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Born with The Right Surname: Lineage Networks and Political and Economic Opportunities in Rural China

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Abstract

Rural China provides a useful case for investigating how traditional lineage networks affect people's political and economic opportunities in the new industrial economy. Since the 1950s, China's restrictive migration policy has frozen the size of lineages; and the Commune system has arbitrarily grouped multiple lineages into one administrative village. Household income was highly equalized within villages until 1979, when China began reforms and lineage networks started to shape different outcomes between members of different lineages within villages. Using the China Household Income Project Survey (2002) data and a village fixed-effects model, I find that, relative to the same-village fellows who are from smaller lineages, the husbands and wives of the largest local lineage are more likely to become the village administrators, and young men of the largest local lineage are more likely to have local non-agricultural jobs and higher wages. The paper also finds that the economic advantages of belonging to the largest local lineage diminishes as people age and eventually can be offset by the returns to education.

Keywords: kinship networks, lineage, non-agricultural job opportunity
JEL: O17 O15 O43

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1. Introduction

Economic transition in China since 1978 has shifted more than 130 million farmers to non-agricultural jobs. The share of non-agricultural workers in the rural labor force increased from 7.1 percent in 1978 to 31.6 percent in 2000. And the growth of non-agricultural income accounts for 45 percent of the growth of total income of rural population.[2] As rural China makes stride towards a modern economy, local rituals are still structured by traditional lineage organizations, which are built upon ancestral worship and blood ties. Over generations, lineage identity has embodied a strong trust and solidarity with kin, which naturally excludes individuals who are not kin (Peng, 2004). When economic development encounters a traditional institution, what is the role of the traditional institution in distributing the increasing economic opportunities? Specifically, this paper investigates the impact of people's lineage backgrounds on their non-agricultural job opportunities, job locations and wages. Munshi and Rosenzweig (2006) investigate the role of caste networks in India's transitional economy. They find that the caste networks keep boys from moving out of traditional low-skill occupations, though girls who traditionally are not tied to the networks are more likely to explore the opportunities of the new economy. Unlike Indian castes, which are built on social class, lineages in China are built on blood relations. No lineage has an inherent superiority or inferiority, and, in fact, lineages compete against each other for local political prestige and economic resources (Baker, 1979). Hence, one would expect the findings in China to be different from those in India: China's lineage networks would probably support their members to grasp political and economic opportunities, rather than put fetters on them. Since men traditionally have higher status than women in patrilineal lineages, male members are expected to receive stronger support from

[2] The data are released by the China Statistic Bureau.

lineage networks than female members. In addition, village administrators in China have a strong influence over the allocation and management of local economic resources[3] (Hu 2005). This paper, therefore, also investigates the impact of people's lineages on their political status, and examines the association between political status and labor market outcomes.

This paper is embedded in two fields of literature. One is on kinship networks in developing countries. In those countries, markets don't function well because transaction costs such as search costs and enforcement costs can be too high. Kinship networks, instead, become an important non-market institution to facilitate the exchange of goods and services. The large body of literature on kinship networks pays most attention to inter-household risk-sharing. Evidence that related households pool income to cope with risks and smooth consumption is found in many traditional agricultural economies, such as India (Rosenzweig and Stark, 1989), Thailand (Townsend, 1995), Nigeria (Udry 1995), Mexico (Angelucci 2009) and The Phillipines (Fafchamps and Lund, 1997). However, what is the role of kinship networks as the agricultural population experiences economic transitions? The literature addressing this question tends to study migrants. Kinship networks are found to assist migrants to make the move (Dolfin and Genicot, 2006), look for jobs (Munshi, 2003) and establish their own business (Toussaint-Comeau, 2008) in the destinations. Yet, these findings do not explain the role of kinship networks as the local economy transitions from an agricultural to a modern economy. China provides a useful setting to study the question, as many villages with hundreds of years of history are experiencing a rapid economic development.

The second field of related literature is on social networks and labor-market search and matching. Montgomery (1991) develops a formal model explaining the importance of employee

[3] The resources range from land distribution, issuing business licenses, and collecting taxes to managing the construction of public projects and managing village enterprises.

referrals in the hiring process. Empirical research on social networks and job search often use the population of the same ethnicity (Barr and Oduro, 2002), origin (Yamauchi and Tanabe, 2008), or census block (Topa, Ross and Bayer, 2008) to approximate social networks. However, these may not be good proxies since people of the same ethnicity, origin or block do not necessarily contact each other. Fafchamps and Lund (1997) find that mutual help does not take place at the village level but through friends and relatives. People who are related by blood or marriage are a natural resource for networking. O'Regan and Quigley (1993) and Furtado and Theodoropoulos (2010) find that working parents and spouses facilitate one's access to jobs. Zhang and Li (2003) find that family members' help can increase a rural laborer's probability of obtaining a nonfarm job. These studies focus on the nuclear family's members. Yet, they do not take into account that every household is embedded within an extended family network. Understanding the role of extended family networks is important to understand how labor markets function in developing countries. The paucity of the research on the role of the extended family in people's labor market outcomes probably is due to the fact that it is hard to identify the family ties between households in common datasets. The unique Chinese culture of patrilineal lineage allows me to easily identify extended families.

In rural China, the hundreds-of-years-old tradition is that extended families related in men's line live in one settlement and form a lineage. The size of a lineage ranges from a few to a few hundred households. All men in one lineage are descendants of a common ancestor, and, consequently bear the same surname. The surname composition of a village represents the composition of the village's lineages.[4] Data from the 2002 China Household Income Project Survey (CHIPS) provide the information on whether an individual bears the most common surname in his village. Given this valuable information, this paper asks the empirical question:

[4] Yet, it is possible that a single lineage can be divided into different lineage branches (Cohen, 1990).

Do members of the largest local lineage have better economic or political outcomes than their same-village fellows who are from smaller local lineages? A lineage in China is more than a cluster of extended families. Dating back to imperial China, lineages acted as local self-governance units with internal ritual codes and economic and political structures to hold lineage members together. Though the structures and the autonomy of traditional lineage organizations ceased to exist after the Communist Party took rule, lineage identity still plays an important role in the inter-personal contacts of today's rural population. As a result, a large lineage naturally presents more networking resources to its members than a small lineage does.

China presents an excellent case in which to study the impact of the size of a lineage on its members' outcomes because a series of China's policies have produced a quasi-experiment in the sizes of lineages. First, in 1958, China enacted the household registration system, which inhibits free migrations and essentially ties rural people to the land where they were born. Thus, the lineage composition in rural villages has remained static since 1958.[5] Given that the oldest people studied by this paper were teenagers in 1958—and many others in this study had not been born yet—the composition of lineages in the villages in my sample is a pre-determined condition rather than a result of personal choices. Second, shortly after communist China was founded in 1949, the central government set up administrative villages as the lowest level of formal government in order to strengthen the ruling party's control and to build up the Commune system. An administrative village arbitrarily included one or more lineages[6] because the size was determined by the needs of collective farming rather than by the ritual connection among

[5] The household registration system has been partially relaxed since the 1980s. The surplus rural laborers pour to cities seeking non-agricultural jobs. However, rural workers do not have the same access as urban citizens to medication, pension, housing and children's schooling in cities, which makes permanent rural-to-urban migrations still extremely difficult. Most rural workers have to commute between cities and their original villages several times a year.

[6] A very large lineage can be broken into several single lineage brigades.

people. People in one administrative village, regardless of their lineages, all have been exposed to the same political and economic system. Economic equality within villages was extremely high during the 1960s and 1970s, as the Commune system was consolidated at that time. Yet, inter-village economic inequality could still be large because the villages with better land or access to water produced more for the members to divide up (Blecher, 2003, pp.140). The within-village equality gradually disappeared in the 1980s, as China started its the economic reform and abandoned the Commune system. Therefore, I use an administrative-village fixed-effects model to compare people's outcomes in 2002 across lineages but within villages. The village fixed-effects control for the pre-determined economic status about 25 years ago, as well as for the village political system and geographic conditions.

To further present evidence that the advantage of belonging to a large lineage arises from networking resources, I investigate whether the impact of belonging to the largest local lineage varies by gender and by age. If the impact is stronger for members who are more tied to the networks (e.g., men vs. women) or who need the networks more (e.g., young vs. old), this can rule out an alternative explanation that people from the largest local lineage perform better because they have, on average, better unobservable abilities, such as intelligence and health, than members from smaller local lineages.

The major findings of the paper include the following: (1) Husbands and wives of the largest local lineage are more likely than their same village fellows who are from smaller local lineages to obtain local political administrator positions. (2) Young men of the largest local lineage are more likely to have non-agricultural jobs and tend to have higher wages than their same-village fellows who are from smaller local lineages. However, old men's lineage backgrounds do not affect their job opportunities and wages. In the long run, educational background matters more

than lineage. (3) Workers from the largest local lineage are more likely than their counterparts to work in their own towns instead of migrating to cities to work. This suggests that the economic advantages of the largest local lineage may arise from their local political power.

The remainder of this paper is composed of five sections: Section 2 provides a theoretical framework, which suggests that reciprocity can perform better in large lineage networks than in small lineage networks. Section 3 discussed the history of lineage and village governance in rural China. Section 4 introduces the data. Sections 5 and 6, respectively, present the empirical models and the results. Section 7 concludes.

2. Theoretical Framework

In the absence of formal institutions, inter-household exchange plays a key role in rural China. This system is maintained and enforced through trading favors and reciprocity, which essentially means: I help you today because I expect you to help me tomorrow (Posner, 1980). The help can take many forms: providing money, services or information.[7] The idea of self-enforcing reciprocity was formalized with repeated game theory models, in which a defection is deterred by threatening exclusion from future exchange (Kimball, 1988; Coate and Ravallion, 1993). Kinship clans built on blood ties provide a perfect environment for enforcing an informal arrangement because the informal arrangement is embedded in a long-term and multifaceted relationship (Kranton, 1996, Cox and Fafchamps, 2008). First, the households in a kinship clan have been clustered together for generations, and this long-lasting connection increases an

[7] For example, I lend you money today to pay your family member's medical bill because I expect you to lend me money in the future if I lose my job (Fafchamps and Lund, 2003); an incumbent village leader would like to support his fellow kin's business because he expects his kin to vote for him to beat the challengers (Peng, 2004); an employer would like to share information about the trustworthiness of job candidates with another employer because the first employer expects that his fellow would do the same for him in the future (Gerxhani, Brandts, and Schram, 2011).

individual's belief that his offspring may need others' help in the future, which, in turn, gives him more incentive to help others if asked right now (Coate and Ravallion, 1993). Second, in kinship clans, a defector not only loses future exchange within the arrangement, but can also be denied other benefits associated with the clan, such as socialization, participation in ritual events, and access to potential mates (Basu, 1986).

A large lineage is likely to implement an informal arrangement better than a small lineage for two reasons. First, the cost of defection potentially rises as the lineage size increases. Consider that network links carry both transfers and information. Consequently, a deviant may be denied future exchange not only with the victim but also with the victim's friends. In a complete network, where everyone knows everyone else, the punishment could be as severe as leaving the deviant in autarky. Bloch, Genicot and Ray (2006) define this case as strong punishment, and they prove that under strong punishment, the complete networks are stable. Lineage organizations in China are, indeed, complete networks, as the genealogical books make it easy for everyone to know their kin. Therefore, under the threat of strong punishment, a member of a large lineage is less likely than a member of a small lineage to renege, because the former would lose more links than the latter should a defection happen. The second reason arises from statistical economies of a large cluster of population. As the lineage size increases, the fluctuation of income[8] and labor market outcomes among individuals can be less correlated. Calvo-Armengol and Jackson (2004) show that, when a complete network has more agents, the correlation between two agents' employment decreases.[9] As two agents face a less covariate stream of status, each agent is more willing to offer help if he has better status than the other because he knows that there might be a good chance that they will receive reverse draws in the

[8] I use data from the CHIPS and find that the variation of household income increases as the lineage size increases.
[9] This is due to the decreased importance of any single link if an agent has many links.

future (Coate and Ravallion, 2003). Due to the above two reasons, large lineages are expected to be more stable than small lineages and to provide better support to the members who need help.[10]

3. History of Lineage and Village Governance in Rural China

The history of lineage organizations has occurred in three stages. The first stage lasted about nine hundred years. The lineage organization started to take shape in 1000 AD. After hundreds of years of development, it prevailed in China from 1700AD (Qing dynasty) untill 1949. The second stage was Mao's era (1949-1976). Mao's communist government put tremendous effort into dismantling the lineage organizations and replacing them with the Party government. The third stage is the post-Mao era. The lineage organizations have revived since China began its the economic and political reforms.

In imperial times, a lineage was a local ritual, economic and political organization. Large lineages were marked by: ancestral halls, the shrines where the common ancestors were consecrated; genealogies, the books where lineage histories and family trees were recorded; and trust land, which member households jointly owned and farmed[11] (Ruf, 1998). The revenue from the trust land was used on public goods such as schools, roads, irrigation facilities, and charities. Each lineage was under the leadership of a council of senior male elites, who were rich and well-educated. The council enforced the lineage rules, which were codes of conduct written

[10] Some scholars on social networks find that community size is negatively correlated with prosocial behaviors. This can be because, as the community size increases, an individual has to spend less time socializing with each friend (Putnam, 1995), or social networks are less interconnected (Allcott, Karlan, Mobius and Rosenblat, 2007). However, the communities these papers refer to are cities or schools. On the contrary, China's lineages are built upon blood ties, which won't be dissipated with loose contacts. In addition, the physical proximity between member households and the rituals, such as annual ancestor worship and compiling genealogies, in China's lineage organizations has lasted over generations. All these traditions not only make a lineage a complete network but also reduce the cost of maintaining connections with each other. Therefore, an increase in the lineage size may not necessarily weaken the ties between clan members.

[11] The trust land usually account for less than 40% of the total cultivated land of a lineage. The rest is the private land owned by each household (Baker, 1979).

in the genealogy books.[12] (Baker, 1979) Lineages in imperial China actually functioned in a similar manner as churches in western culture, except that Chinese worshipped their ancestors.

Internally, lineages in imperial China were self-governance organizations. Externally, neighboring lineages were rivals competing for resources and prestige (Baker, 1979). All lineages had distinct territories in which outsiders are not allowed to own land. In south China, where lineage organizations were traditionally more prevalent than the north, large lineages even built high walls surrounding their territories to guard against potential attacks from other lineages. It is evident that lineages in imperial China set boundaries to people's social life.

After communist China was founded in 1949, one of the major goals of Mao's government was to establish an effective village administration to replace local lineage organizations. It took the Party only four years to organize the Commune system, within which the brigade was the lowest level of local administration. A brigade consisted of 300-500 households, or 1,000-2,000 people, which usually included multiple neighboring lineages.[13] The size of a brigade was determined by the need for collective production. Each brigade was under the leadership of a Party branch committee. The committee members were from poor families and did not necessarily have a good education, which was in contrast to lineage leaders in the past. In order to weaken agnatic solidarity between rich and poor kin and to diffuse lineage identity, the Party launched the Cultural Revolution (1966-1976) to inject the ideology of class consciousness and class struggle. The government label agnatic loyalty as "feudal poison." Ancestral halls were torn down, and genealogical books were burned. Lineage identity seemed to be reduced to a lingering mentality (Peng, 2004).

[12] Those rules essentially reflected the ideology of Confucianism and set up the rights and duties between man and woman, man and man, and man and the state (Freedman, 1958).
[13] A very large lineage can be broken into several single-lineage brigades.

The dormant culture of lineage started to revive shortly after the economic and political reform took place in 1978. The Commune system was officially abolished and replaced by the household responsibility contract system, in which farm lands were allocated to households, and households were free to sell their products after fulfilling the contract with government. Brigades were renamed "administrative villages." The native adult residents of each village now elect a village council, which shares political power with the Party branch committee.[14] Both the household-based farming and the election systems have made mutual help and support between households desirable. Ancestral halls have been rebuilt and genealogical books reprinted. The long time tradition of lineage networks, therefore, has regained its importance in shaping the economic and political status of the people.

4. Data

The data I use are from the rural section of the CHIPS 2002.[15] The survey interviewed 9200 randomly-selected rural households from 961 villages in 22 provinces. Every individual in the surveyed households answered questions about his/her personal information. The household-level questions were answered by household heads, and the village-level questions were answered by village heads.

There are three questions related to surnames. The first one is a household-level question, and the other two are village-level questions. Q1. "Does your family belong to the largest surname lineage in the village?" Q2. "Is the percentage of the largest surname households to total number of households more than 50%?" Q3. "Is the percentage of the top five largest

[14] There is no official rule for how the power is distributed between the village committee and the Party branch (Oi and Rozelle, 2000).
[15] The survey has two earlier waves: 1988 and 1985. But the earlier waves don't have questions about villagers' surnames and lineages.

surnames to total number of households more than 50%?" There is no precise information in the survey about how large the largest local lineage is compared to other local lineages. Nevertheless, using the answers to Q2 and Q3, one can define three types of villages to reflect three levels of dominance of the largest surname in local villages. Villages that answer "yes" to Q2 are type 1 villages. Villages that answer "no" to Q2 and "yes" to Q3 are type 2 villages. Villages who answer "no" to both Q2 and Q3 are type 3 villages. The largest local surname is the most dominant in type 1 villages, moderately dominant in type 2 villages, and the least dominant in type 3 villages. Figure A1 roughly illustrates the lineage compositions in the three types of villages. I use the surveyed households to calculate the percentage of the largest surname households to all the households in each village. On average, the types 1, 2 and 3 villages, respectively, have 71 percent, 37 percent and 15 percent of households bearing the largest local surname. The breakdowns of the surveyed villages into the three types are 30 percent, 37 percent and 33 percent (287:354:319).

In Table A1, I summarize the basic statistics of the three types of villages. I first compare types 1 and 3 because the lineage compositions of the two types of villages are distinctly different. Type 1 villages are smaller than type 3 in both population and farm land area. Type 1 villages are more likely than type 3 to be located in mountainous areas and less likely to be in suburbs of large cities. Despite that the locations of type 1 villages tend to be isolated, they turn out to be richer than type 3 villages. The 2002 per capita income in type 1 villages was greater and had grown faster since 1990 than that in type 3. Type 1 villages also are more likely than type 3 to have village enterprises, which can provide people with local non-agricultural jobs. With regard to politics, the village council members are chosen by election in almost all villages. In most cases, villagers, and not the upper level administrators, nominate the candidates who run

for village councils. However, the chances that villagers do the nomination are higher in type 3 villages than type 1. For the majority of the variables in Table A1, the values of type 2 villages are located between types 1 and 3 and are closer to type 1 than to type 3.

The observation that type 1 and 2 villages tend to have better economic conditions than type 3 villages suggests that the members of large lineages may, on average, do better economically than the members of small lineages. This is consistent with the prediction from the theory in Section 2. However, type 1 and 2 villages also differ from type 3 villages in other respects, such as geographic factors, which can simultaneously determine the lineage compositions and economic outcomes. Therefore, one cannot yet assume any causality between lineage size and the economic outcomes from Table A1.

5. The Empirical Models

I use an administrative-village fixed effects model to estimate the impact of lineage size on lineage members' economic and political status.

$$\text{outcome}_{ij} = \beta_j + \beta_1 D_i(= 1 \text{ if } i \text{ bears the largest surname in village } j) + X_{ij}\beta_2 + \varepsilon_{ij} \quad (1)$$

The subscripts i and j indicate the person i living in the village j. The outcome variables include the probability of being a village *cadre*,[16] the probability of having a non-agricultural job, and the natural log of wage. β_j is the administrative village fixed effects. D_i is an indicator variable which is one if person i bears the largest surname in village j, and zero otherwise. X_{ij} represents a vector of individual characteristics. ε_{ij} is the error term. The empirical question is

[16] Cadre means administrators in China. In both Russia's and China's revolutionary eras, the word refers to a group of leaders active in promoting the revolution of the communist party. It no longer has any revolutionary implications in today's China.

whether members of the largest surname lineage in one village tend to have better economic and political outcomes than members of other lineages in the same village.

Using the administrative village fixed effects model, β_1 is estimated by comparing people from different lineages within a village. This can rule out attributing the effects of geography, natural endowment, and political institutions to that of the size of lineage. Moreover, the village fixed-effects model can make up for the shortcomings of using a cross-sectional dataset. Due to the history of the Commune system, households in single village had very equal economic conditions until 1979. Hence, the village fixed-effects also function as controls of pre-determined economic conditions.

However, the village fixed-effects model cannot rule out the case that there may be some unobservable systematic differences between large and small lineages, such as intelligence and health genes, which affect both the size of a lineage and the economic and political outcomes of its members. I address this concern by comparing the effect of belonging to the largest local lineage on husbands vs. wives and also on young vs. old people. Detailed discussions on this are in Section 6.

To further present the evidence of lineage networking, I use a second model to show the association between an individual's outcome and his kin's outcomes. The model is written as Equation (2).

$$\text{outcome}_{ijpt} = \beta_p + \beta_1 N_{-i,jp(t-1)} + \beta_2 M_{-i,jp(t-1)} + V_{jp}\beta_3 + X_{ijpt}\beta_4 + \nu_{ijpt}. \qquad (2)$$

The outcome variable is the current political or economic status of a person i in the village j in the province p. The outcomes include the probability of currently being a village leader and the probability of currently having a non-agricultural job. $N_{-i,jp(t-1)}$ represents the past political or economic outcomes of the people from the largest local lineage at the village j in the province p.

$M_{-i,jp(t-1)}$ represents the past political or economic outcomes of the people from other lineages at village j in province p. The person i's outcome is excluded from $N_{-i,jp(t-1)}$ and $M_{-i,jp(t-1)}$. I can't use village fixed effects for this model because both $N_{-i,jp(t-1)}$ and $M_{-i,jp(t-1)}$ are village-level explanatory variables. Instead, I use province fixed-effects to control for geographic and political institutional variations. V_{jp} is a vector of village characteristics and X_{ijpt} represents a vector of individual characteristics, and ν_{ijpt} is the error term. The hypothesis about the value of β_1 and β_2 depends on the person i's lineage background:

	i is from the largest local lineage	i is from a smaller local lineage
β_1	+	0
β_2	0	+ or 0

If the person i is from the largest local lineage, β_1 is hypothesized to be positive and β_2 is hypothesized to be zero. If the person i is from a smaller local lineage, β_1 is hypothesized to be zero and β_2 can be either positive or zero because $M_{-i,jp(t-1)}$ is not a precise measure of the person i's same-lineage fellows. The model attempts to show that an individual's outcome is associated with the historical outcomes of his same-lineage fellows, but not with those of someone outside of his lineage.

Model (2) can also be used to rule out the gene argument. If members of the largest local lineage outperform their counterparts from smaller local lineages is because large lineage members possess better genes, one would expect the estimation of model (2) to generate the following results:

	i is from the largest local lineage	i is from a smaller local lineage
β_1	+	0
β_2	+	0

Both $N_{-i,jp(t-1)}$ and $M_{-i,jp(t-1)}$ can be considered the supply of local cadre and job positions. If the population of the largest local lineage is smarter than the population of smaller local lineages, the former is expected to capture all opportunities better than the latter, whether or not these positions were previously held by the largest local lineage members or other local lineage members. In this case, β_1 and β_2 could both be positive if a person i is from the largest local lineage and zero if the person i is from smaller local lineages.

6. The Results

6.1 The Evidence of Mutual Help

The theory in Section 2 suggests that informal exchanges are better enforced as the size of lineage increases. I, therefore, use equation (1) to test whether mutual help is more likely to happen among the largest local lineage members than among those of the smaller lineages in the same village. The survey asks household heads a series of questions on mutual help: Do you often receive help from your neighbors and relatives[17] in (a) farming (b) money (c) looking after the sick, senior or young (d) wedding or funeral ceremonies. For each question, I construct a binary dependent variable that is one if the answer is "very often" or "often" and zero if the answer is "a few times" or "none." The results are presented in Table 1. The first four estimations in Column (1) indicate that belonging to the largest local lineage increases one's likelihood of receiving frequent help in farming and borrowing money by five percentage points, and in caring for family members and hosting weddings or funerals by 2.5 percentage points. The estimation in Column (1) shows that belonging to the largest local lineage reduces one's loss in case of natural disasters by eight percent. The contrast of Columns (2) and (3) shows that the

[17] I consider "neighbors and relatives" as lineage fellows, because extended families cluster in the lineage territory.

impact of belonging to the largest local lineage is strong in type 1 and 2 villages, but diminishes to zero in type 3 villages. This is because the size difference between the largest lineage and other lineages is more dramatic in type 1 and 2 than in type 3 villages. The results in Table 1 suggest that members of large lineages are more willing to cooperate than members of small lineages are.

6.2 Political Outcomes

I now examine the impact of belonging to the largest local lineage on people's political status. Recall from Section 3 that the village administration authority is shared by two groups: the village Party branch and the village council. The chief-secretary of the village Party branch is appointed by the county-level Party committee, while the village council chief is elected by adult villagers. CHIPS data indicate only whether a person is a cadre member but do not distinguish between the two groups. Nevertheless, bearing the largest local surname may increase one's likelihood of becoming either a cadre member of either group. On the one hand, the members of the largest local lineage are more likely to be appointed chief-secretary of the Party branch because they are believed to have more supporters in the village than members of smaller local lineages (Xiao, 2002). On the other hand, a candidate from the largest local lineage who runs for chief of the village council can use the size advantage of his lineage to garner the most votes. In addition, candidates for chief of the village council sometimes are nominated by chief-secretary of the village Party branch. The chief-secretary is likely to try to have someone from his own lineage elected (Xiao, 2002).[18] In the CHIPS data, people from the largest local

[18] Popular strategies of the chief-secretaries include nominating a single candidate, or nominating a strong candidate from their own lineage and weak candidates from other lineages.

lineage account for 42 percent of the total population, but 47 percent of all cadre members.[19] This indicates that large local lineages are over-represented in the village's administration.

I restrict the sample to men and women aged between 26 and 60 and use equation (1) to test whether the largest local lineage grant their members any political advantages. The outcome variable is a binary indicator which is one if the person has ever been a village cadre member. If the cadre members are random selected, it should not matter whether one bears the largest local surname. However, the results in Table 2 indicate otherwise. Column (1) indicates that men bearing the largest local surname are 2.7 percentage points more likely than their same-village fellows from smaller lineages to have ever been a village cadre member. Considering that the average probability of having ever been a cadre member for men from smaller local lineages is 18.7 percentage points, belonging to the largest local lineage can increase the probability by 14 percent. Columns (2) and (3) show that the impact of bearing the largest surname on becoming a cadre member is strong in the type 1 and 2 villages but diminishes to zero in the type 3 villages.

Since the size of lineages can be endogenous, an alternative interpretation of the results in Columns (1) – (3) of Table 2 can be that members of the largest lineages are smarter than those from small lineages. To address this concern, I examine the link between women's probability of being cadre members and their lineages' size. Column (4) of Table 2 shows that women who are the daughters of the largest local lineage and who live with their parents are no more likely than their smaller lineage counterparts to have ever been village cadre members. In contrast, Column (5) of Table 2 indicates that wives of the members of the largest local lineage are 1.8 percentage points more likely than wives of the members of smaller local lineages to be village cadre members. Considering that the average probability of having ever been a village cadre

[19] Wang et al. (2000) surveyed 60 villages from six provinces and found that 62 percent of all village cadre members are from the largest local lineages.

member for wives from smaller local lineages is 8.2 percentage points, marrying the members of the largest local lineage can increase that probability of wives by 22%, which is a substantial impact. Chinese custom prohibits lineage endogamy. Wives must come from other lineages, and, after marriage, they are considered members of their husbands' lineages (Baker, 1979). Unmarried single women are members of their fathers' lineages. Daughters are ranked lower than their mothers in the lineages because daughters will eventually marry into other lineages. The finding that married women, rather than daughters, benefit from the size of the lineage provides strong evidence to rule out the argument that large-lineage members perform better because they have better genes than small-lineage members.

However, marriage can be considered a process of sorting and matching. Women who marry into the largest local lineage may be smarter or politically more ambitious than other women. If this is the case, adding the husbands' characteristics as control variables should significantly change the point estimate of the impact of marrying into the largest local lineage because the husbands' characteristics should contain the information of sorting. For example, a politically ambitious woman may prefer to marry a man who has been a village leader. In Column (6) of Table 2, I add several control variables of husbands' information, including years of schooling, a quadratic form of age, and an indicator of having ever been a village cadre member. The result in Column (6) indicates that the point estimate of the impact of belonging to the largest local lineage remains the same as that in Column (5). This suggests that marriage sorting is not the main reasons why wives in the largest local lineage are politically more successful than wives in smaller local lineages.

To become a village cadre member, one needs support from either "up" or "down." "Up" refers to upper-level administrators, while "Down" refers to ordinary villagers. Empirical

evidence is presented next to show that the largest local lineage can provide better support to their candidates from both "up" and "down." Since upper-level administrators are generally promoted from the ranks of previous village cadre members, I first test the association between a man's likelihood of currently being a village cadre member with the number of the man's lineage fellows who used to be village cadre members. The empirical model is equation (2). The outcome variable is the probability of currently being a cadre member for a person i in village j in province p. $N_{-i,jp(t-1)}$ is the number of people (other than i), who are from the largest lineage at the village j in province p and who used to be cadre members. $M_{-i,jp(t-1)}$ is the number of people (other than i), who are from the other lineages at the village j in province p and who used to be cadre members. The vector of village characteristics control variables includes geographic characteristics, land area, population size, total number of current cadre members and village election characteristics.

The results are presented in Table 3. Column 1 shows that the likelihood of currently being a village cadre member for a man from the largest local lineage increases with the number of previous cadre members from his lineage. But this likelihood is not affected by the number of previous cadre members from other lineages. Column 2 of Table 3 shows that the likelihood of currently being a cadre member for a man from other lineages does not relate to the number of previous cadre members from the largest local lineage. The results for wives have the same pattern as those for men. The results in Table 3 suggest that lineages set boundaries to whom a person can receive support from. Previous cadre members support only candidates from their lineages. Since the largest local lineage has more previous cadre members than other local lineages, the largest local lineage can offer more support to their current candidates.

Next, I investigate the existence of support from ordinary villagers. I don't have the information from CHIPS about whom each villager voted for. Instead, villagers were asked two questions about their interaction with local administrators: (a) Did you socialize with village cadre members in the last three months? (b) Did you seek help from village cadre members in the last three months? I use the answers to these questions as outcome variables and use the model of equation (1) to test whether the answers depend on cadre members' and villagers' lineages. The results in Panel A of Table 4 indicate that in villages in which more than 40 percent of the cadre members are from the largest-surname lineage,[20] the villagers bearing the largest surname are more likely than villagers from other lineages to socialize with or seek help from the village cadre members. On the contrary, in villages in which fewer than 40 percent of the cadre members are from the largest-surname lineage, the villagers bearing the largest surname are less likely villagers from other lineages to socialize with or seek help from the cadres than. These results suggest that an ordinary villager is closer to the cadre members from his own lineage than to those from other lineages. Consequently, an ordinary villager is more likely to benefit from the cadre members' power if they are from the same lineage. This may explain why villagers would vote for candidates who are from their own lineages.

The CHIPS asked villagers to evaluate whether the village cadre members make an effort to promote villagers' wealth and whether they speak in the villagers' interest. The results in panel B of Table 5 show that the evaluations also depend on villagers' and cadre members' lineages. In the villages in which fewer than 40 percent of cadre members are from the largest-surname lineage, the evaluations from the villagers bearing the largest surname are significantly worse than those from villagers of other lineages. However, in the villages in which more than 40 percent of cadres are from the largest surname lineage, the evaluations of the villagers bearing

[20] The percentage of cadre members who are from the largest lineage is calculated using surveyed population.

the largest surname are slightly better, though not statistically significant, than those of villagers from other lineages. These results can be interpreted as villagers' prejudice, or they can indicate that the village cadre members truly treated villagers from their own clans better than other villagers. Although I cannot determine which interpretation is correct, either would make an ordinary villager prefer to vote for a candidate from his own lineage.

6.3 Economic Outcomes

Due to China's restrictive migration policy, it is extremely difficult for rural people to permanently migrate to cities. Farmers are tied to their land and rely on farming as the main source of family income. Each rural households has, on average, only 2,700m^2 (2/3 acre) of farm land, which is too small to generate an abundant family income. The huge amount of surplus labor force in rural China is eager to have non-agricultural jobs to increase family earnings.

6.3.1 Non-agricultural job opportunities

The CHIPS categorizes non-agricultural jobs into three types: (a) village or town[21] school teachers; (b) local workers who are employed in enterprises located in their own village or town; and (c) migrant workers who work in cities. I use the village fixed-effects model of equation (1) to link an individual's surname and his non-agricultural job opportunities. The analysis sample includes men and women aged between 16 and 60. The results are presented in Table 5. Column (1) shows that men bearing the largest surname are 3.7 percentage points more likely than men from other lineages in the same village to have a non-agricultural job. In contrast, Columns (6)-(8) shows that the largest local lineage gives neither the daughters nor the wives better chances of working in non-agriculture sectors than their counterparts belonging to other

[21] A town is a local administration unit in rural China, usually consisting of about ten villages.

local lineages. Column (7) does not include husband control variables,[22] while Column (8) does. Married women in rural area, regardless what lineages they marry into, traditionally don't seek jobs. The probability of having a non-agricultural job is only 16 percent for wives, as opposed to 60 percent for men. Columns (8) show that only education and family size affect wives' non-agriculture employment probabilities. However, unmarried daughters are active in seeking jobs. The probability of having a non-agricultural job for unmarried daughters is 50 percent, which is substantial. The contrast of men's and daughters' results again suggests that the impact of the largest local surname should not be attributed to biological differences, but should be a networking effect. The lineages in China's rural villages are built upon patrilineal kinship, which inevitably creates gender discrimination. For example, if the networking of local lineages can work out a job position for someone in the lineage, boys are always ranked before girls to receive this benefit. It turns out that among the non-agricultural workers, 78 percent of unmarried daughters and 70 percent of unmarried men work outside their own towns. The difference suggests that the girls who demand jobs have to work harder than boys to explore outside opportunities since local kinship networking does not favor girls. This is probably why local kinships have no impact on daughters' non-agricultural job probabilities. More discussion about the relationship between the place of work and the lineage networks is presented in Section 6.3.2.

Columns (2) and (3) in Table 5 compare the impact of bearing the largest local surname on non-agricultural job probabilities across different types of villages. The impact is strong in the type 1 and 2 villages but diminishes to zero in the type 3 villages. Columns (4) and (5) compare the surname impact between men aged between 16 and 35 and men aged between 36 and 60.

[22] These variables include the husband's years of schooling, a quadratic form of age, a binary variable indicating whether the husband has a non-agricultural job.

The results show that belonging to the largest local lineage is more beneficial to young men than to older men. Column (3) indicates that belonging to the largest local lineage increases young men's chances of having non-agricultural jobs by 5.3 percentage points. Considering that the average probability of having a non-agricultural job for young men from smaller local lineages is 56 percent, bearing the largest local surname increases young men's chances by about 10 percent. On the contrary, being from the largest local lineage does not increase older men's chances of having non-agricultural jobs.

The difference in the returns to years of schooling between young men and older men is worth noting. For young men, one additional year of schooling increases their non-agricultural job opportunity by 0.5 percentage point, which means that the impact of bearing the largest local surname is equivalent to ten years of schooling. However, when men are older than 35, the returns to one year of schooling becomes 1.8 percentage points, almost quadruple the effect for young men. These results suggest that frictions may exist in the labor market of rural China. It is hard for employers to observe young workers' productivity since the workers are all from farming families and have little experience or training in non-agricultural sectors. Consequently, job referrals can play an important role in the hiring process. Young men from the largest local lineage have more people to ask for referrals than their counterparts from smaller local lineages, and, thus, are more successful in obtaining jobs. As workers become more experienced, it is easier for employers to observe their productivity and job referrals become less important. Therefore, a good education, which tends to generate high productivity, can compensate for the disadvantage of belonging to a small lineage in the long run.

In order to further demonstrate that the impact of the largest local lineage works through lineage networks, I examine the association between young men's probability of having non-

agricultural jobs and the work experience of the older men from the same lineage. The model I use is equation (2). Under this scenario, the outcome variable is the indicator of whether a young men i at village j in province p work outside of his own town. $N_{-i,jp(t-1)}$ is the percentage of non-agricultural older workers among all the older men who come from the largest lineage in village j in province p. $M_{-i,jp(t-1)}$ is the percentage of non-agricultural old workers among all the old men who come from other smaller lineages in village j in province p. The result in Column (1) of Table 6 shows that the non-agricultural job probabilities of young men bearing the largest local surname positively correlates with the proportion of non-agricultural workers to older people from the same lineage, but has no correlation with other lineages. Column 2 shows that the result for the non-agricultural job opportunities of young men bearing other local surnames is the opposite: it has no correlation with the proportion of non-agricultural workers to older people from the largest local lineage but positively correlates with that of other local lineages. These results indicate that job referrals are more likely to happen within lineages than across lineages.

6.3.2. Local Workers or Migrant Workers

Villagers can work in non-agricultural jobs in their own towns or in cities. Kinship networking can be useful in both types of job-seeking. For example, networking with village cadre members, who usually have authority in hiring local public staff and village enterprise employees,[23] can increase one's chances of obtaining a local job; networking with earlier migrant workers from the same lineage can increase one's job opportunities in cities. One may wonder which type of job opportunities the lineage networking can better promote for its members. This

[23] As in many developing countries, the political power of administrators in China often involves the right to allocate economic resources. Chinese village cadre members have the authority in appointing managers of village enterprises, employ village public employees (e.g. school teachers), reallocating land, and determining large public investment (Qian, 2010).

is an interesting question because the answer to this question can shed light on the connection between political power and economic advantage in rural China. Since members from the largest local lineage are more likely to become village administrators, the local economic resources that are handled through political power may disproportionately benefit the villagers who bear the largest local surname. If the economic advantages of the local largest lineage truly arise from their political power, the advantages should only exist only locally because political power is constrained by the administrative border. I, therefore, test whether the non-agricultural workers from the largest local lineage are more likely than those from smaller local lineages to obtain local jobs or urban jobs. If the answer is local jobs, this suggests a strong connection between political power and economic advantage.

The model I use is equation (1). The outcome variable is a binary indicator that is one if a non-agricultural worker's main job is outside of his town. I use the sample of all non-agricultural male workers aged between 16 and 35 because earlier results show that they are the most likely to obtain their jobs through lineage networks. The result presented in Column (1) of Table 6 indicates that young workers from the largest local lineage are six percentage points less likely to become migrant workers than their counterparts from smaller local lineages. Considering that the average probability of being a migrant worker among young men from smaller local lineages is 60 percent, bearing the largest local surname reduces the probability by 10 percent. Columns (2) and (3) show that the impact of bearing the largest local surname on having a local non-agricultural job is stronger in type 1 and 2 than type 3 villages. The impact is also expected to be stronger in the villages where there is a local non-agricultural sector. Columns (4) and (5) of Table 6 show that in villages that have village enterprises, members of the largest local lineage are more likely than other villagers to have local jobs; in villages that

have no firms, there is no difference in the probability of having local jobs among workers across lineages.

In order to further demonstrate that political power and economic advantages are interwoven in China's villages, I examine the association between a young man's probability of becoming a migrant worker and the number of the man's lineage fellows who used to be village cadre members. The model I use is equation (2). The outcome variable is the indicator of whether a young men i in village j in province p work outside of his own town. $N_{-i,jp(t-1)}$ is the number of people (other than i) who are from the largest lineage in village j in province p and who used to be village cadre members. $M_{-i,jp(t-1)}$ is the number of people (other than i), who are from the other lineages in village j in province p and who used to be village cadre members. The results are presented in Table 7. Column (1) shows that the more people from the largest local lineage used to be village cadres, the less likely young men from the same lineage are to be migrant workers. In contrast, Column (4) shows that the probability of young men from smaller local lineages being a migrant worker is not associated with the number of previous cadre members either from the largest local lineage or from other local lineages. These results suggest that village cadre members may use their power to help others obtain local jobs, but they render this help is only to young men of their lineages. Consistent with the results in Table 7, Columns (2) and (3) in Table 8 show that political power can be capitalized to economic advantages only in the villages where are village enterprises.

The link between political and economic outcomes suggests a reciprocity process among lineage members, which can work in the following way: From a villager's point of view, he would like to vote his lineage fellows to be administrators because he expects that they will reward him or his family with job opportunities in the future; from a village administrator's point

of view, he would like to offer job opportunities to his lineage fellows rather than to members of other lineage, because he expects that the satisfied lineage fellows will support him in maintaining his leadership position.

6.3.3. Wages

Table 9 presents the wage difference between non-agricultural workers from the largest local lineage and those from smaller local lineages. The model is equation (1) where the outcome variable is the natural log of wage. The sample consists of all men and women aged between 16 and 60. Column (1) doesn't show a statistically significant difference between male workers from the largest local lineage and those from smaller local lineages. However, when the sample is restricted to type 1 and 2 villages, the result in Column (2) indicates that bearing the largest surname is associated with a 4.2-percent wage premium. In type 3 villages, there is no difference in men's wages across lineages. Columns (4) and (5) show that the wage premium of the largest local lineage members exists only for men aged between 16 and 35, and not for older men. The reason, perhaps, is still due to the frictions in the labor market of rural China: It is hard for employers to observe young workers' productivity and the well-paid jobs initially are more likely to be obtained by young men who have better networking resources. Columns (6)-(8) show that the wages of female members of the largest local lineage do not benefit from the size of their lineage as the male members do.

I also test whether the wage premium of bearing the largest local surname is greater for local workers or migrant workers. I revise the model of equation (1) to the following form:

$$\ln(\text{wage})_{ij} = \beta_j + \beta_1 D_i + \beta_2 (D_i * F_i) + \beta_3 F_i + X_{ij}\beta_2 + \varepsilon_{ij}. \quad (3)$$

D_i is an indicator of bearing the largest local surname. F_i is an indicator of migrant worker. Hence, β_1 measures the impact of bearing the largest local surname on local workers' wages.

$\beta_1 + \beta_2$ measures the impact of bearing the largest local surname on migrant workers' wages. The sample consists of young men aged between 16 and 35 because they are the people whose wages are affected by lineages. The results are presented in Table 9. Column (1) shows that bearing the largest surname increases wages by 12.3 percent for young local workers. However, the largest local surname has no impact on wages at all for young migrant workers. Then, I break the sample down into the villages having village enterprises and those having no enterprises. The villages with enterprises have similar results as in Column (1). In contrast, in villages with no enterprises, bearing the largest surname has no impact on local young workers' wages either. These results again indicate that the economic advantages of belonging to the largest local lineage exist only locally. The fact that economic advantages have a boundary suggests that it arises from the political power of the largest local lineage.

7. **Conclusion**

Like many developing countries, rural China is a place where a fast-growing economy is embedded with traditional institutions. The unique policies in China make the country a useful case to study the impact of lineage size on the members' political and economic outcomes. Beginning in the 1950s, China's restrictive migration policy froze the sizes of lineages, and the Commune system arbitrarily grouped multiple lineages into single administrative village. Household income was highly equalized within villages until 1979, when China started political and economic reforms and the lineage identity was resurrected. Exploring these policies, I compare today's political and economic outcomes between people from the largest local lineage and their same-village fellows from smaller local lineages. I attribute the difference in the

outcomes to lineage size because these two groups of people are the same in all aspects other than their lineages.

The empirical study using data from the China Household Income Project Survey (2002) finds: (1) Both men and wives of the largest local lineage are more likely than their smaller local lineage counterparts to obtain local political leadership positions. This finding suggests that the political advantage of large-lineage members arise from their larger networks, rather than from any biological differences from the smaller lineages. (2) Young men (age 35 or younger) of the largest local lineage are more likely to have non-agricultural jobs and tend to have higher wages than their smaller local lineages' counterparts. However, older men's lineages do not affect their employment probabilities and wages. This finding reflects the fact that the labor market in rural China has frictions, particularly for inexperienced workers, and that informal job referrals play an important role in job-seeking. (3) Young men from the largest local lineage are more likely than their counterparts from smaller local lineages to work in local enterprises instead of migrating to cities to work. In addition, the wage premium of belonging to the largest local lineage exists only among local workers, but not among migrant workers. The fact that the largest local lineages' economic advantages take place only locally suggests that the economic advantages may arise from their political power. (4) The economic advantages of men from the largest local lineage can be offset in the long run if people from smaller local lineages have a good education. This result suggests that education can be the key to promoting social mobility and formal market transactions in rural China.

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Table 1. Evidence of Mutual Help in Villages

	coefficient of "the largest surname" indicator		
	all	type 1&2 villages	type 3 villages
Dependent Variable	(1)	(2)	(3)
help farming	0.055**	0.068**	-0.002
	[0.026]	[0.030]	[0.053]
help money	0.052**	0.067**	0.003
	[0.026]	[0.030]	[0.052]
help caring the sick, senior or young	0.024**	0.035**	0.006
	[0.012]	[0.017]	[0.027]
help wedding and funeral ceremonies	0.026**	0.035**	-0.008
	[0.013]	[0.015]	[0.029]
ln(loss of annual income in case of natural disasters)	-0.082**	-0.094**	-0.017
	[0.035]	[0.037]	[0.088]

Notes:

All regressions include village fix-effects. The other control variables include years of schooling, a quadratic form of age, an indicator of marital status and the family size. Standard errors are clustered by village.

*** p<0.01, ** p<0.05, * p<0.1

Table 2. The Probability of Having Ever Been a Cadre Member

Dependent Variable: has ever been a cadre member = 1						
	Men			Daughters [a]	Wives	
	all	type 1&2 villages [b]	type 3 villages	all	all	
	(1)	(2)	(3)	(4)	(5)	(6)
largest surname	0.026**	0.029**	0.015	-0.006	0.018**	0.017*
	[0.012]	[0.014]	[0.025]	[0.027]	[0.009]	[0.009]
years of schooling	0.034***	0.032***	0.035***	0.003	0.008***	0.009***
	[0.002]	[0.002]	[0.003]	[0.005]	[0.001]	[0.001]
age	0.013***	0.016***	0.005	0.004	0.003	0.006
	[0.004]	[0.005]	[0.008]	[0.016]	[0.004]	[0.007]
age^2	0.000	0.000	0.000	0.000	0.000	0.000
	[0.000]	[0.000]	[0.000]	[0.000]	[0.000]	[0.000]
family size	0.051***	0.057***	0.04	0.005	-0.004	-0.004
	[0.018]	[0.021]	[0.032]	[0.026]	[0.003]	[0.003]
married	-0.004	-0.007	0.001	-0.001	-	-
	[0.004]	[0.004]	[0.006]	[0.008]	-	-
husband controls [c]	-	-	-	-	N	Y
# of observations	9841	6852	2973	1,364	7484	7484
# of villages	958	640	316	665	956	956
R^2	0.081	0.084	0.074	0.017	0.006	0.069

Notes:

a."Daughters" are the women who are daughters of the household heads. 70 percent of the daughters are unmarried girls. The largest surname indicator refers to their maiden names. "Wives" are the women who are spouses of the household heads. The largest surname indicator refers to their husbands' surnames.

b. The largest local surname is more dominant in type 1 and 2 villages than in type 3 villages. See text for details.

c. The "husband controls" include the husband's years of schooling, a quadratic form of husband's age, and an indicator of whether the husband has ever been a cadre member.

All regressions include village fix-effects. Standard errors are clustered by village.

*** p<0.01, ** p<0.05, * p<0.1

Table 3. Lineage Networking and the Probability of Currently Being a Cadre Member

Dependent Variable: currently being a cadre member = 1				
	Men		Wives	
	of the largest surname	of other surnames	of the largest surname	of other surnames
	(1)	(2)	(3)	(4)
# of previous cadre members bearing the largest surname	0.012***	0.006	0.004**	0.003
	[0.003]	[0.004]	[0.002]	[0.002]
# of previous cadre members bearing other surnames	0.003	0.005*	0.003	0.000
	[0.004]	[0.003]	[0.003]	[0.002]
years of schooling	0.015***	0.008***	0.002	0.003**
	[0.003]	[0.003]	[0.002]	[0.001]
age	0.015	-0.012	-0.002	0.017
	[0.020]	[0.019]	[0.011]	[0.011]
age^2	0.000	0.000	0.000	0.000
	[0.000]	[0.000]	[0.000]	[0.000]
married	0.016	0.047	-0.136**	0.023
	[0.040]	[0.045]	[0.064]	[0.043]
family size	0.002	-0.013**	0.001	-0.005
	[0.006]	[0.006]	[0.004]	[0.003]
village characteristics [a]	Y	Y	Y	Y
# of observations	1,441	1,496	1,553	1,566
# of provinces	22	22	22	22
R^2	0.034	0.027	0.052	0.043

Notes:

a. The village characteristics include the geographic characteristics, an indicator of whether the village belongs to a National Poverty County, the natural log of village population and land area, the indicators of the types of village elections.

All regressions use province fix-effects model. Robust stand errors are in brackets.

*** p<0.01, ** p<0.05, * p<0.1

Table 4. The Relations between Villagers and Cadre Members

	≥40% of village cadre members are of largest surname	<40%	≥40% of village cadre members are of largest surname	<40%
	(1)	(2)	(3)	(4)
Panel A. Socialization	seek help from cadre members		socialize with cadre members	
largest surname	0.995**	-0.588	0.438*	-0.648**
	[0.441]	[0.783]	[0.232]	[0.271]
Panel B. Evaluations	Does the cadre promote wealth?		Does the cadre speak for people?	
largest surname	0.178	-0.760**	0.218	-0.699*
	[0.228]	[0.298]	[0.254]	[0.413]

Notes:

All regressions control for years of schooling, a quadratic form of age, marital status indicator, and family size. All regressions use village fix-effects model. Standard errors are clustered by village.

*** p<0.01, ** p<0.05, * p<0.1

Table 5. The Probability of having a non-agricultural job

Dependent Variable: has a non-agricultural job = 1								
	Men					Daughters [a]	Wives	
	all	type 1&2 villages [b]	type 3 villages	age 16-35	age 36-60	all	all	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
largest surname	0.037***	0.045***	0.008	0.053***	0.023	-0.007	-0.002	-0.003
	[0.012]	[0.014]	[0.025]	[0.018]	[0.015]	[0.025]	[0.011]	[0.011]
years of schooling	0.015***	0.013***	0.021***	0.005*	0.018***	-0.013***	0.013***	0.012***
	[0.002]	[0.002]	[0.003]	[0.003]	[0.002]	[0.004]	[0.002]	[0.002]
age	0.046***	0.045***	0.049***	0.100***	-0.025**	0.150***	0.020***	0.002
	[0.003]	[0.003]	[0.005]	[0.012]	[0.011]	[0.010]	[0.004]	[0.007]
age^2	-0.001***	-0.001***	-0.001***	-0.002***	0.000	-0.002***	-0.000***	0.000
	[0.000]	[0.000]	[0.000]	[0.000]	[0.000]	[0.000]	[0.000]	[0.000]
married	0.070***	0.062***	0.096***	0.012	0.120***	-0.279***	-0.02	-0.021
	[0.015]	[0.018]	[0.026]	[0.019]	[0.030]	[0.032]	[0.048]	[0.048]
family size	-0.036***	-0.043***	-0.021***	-0.026***	-0.041***	0.013	-0.017***	-0.017***
	[0.004]	[0.004]	[0.006]	[0.005]	[0.005]	[0.008]	[0.003]	[0.003]
husband controls [c]	-	-	-	-	-	-	N	Y
observations	12,708	8,901	3,787	5,643	7,065	3,474	7,858	7,832
# of villages	958	640	316	950	958	905	959	958
R^2	0.071	0.07	0.081	0.082	0.084	0.111	0.046	0.049

Notes:

a."Daughters" are the women who are daughters of the household heads. 70 percent of the daughters are unmarried girls. The largest surname indicator refers to their maiden names. "Wives" are the women who are spouses of the household heads. The largest surname indicator refers to their husbands' surnames.

b. The largest local surname is more dominant in type 1and 2 villages than in type 3 villages. See text for details.

c. The "husband controls" include the husband's years of schooling, a quadratic form of husband's age, and an indicator of whether the husband has a non-agricultural job.

All regressions use village fix-effects model. Stand errors are clustered by village. *** p<0.01, ** p<0.05, * p<0.1

Table 6. Lineage Networking and The Probability of Having a Non-agricultural Job

Dependent Variable: has a non-agricultural job = 1		
	Men aged 16-35	
	of the largest surname	of other surnames
	(1)	(2)
% of non-agricultural workers in old people of the largest surname	0.088**	0.067
	[0.042]	[0.044]
% of non-agricultural old workers in old people of other surnames	0.036	0.146***
	[0.034]	[0.050]
years of schooling	0.004	0.01
	[0.006]	[0.007]
age	0.109***	0.197***
	[0.022]	[0.045]
age^2	-0.002***	-0.004***
	[0.000]	[0.001]
married	-0.004	0.012
	[0.035]	[0.042]
family size	-0.019*	-0.025*
	[0.010]	[0.013]
village characteristics [a]	Y	Y
# of observations	1,502	1,128
# of Provinces	22	22
R^2	0.091	0.083

Notes:

a. The village characteristics include the geographic characteristics, an indicator of whether the village belongs to a National Poverty County, the natural log of village population and land area.

All regressions use province fix-effects model. Standard errors are clustered by village. *** p<0.01, ** p<0.05, * p<0.1

Table 7. The Place of Work

Dependent Variable: migrant worker = 1					
	All men aged 16-35	type 1&2 villages [a]	type 3 village	has village enterprises	has no village enterprises
	(1)	(2)	(3)	(4)	(5)
largest surname	-0.060**	-0.070**	-0.021	-0.076*	-0.002
	[0.030]	[0.032]	[0.082]	[0.044]	[0.043]
years of schooling	0.002	0.000	0.006	0.006	-0.001
	[0.005]	[0.006]	[0.013]	[0.007]	[0.007]
age	0.065	0.034	0.173*	0.106**	0.015
	[0.043]	[0.048]	[0.101]	[0.043]	[0.045]
age^2	-0.001	-0.001	-0.004*	-0.002**	0.000
	[0.001]	[0.001]	[0.002]	[0.001]	[0.001]
married	-0.096***	-0.123***	0.007	-0.090***	-0.103***
	[0.027]	[0.030]	[0.057]	[0.034]	[0.037]
family size	0.018**	0.018*	0.011	0.020*	0.027**
	[0.009]	[0.010]	[0.020]	[0.011]	[0.011]
# of observations	1,852	1,423	426	1,061	791
# of villages	675	483	191	391	284
R^2	0.019	0.024	0.017	0.032	0.022

Notes:

a. The largest local surname is more dominant in type 1 and 2 villages than in type 3 villages. See text for details.

All regressions use village fix-effects model. Standard errors are clustered by village.

*** p<0.01, ** p<0.05, * p<0.1

Table 8. Lineage Networking and the Place of Work

Dependent Variable: migrant worker = 1				
	Men of the largest surname aged 16-35			Men of other surnames aged 16-35
	all	has village enterprises	has no village enterprises	
	(1)	(2)	(3)	(4)
# of previous cadre members bearing the largest surname	-0.014**	-0.024***	-0.002	0.008
	[0.006]	[0.009]	[0.009]	[0.011]
# of previous cadre members bearing other surnames	-0.011	-0.013	-0.013	-0.003
	[0.008]	[0.017]	[0.009]	[0.006]
years of schooling	0.000	0.007	-0.009	-0.019**
	[0.008]	[0.011]	[0.011]	[0.009]
age	0.07	0.084	0.006	0.097
	[0.053]	[0.068]	[0.082]	[0.064]
age^2	-0.001	-0.001	0.000	-0.002*
	[0.001]	[0.001]	[0.002]	[0.001]
married	-0.190***	-0.252***	-0.152**	-0.064
	[0.044]	[0.058]	[0.068]	[0.049]
family size	0.062***	0.045**	0.045**	-0.005
	[0.013]	[0.019]	[0.020]	[0.015]
village characteristics [a]	Y	Y	Y	Y
# of observations	673	389	271	592
# of Provinces	21	21	20	22
R^2	0.131	0.214	0.196	0.116

Notes:

a. The village characteristics include the geographic characteristics, an indicator of whether the village belongs to a National Poverty County, the natural log of village population and land area, the indicators of the types of village elections.

All regressions use province fix-effects model. Robust standard errors are in brackets.

*** p<0.01, ** p<0.05, * p<0.1

Table 9. Wages

Dependent Variable: ln(wage)								
	Men					Daughters [a]	Wives	
	all	types 1&2 villages [b]	type 3 villages	age 16-35	age 36-60	all	all	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
largest surname	0.030	0.042*	-0.016	0.072**	0.016	0.065	-0.005	-0.012
	[0.021]	[0.022]	[0.049]	[0.034]	[0.028]	[0.058]	[0.056]	[0.057]
years of schooling	0.023***	0.024***	0.023***	0.023***	0.026***	0.022**	0.043***	0.047***
	[0.003]	[0.004]	[0.007]	[0.006]	[0.005]	[0.010]	[0.009]	[0.010]
age	0.040***	0.041***	0.036***	0.044*	-0.005	0.123***	0.042	-0.035
	[0.006]	[0.006]	[0.012]	[0.025]	[0.022]	[0.036]	[0.027]	[0.048]
age^2	-0.000***	-0.000***	-0.000***	-0.001	0.000	-0.002***	0.000	0.000
	[0.000]	[0.000]	[0.000]	[0.000]	[0.000]	[0.001]	[0.000]	[0.001]
married	0.092***	0.071**	0.149**	0.055	0.079	-0.015	0.109	0.13
	[0.028]	[0.031]	[0.060]	[0.035]	[0.068]	[0.082]	[0.306]	[0.310]
family size	-0.01	-0.01	-0.009	-0.015	0.000	0.001	0.006	0.008
	[0.006]	[0.007]	[0.013]	[0.010]	[0.009]	[0.019]	[0.021]	[0.022]
husband controls [c]	-	-	-	-	-	-	N	Y
# of observations	6,184	4,466	1,710	2,538	3,646	871	1,079	1,074
# of villages	902	620	280	795	855	455	429	427
R^2	0.044	0.044	0.046	0.048	0.019	0.046	0.041	0.052

Notes:

a."Daughters" are the women who are daughters of the household heads. 70 percent of the daughters are unmarried girls. The largest surname indicator refers to their maiden names. "Wives" are the women who are spouses of the household heads. The largest surname indicator refers to their husbands' surnames.

b. The largest local surname is more dominant in type 1 and 2 villages than in type 3 villages. See text for details.

c. The "husband controls" include the husband's years of schooling, a quadratic form of husband's age, and an indicator of whether the husband has a non-agricultural job.

All regressions use village fix-effects model. Standard errors are clustered by village. *** p<0.01, ** p<0.05, * p<0.1

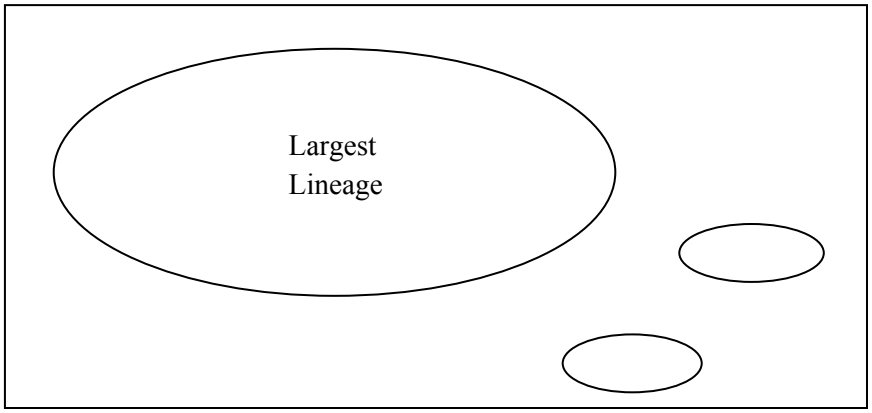
Table 10. The Wages of Local Workers Vs. Migrant Workers

Dependent Variable: ln(wage)			
	Men aged 16-35		
	all	has village enterprises	has no village enterprises
	(1)	(2)	(3)
largest surname	0.123**	0.144**	0.042
	[0.053]	[0.057]	[0.083]
largest surname*migrant worker	-0.125**	-0.136*	-0.079
	[0.055]	[0.071]	[0.091]
migrant worker	-0.019	-0.011	-0.036
	[0.041]	[0.053]	[0.068]
years of schooling	0.022***	0.020**	0.025***
	[0.006]	[0.009]	[0.010]
age	0.045*	0.039	0.047
	[0.026]	[0.035]	[0.040]
age^2	-0.001	0.000	-0.001
	[0.000]	[0.001]	[0.001]
married	0.048	0.029	0.071
	[0.036]	[0.047]	[0.057]
family size	-0.009	-0.003	-0.019
	[0.011]	[0.014]	[0.017]
# of observations	2323	1306	978
# of villages	759	407	336
R^2	0.054	0.048	0.064

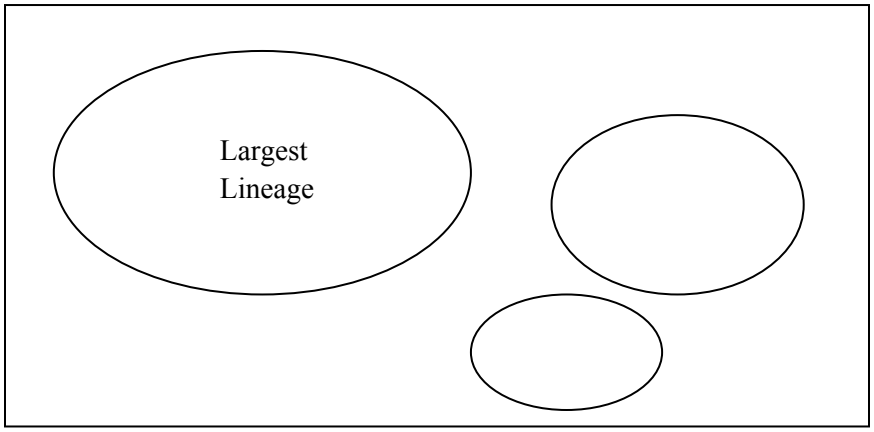
Notes:
All regressions use province fix-effects model. Standard errors are clustered by village. *** p<0.01, ** p<0.05, * p<0.1

Figure A1. Types of Villages by Lineage Compositions

Type 1: Most dominating



Type 2: Moderately dominating



Type 3: Least dominating

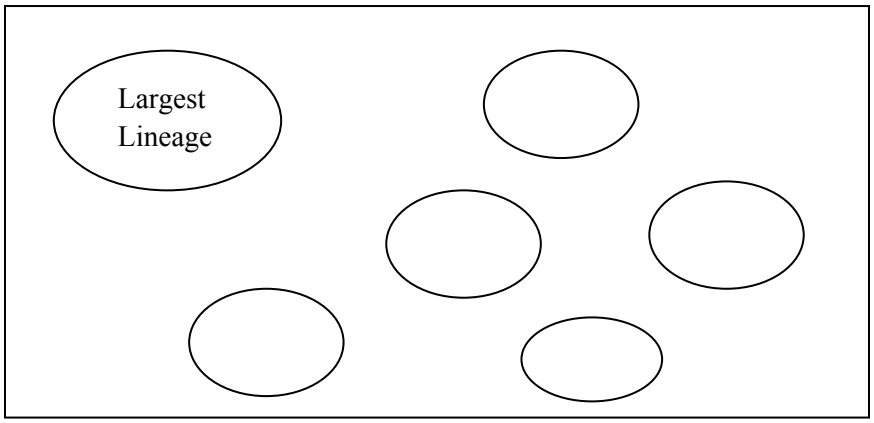


Table A1. Summary of Village Characteristics by Village Types

	Type 1	Type 2	Type 3
general			
# of villages	287	354	319
% of the largest surname in village population	71%	37%	15%
village population	1652	1859	1904
farm land area (acres)	453	624	693
geographic			
mountainous area	21%	26%	16%
suburb of large cities	7%	6%	11%
distance to the closest primary school (km)	0.56	0.47	0.76
distance to the closest junior high school (km)	1.89	2.21	2.66
economic			
income per capita	382.57	332.57	347.86
annual growth rate of income per cap since 1990	6.6%	5.6%	4.8%
has village enterprises	54%	53%	48%
% of agricultural labor in total labor force	63%	70%	71%
% of migrant workers in total labor force	23%	23%	21%
political			
the village council members are determined by direct election	94%	94%	93%
The candidates of the village council members are nominated by villagers	84%	88%	93%
the number of the congress of the villager convenes	3.9	3.6	4.0

Source: China Household Income Survey (2002)

Note: In type 1 villages, the largest surname households account for over 50 percent of total households. In type 2 villages, the largest surname households account for less than 50 percent of total households, but the top five surnames account for more than 50 percent of total households. In the type 3 villages, the top five surnames account for less than 50 percent of total households.

Table A2. Summary of Personal Characteristics by Surnames

	local largest surname	other surnames	difference	s.e.
	(1)	(2)	(1)-(2)	
Men				
years of schooling	7.885	7.646	0.239***	0.043
age	37.718	37.605	0.112	0.221
married	0.751	0.752	-0.002	0.008
family size	4.531	4.379	0.152	0.024
have ever been a cadre member	0.222	0.187	0.036***	0.007
currently being a cadre member	0.145	0.129	0.016**	0.006
has a non-agricultural job	0.631	0.575	0.056***	0.009
migrant worker	0.424	0.397	0.026**	0.012
wage	3.130	3.140	-0.009	0.18
observation	5368	7471		
Wives				
years of schooling	5.76	5.809	-0.049	0.065
age	43.349	42.781	0.568***	0.193
family size	4.293	4.175	0.118***	0.028
have ever been a cadre member	0.091	0.082	0.01	0.006
currently being a cadre member	0.063	0.061	0.003	0.005
has a non-agricultural job	0.162	0.154	0.008	0.008
wage	2.544	2.813	-0.27	0.282
observation	3377	4698		
Daughters				
years of schooling	8.607	8.526	0.081	0.132
age	24.698	24.258	0.440*	0.227
married	0.296	0.313	-0.016	0.025
family size	5.003	4.867	0.136*	0.074
have ever been a cadre member	0.085	0.063	0.022	0.014
currently being a cadre member	0.065	0.051	0.014	0.013
has a non-agricultural job	0.537	0.471	0.066	0.027
migrant worker	0.387	0.355	0.031	0.021
wage	2.262	1.960	0.302**	0.154
observation	587	790		

Source: China Household Income Survey (2002)

Note: The men sample consists of men aged between 16 and 60 and currently not in school. The wives sample consists of women who are the spouses of the household heads, whose ages are between 21 and 60, and who are currently not in school. The daughters sample consists of women who are daughters of the household heads, whose ages are between 21 and 60, and who currently are not at school.