

A Taste of the Communists' Own Medicine: The Political Consequences of the US-induced Land Reforms in Post-war Taiwan

Ming-han Chiang and Elliott Fan

Department of Economics, National Taiwan University

2017.11.23

Outline

- 1 Introduction
- 2 Backgrounds
- 3 Data and Empirical Strategy
- 4 Main Results
- 5 Conclusion and Discussion

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Land Reform in Asian Countries

- After WWII, East Asia witnessed a wave of agrarian reforms.
 - directly planned and executed under the US Occupation
 - promoted and induced by the US government via financial and technical aids
- The promise of redistributing land to the peasants was regarded as the main reason why communists can seize the political power in China and Russia.

Why Land Reform?

- The US-induced agrarian reforms was referred to as stealing the communists' thunder by Wolf Ladejinsky.
- The hypothesis behind this plot is that the benefitted tenants will gratefully support the existing US-allied government and turn immune to the communists' appeal.
- These reforms may be motivated by a mix of economic and political incentives, one primary goal of the reforms was to thwart communism from proliferating in the Asia-Pacific area.

Main Question

- Whether the reform successfully
 - consolidate the government's power through winning votes from farmers in elections
 - facilitate the acceptance of government's political agenda
 - attenuate farmers' hostility against the ethnic group

Outcome Variables

- results of 1972 premier election and 1980 National Assembly representatives election
- people's tendency in supporting independence movement and their national identity
- rate of intermarriage in each township

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Postwar land reforms in the East and South Asia

- land reform in this study means government interventions aiming to redistribute land ownership on a large scale
 - Japan (1947) and South Korea (1948) during the American Occupation
 - followed by South Korea's second wave of reform (1950), Taiwan (1953), India (1961), Indonesia (1962), Philippines (1963), and South Vietnam (1970).

The reform in Japan

- carried out by the Japanese government under instructions of General Douglas MacArthur
- "to fight Communist ideology with an effective version of American farm tradition," and "to win the firmest allies in the clash of ideas with the Communists"

The reform in Japan

- two featuring designs of the reform
 - a maximum of land (set at 1 hectare = 2.47 acres in the case of Japan's land reform) that a landlord household was allowed to keep
 - the over-quota land was expropriated and sold to tenants at an artificially low price set by the government
- approximately 38 percent of Japan's farmland was transferred to tenants

The reform in South Korea

- carried out in two stages
 - first stage : from 1945 to 1948, focused on distributing land formerly owned by the Japanese to Korean tenants.
 - second stage : after 1949, shared the two features of the 1947 reform in Japan

Postwar land reforms in the East and South Asia

- the land reforms in other Asian countries were not directed by the US Occupation authorities, but were encouraged and induced by the US through financial and technical aids from the US.
- the effectiveness of such a strategy depended on the willingness and ability of foreign governments to accept and implement the American agenda
- KMT shared the same political interests with the US.

The Kuomintang in Taiwan

- expelled by the Chinese Communist Party from the mainland to Taiwan in 1949 after being defeated in the civil war
- fleeing of the ROC government to Taiwan came along with a large number of military personnel (around 0.93 million) and civilians (around 0.27 million)

The Kuomintang in Taiwan

- the early years of Kuomintang's rule in Taiwan featured corruption of government officials, lack of military discipline, monopolistic economy, and deprivation of rice and sugar used for financing Kuomintang's need for the civil war in the mainland.
- the tension between local Taiwanese and Kuomintang government later triggered the 228 Massacre
- the conflicts also stimulated the movement among the local Taiwanese to pursue an independence status for Taiwan

The reform in Taiwan

- More than half of the agricultural land was cultivated by tenants or semi-tenants during the entire Japanese colonial time.
- rent was usually paid in-kind, fixed amount of crop was paid as rent
- on average accounts for approximately 50% of the annual harvest for most paddy land, for dry land, 25% to 36%

The reform in Taiwan

- the government implemented the "375 Rent Reduction" policy that set a rent ceiling at 37.5 percent of the "designated annual output" in 1949
- the "designated annual output" set fixed after 1949, which overlook the growth in output after 1949
- the rent was actually no more than 30%
- the rent control policy did not much affect the distribution of land ownership.

The reform in Taiwan

- The Land-to-the-Tiller Reform was carried out under the supervision of the Sino-American Joint Commission on Rural Reconstruction (JCRR), a semi-government organization funded by the US.
- a landlord is allowed to keep his holdings up to 3 Jia of grade-2 paddy land; the remaining land will be expropriated by the government at the price of 2.5 times the designed annual output.

The reform in Taiwan

- 139,249 acres of land being transferred to 194,823 households and the proportion of self-cultivated land increased from 59 to 90 percent
- tenants were allowed to take up a 10-year installment plan, with the interest rate being 4% per year
- granting the installment plan to the tenants provided a unique opportunity for them to purchase land

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Data Resources

- Land reform data
 - collected from the 1963 Statistics Yearbooks, which report the number of tenant households receiving land and the amount of redistributed land during the land reform for all counties but four - Miaoli, Yilan, Yunlin, and Taichung.
 - supplement the data for Miaoli County using its 1962 Statistics Yearbook, and for Yilan and Yunlin Counties using their 1967 Statistics Yearbook.
 - unfortunately, we are unable to uncover the data for Taichung.

Data Resources

- Election data
 - 1980 National Assembly data was collected from "The Summary of 1980 Central Government Representative Election in Taiwan" (in Chinese)
 - 1972 County Premier Election data was collected from "The Report on Central Government Representative and the Fifth County Major and Representative Election in Taiwan"

Data Resources

- 1980 Census data
 - the measure of intermarriage rate is calibrated using data from the 1980 Census
 - an intermarriage is defined as a marriage of a Mainlander and a local Taiwanese
- Pre-reform data
 - our instrumental variable is constructed using data from the "Report of Investigation on Ownership and Operation of Arable Land, 1950"
 - report provides the numbers of tenant households, semi-tenant households, and self-cultivation households

Data Resources

- Taiwan Social Change Survey
 - our micro-level analysis relied on 1992 Taiwan Social Change Survey
 - three types of responses in the survey were used
 - national identity
 - how much do they support KMT
 - how much they oppose the independence movement

Definition of Variables

- we then define the dependent variable Shock of Land Reform as follows:

$$\frac{\textit{Land Receiving Household}}{\textit{Total household}}$$

- we replace the denominator for total households in 1955 reported in the 1955 Census when calculating the proportion of land-receiving households
- the data lack information about household size, so we have to rely on the hypothesis that the average household sizes are similar across townships

Definition of Variables

- the information about the relationship among household members is missing in 1980 Census
- we address this limitation by considering the following procedure
- start with counting the numbers of married Mainlander men, married Mainlander women, married local Taiwanese men, and married local Taiwanese women in the household

Definition of Variables

- for a household with an **equal** number of married Mainlanders and married local Taiwanese, the number of intermarriages is set at the number of married men (women) **if the number of married men (women) is equal to or smaller than the number of women (men)**
- for a household with **more** (fewer) married Mainlanders than married local Taiwanese, the number of intermarriages is set at the number of married Mainlanders (local Taiwanese)

Empirical Strategy

- following Alesina, Giuliano, and Nunn (2013) we consider the following equation

$$V_j = \alpha + \beta LR_j + \mathbf{X}_j\pi + \epsilon_i$$

- V_j is an outcome of interest, and the subscript j denotes township
- LR_j is the measure for the intensity of reform for township j
- \mathbf{X}_j are a vector of vectors of historical and contemporary control variables

Threats to the Estimation

- there is a possibility that the OLS estimates is that the implementation of the reform may be affected by unobserved political factors
- the Kuomintang might have implemented the land redistribution more meticulously or even applied a lower upper limit of land holding in townships where landlords are more rebellious
- employ tenant rate as the IV

Threats to the Estimation

- the estimated effects Land-to-the-Tiller Reform may confound the effect of an earlier policy, the 375 Rent Reduction tenants
- only operated for two years before most of the rented land were transferred to tenants during the Land-to-the-Tiller Reform
- reduction of rent might be offset by the landlord's counteractions, such as illegally collecting higher rent
- in the big picture, the effect of 375 Rent Reduction tenants can also count as the effect we're interested

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Election Outcomes

- We can first look at the result of voting outcome.
- The definition of outcome variables:

$$KMT_i = \frac{\text{votes KMT candidates got}_i}{CVAP_i}$$

- where CVAP is citizen voting age population is the population that are over 20
- we also replace the outcome into vote share of KMT, the finding remains similar

	OLS				IV		
	(1)	(2)	(3)	(4)	2nd-stage	1st-stage	reduced form
Percent land-receiving household	0.168** (0.0755)	0.168** (0.0759)	0.192** (0.0740)	0.182** (0.0737)	0.561*** (0.150)		
Percent mainlanders	0.0904 (0.183)	0.112 (0.189)	0.0929 (0.183)	0.158 (0.185)	0.129 (0.196)	0.106 (0.148)	0.189 (0.180)
Log population	-8.425*** (2.464)	-7.784*** (2.936)	-5.451* (2.919)	-5.252* (2.900)	-3.017 (3.170)	-2.794 (2.328)	-4.585 (2.832)
log mainlanders population	6.309*** (1.870)	5.889*** (2.014)	4.876** (1.975)	3.174 (2.139)	2.775 (2.275)	-0.803 (1.728)	2.324 (2.102)
Mainlanders sex ratio		0.0173 (0.0249)	0.0110 (0.0242)	0.0232 (0.0248)	0.0201 (0.0264)	0.00478 (0.0199)	0.0228 (0.0242)
Domestics sex ratio		-0.0324 (0.326)	-0.255 (0.322)	-0.118 (0.327)	-0.258 (0.350)	0.134 (0.263)	-0.183 (0.319)
Percent hillside land			0.102*** (0.0274)	0.0809*** (0.0291)	0.0972*** (0.0314)	-0.0258 (0.0233)	0.0827*** (0.0284)
Percent agricultural workers				-0.134** (0.0674)	-0.109 (0.0721)	-0.0869 (0.0540)	-0.158** (0.0657)
Percent tenant households (IV)						0.514*** (0.0581)	0.288*** (0.0707)
Mean of dependent variable	0.426						
Observations	217	217	217	217	217	217	217
R-squared	0.248	0.250	0.296	0.309	0.221	0.349	0.342

	Using vote share as the outcome variable		Alternative IV		Including townships with noncompetitive election	
	(1)	(2)	(3)	(4)	(5)	(6)
	OLS	IV	OLS	IV	OLS	IV
Percent land-receiving household	0.192* (0.109)	0.666*** (0.217)	0.182** (0.0737)	0.626*** (0.230)	0.136* (0.0730)	0.558*** (0.151)
Percent mainlanders	0.382 (0.272)	0.347 (0.285)	0.158 (0.185)	0.124 (0.201)	0.101 (0.185)	0.0706 (0.198)
Log population	-0.663 (4.274)	2.128 (4.596)	-5.252* (2.900)	-2.633 (3.392)	-4.391 (2.840)	-2.054 (3.125)
log mainlanders population	1.629 (3.151)	1.130 (3.298)	3.174 (2.139)	2.706 (2.329)	3.571* (2.098)	3.375 (2.248)
Mainlanders sex ratio	0.0215 (0.0365)	0.0176 (0.0382)	0.0232 (0.0248)	0.0195 (0.0269)	0.00986 (0.0250)	0.00477 (0.0268)
Domestics sex ratio	0.526 (0.481)	0.352 (0.507)	-0.118 (0.327)	-0.281 (0.363)	-0.0680 (0.307)	-0.108 (0.329)
Percent hillside land	0.147*** (0.0429)	0.167*** (0.0456)	0.0809*** (0.0291)	0.100*** (0.0329)	0.123*** (0.0275)	0.143*** (0.0300)
Percent agricultural workers	-0.167* (0.0993)	-0.136 (0.104)	-0.134** (0.0674)	-0.105 (0.0744)	-0.0780 (0.0663)	-0.0435 (0.0718)
Mean of dependent variable	0.664		0.426		0.439	
Observations	217	217	217	217	237	237
R-squared	0.287	0.222	0.309	0.188	0.283	0.178

	Vote share for Kuomintang (townships with competitive election)		Vote share for Kuomintang (townships with non-competitive election)		Indicator for competitive election	
	(1)	(2)	(3)	(4)	(5)	(6)
	OLS	IV	OLS	IV	OLS	IV
Percent land-receiving household	0.288** (0.139)	0.422** (0.204)	0.0331* (0.0181)	0.0478 (0.0415)	-0.00359 (0.00273)	0.00567 (0.00543)
Percent mainlanders	0.326 (0.274)	0.326 (0.276)	0.183*** (0.0651)	0.180*** (0.0658)	0.00554 (0.00694)	0.00487 (0.00712)
Log population	10.97** (4.886)	11.95** (5.029)	-0.402 (0.871)	-0.389 (0.874)	0.535*** (0.106)	0.587*** (0.112)
log mainlanders population	-2.784 (3.446)	-2.973 (3.468)	-0.617 (0.636)	-0.589 (0.642)	-0.306*** (0.0787)	-0.311*** (0.0806)
Mainlanders sex ratio	-0.00521 (0.0400)	-0.00628 (0.0402)	0.00424 (0.00729)	0.00402 (0.00734)	0.00108 (0.000936)	0.000971 (0.000961)
Domestics sex ratio	1.768*** (0.542)	1.760*** (0.545)	-0.117 (0.0882)	-0.118 (0.0884)	-0.0110 (0.0115)	-0.0119 (0.0118)
Percent hillside land	0.101** (0.0440)	0.107** (0.0448)	0.0223** (0.00927)	0.0225** (0.00931)	0.00509*** (0.00103)	0.00552*** (0.00108)
Percent agricultural workers	0.0317 (0.108)	0.0473 (0.110)	0.0318 (0.0200)	0.0328 (0.0202)	-0.00734*** (0.00248)	-0.00658** (0.00257)
Mean of dependent variable	0.633		0.949		0.451	
Observations	107	107	130	130	237	237
R-squared	0.212	0.220	0.208	0.204	0.294	0.258

Intermarriage Outcomes

- To see the impact of land reform on intermarriage, we consider the proportion of intermarriage out of total marriage of different ethnic group.

	Proportion of intermarried couples among all married couples		Proportion of intermarried Mainlanders among married Mainlanders		Proportion of intermarried local Taiwanese among married local Taiwanese	
	(1)	(2)	(3)	(4)	(5)	(6)
	OLS	IV	OLS	IV	OLS	IV
Percent land-receiving household	0.0114** (0.00555)	0.0181* (0.0108)	0.122*** (0.0416)	0.191** (0.0811)	0.0155* (0.00890)	0.0242 (0.0173)
Percent mainlanders	0.203*** (0.0141)	0.202*** (0.0141)	0.240** (0.106)	0.235** (0.106)	0.388*** (0.0226)	0.387*** (0.0227)
Log population	1.110*** (0.216)	1.147*** (0.223)	12.37*** (1.619)	12.76*** (1.674)	2.109*** (0.347)	2.157*** (0.357)
log mainlanders population	-0.792*** (0.160)	-0.795*** (0.160)	-9.385*** (1.196)	-9.417*** (1.204)	-1.770*** (0.256)	-1.774*** (0.257)
Mainlanders sex ratio	-0.00194 (0.00190)	-0.00202 (0.00191)	0.0346** (0.0142)	0.0338** (0.0143)	-0.00392 (0.00305)	-0.00403 (0.00306)
Domestics sex ratio	-0.0860*** (0.0233)	-0.0866*** (0.0234)	0.0735 (0.175)	0.0670 (0.176)	-0.178*** (0.0374)	-0.179*** (0.0375)
Percent hillside land	0.0135*** (0.00209)	0.0138*** (0.00214)	0.0563*** (0.0157)	0.0595*** (0.0161)	0.0243*** (0.00335)	0.0247*** (0.00343)
Percent agricultural workers	-0.0136*** (0.00504)	-0.0131** (0.00511)	-0.222*** (0.0378)	-0.216*** (0.0384)	-0.0102 (0.00809)	-0.00945 (0.00820)
Mean of dependent variable	0.013		0.198		0.015	
Observations	237	237	237	237	237	237
R-squared	0.820	0.819	0.384	0.376	0.818	0.817

Individual-level Analysis

- support Taiwan Independent Movement or not (1 states for the most supportive, 5 states the least.)
- how much do they support KMT (0 states hate and 10 states like)
- one's national identity (0 states for Taiwanese and 1 states for Chinese)
- the positive sign of the estimated coefficient shows that the land reform works

	Supporting the Kuomintang		Different ethnic groups are fairly treated		Opposing Independence of Taiwan	
	(1) OLS	(2) IV	(5) OLS	(6) IV	(3) OLS	(4) IV
% land-receiving household	0.353* (0.192)	0.846** (0.391)	0.247** (0.116)	0.469* (0.257)	0.708** (0.283)	0.805 (0.622)
Male	-3.755 (4.225)	-3.963 (4.142)	-0.448 (3.061)	-0.496 (3.028)	7.302* (3.867)	7.360* (3.828)
Father's education						
Elementary school	1.547 (6.672)	0.437 (6.601)	-1.790 (3.807)	-2.135 (3.660)	6.306 (7.906)	6.182 (8.152)
Junior high school	9.190 (8.753)	8.216 (8.596)	-8.021 (4.779)	-8.405* (4.807)	13.92* (7.765)	13.76* (7.884)
Senior high school or above	9.208 (8.719)	7.778 (8.503)	-1.545 (7.216)	-2.216 (7.130)	18.75 (11.50)	18.50 (11.70)
Father's education						
Elementary school	12.14** (5.798)	12.61** (5.827)	-1.425 (3.813)	-1.245 (3.780)	5.828 (6.712)	5.856 (6.760)
Junior high school	-3.615 (12.02)	-3.720 (12.13)	-11.80** (5.054)	-11.46** (5.004)	1.062 (10.66)	1.134 (10.76)
Senior high school or above	16.40 (12.47)	16.11 (12.39)	-1.517 (11.55)	-1.042 (11.79)	-2.019 (14.58)	-1.998 (14.68)
Percent mainlanders	0.919 (0.618)	1.315 (0.869)	0.0783 (0.416)	0.252 (0.499)	0.465 (0.805)	0.543 (0.916)
Log population	16.82 (13.43)	15.54 (14.94)	1.763 (7.716)	1.147 (8.554)	3.521 (12.85)	3.160 (12.06)

log mainlanders population	-5.674 (7.665)	-7.311 (8.687)	-2.045 (4.136)	-2.852 (4.458)	-0.173 (7.760)	-0.497 (8.547)
Mainlanders sex ratio	-0.172 (0.296)	-0.359 (0.325)	-0.0256 (0.161)	-0.107 (0.190)	-0.454 (0.341)	-0.491 (0.367)
Domestics sex ratio	3.308** (1.582)	3.714** (1.777)	-2.132*** (0.629)	-1.980** (0.755)	-1.272 (1.585)	-1.203 (1.536)
Percent hillside land	-0.188** (0.0891)	-0.225** (0.0934)	-0.0620 (0.0495)	-0.0785 (0.0526)	0.0126 (0.135)	0.00497 (0.152)
Mean of dependent variable	0.29		0.72		0.3	
Observations	732	732	1,006	1,006	769	769
R-squared	0.096	0.091	0.076	0.074	0.130	0.130

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Conclusion

- we find that higher exposure to the Land-to-the-Tiller Reform led to more votes for the Kuomintang in the 1980 election considerably
- these results suggest that individuals living in a township with higher intensity of the reform were more likely to report that they support Kuomintang in 1992 TSCS
- we also find that residents living in a township with higher intensity of the reform exhibited a higher intermarriage rate in 1980