

The impact of land rental market participation on rural household income inequity in China

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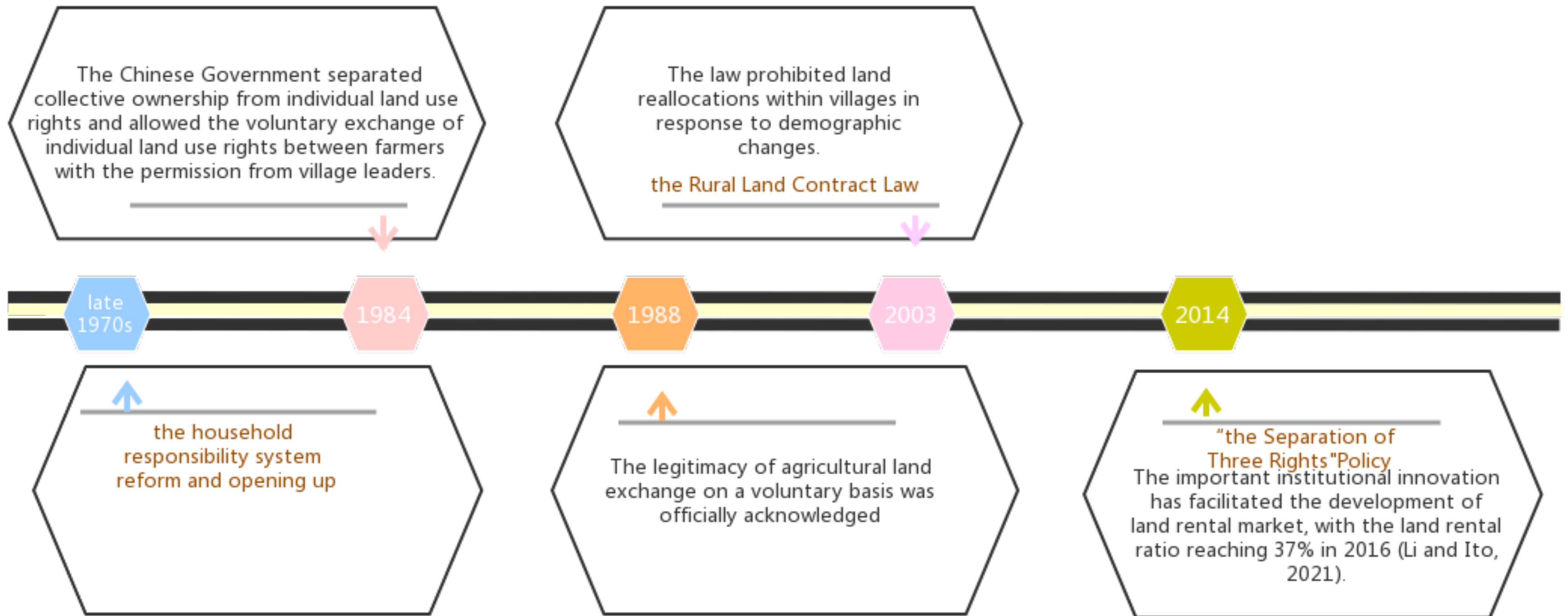
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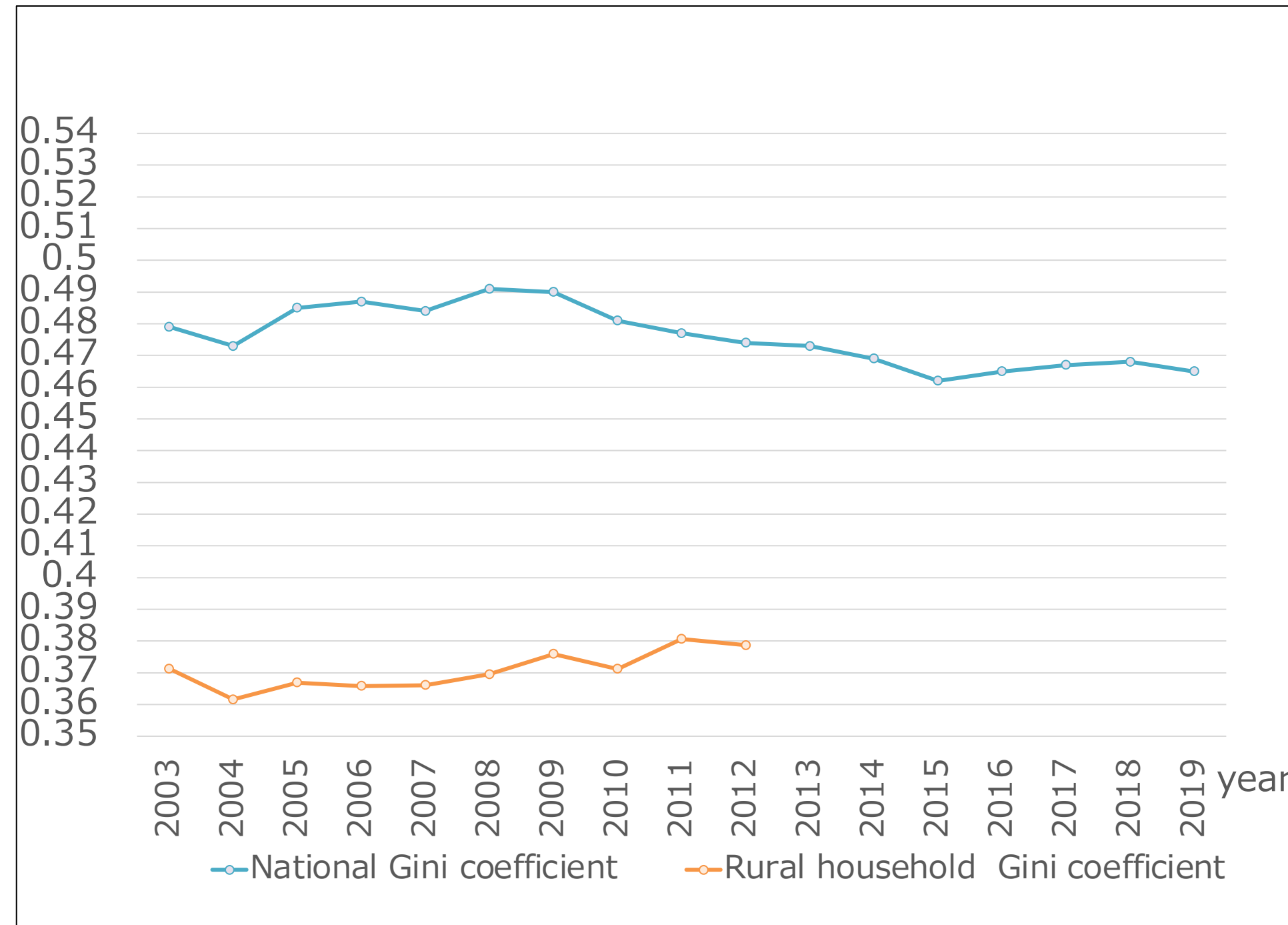
China's rural land system

- Under the **household responsibility system**, rural land is owned by rural collectives and rural collectives granted land contractual rights to rural citizens at birth.
- Since the implementation of “**the separation of three rights**” policy in 2014, rural land rights has been separated into three components:
 - non-tradable property rights
 - non-tradable land contractual rights
 - tradable land use rights

The reforms and development of land rental market in rural China



Household income dynamics in China



Owing to data limitations, rural household Gini index are not known for 2013 and beyond.

However, the "Report on the Development of Rural Households in China (2018)" posited that rural household income inequality is rising in China. The Gini coefficient increased from 0.45 in 2011 to 0.535 in 2017, significantly higher than the internationally recognized warning line of 0.4.

Figure 1: Household income inequality dynamics

Source: DHS (2004-2020) (national Gini index). Author's calculation based on data from China Statistical Yearbook. The rural household Gini index here is calculated following Tian (2012).

Research Questions

1. Impact of the land rental market participation (LRMP) on rural household income
2. Impact of the LRMP on income inequality

Previous studies on the impacts of land rental market

- Income
 - Renting-in: almost universally report positive effect on income of renting-in households
 - Renting-out:
 - positive effect (Li et al., 2019; Thanh Nguyen et al., 2021)
 - negative effect (Chamberlin and Ricker-Gilbert, 2016; Ricker-Gilbert et al., 2019; Zhang et al., 2018)
- Equity:
 - positive effect (Deininger and Jin, 2005; Zhang, 2008)
 - negative effect (Li et al., 2019; Shi et al., 2017; Shi, 2020; Xiao and Zhang, 2017)

Contributions

Previous literatures:

- mostly focusing on a specific region
- regardless of the type of household, focusing only on the impact of overall participation rate or rented area on income inequity (Shi et al., 2017; Shi, 2020)

This study:

- ✓ using a national representative dataset
- ✓ estimate the impact of renting-in and the renting-out land on income inequity, respectively

Data

- Source:

The China Family Panel Studies (CFPS) collected by Peking University: a nationally representative, biannual longitudinal survey of Chinese communities, families, and individuals launched in 2010 .

CFPS2010, CFPS2012 and CFPS2014 is used in this study.

- Sample size: 4032 rural Chinese households from 305 villages covering 24 provinces, municipalities, and autonomous regions

(See Appendix Table 1)

Methodology

PSM(propensity score matching), RIF(re-centered influence function regression method)

PSM

$$ATE = E[Y_1 | D = 1] - E[Y_0 | D = 0] \quad (1)$$

$E[Y_1 | D = 1]$: average potential outcome (household net income) for the treated group;

$E[Y_0 | D = 0]$: average potential outcome (household net income) for the non-treated group.

RIF

$$E[Y_1 | D = 1] = [RIF(\text{rent}; \text{inco})] = \beta_0 + \beta_1 \text{rent} + \beta_2 \text{Gini}(\text{inco}) + \beta_3 X' = \beta_0 + \beta_1 \text{rent} + \beta_2 \text{Gini}(\text{inco}) + \beta_3 X' \quad (2)$$

rent : the dummy variable of rent land in or rent out;

inco : the net income of rural households ;

Gini (inco) : the Gini coefficient of the net income of rural households;

X' : the vector of control variables.

Estimation Results

PSM: research question 1: the impact of LRMP on household income

Table 1: Estimation results of ATE

	renting out		renting in	
	Unmatched	ATE	Unmatched	ATE
Difference	14788.255***	12678.803**	7964.238***	6425.711
t-value/Bootstrap Z-value	3.95	2.51	3.20	1.26

Note: ** and *** indicates statistical significance at the 5% and 1% level, respectively.

The statistically significant result of ATE in renting-out model verified the positive income effect of land rental market participation, which is consistent with Li et al. (2019) and Thanh Nguyen et al. (2021).

(See **Appendix Table 2** for the estimation results of probit model)

Estimation Results

RIF: research question 2: the impact of LRMP on income inequality

Table 2: Estimation results of RIF

	Renting out(1)		Renting in(2)	
Renting out/in dummy	0.053*	0.031	-0.003	0.019
Ratio of off-farm worker to family members, above 16	-0.062**	0.031	-0.043	0.032
Number of party member in the household	0.002	0.016	-0.029***	0.011
Female labor ratio	-0.098**	0.048	-0.006	0.061
village dummy variable	YES		YES	
Number of observations	1788		1444	
Distributional Statistic	gini		gini	
Average RIF	0.505		0.487	

Note: ***, **, and * represent 1%, 5%, and 10% significance levels, respectively.

1. With the participation rate of renting out increases, income inequality increases.
2. Out-flow of farm workers alleviates income inequality (consistent with Shi et al., 2017; Shi, 2020; Xiao and Zhang, 2017)
3. Increasing female labor force participation rate in a family equalizes the income distribution (consistent with Maxwell,1990).
4. With the number of party member in the household increases, income inequality decreases.

(See Appendix Table 3)

Conclusions

Conclusions

- To conclude, although renting out land has positive effect on rural households income, it has exacerbated the income inequality among them.
- It may be more appropriate to use other policy remedy for alleviating income inequality such as the rural revitalization strategy.

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—Thanks—