

Online Appendix:

The Rise and Fall of Local Elections in China

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1 Additional Robustness Tests and Data

1.1 Random Permutation Tests

To investigate whether our results are driven by spurious correlations, we can also conduct random permutation tests where we permute the timing of elections across villages (while preserving the mean and variance of the sample distribution). We then estimate the baseline equation using the randomly assigned timing. This is done for 1,000 iterations for each outcome variable. Comparing the distribution of the coefficients from the permutations to the main results, we find that the probability that the latter is due to coincidence is near zero for the average index of signatories, public goods expenditure and One Child Policy Exemptions, less than 0.6% for land expropriation and less than 0.7% for land leased out.

1.2 Data Appendix

1.2.1 Village Democracy Survey (VDS) and National Fixed Point Survey (NFS)

National Fixed Point Survey (NFS) is a detailed village- and household-level economic survey collected annually by the Ministry of Agriculture. The NFS sample was chosen in 1986 to be representative of rural China and stratified at the province level. We obtained access to this data for the period 1986-2005.

We supplement this data with the *Village Democracy Surveys* (VDS), which was collected in three waves: 2006, 2011, and 2019. These surveys were collected on the same villages that are regularly covered by the NFS. The VDS survey collected information on village reforms, such as elections, authorization documents of village-level policy decisions, public expenditures, and implementation of policies mandated by the central government. This information is kept by the village government, as a part of their routine book-keeping practices, however, these variables are not regularly collected in the NFS survey.

Our main data are obtained by combining these two data sources into a balanced panel of 217 villages for the years 1986-2005. Online Appendix Table 1 summarizes the main variables and their sources.

1.2.2 County Bureaucratic Capacity

Our preferred measure of county-level bureaucratic capacity corresponds to the county-government revenues over county GDP. These variables are obtained from the *Fiscal Yearbooks of Chinese Prefectures and Counties*. These data are collected and published by the Office of State Budget in the Ministry of Finance of China. The Yearbooks include counties' final account of revenues and tax and non-tax revenue sources. The main tax sources comprise value-added tax, business tax, corporate income tax and personal income tax, supplemented by other taxes such as the resource tax, urban maintenance and construction tax, real estate tax, stamp tax, urban land use tax, land value added tax, vehicle and vessel use and license tax, slaughter tax, agricultural tax, agricultural specialty tax, farmland occupation tax, deed tax and other minor taxes. The remainder of the revenues are from non-tax sources, which include state-owned assets' operating income, state-owned enterprise plan loss subsidy, administrative fee income, fine and confiscated income, special income, and other income.

County revenues are one part of total county government income. The other part is transfer income from upper levels of government, which include items such as tax rebates, targeted subsidies for ethnic minority and remote areas, and individuals below the poverty line, subsidies for teacher salaries, and disaster relief. For a detailed discussion of county income composition, please see Wong (1997), Qiao and Shah (2006), Shen et al. (2012). We do *not* include transfers in our measure

of county organizational capacity. The reason is that these transfers are unrelated to the ability of the county government to manage and extract resources from the region under its control.

Disaggregated county revenue data are only available for a few years during 1998 to 2005. These data show that county revenues are increasingly driven by urban economic activity in the county. Indeed, the share of revenues that comes from urban taxes increased from 38% in 1998 to 53% in 2005, while the rural share had steadily declined to 7% by 2005. This is consistent with studies such as Liu (2018). Our dataset does not include a break down of non-tax revenues, but (Liu, 2018) reports that more than half of non-tax revenue consists of administrative charges, fees, fines, and confiscations, which are strongly correlated with the location of economic activity.¹ The main driver of urban tax revenue increase was VAT, which increased dramatically when invoices were digitized in 2001 (Fan et al., 2019, e.g.,[]).

Thus, our measure of county bureaucratic capacity is mostly driven by economic activity that is concentrated in urban centers, and unlikely to be affected by what is occurring in the villages.

Note also that normalizing revenues by GDP avoids mechanically attributing higher levels of capacity to larger states. County GDP as reported by the *County Statistical Yearbooks* is the standard source used in several existing studies (e.g., Jia et al., 2015; Persson and Zhuravskaya, 2016).

See the list of sources provided later in this Appendix.

1.2.3 County Party Secretary Biographic Information

The data on county Party Secretary bibliographical information was graciously shared with us by the authors of the paper (Chen et al., 2021). Their data contain information on the name, year of birth, gender, year of appointment and year of end of term of all county Party Secretaries in China between 2000 and 2019. This information is collected from five sources (1) Provincial and Prefectural Yearbooks, (2) Zchengwang, (3) Baidu Encyclopedia, (4) People.com.cn, and (5) Chinese Research Data Services Platform. For further details see (Chen et al., 2021).

¹The majority of the remainder of non-tax revenue is “earmarked income,” which typically includes levies, pollution fees, water resource fees, educational surcharges, and natural resource compensation fees.

1.2.4 Infrastructure and Distances

Travel distance between a village and the county seat are provided by the Ministry of Agriculture and recorded in the third wave of the VDS (2019). The infrastructure data are reported by the *Historical county population census data with maps*, published by the All China Marketing Research Co. Ltd. (2005).

1.2.5 China Family Panel Survey

China Family Panel Survey is a household survey collected by the Institute of Social Science Survey of Peking University on a biennial basis. It covers 162 counties across China (about 10% of counties in China). In this paper we focus on the survey wave collected in 2012. The CFPS contains a question about the trust respondents place on local government (village and county) cadres. This variable ranges from 0 (no trust) to 10 (very trustworthy). The CFPS data are at the household level and contain county identifiers. We are able to link households surveyed in CFPS to twelve counties within our main sample. Despite the limited set of counties, there is variation in the timing of the first election in each county. The 12 counties introduce elections in the following years (in parenthesis the number of villages that introduce election in that year): 1983 (2); 1984 (4); 1986 (3); 1988 (1); 1990 (1); 1999 (1).

1.2.6 Labor strike data

In order to measure unrest, we use protest data from the China Labour Bulletin (CLB), which is a not-for profit organization based in Hong Kong. This institution has collected information on labor strikes from sources, such as Sina Weibo, WeChat, Baidu and others since 2011. The resulting dataset records the number of labor strikes that took place in each prefecture. We retrieve the data from their website for the period 2011 to 2019.

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Archival Data Sources

China Statistical Yearbooks are a series published at the national, province and counties, with the years varying for sub-national publications. The list below references the specific books used in this paper.

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Appendix Tables

Table A.1: Descriptive Statistics

Variable	Source	Obs	Mean	Std. Dev.
Panel A. The Introduction of Elections				
Total Public Goods Expenditure (10,000 Constant RMB)	VDS	4,340	13.81	133.23
Irrigation	VDS	4,340	3.31	63.69
Schooling	VDS	4,340	0.02	0.34
Roads & Sanitation	VDS	4,340	4.98	88.25
Electricity	VDS	4,340	0.71	7.75
Environment	VDS	4,340	0.31	12.41
Other	VDS	4,340	2.58	48.04
Total Village Land	NFS	3,612	9,245	14,719
Arable Land (Mu)	NFS	3,612	2,295	2,329
Share of Village Land that is Arable	NFS	3,612	0.51	0.32
Used for HH Farming (Mu)	NFS	3,612	2,215	2,312
Not Used for HH Farming (Mu)	NFS	3,612	79.72	367.26
Leased Out to Enterprises (Mu)	NFS	3,612	60.46	347.61
Median HH Annual Gross Income Growth	NFS	3,084	0.08	0.19
The Number of Village Committee Members	NFS	2,287	4.36	2.36
The Number of Village Party Cadres	NFS	2,295	6.70	3.82
Party Secretary Tenure	VDS	4,340	10.80	7.91
Village Chief: Tenure	VDS	4,340	7.60	6.07
Has Election	VDS	4,340	0.83	0.37
Has Open Nomination	VDS	4,340	0.24	0.43
Years between Election Introductions in Village and Provin	VDS	217	4.96	5.07
Years since last election	VDS	1,010	3.10	0.76
VC different from previous term*	VDS	3,518	0.16	0.37
1st Election Changed VC*	VDS	122	0.35	0.48
# of HH in Village	NFS	4,340	416.15	276.17
Near City	NFS	4,340	0.30	0.46
Panel B. Re-centralization				
County Revenues/County GDP (%)	VDS	1,616	4.62	3.10
Log Distance from the Village to the County Seat	VDS	1,616	2.66	1.03
County Party Secretary Age	Other	1,609	46.17	3.68

Notes: Each observation is at the village-year level. VDS indicates that the variable is reported by the *Village Democracy Survey*. NFS indicates that the variables are reported by the *National Fixed Point Survey*. Other indicates additional data sources listed in the Data Appendix. *Not all villages retained records of VC's names from prior to the first election.

Table A.2: The Effect of Elections on Policies for Each Year Since the First Election

Dummy Var for X Years Since the 1st Election: X=	Dependent Variables:			
	Public Good Expenditures (Villagers, 10,000 RMB)	One Child Policy Exemptions	Upper-Government Special Aid (10,000 RMB)	Public Good Expenditures (Upper Gov, 10,000 RMB)
	(1)	(2)	(3)	(4)
-2	1.398 (2.089)	-0.016 (0.017)	-0.194 (0.743)	0.685 (1.267)
-1	0.829 (4.482)	-0.008 (0.032)	0.433 (1.018)	1.551 (1.574)
0	8.800 (5.143)	0.036 (0.041)	-0.016 (1.040)	0.271 (1.557)
1	36.483 (31.564)	0.061 (0.047)	0.392 (1.454)	1.547 (2.055)
2	11.492 (7.388)	0.072 (0.049)	2.242 (1.858)	6.138 (3.594)
3	23.766 (14.931)	0.083 (0.057)	1.227 (2.069)	3.320 (3.197)
4	16.757 (9.534)	0.105 (0.061)	1.508 (2.381)	2.546 (3.377)
5	15.729 (10.729)	0.100 (0.064)	1.660 (2.831)	3.460 (3.836)
6	36.479 (19.093)	0.128 (0.070)	3.680 (4.028)	8.038 (6.241)
Observations	3,919	3,919	3,919	3,919
R-squared	0.130	0.811	0.062	0.081

Notes: All regressions control for province trends, and village and year fixed effects. Standard errors are clustered at the village level. The sample is a village-level panel balanced across election years (years since the first election).

Table A.3: Robustness to the Correlates of Remoteness

Additional Controls	Dependent Variables: Policy Signatories					
	Gov		Gov x Ln Dist		Obs.	R-squared
	Coef.	Std. Err.	Coef.	Std. Err.		
(1)	(2)	(3)	(4)	(5)	(6)	
	A. Sum VC Unilateral					
(i) Baseline	-0.182	(0.076)	0.059	(0.025)	1,616	0.594
(ii) All Transfers Delivered to the Upper Government x Gov	-0.182	(0.076)	0.059	(0.025)	1,616	0.594
(iii) Taxes Delivered to the Upper Government x Gov	-0.167	(0.078)	0.054	(0.026)	1,568	0.601
(iv) Manufacturing Production x Gov	-0.165	(0.078)	0.054	(0.026)	1,568	0.602
(v) Manufacturing Profits x Gov	-0.167	(0.078)	0.054	(0.026)	1,568	0.601
(vi) Economic Rank x Gov	-0.275	(0.113)	0.040	(0.026)	1,568	0.604
(vii) Transfers from Upper Gov x Gov	-0.168	(0.082)	0.057	(0.026)	1,616	0.595
	B. Sum VC PS Joint					
(i) Baseline	0.203	(0.097)	-0.091	(0.031)	1,616	0.646
(ii) All Transfers Delivered to the Upper Government x Gov	0.207	(0.097)	-0.092	(0.031)	1,616	0.646
(iii) Taxes Delivered to the Upper Government x Gov	0.202	(0.098)	-0.091	(0.031)	1,568	0.629
(iv) Manufacturing Production x Gov	0.199	(0.099)	-0.091	(0.031)	1,568	0.629
(v) Manufacturing Profits x Gov	0.199	(0.099)	-0.091	(0.031)	1,568	0.629
(vi) Economic Rank x Gov	0.238	(0.135)	-0.087	(0.031)	1,568	0.629
(vii) Transfers from Upper Gov x Gov	0.191	(0.107)	-0.089	(0.031)	1,616	0.646
	C. Sum PS Unilateral					
(i) Baseline	-0.070	(0.052)	0.029	(0.020)	1,616	0.634
(ii) All Transfers Delivered to the Upper Government x Gov	-0.064	(0.053)	0.028	(0.020)	1,616	0.634
(iii) Taxes Delivered to the Upper Government x Gov	-0.085	(0.052)	0.035	(0.020)	1,568	0.607
(iv) Manufacturing Production x Gov	-0.086	(0.052)	0.035	(0.020)	1,568	0.607
(v) Manufacturing Profits x Gov	-0.086	(0.052)	0.035	(0.020)	1,568	0.607
(vi) Economic Rank x Gov	-0.047	(0.061)	0.041	(0.023)	1,568	0.608
(vii) Transfers from Upper Gov x Gov	-0.073	(0.055)	0.030	(0.020)	1,616	0.634

Notes: Observations are at the village and year level. All specifications control for province-year trends, and village and year fixed effects. Additional controls are stated in the row headings. All transfers from the village to upper levels of government includes all sources of revenues. Taxes delivered to the upper government is a subset of all transfers and includes all taxes, but exclude other sources such as ad hoc fees. Economic Rank is the official rank of the economic performance of the village. Manufacturing production (profit) is the total revenue (profit) from manufacturing for the village. Transfers from the upper government is the total amount of all money distributed by the upper levels of government to the village. These are all time invariant controls: village averages for the years 1998-2002. The regressions control for the interaction of each with county government revenues as a share of county GDP. The observations vary due to limited availability of the additional controls. The standard errors are clustered at the village level.

Table A.4: Robustness to the Correlates of County Capacity – County Size

Additional Controls	Dependent Variables: Policy Signatories					
	Gov		Gov x Ln Dist		Obs.	R-squared
	Coef.	Std. Err.	Coef.	Std. Err.		
(1)	(2)	(3)	(4)	(5)	(6)	
A. Sum VC Unilateral						
(i) Baseline	-0.182	(0.0757)	0.0592	(0.0251)	1,616	0.594
(ii) County Pop, x Ln Dist	-0.187	(0.0767)	0.0610	(0.0250)	1,616	0.596
(iii) Rur Pop Share, x Ln Dist	-0.182	(0.0757)	0.0592	(0.0251)	1,616	0.594
(iv) County Area, x Ln Dist	-0.181	(0.0757)	0.0591	(0.0251)	1,616	0.595
(v) # Villages, x Ln Dist	-0.190	(0.0759)	0.0622	(0.0255)	1,616	0.595
(vi) County GDP, x Ln Dist	-0.156	(0.0769)	0.0519	(0.0248)	1,616	0.597
(vii) County GDP pc, x Ln Dist	-0.157	(0.0746)	0.0504	(0.0243)	1,616	0.596
(viii) County GDP pc 5MA growth, x Ln Dist	-0.172	(0.0771)	0.0546	(0.0243)	1,591	0.607
B. Sum VC PS Joint						
(i) Baseline	0.203	(0.0967)	-0.0908	(0.0306)	1,616	0.646
(ii) County Pop, x Ln Dist	0.172	(0.0950)	-0.0800	(0.0306)	1,616	0.648
(iii) Rur Pop Share, x Ln Dist	0.203	(0.0967)	-0.0908	(0.0306)	1,616	0.646
(iv) County Area, x Ln Dist	0.201	(0.0968)	-0.0909	(0.0308)	1,616	0.647
(v) # Villages, x Ln Dist	0.192	(0.0953)	-0.0867	(0.0304)	1,616	0.646
(vi) County GDP, x Ln Dist	0.206	(0.0905)	-0.0924	(0.0287)	1,616	0.646
(vii) County GDP pc, x Ln Dist	0.225	(0.0921)	-0.102	(0.0301)	1,616	0.647
(viii) County GDP pc 5MA growth, x Ln Dist	0.203	(0.100)	-0.0869	(0.0314)	1,591	0.658
C. Sum PS Unilateral						
(i) Baseline	-0.0700	(0.0522)	0.0292	(0.0200)	1,616	0.634
(ii) County Pop, x Ln Dist	-0.0550	(0.0467)	0.0239	(0.0185)	1,616	0.635
(iii) Rur Pop Share, x Ln Dist	-0.0700	(0.0522)	0.0292	(0.0200)	1,616	0.634
(iv) County Area, x Ln Dist	-0.0691	(0.0522)	0.0288	(0.0202)	1,616	0.634
(v) # Villages, x Ln Dist	-0.0649	(0.0512)	0.0273	(0.0198)	1,616	0.634
(vi) County GDP, x Ln Dist	-0.109	(0.0519)	0.0398	(0.0194)	1,616	0.640
(vii) County GDP pc, x Ln Dist	-0.121	(0.0529)	0.0470	(0.0203)	1,616	0.639
(viii) County GDP pc 5MA growth, x Ln Dist	-0.0780	(0.0548)	0.0337	(0.0205)	1,591	0.638

Notes: Observations are at the village and year level. All specifications control for province-year trends, and village and year fixed effects. Additional controls are stated in the row headings. The estimates include each uninteracted time-varying controls and its interaction with log distance from the village to the county seat. The standard errors are clustered at the village level.

Table A.5: Robustness to the Correlates of County Capacity – Infrastructure

Additional Controls	Dependent Variables: Policy Signatories					
	Gov		Gov x Ln Dist		Obs.	R-squared
	Coef.	Std. Err.	Coef.	Std. Err.		
(1)	(2)	(3)	(4)	(5)	(6)	
A. Sum VC Unilateral						
Baseline	-0.182	(0.0757)	0.0592	(0.0251)	1,616	0.594
Railway/Area x Year FE, x Year FE x Ln dist	-0.190	(0.0828)	0.0586	(0.0272)	1,616	0.601
Highway/Area x Year FE, x Year FE x Ln dist	-0.194	(0.0789)	0.0622	(0.0257)	1,616	0.596
State Roads/Area x Year FE, x Year FE x Ln dist	-0.221	(0.0758)	0.0736	(0.0259)	1,616	0.598
Province Roads/Area x Year FE, x Year FE x Ln dist	-0.180	(0.0976)	0.0551	(0.0329)	1,616	0.612
Rugged x Year FE, x Year FE x Ln dist	-0.200	(0.0753)	0.0629	(0.0258)	1,616	0.606
B. Sum VC PS Joint						
Baseline	0.203	(0.0967)	-0.0908	(0.0306)	1,616	0.646
Railway/Area x Year FE, x Year FE x Ln dist	0.207	(0.102)	-0.0895	(0.0317)	1,616	0.649
Highway/Area x Year FE, x Year FE x Ln dist	0.213	(0.100)	-0.0940	(0.0313)	1,616	0.648
State Roads/Area x Year FE, x Year FE x Ln dist	0.240	(0.0915)	-0.106	(0.0301)	1,616	0.648
Province Roads/Area x Year FE, x Year FE x Ln dist	0.197	(0.107)	-0.0853	(0.0361)	1,616	0.655
Rugged x Year FE, x Year FE x Ln dist	0.194	(0.102)	-0.0833	(0.0334)	1,616	0.661
C. Sum PS Unilateral						
Baseline	-0.0700	(0.0522)	0.0292	(0.0200)	1,616	0.634
Railway/Area x Year FE, x Year FE x Ln dist	-0.0737	(0.0550)	0.0330	(0.0205)	1,616	0.643
Highway/Area x Year FE, x Year FE x Ln dist	-0.0749	(0.0532)	0.0297	(0.0203)	1,616	0.640
State Roads/Area x Year FE, x Year FE x Ln dist	-0.0815	(0.0572)	0.0367	(0.0223)	1,616	0.644
Province Roads/Area x Year FE, x Year FE x Ln dist	-0.0722	(0.0593)	0.0296	(0.0251)	1,616	0.636
Rugged x Year FE, x Year FE x Ln dist	-0.0790	(0.0554)	0.0330	(0.0222)	1,616	0.637

Notes: Observations are at the village and year level. All specifications control for province-year trends, and village and year fixed effects. Additional controls are stated in the row headings. Roads are measured kilometers and normalized by county area. Ruggedness is computed by the authors. The standard errors are clustered at the village level. Source: *County Statistical Yearbooks 2000, 2001 and 2002*.

Table A.6: The Loss of VC Autonomy – Robustness to Anti-Regime Movements

		Dependent Variables: Policy Signatories				
Additional Controls:	Gov		Gov x Ln Dist		R-squared (6)	
	Coef. (1)	p-value (2)	Coef. (3)	p-value (4)		Obs. (5)
A. Dependent Variable: Sum VC Unilateral						
(1) Baseline	-0.182	(0.076)	0.059	(0.025)	1,616	0.594
(2) Dist. to Hong Kong x Year FE	-0.172	(0.073)	0.053	(0.024)	1,600	0.621
(3) Dist. to Xinjiang x Year FE	-0.153	(0.075)	0.049	(0.025)	1,600	0.619
(4) # Strikes x Year FE	-0.176	(0.079)	0.058	(0.026)	1,616	0.599
(5) Province x Year FE	-0.217	(0.093)	0.071	(0.029)	1,616	0.637
B. Dependent Variable: Sum VC PS Joint						
(6) Baseline	0.203	(0.097)	-0.091	(0.031)	1,616	0.646
(7) Dist. to Hong Kong x Year FE	0.204	(0.096)	-0.092	(0.031)	1,600	0.661
(8) Dist. to Xinjiang x Year FE	0.175	(0.094)	-0.083	(0.030)	1,600	0.661
(9) # Strikes x Year FE	0.242	(0.101)	-0.099	(0.032)	1,616	0.655
(10) Province x Year FE	0.221	(0.120)	-0.105	(0.036)	1,616	0.678
C. Dependent Variable: Sum PS Unilateral						
(11) Baseline	-0.070	(0.052)	0.029	(0.020)	1,616	0.634
(12) Dist. to Hong Kong x Year FE	-0.070	(0.054)	0.030	(0.021)	1,600	0.635
(13) Dist. to Xinjiang x Year FE	-0.059	(0.050)	0.025	(0.020)	1,600	0.639
(14) # Strikes x Year FE	-0.080	(0.058)	0.031	(0.021)	1,616	0.637
(15) Province x Year FE	-0.086	(0.067)	0.037	(0.024)	1,616	0.683

Notes: Observations are at the village and year level. See Table 2 for a description of the dependent and explanatory variables. Columns (1) and (2) report the effects of county government revenues divided by county GDP. Columns (3) and (4) report the effects of the interaction of county revenues divided by GDP interacted with log distance from the village to the county seat. All specifications control for province-year trends, and village and year fixed effects. Additional controls are stated in the row headings. Rows (5), (10), and (15) control for province-year fixed effects instead of province-year trends. The standard errors are clustered at the village level.