

SEGMENTATION AND JOB MOBILITY IN THE INDIAN LABOUR MARKET

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Overview

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Introduction

- **Mobility** of the **workers**
 - improve efficiency and growth
 - reduce **poverty** and **inequality** (**Paci & Serneels, 2007**)
 - greater motivation for work
- Theoretical conceptualizations—
 - **integrated** (Leontaridi, 1998) vs **Dualist** or **segmented** (Cain, 1976; Taubman & Wachter, 1987).
- In segmented framework- **informal jobs** are unfavorable with poor working conditions.
- Informal workers are queuing for better jobs in the **formal** economy.

Introduction

- Legalist school consider - choice of informality to be **voluntary (Maloney, 1999, 2004)**.
- Dichotomized the informal sector- an **upper tier** and a **lower tier (Fields, 2009)**.
- Empirical studies on labour market **segmentation** have mainly relied on the **presence of wage gaps**, controlling for all available worker characteristics (Nguyen, Nordman, & Roubaud, 2013; Nordman, Rakotomanana, & Roubaud, 2016).
- Such an approach has been heavily criticized for its **inability to control for all the productive worker characteristics** and non-pecuniary rewards.
- Others have relied on the evaluation of the **transition of workers** across sectors over time as a method to test the segmented labour market theory.

Introduction

- Labour market **segmentation** and **occupational mobility** is especially pertinent in country like **India** given its age-old **social stratifications** based on caste and religion as well as the prevalence of **large-scale informality** (Sa
- Studies **on mobility in India**:
 - **inter-generational mobility** (Azam, 2015; Reddy, 2015).
 - **intra-generational - mobility of incomes or poverty status** (Ranganathan, Tripathi, & Pandey, 2017; Thorat, Vanneman, Desai, & Dubey, 2017). hoo & Neog, 2017).
- **intra-generational occupational mobility in India** (Pal & Kynch (2000) and Khandker (1992)) But **small samples restricted to a rural/urban context**.

Objectives

- The study has the following objectives:
 - analyze the **pattern of mobility across sectors in India** over the period **2005-06 to 2011-12**.
 - investigate the **determinants of mobility**.
 - examine the **consequences of mobility in terms of monetary earnings**.

Data

- The study is based on panel data from the Indian Human Development Survey (IHDS) conducted for the years 2005-06 (**IHDS-I**) and 2011-12 (**IHDS-II**).
- **Informal Workers** - Piece workers or casual labourers, unpaid family workers as well as self-employed working on their own account without any paid employees under them.
- **Formal Workers** - Regular workers and employers .
- The labour force is divided into eight labour market groups: **cultivators, own account workers (OAWs) in non-farm business, employers in non-farm business, casual workers, regular workers, unpaid family workers**
- **Activity status** is defined based on where the worker has worked the most hours.

Methods

- The study relies on the following tools to understand worker mobility across sectors:
 - **transition probabilities (P matrix and V – Matrix)**.
 - The study looks at the characteristics of movers using **multinomial logistic regression**.
 - The study looks at the consequences of mobility on earnings using **fixed effects regression analysis**.

Transition Probabilities - P matrix

P matrix are given by:

$$p_{ij} = P(S_t = j \mid S_{t-1} = i) = \frac{P(S_{t-1} = i \cap S_t = j)}{P(S_{t-1} = i)}$$

The diagonal elements of the **P** matrix, p_{ii} give us the share of members of a sector who have not moved over the period. Similarly, $(1 - p_{ii})$ gives us the turnover rate of the sector. The mean time spent in a sector i is given by the ratio of the time span of the panel and $(1 - p_{ii})$ (**Maloney, 1999**)

V - Matrix

V matrix is given by:

$$v_{ij} = \frac{p_{ij}/p_{.j}}{(1 - p_{ii})(1 - p_{jj})}$$

Here, $p_{.j}$ would indicate the share of the terminal sector, j in the population. v_{ij} would measure the disposition for a worker to move from sector i to sector j . **A segmented labour market would give us a high v for a movement from informal to formal but a low v in the reverse direction.**

T matrix is given by:

T - Matrix

$$t_{ij} = \frac{N_{ij} / (N_{i.} - N_{ii})}{(N_{.j} - N_{jj}) / \sum_{k \neq i} (N_{.k} - N_{kk})}$$

Here, N_{ij} is the number of individuals moving from sector i to j ; $N_{i.}$ is the initial size of sector i ; $N_{.j}$ is the final size of sector j . The numerator of t_{ij} is the probability of joining j , conditional on having left i . The denominator is the probability of joining j for a mover from i when sector assignment is random. t_{ij} gives us the tendency for a worker to move from i to j , with values above (below) one indicating a positive (negative) tendency to make the transition. In an **integrated labour market where all transitions are random**, all t_{ij} 's are equal to unity and the T matrix is equivalent to an **Identity matrix** (Pagés & Stampini, 2009)

Determinants of Mobility

- We use multinomial logistic regression to analyze the impact of worker attributes on worker transitions.

$$\frac{P(S_{t-1} = i \cap S_t = j)}{P(S_{t-1} = i \cap S_t = i)} = X\beta_j, \text{ for } i, j = 1, 2, \dots, 7$$

- We will have seven such models, one for each initial sector i
- Vector X comprises the set of the standard individual level worker characteristics including age, education, gender, marital status, dependency ratio, rural-urban residence, caste, religious affiliation, soft skills, wealth and occupation of parents, dummies for social and financial capital.
- Binomial logistic model to analyze the determinants of the probability of survival in a labour market status

Mobility and earnings

Fixed effects model is given by:

$$y_{it} = \alpha_i + x'_{it}\beta + \gamma OAW_{it} + \delta E_{it} + \eta CW_{it} + \varepsilon_{it}$$

Here, i indexes individuals and t indexes time. y_{it} is the net earnings of the worker; α_i is the time-invariant individual fixed effect; regular workers as the reference category. The estimated coefficient for OAW (i.e. $\hat{\gamma}$) can thus be interpreted as the earnings penalty/premium for those moving between OAW and regular work. We re-run our model changing our reference category in order to get a picture of the sectoral earnings gap with reference to the other labour market states. Finally, x'_{it} is a vector of individual attributes.

Transition probabilities - (P Matrix)

	Terminal Sector							
Initial Sector	Cultivators	OAW	Employers	Casual Workers	Regular Workers	Unpaid Family Workers	Student	UNLF
Cultivators	57.83	2.24	0.54	19.22	2.45	1.16	1.45	15.11
OAW	12.28	28.82	6.71	23.18	5.68	5.54	0.41	17.37
Employers	8.63	25.23	21.5	14.45	7.4	5.61	0.14	17.04
Casual Workers	16.31	4.5	0.98	57.99	9.03	0.91	0.17	10.12
Regular Workers	6.46	3.6	1.39	18.29	54.5	0.48	0.04	15.24
Unpaid Family Workers	10.88	17.06	6.19	18.56	4.9	17.47	2.94	22.01
Students	21.11	1	0.35	11.52	3.35	2.5	50.64	9.52
UNLF	15.9	1.97	0.57	10.47	3	1.48	29.8	36.82

Transition Probabilities (V Matrix)

Terminal Sector								
Initial Sector	Cultivators	OAW	Employers	Casual Workers	Regular Workers	Unpaid Family Workers	Student	UNLF
Cultivators		2.14	1.54	5.05	2.15	1.78	0.33	2.81
OAW	1.64		11.33	3.61	2.95	5.04	0.06	1.92
Employers	1.04	12.94		2.04	3.48	4.63	0.02	1.71
Casual Workers	3.69	4.31	2.80		7.94	1.40	0.04	1.89
Regular Workers	1.35	3.18	3.67	4.46		0.68	0.01	2.63
Unpaid Family Workers	1.25	8.32	9.01	2.49	2.19		0.34	2.09
Students	4.06	0.82	0.85	2.59	2.51	3.28		1.51
UNLF	2.39	1.26	1.08	1.84	1.75	1.52	4.54	

Transition probabilities (T Matrix)

Terminal Sector								
Initial Sector	Cultivators	OAW	Employers	Casual Workers	Regular Workers	Unpaid Family Workers	Student	UNLF
Cultivators		0.78	0.58	1.55	0.56	0.65	0.13	1.67
OAW	0.64		5.45	1.42	0.98	2.35	0.03	1.45
Employers	0.42	6.21		0.83	1.20	2.24	0.01	1.34
Casual Workers	1.19	1.65	1.11		2.17	0.54	0.02	1.18
Regular Workers	0.51	1.44	1.72	1.70		0.31	0.00	1.93
Unpaid Family Workers	0.50	3.94	4.42	1.00	0.74		0.18	1.62
Students	1.36	0.32	0.35	0.87	0.71	1.31		0.98
UNLF	0.83	0.51	0.46	0.64	0.52	0.63	2.09	

Characteristics of mobility

- With reference to staying in cultivation work, movements to casual work is mainly undertaken by the young, the less educated, males, the poor and the backward castes indicating features of distress mobility.
- Most of the movers from cultivation into casual work hold multiple jobs in both cultivation and non-MGNREGA casual work and the number of such multiple job holders has increased over time, indicating declining agricultural productivity.
- Movements out of OAW into casual and cultivation work is mainly undertaken by the poor indicating uncertain nature of small business.
- Movement into employer group from OAW is mainly undertaken by the young and the wealthy indicating the presence of liquidity constraints.

- Movers from casual to regular jobs have better endowments relative to stayers which together with low turnover for regular jobs indicates segmentation.
- Males are more likely to move within the workforce whereas females experience high mobility into joblessness.
- SC/STs exhibit low mobility into self-employment and high mobility out of self-employment.
- Education is a positive indicators of mobility into more favorable outcomes such as regular jobs.
- Social capital is not found to impact labour mobility.

Consequences of mobility

Fixed Effects Regression results

Fixed-Effects Regression Coefficients				
Reference Group	OAW	Employer	Regular Work	Casual Work
OAW		13.22***	-2.27	-5.22***
Employer	-13.22***		-15.48***	-18.43***
Regular Work	2.27	15.48***		-2.95***
Casual Work	5.22***	18.43***	2.95***	

Significance levels: *** 1%; ** 5%; and * 10%.

Conclusions

- The study finds evidence of segmentation with regard to regular (or formal) vis-à-vis casual (or informal) wage employment.
- The results show large-scale distress driven movements of works, especially from OAW and cultivation work into casual work.
- The study finds a large number of small businesses from well-to-do households which have seen growth over the period.
- Household wealth is found to be a significant factor in the mobility into and growth of small businesses.
- Gender and caste also exhibit significant impact on labour mobility.



Thank You