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Does election lead to populism or elite capture in rural China?

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1. Introduction

The most important issue related to governance reform over last two decades in developing and transitional countries is the shift to decentralization from centralization. It gives arise to the question as to what impacts of decentralization would have on the pattern of local public spending. Theoretical literatures (Bardhan, 2002) show that the decentralization would improve local government accountability. However, the accountability is limited due to possible capture of the public resource by the local elites or interest group under decentralization. The local government officials tend to allocate disproportionate share of public goods to the elites' group at the expense of the non-elite. Under the self financed mechanism, the public goods will be over provided to the elite group while the non-elite group bear the entire financial burden. The empirical study have been somewhat mixed. Bardhan & Mookherjee (2006) find little evidence, in India, to show the targeting of private goods to the poor within the community was vulnerable to "elite capture". But disproportionate share of public funds that generated employment has been allocated to the villages when poverty, land inequality or frequency of low caste households within those villages rose. Still in India, Foster & Rosenzweig (2001) find fiscal decentralization induced the local tax authority to levy higher tax rate on the landless. But increase in the share of landless households led to overall increase in irrigation (favorable to the landed), road (favorable to the landless) and school (neutral to both classes). So the impact of fiscal decentralization on the poor (the landless) is unclear.

Now the question rises to what effect of democratization would have on the capture of pubic resources by the local elites if the local government under decentralized governance is prone to the elite capture? The median voter theory predicts, to win the votes in the election, the local government has to make the allocation of the public projects satisfy the needs of the population with larger proportion rather than the benefits of small proportion of elite group. Few studies have quantitatively examined the effects of democratization on the pattern of allocation of public resources in the eveironment of decentralization at local level in developing countries. The only exception is Foster & Rosenzweig (2001), who finds that democratization in India has made local government allocate more public goods (roads) favourable to the poor (the landless).

Due to the institutional reforms in the past twenty years, rural China provides an especially interesting case to examine if there is elite capture of public resources in the

environment of fiscal decentralization and whether the introduction of election has decreased the extent of elite capture? China has embarked on the path to fiscal decentralization at the beginning of 1980s and also initiated the experiment of election at the village level in the mid-1980s. The power base for the village head eroded since the decollectivization in 1978 deprived her right from the direct control of the income from the sale of the agricultural harvest. Neither the village received the budget allocation from the upper government. The village finance, hence, depended on the fees collected from the residents and the revenues from the village collectively operated economic activities, especially the village-owned enterprises[1]. The fiscal decentralization gave the local government strong incentives to develop local economy, of which, she preferred to allocate more public funds to favour the collectively operated economic activities. Her preference can be explained in two aspects: firstly, there are higher transaction costs for fees collection from households against the revenues from collectively operated economic activities (Zhang, et al., 2004). Further, the fees collection easily led to the deteriorated relationship between the cadres[2] and local residents, which may cause the leader to lose the support of electorates. Secondly, the local governments, on behalf of the local residents, are entitled to exercise the property rights of use of the returns from the collective operation. In comparison with the fees collected from households, it is hidden and, therefore, easier for the cadres to capture the returns from collective operations. The village-operated economic activities, including village-owned enterprises, provide village cadres a new power base in allocating public funds to the goods and job opportunities which the villagers demanded (Oi and Rozelle, 2000).

The election, however, may change the incentive of village head to allocate the public funds. In order to win the votes in the election, the village community has to make sure the allocation of public funds satisfy the benefits of the majority of the villagers rather than that of small proportion of elite group. Existing empirical works on the effects of election on the public goods provision in China include Zhan et al. (2004) and Wang & Yao (2007). Zhang find rich owners of enterprises, as the local elite group, may have

[1] One major form of the village collectively operated economic activities is the village owned enterprise. Table 1 detailed the share of the revenues from the village-owned enterprises to the total revenues from village collectively operated economic activities over sample period.

[2] Cadre system in China is similar to the civil service system in many other countries. The term cadre refers to a public official holding a responsible or managerial position, usually full time, in party and government. A cadre may or may not be a member of the CCP, although a person in a sensitive position would almost certainly be a party member.

more lobby power than the poor to lower their share of taxation. But it is still unknown whether there is elite capture on the public expenditures side. Also answer is unknown to the question whether elected leader allocated more public funds favorable to the households involved in private production than to those in the collective operation, as opposed to the appointed leader. Wang & Yao (2007) find evidences to support their proposition that village election enhances the village government's accountability to the villagers. But they also claim the implication of public investments in village economic activities to the accountability remains unclear. This states that they have noticed but ignored the effects of election on allocation of the production related public investments. Our current work is an attempt in this direction.

So the object of this paper is to answer two questions: first, is there any disproportionate allocation of public funds to the village collectively operated economic activities as opposed to the private operation? Second, does election in rural China affect such pattern of allocation of public investments above?

The remainder of this paper proceeds as follows: Section 2 provides a brief description of evolution of the local governance in rural China. Section 3 explains the data source and provides descriptive analysis. Section 4 presents the empirical model and estimation. And section 5 concludes the paper.

2. Evolution of Governance in Rural China

People's Communes, set up in 1958[3], used to be the lowest level of government in hierarchy with three-tired collective: commune level, production brigades and production teams. The commune was the political-administrative unit linking the state and the locality. The brigade was a coordinating unit linking the commune and the production teams. The basic accounting unit and production unit was production team, the legal owner of the agricultural lands and the harvest produced on those lands. Revenues belonged to the production team and were redistributed through three approaches: One proportion was deducted for public welfare. Another proportion was sent to the brigade and commune, and the remaining was paid to the farmers who worked on the collective

[3] The issue regarding establishment of people's commune in rural China was passed by Chinese Communist Party in August 29, 1958 (People's Daily. Sept. 10, 1958).

land according to the "working point system"[4]. The team leader was the decision-maker and his power was based on her right in redistribution of the collective owned resources.

The introduction of household responsibility system in 1978, however, shifted the basic production and accounting unit from the collective to the individual household. The decollectivization of agricultural production transferred the income, ultimately, to household, cutting off the main resource of village collective coffers (Oi, 1999). The relationship between the village cadres and villagers deteriorated increasingly since the village cadres had unclear authority and limited public resources while villagers had increasing income. In this environment, top leaders in Beijing initiated discussion on reconstruction of rural political power. In December 31 1982, the Politburo of Chinese Communist Party passed the draft *several questions regarding current rural economic policy* (People's Daily, Apr. 10, 1983), announcing the abolishment of People's Commune. Township, village community and village small group took the place of commune, brigade and production team, respectively. Township, as the lowest level of government hierarchy, recessed to perform the administrative task only. Village community was responsible for local economic development, public goods provision and fulfilments of state policy, including collection of taxes and fees, implementation of family planning and quotas on grain procurement. The household was surplus claimant due to the introduction of household responsibility system. There is coexistence of villages with introduction of election and without for the period 1986- 1998. The village political leaders in the village without introduction of election were still appointed by the township although they were not in the hierarchy of the government. The appointed leader played a key role in decisions on allocation of public funds.

Aaccompanying with the appointing system, there were experiments of village autonomy during the same period. Initial experiment with village election occurred in the mid-1980. The enactment of the *Organization Law for the Village Committee* in 1998

[4] At the end of a year, the team's net income in the production team, after deduction for state taxes, public welfare and et al. was distributed according to the work points that each person accumulated during the year. The working points each one earned was calculated by multiplying his working time by his work grade. The value of each working point=net income/aggregated working points. The individual total income was the product of working points and value of each working point in the team. Given the net income remained unchanged, more aggregated working points mean the value of each working point is less. Assuming the farmer did not know the collective income available for distribution, he might be willing to supply as much labor as possible to maximize his personal income. This mechanism implies that the state and commune were easier to facilitate farmers to work on public projects without increasing capital investments.

institutionalized the village autonomy. According to the law, the villagers directly elect villagers' committees including 3-7 members. The term of the committee is 3 years while no limits posed on the re-election. The main responsibilities of village committee include four tasks: ①management of the village's own affairs, ②delivery of village public welfare services, ③maintenance of public order, ④management of village lands and collective property. The villagers' committee has the obligation to report its accounts of all revenues and expenditures to villagers' councils, which comprised of all adult villagers or a representative from each household. Villagers' representative assemblies are designed to play a role in overseeing the work of villagers' committee, reviewing important financial decisions made by villagers' committees. Villagers' assemble (or villagers' representative assembly) and the villagers' community are two decision-making bodies. The decision is made based on the rule of majority. The village community runs daily administrative work.

3. Data and Descriptive Analysis

The data for this study come from two major sources: one is the National Fixed-Point Survey (NFS) conducted by the Research Center of Rural Economy (RCRE), the Ministry of Agriculture, China. The NFS started in 1984 and covers more than 300 villages and over 20,000 households in 30 provinces. The sub-sample from the NFS dataset used in this study provides consistent information of 73 villages and 6000-7000 households in six provinces for the period between 1993 and 2000, except year1994. The six provinces are representative in terms of both the geography and the level of economic development. The richest provinces include Liaoning (North), Shandong (East) and Guangdong (South) while another two provinces, namely, Yunnan (South) and Gansu (West), are the least developed. Hubei (Central) falls between the above two. The village-level data contains information regarding public finance by different sources and outlays, the village characteristics, the land and fixed capital owned by the village and detailed input and output of agricultural production. As such information, except the public finance, is also provided at household-level data.

Since the information of the election in the concerning 73 villages are not available from any existing source, a matching survey was conducted in those villages in 2008. Of the 73 villages, 58 village heads or accountants provided corresponding information concerning the starting year and frequency of election, extent of competition in election, characteristics of village head and composition of village community from 1986 to 2000.

We matched the information from two databases. 2 villages can not be identified since the population and land areas in the successive years changed unusually without any outside shock. Therefore, the sample used in this study includes 71 villages for the period 1993-2000, with several missing values in some years. In addition, the data regarding the total industry output value at provincial level for the sample period is available from Chinese Statistics Yearbook.

1) Interest groups

Three subgroups within the community can be classified according to the working time of a household on the collective or the private production: collective production group, private production group and migrant group. If the household's labors spent the majority of their time in a year on collective operated economic activities, then this household will be fallen into the collective group. As such includes the households with village cadres in party branch and village community, with the labors in the economic Organization and education and health units, and with the labors in collective operated enterprises. Our sample shows the labors in collective operated enterprise accounted for the largest variation in this group. However, one concern should be addressed: the demographic weight of collective group is larger than the actual one due to its inclusion of household's labors involved in the township operated economic activities[5]. The larger demographic weight of collective group would imply the true correlation is smaller than the measured, further reinforcing the evidence of elite capture if its coefficient is significantly greater one. But if not, careful caution should be paid to the conclusion. If this case occurred, further regression on the measured demographic weight of the collective group will be required for the robust results. (Details will be provided in section 4).

The private production group contains the households with labors heavily involved in the private production, including agricultural production and non-agricultural production. The households spending most of their time outside of the village are classified into migrant group. It is plausible to assume that the migrants group had little concerns on the allocation of pubic production related investment.

[5] Such information is unavailable regarding the number of labors within community working in the township operated economic activities for the sample period in our study. However, as such information is provided in NFS dataset for the period 1986-1991 where over 20% of labors (to the total collective labors) worked in township operated economic activities each year.

Table 1 Village demographic characteristics and public finance in sample villages, 1993, 1995-2000

Year	1993	1995	1996	1997	1998	1999	2000
Total households	458	449	462	466	501	506	509
Collective production group (%)	16.2	14.0	14.5	13.4	11.4	10.7	10.2
Private production group (%)	81.9	82.6	81.1	82.4	84.1	84.6	85.1
Migrants group (%)	1.7	3.2	4.0	3.9	3.8	4.5	4.7
Village revenues source							
Collective operated economic activities (%)	38.3	32.1	35.0	31.7	26.3	26.3	27.0
Of which, from village-owned enterprises	61.6	51.1	50.0	55.0	49.7	51.0	47.8
Household private production (%)	47.0	51.6	49.1	55.4	58.0	58.5	57.0
Upper government (%)	4.2	3.8	4.6	3.1	4.6	5.3	4.9
Others (fines, donations) (%)	10.6	12.4	11.3	9.7	11.1	10.0	11.1
Public expenditures allocation							
Investments on collective operated economic activities (%)	17.5	14.4	13.2	10.4	12.7	10.0	9.6
Investment on household production (%)	7.9	12.1	11.0	11.9	11.0	12.3	11.6
Of which, purchasing fixed capital (%)	5.1	8.2	7.4	8.8	8.9	8.8	9.3
Providing cash to individual (%)	2.8	3.9	3.6	3.1	2.1	3.5	2.3
Upper government (%)	26.9	32.7	33.6	32.9	30.6	33.9	29.7
Public welfare (%)	16.3	12.5	10.8	12.2	15.7	14.8	13.0
Administration costs (%)	21.0	19.2	19.5	20.1	17.6	16.9	22.5
Others (%)	10.4	9.1	12.0	12.6	12.4	12.1	13.5

Table 1 provides descriptive statistics on the demographic characteristics. The population share of the collective group decreased from one sixth in 1993 to one tenth in 2000. However, an opposite trend was witnessed to the demographic weight of migrant group. It increased by 150% from 1993 to 2000. The population share of private group remained stable but with an upward trend.

2) Public finance

Table 1 also reports the village revenues by sources and expenditures by items. The two main sources of the collective revenues were fees collected from the villagers and the

revenues from village collectively operated economic activities. Of them, fees collected from the villagers contributed to the largest proportion to the village finance. It consisted of five levies for township and three levies for village. The five fees were applied to finance local education, militia training, road construction and maintenance, family planning and public welfare at the township level. The three levies were regulated to finance local economic developments, public welfare and administrative service at the village level. Ranked the second was from the collective operated activities, including the the profits and management fees from village-owned enterprises and the rents from collectively owned property, for instance, orchard, fish ponds and forest land. It was followed by other revenue sources, i.e. fines, voluntary donations. The upper government contributed the least to the village treasury, which implies that the public goods provision and public investments were almost self financed.

The public funds were allocated to invest production, finance the public welfare and support administrative service. Without considering the five fees handed to the upper government, the production related investments accounted for the largest share. Two types of production can be classified in accordance to the property right: one is the collective operated economic activities and the other is the household private production. Of the production related investments, more than half was spent on the collective operated economic activities across most of the years, almost same as the demographic weight of the collective group. However, those spent on household's private production was much less than the demographic weight of the private group, with an average of 83% of the total households sharing an average of 11% of the total public funds. Ranking on the second was the administrative costs with one fifth of the public funds, followed by the spending on the public welfare, including financial transfer to the poor and the disabled and investments on the public health. The payment for the fines, the compensations for the damages incurred by the accidents and the bonus to the villagers who had great contribution to the village were fallen into other expenditures, accounting for the least public spending over the sample period.

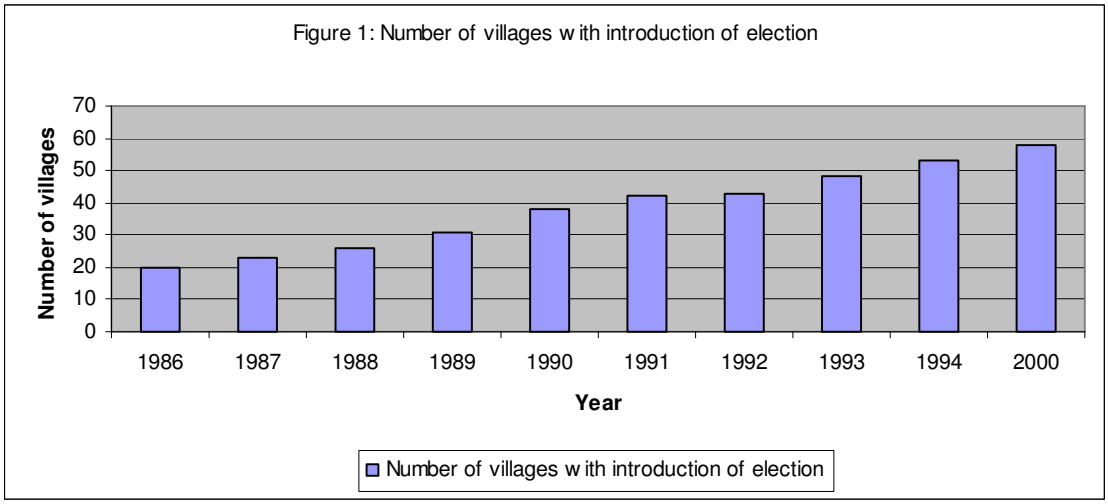
Our main interest is in the allocation of production related investments on collective and private and their corresponding demographic weights. The public funds flowing into the collective economic activities usually took the form of capital. Regarding the public

funds in support of the private production, two approaches were taken: one was the purchase of the fixed capital, for instance, hydraulic system and large-scale machinery for agricultural production; the other was the cash to improve the liquidity of private production. The fixed capital was accessible to all users within the community, it is, hence, assumed to improve their utility. However, the latter form would only improve the utility of the recipients of the funds rather than all users. For this reason, it is necessary to make the information clear regarding the proportion of the funds into fixed capital for public uses and cash for individual benefits. In our sample, around 60% was used to finance construction and maintenance of hydraulic system, including irrigation, 20% to purchase other fixed capitals in support of household agricultural production, the remaining to provide the households and private owned enterprises funds to if needed for the purpose of liquidity. The discussion above states that it is appropriate to use the share of the public funds to purchase the agricultural related fixed capital to favor the household production as the expenditures favorable to the private production.

3) Election

Figure 1 represents the cumulative number of villages with introduction of election from 1986 to 2000. Of 58 villages with information on election, 42 villages (over 70% of sample villages) have introduced the election in 1992 in four provinces, namely, Liaoning, Shandong, Hubei and Gansu. No election was held in the remaining 15 villages in both Guangdong and Yunnan until the enactment of Organization Law for the Village Community in1998[6] [7]. The province is the major decision maker in the timing and frequency of election. But it is still unknown why some provinces went ahead in introduction of election while others were left behind. Guangdong is the one of the richest provinces but the last one to introduce the election, only one year ahead to Yunnan province, the poorest province. In contrast, both of Shandong and Liaoning, as the richest provinces, were in the leading board to introduce election. Also in the leading board included Gansu, the poorest province. It seems that the election had little to do with the economic development level, at least at provincial level.

[6] One village introduced its election in 1997.
[7] The details regarding the timing and frequency of election can be seen in Wang and Yao (2004)



4. Empirical Strategy

1) Elite capture

Elite capture in this paper is defined as follows: one percent increase in the demographic weight of the collective group (private group) would lead to greater than (less than) one percent increase in the share of the public funds into collective economic activities (households' private production). The specification is as follows:

(1) $$R_{itc} = \lambda_1 d_{itc} + \lambda_2 d_{itm} + \lambda_3 X_{it} + v_i + \gamma_t + \varepsilon_{it}$$

Where R_{it} is the share of the public funds into the production in village i in year t. d_{itc} is the demographic weights of the interest group c, collective group (d_{ite})and private group (d_{itp}). d_{itm} denotes the migrant group. Since any of three interest groups can be represented by another two groups, it will cause the problem of perfect multicollinearity[8] if all three interested groups are included into equation (1). For this reason, the regression of share of the investment on collective operated economic activities is run on the demographic weight of the collective group and the migrant group. And only private group and migrant group are included into the estimation of investment share on private production. In the specification of collective operated economic activities, the sign of the collective group, λ_2, is expected to be significantly greater than one, but implicit to λ_3, the respective coefficient of migrants group. Regarding the private production, the sign of

[8] The correlation between collective group and private group is -0.93

λ_2 is predicted to be significantly greater than zero but less than one. The corresponding sign of the migrants group is also unclear to us. If so, then we infer there is elite capture of production related public funds. v_i is a village fixed effect, γ_t year effect and ε_{it} is an error term.

Apart from the demographic weights, a set of variable X_{it} is further included into the model as control variables, including per capita collective revenues available to the village as a whole (based on 1978), per capita net incomes (base on 1978), the total number of the households and the fixed capital (based on 1978) within the village. Per capita collective revenues available to the village as a whole is applied to control for the size of collective economy. Evidences show that the larger collective revenues are more likely to lead to elite capture (Hoff and Stiglitz, 2004, Wang and Yao, 2007) and to increase the extent of competition in election (Oi and Rozelle, 2000). Per capita net income controls for the level of village economic development. The total number of the households represents the village size. The fixed capital in the previous year, measured by per household collective-owned fixed capital and private-owned fixed capital, respectively (based on 1978), represents the existing stock of the investment share in two economic activities. It is applied to control for the local preference to production related public funds. The village topography and the shock, i.e. the catastrophe, are further included into the model.

Since the dataset covers 71 villages from 6 provinces rather than randomly drawn from a large population, it is appropriate to assume that the unobserved individual effects, v_i, is potentially correlated with the observed explanatory variables, $Z = (d_{itc}, d_{itm}, X_{it})$. The unobserved effects over one particular year between 1993 and 2000 arising from the policy changes is captured by γ_t. From 1994, there was decrease in the local revenues while more responsibilities have been assigned to the local government when the fiscal decentralization shifts to the second period, namely, tax sharing system. The monetary policy aimed at softening "overheated" Chinese economy by controlling for the credit scale and increasing the loan's interests. However, Chinese government took proactive fiscal and monetary policy to solve the problem of the insufficiency in the demand as consequences of financial crisis in 1997. We present the fixed effect estimation results in table 2.

Noteworthy, here, is the concern that the disturbance term ε_{it} may be correlated with d_{ite}, the demographic weight of the collective group. This arises from the possibility that, while the demographic weight of collective group may have effect on the share of public investments on the collective economic activities, there may have causality runs from the latter to the former. For example, the more labors in the collective economic activities may contribute to the higher share of the revenues from collective economic activities, which in turn leads to its higher demand on public investments. The higher share of public investments on the collective economic activities creates more job opportunities in the collective units. Thus, to correct for the endogeneity problem, an instrumental-variable method should be further applied to estimate the specification of share of investments on collective economic activities in equation (1). Another benefit of two-stage IV estimation is that the uncertainty would be greatly reduced on the existence of the elite capture of the production related funds if the results in table 2 show that the coefficient of the collective group is insignificantly greater than one.

The first step predicts the variation of the collective group distribution on a set of exogenous variables. As noted above, the collective group includes the households with village cadres in party branch and village community, with the labors in the economic organization, education and health units, and in the collective operated enterprises. The number of cadres in a village is regulated by the upper government based on population size. The labors in the economics organization and education and health units required the professional skills and qualification. So the logarithm of total population and the share of labors with qualification to the total population are used in the first step to estimate the distribution of the cadres and the labors in the economic organization and education and health units. The largest variation in the distribution of the collective can be explained by the labors in the collective operated enterprises. The literatures show that the share of the upper government's influence, the community power and the level of market development are positively related to the size of the employment in the collective owned industry (TVEs) (Jin and Qian, 1998). The industry size at provincial level represents the upper government's influence, measured by the per capita industry output in real terms in a province. The larger industrial size in a province may provide more opportunities to a community to develop TVEs. The collective heritage is a proxy for the community power, measured by the ratio of the collective-owned fixed capital to the total fixed capital in a village in 1986. We should point out that although it is much better to

use this index immediately after the decollectivization in 1980 to represent the local power, it seems to us that we do not have any other better options. Another variable representing the community power is the share of the arable land directly controlled by the village community. We have two variables to represent market development: per capita loans from state bank and cooperative funds measured within the community are applied to be the proxy for the financial market development. Credits potentially link with job opportunities channeling through the development of the TVEs. And the development level of product market is captured by the ratio of the sales of the agricultural products to the total outputs of the agricultural products.[9]

The time invariant variable, i.e., the per capita collective-owned fixed capital in 1986, indicated by Jin and Qian (1998), would be absorbed into village fixed effects, v_i, we hence include the provincial dummies into the model to capture the preexisting provincial differences. This can be explained as follows: firstly, there are large variations across the provinces in China. For instance, Liaoning, a north-eastern province, is an industry-orientated region, while Guangdong in the south east depends more on foreign trade and investments. Another costal province, Shandong, located between in Liaoning and Guangdong, is an agriculture orientated region. The central province, Hubei, is a less developed province, heavily depends on the agriculture. The two western provinces, Yunnan and Gansu, are the poorest areas, depending heavily on the fiscal transfer from the central government. Secondly, the fiscal decentralization was implemented at provincial level, the investment behavior in the intra-provincial villages is assumed to be more homogenous than those across provinces. Thus, it is reasonable to use provincial dummies to account for the fixed effects. The year dummies are also included to capture any changes over particular year in the sample period.

The second step is to regress the public investments on the collective operated economic activities on the predicted collective group and other exogenous variables listed as above, controlling for the covariance matrix between the error terms in the first step and second step. The correlation between the predicted demographic weight and the actual one is 0.74. The estimation result of two-stage instrumental variables is also presented in table 2.

[9] Here, the agricultural products include rice, corn, wheat and soybean. The data in 1993 include the former three.

Considering the decision is made simultaneously on intra-village allocation of two economic activities, constraint to a certain level of the budget, i.e. the more share flowed into the collective economic activities then less to the household private production, we further carried out three stage least-square regressions. The share of the investments on collective economic activities, the share of the investments on household private production and collective group are assumed to be endogenous variables in the three stage least square regression. We present the estimation results in table 2.

2) Effects of election on the allocation of production related public investments

In order to win the votes in the election, the village head had to make sure the allocation of the public funds would benefit the majority of the residents rather than the small proportion of the elite group. The two strategies, hence, may be applied by the elected leader to gain the votes: She may decrease (increase) the proportion of the investments on the collective (private) economic activities, or (and) she may decrease (increase) the marginal investment of the collective (private) group, for given demographic weight and other control variables. We apply equation (2) to capture these two possible behaviours.

$$(2) \qquad R_{itc} = \beta_1 d_{itc} + \beta_2 d_{itm} + \beta_3 X_{it} + \beta_4 E_{it} + \beta_5 E_{it} d_{itc} + \beta_6 E_{it} d_{itm} + v_i + \gamma_t + \varepsilon_{it}$$

All the variables are defined same as equation (1) except the election dummy, E_{it}. E_{it} is the primary explanatory variables, taking one when the village has introduced at least one round of election, zero otherwise. The difference on average of the investment share on two economic activities can be derived from equation (3) and (4) ($\in$ is the operator of the expected value). If both β_4 and β_5 are significantly negative (positive) for the collective (private), then we can conclude that the elected leader decreased (increase) not only the share of investment on the collective economic activities, but also the marginal investment of the collective group. The first strategy had been taken if only β_4 is statistically significant or the second one if only β_5 is significant. The sign of β_6 is implicit to us but it may reveal information regarding how the local government took advantage of the issue that the migrants group had no concern on the allocation of public funds.

$$(3) \qquad \in(R_{itc} \mid E_{it} = 1, d_{itc}, d_{itm}) = \beta_4 + (\beta_1 + \beta_5) d_{itc} + (\beta_2 + \beta_6) d_{itm} + \beta_3 X_{it} + v_i + \gamma_t + \varepsilon_{it}$$

(4) $$\in(R_{itc} \mid E_{it} = 0, d_{itc}, d_{itm}) = \beta_1 d_{itc} + \beta_2 d_{itm} + \beta_3 X_{it} + v_i + \gamma_t + \varepsilon_{it}$$

All the empirical strategies applied to estimate the effects of election on allocation of the production related public funds are the same as that in elite capture. The only difference is inclusion of the additional instrumental variables for the interaction term $E_{it} d_{itc}$ in the two-stage IV estimation and three stage least square regression. The product of the election dummy and the instrumental variables for the collective group is used as the vector of instrumental variables for $E_{it} d_{itc}$. The results are reported in table 3.

5. Empirical results

Table 2 reports the results from two separate fixed effects models, two-stage IV estimation and three stage least-square regressions. In the specification of the collective share, the agreement across all three estimators provide strong evidence that the share of the public funds assigned to the collective economic activities is positively associated with the change in the demographic weight of the collective group, ceteris paribus. However, it shows little evidence that the local production related funds were prone to the elite capture since the coefficient of the collective group is not significantly greater than one in all estimations. Same pattern happens to the migrant group, positive and significant (excluding the fixed effect model), showing that the allocation of the public funds on the collective would increase if there is rise in the demographic weight of the migrants group. It seems that the benefits of the migrant group have been captured by the collective economic activities. This may arise from the fact that the migrants had little concern on the allocation of the public funds, so capturing benefits from this group would not lead to their discontent to the local government. The significantly positive sign of the collective revenues convey the information that the more funds flowed into the collective economic activities if wealthier is the local government. This is consistent with the previous finding (Hoff and Stiglitz, 2004, Wang and Yao, 2007). Comparing with the base year 1993, the investment share of the collective group decreased each year, except year 1994. This may be due to privatization of the collective owned industries, in conformity with national policy of "letting go the small" during 1996-1998 (Dong, et al., 2004).

On the specification of the private, no much evidence shows the change in the demographic weight of the private group was the concern of community decision maker when allocating the production related public investments into the private. This is a stark contrast to the positive relationship between the proportion of the investments on the collective and the corresponding weight of the collective group and migrant group. Interestingly, the local government purchased more fixed capital to support the household production if there was one unit increase in the existing stock of the household owned fixed capital. The possible explanation may be the complementary effects between the household owned fixed capital and the collective owned ones. The higher value of the fixed capital possessed by the household can be deciphered as the stronger power of private economy in the community. For the sake of the economic development, it is a wise option to support the household production.

The results imply, at least in our sample that the local government in rural China was accountable to the localities in terms of allocation of production related funds but the accountability remained limited. The accountability arises possibly because the power base of the local government (collective revenues) mainly attributed to the households during the fiscal decentralization (table1 shows over half of the collective revenues were collected from the households), regardless of the high transaction costs and the intense relationship between the local government and the villagers incurred by the fees collection from the households. However, the limited accountability shows another side of the coin, the preference of the decision-maker to the collective economic activities. Her preference can be deprived from her entitlement to exercise the property right of use of the returns from the collective operation and easier access to the profits.

We now turn to the regression results on examining whether there is discrepancy in the investment pattern between two types of local governance regime. The results in table 3 indicate that the election neither induce the local government to decrease the investment share on the collective nor to increase that in support of household production, as presented in row 3. Little evidence further supports that there was significant change in the marginal investment share of the demographic weight before the election and after election.

Table 2. Separate estimation results of elite capture

	Share of the public investment on collective economic activities			Share of the public investment on household private production	
	Fixed effect	Two stage IV estimation	Three stage least square regression	Fixed effect	Three stage least square regression
Collective group	0.54** (0.32)	0.57***(0.09)	0.42***(0.08)		
Private group				-0.03 (0.17)	0.08 (0.06)
Migrant group	0.51 (0.33)	0.48**(0.19)	0.43***(0.15)	-0.13 (0.20)	-0.06 (0.14)
Ln (Per capita collective revenues)	0.06*** (0.02)	0.06***(0.01)	0.07***(0.008)	0.03* (0.02)	0.01 (0.007)
Ln (total households)	-0.07 (0.17)	-0.007 (002)	0.02 (0.02)	0.13 (0.16)	-0.02 (0.02)
Ln (per capita income)	0.004 (0.003)	0.0007 (0.001)	0.0005 (0.003)	0.0001 (0.002)	-0.0002 (0.002)
Ln (collective owned fix capital per household)	-0.0009 (0.02)	-0.001 (0.02)	-0.0009 (0.002)		
Ln (private owned fix capital per household)				0.003* (0.002)	0.002**(0.0007)
Natural disaster	-0.01 (0.02)	-0.04** (0.02)	-0.05**(0.02)	-0.003 (0.02)	0.02 (0.02)
Plain dummy	-0.007 (0.04)	-0.11***(0.02)	-0.12*** (0.02)	0.38***(0.12)	0.02 (0.02)
1995	-0.03 (0.03)	-0.02 (0.03)	-0.03 (0.03)	0.03 (0.02)	0.03 (0.02)
1996	-0.05* (0.03)	-0.05 (0.03)	-0.05* (0.03)	0.03 (0.03)	0.03 (0.02)
1997	-0.08***(0.02)	-0.08***(0.03)	-0.08***(0.03)	0.03 (0.02)	0.04 (0.02)
1998	-0.05* (0.03)	-0.05 (0.03)	-0.06* (0.03)	0.02 (0.02)	0.03 (0.02)
1999	-0.08***(0.03)	-0.08***(0.03)	-0.09***(0.03)	0.02 (0.02)	0.03 (0.02)
2000	-0.07*** (0.03)	-0.08**(0.03)	-0.09*** (0.03)	0.04 (0.02)	0.04* (0.02)
Hubei Province		-0.08***(0.02)	-0.08***(0.03)		-0.03(0.03)
Liaoning Province		-0.11**(0.03)	-0.11**(0.03)		-0.02 (0.03)
Guangdong Province		0.02 (0.04)	-0.006 (0.04)		-0.02 (0.03)
Shandong province		-0.07**(0.03)	-0.07**(0.03)		0.02 (0.03)
Yunnan Province		0.05 (0.04)	0.03 (0.04)		0.04 (0.03)

The village fixed effect models are with cross section weights. Figures in the parentheses are standard errors. The symbol *, **and *** indicate, respectively, statistical significance at the 10%, 5% and 1% levels.

The finding gives arise to the question why the results are counter against our expectation based on the median voter theory. The key to this question is the understanding of the local preference to the investment on the collective owned economic activities and the household production. The villagers may be indifferent to the share of the investments on the collective and private in some intervals since they may also benefit from the profits from collective operation. In many cases, part of the returns from the collective economic activities was used to finance the public goods provision and relieve the taxes and fees burden imposed on the households (Zhang, et al., 2004, Wang and Yao, 2007). The marginal benefits from the collective may, in some interval, equal to the marginal revenues from the fixed capital provided by the local government.

Table 3 Effects of election on the public investments, 1993 and 2000

	Share of the public investment on collective economic activities			Share of the public investment on household private production	
	Fixed effect	Two stage IV estimation	Three stage least squares	Fixed effect	Three stage least squares
Election	0.01 (0.05)	-0.009 (0.05)	0.008 (0.05)	-0.42 (0.32)	-0.005 (0.22)
Election*collective group	-0.26 (0.44)	0.10 (0.54)	-0.16 (0.33)		
Election*private group				0.42 (0.37)	0.02 (0.24)
Election*migrant group	0.39 (0.31)	0.18 (038)	0.34 (0.30)	0.33 (0.34)	-0.39 (0.35)
Collective group	0.81 (0.50)	0.44 (0.56)	0.58*(0.33)		
Private group				-0.41 (0.40)	0.05 (0.24)
Migrant group	0.44 (0.46)	0.43 (0.38)	0.31 (0.28)	-0.24 (0.33)	0.26 (0.32)
Ln (Per capita collective revenues)	0.06** (0.02)	0.06*** (0.01)	0.07***(0.009)	0.03 (0.02)	0.008 (0.008)
Ln (total households)	-0.15 (0.22)	-0.005 (0.02)	0.01 (0.02)	0.21 (0.18)	-0.03 (0.02)
Ln (per capita income)	0.003 (0.003)	0.0008 (0.001)	0.0006 (0.003)	0.0003 (0.002)	-0.0003 (0.002)
Ln (collective owned fix capital per household)	-0.001 (0.002)	0.0001 (0.002)	-0.0003 (0.002)		
Ln (private owned fix capital per household)				0.004* (0.002)	0.002**(0.001)
Natural disaster	-0.01 (0.02)	-0.03 (0.02)	-0.03 (0.02)	-0.008 (0.02)	0.008 (0.02)

Plain dummy	-0.02 (0.04)	-0.11***(0.02)	-0.12***(0.02)	0.37***(0.13)	0.04 (0.02)
Hubei		-0.08***(0.02)	-0.08***(0.03)		-0.03(0.03)
Liaoning		-0.11***(0.03)	-0.10***(0.04)		-0.02 (0.03)
Guangdong		0.02 (0.06)	0.01 (0.05)		-0.04 (0.04)
Shandong		-0.07**(0.03)	-0.07* (0.03)		0.01 (0.03)
Yunnan		0.04 (0.05)	0.03 (0.05)		0.05 (0.05)
1995	-0.02 (0.03)	-0.02 (0.04)	-0.03 (0.03)	0.03 (0.02)	0.03 (0.03)
1996	-0.04 (0.03)	-0.05 (0.03)	-0.05 (0.03)	0.02 (0.03)	0.03 (0.03)
1997	-0.07***(0.02)	-0.08***(0.03)	-0.08***(0.03)	0.02 (0.02)	0.04 (0.03)
1998	-0.05* (0.03)	-0.06 (0.04)	-0.06**(0.03)	0.01 (0.02)	0.03 (0.03)
1999	-0.08***(0.03)	-0.09***(0.03)	-0.10***(0.03)	0.02 (0.02)	0.04 (0.03)
2000	-0.08** (0.03)	-0.08**(0.04)	-0.09***(0.03)	0.03 (0.02)	0.05*(0.03)

The village fixed effect models are with cross section weights. Figures in the parentheses are standard errors. The symbol *, **and *** indicate, respectively, statistical significance at the 10%, 5% and 1% levels.

6. Conclusion

This paper examines whether disproportionate public funds have been invested on the households' private production as opposed to the collective production in the environment of fiscal decentralization. In our study, no evidences have been found to support this view. However, we found the evidence that the share of the investments on the collective economic activities is sensitive to its corresponding demographic weight and that of the migrant group. The results indicate that the local government is accountable to its localities while the accountability remains limited. The incentive behind the accountability is that the local government clearly observed the great contribution of the household production to the collective revenues. However, the investment preference of the local governance to the collective operation, to some degree, limited its accountability.

We also examined what impacts of election would be on the allocation pattern of the production related public funds. The reported results provide no evidences to our prediction that elected leader tend to decrease the share of public investments on the collective and increase the share on the private. Nor is found to support the view that

there was a decrease in the marginal investments of the demographic weights on the collective and increase that on the private. This may be due to the villagers' indifference on the share of the investments on the collective to the share of the private.

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