Internal Migration and Education-Occupation Mismatch: Evidence from India

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Introduction

- Individuals choose to migrate towards regions that pay higher incomes **(Borjas, Bronars and Trejo, 1992)** and have low unemployment rates **(Herzog, Schlottmann and Boehm, 1993)**.
- To what extent migrants are able to efficiently match their education with the occupation they are employed in and how does it impact their income?
- Can workers better utilize their human capital endowments by being spatially flexible?

Literature

- The impact of migration on the likelihood of being EOM
  - International migration
    - International migration leads to higher likelihood of being mismatched **(e.g., Aleksynska and Tritah, 2013; Dahlstedt, 2011; Nielsen, 2011; Wald and Fang, 2008)**: Imperfect transferability of human capital **(Huber, 2012; Nieto, Matano and Ramos, 2015)**
  - Internal migration
    - Internal migration leads to lower likelihood of being mismatched **(e.g., Hensen, De Vries and Cörvers, 2009; Iammarino and Marinelli, 2015; Jauhiainen, 2011)**: Incidence of EOM would be higher for workers who are relatively spatially inflexible **(Büchel and van Ham, 2003)**

Literature

- The impact of migration on the returns to EOM
  - International migrants lose much more from not being correctly matched than natives do **(Joona, Gupta and Wadensjö, 2014; Neilsen, 2011)**

Motivation

- The literature on impact of migration on the returns to EOM is non-existent for internal migrants.
- The past studies have considered migrants as a homogeneous group which can be misleading.
- This study examines the returns to EOM for internal migrants segregated by reason to migrate, demographic characteristics, spatial factors, and types of migration.

Theoretical Background

- The model developed by **Simpson (1992)** and adapted by **Büchel and van Ham (2003)**.
    - Options when a person is not able to find an adequate job: Unemployed, Mismatched, Migrate
- Once an individual decides to migrate, there are other decisions that a worker has to take regarding location, type, and so on.

Contribution

- Heterogeneity among migrants and the consequent differential impact of EOM in case of a developing country
- How geographical limitations can affect the opportunities to optimally use attained education

Education-occupation mismatch (EOM): Definition

- Education: Highest level of general education
- Occupation: Job or profession
- EOM: Discrepancy between the educational attainment of workers and educational requirements of occupation **(OECD*, 2012)**.
- Example:
  - Required education - Middle level (or 8 years of formal education)
  - Workers with education *equals* middle level - **Adequately educated**
  - Workers with education *higher* than middle level - **Overeducated**
  - Workers with education *lower* than middle level - **Undereducated**

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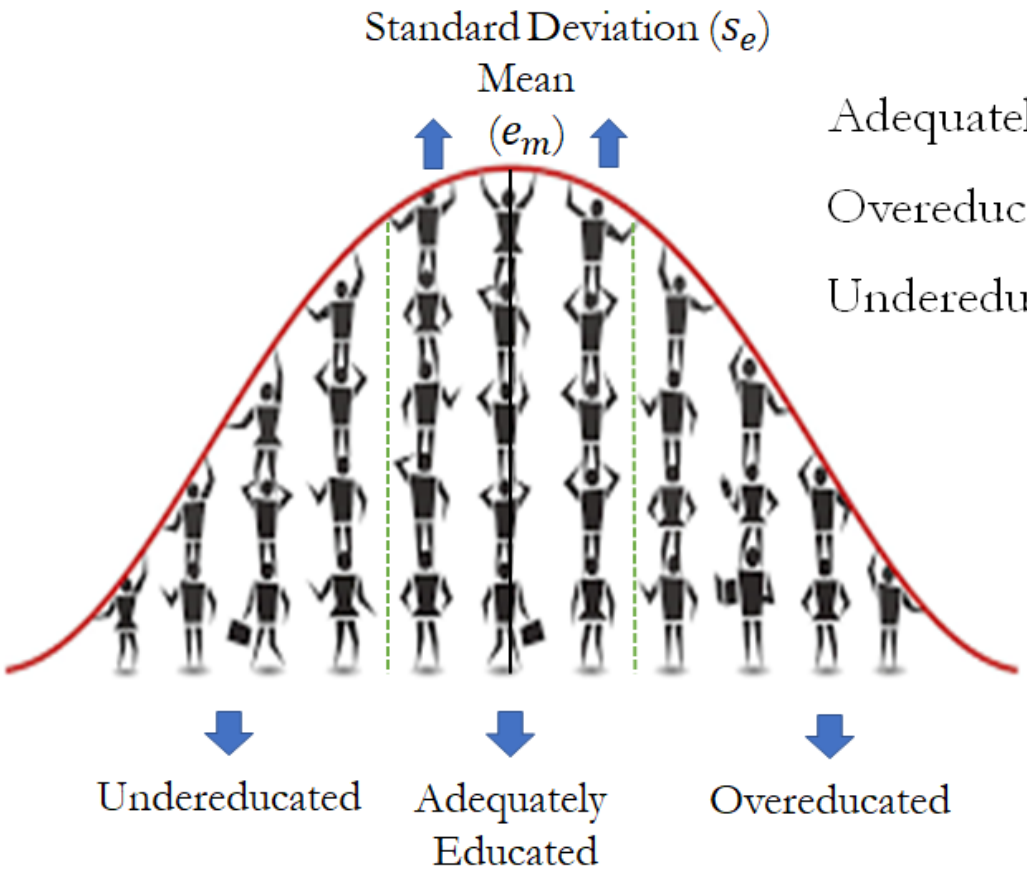
Education-occupation mismatch (EOM): Measurement

- **Workers' Self-Assessment**
  - *Workers'* perspective
  - Asking respondents either about the required level of education **(Duncan and Hoffman, 1981)** or their match status **(Chevalier, 2003)**.
- **Job Analysis**
  - *Employers'* perspective
  - Examining the occupations by professional job analysts to ascertain required education **(Rumberger, 1981)**.
- **Realized Matches**
  - *Labour market's* perspective
  - Comparing acquired education with the statistics – mean **(Verdugo and Verdugo, 1989)** and/or mode **(Kiker, Santos, and De Oliveira, 1997)** - derived from the group of people working in a particular occupation.

Realized matches



Adequately educated if $e_m - s_e \leq e_i \leq e_m + s_e$

Overeducated if $e_i > e_m + s_e$

Undereducated if $e_i < e_m - s_e$

Data

Data source	Employment and unemployment and migration particulars survey, 2007-08 (64^{th} round) collected by the National Sample Survey Office (NSSO)
Age	15-59 years
Sample	Work-related migrants who are wage/salaried employed
Migrant	If he or she had stayed continuously for at least 6 months or more in a place (village/town) other than the village/town where he/she was enumerated
Sample size	15,434 Work-related migrants and 60,689 Non-migrants

Descriptive statistics

Education-occupation (mis-)match by migration status (in percentage)			
		Migration	
Match type	Overall	Migrants	Non-migrants
Under	11	13	12
Adequate	71	69	70
Over	17	18	17

Descriptive statistics

Education-occupation (mis-)match by reason to migrate (in percentage)			
Reason to Migrate	Under	Adequate	Over
Job Search	16	68	16
Take-up Job	12	68	21

Descriptive statistics

Education-occupation (mis-)match by gender (in percentage)			
Gender	Under	Adequate	Over
Male	13	68	19
Female	11	77	12

Descriptive statistics

Education-occupation (mis-)match by stream (in percentage)			
Distance	Under	Adequate	Over
Rural-Rural	11	71	19
Rural-Urban	16	68	16
Urban-Rural	13	66	21
Urban-Urban	10	69	21

Empirical methodology

Mincerian **(Mincer, 1974)** wage equation

$$logw_i = \beta_0 + \beta_1 X_i + \epsilon_i \tag{1}$$

where,

w_i: daily wages

X: vector of variables that can influence wages

ϵ: error term

Empirical methodology

Duncan and Hoffman **(Duncan and Hoffman, 1981)** equation to segregate years of education

$$Edu^a = Edu^r + max(0, Edu^s) - max(0, Edu^d) \quad (2)$$

where,

Edu^a: attained years of education

Edu^r: required years of education

Edu^s: surplus years of education

Edu^d: deficit years of education

Empirical methodology

Final Wage equation

$$logw_i = \beta_0 + \beta_1 Edu_i^r + \beta_2 Edu_i^s + \beta_3 Edu_i^d + \beta_4 Z_i + \epsilon_i \quad (3)$$

- Problem of sample selection

Empirical methodology

- Two fundamental decisions: decision to work and choice of economic activity status

$$Emp_i = z_{1i}\alpha_1 + u_{1i} \tag{4}$$

$$WageEmp_i = z_{2i}\alpha_2 + u_{2i} \tag{5}$$

where,

Emp_i: 1, if a person is employed and 0, otherwise

$WageEmp_i$: 1, if a person is wage/salaried employed and 0, if self-employed

z: vector of observed variables

u: error term.

Results

Returns to education: Work-related migrants and non-migrants		
	Migrants	Non-Migrants
Attained	0.047***	0.033***
Required	0.086***	0.062***
Surplus	0.032***	0.018***
Deficit	-0.053***	-0.036***

*** signals significant at 1% level.

Results

Returns to education: by reason		
	Job-Search	Take-Up Job
Attained	0.031***	0.046***
Required	0.058***	0.080***
Surplus	0.019***	0.027***
Deficit	-0.040***	-0.059***

*** signals significant at 1% level.

Results

Returns to education: by gender		
	Male	Female
Attained	0.046***	0.062***
Required	0.081***	0.133***
Surplus	0.032***	0.040***
Deficit	-0.053***	-0.070***

*** signals significant at 1% level.

Results

	Returns to education: by migration stream			
	R-R	R-U	U-R	U-U
Attained	0.038***	0.038***	0.043***	0.060***
Required	0.087***	0.072***	0.108***	0.092***
Surplus	0.015***	0.033***	0.019***	0.052***
Deficit	-0.056***	-0.036***	-0.059***	-0.062***

R refers to Rural and U refers to Urban

*** signals significant at 1% level.

Results

Returns to education: by distance			
	Intra-district	Inter-District	Inter-State
Attained	0.045***	0.054***	0.040***
Required	0.097***	0.098***	0.063***
Surplus	0.028***	0.035***	0.034***
Deficit	-0.054***	-0.064***	-0.043***

*** signals significant at 1% level.

Results

Returns to education: by zone		
	Within-Zone	Inter-Zone
Attained	0.049***	0.039***
Required	0.091***	0.065***
Surplus	0.034***	0.032***
Deficit	-0.057***	-0.043***

*** signals significant at 1% level.

Results

Returns to education: by type		
	Permanent	Temporary
Attained	0.048***	0.045***
Required	0.087***	0.084***
Surplus	0.035***	0.029***
Deficit	-0.054***	-0.052***

*** signals significant at 1% level.

Results

Returns to education: by kind		
	Return	New
Attained	0.043***	0.047***
Required	0.093***	0.084***
Surplus	0.032***	0.032***
Deficit	-0.045***	-0.055***

*** signals significant at 1% level.

Conclusion

- While the incidence of and returns to EOM (undereducation and overeducation) do not differ much as per the type of migrants, the migrants with different reasons to migrate, demographical characteristics, and spatial factors witness markedly different rates of and returns to EOM.

Implications and Future Directions

- Implications
  - While analysing the decision to relocate, the individuals should consider these differences in the returns to attain the maximum benefits.
  - The adequate attention has to be paid on the migrants' EOM to achieve the desired results.
- Future Directions
  - Cross-national level
  - Commuting can be another form of spatial flexibility

Thank You

Questions and Suggestions