Public Goods Provision and Upward Intergenerational Occupational Mobility: Empirical Evidence from China

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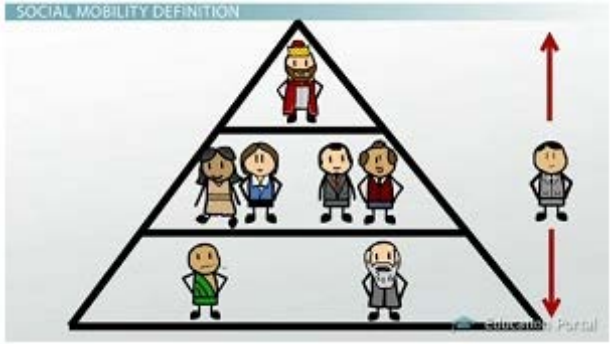
intergenerational occupational mobility: What & Why

Definition of social mobility

- Changes in social status between different generations within the same family



Measurement

- Income or any other index including occupation

Why

- Occupation > income: social resource, connection, and power
- Income varies longitudinally and regionally, while social evaluation on occupation is comparatively stable

Problems of social mobility

- Less intergenerational mobility (macro)
  - → Less incentives to work hard or less input in human capital (micro)
    - → Unsustainable economic growth (macro)
- Social stratification and solidification→ equity in socialist society?
- How to escape “middle-income trap”? →U-shaped curve of efficiency and equity?

Research goal

- Finding solutions to low intergenerational mobility: from the side of users rather than from provider of public goods
- Answer question
  - Whether enjoying public goods in local community is significant for increasing intergenerational mobility?

DATA

- China Health and Nutrition Survey (CHNS) in 1989, 1991, 1993, 1997, 2000, 2004, 2006 and 2009: 7,200 households with over 30,000 individuals in 15 provinces
- Our sample
  - Nine provinces from Eastern coast (Jiangsu and Shandong), Middle (Henan, Hubei and Human), Northeast(Liaoning and Heilongjiang), and Western China (Guangxi and Guizhou)
  - Combining three sub-surveys: Household Survey, Adult Survey, Community Survey
  - Eliminating respondents who are post-retirement employment, students, housewives, or age>65 or<30
  - 13654 paired samples

Measure intergenerational occupational mobility in 3 ways

- Advanced/middle/lower employment: pyramid of social capital and power, “Hat”, “head” or “hand”
- From informal to formal employment: certainty of income
- From non-public to public employment: certainty of position, reputation, invisible welfare

Variables	Descriptions
advanced	No.01 senior technicians (doctor, professor, lawyer, architect, engineer, etc.),
	No.03 executive officer and manager (factory director, public official, administration cadre, village cadre, etc.),
	No.08 military officer and police officer.
middle	No.02 technicians (midwife, nurse, teacher, editor, photographer, etc.),
	No.04 office worker (secretary and office clerk),
	No.06 skilled workers (section foreman and craftsmen),
	No.07 non-skilled workers (housekeeper, cook, doorman, barber, salesman, laundryman, child-care worker, etc),
	No.12 athlete, actor and performer as manual work.
lower	No.05 peasant, fisherman, and hunter,
	No.13 unemployment,
	No.14 others.

Formal

Informal

Matrix of intergenerational occupational mobility

Parent \ Child	Low	Middle	Advanced
Low	0	1	2
Middle	-1	0	1
Advanced	-2	-1	0

Parent \ Child	Informal (Non-public)	Formal (Public)
Informal(No-public)	0	1
Formal(Public)	-1	0

Value≥1
Upward mobility

Value≤-1
Downward mobility

Value=0
Intergenerational solidification

- Parent is the one ranks higher than his/her spouse
- Every child in one household is considered

TABLE 4

General Situation of Intergenerational Occupational Mobility

Parent's employment	**Child's employment**		
	Lower employment	**Middle employment**	**Advanced employment**
Lower employment	73.50%	25.12%	1.38%
Middle employment	28.56%	68.00%	3.44%
Advanced employment	23.70%	65.68%	10.62%
	Informal employment	**Formal employment**	
Informal employment	73.50%	26.50%	
Formal employment	27.31%	72.69%	
	Non-public employment	**Public employment**	
Non-public employment	87.75%	12.25%	
Public employment	36.00%	64.00%	

Note: The sample of informal employment is the sample of lower employment.

TABLE 5

Intergenerational Occupational Mobility based on Different Categorizations

Mobility	Advanced/middle/lower employment	Formal/informal employment	Public/nonpublic employment
Mobility=-2	1.85%	-	-
Mobility=-1	11.52%	8.26%	7.77%
Mobility=0	67.37%	73.25%	82.62%
Mobility=1	18.30%	18.49%	9.61%
Mobility=2	0.96%	-	-

TABLE 6

Intergenerational Occupational Mobility in Different Periods

Mobility (%)	Advanced/middle/lower employment			Formal/informal employment			Public/nonpublic employment		
	89~93	97~04	06~09	89~93	97~04	06~09	89~93	97~04	06~09
<0	14.70	12.47	11.76	7.99	8.21	9.11	8.48%	8.10%	4.89%
=0	71.57	64.96	61.27	79.14	69.85	64.79	80.08	83.51	87.94
	*53.50	*51.52	*44.45	*53.50	*51.52	*44.45	*58.07	*75.45	*84.48
>0	13.72	22.57	26.97	12.87	21.94	26.10	11.44	8.39	7.17

Note: The row marked with * shows the fraction of households especially when both parent and child are in the lowest occupation-based class.

TABLE7

Intergenerational Occupational Mobility in Urban and Rural Areas

Mobility (%)	Advanced/middle/lower employment		Formal/informal employment		Public/nonpublic employment	
	Urban	Rural	Urban	Rural	Urban	Rural
=0	58.55	70.42	70.58	74.18	76.52	84.76
>0	21.49	18.49	19.83	18.03	12.56	8.58

Why Accessing to A bucket of public goods: Bucket principle

- A bucket of public goods (public education, health, and infrastructure)

  →Basic goods for gaining human entitlement

Public investment and provision ≠ enjoying public goods (welfare)

(Bucket) (Water)

- Accessing to a bucket of public goods is prior to accessing to a single one
- Accessibility is more basic than the quality of public goods

Three Differences of Public goods provision

- Not all the neighborhoods owns complete basket of public goods
  - Population change and migration vs. lagging planning→ difference across urban neighborhoods
  - “Project system” of village finance and local governance →difference across villages
    - e.g. Entitled “Poor village” (Pinkun cun) and entitled “Rich village” (Xiaokang cun) gain extra vertical government transfer and funds

- Urban vs. rural area
  - Better quality and accessibility in urban area
  - Urban-bias policies and dual-sector economy

- Regional differences
  - More public investment in Eastern Coast than the other regions
  - Western China has the poorest public goods
  - Reasons
    - Unbalanced opening-up policy and economic growth rate
    - Different local finance strengths

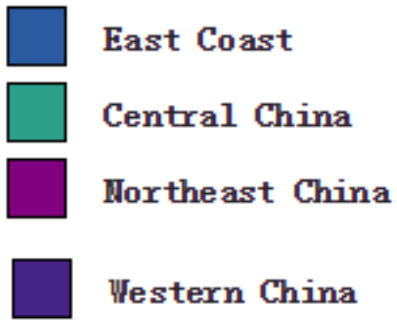


TABLE 2

Heterogeneous Provision of Public Goods among Regions

	Northeast China		Eastern China		Central China		Western China	
Public goods	**Mean**	**Difference**	**Mean**	**Difference**	**Mean**	**Difference**	**Mean**	**Difference**
Primary	0.664	14.61***	0.598	38.17***	0.754	-14.75***	0.798	-29.59***
Middle	0.329	-8.72***	0.158	41.56***	0.286	3.77***	0.382	-33.89***
Senior-high	0.151	-6.02***	0.070	25.52***	0.129	2.23**	0.172	-20.22***
Hospital	2.285	50.42***	3.175	-29.59***	2.622	39.64***	3.303	-55.73***
Medicare	0.434	-11.06***	0.567	-49.84***	0.324	20.92***	0.271	32.97***
Clean-toilet	0.301	10.24***	0.388	-14.30***	0.345	-1.20	0.326	6.15***
Sanitation	0.916	-24.68***	0.908	-27.34***	0.837	2.43**	0.756	41.87***
Water-supply	0.592	16.72***	0.667	-2.71***	0.611	21.90***	0.749	-34.28***
Highroad	0.619	-1.74*	0.629	-5.18***	0.619	-2.74***	0.589	8.86***
Bus-station	0.803	-54.07***	0.522	17.99***	0.478	46.61***	0.646	-23.77***

*Notes:*The data is from the "China Health and Nutrition Survey" (CHNS) in 1989, 1991, 1993, 1997, 2000, 2004, 2006 and 2009.

- Coverage of public goods in each regions is significantly different from the average value of the other three regions
- Unbalanced difference among different types of public goods

Model

$$Mobility_{it} = \alpha_0 + \sum_{n=1}^{l} \beta_n Public_{nit} + \gamma'_m X' + \sigma_\eta + \varphi_t + \varepsilon_{it}$$

Logit and probit models

$Mobility_{it}$ --- Intergenerational mobility between parent and child

- binary variables (Upward mobility=1, otherwise=0)

$Public_{nit}$ --- Public goods

- Public education: whether enrolled in one of public schools in their neighborhoods/villages, and distance
- Health care services: whether have their own neighborhood/village hospital, and distance
- Public medical insurance: whether being covered by public medical insurance
- Public health: whether have clean public/private toilets and sanitation (sewage and garbage maintenance)
- Public facilities: whether have paved road, bus station, and tap water in their neighborhoods/villages

X' --- Control variables

- Parent's and child's features: education, age, gender of child
- Household feature: annual household income per person, whether in urban area

σ_η φ_t --- Province-fixed and Year-fixed effect

Results

- Significant positive impact of public goods provision on intergenerational mobility
- The nearer from public school and hospital to home, the higher impact
- Negative impact of primary school ← result of merging small primary schools
- Education of Children is important, but parents' education is not

- Evaluating the average effect of public goods
  - Method: K-nearest neighbors matching, radius matching, kernel matching
  - Advanced/middle/lower employment, the intergenerational mobility of those with public goods 5.2-31.4% units higher than that of those with none.
  - Public/non-public employments: 2.1-30.4% units higher than those without.

Robustness checks

- Population mobility
  - Urban residents' school selection and mobility
  - Not all the rural migrants is able to access to urban neighborhood
  - Method: selecting only rural residences (1384-10644 samples)

  Result: positive impact of public goods except primary school and senior high school

- Mlogit and PPOM
  - Mobility: -1, 0, 1

- Genetic influence
  - Method: selecting parents-in-law and children-in-law, & between adoptive parent and child

Conclusions

- Accessing to the public goods in the local community is beneficial for increasing intergenerational occupational mobility
- Equitable distribution mechanism of public goods
  - Enlarging coverage of public-goods beneficiaries at micro (household/neighborhood) level rather than smoothing regional gap or rural-urban gap in terms of total amount of public goods provision at macro level.
- Future discussion
- Compound effect among different types of public goods

Thank you!