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Local governance and public goods provision in rural China

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Abstract

In developing countries, identifying the most effective community-level governance mode is a key issue in rural development; therefore, empirical evaluation of these different modes is desperately needed. Since the 1980s, tens of thousands of villages in rural China have held local government elections, providing a good opportunity to investigate the effect of democratization on the level of public goods provision. Using a recent village survey conducted over a significant period of time, this article compares two different governance modes. It finds that elections affect little on the size of revenue but significantly shift the distribution of taxation from individuals to enterprises if possible. However, privatization has made taxation or levies on rural enterprises more difficult. It also shows that elections and power sharing are conducive to improve the allocation of public expenditures.
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1. Introduction

In developing countries, identifying the most effective community-level governance mode is a key issue in rural development because vulnerable populations are often unable to access services provided by the higher levels of government or the private sector, and

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hence rely on local communities for their survival (World Bank, 2000). Despite the importance of this issue in developing countries, few studies have quantitatively examined the link between governance and public goods provision at the local level, largely because of lack of detailed information (Dethier, 1999).[1] While most studies in this field focus on the impact on the levels and compositions of public expenditure, studies on the effect on taxation structure in developing countries are relatively scant.

The recent massive transformation of village governance from an appointed system to an electoral system in rural China provides a unique opportunity to empirically test the effect of democratic governance on public goods provision. Before the 1980s, village leaders in rural China were appointed by the higher-level government and were more concerned with the needs of their superiors than of villagers (Fan, 2001). In the 1980s, these political strongholds came under siege because of increasing conflicts between cadres and farmers over taxes and fees (He et al., 2001). Since then, tens of thousands of villages nationwide have implemented village elections. Such dramatic institutional shifts over time and large variations across regions enable us to better quantify the impact of democratization.

Although a large body of literature exists on Chinese village elections, few link elections with economic performance.[2] Among the published English reports, O'Brien and Li (2000), Oi and Rozelle (2000), Paster and Tan (2000) and Xiang (2000) have described the evolution and performance of village elections in great details. The most influential Chinese publication is Xu Yong's book *Zhongguo Nongcun Cunmin Zizhi* (China's Rural Self-Governance). With the exception of Tsai (2000), few studies have explored the link between governance and local public goods provision. Based on fieldwork, Tsai provides a vivid description of local cadre behavior and rural governance but her study focuses on several villages in a particular year only. To our knowledge, no study has empirically quantified the impact of elections on public goods provision using cross-regional data for a long period.

Most rural population in China live in the countryside, relying on villages to provide basic infrastructure such as irrigation, drinking water and roads. Rural residents pay enormous amount of taxes and fees to the higher level governments, yet villages receive little financial redistribution or transfers from the upper level government (Bernstein and Lü, 2000). The way in which a village is governed, therefore, can directly influence the effectiveness of public goods provision to the vast rural population. The heavy tax burden of rural households has been one of the top concerns of China's leaders and of interest to scholars. How to improve the efficiency of rural public finance and the delivery of public goods has become a challenge for policymakers.

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[1] Using India as an example, Besley and Burgess (2001) show that public food distribution and calamity relief expenditures are greater in states with greater electoral accountability. La Porta et al. (1998) discuss the effect of governance on development—using cross-country data but these studies were conducted at the macro-level rather than the community level. The World Bank (2000) provides anecdotal evidence on the importance of local governance on the poor but lacks quantitative analyses.

[2] The proceedings of the International Symposium on Villager Self-Governance and Rural Social Development in China held in Beijing, China, September 2–5, 2000, contain the most comprehensive collection of unpublished papers in this area. Most of these studies are from the perspectives of sociology, political science and law, however.

Has the shift in village governance caused changes in the sources of revenue and composition of expenditures? Have the elected village leaders been more responsive to the needs of their communities given increased accountability? Answering these questions requires comprehensive and specialized data collection ranging from social economic indicators to election practices at the village level. For this purpose, we conducted a village survey in Jiangsu Province in 2000. The data set includes detailed information on village governance, income, production and public finance. Using this unique data set, we are able to examine the effects of governance on village revenues and expenditures by controlling for village characteristics such as income levels, village size, and the development of rural enterprises. This study also provides useful information on the debate whether elections should be extended to higher level governments, such as townships and counties, in China. In addition, it contributes to the literature on local governance in developing countries, in particular on the extension of franchise.[3]

In Section 2, we review the theory on governance and public goods provision; Section 3 describes the evolution of rural governance in China; Section 4 explains the data sources; Section 5 presents the model and empirical estimation; and Section 6 presents our conclusions.

2. Democratization and provision of public goods: a literature review

The major responsibility of a government is to provide public goods and services. The effectiveness of governance directly affects the day-to-day livelihood of vast numbers of people, especially those who rely heavily on public assistance for their survival. Although emerging literature has extensively examined the determinants and impacts of governance using cross-country data, studies at the more micro-level are relatively scant, largely because of lack of data (La Porta et al., 1998). These cross-country studies indicate that good governance is important for economic growth and public goods provision. Despite their usefulness in revealing empirical regularities at the international level, cross-country analyses provide little policy guidance on how to improve current governance structures at the community level, at which changes can most feasibly be implemented. Some theoretical and empirical evidence has shown that democratic governance does affect public goods provision at the national level or sub-national regional level (Lizzeri and Persico, 2001; Besley and Burgess, 2001; Besley and Coate, 2001), but knowledge of the effect at the local level, in particular in developing countries, is very limited (Dethier, 1999).

There are two competing theories in explaining the extension of franchise and their impact on public goods provisions. Acemoglu and Robinson (2001, 2002) argue that the extension of democracy in Europe is mainly due to the threat of revolution by the poor. This theory predicts more transfers to the poor along with the extension of constituency. Lizzeri and Persico (2003) offer an alternative theory that the demand for more provision of public goods is crucial for the spread of democracy in particular when

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[3] In the literature, the term "extension of franchise" usually means peaceful extensions of the right to vote (Lizzeri and Persico, 2003).

old institutions fail to satisfy the needs of elites. Under this theory, an extension of constituency of government should come along with an increase in spending on public goods rather than on transfers. By examining the extensions of franchise in Western Europe, Aidt et al. (2002) find that the extensions of franchise are more related to increase in expenditures on the provisions of public goods because they accrue immediate benefit to voters.

Democracy affects not only the allocation of expenditures but also the sources of revenues. The median voter theory predicts that the elected officials care more about the concerns of constituencies than do the appointed officials. In rural China, the heavy taxation burden is one of the most serious concerns among villagers (Bernstein and Lü, 2000). Therefore, it is interesting to test whether elected leaders indeed reduce the taxation burdens on farmers, the voters in this case.

When generating revenues from different sources, the transaction cost of taxation is an important consideration. It is a tremendous task to collect taxes and fees door to door from households as village officials often face suspicions and resentment by farmers. But it involves much less cost to levy taxes on rural enterprises, in particular when the enterprises are collectively owned. However, with privatization, the owners of private enterprises, who control significant financial resources in a village, become powerful local elite. In a political economy framework, this group may exert more influence over local officials than the poor on taxation issues (von Braun and Grote, 2002). Therefore, whether elections are associated with lower share of direct taxation to farmers, in particular under the trend of privatization, is an empirical question.

Democracy should include not only participation, but also power-sharing and accountability. Elections can help ensure participation of villagers and remove incompetent and corrupted officials. However, without the decision-making power, elected officials may not be able to fully exercise their roles. China's rural elections involve more with participation than accountability, as many elected leaders still do not have the ultimate decision power on major issues. The co-existence of different governance modes enables us to separate the effect of participation and accountability on the efficiency of public expenditures.

3. The evolution of village governance in China

In China, a village is the lowest level in the government hierarchy although it does not formally form a government level. Each village has a communist party branch and an administrative office. The secretary of the party branch usually has greater control over village affairs than the head of the administrative office, although in theory the party secretary is only responsible for party affairs in the village while the head of the office is the nominal village leader. Until the late 1970s, the higher levels of government (people's communes and county governments) appointed rural community leaders (both party secretary and village head). Village leaders had four major responsibilities: (1) collecting taxes and levying fees; (2) implementing family planning; (3) fulfilling grain procurement quotas; and (4) providing public goods and services (Lin et al., 2003). An appointed cadre was more concerned with the first three responsibilities because they were more directly

related to their performance evaluations by the upper level governments. Thus, they often placed public services provision as a low priority (Xu, 1997). Nevertheless, village leaders still played a key role in decisions on public services such as roads, water supply, schools and health clinics for rural residents, as the central government seldom redistributed funds back to the villages.[4]

With the rapid abolition of people's communes, and the shift of production from collective farming to the household responsibility system in the late 1970s, the old institutions became obsolete in providing basic public goods and services. The conflict between cadres and villagers over taxation issues has also become increasingly serious. Facing the pressure, the central government started to embrace the idea of village elections since the mid-1980s (O'Brien and Li, 2000). After several years of experiment, the central government called for widespread implementation in the early 1990s. It seems that both theories of franchise extension, threat of revolution and demand for public goods provision, are relevant in explaining the democratization process in rural China. However, the timing and procedures of election have been fairly heterogeneous across regions. Some local officials hesitated to promote village elections, worrying that self-governance would make them more difficult to carry out state policies (O'Brien and Li, 2000). Among areas holding elections, the procedures varied. Some areas, for example, first elected members of village committees, who in turn elected the village committee chairman from the committee members, while in other areas, the village committee chairman and village committee members were elected simultaneously.

To understand the election process in Jiangsu Province, we interviewed officials in both provincial and county civil affairs bureaus, which have been in charge of village elections. According to the interviews, in the initial stage, the provincial government played an active role in screening counties for pilot experiments primarily to represent different economic development levels and geographical locations. The pilot counties first conducted election experiments in a few townships before calling for more widespread elections.

After finishing the experiment in pilot counties, the provincial government started to promote province-wide elections since December 1992 when its people's congress passed the implementation amendments to the Organic Law. Similar to the pilot stage, in the implementation stage, many counties also followed a two-step process. First, the county civil affairs bureau selected several townships for experiment. According to our interviews, several common selection criteria were used for screening pilot experiments: (1) the villages should be representative in terms of population, land area and geographical location. For example, if only two townships are selected, one should be close to county seat and one should be far away. (2) The villages should not have major civil strife. The civil affairs bureaus could obtain the criminal rate and mass complaints from the county public security bureaus or the ombudsman offices. (3) The party secretary should have a history of compliance with the upper government in carrying out policy implementations. The basic rule is "easy villages first, difficult ones later." In the second step, the county

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[4] Under the "9-year compulsory schooling" education policy, all children are required to attend school for at least 9 years. Most villages hold partial responsibility for the expenses of local public elementary schools.

civil affairs bureau summarized the experience from pilot experiments, adjusted election rules, and then encouraged countywide elections.

By 1994, more than 30,000 village committees were established through contested elections, empowering more than one million assembly representatives, or an average of 33 representatives per village (CRLSRT, 2000). Because the implementation of elections was largely left to local governments, different governance structures co-existed in the late 1980s and 1990s across regions. The election process and the power structure of governance are far more complex in reality and vary greatly across regions as discussed in Oi and Rozelle (2000). Shang (1999) highlights the major irregularities of elections and their adverse effects. Whether the new-found self-governance has positively affected the provision of public goods remains an important empirical question.

4. Data and descriptive statistics

The data set used in this article comes from a 2000 survey jointly conducted by the Center for Chinese Agricultural Policy (CCAP), International Food Policy Research Institute (IFPRI) and Jiangsu Statistical Bureau. The survey covered 60 villages in six counties evenly distributed across Jiangsu province. In Zhangjiagang and Yixing (Southern Jiangsu), rural enterprises are well developed and the majority of family incomes are derived from nonfarm activities. Shuyang and Gangyu are the least developed areas (Northern Jiangsu) where most families continue to rely on agriculture for their living. Dongtai and Xinhua fall between the above two categories in terms of both economic and social development.

In each county, we randomly selected 10 villages. In each village, we interviewed village leaders and accountants. By examining historical accounting records and checking with village officials, we obtained village information for 1985, 1988 and 1990–1999, when different governance structures co-existed. The survey provides detailed information about village characteristics (such as location, population size and the proportion of the most frequent occurring surname), economic activities (such as township and village enterprises, revenues and expenditures), as well as the major characteristics of village leaders (such as years in office, education, previous work experience). However, per capita income, which is generated from the official rural household survey, is available only for 1985, 1990 and 1995–1999.

Among the 60 villages surveyed, two lacked historical records and therefore were dropped from our analysis. Among the 58 villages, there are several missing values in some years. Table 1 provides descriptive statistics on the number of villages holding elections and public finance over the years. Of our 58-village sample, the number holding elections increased from 21 in 1985 to 51 in 1999. Taxes and fees collected directly from households accounted for more than two thirds of village revenues. Another major source of revenue was fees collected from rural enterprises. The upper level governments provide only a small share of financial contributions to villages (most as a compensation for land procurement) with an average of less than 4% over the survey period. Hence, local public goods provision relies primarily on financing from local communities, confirming the findings by Oi and Rozelle (2000).

Table 1
Elections and public finance

Year	1985	1990	1995	1996	1997	1998	1999	Average
Number of villages with elections	21	29	34	35	37	46	51	
Per capita revenue (1999 yuan)	210.2	198.3	193.2	220.7	236.4	258.7	261.0	218.6
Household (%)	71.2	70.9	71.0	71.1	68.4	65.9	67.8	69.8
Enterprises (%)	24.7	25.4	25.6	25.1	26.9	27.1	23.8	25.7
Upper governments (%)	0.4	0.7	1.4	2.2	2.7	4.0	5.3	1.8
Others (%)	3.7	3	2	1.6	2	3	3.1	2.7
Per capita expenditure (1999 yuan)	211.4	184.4	198.9	217.9	231.0	253.2	254.5	213.2
Public investment (%)	37.5	35.8	36.7	36.1	38.6	38.7	35.1	36.6
Production related investment (such as irrigation)	49.6	46.1	41.0	43.0	35.4	41.0	42.0	43.8
Road	11.6	9.1	14.5	17.0	19.3	22.2	19.4	14.6
School	12.2	10.0	13.9	12.2	15.1	13.9	11.4	12.8
Electricity and communication	5.4	6.6	8.1	8.2	7.8	4.7	6.0	6.4
Transfer to the poor (%)	3.3	2.9	2.7	2.7	3.3	2.7	2.6	2.9
Administration and other expenses (%)	59.7	61.3	60.7	61.2	58.2	58.6	62.2	61.9
Income tax rate (%)	6.8	7.1	4.8	4.9	4.2	3.8	3.7	5.1
Enterprise tax rate (%)	3.7	5.1	3.5	2.3	2.0	2.7	2.5	3.5

The average per capita expenditure for the sample period, measured in 1999 constant prices, was 213 yuan, of which about one third was spent on public investment and more than 60% was reported on administration, including salaries for village leaders and public relation activities. Financial transfers to the disabled and poor accounted for only about 3%. Production related investment, including irrigation, was the major form of public investment, accounting for the largest share. Spending on roads, school and power and communications ranked second, third and fourth, respectively. The income tax rate for rural households ranged from four to seven percent over the years, comparable to the results reported by Bernstein and Lü (2000).[5]

Table 2 reports the mode of governance in 1999. The mode of local governance was diverse: in only one village was the village head the major decision-maker on public investment. In seventeen villages, party secretaries had the final say on village affairs, indicating that the communist party still dominates in rural communities. In nine villages, both party secretaries and village heads made decisions jointly.[6] Fourteen villages reported that village committees played a key role in their village's decision-making process.[7] The diverse governance structure reflects a dramatic change in leadership styles from direct oversight to more instructive consultation.

To further evaluate the effect of local self-governance, we compare villages with appointed and elected leaders on the criteria of leader characteristics, levels of economic

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[5] Because here we include only the taxes and fees collected by villages but not those by upper level governments, the income tax rate might be underestimated. Lin et al. (2002) report a higher figure based on household survey data.

[6] In two villages, the party secretary and village head is the same person.

[7] The committee serves as the village administrative office, and its committee chairman is nominally the village head.

Table 2
Who are making decisions in the village in 1999

Mode	Observations
Party secretary	17
Village head	1
Both of the above	9
Village committee	14
Others	17

and social welfare, and levels of public finance in Table 3. In general, no significant difference was evident in the age and education levels of appointed and elected cadres. Elected village heads were more likely to have worked in enterprises. Among the 58 village leaders, only two identified previous significant employment in the farming sector, while all others reported having held nonfarm positions prior to taking office.

The average income in villages with elected leaders was near 700 yuan higher than those with appointed leaders. The ratio of village taxation relative to the average per capita income was lower in the villages with elected leaders than those without contested elections. The structures of public finance also differed between the two types of villages. Taxes and fees levied directly from households in villages governed by appointed cadres account for 81% of total revenues, compared with 63% in villages with elected officials, where a significant amount was generated from enterprises. Although per capita expenditure was similar between the two groups of villages, the share spent on public investment was lower in villages with elections than in villages without elections. It is possible that elections are more likely to happen in villages plagued with corruptions and under-provision of public goods. The potential reverse causality problem could lead to biased results in standard econometric estimations. To quantify the impact of governance on public finance, we must carefully control for the endogeneity of election decisions.

Table 3
Comparisons between villages with and without elections

	Appointed	Elected
Village leader characteristics (1999)		
Age	40.3	42.8
Years of schooling	8.4	8.9
Party membership (%)	90.0	85.7
Year of working experience in the township village enterprise (TVE)	1.0	2.0
Income and tax rate (whole sample)		
Income per capita (1999 yuan)	2466.7	3155.4
Income tax rate (taxation includes only the village part, %)	6.8	4.1
Per capita revenue (whole sample, 1999 price)	216.2	220.2
Share of revenues from households (%)	80.8	63.0
Share of revenue from enterprises (%)	14.1	32.9
Per capita expenditure (whole sample, 1999 price)	205.2	218.1
Share of public investment (%)	39.7	34.7
Share of transfer to the poor (%)	2.9	2.9
Share of administration and other expenses (%)	57.4	62.5

5. Empirical analysis

We use two different approaches to investigate the effect of elections on fiscal outcomes. The first approach does not directly tackle the endogeneity problem. But to a certain degree it reduces possible systematic measurement errors and omitted variables bias, which can cause similar estimation bias as endogeneity, by controlling for fixed village or year effects. Table 4 presents the regression results on four different fiscal indicators: per capita total revenue, per capita direct taxation on households, the share of direct taxation and the share of public investment in total expenditure. For each variable, we present two specifications, one with village dummies to take into consideration of village fixed effects and one with both village and year dummies controlling for both village and year fixed effects.

When only village fixed effects are taken into account, the coefficient on the election dummy in the regression determining per capita total tax is positive and significant. But after adding year dummies, the coefficient becomes insignificant. As the later specification has a higher adjusted R^2, it is more preferable. For regressions on per capita direct taxation and the share of public investment, the coefficients for the election variable in two alternative specifications are insignificant and have different signs. Elections are negatively correlated with the share of direct taxation in total revenues as shown by the negative and significant coefficients in both specifications. The adjusted R^2 in the first regression with only village fixed effects is higher and the year effects are not jointly significant in the second specification, suggesting the share of direct taxation does not have obvious time patterns.

The above approach has two drawbacks. First, the timing and endogeneity of election are not controlled for. Second, it provides no explicit information on the role of other variables, such as the presence of enterprises, privatization and income level. In the second identification strategy, we replace village dummies with village-specific information and adopt a two-step instrumental variable approach. The first step predicts the occurrence of elections on a set of exogenous variables using a probit model.

Two counties in our sample, Ganyu and Zhangjiagang, happened to be among the pilot counties for election experiment. These two counties finished countywide elections by

Table 4
Test the impact of elections: fixed effect model

Variables	Per capita tax revenue		Per capita direct taxation		Share of direct taxation		Share of public expenditure	
Elections	0.230**	0.059	0.043	− 0.140	− 0.062**	− 0.042*	0.016	− 0.020
	(0.067)	(0.077)	(0.127)	(0.145)	(0.021)	(0.024)	(0.021)	(0.024)
p-value for village effects	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001
p-value for year effects		0.001		0.002		0.752		0.947
Adjusted R^2	0.803	0.811	0.563	0.576	0.843	0.842	0.702	0.699

Figures in parentheses are standard errors; the symbols * and ** indicate statistical significance at the 10% and 5% levels, respectively.

1988. Ganyu was one of the least developed counties while Zhangjiagang represented one of the most developed regions. It seems that, at least in our sample, the systematic selection bias in the initial pilot experiment stage was small. Most villages in other four counties did not start elections until the late 1980s and early 1990s. As found out in our interviews with the civil affair bureaus, the county government played a larger role in determining the timing of elections than villages did. Our survey results validate this view: the between-county variation in the timing of elections accounts for 53% of total variation. Therefore, we include county dummies in the first step of predicting the timing and occurrence of elections. Considering the systematic shift in policy over time, we also include year dummies in the first stage.

Apart from the fixed effects and a set of exogenous variables used in the second step, we also add the proportion of the most frequent occurring surname in a village and years in office of village heads in the first step. These two variables have little to do with fiscal outcomes but they do have predictive power on the mode of governance. Our field interview revealed that civil conflict was one of the major concerns in screening pilot villages. In rural China, most conflict is related to clashes between family clans. Therefore, population heterogeneity may have certain predictive power on the occurrence of elections. As shown in the literature (World Bank, 2003), the relationship between civil conflict and population heterogeneity may not be linear. Thus, we include both the fraction of households with the most frequent surname and its squared term. The years in office are a good indicator for predicting when to change management teams as the length of terms often ranges from 3 to 5 years. When one reaches its term, the likelihood of being replaced reaches the highest unless he is reappointed or reelected to a second term. To capture the curvature, we include both years in office and its squared term. The correlation coefficient between the predicted governance mode and actual one is 0.71.[8]

The second step regresses the fiscal outcomes on the predicted election variable and a set of exogenous variables. In addition, it adjusts the covariance matrix between the error terms in the first step and second step.[9] The reason to include county dummies is that the county government is the major decision-maker of local fiscal policy. The exogenous variables in the second step include: average per capita income, village size, presence of village enterprise, county dummies and year dummies.[10]

As income increases, demand for the provision of public goods is likely to increase (North, 1990). Considering the relationship between income and fiscal outcome may not be linear, in the analysis, we include both levels and the squared terms of income to capture the possible curvature. Rural enterprises have been widely used as a major instrument of public financing in rural China because the collectives usually hold the property rights of village enterprises. Taxing enterprises, in particular those collective-owned, affords lower transaction costs than taxing individuals, which often creates tensions between villagers and cadres. This is especially true in Jiangsu Province where

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[8] The *p*-value of the *F*-test for the effects of these instruments in the probit regression forecasting whether elections are held is 0.054, suggesting that they have additional explanatory power.

[9] We use "treatreg" procedure in STATA to estimate the two-step model.

[10] Revenue and income per capita have been transformed to 1999 yuan using provincial consumer price indexes.

Table 5
The effect of election on total revenue and direct taxation

Variables	Per capita total revenue		Per capita direct taxation	
	OLS	Two-step IV	OLS	Two-step IV
Per capita income	− 1.502 (2.039)	− 1.724 (2.189)	0.378 (2.808)	0.508 (2.839)
The square of per capita income	0.167 (0.162)	0.183 (0.163)	− 0.002 (0.210)	− 0.011 (0.212)
Village size	− 0.512** (0.128)	− 0.518** (0.126)	− 0.419** (0.166)	− 0.416** (0.163)
Dummy variable for having enterprises at village	− 0.181 (0.130)	− 0.172 (0.129)	− 0.672** (0.169)	− 0.677** (0.167)
Election	− 0.099 (0.128)	0.034 (0.359)	− 0.390** (0.166)	− 0.469 (0.466)

The sample covers 1985, 1990 and 1995 – 1999. Income and village size are in logarithmic forms. The regime dummy is set to one for observations with electoral cadres and to zero for those without electoral leaders. Figures in parentheses are standard errors; the symbols * and ** indicate statistical significance at the 10% and 5% levels, respectively. County dummies and year are included but not reported.

collective enterprises used to be a dominant form. Therefore, the development of enterprises in a village may affect the sources of revenues and the composition of public expenditures. From this concern, we add a dummy variable to control for the presence of enterprises in analyzing the role of elections.

As economies of scale are commonly inherent in the provision of many public goods, it is highly possible that the unit cost of public goods provision might decrease as the village size increases. However, on the other hand, as the village size increases, the administrative cost and inefficiency may also go up. Whether the coefficient for this variable is positive or not remains an empirical question. For this reason, village size is also included in the analysis.

In Table 5, for each of the two fiscal choice variables, per capita total revenue and per capita direct taxation, we present two sets of estimations: one ordinary linear square (OLS) and one two-step instrument variable (IV) estimation. Except for the dummy variables, all the dependent and independent variables are in logarithmic form. With respect to per capita total revenue, the coefficients for the election variable are insignificant in both OLS and IV specifications. The impact of elections on per capita direct taxation is negative and significant in the OLS specification, but insignificant in the two-step IV estimation, as shown in the last two columns. Per capita tax revenue and direct taxation are lower in larger villages than in smaller villages, indicating a possible scale effect. When a village has enterprises, direct taxation on individuals is lower probably because of more diverse source of revenues and lower transaction cost of taxation. The coefficient for the presence of enterprises is not significant in regressions on total revenues.

To further investigate the differential taxation impact of election on individuals and enterprises, Table 6 presents estimations on the shares of direct individual taxation.[11] The sample covers the years of 1985, 1990 and 1995–1999 when all the variables have non-missing values. In the first specification, we use an enterprise dummy to capture the effect of industrial development. The introduction of elections relates to lower share of revenues

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[11] In the analyses presented in Tables 6 and 7, we use the same two-step treatment model as in Table 5.

Table 6
Estimation on the share of direct taxation

	Whole sample	Sample with presence of enterprises
Per capita income	1.371** (0.562)	1.136 (1.025)
The square of per capita income	−0.109** (0.042)	−0.090 (0.074)
Village size	−0.085** (0.032)	−0.085* (0.045)
Dummy variable for having enterprises at village	−0.165** (0.033)	
Privatization		0.152** (0.049)
Election	−0.216** (0.092)	−0.373** (0.106)
No. of observations	380	241

Income, village size and privatization are in logarithmic forms. Figures in parentheses are standard errors; the symbols * and ** indicate statistical significance at the 10% and 5% levels, respectively. County and year dummies are included but not reported.

from households after controlling for the industrial development in the village. Similar to the findings in Table 5, villages with more than one enterprise tax less on households than do those without any enterprises. It seems that elected leaders are more responsive to the constituents' concerns over heavy direct tax burdens by shifting more taxation to rural enterprises where the transaction cost of collecting taxes and fees is lower and the pain of taxation is less felt by households.

The second regression is on villages with more than one enterprise. In this specification, we also include a privatization variable to examine the impact of privatization on the fiscal outcomes. The privatization variable is defined as the share of private output values in total enterprise output values. The election variable is still significant and negative in the estimation on the share of taxes on individuals. The more is privatization, the higher is share of direct taxation. There are two possible explanations for this finding. First, privatization provides more secure property protection to enterprise owners, largely preventing village leaders from arbitrary taxation and levies. Second, the private owners, as a powerful interest group of local elite, often has more influence over local officials than the poor, thereby privatization may grant the newly rich owners more lobby power to lower their share of taxation. In sum, when enterprises are available in a village, elected officials respond to the concerns of constituencies on the heavy direct tax burdens and low level of public goods provision by expanding tax bases from enterprises, but the privatization process has made it more difficult.

Having examined the impact of election on the revenue side, we turn to investigate its effect on the allocation of public expenditures. We classify total expenditures into two categories: public investment and other expenses including the reported administration expenses. Table 7 reports the shares of expenditure on public investment in two specifications. The difference between the two specifications lies in whether the mode of decision-making is included or not. We classify villages into two categories: sharing power and without sharing power. If the party secretary or the village head alone make decisions, obviously the administrative power is not shared. The mode of sharing power means that either the party secretary and village head make decisions jointly, or village committees have the final say on village affairs. Setting the governance mode of sharing power as one and zero otherwise, we are able to investigate the effects of power sharing.

Table 7
The share of public investment in total expenditures under current administration

Variables	Without sharing power	Sharing power
Per capita income	− 4.021** (1.683)	− 4.244* (1.663)
The square of per capita income	0.309** (0.125)	0.323* (0.124)
Village size	− 0.030 (0.043)	0.002 (0.044)
Dummy for having enterprises at village	− 0.010 (0.050)	− 0.040 (0.051)
Election	0.234** (0.094)	0.280** (0.089)
Dummy for sharing power		0.097** (0.037)
No. of observations	214	214

The sample size includes only the current administrations as we only asked the decision mode question for the current term.

In the first specification without including the mode of sharing power, the coefficient for election dummy is statistically significant. In the second specification, we add the dummy of sharing power. Both variables are statistically significant. The coefficient for the election variable is not only significantly positive, but also it is larger than that in the first specification. Power sharing provides a mechanism of checks and balances, which helps slash profligate spending by village leaders. It enlarges the impact of elections on the efficiency of public investment.

6. Conclusions

Grassroots village elections have been reshaping both political and economic landscapes in rural China. This article examines the effect of village self-governance on the structure of revenues and allocation of public expenditures using a recent village survey in two different methods. The two approaches come to similar findings. Elections do affect the ways of financing and spending. Elected local leaders tend to shift direct tax burdens from households to enterprises when they are available. However, privatization has made it more difficult to tax enterprises. On the expenditure side, elections and power sharing improve transparency, therefore reducing the opportunities of profligate spending. Participations should go in tandem with checks and balances to ensure the efficiency of public goods provisions. When broadening the current election process to a higher level, the challenge is not only democratic participation but also power sharing between the appointed party secretary and elected executive officials.

In view of the current reform of fee collection to unified tax, one should be aware of possible adverse effects if villages lose control of fiscal revenues. Currently, village revenues are collected under various categories of fees. With the new standard taxation system, a fiscal arrangement between villages and the higher levels of government must be designed to ensure that village communities continue to play a major role in providing public services.

Given the short history of village elections in China, we are unable to evaluate their long-term effects on social and economic welfare. Follow-up studies will be necessary to develop an in-depth understanding. The interactions between village committees and

other governing organizations at the community level will also be an emerging area for further study.

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