac{z_2 - \beta_1' x_{i2}}{\sigma_{\varepsilon_2}}, -\rho \right)$$

d) Probability of being non-poor in 2003/04 and non-poor in 2010/11.

$$P(y_{i1} \ge z_1 \text{ and } y_{i2} \ge z_2) = \phi\left(-\frac{z_1 - \beta_1' x_{i1}}{\sigma_{\varepsilon_1}}, -\frac{z_2 - \beta_1' x_{i2}}{\sigma_{\varepsilon_2}}, \rho\right)$$

### National Poverty lines

#### Poverty line for 2003/04

#### Poverty line for 2010/11

	Food	Non-food	Total	Analytical domain	Food (in Rs)	Non-food (in Rs)	Total (in Rs)
Analytical domain	(in Rs)	(in Rs)	(In Rs)				
Kathmandu	6722.0	4334.8	11056.8	Kathmandu	6722.0	4334.8	11056.8
Other urban	1010 2	2021 0	7001 1	Other urban	4919.2	2981.9	7901.1
	4919.2	2901.9	7901.1				
Rural Western Hill	5613.0	3288.5	8901.5	Rural Western Hill	5613.0	3288.5	8901.5
Rural Eastern Hill	5311.2	2758.5	8069.7	Rural Eastern Hill	5311.2	2758.5	8069.7
Rural Western Terai	4308.4	3110.0	7418.4	Rural Western Terai	4308.4	3110.0	7418.4
Rural Eastern Terai	4323.2	1755.6	6078.8	Rural Eastern Terai	4323.2	1755.6	6078.8
Nepal	4966.4	2729.4	7695.8	Nepal	4966.4	2729.4	7695.8

### Results: Poverty dynamics

SN	Categories	Poor / Non-poor in %	Standard Error
1.	Poor to Poor	20.9	0.009
2.	Poor to Non-Poor	14.4	0.014
3.	Non-poor to Poor	06.4	0.009
4.	Non-poor to Non-poor	58.2	0.014

### Synthetic Panel: Poverty Analysis

### 2003/04 & 2010/11

	Before health care payment	After OOP
Poor to Poor	20.90%	22.20%
Poor to non-Poor	14.40%	13.60%
Non-poor to Poor	6.40%	7.10%
Non-poor to Non-poor	58.20%	57.10%



### Poverty dynamics ecological belts



poor

Mountain Hill Terai



Mountain 🗖 Hill 🔳 Terai

#### Regional poverty dynamics







- Disadvantaged Non dalit Terai caste
- Relatively advantaged Janajatis

- Religious Minorities
- Upper caste groups

#### **Caste and ethnic groups: Impacts on poverty dynamics**



## Conclusions

- The results indicate that chronic poverty is almost 21 percent for 2003/04 and 2010/11.
- The chronic poverty is increased by 1 percent due to health care payment.
- Movements into and out of poverty, non- poor to poor and poor to nonpoor, are 6 percent and 14 percent respectively.
- The percentage non-poor to poor is increased by health care payments; however, the percentage of poor to non-poor is decreased by the health care payment.
- Almost 58 percent people are in non-poor category in both periods.
- Chronic poverty exists in all regions, marginalized ethnic and Dalit (occupational caste) groups.

## Conclusions

- Different anti-poverty policies are required to address chronic or transitory poverty.
- The policies or opportunities such as increasing credit facilities, increasing access to services, remittances, or social safety net programmes that can stabilize short-term income fluctuations may be more appropriate to address transitory poverty.
- In contrast, the policies that are related to structural or long-term interventions such as development of basic social and physical infrastructure, increasing of social and political inclusion, increasing rates of capital accumulation among others are required to address chronic poverty.

### Thank You

