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GRASSROOTS DEMOCRACY AND LOCAL GOVERNANCE:

EVIDENCE FROM RURAL CHINA[*]

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Abstract. This paper studies the impacts of village election on the accountability of the elected village committee, local fiscal sharing, and state taxation in rural China using panel data of 48 villages during the period of 1986-2002. Election is found to substantially increase the share of public expenditures in the village budget and reduce the shares of administrative costs and income handed to the township government. This shows that election enhances the accountability of the village committee, but weakens local fiscal sharing, and thus, may hurt public goods provision beyond the village boundary. In addition, election also reduces the amount of tax paid by each person in the village, which means that election does lessen the state's grip on the grassroots society. Finally, no significant evidence is found to support the claim that the role of a more competitive election is different from that of a closed election.

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Does grassroots democracy enhance local governance?   In theory, there is no definitive answer to this question. While democracy tends to empower local people and thus, increases the accountability of the local government, the decentralized nature of grassroots democracy may make it easier for local elites to capture the local politics. Democracy does not necessarily lead to a fairer provision of public goods (Bardhan and Mookherjee, 2005). On the other hand, the literature of fiscal decentralization has shown that decentralization may hinder the provision of public goods beyond a jurisdiction (e.g., Besley and Coate, 2000).

China began to experiment with village election in the mid-1980s and formally introduced it in 1998 through the *Organic Law for the Village Committees* (OLVC). The initial purpose of the election, as conceived by Mr. Wan Li, the then chairman of China's legislative body, the National People's Congress (NPC), was to immediately fill the political vacuum left after the fall of the commune system in order to empower villagers and prevent infringement on their rights by local cadres. However, since the inception of village election, controversy has never stopped. The institutional environment of the election is by no means friendly. Within the village, the authority of the elected village committee is seriously constrained, if not superseded, by the communist party committee; outside the village, the township and county governments still maintain a heavy hand in village affairs. As a result, even if

the elected village committee is willing to advance the interests of the villagers, it may not be able to do so. On the other hand, there are concerns by the state that village election may give the village too much autonomy, thus loosing its control of the grassroots society. For a government that puts paramount priority on social stability, it is frustrating to imagine the village slipping from its grasp. Placing the political consideration aside, one still needs to worry about election's consequence on public goods provision beyond the village boundary, because election may enhance the decentralized nature of local public finance.

Based on survey data collected from 48 villages in eight provinces for the period of 1986-2002, this paper studies the role of village election in local governance in rural China. Specifically, we study three topics. The first is election's effect on the accountability of village government. For this purpose, we study the variations in the shares of public expenditures and administrative costs in the village budget. If election strengthens village government's accountability, the former should increase and the latter should decrease. The second topic is local public finance. For this, we study the share of the village revenue handed to the township government, the government unit immediately above the village. The third topic is the impact of village election on the authority of the state. We use the amount of taxes paid by the village as the proxy for the level of control that the state exerts on the village. If election weakens the state's control of the village, the amount of taxes paid by the village is likely to fall. In addition to the effects of the first election, we also study the impacts of the competitiveness of the subsequent elections.

In the literature, evidence suggests that local election does generally increase the responsiveness of local government to its constituency. Foster and Rosenzweg (2001) found that village election in India had led to more investment in road building instead of irrigation facilities. They interpreted this finding as evidence for a pro-poor policy because road building provides jobs to the landless whereas investment in irrigation facilities augments the capacity of the landlords. Using data from a quasi-experiment in India in which a group of randomly selected villages were required to elect a woman village head, Chattopadhyay and Duflo (2004) found that the villages with a women village head tended to provide more women-friendly public services. Zhang, Fan, Zhang, and Huang (2004) found in a sample of China's Jiangsu province that village election had increased the share of public investment and has no effect on the amount of taxes handed over to the township. Kennedy, Rozelle, and Shi (2004) found in a sample from Shaanxi province that compared with elections with government-appointed candidates, more competitive elections, in which candidates were nominated by villagers, produced village leaders that were more accountable to villagers in decisions regarding land reallocations.

Our study is more comprehensive than the above studies. We find that village election increases the share of public expenditures by 4.21 percentage points, or 22.4% of the sample average, and reduces the share of administrative costs by 3.96 percentage points, which is 17.9% of the sample average. We also find that election reduces the share of income handed to the township by 4.44 percentage points, or 19.0% of the sample average. Consistent with this finding, election also reduces the

amount of tax paid by each villager by 57 yuan (2002 yuan). These results show that village election has significantly strengthened the accountability of the village government within the village, but has weakened local fiscal sharing and the state's authority in the grassroots society. Finally, we find no significant evidence to differentiate more competitive elections from less competitive ones.

The paper is organized as the follows. Section 1 provides a brief introduction to village election in China. Section 2 describes the data and provides descriptive results regarding the election and the key dependent variables that will be studied in the next section. Section 3 presents the econometric results for the study of the three topics. The baseline model is the standard static panel model with village and year fixed effects. A dynamic panel model is also estimated for the key regressions. Section 4 then concludes the paper.

1. A brief introduction to village elections in China

The Chinese commune system was dissolved in the early 1980s. The commune as an administrative unit was replaced by the township, and the production brigade under the commune was replaced by the village committee (VC). The 1982 Constitution defines the village committee as a self-governing body of the villagers (Clause 111). However, committee members had been appointed rather than elected except in a few localities. In 1987, under the leadership of chairman Wan Li, the NPC passed a tentative version of the OLVC that required the village committee be elected. This law triggered elections in Chinese villages. By 1994, half of the Chinese villages

had begun elections. By 1997, 25 of the 31 mainland provinces had adopted a local version of the law, and 80% of the villages had begun elections (Ministry of Civil Affairs, 1998). In 1998, the formal version of the OLVC was passed by the NPC and election has since spread quickly to all the villages.

The VC is comprised of three to seven members depending on the size of the village. The core members are the chairman, vice chairman, and accountant. Before 1998, candidates for the chairman were usually appointed by the township government although popular nomination, a mixture of government appointment and popular nomination, and nomination by villager representatives also existed. The formal version of the OLVC requires that candidates be nominated by villagers, and the minimum number of villagers to propose a candidate is ten. A primer, then, is held to reduce the number of candidates to two, and the formal contest is run between these two frontrunners. This version of election is popularly called *hai-xuan*. Since 1998 *hai-xuan* has become more popular. The term of the committee is three years and the tenure of a committee member is limited to two terms.

In a typical village, the elected VC faces two major challenges arising from the current Chinese institutional environment. The first is its relationship with the party committee in the village. Despite the fact that the party committee is not popularly elected, the OLVC stipulates that the VC work under the leadership of the party committee, reflecting China's one-party system. Since he/she is appointed by the higher authority, the party secretary often pursues a different agenda than the VC's. Backed by the popular votes, however, the chairman of the VC often defies the

direction of the party secretary, but the result of the contest is not always in his favor (Oi and Rozelle, 2000; Guo and Bernstein, 2004). To reconcile the conflicts between the VC and the party secretary, the central government has begun to encourage the latter to run for the position of the VC chairman. While this will ease the tension inside the village (Guo and Bernstein, 2004), the VC still needs to face a second challenge that comes from above. Since village election operates in an authoritarian institutional environment, where the upper-level governments, the township and county governments in particular, are not elected and often intrude in village election and other village affairs, its effectiveness to serve the wills of the villagers has been called in doubt. Evidence does show that informed local people tend not to trust election. For example, in a survey conducted in Fujian province, Zhong and Chen (2002) found that it was these villagers who had low levels of internal efficacy and democratic values that were more likely to participate in an election, and those with higher levels of internal efficacy and democratic orientation staid away from election due to the institutional constraints placed on it.

The above two challenges raise the question as to whether election would enhance the village government's accountability to the local population. This question is compounded by the possibility of elite capture inside the village. Bardhan and Mookherjee (2005) find in India that decentralization can lead to elite capture at the local level if the financing of public goods provision is not properly designed. In the context of a Chinese village, rising business elites have been frequently found to dominate the village election (Liu, Wang, and Yao, 2001). Although there are not *a*

priori reasons to believe that business elites would necessarily steer the VC to adopt pro-rich policies, this belief lingers within the Chinese academic and policy communities. It is thus up to empirical research to find out whether election enhances or damages the village government's accountability to the whole constituency.

Related to the second challenge, i.e., the constraints imposed by China's institutional settings, but from a quite different political stance, is the opinion articulated by the conservatives that the government is losing control of the Chinese grassroots society because of village self-governance. Central and local governments rely on the village to implement governmental tasks, among which family planning, taxation, and land acquisition are the three most important. The VC is then caught in the dilemma between fulfilling its obligations to the higher-level governments and its loyalty to the villagers who have elected it. There is widespread suspicion that the VC would defy the higher authorities, resulting in the government losing control of the grassroots society (He and Tong, 2002). In the Chinese one-party system, this argument appeals to the current ruling elites and, thus, poses the biggest threat to the continuity of village election. Leaving political considerations aside, however, election may impede the provision of public goods beyond the village boundary as well as the implementation of the central government's policies. There are anecdotal stories that village election has led to villages' refusal to hand over taxes to the township government (He and Tong, 2002; Pan, 2003). However, statistical studies are needed to provide concrete answers.

2. Data and descriptive analysis

The survey

The survey that our data draw from was implemented in the spring of 2003 on 48 villages in eight Chinese provinces. From south to north, these provinces are Guangdong (seven villages), Hunan (seven villages), Zhejiang (nine villages), Henan (three villages), Sichuan (seven villages), Gansu (five villages), Shanxi (seven villages), and Jilin (three villages). This survey was part of a larger survey that aimed at studying village governance and its role in helping farmers deal with risks. The sample was drawn from the sample frame of the National Fixed-point Survey (NFS) maintained by the Research Center of Rural Economy, Ministry of Agriculture. The NFS started in the early 1980s and covers more than 300 villages and about 24,000 households in all the Chinese mainland provinces. There is a panel structure in the survey, but it is not explicitly recorded.[1] As a result, the larger survey used household characteristics to match households in order to build an explicit panel. Villages with a small number of matched households were then dropped in the survey. As attritions were likely to be random, we treat the remaining 48 villages as a random sample.

The NFS provides aggregate and household data for the sample villages, and the 2003 survey extracted information about village election for the period 1986-2002. Questions were asked regarding the starting year and frequency of election, the method used in each election, as well as the composition of the VC in each election.

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[1] NFS aims at surveying the same households over time. However, there have been attritions over the years, and new households have entered the sample. The numbering of households has not been well maintained, so an explicit panel does not exist in the data.

In this paper, we will study the effects of the adoption of the first election and the role of the competitiveness of each subsequent election.

Elections in the sample villages

Some of our sample villages are among the first in the nation to introduce election. Twelve of them began election in 1987. As Figure 1 shows, election spread to the other villages quickly. By 1990, more than 50% of the villages had at least one election; and by 2002, only one village had not begun election (it is a remote village in Gansu province).

[Figure 1 and Table 1 about here]

The introduction of election had a clear regional pattern; villages in the same province tended to introduce election around the same year when the province adopted the OLVC.[2] Table 1 shows the year for each sample province to adopt the OLVC, as well as the median and standard deviation of the year of the introduction of election in its villages. Except Guangdong, all other provinces adopted the OLVC in the period 1988-1992.[3] The median year of election was close to the year when the province adopted the OLVC, and the standard deviation was small in all provinces

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[2] When the NPC passes a law that involves government actions, each province enacts a local law that specifies the details of the implementation of the central law. It is noteworthy that most provinces adopted the OLVC even when it was in the experimental stage.

[3] Guangdong adopted the OLVC in 1999. Before that year, Guangdong did not treat the village as a self-governing administrative unit, but rather a delegated branch of the township government. That is why it had not adopted the law.

except three: Henan, Gansu, and Shanxi, which had large standard deviations.[4] The

median year and the adoption year were actually quite close in Henan and Shanxi, but

far apart from each other in Gansu (election was much behind the adoption of OLVC).

[Figure 2 about here]

Most of the sample villages had an election every three years after the election

was first introduced. In some periods, though, some villages had an elapse of up to

five years between two consecutive elections and some held another election before

the elected VC fulfilled its term.[5] In the literature, the procedure to nominate the

candidates for the VC chairman is emphasized, and a more open procedure is believed

to enhance the accountability of the elected VC (Kennedy et al., 2004). Our survey

recorded four types of procedures: government appointment, nomination by villager

representatives, popular nomination (*haixuan*), and government appointment plus

popular nomination ("mixed nomination" in subsequent text). In the survey period,

48 villages had 197 elections. Figure 2 shows the distribution of the four nomination

procedures by year. Although there were very large variations, some patterns were

still evident. Before 1998, when the OLVC was formally introduced, the use of the

four procedures was mixed although the mixed nomination had a more prominent

presence. Since 1998, pure government nomination disappeared (although there was

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[4] Notice that in Hunan, Henan, Sichuan, and Jilin, the median year of election was earlier than the year of

adopting the OLVC. It seems that these provinces waited after some experiments to provide the implementation

details of the law.

[5] Presumably the former group of cases happened because villagers did not have enough incentives to elect a new

leadership, and the latter group of cases happened because the elected leadership did not live up to the expectations

of the villagers (see Liu et al., 2001 for a case study).

one case in 2002), and the percentage of the mixed nomination decreased. In contrast, the incidence of popular nomination increased. The incidence of nomination by villager representatives remained about the same in the whole sample period.

Village spending and taxation

Public goods provision in rural China is based on a joint effort between various levels of government and the villages. For major projects that involve several villages (such as road building), it is usually the case that one or several levels of government provide part of the fund and the targeted villages provide the rest. For smaller projects within a village, the village budget is usually fully responsible to pay, although governments also provide some funds (Song, 2004). Villages obtain their revenue from fees, profits of collective firms, and rents of village properties. Fees are surcharges (the so-called *san-ti-wu-tong* in Chinese documents) designated specifically for local public goods provision and should be shared with the township government to provide public goods within the township territory. Seven types of village spending are recorded in the NFS: investment in village businesses, public expenditures, office maintenance, salaries of the VC members, revenue handed to the township government, other spending, and surplus/deficit. We are concerned with public expenditures, office maintenance and VC salaries, and revenue shared with the township government.[6] Public expenditures include transfers to households and

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[6] The implication of investment in village businesses to accountability is unclear. In many cases, village businesses are either pet projects or pork barrels for village leaders. However, they can also benefit the villagers if the VC is relatively clean.

spending on public projects such as local roads, schools, irrigation systems, and healthcare facilities, so they are likely to ubiquitously benefit the majority of the villagers. In contrast, office maintenance costs are spent on the village government's daily operation and can easily become the prey of the VC members. Together with VC salaries, maintenance costs have exactly the opposite implication of public expenditures for the VC's accountability. Consequently, we will add them together and call them "administrative costs". We will study public expenditures and administrative costs for election's impacts on the VC's accountability. We will also study the income handed to the township government to discover election's impacts on public goods provision beyond the village.

In addition to village spending, we will also study the amount of taxes paid by the village to the government. Taxes are different from fees in terms of both sources and usages. They include agriculture tax, slaughter tax, cash crop tax, and the regular business taxes (value-added tax and corporate income tax in particular) levied on any business operating in the village. They are collected by the county branch of the provincial or national tax bureau and belong to the budgets of governments at various levels.[7] If the amount of taxes paid by a village decreases due to the introduction of election, we then find evidence to support the claim that election hinders the state's power of grassroots governance.

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[7] Taxes are divided into three groups: central taxes (mainly special consumption tax), central-provincial shared taxes (value-added tax and personal and corporate income taxes), and local taxes (all the other taxes). For governments below the province, the division is not made based on the type of taxes, but on a sharing rule that differs from province to province.

[Figures 3 and 4 about here]

To summarize, we will study four indicators in our econometric analysis: the shares of public expenditures, administrative costs, and income handed to the township in total village spending, and per-capita tax (converted into 2002 yuan using the rural consumer price index). The first two are for the study of the VC's accountability, the third for local fiscal sharing, and the last for the state's control of the grassroots society. Figure 3 presents the time trends of the first three indicators, and Figure 4 presents the trend of the last. As Figure 3 shows, the share of public expenditures in village spending was remarkably stable over the sample period. Just below 20%, it was also the lowest among the three shares in most of the years. In contrast, the share of administrative costs increased dramatically since 1993. By 2002, 43% of total village spending was used to operate the village government, whereas the share was less than 20% before 1993. These two time trends have an important implication for our tests of the role of election. If we find that election increases the share of public expenditures but reduces the shares of administrative costs, then we will obtain strong evidence to support the proposition that election enhances the VC's accountability because the effects of election are against the time trends. Figure 3 also shows that the share of income handed to the township increased before 1996 but has declined since then. Since most villages had introduced election in the early 1990s, this suggests that election might not have reduced cross-village fiscal sharing in public goods provision. In the case that we do find that election reduces income sharing, then the finding is a strong one because it is against the time trend. Finally,

we find no clear trend for per-capita tax in Figure 4. In most years, it fluctuated between 150 yuan and 250 yuan.

3. Econometric results

This section presents the econometric results for the study of the three key issues, i.e., the accountability of the VC, fiscal sharing with the township, and taxation. The baseline model that we will estimate is the standard panel model with village and year fixed effects. Village effects serve to control unobserved village characteristics that may simultaneously determine the dependent variables and the explanatory variables. This is particularly important for obtaining unbiased estimates for the effects of election. As our descriptive analysis showed in the previous section, there were some significant variations in the year that election was introduced in some provinces. As village specific effects are controlled, we hope that most of the variations are properly handled. The year fixed effects are introduced to control unobserved time trends that are common to all the sample villages. In the rest of this section, we will first describe the variables and then present the empirical results.

Variables

The main explanatory variable is a dummy variable indicating the introduction of election into a village; that is, it takes the value one if a village has held at least one election, and takes the value zero if a village has not held any. In addition to this dummy variable, we also create four dummy variables for the four procedures to

nominate candidates in elections after the first election was introduced in a village. They take the value one for years of the term of a VC elected by the respective procedure, and take the value zero otherwise. They are meant to capture the degree of competitiveness of each election. Naturally, government appointment is the most closed form of nomination, mixed nomination follows, nomination by villager representatives the third, and popular nomination the most open.

The control variables include village population, per-capita net income, share of collective income in total village income, per-capita land territory, Gini coefficient of per-capita income, unemployment rate, and share of migrant workers who work outside the county. Village population (entering the regressions in logarithm term) controls the village size. A larger population may make public decisions more difficult so it would tend to have a negative effect on village governance. Per-capita net income (converted into 2002 yuan and entering the regressions in logarithm term) controls the level of economic development of a village, and share of collective income in total village income controls the relative size of the collective economy. Studies frequently find that people in villages with higher income or a larger collective economy are more likely to participate in village elections, presumably because stakes are high in these villages (Hu, 2005).

Per-capita land territory is introduced to represent the amount of resources that a village possesses. Land resource is particularly important in the coastal provinces, as fast growth of the local industry has significantly raised the demand for land. Recently literature suggests that natural resources can be a curse for a country, as they tend to

lead to easier elite capture (Hoff and Stiglitz, 2004). It is thus interesting to see whether a larger territory reduces village government's accountability in our case.

Finally, the Gini coefficient, unemployment rate, and share of migrant workers are introduced to control for population fragmentation and configuration of interest groups within the village. The Gini coefficient is calculated based on per-capita household net income and has been adjusted with household size (i.e., each member of a household enters the calculation separately, but with identical income). Unemployment is defined as without working for six months in a year and unemployment rate is defined as the share of unemployed laborers in the total number of laborers in a village. A migrant worker is one who works more than six months outside his own county. A larger Gini coefficient implies that the village is more divided in economic terms, so election should be more competitive, and the share of public expenditures should be higher.[8] A higher unemployment rate may play a similar role. Finally, when a village has more migrant workers, the political will to monitor the village leaders is weakened as people are more dependent on income outside the village.

Table 2 presents the descriptive statistics of the above variables, as well as the four dependent variables.

[Table 2 about here]

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[8] The literature observes that inequality leads to more distributive public policies. See, for example, Alesina and Rodrick (1994) and Benabou (1996).

Election and VC's accountability

As we indicated before, the two indicators that we study for VC's accountability are the share of public expenditures and the share of administrative costs in total village spending. We conduct two regressions for each indicator, one with and one without the control variables. Election may change village characteristics, including those represented by the control variables which, in turn, could push the elected VC to act in certain ways; part of election's effect on the dependent variables is thus channeled through the control variables. By excluding the control variables, the first regression then estimates the total effect of election. In contrast, by including the control variables, the second regression estimates the direct effect of election, that is, its effect that comes from the elected VC's own desire to change the village spending structure.

[Table 3 about here]

The results of the four regressions are presented in the first four columns (R1-R4) of Table 3. R1 and R2 are the share of public expenditures, and R3 and R4 are the share of administrative costs. In R1, where no control variable is included, election is shown to increase the share of public expenditures by 4.21 percentage points, and this effect is significant at the 5% significance level. R2 adds all control variables and shows that the effect of election increases to 4.87 percentage points. The reason that the total effect is smaller than the direct effect is that the effects of some of the control variables may cancel out each other. At any rate, both effects are economically significant as they are 22.4% and 26.4% of the average share of public

expenditures in the sample, respectively. The results for the share of administrative costs seem to be weaker. While R3 shows that the total effect of election is to significantly reduce the share by 3.96 percentage points, R4 shows that the direct effect of election is only marginally significant (the t-statistic is 1.58). This means that election reduces the share of administrative costs primarily by changing the configuration of interests as represented by the control variables. This actually makes sense because reducing administrative costs cuts the VC's own benefits and thus requires the pressures from the villagers. The resulting total effect is substantial, as it is 17.9% of the sample mean of the share of administrative costs.

Among the control variables, the share of collective income in total income and per-capita land territory are significant. More collective income reduces both the share of public expenditures and the share of administrative costs, and more land territory increase public expenditures and reduces administrative costs. The result that more collective income reduces the share of administrative costs is consistent with the earlier finding that more collective income increases villagers' willingness to participate in election and monitor village public affairs. However, it is puzzling that more collective income also reduces the share of public expenditures. It might be because villages with a larger collective economy tend to invest more money back into the collective businesses so public expenditures are crowded out. The results for land territory are opposite to the proposition proposed by Hoff and Stiglitz (2004). Perhaps land resource plays the same role as that of the collective economy, which is to intensify the competitiveness of the election. This is possible because land value

only increases drastically after land is converted into industrial uses, but the conversion can only be carried out by the village.[9]

Election and local fiscal sharing

The results for the share of income handed to the township are presented in the fifth and sixth columns (R5 and R6) of Table 3. Both the total and direct effects are significant at the 5% significance level and economically substantial. The total effect of election is to reduce the share of income handed to the township by 4.44 percentage points, and the direct effect is to reduce it by 4.31 percentage points. These two effects are 19.0% and 18.4% of the sample average of the share, respectively. These two results confirm the worry that election reduces local fiscal sharing, and consequently, the public goods provision beyond the village boundary would be undermined.

There is a possibility that the total amount of village spending increases as a result of election, and the absolute levels of administrative costs and income handed to the township has not been changed. To study this possibility, we run two more regressions, one for the total effect of election and one for the direct effect of election, for per-capita village spending (100 yuan, measured in 2002 yuan) and the ratio of village spending over the total income of the whole village, respectively. We do not present the regression results in tables to save space. The key message delivered from the four regressions is that neither the total effect nor the direct effect of election is

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[9] *The Land Law* places severe restrictions on land conversion and requires any conversion be approved at least by the provincial government. However, villages in the coastal region frequently set up their own industrial parks without going through the approval procedure.

significant for either dependent variable.[10] We conclude that election increases the level of public expenditures and reduces the levels of administrative costs and income shared within the township.

Election and taxation

The last two columns (R7 and R8) of Table 3 present the regression results for per-capita tax. R7 shows that the total effect of election is to reduce per-capita tax by 57 yuan, and the effect is significant at the 10% significance level. The direct effect of election is smaller and barely significant at the 10% significance level (the t-statistic is 1.60). These two results confirm the worry that election would lead to the weakening of the state's grip on the grassroots society. However, it is possible that the amount of tax has decreased as a result of reduced village income. To study this possibility, we regress the logarithm of per-capita income on the election dummy using the two-way fixed effect model and find that the coefficient of the election dummy is -0.01 and highly insignificant (the t-value is only 0.28). The reduction of tax is not a result of reduced income.

To summarize the above findings, we find that election strengthens the accountability of the VC within the village, but weakens fiscal sharing within the township government, and reduces the amount of taxes paid to the state. These results

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[10] The total and direct effects of election for per-capita village spending are estimated at 3.20 and 3.59, respectively, but their standard errors are 2.93 and 2.59, respectively. The total and direct effects are both 0.02 for the ratio of spending over village total income, and the standard errors are both 0.03.

provide a mixed picture of village election in China. In the nex[11]t sub-section, we will

explore the role of competitiveness in the election process.

The competitiveness of election

To study how the competitiveness of election affects election outcomes, we

repeat the regressions presented in Table 3 by taking into account the methods used to

nominate the candidates for VC chairman. We take government appointment as the

reference method and add to the regressions the three dummy variables that represent,

respectively, mixed nomination, nomination by villager representatives, and popular

nomination. Since the election dummy stays in the regression, its coefficient is now

interpreted as the effect of government appointment, and the coefficients of the other

three dummy variables are interpreted as the differences between the respective

methods and the method of government appointment. As before, we study both the

total and direct effect of election. The results of the eight regressions are presented in

Table 4. The results of the control variables are not shown in order to save space.

[Table 4 about here]

There are not many significant results. The election dummy is only significant

in R2, popular nomination is only significant in R2, nomination by villager

representatives is significant in R4, R5, and R6, and mixed nomination is never

significant. The general conclusion drawn from these results is that the

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[11] Zhang et al. (2004) found that election did not reduce tax payment to the state. One possible explanation is the

coverage of the sample. While Zhang et al. (2004) is based on a sample in one advanced province (Jiangsu), our

sample covers a much wider range of geographic, economic, and social variations.

competitiveness of election does not improve the performance of election. In contrast, more competitive elections may actually hurt the performance. One indicator is that popular nomination has a negative and significant coefficient in R1, which means that, compared with a candidate from a government controlled election, the VC elected in a popular election significantly reduces the share of public expenditures. The other indicator is that an election in which candidates are nominated by villager representatives reduces fiscal sharing with the township significantly more than a government controlled election does.

Dynamic models

One potential problem with the static model we used in the estimation is that it may exaggerate the effects of election because election may pick up the time persistence of the dependent variables. To address this problem, we check the above results by using the dynamic panel model. By adding the lagged dependent variable in the regression, this model can handle the problem. We only study the total effect of election.[12] We use the IV method to estimate the model and use the two-period lag of each dependent variable as the instrument for each lagged dependent variable. Table 5 presents the results.

[Table 5 about here]

The estimates for the total effect of election are qualitatively the same as those

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[12] The direct effect of election is also checked, and the results are not significantly different from the baseline results.

appearing in the static model, but their magnitudes increase in most cases. The lagged dependent variable is significant in all but the regression for the share of public expenditures (R1) and its coefficient is within the interval [0,1], suggesting that the long-run effects of election are larger than those shown by the point estimates. For the competitiveness of election, however, the number of significant results is reduced to just one, which is the estimate of popular nomination in R1. The baseline result -- that the competitiveness of election does not improve the VC's performance -- is further confirmed.

4. Conclusions

We have found in this paper that village election in rural China has increased the share of public expenditures and reduced the share of administrative costs in the village budget. The effects are both statistically and economically significant and were obtained when the share of administrative costs increased throughout the study period. The results can be taken as strong evidence supporting the proposition that village election enhances the village government's accountability to the villagers. As the institutional environment in China is not friendly toward democracy, this result is a strong testimony of the positive role that grassroots democracy plays in a village.

However, our findings are not all good news. We have found consistent evidence that village election has weakened fiscal sharing across villages and reduced the level of taxes paid by the village to the state. Reduced cross-village fiscal sharing may have negative implications for local public goods provision. Since many public

goods and services, such as roads, irrigation facilities, and technology extensions, either directly depend on the township budget or needs coordination of villages, reduced fiscal sharing will likely reduce the provision of those goods and services. In addition, it is likely to enlarge the inequality of public goods provision within a geographic region as small as a township. The finding that election reduces tax payment to the state confirms the conservatives' worry that election would weaken the state's grip on the grassroots society. Since the village committee, at best, can only control part of the tax payments (e.g., those levied on village businesses), it must be the case that individual villagers and private businesses have reduced their tax payments. It seems that villagers have developed a stronger sense of autonomy after a village begins election. Therefore, the government needs to find ways to strike a balance between village autonomy and proper control of the grassroots society.

Finally, our analysis does not find strong evidence that the competitiveness of elections improves either the accountability of the village committee or the village's relationships with upper-level governments, including fiscal sharing and taxation. Perhaps, even in a closed election, the township government needs to be careful when it appoints the candidates because, after all, the right to elect a candidate rests in the hands of the villagers, and the final result does not differ significantly across different methods used to produce those candidates.

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Table 1. Adoption of the OLVC in sample provinces

	Guangdong	Hunan	Zhejiang	Henan	Sichuan	Gansu	Shanxi	Jilin
Year adopting OLVC	1998	1989	1988	1992	1991	1989	1991	1991
Median year of election	1999	1988	1989	1991	1989	1995	1993	1989
St. dev. of year of election	0.5	1.7	3.9	4.6	1.7	6.8	4.6	2.7

Table 2. Descriptive statistics of the variables

Variables	Mean	St. Dev.	Min.	Max.
Dependent variables				
Share of public expenditures (%)	18.44	19.20	0.00	95.27
Share of administrative costs (%)	22.15	19.00	0.00	100.00
Share of income handed to township (%)	23.42	25.23	0.00	100.00
Per-capita tax (100 yuan)	1.65	4.42	0.00	38.27
Election variables				
Election dummy	0.66	0.47	0.00	1.00
Government appointment	0.08	0.27	0.00	1.00
Mixed nomination	0.31	0.46	0.00	1.00
Nomination by villager representatives	0.19	0.40	0.00	1.00
Popular nomination	0.10	0.30	0.00	1.00
Control variables				
Population	4.64	2.06	0.15	39.07
Per-capita income (1000 yuan)	1458	1062	235	5247
Share of collective income in total income (%)	6.80	15.38	0	100
Per-capita land area (mu)	7.55	14.76	0.37	119.78
Gini coefficient				
Unemployment rate (%)	46.18	28.58	0	99.69
Share of migrant workers (%)	14.44	13.86	0	96.41

Notes: Number of cases is 806. All financial figures have been converted into 2002 yuan using the rural consumer price index provided by *China Statistical Yearbook*. One mu is equal to one fifteenth of a hectare.

Table 3. Election's impacts on VC's accountability, local fiscal sharing, and taxation

	Share of public exp.		Share of adm. costs		Share of income handed to township		Per-capita tax	
Variables	R1	R2	R3	R4	R5	R6	R7	R8
Constant	15.67***	-11.77	24.75***	-14.71	26.34***	79.69	2.02***	-39.83***
	(1.52)	(52.76)	(1.31)	(45.49)	(1.51)	(53.25)	(0.22)	(7.35)
Election dummy	4.21**	4.87**	-3.96**	-2.79	-4.44**	-4.31**	-0.57*	-0.48
	(2.13)	(2.14)	(1.83)	(1.84)	(2.12)	(2.16)	(0.31)	(0.30)
Ln(population)		3.58		5.73		-7.88		5.46***
		(7.48)		(6.44)		(7.54)		(1.04)
Ln(per-capita income) (1000 yuan)		-1.65		2.14		-1.05		2..00***
		(1.62)		(1.40)		(1.64)		(0.23)
Share of collective income in total income (%)		-0.14***		-0.14***		0.05		-0.00
		(0.05)		(0.04)		(0.05)		(0.01)
Per-capita land territory (mu)		0.55***		-0.43***		-0.12		0.01
		(0.15)		(0.13)		(0.16)		(0.02)
Gini coefficient		0.27		0.74		11.05		3.01*
		(11.52)		(9.93)		(11.62)		(1.60)
Unemployment rate (%)		-0.46		-0.38		1.81*		-0.20
		(0.98)		(0.85)		(0.99)		(0.14)
Share of migrant workers (%)		0.03		-0.02		0.04		-0.00
		(0.05)		(0.05)		(0.05)		(0.01)
Adjusted R^2	0.26	0.28	0.44	0.45	0.58	0.58	0.70	0.74

Notes: The model for all the regressions is the standard panel model with village and year specific effects. The number of cases is 806. Per-capita tax is in 2002 yuan, and the unit is 100 yuan. Figures in the parentheses are standard errors.*, **, and *** indicate, respectively, the 10%, 5%, and 1% significance levels.

Table 4. Competitiveness of election

Variables	Share of public exp.		Share of adm. costs		Share of income handed to township		Per-capita tax	
	R1	R2	R3	R4	R5	R6	R7	R8
Constant	16.35***	-4.59	24.59***	-17.58	25.87***	77.22	2.06***	-40.46***
	(1.55)	(52.94)	(1.34)	(45.58)	(1.55)	(53.11)	(0.23)	(7.38)
Election dummy	4.14	5.22*	-2.39	0.43	-2.90	-2.47	-0.35	-0.48
	(2.98)	(3.07)	(2.58)	(2.65)	(2.96)	(3.08)	(0.44)	(0.42)
Mixed nomination	-1.67	-2.02	-1.66	-3.43	2.27	2.12	-0.39	-0.07
	(3.14)	(3.19)	(2.71)	(2.75)	(3.12)	(3.20)	(0.46)	(0.45)
Nomination by village representatives	2.13	1.05	-2.76	-5.12*	-6.72**	-6.91**	-0.18	0.08
	(3.16)	(3.24)	(2.74)	(2.79)	(3.15)	(3.25)	(0.47)	(0.45)
Popular nomination	-7.02*	-5.41	2.20	6.10	0.76	0.15	-0.27	0.50
	(4.00)	(4.10)	(3.46)	(6.45)	(3.98)	(4.12)	(0.59)	(0.57)
Adjusted R^2	0.27	0.28	0.44	0.46	0.58	0.58	0.70	0.74

Notes: The model for all the regressions is the standard panel model with village and year specific effects. The number of cases is 806. Per-capita tax is in 2002 yuan, and the unit is 100 yuan. R1, R3, R5, and R7 do not include any control variable. R2, R4, R6, and R8 include all the control variables, but the results of the control variables are not shown. Figures in the parentheses are standard errors.*, **, and *** indicate, respectively, the 10%, 5%, and 1% significance levels.

Table 5. Results of the dynamic model

Variables	Share of public exp.		Share of adm. costs		Share of income handed to township		Per-capita tax	
	R1	R2	R3	R4	R5	R6	R7	R8
Constant	14.92***	17.02***	19.25***	18.72***	20.48***	20.36***	0.94***	0.94***
	(3.25)	(3.45)	(2.40)	(2.50)	(3.25)	(3.37)	(0.31)	(0.33)
Lagged dependent variable	0.01	-0.04	0.37***	0.39***	0.33***	0.33***	0.78***	0.78***
	(0.18)	(0.19)	(0.09)	(0.10)	(0.11)	(0.12)	(0.10)	(0.10)
Election dummy	4.43*	4.15	-5.49***	-2.95	-5.45***	-2.83	-0.63*	-0.34
	(2.37)	(3.15)	(2.06)	(2.81)	(2.34)	(3.24)	(0.34)	(0.47)
Mixed nomination		-2.73		-2.14		-2.22		-0.45
		(3.26)		(2.94)		(3.59)		(0.49)
Nomination by village representatives		3.44		-3.71		-4.06		-0.19
		(3.39)		(2.95)		(3.36)		(0.49)
Popular nomination		-8.96**		-3.82		-2.91		-0.34
		(4.18)		(3.87)		(4.39)		(0.61)
Adjusted R^2	0.29	0.30	0.46	0.46	0.58	0.58	0.71	0.71

Notes: The model for all the regressions is the standard dynamic panel model with village and year specific effects. The number of cases is 710. Per-capita tax is in 2002 yuan, and the unit is 100 yuan. All the models are for the total effect so none of the control variables is included. Figures in the parentheses are standard errors.*, **, and *** indicate, respectively, the 10%, 5%, and 1% significance levels.

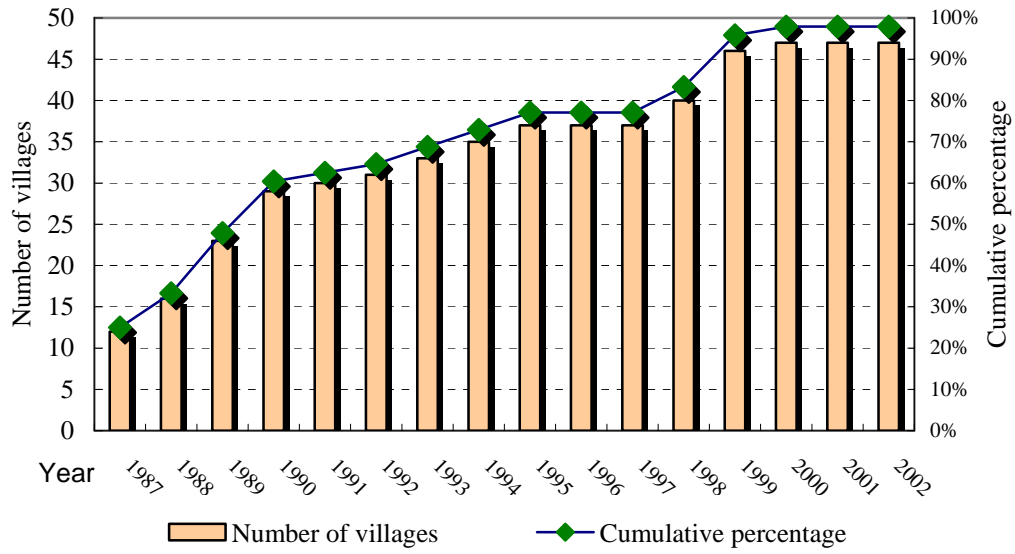Figure 1. Introduction of election in sample villages

Figure 2. Procedures to nominate candidates for the VC chairman
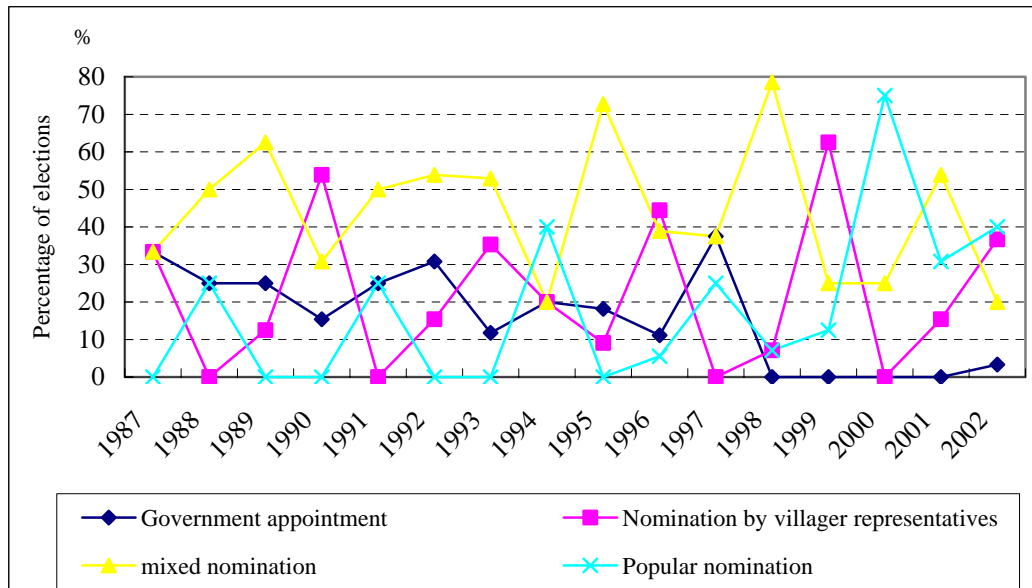
Figure 3. Shares of public expenditures, administrative costs, and income handed to township
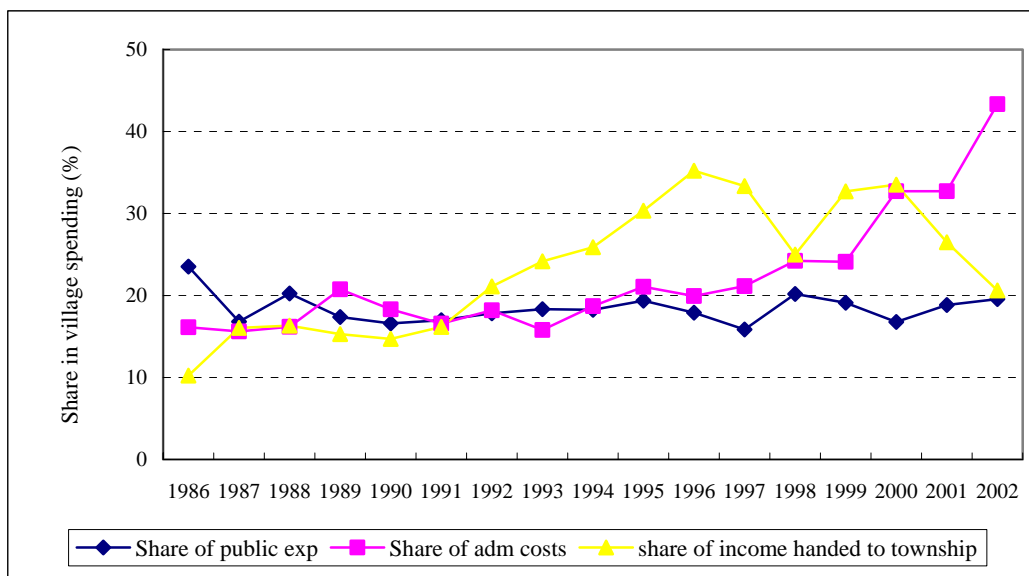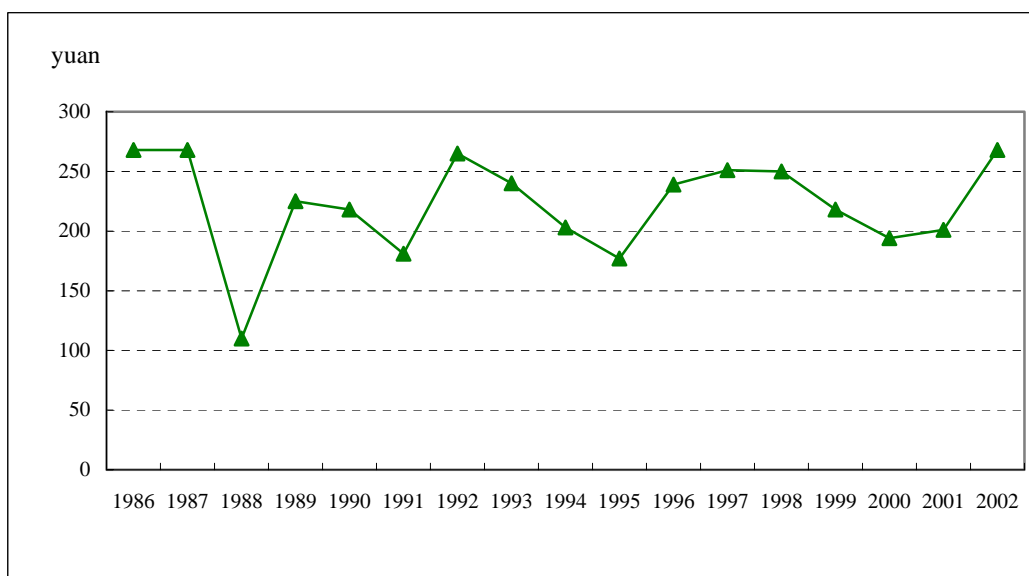

Figure 4. Per-capita tax

Note: Spending and tax are converted to 2002 yuan using the rural consumer price index published in *China Statistical Yearbook*.