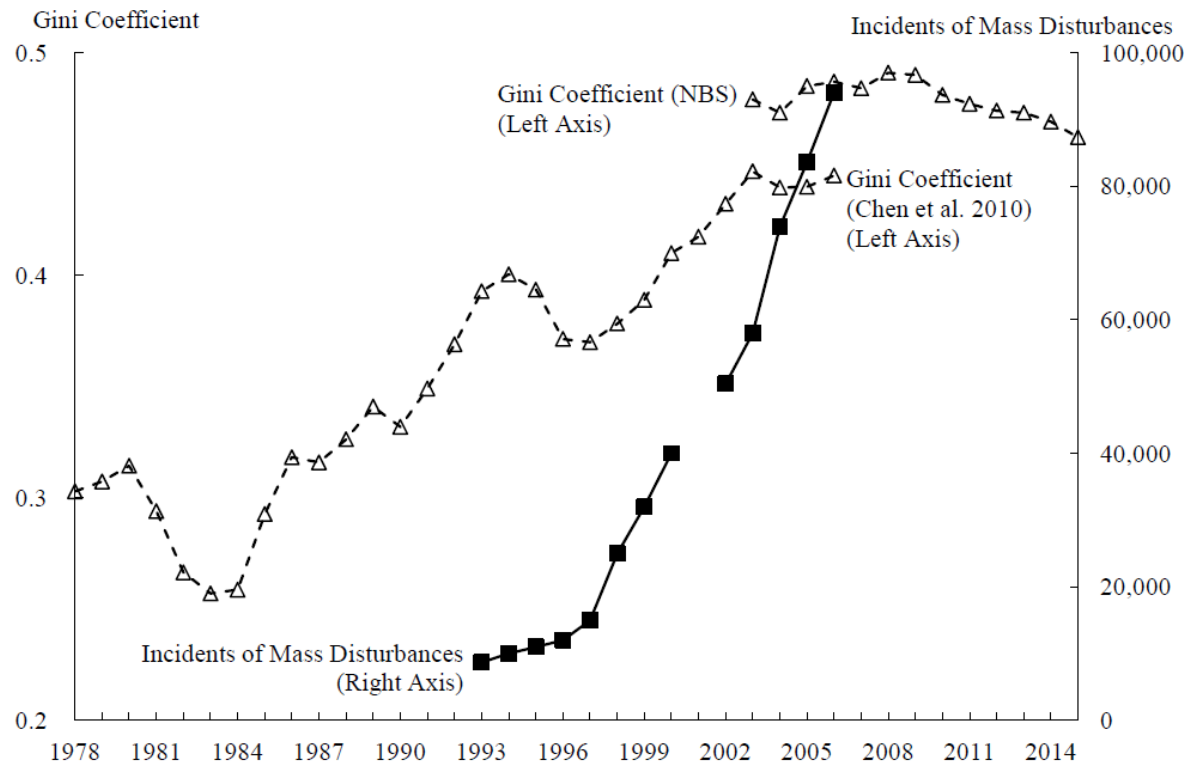# Tolerance for Income Inequality in Rural China

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Context

Large increase in income inequality and risk of social instability

Figure 1. Trend of income inequality and incidents of mass disturbances in China

Source) The data were from Chen et al. (2010: 20), NBS (2013), NBS (2014), NBS (2015), NBS (2016), Tanner (2004: 139), Keidel (2006: 3), Hu (2007: 161), and Song and Song (2008: 110).

Introduction

- Tunnel effect (Hirschman & Rothschild, 1973)
  - In times of rapid economic development tolerance for income inequality may be substantial
  - Increase in income of reference group fuels an expectation for future increase in own income

- Relative income hypothesis
  - Subjective well-being is inversely correlated with income of reference group

Introduction

- Previous studies focused on the (negative) impact of income inequality on subjective well-being in urban China (e.g. Smyth & Qian, 2008; Knight & Guntalika, 2010a; 2011; Jiang et al., 2012)

- For rural areas findings are mixed
  - Knight et al. (2009; 2010b): widening income inequality has positive effect on subjective well-being
  - Wang et al. (2015): positive effect for Gini up to 0.405, negative above

Aim of the paper

- Knight et al. (2009):
  - Chinese rural residents recognize neighbourhood or fellow villagers as reference group

- Estimate how tolerant rural residents in China are for widening within village income inequality
- Focus on the impact of own income increase, neighbourhood's income increase and expectation for future income increase

Data

- Sichuan Province Rural Household Survey
- 2005-2006
- 297 households living in 13 administrative villages, 7 towns and 2 counties
- Collects information on social and economic indicators (demographics, income, expenditure, education, perceptions, …)

Data: summary statistics

Variables (Definition)	Mean	SD	Min	Max
Income				
Household disposable income per capita	6394.284	7923.783	1	82004.88
Household consumption expenditure per capita	4132.005	3886.117	98.328	40780.49
Living space	139.377	82.884	15	1000
Cost of building or buying house	15189.43	18485.1	1	100000
Increase own income				
Increase in household disposable income per capita on the previous year	-255.514	8339.176	-34224.88	77130.25
Perception of increase in household disposable income on the previous year (strongly disagree = 1; disagree = 2; remain the same = 3; agree = 4; strongly agree = 5)	2.226	1.185	1	5
Increase fellow villagers' income				
Increase in fellow villagers' household disposable income per capita on the previous year	-255.514	1384.634	-3036.149	3343.437
Increase in fellow villagers' household consumption expenditure per capita on the previous year	617.723	913.2549	-1718.63	2261.785

Data: summary statistics (cntd.)

Individual characteristic				
Sex dummy (female = 1, male = 0)	0.357	0.480	0	1
Age	49.212	11.636	19	84
Tibetan nationality dummy	0.222	0.416	0	1
Qiang nationality dummy	0.010	0.100	0	1
Communist party member dummy	0.121	0.327	0	1
Years of education	4.690	3.507	0	13
Unemployed dummy	0.071	0.257	0	1
Experience of migration	0.199	0.400	0	1
Perception				
Tolerance for widening income inequality within village (strongly disagree = 1; disagree = 2; so-so =3; agree = 4; strongly agree = 5)	2.101	1.181	1	5
Possibility of decreasing household income and jobless of household member over the next two years (strongly agree = 1; agree = 2; so-so = 3; disagree = 4; strongly disagree = 5)	3.162	1.151	1	5
Perception of increase unemployment, landless farmer, and poverty population (strongly disagree = 1; disagree = 2; so-so =3; agree = 4; strongly agree = 5)	2.643	1.301	1	5

Exploratory analysis

Village No.	1	2	3	4	5	6	7	8	9	10	11	12	13	Total
Gini 2005	0.393	0.468	0.388	0.387	0.262	0.428	0.428	0.407	0.270	0.447	0.392	0.513	0.504	0.501
Gini 2006	0.525	0.362	0.390	0.476	0.472	0.419	0.419	0.452	0.429	0.609	0.454	0.571	0.511	0.544
Difference	0.132	-0.107	0.002	0.089	0.210	-0.008	-0.010	0.045	0.159	0.162	0.062	0.059	0.006	0.043
Tolerance for widening income inequality within village (%) (2006)														
Strongly disagree	18.2	52.4	53.8	33.3	39.1	42.9	50.0	44.4	57.1	66.7	55.6	44.4	46.2	45.5
Disagree	4.5	28.6	26.9	16.7	4.3	17.9	13.6	18.5	9.5	0.0	16.7	14.8	15.4	15.2
Neither	63.6	9.5	11.5	29.2	34.8	21.4	27.3	33.3	19.0	33.3	27.8	18.5	23.1	26.6
Agree	9.1	4.8	0.0	16.7	17.4	14.3	9.1	3.7	14.3	0.0	0.0	14.8	11.5	9.4
Strongly agree	4.5	4.8	7.7	4.2	4.3	3.6	0.0	0.0	0.0	0.0	0.0	7.4	3.8	3.4

Source) Author's calculated.

Statistical analysis: ordered probit

- Tunnel effect (Hirschman & Rothschild, 1973):

$$TOL_i^A = \alpha + \beta_1 \Delta Y_i^A + \beta_2 \Delta Y_i^B + \beta_3 E_i^A + \sum \gamma\, H_i + \mu_i$$

TOL_i^A: tolerance for widening income inequality within village

ΔY_i^A: increase in own income (actual or perception)

ΔY_i^B: increase in villagers' well-being (income or expenditure)

E_i^A: expectation for own income increase in the next 2 years

H_i: individual characteristics

Statistical analysis: ordered probit

Variables	(1)	(2)	(3)	(4)
Increase own income				
Increase in household disposable income per capita on the previous year	-0.094 (0.074)		-0.099 (0.074)	
Perception of increase in household disposable income on the previous year		0.048 (0.061)		0.041 (0.061)
Increase fellow villagers' income				
Increase in fellow villagers' household disposable income per capita on the previous year	-0.028 (0.068)	-0.015 (0.067)		
Increase in fellow villagers' household consumption expenditure per capita on the previous year			-0.141** (0.068)	-0.132* (0.068)
Expectation for own income increase				
Possibility of decreasing household income and jobless of household member over the next two years	0.127** (0.061)	0.123** (0.061)	0.121** (0.061)	0.121** (0.061)
Income				
Log household disposable income per capita	-0.104 (0.074)	-0.146** (0.074)	-0.091 (0.074)	-0.127* (0.075)
Log household consumption expenditure per capita	-0.030 (0.073)	-0.044 (0.073)	-0.023 (0.073)	-0.032 (0.073)
Living space	-0.060 (0.077)	-0.057 (0.076)	-0.038 (0.076)	-0.035 (0.076)

Statistical analysis: ordered probit

Cost of building or buying house	0.165**	0.160***	0.135*	0.137*
	(0.074)	(0.073)	(0.073)	(0.073)
Individual characteristic				
Female	-0.188	-0.163	-0.188	-0.173
	(0.166)	(0.165)	(0.165)	(0.164)
Age	0.117	0.120	0.122	0.130
	(0.083)	(0.082)	(0.082)	(0.082)
Tibetan nationality dummy	-0.216	-0.209	-0.233	-0.231
	(0.172)	(0.173)	(0.172)	(0.173)
Qiang nationality dummy	0.630	0.648	0.634	0.667
	(0.610)	(0.611)	(0.610)	(0.611)
Communist party member dummy	-0.240	-0.266	-0.211	-0.231
	(0.210)	(0.210)	(0.210)	(0.210)
Years of education	0.102	0.105	0.0975	0.101
	(0.080)	(0.080)	(0.080)	(0.080)
Unemployed dummy	0.661***	0.670***	0.662***	0.684***
	(0.255)	(0.254)	(0.254)	(0.254)
Experience of migration	0.223	0.226	0.230	0.230
	(0.173)	(0.173)	(0.173)	(0.173)
Perception of increase unemployment, landless farmer, and poverty population	-0.065	-0.068	-0.071	-0.073
	(0.053)	(0.053)	(0.054)	(0.054)
Pseudo R-squared	0.049	0.047	0.054	0.052
Log likelihood	-376.588	-377.297	-374.717	-375.417

Source) Author's calculated.

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Conclusion

- "Rural residents who envy neighbourhood's increased consumption expenditure do not tolerate for widening income inequality within village"
- "Rural residents who expect for own income increase in the near future tolerate the inequality"
- "Rural residents who have a lot of wealth or stock tolerate the inequality"

→"Results suggest that sustainable income growth in rural area is important for social stability"

→ Next question to consider: "why [do] rural residents expect [an] increase in income in the near future?"

Notes by discussant

- Interesting research

- Extend discussion of theories & motivation
  - Paper on tunnel effect Hirschman & Rothschild (1973) also describes when inequality becomes too high
  - Relative income hypothesis is not supported by references
  - Added value of paper to literature

- Static vs dynamic perspective
  - Tolerance for *widening* income inequality often used interchangeably with tolerance for income inequality
  - Exploratory analysis suggests that initial level is also important

Notes by discussant

- More ample discussion of data & results
  - How are perception questions asked to respondents?
  - Income: monthly or yearly?
  - Variable 'cost of building or buying house' unclear
  - Unemployed who do not care about inequality

- Possibly interesting additional research questions
  - Are there differences between villages?
  - Does the timing of the interview matter?