THE ECONOMIC GAINS OF CADRE STATUS IN RURAL CHINA: INVESTIGATING EFFECTS AND MECHANISMS

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1. Introduction

The success of the reform and economic development and sustainability in transition economies largely depends on the distribution of gains and losses generated along the course of economic transition. When a market economy replaces a planned economy, rank-and-file officials might either lose the advantage of redistribution due to the maturity of the market mechanism or be able to seek more economic benefits due to the improved economy. However, the variability of market economies and institutional conditions make it difficult to predict changes of economic power in the transition economies. Therefore, empirical research is warranted to quantify the economic advantage from political power of rank-and-file officials in transition economies. China, given its successful economic reform and rapid economic growth with substantial income inequality, provides researchers an opportunity to examine economic gains associated with political status during the economic transition.

Rural cadres in China hold political and administrative power in local communities (generally one big village or several small villages), but they are not official government employees and enjoy limited government welfare. Without positive and sustained financial incentives, cadres would have little incentive to implement public policies and perform public and community services. If rural cadres feel that they are losing their economic gains during the course of the reform, they may resist the reform and transition to protect economic rents they have already enjoyed. On the other hand, if cadres are perceived by rural residents to exploit their political power for excessive financial gains beyond reasonable compensation, the concern of income inequality and social instability is likely to arise. Despite the importance of understanding the gains and losses of rural cadres in the course of the economic reform in China, empirical research on this topic is sparse in the literature.

This study examines the economic gains from cadre status using a large rural household panel

data set covering all 31 provinces in mainland China from 2003 through 2007. The panel data structure allows us to control for unobserved ability and family background which have been found to bias the results significantly (H. Li, Liu, Zhang, & Ma, 2007; J. Zhang, Giles, & Rozelle, 2012) and examine the time dynamics of cadre status. We find that compared with non-cadre households, cadre households had significantly higher income per capita by ¥1,134 (in constant 2000 Chinese Yuan) or 10 percent. The income premiums for cadre households were more than doubled in more significant in economically advanced regions (20 and 13 percent for Northeast and East China respectively) than in less developed regions (6 percent for Central and West China). The income premiums were also significantly higher for cadre households living in the top 25 percent unequal villages (22 percent) compared with that in the bottom 25 percent unequal villages (5 percent) based on the village-level Gini coefficients. The cadre income premiums mainly come from non-agricultural sources, especially village and government income. Cadre households also had a statistically higher loan from formal credit markets than non-cadre households, but no statistical difference was found for loan from informal credit markets. Furthermore, we find that newly elected cadre households acquired the economic gains immediately in the year when they were elected and cadre households lost the economic gains immediately in the year when they lost the cadre status, which implies that the cadre economic gains were less likely attributable to human capital of cadres but mainly due to cadre status.

This study makes the following contributions to the literature. First, it carefully examines the cadre gains and the channels through which cadre households acquire economic gains. The identification of those channels could help design better incentive contracts for rural cadres if they are not sufficiently compensated to fulfill their administrative duties and provide community services. It also helps design policies and interventions to limit rent seeking behaviors of rural cadres if the economic gains of rural cadres negatively affect the government image, social stability, and further

economic growth. Second, in addition to the region-specific and time-variant patterns of the cadre income premium, we also find that the cadre income premium varies by local economic development and income inequality.

2. Political status and economic benefits of being a rural cadre in China

Rural cadres are individuals who hold an official position of political and administrative leaderships at the village and/or township levels. [1] As state agents and representatives of village communities, rural cadres have the following main responsibilities (X. Zhang, Fan, Zhang, & Huang, 2004): (1) collecting tax and levying fees, (2) implementing family planning policy, (3) fulfilling grain procurement quotas, (4) providing public goods and services, and (5) managing the village economy. The priority of these responsibilities changes over time. The top priorities were the enforcement of family planning and fulfillment of grain procurement quotas in the 1980s and switched to the collection of taxes and fees since the early 1990s till the early 2000s (Kung, Cai, & Sun, 2009). Since Chinese government introduced the tax-for-fee reform nationwide in 2002 and started to phase out the agricultural tax in 2004, the main responsibilities of rural cadres have shifted to managing village income and assets (e.g. land, village collective enterprises) and providing local public goods and services (e.g. roads, health clinics, and water supply) which were only partially funded by the upper-level governments.

While rural cadres are motivated and obligated to provide services to local village residents and implement public policies, they also need to be compensated for time and efforts. Since rural cadres are temporary administrative personnel with fixed terms instead of permanent government employees, they have strong incentives to maximize their households income during their terms (Kung, et al., 2009; Oi & Rozelle, 2000) and consider family income generation as their top priority over state-oriented tasks and community affairs (Kung, et al., 2009). There are several potential channels through which cadres are able to exploit their political position for economic gains. First,

rural cadres may allocate better resources such as the most fertile land and lucrative fishing ponds to their own households and relatives (Nee, 1992). Brandt, Huang, Li, and Rozelle (2002) find that rent seeking behavior by rural cadres explains timing and size of land reallocation. As agricultural income accounts for a smaller proportion of total household income and off-farm income becomes a more important income source (Démurger, Fournier, & Yang, 2010; Yang, 2009), however, the potential economic gain from agricultural income might be small relative to that from non-agricultural income.

Second, cadres exploit their political position for economic gains directly through wealth distribution since cadres are in charge of managing the village economy and collective resources/assets and allocating the village collective incomes among local residents (Nee, 1992). Rural cadres control the conversion from farmland to non-agricultural uses and they are in charge of the distribution of the amassed wealth through the conversion, especially in the suburbs and economically advanced areas. Cai (2003) summarizes several mechanisms that rural cadres exploited the loopholes of land conversion processes for their own economic benefits. For example, transactions of non-agricultural land uses are mostly not transparent but made discretely between rural cadres and land buyers. Although the general compensation for non-agricultural land conversion is state-regulated and typically low, the actual prices for converting agricultural land to non-agricultural uses are likely to be negotiated between rural cadres and land buyers and they are much higher. Such negotiations provide opportunities for rural cadres to seek economic gains for themselves. In villages with collective enterprises, cadres have residual claimant rights over enterprise profits that give them opportunities for rent-seeking behaviors (Edin, 1998). Starting from the mid-1990s, the rural industry sector in China has experienced rapid privatization (H. Li & Rozelle, 2003). Rural cadres play an important role in privatization of collectively owned village enterprises as they usually initiate the process and decide which firm to privatize and when to private it (H. Li & Rozelle, 2003). They may use their political status to secure a bigger share of economic

benefits resulting from privatization. Cadres also have the prospect of building mutually beneficial relationships with private enterprises by offering them personal help. For example, they may be able to use personal relationships with upper-level administration to help private entrepreneurs obtain loans or facilitate both their business start-ups and day-to-day operations. In return, private entrepreneurs may provide compensations to cadres or employment opportunities for their family members.

Third, rural cadres might have better access to both formal and informal credit markets than average village residents and, thus, the relaxed credit restraint enhances household incomes. There are three major financial organizations serving China's rural areas: the Agricultural Bank of China (ABC), the Rural Credit Cooperatives (RCC), and Post Office Savings (POS).[2] In general, the formal credit and banking system in China is tightly controlled by state-owned banks and favors state-owned enterprises. Private businesses and households in rural China are generally underserved by the formal financial sector (Brandt & Li, 2003; H. Li, Meng, & Zhang, 2006). They seek informal finance to fulfill their needs (Tsai, 2004). A wide variety of informal credit markets exist, legal or illegal, including interpersonal lending, trade credits, money lenders, rotating savings and credit organizations, pawnshops, rural cooperative foundations, and mutual benefit funds (Tsai, 2004). The literature has found that political connections help firms secure access to credit markets (Faccio, 2006; Khwaja & Mian, 2005; H. Li, Meng, Wang, & Zhou, 2008). We will examine whether or not cadre households have better access to formal and informal credits due to their political position.

China's economic development is characterized by significant disparity and income inequality across regions (Benjamin, Brandt, & Giles, 2011; Ravallion & Chen, 2007). The political power held by rural cadres and the cadre income premium if there is any might be quite different across regions and dependent on the maturity of the local market economy (Oi & Rozelle, 2000; Parish & Michelson, 1996). For example, in economically advanced villages, cadres may be able to collect

more "grey income" or provide better business or job opportunities to their family members. In contrast, cadres have fewer opportunities to exploit their political position for economic benefits in relatively poor and remote villages where agriculture is the dominant income source. This study will examine whether economic development and income inequality affect economic gains from cadre status, which have not been addressed in the literature.

3. Data

This study uses the national longitudinal survey of rural households (NLSRH) conducted by the Research Center on the Rural Economy (RCRE) of the Ministry of Agriculture. The NLSRH uses a three-stage stratified method to select households to survey. For each of the 31 provinces in China, counties were selected from the upper, middle and lower income regions. A village was randomly selected in each county and a group of households were randomly chosen in each selected village. The households were asked to answer a wide range of questions on household income and expenses, production and sales of agricultural commodities, labor supply, land uses, and household assets. Within each household, each member was asked to report individual characteristics such as gender, age, occupation, education level, technical and occupational training in both agricultural and non-agricultural activities, health conditions, and the relationship to the household head. More details about the NLSRH can be found in Benjamin, Brandt, and Giles (2005) and Benjamin, et al. (2011). In particular, Benjamin, et al. (2005) discuss sample representativeness and attribution problems. The data set used in this study is the full sample covering 31 provinces from 2003 through 2007. [3] More specifically, the analysis uses a total of 90,687 rural households including 4,339 cadre households (4.78%).

Table 1 shows means and standard deviations of per capita incomes, expenditures and loans for the full sample, cadre households and non-cadre households. All monetary variables are adjusted by the province-specific rural consumer price index provided by the National Bureau of Statistics to the

2000 constant Chinese Yuan. As shown in Table 1, per capita income for cadre households (¥9,778) was more than 50 percent higher than that for non-cadre households (¥6,358) in 2003-2007. Table 1 also shows a significant income gap between cadre and non-cadre households in non-agricultural income but not in agricultural income.

The non-agricultural income mainly comes from the following three sources: the village, the government, and enterprises. We define "village income" as the income from collective units, which mainly consists of incomes, subsidies, and aids from village and township collectives as well as collectively owned village and township enterprises. The government income includes wage compensations for rural cadres and rural teachers, income subsides for disabled military veterans and their families, and income aids for natural disasters. Some minor government subsidies such as compensations for rural survey are also included in the government income. The enterprise income consists of income from private companies, share-holding companies, and joint venture enterprises. Cadre households had higher village, government, and enterprise incomes than non-cadre households. The only exception is that non-cadre households earned higher migrant income (¥354) than cadre households. In terms of loans, cadre households received ¥377 more loan per capita from the formal credit markets such as banks and credit cooperatives/unions and ¥274 more from relatives and friends.

Table 2 shows the household characteristics for the full sample, cadre households and non-cadre households. Cadre households had better human capital measured by the average school years among household members aged 18 and above; the greatest school year achieved among all the household members; a higher share of household members who had self-reported to have good health; and a higher probability of having technical and occupational training for both agricultural and non-agricultural activities.

4. Model specifications

To examine the cadre effect on income, we estimate a fixed effects linear panel model. Take per capita household income as an example. The model specification is as follows:

$$Y_{ijt} = \delta cadre_{ijt} + \gamma CCP_{ijt} + \sum_k \eta_k H_{ijt,k} + \sum_m \varphi_m head_{ijt,m} + \sum_n \beta_n village_{jt,n} + \alpha_i + \upsilon_j \otimes \tau_t + \varepsilon_{ijt} \quad (1)$$

where Y_{ijt} per capita income for household i in province j at year t. The variable of interest is $cadre_{ijt}$ taking the value of one when household i in province j had a cadre household member at year t and zero otherwise. We estimate similar models with different dependent variables in a per capita base: income by different sources, living expenditures, and expenses of housing and durable goods. We also control for another form of political power – at least one household member was a member of the Chinese Communist Party (CCP) – as the literature documents a positive effect of the CCP membership on individual/household income (Cook, 1998; Liu, 2003; Morduch & Sicular, 2000).

The income gap between cadre and non-cadre households can be partially explained by differences in characteristics of households' decision maker and members between these two types of households. We first control for a rich set of characteristics of household members. Those characteristics denoted by H_{ijt} in equation (1) are the average education among family members aged 18-65 and the family highest education level, share of household members self-reporting an excellent health condition, share of household members with agricultural and non-agricultural occupational and professional training, share of male labor force, and share of migrant workers. Since cadre households may have a higher income level because they engage in non-agricultural business activities or employment, we also control for main income sources and main business operations of households. Approximately 85 percent of household heads indicated that they were main decision makers in their family. We control for the following characteristics of household heads denoted by $head_{ijt}$ in equation (1): age, education, whether they had professional and occupational trainings of agricultural and non-agricultural activities, and self-reported health condition. Village specific characteristics may influence the cadre's ability of rent seeking. For example, a wealthy village with

profitable collective enterprises gives cadres better opportunities to exploit their political power for economic benefits. Therefore, we also control for average household income and Gini coefficient at the village level denoted by $Village_{jt}$.

Using a twin survey, H. Li, et al. (2007) argues that the positive effect of the CCP member on household earnings is due to superior ability of CCP members and cross section studies are subject to selection bias. The same argument applies here – the earning gap between cadre and non-cadre households could be driven by the ability differences between cadre and non-cadre households. Given the panel structure of the data, we are able to include household fixed effects (α_i) to control for unobserved household background and individual ability that might be correlated with the cadre status and drive the income differences between cadre and non-cadre households. Furthermore, we include the most flexible interactive terms between provinces dummies (υ_j) and time dummies (τ_t) to control for unobserved heterogeneous economic shocks across provinces and over time.

5. Empirical results

5.1. Cadre status and household income

The cadre effects on per capita household income from both OLS and fixed effects specifications are presented in Table 3. All estimated coefficients of the cadre indicator are positive and statistically significant at one percent level. The OLS estimate (column 1) is ¥1,409 that is almost 60 percent smaller than the mean difference (¥3,421) showed in Table 1, which indicates that household characteristics are strong explanatory variables of household income. We expect the OLS coefficient on cadre status to be biased upward if cadre households have better ability than non-cadre households. Including household fixed effects reduces the cadre effect on per capita household income by ¥275 to ¥1,134, which is equivalent to a 20 percent reduction in the cadre effect. To avoid the potential bias caused by extreme values of per capita household income, the corresponding estimates using logarithm as the dependent variable are presented in columns 2 and 4

of Table 1. The remaining empirical analyses and discussions will be based on the fixed effects log-linear model.

The cadre income gain measured by the percentage is 10.3 percent. It is slightly larger than and generally consistent with the estimate of 9.5 percent in J. Zhang, et al. (2012) who use a subsample of the NLSRH covering ten provinces from 1986 through 2003.[4] It is smaller than the estimate in Morduch and Sicular (2000) and Walder (2002). Morduch and Sicular (2000) find a 16-18 percent income premium for carder households using a small sample of only 259 households from one county in Shandong Province during the period of 1990-1993. The cadre premium is more than 30 percent in Walder (2002) who uses the 1996 national household survey data for both urban and rural China.

We also examine time pattern of the cadre effect by interacting the cadre dummy with year dummies. We find that the cadre effects ranged from 9 to 12 percent during the period of 2003-2007 (Panel A of Table 4), which are lower than the estimates for early 2000s (14-20 percent in 2000-2002) in J. Zhang, et al. (2012). The difference can be driven by two factors. First, the provinces in J. Zhang, et al. (2012) are relatively more economically developed than the national average. More advanced economies in these provinces may allow rural cadres to exploit their political position for more economic benefits. Second, this might also be driven by the maturity of the market economy during the period of 2000-2007. We will address how economic development affects cadre income premiums in different regions in a separate section below.

We also examine the cadre income premium from the perspective of expenditures. Examining expenditures is an alternative way of test any correlation between cadre status and accumulation of wealth. One concern is that the cadre income premiums might be underestimated if the "grey" incomes were not reported in the survey but affected expenditures. The measures of expenditures include per capita household expenditures, per capita household living expenses, and per capita

expenses of housing and durable goods. We implement the same econometric specification as for income and present the results in Panel A of Table 5. All estimates are statistically significant at the five percent level. In common with income premiums, cadre status is positively correlated to per capita expenditures after controlling for both observables and fixed household unobservables. First, on a per capita basis, cadre households on average spend 6.8 percent more on total consumption than non-cadre households. Second, cadre households spend 5.5 and 5.8 percent more per capita in living expense and durable goods than non-cadre households. Since both the levels and estimated coefficients are smaller for expenditures than for incomes, we conclude that the suspected under-report of income should not be a serious problem biasing our results.

5.2. *Time dynamic of cadre status and household income*

We are concerned that the significant cadre economic gains might be due to the fact that cadres or cadre households are more talented or more entrepreneurial than non-cadre households that are unobserved by researchers. We investigate this possibility by testing the following two hypotheses pertaining to the time dynamics of cadre status. First, do households immediately gain income premiums once their family member is elected as a rural cadre? Second, do cadre households lose economic gains once they step down? If the answer to both questions is "yes," it is unlikely that the economic gains of cadre status are driven by individual or households' human capital or other income-generating endowments that are unobservable to researchers. Instead, the political position as a rural cadre enables cadre households to acquire economic gains that are not available to average villagers. These two tests can also help answer the following important questions: (1) Does cadre status have long-term effects on income of cadre households even after they lose the cadre status? (2) Do the economic gains to cadre status occur immediately or do they build over time?

To test the hypotheses, we classify rural households into four categories depending on the change of their cadre status. During the sample period from 2003 to 2007, 378 non-cadre

households became cadre households (Cadre Elected); 520 cadre households lost their cadre status (Cadre Step Down); 2,786 cadre households kept cadre status (Cadre Remain); and the rest of households remained non-cadre status (Non-cadre Remain). Then, we create four dummy variables to indicate the change of cadre status for each household in each year: Cadre Elected takes the value of 1 if a member of the household was elected as a cadre, 0 otherwise; Cadre Step Down takes the value of 1 if cadre households lost their cadre status, 0 otherwise; Cadre Remain takes the value of 1 if members of the household remained as cadre, 0 otherwise; and Non-cadre Remain takes the value of 1 if non-cadre households remained their non-cadre status, 0 otherwise. We incorporate the three indicator variables, namely, Cadre Elected, Cadre Remain and Cadre Step Down in the fixed effect models where households that remained their non-cadre status are used as the base group.

The results for per capita household income in levels and logarithms are shown in columns 1 and 2 of Table 6. First, compared with base households, incumbent cadre households (Cadre Remain) earned ¥1,231 (12%) more and newly elected cadre households (Cadre Elected) earned ¥1,218 (10%) more. However, no statistical difference in household income was found between exiting cadre households (Cadre Step Down) and non-cadre households (Non-cadre Remain). Second, the income premiums for newly elected and incumbent cadre households were not statistically different based on the F-test, which suggests that cadre status led to immediate economic gains. On the other hand, exiting cadre households lost their economic gains in the same year. We draw the following conclusions based on the results. First, the economic gains of cadre status did not require time to build up as suggested by the comparison of income premiums between newly elected and incumbent cadre households. Second, the cadre status did not create long-term benefits as the income premiums disappeared when households lost their cadre status. Third, the results do not support the speculation that economic gains reflect better human capital or more income-generating endowments for cadre households than non-cadre households.

The cadre income premium could also come solely from the government payment to cadres for their services. To test this hypothesis, we exclude income that cadre households received from the government and re-estimate the model. As shown in columns 3 and 4 of Table 6, the results are similar to those when we include government income. Both coefficients for Cadre Elected and Cadre Remain become slightly smaller and remain statistically significant. We therefore conclude that the cadre economic gains were not driven by the government incomes.

5.3. Channels through which cadre households gain income premium

To identify channels through which cadre households acquire income premiums, we examine household income from different sources. The identification of those channels could help researchers and policy makers understand the distributive mechanisms of economic gains and design better incentive contracts for rank-and-file officials in rural China. We first separate agricultural and non-agricultural income and examine them separately. Second, we examine all non-agricultural income sources that were reported in the survey including income from the village, enterprises, labor migration, and the government.

The results are summarized in Panel B of Table 5. Cadre households had 16 percent higher income than non-cadre households on a per capita basis from non-agricultural sources, but no statistical difference was found for agricultural income between two types of households. By examining specific non-agricultural income sources, we find that the cadre income premiums came mainly from the village and the government. Relative to non-cadre households, cadre households earned 188 percent higher income from the village and 36 percent higher from the government. J. Zhang, et al. (2012) find a similar cadre income premium from non-agricultural business and employment sources (14 percent). Our results indicate that cadres might take advantage of their political position to extract economic gains from their villages largely because they were in charge of managing the village assets and distributing the village income among village residents. Rural cadres

had significantly higher income from the government, which is due to either wage compensation for rural cadres, or a larger share from government payments/subsidies to the village, or both.

Although the cadre status may help establish personal connections beyond locality (Morduch & Sicular, 2000), we do not find any supporting evidence as the differences in migrant income and enterprise income were not statistically significant between cadre and non-cadre households. J. Zhang, et al. (2012) argue that "cadres households have had to take time and effort to fulfill administrative duties and mandated tasks in the village, which may have reduced the availability of family labor for temporary migrant employment" (pp. 350). We argue that the findings on migrant income and enterprise income imply that the cadre's political power is at most local and limited and hardly has any impact on migrant opportunities or enterprise employment opportunities.

Besides examining the distributive mechanisms of economic gains pertaining to cadre status, another important channel is through better access to credit markets. Accessibility to credits has been argued to be a major constraint to economic development in rural China (R. Li, Li, Huang, & Zhu, 2013). To examine whether cadre households gain better access to credit markets than non-cadre households, we estimate the effect of cadre status on per capita loans from formal and informal credit markets separately. One would argue that cadre households have more wealth and therefore are able to obtain more credit as the wealth could be used as collaterals. We therefore control for household income per capita and the value of house and durable goods per capita in addition to other control variables that used for all other specifications. As shown in Panel C of Table 5, we find that per capita loan from bank and rural credit cooperative/unions was 11 percent more for cadre households than non-cadre households, but there was no statistical difference between two types of households in terms of per capita loan from informal credit markets (e.g. loans from relatives and friends). We therefore conclude that rural cadre households had better access to the formal credit markets, which may partially explain the cadre income premium.

5.4. Does the income premium of rural cadres vary by regional economic development?

The economic development in China exhibits significant regional disparities (Démurger, 2001; Fan, Kanbur, & Zhang, 2011). For example, Fan, et al. (2011) show that per capita GDP in Shanghai was 10 times as high as in Guizhou province in 2007. The Development Research Center of the State Council divided China into four economic regions: East (or costal), Central, Northeast and West (see Fig. 1). The coastal provinces experienced the fastest economic growth since 1978 and are the most economically developed region (Fan, et al., 2011). The central provinces were the traditional agricultural heartland. The northeastern provinces were the nation's industrial heartland and resembled the Soviet Union in industrial organization and production structure before 1978. The western provinces have a higher density of ethnic population and a smaller percentage of arable land compared to the other three regions. Economic development in West China in general is more challenging than other regions as it is completely landlocked and has steeper slopes that make transportation and infrastructure constructions more costly.

The economic disparities attribute to different economic policies and infrastructure endowment. First, coastal provinces received favorable economic policies during the 1980s and 1990s. For example, the specialized economic zones in coastal provinces provided investors with preferential tax treatments and exemptions on duties and labor regulations (Démurger, et al., 2002; B. M. Fleisher & Chen, 1997). The dual price system for industrial inputs, which was designed by the central government as a *de factor* income transferring mechanism, also contributed to regional economic disparities. That is, the dual price system effectively transferred income from the inland producers to the coastal businesses because the central and western provinces that were the main suppliers of raw industrial materials were force to receive suppressed prices for their products (B. M. Fleisher & Chen, 1997). Second, the literature has documented significant disparities in transportation and telecommunication infrastructure endowment in China — the most abundant in

East China and least available in West China (Démurger, 2001). Infrastructure affects rural development as it increases agricultural productivity, improves rural non-farm employment, and facilitates rural-to-urban migration (Fan & Zhang, 2004). Infrastructure is one of the key differentiating factors in explaining the economic growth gaps between provinces in China (Démurger, 2001; B. Fleisher, Li, & Zhao, 2010). Furthermore, in an export oriented economy, the level of infrastructure endowment largely determines foreign direct investment and consequently affects the local economic development (Cheng & Kwan, 2000).

How do the cadre income premiums change as the regional economy develops and the market mechanisms become more mature and dominant? Some researchers argue that the advantages of political status will decline as the transition from a planned economy to a market-oriented economy continues and that the power of redistributors becomes less salient as economic action bypasses hierarchies to center on transactions between private buyers and sellers (Nee, 1989; Szelenyi, 1978). In contrast, J. Zhang, et al. (2012) contest this view empirically. They find that the cadre premiums are increasing over time, especially after 1998 and the returns to cadre status are higher in relatively rich provinces than in poor ones. They argue that opportunity cost of rural cadres is expected to be significantly higher in economically developed areas and, thus, the political gain of rural cadres is expected to be higher in those areas as well. We examine the cadre income premiums across economic regions to provide new evidence on this debate.

Table 7 summarizes household income differences between cadre and non-cadre households for each region. Descriptive statistics shows that the income differential between cadre and non-cadre households in percentage change was relatively larger in more economically developed regions (East and Northeast China) than in less developed regions (Central and West China). First, cadre households had a higher per capita income than non-cadre households by 86 percent for East China, followed by 48 percent in Northeast China, and 24-29 percent in Central and West China. The

pattern is further confirmed by differences in household expenditure, living expenses and expenses for housing and durable goods on a per capita basis. Second, the difference between cadre and non-cadre households in the non-agricultural income was statistically larger in eastern and northeastern regions than in western and central regions. Among all the non-agricultural income sources, the difference between cadre and non-cadre households was the greatest in the village income: 1266 percent in Central, 739 percent in Northeast, 606 percent in West, and 546 percent in East. The statistics in Table 7 paints a picture of diverse economic gains of cadre status and merits further investigation.

We include interaction terms between the cadre indicator and economic region dummies in equation (1). The results presented in Panel B of Table 4 show positive and statistically significant cadre income premiums in all economic regions and the cadre premium was highest in Northeast (20 percent), followed by 13 percent in East and 7 percent in Central, and the lowest in West (6 percent). Thus, consistent with the findings in J. Zhang, et al. (2012), we find that income premiums of cadre households were higher in the economically more advanced regions (East and Northeast China) than economically disadvantaged regions (West and Central China) after controlling for both observed and unobserved characteristics of households and household head.

Table 8 presents the estimated cadre premiums by income source and region. The cadre income premiums varied significantly across regions. First, cadre households earned statistically significant, higher agricultural income only in Central China. This can be explained by the fact that Central China is the major agricultural production zone of the country and agriculture is an important income source in Central China. In contrast, cadre households earned statistically significant, higher income from non-agricultural sources than non-cadre households in all economic regions. The non-agricultural income premium was 50 percent in Northeast China compared with much lower and uniform premiums in other three regions (11-12 percent). Second, the cadre premiums through

village income were much lower in West China (66 percent) than in other three regions (224-238 percent in East, Central and Northeast China). This result is not surprising since West China is the least developed region and has relatively less village collective income than other regions. Third, government income premium was the highest in West China (57 percent). This could be due to the increasing government investment in China's West Development Program aiming to building infrastructure, promote education, and attract investment. The Northeast China is the only region where the government income premium was statistically insignificant. Since Northeast China has been the country's industry zone traditionally and had a well-established infrastructure system, government investments in Northeast China was low relatively to other regions during the 2000s. Therefore, the payments and subsidies to the rural communities in Northeast China was less than in other regions during our study period. Third, we do not find significant differences in enterprise income between cadre and non-cadre households. For migrant income, we find that cadre households earned 43% lower income from migrant jobs than non-cadre households in East China. No statistical significant regional difference is found for loan per capita from formal credit markets except in western provinces and from informal credit markets except in Northeast China.

Our results on regional cadre income premiums do not support the hypothesis that the cadre premiums diminish as economy becomes more mature and market oriented. There are at least two explanations. First, the economic gains of rural cadres might be higher in economically advanced provinces because the opportunity costs of time for would-be cadres were significantly higher in more developed regions and the market mechanism allocated labor ability to its highest paid position (J. Zhang, et al., 2012). Second, one of the important channels through which rural cadres seek economic gains was village income. Thus, when the village wealth increases, the potential economic gain will also increase. However, researchers should be cautioned not to over-interpret the results because this type of rent seeking is usually hard to detect due to the political system in China (Birney,

2014).

5.5. Does the income premium of rural cadres vary by regional income inequality?

Rural China has been consistently characterized by markedly high income inequality (Bramall, 2001; Khwaja & Mian, 2005; Ravallion & Chen, 2007). The literature also suggests an increasing trend of income inequality in rural China since the reform in 1978 till early 2000s. Wu and Perloff (2005) employ maximum entropy to examine the evolution of income distribution and inequality in both rural and urban China from 1985 to 2001. They find the Gini coefficient in rural China increased from 0.27 in 1985 to 0.29 in 1990, and to 0.34 in 2000. Benjamin, et al. (2005) use a subsample (10 provinces) of the NLSRH data and find that the Gini coefficients rose from 0.29 in 1987 to 0.30 in 1995 and to 0.35 in 1999. Similar inequality are also reported in Bramall (2001) and Ravallion and Chen (2007).

The literature provides no estimates of income inequality of rural China since early 2000s. We use the NLSRH to calculate the Gini coefficient for each village from 2003 through 2007. Fig. 2 plots the average village-level Gini coefficients over time for the four economic regions. It shows a high degree of income inequality and significant regional disparities in rural China during the period of 2003-2007. The Gini coefficient ranged between 0.30 and 0.37 with the highest income inequality in East China and the lowest in Northeast China. Furthermore, for each region the average Gini coefficient including both cadre and non-cadre households was slightly higher than that based on non-cadre households only, but the differences were not statistically significant.

Income inequality may be a concern for economic growth and poverty reduction in China (Ravallion & Chen, 2007). We show that economic development and income inequality are positively correlated by plotting the average household income and the Gini coefficient (Fig. 3). Benjamin, et al. (2011) find that rural households from highly unequal villages had lower income growth in China. Collective decisions and provision of public goods are likely to be complicated by

communities' high degree of income inequality (Bardhan, Ghatak, & Karaivanov, 2007; Benjamin, et al., 2011). The linkage between income inequality and economic growth is explained by limited credit markets, imperfect factor markets and political economy (Benjamin, et al., 2011; Lloyd-Ellis, 2003), but the linkage between income equality and political status is under-studied. Income inequality may affect economic rent of political position/status through all channels that income inequality affects economy. For example, high income inequality combined with limited credit markets and poorly developed factor markets limits opportunity for the poor (Benjamin, et al., 2011) and facilitates resource allocations favorably towards politically and economically advantaged individuals such as rural cadres (Bardhan, et al., 2007; Benjamin, et al., 2011).

We average the Gini coefficients over five years for each village and divide the sample into four subsamples based on the quartiles of the village-level average Gini coefficient distribution in each region: bottom 25 percent, second lowest 25 percent, second highest 25 percent, and top 25 percent. Table 9 compares household income and expense measures by different sources for each subsample by income quartiles and region. The income difference between cadre and non-cadre households in general was much higher both in level and percentage as the income inequality increased with an exception of expenses of housing and durable goods. Yet, the per capita expense of housing and durable goods was statistically higher for cadre households than non-cadre households in villages below the 50^{th} percentile of income inequality, but such difference was not statistically significant for villages above the 50^{th} percentile. Similarly, the cadre income premium from non-agricultural business and employment, the village, and the government became more statistically significant and higher as the village-level income inequality increases. Furthermore, the difference in per capita loan from both bank and credit cooperative/unions between cadre and non-cadre household was greater in villages above the 50^{th} percentile of the village-level income inequality.

We introduce four dummy variables indicating different levels of income inequality and interact those dummies with the cadre indicator in the model. The results on per capita household income using the full sample are summarized in Panel C of Table 4. We find that the cadre premiums were statistically significant and were increasing with the village-level income inequality. More specifically, the cadre income premium was approximately five percent in the most equal villages and increased to 22 percent as income distribution became more and more unequal.

To examine the possible heterogeneous relationship between cadre effects and local income inequality by region, we create interactive terms between the four income inequality dummies and the cadre indicator and estimate the model for each region independently. Table 10 presents the results pertaining to income measures that appear statistically significant in the main results presented in Panel C of Table 4. For non-agricultural income, the pattern that the cadre income premium increased with the village-level Gini coefficients still persisted in East and West China, but less consistent in other economic regions. For Northeast China, the cadre premiums from non-agricultural sources ranged from 39 to 61 percent for villages with different levels of income inequality. In comparison, the cadre premium was statistically significant only for villages in the 25th to 50th percentile in Central China. In terms of village income, cadre households earned approximately 200-300 percent more than non-cadre households in East, Central and Northeast China regardless of the income inequality level. The situation was different in West China. The cadre premiums of villages above 50th percentile of income inequality were twice as large as that of villages below 50th percentile. Furthermore, estimates were significantly smaller in West China than other economic regions. For government income, we find an increasing cadre income premium as the income inequality became higher in Central and West China. The relationship between the cadre premium and the income inequality was U-shaped in East China. No statistically significant effect was found in Northeast China.

Our results show income inequality can dramatically affect cadre premiums. The full sample analysis shows that the cadre premium in the most unequal villages was almost three times as high as in the least unequal villages. Regional analysis also show some patterns of cadre premiums related to income inequality. We conclude that cadre premiums and income inequality should not be separated when researchers are studying the political power and economic gains of rural cadres.

6. Conclusions

Using the NLSRH from 2003 through 2007, this study estimates economic returns for rural cadres in China and examines channels through which cadre households gain economic premium due to their political status. We find a statistically significant income premium for cadre households – approximately ¥1,134 in level and 10 percent in percentage difference. The cadre income premium did not come from agricultural income but mainly from non-agricultural sources, especially the income from the village and the government. Compared with non-cadre households, cadre households were also found to have better access to formal credit markets, but no statistical difference in per capita loan from informal credit markets. The results shows that rural cadres might use their political power to distribute more public resources to their households or leverage their political power for better access to the formal credit markets to enhance their household income. Furthermore, we find that newly elected cadre household acquired economic gains immediately and exiting cadre households lost their economic gains immediately. This suggests that economic gains of cadre status were less likely to be driven by presumably better human capital of rural cadres and/or their family but rather due to the political status. We also find that the income premiums for rural cadres varied significantly across different economic regions and villages of different levels of income inequality. The cadre income premiums were much larger and more significant in economically advanced eastern and northeastern provinces than central and western provinces and in villages with high income inequality than those with low income inequality.

The results of this study do not support the hypothesis that the cadre premium would disappear as the economy develops and the market becomes more mature (Nee, 1989; Szelenyi, 1978). We find that the cadre premiums as the percentage of household income were stable in 2003-2007 even though China experienced fast economic growth during this period. Furthermore, compared with less advanced regions, the cadre premiums were higher in economically advanced regions where the market mechanism was more mature.

One question remaining and demanding future research is whether rural cadres increase their household income at the expense of other village residents' income or they are able to make the "pie" bigger so that everyone benefits. If the latter case is true, all village residents benefit from the economic reform and transition and would be willing to help sustain a continuous reform (Morduch & Sicular, 2000). Such analysis can offer further implications on how the income inequality between cadre and non-cadre household affects economic development and social stability.

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Table 1
Per capita income, expenditure and loan in rural China (2003-2007)

	Full Sample	Non-cadre	Cadre	Difference
Household Income	6521.45	6357.80	9778.30	3420.50***
	(18652.28)	(17835.39)	(30498.21)	[53.80]
Household Expenditure	5413.51	5257.31	8524.37	3267.07***
	(17187.73)	(16313.43)	(29474.83)	[62.14]
Living Expenditures	2924.14	2870.02	4001.59	1131.57***
	(4962.04)	(4850.94)	(6717.31)	[39.42]
Durable Goods	8650.14	8442.34	12764.98	4322.64**
	(114592.90)	(117316.00)	(24673.77)	[51.21]
Agricultural Income	2754.41	2767.41	2495.78	-271.62
	(103838.80)	(106409.50)	(5158.27)	[-9.82]
Nonagricultural Income	2985.77	2850.31	5685.04	2834.73*
	(104065.50)	(106588.60)	(15191.50)	[99.45]
Village Income	200.58	154.67	1114.26	959.59***
	(1177.41)	(975.32)	(3028.10)	[620.41]
Enterprise Income	187.49	176.85	399.16	222.31***
	(3330.61)	(3282.74)	(4165.39)	[125.71]
Migrant Income	1468.85	1485.80	1131.35	-354.45***
	(3553.80)	(3603.48)	(2331.37)	[23.86]
Government Income	88.01	81.02	227.24	146.22***
	(591.04)	(576.80)	(812.54)	[180.48]
Bank and Credit Coop Loan	159.02	140.98	517.90	376.92***
	(2443.92)	(2158.98)	(5652.02)	[267.35]
Civilian Loan	266.13	253.04	526.60	273.56
	(1966.12)	(1886.04)	(3152.05)	[108.11]
No. of Households	90,687	86,348	4,339	

Asterisks (***, **, and *) indicate the 1%, 5% and 10% statistical significance level, respectively. Figures in parentheses are standard deviations. The column "difference" presents the difference in per capita household income, expenditure and loan measures between cadre and non-cadre households. Figures in brackets are the percentage increases for cadre households.

Table 2

Characteristics of households and household heads in rural China (2003-2007)

	Full Sample	Non-cadre	Cadre	Diff.
Share of HH member Aged 18-65	0.77	0.77	0.79	0.02***
	(0.20)	(0.21)	(0.19)	
Share of Male Labor Aged 18-65	0.52	0.52	0.51	-0.01***
	(0.16)	(0.16)	(0.14)	
Average Education among HH	6.96	6.90	8.08	1.18***
Members Aged 18-65 (years)	(2.08)	(2.06)	(2.02)	
Highest Education among HH Members	8.99	8.93	10.27	1.34***
	(2.59)	(2.58)	(2.55)	
Share of HH Member with Excellent	0.54	0.54	0.59	0.05***
Self-reported Health Condition	(0.39)	(0.39)	(0.39)	
Share of HH Members with Training	0.11	0.10	0.22	0.12***
in Agriculture/Non-agriculture	(0.21)	(0.20)	(0.26)	
Share of HH Migrant Worker	0.30	0.30	0.22	-0.08***
	(0.30)	(0.30)	(0.28)	
Village-level Gini Coefficient	0.34	0.335	0.340	0.005***
	(0.11)	(0.11)	(0.12)	
Average Village Household Income	24514	24462	25557	10955***
	(21955)	(21916)	(22701)	
Main Source of Household Income				
Family Business	0.72	0.72	0.66	-0.06***
	(0.45)	(0.45)	(0.47)	
Private Enterprise	0.03	0.03	0.04	0.01***
	(0.17)	(0.17)	(0.20)	
Employed Worker	0.17	0.17	0.09	-0.09***
	(0.38)	(0.38)	(0.28)	
Employed Manager	0.009	0.009	0.007	-0.003***
	(0.10)	(0.10)	(0.08)	
Government Employee	0.03	0.02	0.17	0.15***
	(0.17)	(0.15)	(0.37)	
Other	0.05	0.05	0.04	-0.01***
	(0.21)	(0.21)	(0.19)	
Main Business of Household				
Farming	0.71	0.71	0.68	-0.03***
	(0.45)	(0.45)	(0.47)	
Forestry	0.03	0.03	0.03	0.002
	(0.18)	(0.18)	(0.18)	
Animal Husbandry	0.03	0.03	0.04	0.01***
	(0.18)	(0.18)	(0.19)	
Fishing	0.012	0.013	0.009	-0.004**
	(0.11)	(0.11)	(0.09)	
Manufacturing	0.03	0.03	0.04	0.01***
	(0.17)	(0.17)	(0.19)	

Construction	0.02	0.02	0.01	-0.01***
	(0.14)	(0.14)	(0.11)	
Transportation	0.023	0.024	0.017	-0.006***
	(0.15)	(0.15)	(0.13)	
Service	0.05	0.05	0.06	0.01**
	(0.23)	(0.23)	(0.24)	
Other	0.04	0.04	0.06	0.02***
	(0.20)	(0.19)	(0.24)	
No Family Business	0.045	0.045	0.048	0.002***
	(0.21)	(0.21)	(0.21)	
Age of HH Head	50.00	50.04	49.02	-1.02***
	(10.50)	(10.59)	(8.63)	
Education of HH Head	6.81	6.73	8.38	1.66***
	(2.58)	(2.56)	(2.52)	1.66***
HH Head with Special Skills	0.17	0.16	0.42	0.26***
	(0.38)	(0.37)	(0.49)	
HH Head with Excellent Health	0.49	0.49	0.58	0.09***
	(0.50)	(0.50)	(0.49)	

Asterisks (***, **, and *) indicate the 1%, 5%, and 10% significance level, respectively. Figures in parentheses are standard deviations.

Table 3
Cadre effects on household income per capita (HIPC)

	OLS		Fixed Effects	
	HIPC	Log(HIPC)	HIPC	Log(HIPC)
	(1)	(2)	(3)	(4)
Cadre Status (=1)	1,408.7***	0.115***	1,134.4***	0.103***
	(455.3)	(0.010)	(284.4)	(0.019)
Party Member (=1)	986.0***	0.067***	654.1**	0.021
	(256.7)	(0.006)	(299.0)	(0.014)
Share of HH Members Aged 18-65	2,916.7***	0.550***	4,491.9***	0.471***
	(298.7)	(0.010)	(854.1)	(0.022)
Share of Male HH Members Aged 18-65	2,975.2***	0.144***	3,209.5***	0.257***
	(359.2)	(0.012)	(643.2)	(0.041)
Average Education for HH	144.4***	0.030***	-92.0	0.006*
Members Aged 18-65 (years)	(55.9)	(0.002)	(139.9)	(0.003)
Household Highest Education (years)	37.2	0.003**	-26.7	-0.011***
	(37.3)	(0.001)	(132.3)	(0.003)
Share of HH Members with Excellent	-329.3*	0.047***	170.2	0.043***
Self-reported Health	(195.3)	(0.008)	(309.2)	(0.015)
Share of HH Members with Training	2,278.7***	0.365***	4,048.9***	0.226***
in Agriculture/Non-agriculture	(625.3)	(0.015)	(972.7)	(0.030)
Share of HH Migrant Workers	324.1	0.018**	-124.0	0.148***
	(371.4)	(0.007)	(269.9)	(0.016)
Village-level Gini Coefficient	815.3	-0.154***	-4,276.7***	-0.232*
	(1,071.0)	(0.027)	(1,433.2)	(0.138)
Village Average Household Income	0.2***	0.000***	0.3***	0.000***
	(0.0)	(0.000)	(0.0)	(0.000)
Age of HH Head	-30.1***	-0.003***	-2.7	-0.003***
	(5.7)	(0.000)	(19.0)	(0.001)
Education of HH Head (years)	-14.1	-0.003***	-46.4	0.009***
	(35.0)	(0.001)	(101.0)	(0.003)
HH Head has Training in Agriculture	715.5*	-0.013	-1,055.8***	-0.038***
and Non-agriculture (=1)	(395.1)	(0.008)	(397.2)	(0.012)
Health of HH Head with Excellent	340.7*	0.041***	260.6	-0.002
Self-reported Health Condition (=1)	(180.3)	(0.006)	(174.0)	(0.010)
Constant	-2,832.2***	7.731***	-5,152.2***	7.563***
	(829.3)	(0.056)	(1,084.5)	(0.067)
HH Main Income Source Dummies	Y	Y	Y	Y
HH Main Business Dummies	Y	Y	Y	Y
Year and Province Full Interactions	Y	Y	Y	Y
HH Fixed Effect	N	N	Y	Y
R^2	0.128	0.428	0.7	0.827
Observations	90,687	90,687	90,687	90,687

Robust and clustered (by region and year) standard errors are in parentheses. Asterisks (***, **, and *) indicate the 1%, 5%, and 10% statistical significance level, respectively.

Table 4
Cadre effects on per capita household income across regions and income inequality

	Coefficient	Standard Error
Panel A: Interaction with Year		
Cadre × 2003	0.099***	0.024
Cadre × 2004	0.095***	0.020
Cadre × 2005	0.112***	0.021
Cadre × 2006	0.118***	0.023
Cadre × 2007	0.092***	0.029
R^2	0.827	
Panel B: Interaction with Regions		
Cadre × East	0.128***	0.030
Cadre × Middle	0.069***	0.032
Cadre × Northeast	0.196***	0.042
Cadre × West	0.058	0.058
R^2	0.827	
Panel C: Interaction with Income Inequality Quartiles		
Cadre × Bottom 25%	0.047	0.029
Cadre × Second Lowest 25%	0.071***	0.024
Cadre × Second Highest 25%	0.133***	0.028
Cadre × Top 25%	0.219***	0.036
R^2	0.827	
Observations	90,687	

The dependent variable is in logarithms form. Robust and clustered (by region and year) standard errors are in parentheses. Asterisks (***, **, and *) indicate the 1%, 5% and 10% statistical significance level, respectively. Each panel represents an independent regression with household income per capita in logarithm as the dependent variable. The control variables are the same as column (4) in Table 3.

Table 5

Cadre effects on household expenditures, income sources and loan

	Coefficient	Standard Error	R^2	Observations
	Panel A: Household Expenditures Per Capita			
Total Household Expenditures	0.068***	0.021	0.779	90,387
Living Expenses	0.055***	0.021	0.738	90,387
Housing and Durable Goods	0.058*	0.030	0.823	89,080
	Panel B: Income Per Capita			
Agriculture	0.086	0.060	0.876	90,773
Non-agriculture	0.161***	0.036	0.784	80,984
Village Income	1.879***	0.153	0.771	90,773
Enterprise Income	0.001	0.057	0.674	90,773
Migrant Income	-0.160	0.118	0.77	90,772
Government Income	0.357***	0.055	0.782	90,773
	Panel C: Loan Per Capita[a]			
Bank and Credit Coop Loan	0.111**	0.052	0.572	89,075
Civilian Loan	-0.017	0.089	0.519	89,075

The dependent variables are in logarithm form. Robust and clustered (by region and year) standard errors are in parentheses. Asterisks (***, **, and *) indicate the 1%, 5% and 10% statistical significance level, respectively. Each row represents an independent regression with the dependent variable on the left column. The control variables are the same as column 4 in Table 3.

[a] For two dependent variables in Panel C, we also include two more control variables: household income per capita and the value of the house and durable goods per capita.

Table 6

Time dynamics of cadre status and household income

	Including Government Income		Excluding Government Income	
	HIPC	Log(HIPC)	HIPC	Log(HIPC)
Change of Cadre Status [a]	(1)	(2)	(3)	(4)
Cadre Elected	1,218.1**	0.097***	1,097.2**	0.090***
	(536.8)	(0.027)	(512.0)	(0.028)
Cadre Step Down	-105.4	0.021	-167.3	0.015
	(427.6)	(0.024)	(423.6)	(0.025)
Cadre Remain	1,230.9***	0.122***	1,147.2**	0.103***
	(466.8)	(0.033)	(461.7)	(0.034)
F-test: Cadre Elected= Cadre Remain	0	0.83	0.01	0.23
P-value	0.982	0.365	0.929	0.630
R^2	0.700	0.847	0.70	0.846
Observations	65,788	65,788	65,788	65,788

Robust and clustered (by region and year) standard errors are in parentheses. Asterisks (***, **, and *) indicate the 1%, 5% and 10% statistical significance level, respectively. The control variables are the same as column 4 in Table 3.

[a] During the sample period from 2003 to 2007, 378 non-cadre households became cadre households (Cadre Elected); 520 cadre households lost their cadre status (Cadre Step Down); 2,786 cadre households kept their cadre status (Cadre Remain); and the rest of households remained non-cadre status (Non-cadre Remain).

Table 7

Differences in per capita household income, expenditure and loan between cadre and non-cadre households by region

	East		Central		Northeast		West	
	Diff.	%	Diff.	%	Diff.	%	Diff.	%
Household Income	7449***	86	1413***	29	3090***	48	1226	24
Household Expenditure	6712***	90	1976***	49	2154***	45	1231	29
Living Expenses	1690***	42	1028***	41	1071***	46	615***	29
Housing and Durable Goods	6945	49	3116***	56	3724***	56	2923	51
Agricultural Income	-49	-2	127	7	359	10	-1152	-34
Non-agricultural Income	4967***	99	1187***	46	2420***	111	2454	308
Village Income	1452***	546	634***	1266	2176***	739	225***	606
Enterprise Income	665***	190	78***	70	-98	-74	15	26
Migrant Income	-429***	-21	-463***	-33	-322***	-30	-191*	-17
Government Income	162***	198	115***	249	175***	126	158***	196
Bank and Credit Coop. Loan	434***	222	339***	570	106***	71	475***	295
Civilian Loan	594	162	137	56	16	10	157	85

Asterisks (***, **, and *) indicate the 1%, 5% and 10% statistical significance level, respectively. The column "diff." and "%" indicate the difference in income, expenditures, or loan per capita for cadre household compared with non-cadres households in level (diff.) and in percentage (%).

Table 8

Cadre effects on household earnings and loan per capita across regions

	Cadre × East		Cadre × Central		Cadre × Northeast		Cadre × West		R^2	Obs.
	Coef.	S.E.	Coef.	S.E.	Coef.	S.E.	Coef.	S.E.		
Income Per Capita										
Agriculture	-0.065	0.120	0.230**	0.084	0.111	0.205	0.091	0.096	0.876	90,773
Non-agriculture	0.109**	0.044	0.116**	0.057	0.496***	0.165	0.121*	0.066	0.784	80,984
Village Income	2.236***	0.289	2.296***	0.196	2.382***	0.471	0.659***	0.153	0.772	90,773
Enterprise Income	0.112	0.130	-0.09	0.086	0.037	0.083	-0.05	0.094	0.674	90,773
Migrant Income	-0.430**	0.194	-0.278	0.219	0.029	0.331	0.212	0.198	0.770	90,772
Government Income	0.371***	0.101	0.275***	0.092	0.125	0.105	0.565***	0.115	0.783	90,773
Loan Per Capita										
Bank and Credit Coop Loan	0.016	0.059	0.014	0.092	0.069	0.183	0.368**	0.145	0.572	89,075
Civilian Loan	-0.019	0.165	-0.043	0.188	0.272**	0.120	-0.148	0.141	0.519	89,075

The dependent variables are in logarithm form. Robust and clustered (by region and year) standard errors are in parentheses. Asterisks (***, **, and *) indicate the 1%, 5% and 10% statistical significance level, respectively.

Each row represents an independent regression with the dependent variable indicated on the far left column. The control variables for income per capita are the same as column 4 in Table 3. For loan per capita, we also include two more control variables: household income per capita and durable income per capita.

Table 9

Difference in per capita income, expenditure and loan by region and income inequality quartiles

	East		Central		Northeast		West	
	Diff	%	Diff	%	Diff	%	Diff	%
	Bottom 25% (lowest income inequality)							
Household Income	381**	12	812***	25	1012***	26	899***	30
Household Expenditure	-24	-1	807***	29	1180***	41	771***	31
Living Expenses	-132	-8	381***	20	804***	54	467***	28
Housing & Durable Goods	1752***	49	1676***	46	513	11	3122***	94
Agricultural Income	1264***	85	32	2	-68	-3	-3208	-65
Non-agricultural Income	-922***	-67	721**	47	965***	105	4021***	178
Village Income	322***	2592	420***	1654	577***	2941	82***	1255
Enterprise Income	191***	338	-1	-3	-25	-100	30*	104
Migrant Income	-440***	-48	-423***	-40	-184	-26	-183***	-20
Government Income	85***	123	122***	300	53***	44	137***	168
Bank and Credit Coop. Loan	-11	-56	23	52	118***	166	148***	168
Civilian Loan	-65	-90	157***	78	46	54	20	16
	Second Lowest 25%							
Household Income	2007***	40	1099***	23	2608***	49	1031***	22
Household Expenditure	1739***	42	988***	25	2406***	61	882***	24
Living Expenses	914***	34	505***	20	992***	50	494***	23
Housing & Durable Goods	3917***	58	162***	29	2477***	45	1026	16
Agricultural Income	132	6	313***	17	1293***	38	376***	19
Non-agricultural Income	1770***	69	706***	27	1005***	73	524***	25
Village Income	1004***	495	617***	1145	1001***	2520	145***	530
Enterprise Income	131***	91	-28	-20	-41	-67	39	78
Migrant Income	-313***	-29	-488***	-33	-309***	-35	-293***	-24
Government Income	214***	357	139***	306	282***	274	171***	259
Bank and Credit Coop. Loan	49	102	14	30	185***	143	392***	267
Civilian Loan	304***	169	72	30	64	42	198***	117
	Second Highest 25%							
Household Income	1561***	24	1680***	27	3432***	44	508	8
Household Expenditure	2095***	38	2082***	41	1976***	33	1183**	23
Living Expenses	1592***	46	1030***	34	959**	32	520***	20
Housing & Durable Goods	109	1	1178**	16	6000***	71	1656***	26
Agricultural Income	19	1	-106	-4	-230	-6	324	11
Non-agricultural Income	1431***	42	1629	50	3288***	96	173	6

Village Income	1162***	517	794***	1289	3664***	593	360***	574
Enterprise Income	115**	76	253***	171	-213	-78	-38	-56
Migrant Income	-294**	-17	-496***	-26	-688***	-49	-66	-6
Government Income	147***	226	67***	116	43	19	219***	287
Bank and Credit Coop. Loan	167**	190	1136***	1110	-43	-28	457***	373
Civilian Loan	1043***	353	240	94	-35	-19	-31	-22
	Top 25% (highest income inequality)							
Household Income	14307***	100	3681**	38	3592***	36	2573	17
Household Expenditure	12611***	100	10516***	126	1581*	21	3077	25
Living Expenses	2180***	36	5812***	134	956***	29	1441***	39
Housing & Durable Goods	11754***	54	19111***	185	3897***	41	8970***	73
Agricultural Income	-629	-16	-108	-5	-465	-9	116	6
Non-agricultural Income	9297***	104	3654***	55	3823***	97	4585***	69
Village Income	2070***	516	1232***	983	3280***	425	854***	490
Enterprise Income	1327***	185	487***	198	-206	-79	-81	-39
Migrant Income	-820**	-25	-669**	-38	-268	-17	-109	-7
Government Income	139***	121	73***	143	232***	169	119	87
Bank and Credit Coop. Loan	870***	204	1436***	1400	127	46	1946**	336
Civilian Loan	629***	99	97	21	-62	-30	700**	135

Asterisks (***, **, and *) indicate the 1%, 5% and 10% statistical significance level, respectively.

Table 10

Cadre effects on household earnings per capita by income inequality and region

	Non-agricultural Income	Village Income	Government Income	Non-agricultural Income	Village Income	Government Income
	East			Central		
Cadre × Bottom 25%	0.036	2.227***	0.657***	0.097	1.756***	0.277
	(0.195)	(0.582)	(0.244)	(0.088)	(0.247)	(0.192)
Cadre × Second Lowest 25%	-0.005	2.055***	0.235**	0.157**	2.593***	0.203
	(0.054)	(0.241)	(0.116)	(0.064)	(0.246)	(0.121)
Cadre × Second Highest 25%	0.126	2.144***	0.346**	0.081	2.599***	0.299**
	(0.078)	(0.294)	(0.145)	(0.095)	(0.243)	(0.125)
Cadre × Top 25%	0.207***	2.291***	0.540***	0.080	2.772***	0.648**
	(0.073)	(0.431)	(0.160)	(0.084)	(0.445)	(0.248)
R^2	0.825	0.809	0.768	0.757	0.727	0.750
Observations	26,146	28,358	28,358	23,725	25,679	25,679
	Northeast			West		
Cadre × Bottom 25%	0.538**	2.169**	0.025	0.030	0.595**	0.461***
	(0.213)	(0.885)	(0.126)	(0.086)	(0.282)	(0.152)
Cadre × Second Lowest 25%	0.613***	2.155***	0.190	0.084	0.569**	0.544***
	(0.165)	(0.526)	(0.214)	(0.083)	(0.219)	(0.154)
Cadre × Second Highest 25%	0.388*	2.530***	0.198	0.312***	1.166***	0.667***
	(0.206)	(0.545)	(0.188)	(0.101)	(0.414)	(0.232)
Cadre × Top 25%	0.426*	2.666***	0.044	0.496***	1.213***	0.863***
	(0.211)	(0.625)	(0.249)	(0.161)	(0.388)	(0.275)
R^2	0.746	0.770	0.816	0.737	0.702	0.761
Observations	11,525	14,771	14,771	19,588	21,965	21,965

The dependent variable is in logarithm form. Robust and clustered (by region and year) standard errors are in parentheses. Asterisks (***, **, and *) indicate the 1%, 5% and 10% statistical significance level, respectively. For each region, each column represents an independent regression with the dependent variable on the left column. The control variables are the same as column 4 in Table 3.

Fig. 1. Four economic regions in China

East China includes 9 provinces: Beijing, Tianjin, Hebei, Shanghai, Jiangsu, Zhejiang, Fujian, Guangdong, and Hainan. Northeast China includes three provinces: Liaoning, Jilin, and Heilongjian. Central China includes 6 provinces: Shanxi, Anhui, Jiangxi, Henan, Hubei, and Hunan. West China includes 12 provinces: Inner Mongolia, Guangxi, Chongqing, Sichuan, Guizhou, Yunnan, Xinjiang, Shaanxi, Gansu, Qinghai, Ningxia, and Tibet.

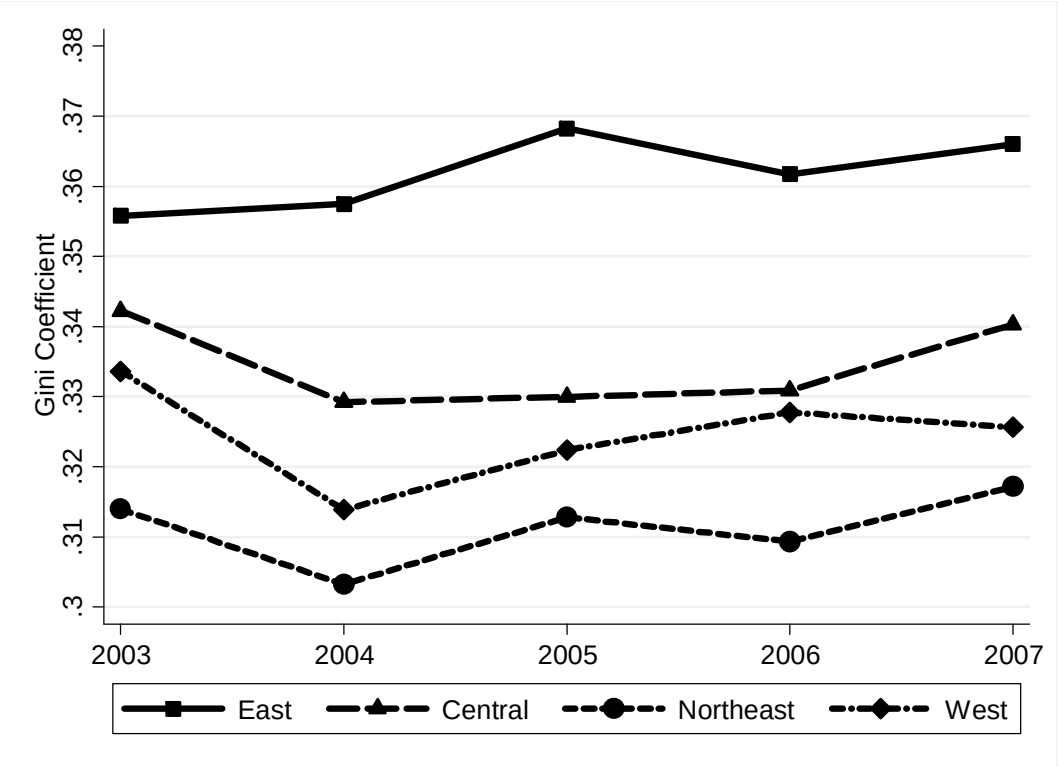

Fig. 2. Gini coefficients over time in four economic regions of China
Data source: Calculated by the authors from the NLSRH 2003-2007

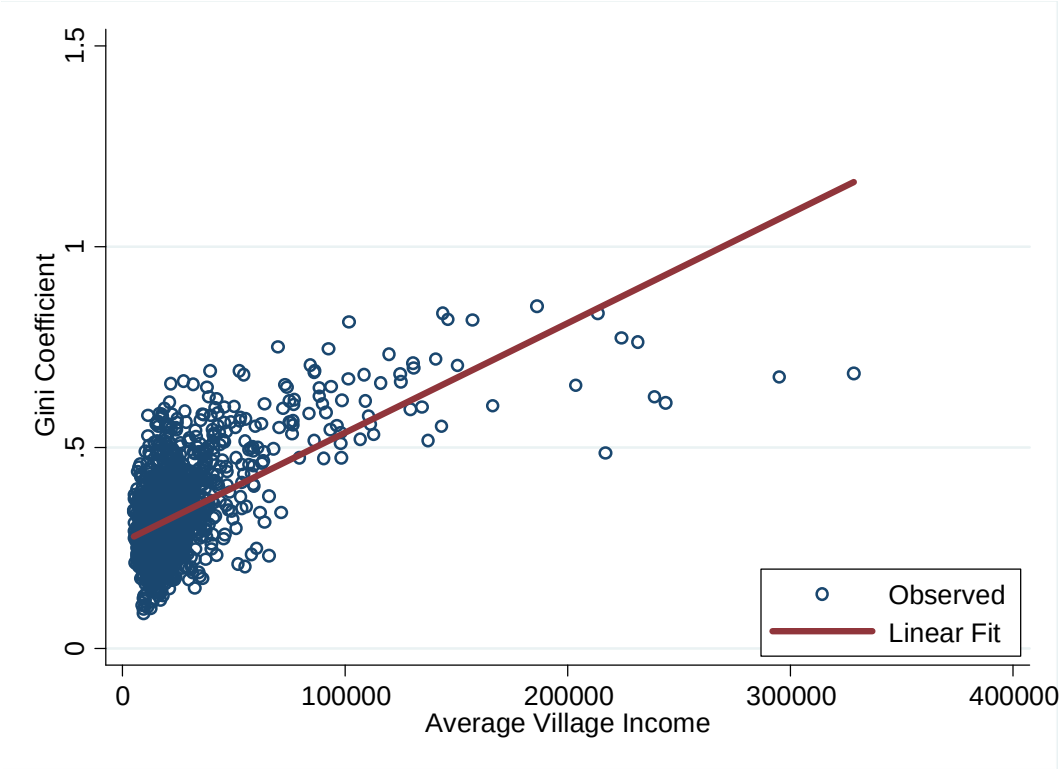

Fig. 3. Relationship between average household income and Gini coefficients
Data source: Calculated by the authors from the NLSRH 2003-2007

[1] Rural cadres may also serve the Party committee in the township or village. The party membership is controlling for in the empirical analyses.

[2] The ABC is one of the specialized state-owned banks and has been responsible for lending to support agricultural and rural development with its branches in almost every township in rural China Brandt, L., Li, H., 2003. Bank discrimination in transition economies: ideology, information, or incentives? Journal of comparative economics 31, 387-413.. The RCC is more locally based and has headquarters in each county and managed at the county level. The local government has a closer relationship with the RCC than the ABC, or even control over the locally based RCC branches Linghui, H., Hare, D., 2013. The link between credit markets and self-employment choice among households in rural China. Journal of Asian Economics.. Since POS was given leading privileges in 2007, it takes advantage of its large deposit holdings and extensive network of local branches to expand its service in rural China.

[3] The Organic Law of Village Committees was passed in 1987 and fully adopted in 1998. It empowered Chinese farmers to directly elect their village committee members. Under the electoral system, rural cadres have a fixed term to serve on the committee. They may face a challenge to get re-elected if they were perceive to benefit themselves too much from their political position. Zhang, J., Giles, J., Rozelle, S., 2012. Does it pay to be a cadre? Estimating the returns to being a local official in rural China. Journal of comparative economics 40, 337-356. estimate the economic gain of cadre status from 1986 to 2003 during which village elections gradually took places since 1987. This study covers the time period from 2003 to 2007 during which village elections became a norm in China.

[4] Those ten provinces are Zhejiang, Guangdong and Jiangsu in the east coast; Jilin in Northwest China, Anhui, Hunan, Henan, and Shanxi in Central China; and Sichuan and Gansu in West China.