Factions, Local Accountability, and Long-Term Development: Theory and Evidence*

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Abstract

We develop a theoretical model of how factional affiliation and local accountability can shape the policy choices of local officials who are concerned about political survivals, and subsequently affect the long-term local development. We provide empirical evidence in support of the theoretical predictions using county-level variations in development performance in Fujian Province in China. When the Communist armies took over Fujian Province from the Nationalist control circa 1949, communist cadres from two different army factions were assigned as county leaders. For decades the Fujian Provincial Standing Committee of the Communist Party was dominated by members from one particular faction, which we refer to as the strong faction. Counties also differed in terms of whether a local guerrilla presence had existed prior to the Communist takeover. We argue that county leaders from the strong faction were less likely to pursue policies friendly to local development because their political survival more heavily relied on their loyalty to the provincial leader than on the grassroots support from local residents. By contrast, the political survival of county leaders from the weak faction largely depended on local grassroots support, which they could best secure if they focused on local development. In addition, a guerrilla presence in a county further improved development performance either by intensifying the local accountability of the county leader, or by better facilitating the provision of local public goods beneficial to development. We find consistent and robust evidence supporting these assumptions. Being affiliated with weak factions and having local accountability are both associated with sizable long-term benefits that are evident in terms of a county's growth and level of private-sector development, its citizens' education levels, and their survival rates during the Great Chinese Famine. We also find that being affiliated with the strong faction and adopting pro-local policies are associated with higher likelihood of a local leader's political survival.

Keywords: Local Accountability; Factional Politics; Political Survival; Development Performance; Famine

JEL Classification Numbers: O1, O43, H70, D72

1 Introduction

There is a large literature on the causes of the cross-country differences in economic growth rates, emphasizing the roles of institutions (North, 2005), human capital and capital market imperfection (Lucas, 1990), culture (Barro, 1991; Barro and Lee 1994), among others. A recent and influential literature investigates the long-run impact of history on a nation's economic performance through its effect on the institutional development (La Porta *et a.l* 1998a, 1998b; Acemoglu, Johnson and Robinson, 2001, 2002). La Porta *et al.* (1998a, 1998b) argue that history might impact current economic performance via the legal system. They show that, generally, legal protection of investors is strongest in common-law countries, weakest in French civil-law countries, and in a middle range in German and Scandinavian countries. For many developing countries, their colonial past influenced the legal system they adopted, and this history continues to cast a long shadow on current economic performance. Acemoglu, Johnson and Robinson (2001, 2002) show that mortality rates among early European settlers in a colony strongly predict whether the colony ends up with "inclusive" institutions that protect property rights and share prosperity, both of which, in turn, affect whether the country prospers today.[1, 2]

Most of the existing literature, however, does not explain the vast differences in economic performance across smaller geographical units *within the same country* or *within the same region*.[3] Banerjee and Iyer (2005) focus on the effect of a specific historical institution in India: the system for collecting land revenue. They show that the present-day economic performance of different districts of India is very much related to the land revenue systems imposed by the British colonial rulers. They find that districts where the collection of land revenues from the cultivators was assigned to the landlords have significantly worse economic performance, as measured by agricultural investments, yields, and various measures of public investments and outcomes, than districts where this type of intermediation was avoided. Acemoglu, Reed and Robinson (2014) examine the long-term consequences of political competition at the level of chiefdoms in Sierra Leone. The chiefs must come from an exogenously given number of ruling families designated by the original British colonial authority. A large number of designated ruling families thus results in stronger political competition at the chiefdom level. The authors find that such competition leads to better indicators of development, but worse social capital. In addition, Dell *et al.* (2018) examine the long-run impact of the historical state conditions in Vietnam. The authors compare Northern Vietnam (Dai Viet), where, historically, the village was the fundamental administrative unit, to Southern Vietnam, where the historical statecraft relied on more informal, personalized power relations rather than village intermediation. Using a regression discontinuity design, they show that areas exposed to Dai Viet administrative institutions for a longer period prior to French colonization have experienced better economic outcomes over the past 150 years. They argue that the mechanism that underpins better performance in Dai Viet

[1] Engerman and Sokoloff (1997, 2000) argue that the fact that Europeans considered Brazil, but not the colonies of North America, to be suitable for growing sugar contributed to the much larger slave population in Brazil, and led to a much more hierarchical society in Brazil than in the United States. This caused a divergence in the types of institutions that evolved in the two countries, and, in turn, led to a divergence in the growth rates.

[2] "*Why Nations Fail: The Origins of Power, Prosperity, and Poverty*" (Acemoglu and Robinson, 2012) further develops this important thesis.

[3] A limited literature has examined these issues. Gennaioli *et al.* (2013) consider the determinants of regional development using a large dataset of sub-national regions from 110 countries, and focus on geographic, natural resources, institutional, cultural, and human capital determinants of regional development. They find that human capital measured by education is the most consistently important determinant of regional income.

is the institutionalized village governance, which led to more local cooperation.

Our paper focuses on sub-national growth differences by examining long-term outcomes and potential underlying mechanisms within one country: China. We consider the *within-provincial* differences in a rich array of development outcomes in *Fujian Province* after the communists took power in 1949. Fujian is a mostly mountainous province on the southeast coast of China, separated from Taiwan by the 180 kilometers-wide Taiwan Strait. It has an area of 120 thousand square kilometers; today it is home to a population of nearly 40 million. When the reform started in 1978, Fujian ranked in the bottom 7 out of the 30 provinces then; in 2017, it ranks in top 6 among all provinces.[4] In 2016, its GDP per capita is 11,247 USD (and 21,339 in PPP). Thus, within the Chinese economic growth miracle, Fujian is a superstar performer, having experienced the most complete reversal of fortunes.

We investigate, both theoretically and empirically, the role of political factions and local accountability in explaining the huge variations in the development performance across counties in Fujian Province. The set of county-level development outcomes we examine in this paper includes: the economic growth rates between 1952 and 1998, and in the post-reform period (i.e., 1978 to 1998); the improvement in educational attainment between 1952 and 1990; the level of private-sector development; and net birth rates and death rates during the Great Chinese Famine between 1959-1961. We also empirically examine whether political survival is part of our story.

We provide a model that sheds light on the underlying mechanisms that link the political faction, local accountability, and the development outcomes at the county level. The intuition can be explained as follows: When the Communist armies took over Fujian province from the Nationalist control circa 1949, the designated county leaders consisted of cadres mainly from two army factions - namely, the Third Field Army (FA3, henceforth), and the Yangtze-River Detachment (YRD). These cadres were commonly known as "*southbound cadres*" because they came from northern provinces. The Fujian Provincial Standing Committee of the Communist Party, however, was always dominated by members from FA3, which we refer to as the "strong faction." We argue that county leaders' incentives regarding local development depended on whether they were from the strong faction (FA3) that dominated the provincial government. If a county leader belonged to FA3, then he was less likely to pursue policies that were friendly to local development because, as a political incumbent, his political survival depended more on his connections to the provincial leaders. On the other hand, if a local leader belonged to the weaker faction, his political survival depended more on local grassroots support, which could be best secured if he focused on local economic development. In addition, the guerrilla presence in the county further improved development performance either because it intensified local accountability of the county leader, or because it better facilitated the provision of local public goods beneficial to development, or both. We argue that the above mechanisms explain our finding that counties with leaders from the weaker political faction have significantly better development outcomes in almost all the measures we examined, and that the difference is stronger in those counties that also had a guerrilla presence.

Fujian Province offers a particularly suitable place to examine how faction affiliation and local accountability affect long-term development. Due to exogenous historical reasons, some counties were governed by cadres affiliated with the strong faction, while others were governed by the weak faction. Moreover, a significant share of counties had a Communist guerrilla presence before the 1949 takeover. As presumed by our model, local leaders from the weak political faction and those in charge of counties in which guerrilla factions were present likely had

[4]Source: https://triviumchina.com/data-viz/40-years-of-growth-ranking-chinas-provinces-by-gdp-per-capita-1978-2017/.

to depend more on grassroots support for political survival, and, thus, their development-related political choices should have resulted in systematical differences in long-term development.

A key challenge for identifying the effects of affiliation with a weak political faction (Weak Faction) and local accountability (Guerrilla) is that they may not be exogenous to long-term development. We do our best to ensure that the outcomes indeed reflect causal effects. First, we provide detailed institutional background information that how different counties in Fujian Province ended up being in different factions is likely exogenous with respect to our indicators of long-term development. Indeed, we find that weak faction affiliation and local accountability are not systematically related to initial income levels or population levels; they do appear to be related to some extent to geography, in terms of a county's share of lands that are plains, a measure we control for in our empirical specifications in this paper. Second, in assessing the impact of the local leader's faction affiliation and the degree of local accountability he faced, we control for initial income, population, and local geography (i.e., distance to the coast, and the fraction of mountainous areas in the county). The differences that we find are, thus, not a result of geography. Clearly, these counties shared the same legal system, religion, and culture. Because we also control for the initial level of economic development in the county, the results cannot be attributed to conditional convergence. Third, we find that the estimates of the two key variables tend to be quite stable regardless of the amount of control. For example, during the 1952-1998 period, our comparison of weak- and strong-faction countries shows that weak-faction counties experienced higher growth rates - 0.99 percentage points higher per year when no controls are added, and 0.91 percentage points higher when full controls are imposed. This is quite remarkable given the small sample (a total of 59 counties) we have. This robustness with respect to various control of correlates is consistent with exogenous assignment (Angrist and Pischke, 2009). Fourth, the key results remain robust quantitatively and qualitatively when we only use the geographically neighboring-county pairs with different factional assignments. This drastically reduces the sample but does not change our key conclusions, either qualitatively or quantitatively. We also rely on the model to derive the full implications of our causal story and to test the channels. For instance, our model asserts that political survival would be higher with affiliation with the strong faction or with grassroots support; in turn, we find support by using evidence of political survival during the Cultural Revolution. We also find counties with weak faction-affiliated leaders and a local guerrilla presence tend to adopt stronger pro-local policies, as demonstrated by lower death rates during the Great Famine around 1960, greater private-sector development, and higher increases in schooling attainment before and after the power change in 1949. We also observe that such differences between counties do not emerge in policy areas that are highly visible to upper governments. For example, the pro-local tendency associated with weak faction-linked leadership or the presence of guerrillas disappears in regard to the implementation of the One-Child Policy or the Household Responsibility System, which were both easily monitored by upper governments.

Our empirical results yield coherent findings consistent with the implications of our model. First, based on our specification with full controls, we find that counties with weak-faction-affiliated leadership have an annual growth premium (in gross value of output) of 0.9 percentage points in the 1952-1998 period, and this premium increases to 1.9 percentage points in the 1978-1998, post-reform period. Similarly, we find that counties with a guerrilla presence have an annual growth premium of 0.5 (1.5) percentage points in the 1952-1998 period (the 1978-1998 period). Robust evidence shows that the effects are especially pronounced when a county had both weak-faction-affiliated leadership and a guerrilla presence; counties with this combination experienced a growth premium (relative to strong-faction-led counties) that was often double that of counties that had weak-faction-linked leadership but no guerrilla presence. Second, consistent evidence shows that weak-faction-led counties had

significantly lower death rates and smaller reduction in birth rates, during the Great Chinese Famine around 1960. Third, we offer evidence that the change in average schooling levels for affected cohorts after the power change was positive and significantly larger – by around 37.5 percentage points – in counties with weak-faction-affiliated leaders and a guerrilla presence (relative to the strong-faction-led counties). Fourth, we find that weak-faction-led counties tend to be more conducive to private-sector development. State-owned enterprise (SOE) shares as measured by sales revenue and by the number of firms in a county were about 22 percentage points and 15 percentage points lower, respectively, in weak-faction-led counties than in strong-faction-led counties. In addition, counties with a local guerrilla presence also had lower SOE shares, though the effect is not statistically significant. Fifth, we provide evidence to directly support the political survival mechanism of our model. In particular, in counties affiliated with the strong faction or in counties with lower death rates during the Great Chinese Famine, leaders who were purged during the initial years of the Cultural Revolution tended to be reinstalled earlier or, were more likely to be reinstalled. This provides evidence that supports the building blocks of the model. That is, both affiliation with a strong political faction and grassroots support are central for political survival in the autocratic regime. Finally, we offer further checks – such as whether fiscal transfers explain the differences in development outcomes – which allow us to exclude this alternative interpretation. In general, our results tend to be quite robust to specifications with different controls, to outlier concerns, and to using only the neighboring-county treatment-control pairs.

1.1 Related Literature

Our paper is related to several strands of literature in political economy. First, it is related to a recent literature on the effect of local accountability on development. Besley and Burgess (2002) develop a theoretical model to show that having a more informed and politically active electorate strengthens the incentives for governments to be responsive to citizens' preferences. In their empirical setting of India, media presence plays the role of increasing local accountability. They show that state governments are more responsive – as evidenced by public food distribution and calamity relief expenditure in the wake of falls in food production and crop flood damage – in areas where newspaper circulation is higher (and thus electoral accountability is greater). Björkman and Svensson (2009) present a randomized field experiment on community-based monitoring of public primary health care providers in Uganda. They randomly choose communities in which residents are encouraged to be more involved in the state of the health service provision so as to strengthen their capacity to hold local health providers accountable for performance. The findings document large increases in utilization and improved health outcomes – reduced child mortality and increased child weight – in the treatment communities than in the control communities.[5] In our paper, local guerrilla presence prior to the Communist takeover serves as a proxy for local accountability. It is well known that guerrillas must rely on the support of local residents for their survival; as such, guerrillas must foster a close and synergistic relationship with the local population. Therefore, leaders in counties with a local guerrilla presence were likely to be more accountable to local residents, and more adept at mobilizing local support. The results in our paper suggest that local accountability plays an important role in regulating the behavior of local politicians to be more favorable to local economic development in a non-democratic setting, such as China under communism. Our findings show that local accountability is positively associated with many

[5]Mansuri and Rao (2013) provide a comprehensive overview of the theory and evidence for development strategies that are based on local community empowerment.

different aspects of development (i.e., growth, education, private-sector development, and the extent of famine) and at different stages of half a century of political transformation in China; these results suggest that local accountability is a powerful, robust, and balanced mechanism for ensuring long-term development. To the best of our knowledge, this paper is the first to consider the presence of guerrillas as the historical origins of local accountability, and to study its comprehensive impact on local economic growth and other pro-local policies.[6]

Second, our paper is related to the literature on the role of accountability for political survival in autocracies. The main idea is that in autocracies, concerns about political survival drive the political leader to satisfy the demands of the people in order to avoid large-scale revolutions. For example, Acemoglu and Robinson (2001, 2006) argue that in nondemocratic societies, the elite will try to prevent revolution by making concessions (e.g., by redistributing income) to poor people because they pose a revolutionary threat even though they are excluded from political power. Smith (2008) and Bueno de Mesquita and Smith (2008, 2010) suggest that a leader can reduce the revolutionary threat by expanding the supply of public goods to potential revolutionaries.[7] Our paper focuses on the survival incentives of local leaders rather than those of national leaders. In our setup, local leaders can increase their chances of political survival either by strengthening their ties to higher-level officials, or by mobilizing grassroots support from within their jurisdiction. Moreover, we emphasize the interactions between the factional politics and local accountability in shaping local leaders' policy-making incentives. We are able to provide direct evidence from the power purge and recovery during the Cultural Revolution to offer support to our model.

Third, our paper is related to the literature on the role of political competition for development. As summarized in Acemoglu, Reed, and Robinson (2014), existing studies on political competitions are few and largely focused on the context of developed democratic countries such as the United States (e.g., Ansolabehere and Snyder, 2006; Besley, Persson, and Sturn, 2010). Very few papers exploit exogenous variations in political competition, with notable exceptions: Besley and Preston (2007), who use redistricting as the source of variations, and Acemoglu, Reed and Robinson (2014), who use the number of designated ruling families eligible to serve as chiefs of chiefdoms in Sierra Leone. We differ in capturing political competition via local leaders' factional affiliation, which was caused by the liberation pattern circa 1949. We show that stronger political competition faced by weak-faction-affiliated leaders led to better long-term growth, social development (i.e., better education, lower famine death rates), and stronger private-sector development. Our results are thus consistent with Becker (1958), Stigler (1972), Wittman (1989), and Acemoglu, Reed and Robinson (2014) – all of which find that political competition contributes to efficiency by reducing distortions.

Finally, our paper is related to the literature on factions and political incentives in communist China. Most of the studies on factions in China focus on the post-reform period. Shih (2008) provides a systematic analysis of factions based on networks of leaders, and studies the impact of elite politics on monetary and banking policies. Shih, Adolph and Liu (2012) examine the role of factional ties with top leaders in the promotion to the Central

[6]The literature on local accountability in nondemocratic countries is relatively small, and the focus is generally on upward accountability (i.e., accountability to the superiors) for the purpose of promotions. Few exceptions exist in the literature. Among these exceptions is Li (2014), who shows that provincial leaders in China tend to implement policies more in favor of the citizens in response to intensified labor disputes, thus suggesting evidence for downward accountability. Another example stems from Distelhorst and Hou (2017), whose study of the responsiveness of Chinese city government officials to appeals from putative citizens finds that average responsiveness is comparable to that in democracies.

[7]See Bueno de Mesquita et al. (2003) for a book-length treatment of the logic of political survival.

Committee of the Chinese Communist Party. Few papers study the impact of factional ties based on military affiliations among the southbound cadres. One exception is Zhang and Liu (2019), who examine a possible causal relationship between a region's communist revolutionary legacy before 1949 and the variation in private-sector development after 1949 in Zhejiang province. Our paper offers a theoretical framework, and it delves more deeply and more systematically into the broad impact on a variety of development performance measures of the counties led by southbound cadres from different military factions. On political incentives in China, most existing work focuses on the promotion incentives of top-level government officials (Maskin, Qian and Xu, 2000; Li and Zhou, 2005; Shih, Adolph and Liu, 2012). Our paper offers the complementary perspective of the importance of incentives for political survival for local government officials.

The remainder of the paper is structured as follows:. In Section 2 we present a simple model to highlight effect on development performance played by leaders' links to a given political faction, and local accountability as evidenced by the presence of guerrillas. In Section 3 we provide institutional background on political factions and local guerrilla movements in the post-civil-war county and provincial governments of Fujian Province. In Section 4 we describe our data sources, and present summary statistics for some of the key variables of interest. In Section 5 we present our empirical results, as well as robustness checks and alternative explanations. Section 6 offers conclusions.

2 Political Survival, Local Accountability, and Local Economic Performance: A Model

2.1 An Illustrative Example

We first present a simple example to illustrate the main forces that local (i.e., county) leaders face in their decision making to ensure political survival. Consider two factions, w and s, representing the weak and the strong factions, respectively. The provincial government is controlled by the strong faction; indeed, the control of the provincial government is what makes the so-called "strong faction" strong. We focus on the incentives of the county-level leaders.

A leader from faction $f \in \{w, s\}$ faces an exogenous baseline probability $\rho_f \in (0, 1)$ of being stripped of power. It is reasonable to assume that $\rho_s < \rho_w$. However, whether the county leader will actually be stripped of power depends both on his faction and the policy actions he chooses. A leader's faction is exogenously given and cannot be changed. He can choose from two possible policy actions: the first is pro-local economic development, which we denote by L; and the second is anti-local (or, pro-upper) policy, which we denote by U. We can interpret L as extracting fewer local resources to send to the provincial government, and instead focusing on providing more local public goods; or L could represent following economic policies that are more suitable to the local conditions instead of following the policies preferred by the central leaders. Taking action L will endear the county leader to the local citizens, which helps protect him from being purged of power. Taking action U will curry favor from the provincial leaders, but whether it translates into protection against being purged depends on whether the local leader belongs to the strong or the weak faction. Suppose that the actual probability that a county leader will lose power, and face potential dismissal is represented by the following matrix, where $\rho_w > \rho_{wU} > \rho_{wL}$, and $\rho_s > \rho_{sL} > \rho_{sU}$. In this simplest example, these assumptions say that for the local leaders belonging to the

weak faction, adopting policy L, which is more likely to gain local support, is a better power-protection strategy than currying favor with the local provincial leaders. By contrast, for local leaders in the strong faction, currying favors from the provincial leader offers a more effective strategy for political survival.

It is clear that the optimal action choice of a local leader whose goal is to maximize his probability of political survival will then depend on his faction: if he belongs to the weak faction, he will choose pro-local action L; and if he belongs to the strong faction, he will choose the anti-local policy U.

Faction$\setminus$Action	L	U
w	ρ_{wL}	ρ_{wU}
s	ρ_{sL}	ρ_{sU}

Table 1: Probabilities of a Political Purge of Local Leaders, as Functions of Their Factions and Actions

2.2 A Model

The above example highlights the key trade-offs that local leaders of different factions may face in their choices of whether to adopt pro- or anti-local economic policies. In this sub-section, we enrich the model to show that the key forces identified in the illustrative example are robust under the assumption that local leaders from the strong faction have a comparative advantage over local leaders from the weak faction in gaining the political support from the provincial leaders; we also incorporate the effect of local accountability into our model.

As in the illustrative example, consider two factions: w, standing for the *weak* YRD faction; s, standing for the *strong* FA3 faction. We distinguish officials at two levels of the government, those at the provincial level and those at the county level. At the provincial level, as we will document empirically below (see Figure 3 in Section 3), the dominant faction, or the faction in power, has been those from FA3, s. We analyze the incentives of the officials at the county level.

A county is led by cadres affiliated with faction $f \in \{w, s\}$; and the county may or may not have had a guerrilla presence, which we denote by $g \in \{0, 1\}$ where $g = 1$ indicates that the county had a guerrilla presence. We hypothesize that any county official faces possible shocks that may lead to his dismissal. The probability that a faction-f, $f \in \{w, s\}$, official in a county with a guerrilla presence $g \in \{0, 1\}$ will be dismissed is given by

$$\rho_{f,g}(Z, T) = \rho_f^0 \exp\left(-\alpha_f \times \kappa_g \times Z - \beta_f \times T\right) \in (0, 1), \tag{1}$$

where $\rho_f^0 \in (0, 1)$ denotes the baseline probability of a local official from faction f being dismissed from a position of power; Z denotes the grassroots support that a faction-f county official enjoys from the citizens in the county, and its determinant will be specified below; T is either the amount of "tax revenue" he collects from the citizens and sends to the higher-ups in the provincial government, or, alternatively, the amount of local resources the county leader collects and spends on the projects dictated by the higher-ups in the provincial government that does not benefit the local citizens. We assume that α_f and β_f are both positive, in order to capture that a local official's chance of political survival can improve by either building strong local support or currying favors from the provincial leaders. Parameter κ_g measures the effect of local accountability on the importance of grassroots support in political survival; without loss of generality, we normalize $\kappa_0 = 1$ and let $\kappa_1 = \kappa > 1$ to capture that grassroots support is more important in counties with strong local accountability, as proxied by guerrilla presence. We make the following assumptions regarding the functions $\rho_{f,g}(\cdot, \cdot)$:

Assumption 1 $\alpha_f > 0, \beta_f > 0$ *for both* $f \in \{w, s\}$.

The difference between the weak faction and the strong faction stems from the fact that the strong faction has its allies controlling the provincial government. To capture this difference, we assume that the transfers to the higher-ups are more effective in reducing the chances of being dismissed for county officials from the strong faction than for those from the weak faction:

Assumption 2 ***(Comparative Advantages of Strong vs. Weak Factions)*** $\alpha_s/\beta_s < \alpha_w/\beta_w$.

Assumption 2 formalizes the idea that local leaders from the strong factions have a comparative advantage relative to those from the weak faction to use upward transfers to reduce the probability of purges; likewise, local leaders in the weak factions have a relative advantage to those from the strong faction to use local citizen support in reducing the probability of purges.

Both Z and T are affected by the policy choices of the local leader. We proxy Z by the local economic outcomes. We hypothesize that the local citizens have an endowment (which could be interpreted either as income or labor) equal to E. Local citizens can choose to allocate their endowment E in two ways. They can spend it as investment (or labor supply for the market) I which produces $f(I) > I$. Or they can keep it under a mattress, which represents a storage technology (or working in their own backyard). We assume that $f' > 0$ and $f'' < 0$, and satisfies Inada conditions. The output produced from investment I, however, can be taxed by the local government, while the storage technology is secret and not subject to taxation.

Local citizens' well-being is measured by their after-tax income, which is given by:

$$Z = (1 - \tau) f(I) + (E - I). \tag{2}$$

where τ is the tax rate chosen by the county official. The "tax revenue" that the local leader can either send to the provincial leader or spend on projects dictated by the higher ups, T, is given by

$$T = (1 - \tau) f(I). \tag{3}$$

In a county where its local leader chooses tax rate τ, the citizens will choose I to maximize (2). The first-order condition for citizens' optimal investment I^* is given by

$$(1 - \tau) f'(I^*) = 1. \tag{4}$$

(4) is also sufficient for optimality given our assumptions on $f(\cdot)$. Since $f' > 0$, we have

$$I^*(\tau) = f'^{-1}\left(\frac{1}{1-\tau}\right). \tag{5}$$

Moreover, $f'' < 0$ implies that

$$I^{*\prime}(\tau) = \frac{1}{f''(I^*(\tau))} \frac{1}{(1-\tau)^2} < 0. \tag{6}$$

The local citizens' after-tax income evaluated at the optimal investment choice $I^*(\tau)$ is given by

$$Z^*(\tau) = (1 - \tau) f(I^*(\tau)) + [E - I^*(\tau)] \tag{7}$$

It follows from the Envelope Theorem that

$$Z^{*\prime}(\tau) = -f(I^*(\tau)) < 0. \tag{8}$$

Together with (6), we have

$$Z^{*\prime\prime}(\tau) = -f'(I^*(\tau))\, I^{*\prime}(\tau) > 0. \tag{9}$$

For a given level of tax rate τ chosen by the local leader, the available tax revenue that the local leader can collect and transfer to the provincial level officials is then given by

$$T^*(\tau) = \tau f(I^*(\tau)) \tag{10}$$

(10) is the "Laffer Curve" that depicts the relationship between the total tax revenue and the tax rate. It is clear that $T^*(0) = 0$, and $\lim_{\tau \to 1} T^*(\tau) = 0$. Thus $T^*(\tau)$ is non-monotonic. Indeed simple algebra shows that

$$T^{*\prime}(\tau) = f(I^*(\tau)) + \tau f'(I^*(\tau))\, I^{*\prime}(\tau),$$

which does not have a definite sign. The sign of the second derivative of $T^*(\cdot)$ with respect to τ is more involved:

$$T^{*\prime\prime}(\tau) = 2f'(I^*(\tau))\, I^{*\prime}(\tau) + \tau f''(I^*(\tau))\, [I^{*\prime}(\tau)]^2 + \tau f'(I^*(\tau))\, I^{*\prime\prime}(\tau).$$

The first two terms are unambiguously negative, but the third term depends on the sign of $I^{*\prime\prime}(\tau)$. If $I^{*\prime\prime}(\tau) < 0$, then $T^{*\prime\prime}(\tau) < 0$. From (6), we have

$$I^{*\prime\prime}(\tau) = -\frac{f'''(I^*(\tau))\, I^{*\prime}(\tau)(1-\tau)^2 - 2f''(I^*(\tau))(1-\tau)}{\left[f''(I^*(\tau))(1-\tau)^2\right]^2}. \tag{11}$$

To convey our intuition as cleanly as possible, we make the following assumption:

Assumption 3 *The production function $f(\cdot)$ is such that $T^*(\cdot)$ is a globally concave function.*

Remark 1 *A sufficient (but not necessary) condition for $T^*(\cdot)$ to be globally concave is $f''' \leq 0$. This follows from the fact that $f''' \leq 0$ is a sufficient (but not necessary) condition for $I^{*\prime\prime}(\tau) < 0$, which is, in turn, a sufficient condition for $T^{*\prime\prime}(\tau) < 0$.*

Now we can describe the choice problem of the county officials affiliated with faction f where the guerrilla presence is g. He/she will choose $\tau_{f,g}$ to solve

$$\min_{\tau_{f,g} \in [0,1]} \rho_{f,g}\left(Z^*\left(\tau_{f,g}\right), T^*\left(\tau_{f,g}\right)\right) \tag{12}$$

where $Z^*(\cdot)$ and $T^*(\cdot)$ are respectively given by (7) and (10). The first-order condition with respect to τ for county officials who belong to faction f with guerrilla presence g is

$$\alpha_f \kappa_g Z^{*\prime}\left(\tau^*_{f,g}\right) + \beta_f T^{*\prime}\left(\tau^*_{f,g}\right) = 0 \tag{13}$$

Here $\tau^*_{f,g}$ denotes the optimal solution for officials from faction-f county, $f \in \{s, w\}$, where the guerrilla presence is $g \in \{0, 1\}$.

Proposition 1 *Under Assumptions 1 and 2, we have the following predictions:*

1. *For a given* $g \in \{0,1\}$,
   (a) *Local leaders from the strong faction will choose higher tax rates:* $\tau^*_{s,g} > \tau^*_{w,g}$;
   (b) *Citizens in counties whose leader belongs to the strong faction will have lower after-tax income:* $Z^*\left(\tau^*_{s,g}\right) < Z^*\left(\tau^*_{w,g}\right)$;
   (c) *More taxes are collected from counties whose leaders belong to the strong faction:* $T^*\left(\tau^*_{s,g}\right) > T^*\left(\tau^*_{w,g}\right)$.
2. *Similarly, for a given* $f \in \{w,s\}$,
   (a) *Local leaders in counties with a guerrilla presence will choose lower tax rates:* $\tau^*_{f,1} < \tau^*_{f,0}$;
   (b) *Citizens in counties with a guerrilla presence will have higher after- tax income:* $Z^*\left(\tau^*_{f,1}\right) > Z^*\left(\tau^*_{f,0}\right)$;
   (c) *Fewer taxes are collected from counties with a guerrilla presence:* $T^*\left(\tau^*_{f,1}\right) < T^*\left(\tau^*_{f,0}\right)$.
3. *Local economic development as proxied by* Z^* *will be highest in those counties that are led by cadres affiliated with the weak faction, and also have a guerrilla presence; economic development will be worst in those counties that are led by cadres affiliated with the strong faction, and also lack a guerrilla presence:*

$$Z^*\left(\tau^*_{s,0}\right) = \min\left\{Z^*\left(\tau^*_{s,0}\right), Z^*\left(\tau^*_{s,1}\right), Z^*\left(\tau^*_{w,0}\right), Z^*\left(\tau^*_{w,1}\right)\right\}, \tag{14}$$

$$Z^*\left(\tau^*_{w,1}\right) = \max\left\{Z^*\left(\tau^*_{s,0}\right), Z^*\left(\tau^*_{s,1}\right), Z^*\left(\tau^*_{w,0}\right), Z^*\left(\tau^*_{w,1}\right)\right\}. \tag{15}$$

Proof. To prove Part (1), consider $g \in \{0,1\}$. The first order conditions for local leaders of strong and weak factions are respectively

$$\alpha_s \kappa_g Z^{*\prime}\left(\tau^*_{s,g}\right) + \beta_s T^{*\prime}\left(\tau^*_{s,g}\right) = 0 \tag{16}$$

$$\alpha_w \kappa_g Z^{*\prime}\left(\tau^*_{w,g}\right) + \beta_w T^{*\prime}\left(\tau^*_{w,g}\right) = 0. \tag{17}$$

Taking the ratios, we have

$$\frac{\alpha_s Z^{*\prime}\left(\tau^*_{s,g}\right)}{\beta_s Z^{*\prime}\left(\tau^*_{w,g}\right)} = \frac{\alpha_w T^{*\prime}\left(\tau^*_{s,g}\right)}{\beta_w T^{*\prime}\left(\tau^*_{w,g}\right)}. \tag{18}$$

Suppose $\tau^*_{s,g} \leq \tau^*_{w,g}$. As we showed in (9), $Z^{*\prime\prime}(\tau) > 0$. Together with Assumption 3, $\tau^*_{s,g} \leq \tau^*_{w,g}$ implies that

$$\frac{Z^{*\prime}\left(\tau^*_{s,g}\right)}{Z^{*\prime}\left(\tau^*_{w,g}\right)} \leq 1 \text{ and } \frac{T^{*\prime}\left(\tau^*_{s,g}\right)}{T^{*\prime}\left(\tau^*_{w,g}\right)} \geq 1. \tag{19}$$

The two inequalities in (19) and Assumption 2 then imply that

$$\frac{\alpha_s Z^{*\prime}\left(\tau^*_{s,g}\right)}{\beta_s Z^{*\prime}\left(\tau^*_{w,g}\right)} < \frac{\alpha_w T^{*\prime}\left(\tau^*_{s,g}\right)}{\beta_w T^{*\prime}\left(\tau^*_{w,g}\right)},$$

contradicting (18). Hence, $\tau^*_{s,g} > \tau^*_{w,g}$ as claimed in (a). Claim (b) follows from (8). For Claim (c), note that the first order conditions (16) and (17) can be satisfied only if $T^{*\prime}\left(\tau^*_{s,g}\right)$ and $T^{*\prime}\left(\tau^*_{w,g}\right)$ are both in the positive region because $Z^{*\prime}\left(\tau^*_{s,g}\right)$ and $Z^{*\prime}\left(\tau^*_{w,g}\right)$ are both negative from (8). Hence $\tau^*_{s,g} > \tau^*_{w,g}$ implies $T^*\left(\tau^*_{s,g}\right) > T^*\left(\tau^*_{w,g}\right)$.

The proof of Part (2) is completely analogous to the proof of Part (1). To prove Part (3), simply note that Claim (b) in Part (1) yields:

$$Z^*\left(\tau^*_{s,0}\right) < Z^*\left(\tau^*_{w,0}\right), \tag{20}$$

$$Z^*\left(\tau^*_{s,1}\right) < Z^*\left(\tau^*_{w,1}\right); \tag{21}$$

and Claim (b) in Part (2) yields:

$$Z^*\left(\tau^*_{w,0}\right) < Z^*\left(\tau^*_{w,1}\right), \tag{22}$$

$$Z^*\left(\tau^*_{s,0}\right) < Z^*\left(\tau^*_{s,1}\right). \tag{23}$$

Claims (14) and (15) follows from combining (20)-(23). ■

3 Institutional Background

In this section, we present the historical and institutional background of Fujian Province for the period under our consideration. Fujian Province is a particularly suitable province to study how local accountability and factional politics may shape local development performances. First, during the early periods of the Chinese Civil War (July 1946 - October 1949) between the Nationalist (*Kuomintang,* henceforth, KMT) and the Communist (*People's Liberation Army*, henceforth, PLA) armies, local Communist guerrillas had a presence in the region, which was under the formal rule of the Nationalist government. Importantly, the presence of the guerilla forces varied significantly across the counties within Fujian Province. This provides the cross-county variations in local accountability, which we proxy with local guerrilla presence. Second, after the Communist takeover, well-defined army-based factions existed among the county-level leaders in Fujian Province. These army-based factions grew out of two different forces within the PLA. These PLA factions jointly took over the administration of the province after the defeat of the KMT.

The liberation of Fujian Province from the KMT control experienced two phases. From May to July 1949, the PLA's Second Field Army (FA2) led by Liu Bocheng and Deng Xiaoping entered Fujian Province from the Southwest of neighboring Zhejiang Province and the Northeast of neighboring Jiangxi Province. This campaign played an important role in liberating the 10 counties in northern Fujian Province. However, FA2 was immediately mobilized to fight in Southwestern China. From June to October 1949, the PLA's Third Field Army (FA3) led by Marshall Chen Yi, replaced FA2 as the major military force in Fujian Province to attack the KMT forces that were then still controlling part of the Fujian Province. The 10th Battalion of FA3, led by Ye Fei, entered from the eastern part of Fujian Province, eliminated the main KMT forces defending the province, and took control of the major cities of Fuzhou, Zhangzhou, and Xiamen. At the same time, the guerilla forces that were active along the borders of Fujian, Zhejiang, Jiangxi, and Guangdong provinces actively participated in the liberation of counties in central Fujian (including Pu Tian, Xian You) and western Fujian (including Shang Hang, Ming Nan and Ping He, among others). By May 1950, the Communists had taken control of Fujian Province, except for the outpost

islands of Jing Men and Ma Zhu, which were (and are still today) under the control of the military force associated with Taiwan. The two different army forces that played a role in the liberation of Fujian Province became the basis of the army factions that we study in this paper. Figure 1 depicts the movement of the PLA armies from April to October of 1949.



Figure 1: Map of the Chinese Civil War: April - October 1949. *Source:* US Military Academy.

County-level Government. As in any power transition, the new Communist government needed to quickly install cadres at all levels of the governing bureaucracy. The Chinese bureaucracy under communism (then and today) consists of two parallel but inter-related apparatus: the Communist Party organization ("the party"), and the People's Government ("the state"). Below the central government are two hierarchical ladders at the local level: the provincial and the county leadership. At both levels, the party is headed by a party secretary; and the People's Government is headed by a chief (governor at the provincial level and county chief at the county level). Of course, there were hundreds of other positions at lower levels to fill. Building a bureaucracy completely from scratch was a huge task because the Communist Party government could not use any of the officials of the previous regime to staff these positions due to ideological differences and concerns about potential sabotage.

The central government thus staffed these leadership positions by drawing from the military men and women from the armies that liberated Fujian Province. These newly installed cadres, commonly known as "southbound cadres" (because they were mostly from the Chinese Communist Party's power base in northern China), played an important role in the governance of mainland China after the Civil War. Both FA2 and FA3 played important roles in liberating Fujian Province. However, FA2 had been deployed to fight elsewhere before the PLA assumed

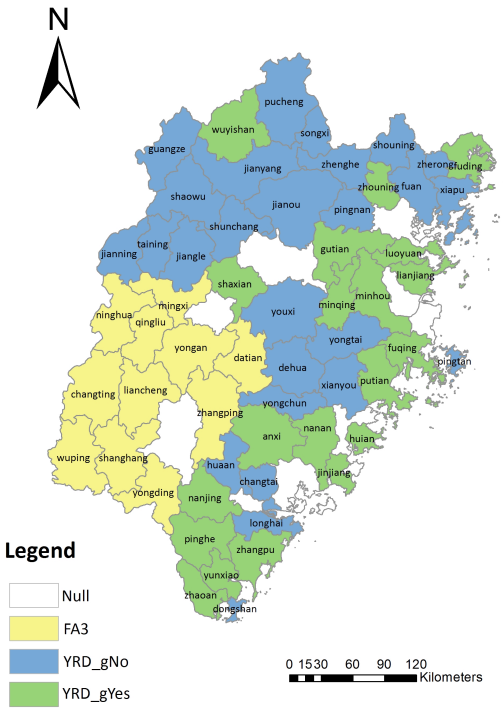


Figure 2: Geographic Distribution of County Types in Fujian Province in 1950.

full control of Fujian Province. In early 1949, members mainly drawn from FA2's bases in Hebei and Shanxi provinces (particularly, the Tai Hang and Tai Yue revolutionary bases) were assembled into a unit, known as Yangtze-River Detachment (YRD hereafter). YRD members were sent to southern provinces, including Fujian Province, to take up these leadership positions.

As a result, the two major army factions from which the cadres in Fujian Province were drawn were FA3 and YRD. Specifically, FA3-affiliated cadres took over the top positions in the two major cities in Fujian Province – Fuzhou and Xiamen – as well as a total of 11 of the 59 counties in Fujian Province, including Long Yan, and Yong An counties. YRD-affiliated cadres, organized into six units, were called to take over the remaining 48 counties in Fujian Province, including Jing Jiang, Jian Yang, Nan Ping, and counties surrounding the provincial capital of Fuzhou such as Fu Qing, Ping Tan and Pu Tian, Zhang Zhou, and Fu An counties.[8]

As mentioned previously, another important variation for the liberation experience of counties was whether a local guerrilla force was present and participated in the liberation. When a local guerrilla force participated, the local government tended to include some members from that guerrilla force. The presence of guerrilla cadres in a county government would make the county government's policies more transparent to local citizens due to the pre-existing links between guerrilla cadres and local citizens, and facilitates accountability of local government to citizens. We thus hypothesize that the local guerilla presence led to greater local accountability.

Figure 2 summarizes the geographic distribution of county types in cadre composition. Counties led by FA3-affiliated cadres were concentrated at the southwest of Fujian Province, while those led by YRD-affiliated cadres were in the northern and eastern regions. Moreover, the presence of local guerrilla forces was concentrated

[8]Source: Jing De, Tie Min and Zhi Wan (2010).

in the Eastern coastal regions.

Provincial Level Government. At the provincial level, the Fujian Chinese Communist Party (CCP) Committee was the highest-level decision-making body. Within that CCP Committee, the key members who played pivotal roles were members of the CCP Standing Committee, which controlled the rights to make decisions on political, personnel and economic matters. Historically, the Standing Committee consisted of 13 members. As expected, the Standing Committee members were mostly either from FA3 or YRD. The cadres from these two factions were the major political forces in the post-liberation CCP Standing Committee in Fujian Province for decades. Figure 3 depicts the fraction of members from FA3 and YRD in the Fujian Province CCP Standing Committee from 1950 to 1993. The FA3 faction was clearly the more dominant force in the Standing Committee than the YRD faction. FA3 members accounted for about 40-50% of Standing Committee members until the mid-1980s, and, in the early 1950s, their representation had been as high as over 60%. The share by YRD members hovered around 20%. Other dynamics of the power structure present in Fujian Province are pertinent. Ye Fei, the aforementioned commander of the 10th Battalion of FA3 that fought the KMT forces in Fujian Province, was appointed as the CCP Party Secretary of Fujian Province from October 1954 until May 1967. Also, the Fujian Province Standing Committee marginalized cadres from local guerrilla forces. Before the Cultural Revolution (1967-1976), only two Standing Committee members had come from the local guerrilla forces, and one of the two was removed in 1955. After the 1978 economic reform, only two people with experience in the local guerrillas during the Civil War were on the Standing Committee. Thus, cadres from the local guerrilla forces were not a powerful element in the Standing Committee. While there were also Standing Committee members who did not belong to either the FA3 or YRD factions, these members tended to have much shorter tenures, and their influence on the political, personnel and economic decisions in Fujian Province was limited.

Factional Conflicts. The CCP has undergone numerous movements since it took power in 1949. At the national level, the best-known example to illustrate these political movements is the experience of Deng Xiaoping, who later became the architect of Chinese economic reforms and the paramount leader of China after the death of Mao Zedong. Deng's political career after the founding of the People's Republic of China had several ups and downs. In July 1952, Deng assumed the posts of Vice Premier and Deputy Chair of the Committee on Finance, and shortly afterwards, he took the posts of Minister of Finance and Director of the Office of Communications. Yet in 1954, he was removed from all of these positions, holding only the post of Deputy Premier. In 1956, he became the Head of the Communist Party's Organization Department and a member of the powerful Central Military Commission. In Mao's Anti-Rightist Movement of 1957, Deng acted as Secretary General of the Secretariat and ran the country's daily affairs with President Liu Shaoqi and Premier Zhou Enlai during the Great Leap Forward of 1957-1960. Yet, during the Cultural Revolution, Deng was twice purged from the central power apparatus. The first purge occurred in October 1969 when Deng was sent to Jiangxi Province to work as a regular worker in a tractor factory. Only in 1974 when Premier Zhou Enlai fell ill with cancer was Deng brought back to politics as the First Vice-Premier. He was purged yet again in 1976 after the death of Premier Zhou Enlai when he was removed from all positions following the Tiananmen Incident of April 5, 1976. He re-emerged as the *de facto* leader of China following the death of Chairman Mao on September 9, 1976, and the purge of the Gang of Four

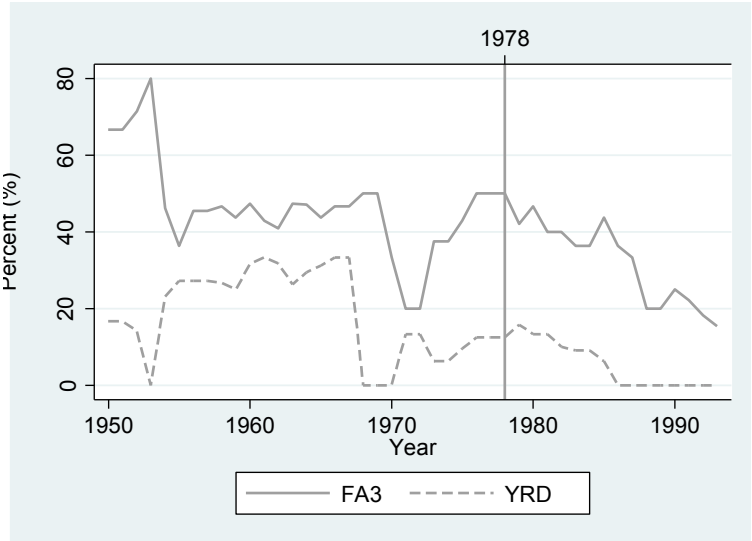


Figure 3: Share of FA3 and YRD in Provincial Party Standing Committee in Fujian Province During 1950-1993.

NOTES: We calculate the shares of FA3 and YRD in the Provincial Party Standing Committee as follows: First, we read resumes of all Standing Committee members and identify whether they had working experience in the FA3, or if they were members of the YRD. We then divide the number of Provincial Standing Committee members from the FA3 and the YRD, respectively, by the total number of provincial Standing Committee members year by year.

in October 1976.[9]

Deng's experience was mirrored in the political battles at local levels of the governments. Within Fujian Province, serious power struggles took place between cadres from FA3 and local guerilla forces. As mentioned previously, one of the only two provincial CCP Standing Committee members with a local guerrilla background was removed in 1955. In 1957, during the Anti-Rightist Movement, many of the local leaders with a guerrilla background were purged and stripped of power. In the 1959 Anti-Localism Movement, the Acting CCP Party Secretary of Fujian Province, Jiang Yizhen, was stripped of power and sent to work in a steel factory; Wei Jinshui, then Vice Governor of Fujian Province, was also reprimanded. Both Jiang and Wei had local guerrilla connections.[10] The political struggles among the provincial leadership had serious implications on the fortunes of many local leaders at the county level.

In the presence of constant power struggles, local leaders faced serious risks of being purged. As shown below, local leaders from the relatively weak YRD tended to adopt economic policies that were more protective of local economic development in their areas of jurisdiction. Many of these decisions were driven to mobilize grassroots support to increase their chances of political survival.

Examples of Local Leaders' Discretion in Economic Policies. Before presenting systematic results, we first provide examples from three counties in Fujian Province, Shang Hang, Dong Shan, and Jing Jiang, that differed in the county leaders' factional affiliations and in whether there was a guerrilla presence, to illustrate how local

[9]See Vogel (2011) for a detailed account of Deng's life and his influence on China.

[10]In 1962, Jiang Yizhen's career was rehabilitated, and in 1964, he became China's Acting Minister of Agriculture.

leaders chose economic policies that were more or less friendly to local economic development.

The leaders of Shang Hang county belonged to the FA3 faction. In the majority of the post-liberalization period up to the dawn of the reform (i.e., 1978), FA3 cadres held the top leadership position in the county. During the multitude of political movements in the communist era, the local cadres from FA3 in general adopted leftist, collectivist economic policies. For example, during the Great Leap Forward Movement (1958-1962), the local cadres strictly adhered to the quotas imposed on grain procurement. This led to severe famine in the county (see empirical evidence below). In addition, the local leaders also adopted more strictly the centralized economic policies, with the share of state-owned enterprises (SOEs) in the local economy rising steadily to 88% in 1978. In 1985, SOEs still accounted for 56% of the total local industrial output. It was not until 1991 that individual and private ownership surpassed 30% for the first time.

By contrast, Dong Shan County was governed largely by cadres from the YRD and local cadres that they tutelaged. These leaders overall were more reserved in the implementation of the leftist policies imposed from the central- and provincial-level governments. During the Great Leap Forward Movement, the local cadres did not succumb to the calls for farmers to "go all in" to produce steel in the "backyard furnace," as did in many leftist regions. Instead, they encouraged local residents to plant trees, and to finish several large-scale civil engineering projects, e.g., constructing dikes, implementing the drinking water program, and claiming land from sea. These projects greatly facilitated local development, and won local support. Moreover, through self-financing and financing from overseas, the county established a series of small collective- and state-owned firms. In 1988, the share of industrial output attributed to SOEs in Dong Shan was only 24.3%, compared to 36.3% for collective firms, and 36.6% for privately owned firms.

A third county is Jing Jiang County which was led by cadres from the YRD faction, and had a strong local guerrilla presence before 1948. In fact, within the county administrative structure, local guerrilla leaders tended to hold important positions, such as County Chief (1949-1958), and party secretary (1972-1976). Before the Cultural Revolution, the YRD cadres and local guerrilla forces allowed non-state economic activities to continue. Even in 1974, statistical reports show that village-level firms (most of which were privately owned) accounted for 41.1% of the county-level industrial output; by 1987, the figure had grown to 80%.

4 Data Sources and Descriptive Statistics

4.1 Data Sources

We now describe our data sources.

County/Provincial Leaders' Factional Affiliations and County's Guerrilla Presence. We rely on information from two primary sources: (1). "History of the Communist Party in Fujian Province, 1926-1987"; (2). "Recollections on Yangtze-River Detachment". We use these two primary sources to determine whether a county was assigned cadres affiliated with the FA3 or with the YRD around 1949 and 1950. A county's factional affiliation is treated as stable because the initial cadre base during the liberation period remained intact for subsequent decades.

In addition, we hand-collected the resume of every member of the Fujian Provincial Communist Party Standing Committee from 1950-1993. We identified whether a member belonged to the FA3 or YRD faction based on

working experiences listed on their resumes.

To determine whether a local guerrilla force had strong presence in the counties during the pre-communist liberation period, we hand checked various county gazettes (as of May 1948).

County-Level Development Performance from 1952 to 1998. We examine various measures of development performance at the county level from 1952 to 1998. First, measures related to economic growth and other economic outcomes are gathered from "Statistical Information on 50 Years of Fujian Province" and "Regional Economies in Fujian," which covers the period from 1952 to 1998 for all 59 counties in Fujian Province. We use this data set to construct the average annual real growth rate of gross value of output for agriculture and industries, separately for 1952 to 1998 (the whole sample period) and for 1978 to 1998 (the post-reform period).

For outcome measures related to the Great China Famine (1959-1961), we construct two measures. The first measure, which we refer to as *famine control,* following Meng, Qian and Yared (2015), is defined as the ratio of the number of surviving births (per year) in the county during the period 1959-1961 relative to the number of surviving births (per year) in the same county during the 1954-1957 period, as observed in the 1% sample of the 1990 China Population Census [see formula (24)]. The higher this ratio, the more successful the county was at controlling the famine.

The second measure is the county-level death rates (deaths per thousand) during the Great China Famine. The number of deaths at the county level number is mainly collected from the population statistical books published by the provincial Statistics Bureaus in the 1980s.[11]

Scope of Study. Our analysis is restricted to the 59 *counties* or *county-level cities* in Fujian Province. In the administrative system in China, there are also *prefecture*-level cities (such as Fuzhou, Xiamen, and Zhang Zhou). Prefecture-level cities are often treated differently in the statistical yearbooks, with many of the key economic indicators only collected at the prefecture level (instead of at the district level within the prefecture-level city, which would be more comparable to counties or county-level cities).

We also restrict our analysis up to 1998 for two reasons: first, the Chinese government initiated extensive redrawing of the county boundaries in 1998; second, Chinese government initiated its housing reform from 1998, which also drastically blurred the rural-urban boundaries.[12] The changes in county boundaries will lead to inconsistencies in the growth rate comparisons.

4.2 Descriptive Statistics

Among the 59 counties (by which we mean the counties and county-level cities) in our study, 11 counties were led by cadres affiliated with the FA3, among which 3 had a local guerrilla presence; 48 counties were led by cadres affiliated with YRD, among which 22 had local guerrilla presence. In this subsection, we provide some descriptive statistics.

To control for the differences in the *initial conditions* across counties, we construct the following variables: (1) *The log of the average agricultural and industrial output per capita* in 1952 (respectively, in 1978), denoted

[11]The data are compiled by Kasahara and Li (2018), who provide details about the data construction and cross-validation with the other provincial-level death statistics. We are grateful to Bingjing Li for generously sharing the data with us.

[12]See Fang et. al. (2015) for a detailed discussion about the institutional details of China's housing reform.

by Ln_GVOPC52 (respectively, Ln_GVOPC78); and (2) *The log of the total population* in 1952 (respectively, in 1978), denoted by Ln_Pop52 (respectively, Ln_Pop78).

We construct two variables to measure aspects of the county's geography that may be relevant to economic performance.[13] The first variable is the *share of plains (%)* in the county's total land areas where flat land is defined as land with less than 15 degrees of incline. This captures the amount of land that can be used as science/industrial parks or for agriculture production; it also captures the amount of land that is suitable for development. The second variable is the distance to Taiwan, which is a key potential source of foreign direct investment (FDI). We proxy this by using the *distance to Xiamen*, the city directly across the Taiwan Strait from Taiwan. The distance is calculated based on the location, as determined by the Global Positioning System (GPS) designation, of the centroid of each county to the centroid of Xiamen City. This variable may also capture access to the commercial hubs of Fujian province, investment from Taiwan, and other potential benefits, such as better access to business personnel and technology.

Variable	Obs.	Mean	SD	Min	Max
Annual Growth Rate 52-98 (%)	57	2.91	1.47	-0.03	7.94
Annual Growth Rate 78-98 (%)	57	7.11	3.89	1.47	22.49
Famine Control	58	0.78	0.14	0.46	1.11
Death Rate (Death Per 1000)	58	13.4	5.8	5.8	33.8
FA3	59	0.19	0.39	0	1
YRD	59	0.81	0.39	0	1
Guerrilla	59	0.42	0.5	0	1
YRD×GuerrillaNo	59	0.44	0.5	0	1
YRD×GuerrillaYes	59	0.37	0.49	0	1
Ln_GVOPC_52	58	7.95	0.45	5.99	8.66
Ln_GVOPC_78	58	7.9	0.48	5.99	9.23
Ln_Pop_52	59	2.67	0.69	1.34	4.33
Ln_Pop_78	58	3.36	0.66	1.99	4.96
Share of Plains (%)	59	10.96	9.7	1.53	41
Distance to Xiamen (Km)	59	184.2	90.01	21	342

Table 2: Summary Statistics of Main Variables

Table 2 provides summary statistics of the variables used in our analysis. It shows huge variations in the annual growth rates across counties. During the whole study period from 1952 to 1998, the annual real growth rate ranged from -0.03% to 7.94%, with a mean of 2.91% and a standard deviation of 1.47%. During the post-reform period from 1978 to 1998, the annual growth rate ranged from 1.47% to 22.49%, with a mean of 7.11% and a

[13]We have also tried to use as one measure the distance to Fuzhou, the provincial capital; however, because the coefficient estimate of this measure is never statistically significant, we thus opt not to include it to avoid multicollinearity in light of the few observations that we have. Because Fujian Province is a coastal province, we have also tried controlling for the length of the seashore within the county; again, it is never significant, and thus we exclude it too.

standard deviation of 3.89%. Similarly, the Famine Control variable also shows large variations across counties, with a mean of 0.78 and a standard deviation of 0.14. That is, during the 1959-1961 famine period, the drop in live births averaged to an astounding 22%. Similarly, the death rates during the Great Chinese Famine ranged from 5.8‰ to 33.8‰ with a mean death rate of 13.4‰ and a standard deviation of 5.8‰.

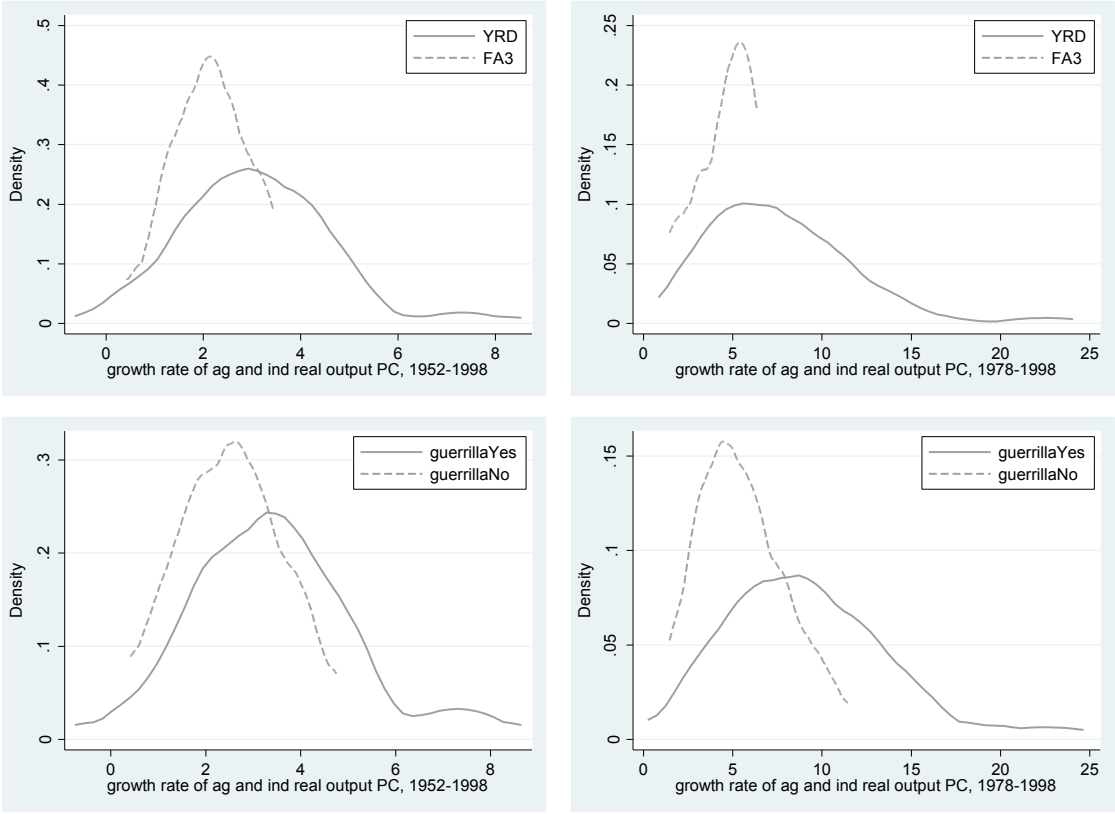


Figure 4: Kernel Density of Annual Growth Rate of Real Agricultural and Industrial Output per Capita: YRD vs. FA3 (Top) and Guerrilla vs. No Guerrilla (Bottom), and for the period 1952-1998 (Left) and 1978-1998 (Right).

4.3 Factions, Local Accountability, and Annual Growth

We first compare the annual growth rates of real agricultural and industrial output per capita (also referred to as gross value of output per capita, or GVO per capita, henceforth) in counties led by YRD- and FA3-affiliated cadres. We also compare the annual growth rates in counties with and without a local guerrilla presence prior to 1948. We use the GDP deflator to compute the real growth rates. We have comprehensive data from 1952 to 1998 for all counties covered by our study. To take into account important structural changes after the reforms started in 1978, we present the above comparisons both for the entire study period (1952-1998) and for the post-reform period (1978-1998) only.

Figure 4 plots the estimated kernel density distributions of the annual growth rates of real agricultural and industrial output per capita by factions (FA3 vs. YRD, the top panel) or by local accountability as proxied by

guerrilla presence (GuerrillaYes vs. GuerrillaNo, the bottom panel). The growth rates for the whole period (1952-1998) were plotted in the left panel, and those for the post-reform period (1978-1998) were plotted in the right panel. The two graphs in the top panel show that the distribution of the growth rates among counties led by YRD-affiliated cadres is more heavily weighted on higher values than those in the counties led by FA3-affiliated cadres - particularly so in the post-reform period. The two graphs in the bottom panel show that the growth rates are higher, probabilistically, in counties that had a local guerrilla presence than those that did not have a guerrilla presence; the difference is also much more striking during the 1978-1998 period.

In Table 3, we summarize the differences in the average annual real GVO growth rates between the counties led by cadres affiliated with FA3 and YRD, and between counties with and without guerrilla presence for the two periods (1952-1998 and 1978-1998). In the left side of Panel A, we show that, from 1952 to 1998, the average real GVO growth rate was 2.10 percent for FA3 counties, and 3.08 percent for YRD counties; the difference between YRD and FA3 counties was 0.99 percentage points, which is 0.67 standard deviations (SDs) of the mean growth rate of 2.91 percent. The difference in the growth rates between YRD and FA3 counties is statistically significant at the 10 percent level. However, if we focus on 1978-1998, the difference is much more striking: the average annual real GVO growth rate for FA3 counties was 4.37 percent, and that for YRD counties was 7.72 percent. The 3.17 percentage points per year YRD advantage in growth rate (about 0.82 SDs), is statistically significant at 1.4 percent level. The difference in economic growth rates between these two types of counties was huge, especially in light of the fact that they are from the same province.

In the right side of Panel A in Table 3, we examine the differences in growth rates among counties with and without a guerrilla presence as of May 1948. These differences are also striking. The guerrilla-present counties had an advantage in growth of 0.89 percentage points (or 0.6 standard deviations) during the 1952-1998 period, and 3.72 percentage points (or 0.95 standard deviations) in the 1978-1998 period. Both differences are statistically significant at the 5 percent level.

In Panel B, we examine the differences in average annual real GVO growth in guerrilla and non-guerrilla counties within the groups of counties led by FA3- or YRD-affiliated cadres. During the 1952-1998 period and within the group of FA3 counties, there is no difference in growth rates with respect to the local guerrilla presence. In contrast, within the group of YRD-affiliated counties, those with guerrilla presence outgrew those without one by 0.98 percentage points (or 0.7 standard deviations). Similarly, during the 1978-1998 period and within the group of FA3 counties, no statistically significant differences in annual GVO growth rates emerge between those with and without a guerrilla presence – though the grow rates remain higher in counties that had a guerrilla presence. In contrast, within the group of YRD counties, those with a guerrilla presence outgrew those without one by 3.74 percentage points (or 0.95 SDs). It should be noted that, as shown in the last two columns in Panel B, the numbers of counties in the FA3 group with and without a guerrilla presence are small, three and eight, respectively.

4.4 Factions, Local Accountability and Famine Severity During 1959-1961

Our second piece of descriptive evidence on the impact of factions and local accountability on development performance is how counties fared during the Chinese Great Famine (1959-1961). An estimated total of 16.5 million (Coale, 1981) to 45 million (Dikotter, 2010) individuals, mostly rural residents, died or failed to be born in the three-year period.

Panel A: FA3 vs. YRD, and Guerrilla vs. No Guerrilla							
County by Faction	Growth Rate (%) 1952-1998	1978-1998	Sample	County by Guerrilla Presence	Growth Rate (%) 1952-1998	1978-1998	Sample
FA3	2.10	4.37	11	No	2.51	5.52	25
	(0.86)	(1.6)			(1.16)	(2.44)	
YRD	3.08	7.72	48	Yes	3.43	9.26	34
	(1.54)	(4.03)			(1.72)	(4.52)	
YRD-FA3	0.99*	3.17**		Yes-No	0.89**	3.72**	
	(0.5)	(1.25)			(0.38)	(0.93)	

Panel B: Interactions of FA3, YRD with Guerrilla Presence								
County by Faction\Guerrilla	Growth Rate 1952-1998 (%) Yes	No	Yes-No	Growth Rate 1978-1998 (%) Yes	No	Yes-No	Sample Yes	No
FA3	2.05	2.11	-0.06	5.82	4.08	1.7	3	8
	(0.69)	(0.97)	(0.63)	(0.125)	(1.69)	(1.01)		
YRD	3.63	2.65	0.98**	9.75	6.01	3.74**	22	26
	(1.74)	(1.18)	(0.43)	(4.63)	(2.44)	(1.07)		

Table 3: Comparisons of Growth Rates across Counties in Fujian Province, by Faction and Guerrilla Presence (1952-1998 and 1978-1998)

NOTE: Standard errors in parentheses. *, ** and *** denote significance at 10 percent, 5 percent and 1 percent, respectively.

We examine two measures of famine severity at the county level. The first measure is based on Meng, Qian and Yared (2015) and proxies the famine severity by the birth cohort size of survivors observed in 1990 census. The logic for this measure, as Meng, Qian and Yared (2015) argued, is that "famine increases infant and early childhood mortality rates, and lowers fertility rates such that a more severe famine results in smaller cohort sizes for those born shortly before or during the famine." Specifically, we seek to measure "*famine control*," by which we mean the degree to which a region was able to limit or offset the severity of the famine's effects. We thus calculate county-level famine severity as the ratio of the number of surviving births (per year) in the county during the 1959-1961 period relative to the number of surviving births (per year) in the same county during the 1954-1957 period, as observed in the one percent sample of the 1990 China Population Census:

$$\text{Famine Control}_C = \frac{\text{Surviving Births per Year from 1959-1961 in County } C}{\text{Surviving Births per Year from 1954-1957 in County } C}. \tag{24}$$

The *higher* the measure, the *less severe* the famine was in county C. Meng, Qian and Yared (2015) point out that a birth-cohort-size measure of famine severity is not vulnerable to misreporting because it is less influenced by the government's desire to understate famine severity.

The second measure is the newly compiled county-level death rates, number of deaths per thousand.

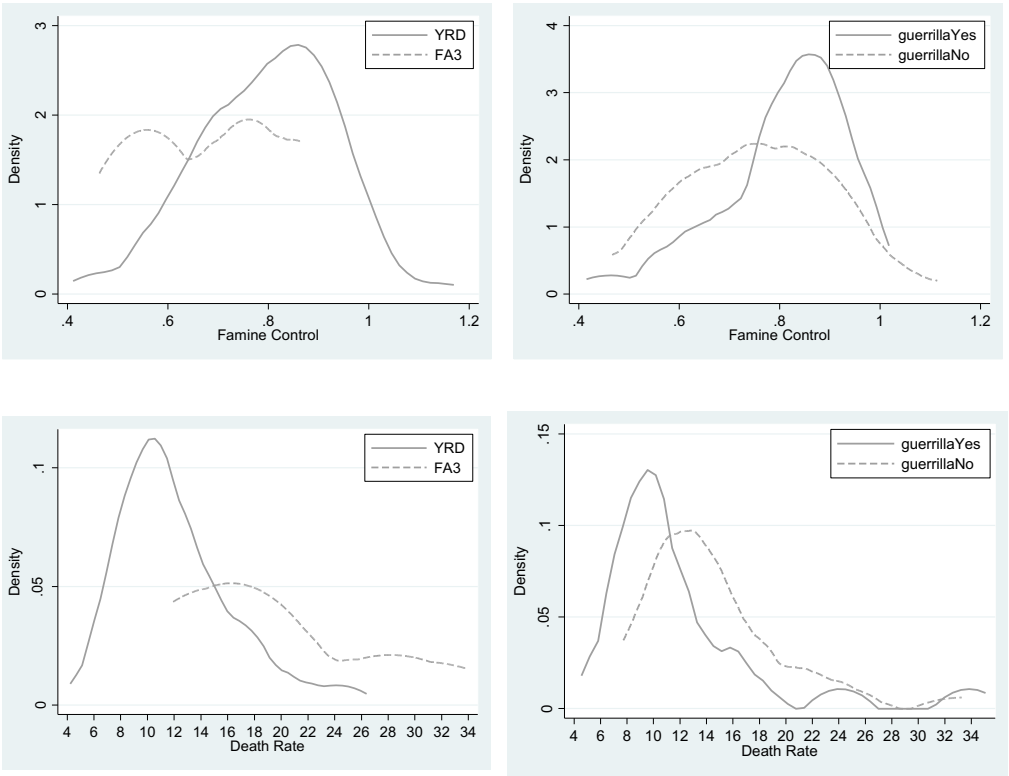


Figure 5: Kernel Density of the Famine Control as Proxied by Birth Cohorts (Top Panel) and Death Rates (Bottom Panel) at the County Level During the Great Chinese Famine of 1959-1961: YRD vs. FA3 (Left) and Guerrilla vs. No Guerrilla (Right)

Figure 5 plots the kernel density estimation of the distribution of the famine control proxied by birth cohorts (top panel) and death rates (bottom panel) among counties with FA3- and YRD-affiliated cadres (left), and

counties with or without a guerrilla presence (right). The top panel of Figure 5 demonstrates that, as measured by birth cohort size, the severity of the famine was greater in counties with FA3-affiliated cadres than in those with YRD-affiliated cadres; counties with a guerrilla presence also had lower famine severity. The bottom panel of Figure 5 shows that death rates during the Great Chinese Famine are lower in counties led by YRD-affiliated cadres than in counties led by FA3-affiliated cadres; and similarly, the rates are also lower in counties with a guerrilla presence than in those without such a presence.

In Table 4, we compare the two famine-severity measures, famine control and death rates in the 1959-1961 period, between the counties led by FA3- and YRD-affiliated counties, and between the counties with and without a guerrilla presence (Panel A), as well as the interaction effects between faction affiliation and guerrilla presence on famine severity (Panel B). In the left side of Panel A, we find that YRD counties had significantly higher levels of famine control by 11 percentage points (or 0.8 standard deviations), a large effect. We also find that counties led by YRD-affiliated cadres had a significantly lower death rate, with 7.6 fewer deaths per thousand people, or a rate that is 1.3 standard deviations lower than those counties led by FA3-affiliated cadres. In the right side of Panel A, we find that the counties with a guerrilla presence as of May 1948 also had a higher levels of famine control than counties without a guerrilla presence, though the difference is not statistically significant. The death rates in counties with a guerrilla presence is significantly lower, 2.65 fewer per thousand people, or 0.46 standard deviations lower, than the death rates in those counties without a guerrilla presence.

In Panel B of Table 4, we show the interaction effects of faction and local accountability. The left side of Panel B shows that, within FA3-affiliated counties, there is no statistically significant difference in either famine control or death rates between counties with and without a guerrilla presence; however, within the group of YRD-affiliated counties, those with a guerrilla presence had statistically significant higher famine control levels, and statistically significant lower death rates, than those without a guerrilla presence.

We interpret the better famine control and lower death rates in counties led by a YRD-affiliated leader and in counties with a local guerrilla presence as evidence that the leaders in these counties undertook more pro-local policies during the Great Famine period. As has been pointed out in the literature (Meng, Qian and Yared, 2015; and Fan, Xiong and Zhou, 2016), local officials' incentives to exaggerate their actual grain production in their attempt to meet the procurement quota from the central government played an important role in the magnitude of famine. The argument in our paper is that the local officials are driven by their incentives for political survival. These incentives are, in turn, intimately related to their factional affiliations with the provincial-level governments and their local accountability. County leaders whose political survival depends on grassroots support would tend to adopt policies that are more likely to blunt the devastating impact of the famine.

5 Empirical Results

The descriptive evidence in Section 4 is suggestive that the drastic differences in economic growth and famine severity are related to the differences in the policy choices made by local leaders, either because of their political affiliation or because of the presence or absence of guerrillas. In this section, we present more systematic empirical evidence of this connection in order to account for the possible differences in other factors, including geographical factors and the pre-l952 differences in economic conditions, that may have played a role in accounting for the results.

Panel A: FA3 vs. YRD, and Guerrilla vs. No Guerrilla					
County	Famine Control	Death Rate	County	Famine Control	Death Rate
FA3	0.688	19.7	No Guerrilla	0.754	14.57
	(0.158)	(2.6)		(0.153)	(5.36)
Obs.	11	10		25	25
YRD	0.798	12.1	Yes Guerrilla	0.807	11.92
	(0.132)	(0.6)		(0.125)	(6.08)
Obs.	48	48		34	33
YRD-FA3	0.11**	-7.6***	Yes-No	0.054	-2.65*
	[0.046]	[1.75]		[0.038]	[1.51]

Panel B: Interactions of FA3, YRD with Guerrilla Presence						
	Famine Control			Death Rates		
County	Guerrilla Presence			Guerrilla Presence		
	Yes	No	Yes-No	Yes	No	Yes-No
FA3	0.56	0.73	-0.17	24.3	17.8	6.5
	(0.09)	(0.16)	[0.097]	(9.5)	(7.5)	[5.55]
Obs.	3	8		3	7	
YRD	0.84	0.76	0.08**	10.2	13.7	-3.47***
	(0.09)	(0.15)	[0.037]	(2.99)	(4.4)	[1.11]
Obs.	22	26		22	26	

Table 4: Comparisons of Famine Control and Death Rates (per 1,000) Across Counties in Fujian Province, by Faction and Guerrilla Presence, 1959-1961.

NOTES: The numbers in parentheses are standard deviations, and the number in square brackets are standard errors. *, ** and *** denote significance at 10 percent, 5 percent and 1 percent, respectively.

5.1 Initial Assignment: Testing for Randomness

Before we move on to examine the effect of faction affiliation and local accountability , we examine how YRD-led counties and counties with a guerrilla presence differ from other counties in terms of basic characteristics. This sheds light on what variables we should control for, and whether selection issues are serious.

In Table 5, we present a simple linear probability model of the YRD and guerrilla dummy to basic county characteristics such as initial income and population, and geography. Our income and population variables are dated in 1952, the earliest number we can find. (Ideally we would have preferred values that preceded 1949.) The OLS regression results, reported in the first two columns in Table 5, suggest that YRD-led counties had similar initial income levels and population, but there were some differences in geography. YRD-led counties tended to have a somewhat higher share of plains. On average, the distance to Xiamen (and Taiwan) does not differ much between YRD- and FA3-led counties. Counties with a guerrilla presence tended to be more populous, but there is no systematic difference between counties with and without a guerrilla presence in terms of initial income levels and geography in general.

In the last two columns in Table 5, we report the multinomial Logit results with the three states of FA3-affiliated leadership, YRD-affiliated leadership without a guerrilla presence, and YRD-affiliated leadership with a guerrilla presence (with the default being FA3-affiliated leadership).[14] It again suggests that neither initial income nor geography matters for which of the three groups would be assigned to a county in 1950. The only variable that is significant at the 10 percent level is initial county population. To summarize the results in Table 5, we think it is credible, at least as a first pass, to treat the county's assignment to YRD- or FA3-affiliated cadres, or the assignment to having a guerrilla presence or not, as close to random, especially after we control for the initial conditions and geography variables. In Section 5.4, we further address this issue by focusing only on bordering counties.

5.2 Factions, Local Accountability and Economic Growth

We now report our regression results on the effect of factions (as captured by YRD and FA3 affiliations), local accountability (as captured by having or lacking a guerrilla presence) and their interactions on local annual economic growth rates.

In Table 6, we estimate the effect of YRD and FA3 factions on county level annual growth rates, for the whole period (1952-1998) and for the post-reform period (1978-1998) separately. We present the results for the full sample, as well as the results when we trim the 5% of the tail observations. In Columns (1) and (4), we do not control for any variables, and the estimates of YRD coefficients simply replicate the raw differences in annual growth rates between the YRD- and FA3-led counties we reported in the left side of Panel A in Table 3: YRD-affiliated counties on average grew by 0.99 percentage points faster than FA3-affiliated counties during the whole sample period (1952-1998), and by 3.17 percentage points faster in the post-reform period (1978-1998). In Columns (2) [respectively, Column (5)], we also add controls for the log of the initial GVO per capita, and initial population size, in 1952 [respectively, in 1978]. In Columns (3) and (6) we further control for some measures of the county geography and the distance to Xiamen. Finally, in Columns (7) and (8), we trim the tail 5% of the

[14] We do not distinguish an FA3-led county with and without a guerrilla presence because we have few observations (i.e., 11) for FA3-led counties.

	OLS		Multinomial Logit	
	YRD	Guerrilla	YRD_GuerrillaNo	YRD_GuerrillaYes
Initial Conditions				
Ln_GVOPC_52	0.052	-0.048	0.586	0.317
	(0.565)	(0.651)	(0.579)	(0.776)
Ln_Pop_52	0.053	0.303***	-0.122	1.374*
	(0.472)	(0.000)	(0.870)	(0.100)
Geography				
Share of Plains (%)	0.009*	0.001	0.062	0.084
	(0.076)	(0.891)	(0.331)	(0.183)
Distance to Xiamen (Km)	0.001*	-0.001	0.008	0.005
	(0.067)	(0.353)	(0.123)	(0.353)
Constant	-0.012	0.126	-5.534	-7.334
	(0.987)	(0.897)	(0.558)	(0.468)
Obs.	58	58	58	
R^2 (Pseudo-R^2)	0.07	0.253	0.159	

Table 5: Correlations of the Factions of Local Leaders in 1949 and Guerrilla Presence with County Characteristics in 1952

NOTES: FA3 is the reference group in multinomial logit regression. White Standard Errors are in parenthesis. *, **, and *** respectively indicate 10 percent, 5 percent and 1 percent statistical significance.

dependent variable to ensure that our results are not driven by outliers.

The results are remarkably robust. Let us discuss Columns (3) and (6) where we include all the controls of initial economic condition, population and geography. Focusing on the annual growth rate from 1952 to 1998, we find that, relative to FA3 counties, YRD counties exhibited an advantage of 0.91 percentage points per annum. In Column (7), we find that the YRD advantage stays at 0.77 percentage points per annum even after we trim 5 percent of the tails. Focusing on the post-reform period from 1978 to 1998, the advantage of the YRD-led counties is estimated to be more than 2.1 percentage points per annum, and this advantage does not shrink much as we trim 5 percent of the outliers. Table 6 also shows that initial income is associated with a lower growth rate, which is consistent with a conditional convergence hypothesis; that having a higher share of plains is associated with higher growth, and that a closer proximity to Xiamen (and Taiwan) is associated with a higher growth rate.[15]

We now turn to the effect of local accountability. Counties with a strong guerrilla presence had a more organized grassroots political constituency that was better able to act as a force to be reckoned with for local political leaders to survive. As a result, and as modeled previously, the local leaders in counties with guerrilla presence were likely to adopt more pro-local economic policies.

In Table 7 we add the dummy of local guerrilla presence, and study the separate effects of YRD leadership and guerrilla presence on local growth rates. We find that both YRD and guerrilla dummies have statistically significant and positive effects on annual growth rates. Focusing on the results in Columns (3) and (6), where

[15]Reducing the distance to Xiamen by one standard deviation (90KM) is associated with an increase in growth rate by 0.9 percentage point.

	Full Sample						Trimming Tail 5%	
	1952-1998			1978-1998			1952-1998	1978-1998
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Power Structure								
YRD	0.987***	0.925***	0.907***	3.166***	2.103***	2.102***	0.767***	2.007***
	(0.004)	(0.004)	(0.003)	(0.000)	(0.003)	(0.002)	(0.008)	(0.000)
Initial Conditions								
Ln_GVOPC_52		-1.876***	-2.127***				-1.985***	
		(0.000)	(0.000)				(0.000)	
Ln_GVOPC_78					-4.634***	-4.506***		-3.358***
					(0.000)	(0.000)		(0.000)
Ln_Pop_52		0.217	-0.417				-0.193	
		(0.464)	(0.136)				(0.349)	
Ln_Pop_78					0.839	-0.842		-0.864
					(0.299)	(0.282)		(0.208)
Geography								
Share of Plains (%)			0.055**			0.143***	0.046*	0.081*
			(0.015)			(0.007)	(0.064)	(0.06)
Distance to Xiamen			-0.004***			-0.010***	-0.004**	-0.012***
(Km)			-0.008			(0.005)	(0.012)	(0.001)
Obs.	57	57	57	57	57	57	53	52
R^2	0.049	0.403	0.58	0.089	0.49	0.645	0.432	0.528

Table 6: The Effect of YRD vs. FA3 Factions on Annual Growth Rates

NOTES: White Standard Errors are in parentheses. Intercepts are not reported. *, **, and *** respectively indicate 10 percent, 5 percent and 1 percent statistical significance.

	Full Sample						Trimming Tail 5%	
	1952-1998			1978-1998			1952-1998	1978-1998
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Power Structure								
YRD	0.867**	0.879***	0.857***	2.537***	1.981***	1.929***	0.741**	1.890***
	(0.015)	(0.007)	(0.004)	(0.000)	(0.004)	(0.002)	(0.012)	(0.000)
Guerrilla	0.818**	0.642**	0.524**	3.420***	1.652**	1.517**	0.472*	1.488**
	(0.036)	(0.035)	(0.048)	(0.000)	(0.026)	(0.018)	(0.074)	(0.010)
Initial Conditions								
Ln_GVOPC_52		-1.860***	-2.096***				-1.975***	
		(0.000)	(0.000)				(0.000)	
Ln_GVOPC_78					-4.278***	-4.150***		-2.973***
					(0.000)	(0.000)		(0.000)
Ln_pop_52		-0.001	-0.576**				-0.337	
		(0.997)	(0.045)				(0.116)	
Ln_pop_78					0.358	-1.248		-1.247*
					(0.671)	(0.112)		(0.077)
Geography								
Share of Plains (%)			0.055**			0.149***	0.047**	0.091**
			(0.010)			(0.003)	(0.049)	(0.016)
Distance to Xiamen			-0.004**			-0.009***	-0.003**	-0.010***
(Km)			(0.014)			(0.009)	(0.019)	(0.001)
Obs.	57	57	57	57	57	57	53	52
R^2	0.110	0.430	0.598	0.266	0.515	0.668	0.459	0.571

Table 7: The Separate Effects of YRD and Guerrilla on Annual Growth Rates

NOTES: White Standard Errors are in parenthesis. Intercepts are not reported. *, **, and *** respectively indicate 10 percent, 5 percent and 1 percent statistical significance.

we include the richest set of controls with the full sample, we find that, compared to FA3-led counties, YRD-led counties had a 0.86 percentage point higher average annual growth rate (or 0.6 standard deviations higher) in the 1952-1998 period, and 1.93 percentage points (or 0.5 standard deviations higher) in the 1978-1998 period; and the effect of a guerrilla presence is also strong though slightly less pronounced: the average annual growth rate is 0.52 percentage point (or 0.35 standard deviations) higher in the 1952-1998 period, and 1.52 percentage points (or 0.4 standard deviations) higher in the 1978-1998 period. The results remain statistically significant and quantitatively similar when we trim 5 percent of tail counties.

In Table 8, we examine the interaction effects of factions and local accountability. We include YRD×GuerrillaYes and YRD×GuerrillaNo.[16] If there is an additional boost from being led by cadres from the weak YRD faction in counties with strong local accountability as proxied by local guerrilla presence, the effect of YRD×GuerrillaYes should be significantly larger than YRD×GuerrillaNo. We find this to be true, and the results are robust. Focusing on Columns (3) and (7), counties in which the local leaders were affiliated with YRD faction but without guerrilla participation had a growth rate that was 0.67 percentage points (or 0.45 of a standard deviation) higher from 1952 to 1998, and 1.46 percentage points (or roughly 0.4 of standard deviation) higher from 1978 to 1998, than FA3 counties. In contrast, counties with a YRD faction leader and guerrilla presence had growth rates that were 1.29 percentage points (or 0.9 of a standard deviation) higher from 1952 to 1998, and 3.18 percentage points (or 0.8 of a standard deviation) higher from 1978 to 1998, than FA3 counties with no guerrilla presence. The Wald tests for the hypothesis that the coefficients for YRD×GuerrillaYes and YRD×GuerrillaNo terms are equal is rejected at 5.1 and 2.4 percent significance levels, respectively, in Columns (3) and (7). Thus, being led by cadres who lack political support in upper-level government could imply faster local economic growth, but when coupled with local accountability, its effects more than double.

5.3 Factions, Local Accountability and Famine Severity from 1959 to 1961

So far we have found a strong and robust association between the faction of local leaders and local accountability and local economic growth; and we have offered evidence that counties with stronger local accountability and with leaders from weaker factions tended to have significantly higher growth rates in the post-reform period and in the five decades after the founding of the People's Republic of China. However, the very nature of the empirical exercise suggests that it is almost impossible to establish impeccable causality. In Tables 6-8 above, we have controlled for geography and initial conditions; and in Tables 5, we have shown that there does not seem to be significant correlations of the YRD or guerrilla status of a county with the county's observables in terms of initial economic conditions and geography. But the concern is that there may still be other omitted factors that drive our findings.

[16] In principle, we may also include FA3×GuerrillaYes. However, only three counties fit this category. Indeed, we have tried to include this term in the regression [see Columns (4) and (8) in Table 8], and found the estimate to be, not surprisingly, statistically insignificant.

	Full Sample								Trimming Tail 5%	
	1952-1998				1978-1998				1952-1998	1978-1998
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
Power Structure										
FA3×GuerrillaYes				0.058				0.376		
				(0.453)				(0.852)		
YRD×GuerrillaNo [b_0]	0.551	0.620*	0.674**	0.690*	1.458**	1.352*	1.455**	1.547*	0.535*	1.372***
	(0.118)	(0.055)	(0.029)	(0.410)	(0.034)	(0.054)	(0.032)	(0.818)	(0.062)	(0.002)
YRD×GuerrillaYes [b_1]	1.528***	1.424***	1.288***	1.306***	5.198***	3.422***	3.180***	3.289***	1.160***	3.086***
	(0.001)	(0.000)	(0.000)	(0.455)	(0.000)	(0.000)	(0.000)	(0.959)	(0.001)	(0.000)
Initial Conditions										
Ln_GVOPC_52		-1.855***	-2.098***	-2.097***					-1.968***	
		(0.000)	(0.000)	(0.240)					(0.000)	
Ln_GVOPC_78				-0.576**		-4.325***	-4.243***			-3.089***
				(0.294)		(0.000)	(0.000)			(0.000)
Ln_pop_52		-0.028	-0.572**					-4.210***	-0.345*	
		(0.929)	(0.042)					(0.980)	(0.096)	
Ln_pop_78						0.272	-1.245	-1.261		-1.252*
						(0.745)	(0.108)	(0.795)		(0.075)
Geography:										
Share of Plains (%)			0.052**	0.053**			0.140***	0.142***	0.044*	0.084**
			(0.016)	(0.023)			(0.005)	(0.051)	(0.063)	(0.027)
Distance to Xiamen			-0.004**	-0.004**			-0.009***	-0.009***	-0.003**	-0.010***
(Km)			(0.010)	(0.002)			(0.007)	(0.003)	(0.016)	(0.001)
Obs.	57	57	57	57	57	57	57	57	53	52
R^2	0.127	0.444	0.603	0.595	0.267	0.528	0.672	0.666	0.479	0.580
$H0 : b_0 = b_1$	0.033	0.024	0.049	0.051	0.002	0.018	0.023	0.024	0.042	0.015

Table 8: The Interaction Effects of Factions and Guerrilla Presence on Annual Growth Rates

NOTES: (1). White Standard Errors are in parenthesis. (2). Intercepts are not reported. (3).*, **, and *** respectively indicate 10 percent, 5 percent and 1 percent statistical significance. (4) The last row reports the p-values of the hypothesis that $b_0 = b_1$.

	Full Sample			Trimming Tail 5%	Bottom 25%*
	(1)	(2)	(3)	(4)	(5)
Power Structure					
YRD	0.109**	0.116**	0.119**	0.087	-0.419**
	(0.050)	(0.054)	(0.056)	(0.053)	(0.182)
Initial Conditions					
Ln_GVOPC_52		0.033	0.028	0.031	-0.081
		(0.036)	(0.039)	(0.038)	(0.101)
Ln_pop_52		0.048**	0.041	0.032	-0.152*
		(0.022)	(0.026)	(0.024)	(0.076)
Geography					
Share of Plains			0.000	0.001	0.002
(%)			(0.002)	(0.002)	(0.007)
Distance to Xiamen			-0.000	-0.000	0.001
(Km)			(0.000)	(0.000)	(0.001)
Obs.	58	57	57	53	58
R^2	0.075	0.125	0.095	0.089	0.172

Table 9: The Effect of Factions on Famine Control during the Great Chinese Famine (1959-1961) in Fujian Province

NOTES: White standard errors are in parentheses. Intercept not reported. In Column (5), the dependent variable is a dummy variable, which take the value of one, if the county was in the bottom 25 percent of counties in terms of famine control (i.e., they are among top 25 percent of counties with the most severe famine effects from 1959 to 1961), and take the value of zero, otherwise. *, **, and *** respectively indicate 10 percent, 5 percent and 1 percent statistical significance.

In this subsection, we attempt to provide additional evidence to buttress the case for the causal impact of factions and local accountability on economic performance. In particular, we examine whether counties led by leaders affiliated with weak factions and with stronger local accountability led to better protection of local residents in the Great Chinese Famine (1959-1961).

The Great Chinese Famine was an important event in modern Chinese history in which roughly 30 million people died due to a combination of natural disaster and radical policies implemented by the central government (Coale, 1981; Dikotter, 2010). While one of the causes for the Great Chinese Famine was, no doubt, natural disaster, the literature suggests that the key determinant was likely the implementation of radical policies to procure grains for the rapid industrialization that was favored by Mao Zedong, the top leader of China at the time. For instance, the incidence of famine was higher in grain-rich areas (Meng, Qian and Yared, 2015), which implies that it was grain procurement rather than the inadequacy of grain production that caused famine. Indeed, Li and Yang (2005), Meng, Qian and Yared (2015) argue that the key factors behind the famine were the inelastic and regressive procurement policies. Yang (1996) and Kung and Lin (2003) offer evidence that radical policies were a key reason behind the widespread famine in China even though the average grain output was sufficient to support the whole population.[17] Kung and Chen (2011) provide evidence that provincial leaders with stronger career incentives (i.e., alternative members of the central committee versus full central committee members) were more radical in implementing the grain procurement policy despite the large scale of the natural disaster. Those

[17]Fan and Shi (2013) offer evidence that the Great Leap Forward industrialization movement and the details of the procurement policies contributed to the famine.

alternative members had an incentive to work harder to try to please Mao by, for example, procuring grains aggressively, because their political positions were more precarious, and their career trajectories depended on pleasing superiors. Fan, Xiong and Zhou (2016) argued that inflation of the grain production by local officials was partly responsible for the severity of the famine.

This literature thus far has focused on either the role of provincial leaders (such as how career incentives influenced their decisions), or the policies at the central level (such as the grain procurement policies). We complement this literature by zeroing in on the incentives of the *county*-level cadres, the role of local accountability, and the connection between the provincial and the county-level cadres.

Famine Control (Birth Rates). In Table 9 we relate famine control at the county level to whether a county's leader was affiliated with the weaker faction YRD, with the same sequences of controls as in the case of annual growth rates reported in Table 5. The results on the effect of YRD leadership are very robust, with the coefficient estimates ranging from 0.11 to 0.12 when outliers are not trimmed. When outliers (i.e., tail 5%) are trimmed, however, the YRD coefficient becomes statistically insignificant, though the magnitude is similar. These results thus suggest the mechanism that led to better famine control among counties with YRD-affiliated leaders was likely an ability to reduce *extreme* famine.

To check this, we create an indicator variable which takes the value of one if a county's famine control measure as constructed by formula (24) is in the bottom quartile among all counties. This indicator captures the possibility of extreme local famine. The results in Column (6) of Table 9 show that YRD-led counties had a 42 percent lower likelihood of extreme local famine, suggesting that being led by cadres from the weaker YRD faction was very effective in containing the famine disaster.

In Table 10 we further allow the guerrilla presence in the county to play a role. In the left panel, we let YRD affiliation and a guerrilla presence have separate effects; and in the right panel, we let YRD affiliation interact with a guerrilla presence. When YRD affiliation and a guerrilla presence are included separately, YRD matters much more than the guerrilla presence, with the former being largely statistically significant, while the latter is never statistically significant. Because the procurement policy was a top-down mandate, it is not surprising that YRD affiliation would be more important in reducing famine since its cadres served as the link between the provincial government and the county governments, and thus could have a stronger say on how much grain was to be procured. Local guerrilla cadres did not have direct link to the provincial government, thus they could not directly push back the central mandate. Similar to Table 9, Columns (4) and (5) of Table 10 suggest that YRD-affiliated counties were able to substantially reduce extreme famine.

	Separate Effects					Interaction Effects				
	Full Sample			Trimming Tail 5%	Bottom 25%*	Full Sample			Trimming Tail 5%	Bottom 25%*
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
Power Structure										
YRD	0.101*	0.114**	0.117**	0.077	-0.422**					
	(0.055)	(0.056)	(0.058)	(0.055)	(0.182)					
Guerrilla	0.041	0.021	0.018	0.052	0.023					
	(0.036)	(0.040)	(0.042)	(0.037)	(0.111)					
YRD×GuerrillaNo [b_0]						0.072	0.091	0.094	0.055	-0.369*
						(0.056)	(0.057)	(0.060)	(0.055)	(0.189)
YRD×GuerrillaYes [b_1]						0.152***	0.154***	0.157***	0.134**	-0.499**
						(0.050)	(0.056)	(0.058)	(0.056)	(0.189)
Initial Conditions										
Ln_GVOPC_52		0.033	0.029	0.032	-0.079		0.034	0.031	0.034	-0.086
		(0.037)	(0.039)	(0.038)	(0.102)		(0.038)	(0.039)	(0.038)	(0.102)
Ln_pop_52		0.041	0.036	0.017	-0.159**		0.029	0.027	0.012	-0.120
		(0.025)	(0.029)	(0.024)	(0.076)		(0.024)	(0.028)	(0.023)	(0.078)
Geography										
Share of Plains (%)			0.000	0.001	0.002			-0.000	0.001	0.003
			(0.002)	(0.002)	(0.007)			(0.002)	(0.002)	(0.007)
Distance to Xiamen			-0.000	-0.000	0.001			-0.000	-0.000	0.001
(Km)			(0.000)	(0.000)	(0.001)			(0.000)	(0.000)	(0.001)
Obs.	58	57	57	53	58	58	57	57	53	58
Adjusted-R^2	0.079	0.113	0.080	0.104	0.156	0.126	0.143	0.110	0.144	0.172
$H_0 : b_0 = b_1$						0.031	0.136	0.142	0.035	0.238

Table 10: The Separate and Interaction Effects of Factions and Guerrilla Presence on Famine Control during the Great Chinese Famine (1959-1961)

NOTES: (1). White Standard Errors are in parentheses. (2). Intercepts are not reported. (3). *, **, and *** respectively indicate 10 percent, 5 percent and 1 percent statistical significance. (4) The last row reports the p-values of the hypothesis that $b_0 = b_1$. (5) In Columns (5) and (10), the dependent variable is a dummy variable, which take the value of one, if the county was in the bottom 25 percent of famine control (i.e., they are among top 25 percent of counties with the most severe famine effects from 1959 to 1961), and take the value of zero, otherwise.

In Columns (6)-(10), we allow YRD's effect to hinge on whether the county had a guerrilla presence. Columns (6)-(8) show that counties with a guerrilla presence and were also led by cadres affiliated with the weak faction achieved much better famine control with the coefficient around 0.15 to 0.17. In contrast, YRD-led counties without a guerrilla presence did not have significantly better famine control, though the magnitude remain consistently positive.

In Column (10) we focus on whether a county had a disastrous famine control (i.e., was in bottom quartile). We find that it is 36.9 percentage (49.9 percent, respectively) less likely for YRD-led counties without guerrilla presence (with a guerrilla presence, respectively) than for FA3 counties to be in this extreme famine severity scenario.

Death Rates. The second measure of famine severity we examine is the county-level average death rates (per thousand) during the 1959-1961 period. In Table 11, we present the estimates of the impact of faction on death rates. In the specification reported in Column (4) , which controls for the county's initial conditions and geography variables, we find that counties led by YRD-affiliated cadres have death rates that are 7.81‰ (about 1.4 standard deviations) lower; the finding is statistically significant at 1 percent In Columns (5) and (6), we find that YRD-leadership affiliation is associated with lower local death rates, both at the extreme end of the distribution and in the middle part of distribution: trimming the 5 percent of the tail observations, we find that having a YRD-affiliated cadre is still associated with death rates that are 4.2 ‰ lower; and that YRD affiliation reduces the likelihood of being among the most impacted counties (i.e., in the top quartile in terms of death rates) by 39 percent.In Table 12, our analysis of death rates incorporates the effects of a guerrilla presence in the county. Similar to Table 10, Table 12 includes the guerrilla presence both separately from YRD affiliation [Columns (4)-(5)] and interacted with YRD affiliation [Columns (6)-(10)]. When guerrilla presence is included in the regression separately, we find that its coefficients are not statistically significant, while the coefficient estimates on YRD affiliation remain negative and significant at around -7.8‰˙When we interact guerrilla presence with YRD affiliation, we find that both YRD-led counties with and without a guerrilla presence have statistically significant lower death rates than FA3-affiliated counties. There is also strong evidence that YRD affiliation joint with guerrilla presence reduces the probability of the county experiencing extreme famine severity (in terms of the county's death rates being among the highest quartile among all counties) by about 40 percent.

	Full Sample			Trimming Tail 5%	Top 25%*
	(1)	(3)	(4)	(5)	(6)
Power Structure					
YRD	-7.611***	-7.925***	-7.807***	-4.228**	-0.391**
	(2.576)	(2.853)	(2.883)	(1.860)	(0.195)
Initial Conditions					
Ln_GVOPC_52		-2.095*	-1.488	-0.366	-0.042
		(1.199)	(1.036)	(0.736)	(0.101)
Ln_pop_52		-3.077***	-1.711*	-1.423	-0.131
		(0.765)	(0.873)	(0.887)	(0.085)
Geography					
Share of Plains (%)			-0.105**	-0.089**	0.002
			(0.045)	(0.038)	(0.004)
Distance to Xiamen			0.009*	0.010**	0.002**
(Km)			(0.005)	(0.005)	(0.001)
Obs.	58	57	57	52	57
Adjusted R^2	0.238	0.376	0.408	0.394	0.202

Table 11: The Effect of Factions on the Death Rates During the 1959-1961 Chinese Famine

NOTES: (1). White Standard Errors are in parentheses. (2). Intercepts are not reported. (3). *, **, and *** respectively indicate 10 percent, 5 percent and 1 percent statistical significance.

	Separate Effects					Interaction Effects				
		Full Sample		Trimming Tail 5%	Top 25%*		Full Sample		Trimming Tail 5%	Top 25%*
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
Power Structure										
YRD	-7.298**	-7.886***	-7.798**	-4.214**	-0.395**					
	(2.769)	(2.916)	(2.936)	(1.915)	(0.196)					
Guerrilla	-1.982	-0.433	-0.077	-0.108	0.032					
	(1.350)	(1.330)	(1.310)	(0.985)	(0.117)					
YRD×GuerrillaNo [b_0]						-6.021**	-7.093**	-7.173**	-3.896**	-0.380*
						(2.673)	(2.861)	(2.903)	(1.881)	(0.203)
YRD×GuerrillaYes [b_1]						-9.491***	-9.045***	-8.672***	-4.729**	-0.407*
						(2.606)	(2.888)	(2.937)	(1.946)	(0.206)
Initial Conditions										
Ln_GVOPC_52		-2.101*	-1.492	-0.372	-0.040		-2.131*	-1.559	-0.417	-0.043
		(1.204)	(1.038)	(0.754)	(0.102)		(1.191)	(1.063)	(0.753)	(0.103)
Ln_pop_52		-2.925***	-1.688*	-1.393	-0.141		-2.435***	-1.311	-1.218	-0.124
		(0.830)	(0.914)	(0.920)	(0.092)		(0.851)	(0.935)	(0.930)	(0.094)
Geography										
Share of Plains (%)			-0.105**	-0.089**	0.002			-0.098**	-0.085**	0.002
			(0.046)	(0.038)	(0.004)			(0.046)	(0.039)	(0.005)
Distance to Xiamen			0.009*	0.010**	0.002**			0.009	0.010*	0.002**
(Km)			(0.005)	(0.005)	(0.001)			(0.005)	(0.005)	(0.001)
Obs.	58	57	57	52	57	58	57	57	52	57
R^2	0.254	0.365	0.396	0.381	0.187	0.302	0.384	0.408	0.389	0.186
$H_0 : b_0 = b_1$						0.002	0.077	0.145	0.359	0.819

Table 12: The Separate and Interaction Effects of Factions and Guerrilla Presence on Death Rates during the Great Chinese Famine (1959-1961)

NOTES: (1). White Standard Errors are in parentheses. (2). Intercepts are not reported. (3). *, **, and *** respectively indicate 10 percent, 5 percent and 1 percent statistical significance. (4) The last row reports the p-values of the hypothesis that $b_0 = b_1$. (5) In Columns (5) and (10), the dependent variable is a dummy variable, which takes the value of one, if the county was in the bottom 25 percent of famine control (i.e., they are among top 25 percent of counties with the most severe famine effects from 1959 to 1961), and take the value of zero, otherwise.

	1952-1998			1978-1998		
	(1)	(2)	(3)	(4)	(5)	(6)
YRD	0.972***	0.684**		1.961**	1.545**	
	(0.351)	(0.309)		(0.782)	(0.635)	
Guerrilla		0.468*			1.374**	
		(0.277)			(0.670)	
YRD×GuerrillaNo [b_0]			0.465			0.980
			(0.309)			(0.657)
YRD×GuerrillaYes [b_1]			1.058***			2.645***
			(0.364)			(0.820)
Other Control Variables	Yes	Yes	Yes	Yes	Yes	Yes
Obs.	15	51	51	15	51	51
Adjusted-R^2	0.233	0.589	0.598	0.424	0.662	0.669
$H_0 : b_0 = b_1$			0.071			0.037

Table 13: The Effect of Power Structure on Growth Rates in Fujian, Border-Sharing Counties Only

NOTES: White standard errors are in parentheses. Intercepts are not reported. Columns (1) and (4) use a subsample of FA3-led counties and their border-sharing counties. Columns (2)-(3) and (5)-(6) use a subsample of counties with a guerrilla presence, and their border-sharing counties. Other control variables include Ln_GVOPC_52 (Ln_GVOPC_78), Ln_pop_52 (Ln_pop_78), Share of Plains (%) and Distance to Xiamen. *, **, and *** respectively indicate 10 percent, 5 percent and 1 percent statistical significance.

5.4 Robustness Checks: Border Counties

Some may argue that, given the uneven distribution of YRD- and FA3-led counties over the province (see Figure 2), the difference in development outcomes we have so far documented may reflect difference in other unobserved differences in geography or aspects not captured by our limited controls, such as the share of plains in the county and the distance to Xiamen (and therefore Taiwan).

A useful robustness check would thus be to hold these unobserved geographic elements or other aspects as constant as possible. To this end, when we estimate the effect of YRD leadership, we only keep FA3- and YRD-led counties that are neighbors. Since counties are geographically small - there are almost 3,000 counties in China now – neighboring counties tend to be similar in geography (and culture). This stringent control results in a much smaller sample of 15 counties (versus 57 counties in the full sample). When we estimate the effect of a guerrilla presence (and its interactive effect with YRD), we keep only counties with a guerrilla presence and their neighboring counties. The restricted sample has 51 counties.

Since our results are quite robust across various sets of controls, we present the specification with the comprehensive controls. The results on annual growth rates when restricted to the border counties are presented in Table 13, and those on famine control and death rates are in Table 14.

In Columns (1) and (4) in Table 13, we examine the effect of factions (measured by the YRD dummy) on border-sharing counties with observations from only 15 border-sharing counties. We find that the results, both qualitatively and quantitatively, are very similar to our results from the full sample. For instance, the YRD-leadership effect on annual growth rates in the 1978-1998 period is now 1.96 percentage points (compared to 2.10 percentage points in Column 6 of Table 6); the YRD-leadership effect on the growth rates in the whole 1952-1998 period 0.97 of a percentage point (vs. 0.91 of a percentage point in Column 3 of Table 6). This is quite remarkable, since the estimation sample is now only a quarter of the previous, already quite small, sample.

	Famine Control			Death Rates		
	(1)	(2)	(3)	(4)	(5)	(6)
YRD	0.176**	0.171***		-3.549	-10.545***	
	(0.062)	(0.060)		(4.362)	(3.201)	
Guerrilla		0.018			-0.335	
		(0.040)			(1.273)	
YRD×GuerrillaNo [b_0]			0.151**			-10.050***
			(0.063)			(3.221)
YRD×GuerrillaYes [b_1]			0.200***			-11.154***
			(0.060)			(3.173)
Other Control Variable	Yes	Yes	Yes	Yes	Yes	Yes
Obs.	15	51	51	14	51	51
Adjusted-R^2	0.485	0.171	0.191	0.501	0.566	0.571
$H_0 : b_0 = b_1$			0.244			0.283

Table 14: The Effect of Power Structure on Famine Control and Death Rates during the 1959-1961 Chinese Famine in Fujian, Border-Sharing Counties Only

NOTES: White standard errors are in parentheses. Intercepts are not reported. Columns (1) and (4) use a subsample of FA3 counties and their border-sharing counties. Columns (2)-(3) and (5)-(6) use a subsample of counties with a guerrilla presence, and their border-sharing counties. Other control variables include Ln_GVOPC_52 (Ln_GVOPC_78), Ln_pop_52 (Ln_pop_78), Share of Plains (%) and Distance to Xiamen.

In Columns (2) and (5), the estimation uses the 51 neighboring counties with and without a guerrilla presence. When we examine the effect of both YRD affiliation and a guerrilla presence, again, we find the results qualitatively and quantitatively similar for the growth rates in both periods. For instance, the effect of YRD leadership on the growth rate in the 1978-1998 period is 1.55 percentage points (vs. 1.93 percentage points in Column 6 of Table 7); the effect of a guerrilla presence is 1.37 percentage points (vs. 1.52 percentage points in Column 3 of Table 7).

In Columns (3) and (6) where we allow for the interactive effect of YRD and a guerrilla presence, some differences in results emerge. Relative to FA3-led counties, YRD counties without a guerrilla presence no longer have a statistically significant advantage in growth rates – though the advantage remains, and the magnitude remains sizable: 0.98 (vs. 1.46 in Column 7 of Table 8) for the 1978-98 period. However, relative to FA3-led counties, YRD-led counties with a guerrilla presence still exhibit sizable and significant advantages in growth, 1.06 (vs. 1.29 in Column 3 of Table 8) for the 1952-98 period, and 2.65 (vs. 3.18 in Column 7 of Table 8) for the 1978-1998 period.

Table 14 shows similar results for both famine control and death rates over the 1959-1961 period using border-sharing counties only. Column (1) shows that, when using only border-sharing counties, the effect of YRD affiliation on famine control becomes even more pronounced. The estimated coefficient of YRD affiliation is 0.17 (vs. 0.12 in Column 3 of Table 9). When we include both YRD-affiliation and guerrilla-presence effects, the estimated YRD effect becomes 0.17 (vs. 0.12 in Column 3 of Table 10). The effect of guerrilla presence remains statistically insignificant. Column (3) examines the interaction effect of YRD affiliation and guerrilla presence, the coefficient estimate of YRD×GuerrillaYes is now 0.20 (vs. 0.16 in Column 8 of Table 10); that of YRD×GuerrillaNo is now 0.15 and statistically significant (vs. 0.09 and statistically insignificant in Column 8 of Table 10).

In Columns (4)-(6), we report the results for death rates when only border-sharing counties are included in the analysis. In Column (4), we find that the estimated coefficient of YRD affiliation on death rates during the Great Chinese Famine is still negative at -3.55‰ , but it is no longer statistically significant. When we include both YRD affiliation and guerrilla presence in Column (5), however, the YRD-affiliation effect is -10.5‰ and statistically significant at the 1 percent level, and the effect of guerrilla presence is negative but statistically insignificant. In Column (6), the interaction effects of YRD×GuerrillaYes and YRD×GuerrillaNo are both negative and statistically significant; the magnitude of these estimates is larger than the corresponding numbers in Table 11.

The qualitatively and quantitatively robust results in Tables 13 and 14, using a smaller set of neighboring counties, render strong support to the positive role of weak factions and local accountability in facilitating local development.

5.5 Were the Local Leaders from the Stronger Faction Starved of Resources from the Higher-level Government?

Why do counties led by cadres affiliated with the stronger FA3 faction perform worse than the counties led by cadres affiliated with the weaker YRD faction? Is it possible that counties led by FA3 factions did not receive as many resource as the counties led by YRD factions? To assess this hypothesis, we plot in Figure 6 the kernel density distribution of the average fiscal expenditure/fiscal revenue ratio for 1950 and 1957, the only two years for which these statistics are available at the county level. A ratio larger than one indicates that the county received net transfers from the higher-level government (as local government debt was prohibited then), and a ratio lower than one indicates that the county transferred net resources to higher-level governments. Figure 6 shows that the density plot for YRD-led counties is to the left of the density plot for the FA3-led counties, indicating relatively lower transfers to the YRD-led counties.

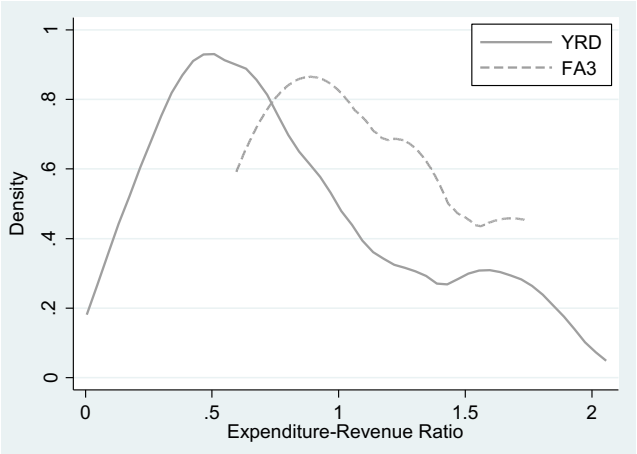


Figure 6: Kernel Density Estimation of Average Expenditure-Revenue Ratio, 1950 and 1957.

The pattern in Figure 6 is confirmed in Table 15 where we regress the average expenditure-revenue ratio for 1950 and 1957 on the YRD dummy. We find that the ratio is about 26.8 percentage points lower (Column 3) for YRD-led counties than for FA3 counties when we include all the controls. However, trimming the 5 percent

	Full Sample			Trimming Tail 5%
	(1)	(2)	(3)	(4)
Power Structure				
YRD	-0.357**	-0.266*	-0.268*	-0.186
	(0.151)	(0.140)	(0.156)	(0.149)
Initial Conditions				
Ln_GVOPC_52		-0.317*	-0.319*	-0.254
		(0.160)	(0.175)	(0.168)
Ln_pop_52		-0.206**	-0.212**	-0.147
		(0.083)	(0.101)	(0.090)
Geography				
Share of Plains (%)			0.001	-0.001
			(0.008)	(0.008)
Distance to Xiamen			-0.000	0.000
(Km)			(0.001)	(0.001)
Obs.	53	52	52	48
Adjusted-R^2	0.062	0.147	0.110	0.037

Table 15: The Effect of Factions on Average Expenditure-Revenue Ratios Between 1950 and 1957

tail of outliers renders the YRD dummy statistically insignificant even though the point estimate is still negative, suggesting that YRD-led counties are more prone to extreme resource extraction by the higher-level governments. Even though YRD-led counties were prone to experience resource extraction by the higher-level governments, the counties led by YRD-affiliated cadres were still able to achieve a better development performance for their counties. This suggests that the underlying mechanisms must be more efficient resource allocations in the YRD-affiliated counties.[18]

5.6 Faction, Local Accountability, or Something Else?

Another concern is that the main results may be driven by the differences in skills in managing economic affairs among cadres affiliated with FA3 and YRD factions. After all, FA3 cadres specialized in fighting wars because they spent most of their careers in the formal troops led by the Chinese Communist Party. In contrast, YRD cadres may have been more experienced in working with locals because they originated from the revolutionary bases in Hebei and Shanxi provinces. If this were the case, the difference in the growth rates for these two groups of counties can be driven by skill differences of the local leaders, not by political survival incentives.

[18]Interestingly, our findings here coupled with earlier findings are similar in spirit to the experience of the emergence of inclusive institutions in England documented in Angelucci, Meraglia, and Voigtlander (2017). These authors present historical evidence that, staring with relatively homogeneous institutions in England after the Norman Conquest of 1066, the rulers of England granted some trading towns self governance for exchange of higher taxes to increase total tax revenues, and those self-governance arrangements facilitated the emergence of "inclusive institutions" such as by these trading towns sending troops to back the parliament against the king during the Civil War in 1642 and supporting the Great Reform Act of 1832 that resulted in the franchise. Here, those weak-faction counties likely employed more local initiatives, sent higher net transfers to the upper government, had more pro-local policies (that is, more self governance), and as shown later, had more prosperous private sector, all similar in spirit to what happened to those trading towns in England between 1066 and 1832.

	Full Sample			Trimming Tail 5%
	(1)	(2)	(3)	(4)
Power Structure				
YRD	4.297***	2.864***	3.072***	2.844***
	(1.027)	(1.024)	(0.932)	(0.723)
Initial Conditions				
Ln_GVOPC_78		-5.515***	-5.425***	-3.474***
		(1.752)	(1.478)	(0.900)
Ln_pop_78		1.466	-1.138	-0.001
		(1.238)	(1.297)	(0.907)
Geography				
Share of Plains (%)			0.193***	0.150***
			(0.066)	(0.056)
Distance to Xiamen			-0.018***	-0.019***
(Km)			(0.005)	(0.005)
Obs.	58	57	57	53
Adjusted-R^2	0.083	0.405	0.597	0.623

Table 16: The Effect of Factions on Growth Rates in Counties in Fujian, 1984-1998

To address this concern, we argue that, if either skills and/or knowledge in economic development are important driving forces behind the differences in the development performances of FA3- and YRD-affiliated counties, then we would expect the growth gaps between these two groups of counties to decrease (and eventually disappear) over time: as FA3-affiliated cadres obtained more experience on their positions, the skills of initial local cadres should matter less.

Table 16 presents the regression results, where we replicate the regressions in Tables 6-7, but replace the dependent variable with the annual real growth rate between 1984 and 1998. Comparing the results in Table 16 with those in Tables 6-7, we find that for every specification, the coefficient estimate for YRD affiliation is larger in the 1984-1998 period than that in the overall 1978-1998 period. Thus, the main factors explaining growth gaps between FA3- and YRD-led counties do not seem to be skills and/or knowledge on the job; if anything, the gap increases rather than decreases over time.[19]

5.7 Evidence of Pro-Local Policies

5.7.1 Improvement in Local Educational Achievement

We now present evidence that the counties led by YRD-affiliated cadres indeed adopted pro-local policies that facilitated local development. Education, a key component of human capital, can be an important source of local growth. Table 17 regresses the log changes in the average years of schooling for individuals born between

[19]If FA3-affiliated cadres preferred to promote their former colleagues rather than to choose the most talented candidates for career advancement, this kind of official selection practice would have prolonged their disadvantage in managing economic affairs, and might have caused persistent gaps in growth rate between these two kinds of counties. As we do not observe cadres' skills or knowledge directly, it is impossible to confirm or reject the mechanism of social heritage. This within-faction promotion pattern, indeed, could be another mechanism for persistent faction effects even though initial faction leaders likely had left their local leadership jobs.

1950 and 1972 from those born prior to 1930, as observed in the 1990 Census, on the county's YRD affiliation, guerrilla presence, and their interactions. As before, we control for the initial conditions and geography. Note that those born prior to 1930 would have been 22 years old in 1952, and would mostly have finished their formal schooling by then. Similarly, cohorts born between 1950 and 1972 would be at least 18 by 1990, and would have completed their formal schooling by then. We use the log differences in the average schooling of the 1950-1972 cohorts and the cohorts prior to 1930 as the proxy for the improvement in local education.

Columns (1) and (2) of Table 17, which includes all the counties (with non-missing variables) in the analysis, show that counties with YRD affiliations and with a guerrilla presence are associated with larger percentage increases in educational achievement, though the differences are not statistically significant. When we interact the YRD and guerrilla dummies, as shown in Column (3), we find that counties with both YRD affiliation and a guerrilla presence are associated with an average education level that is 37.5 percentage points higher; the effect is statistically significant at the 10 percent level.

In the right panel of Table 17, we trim the tail 5 percent of the counties from the analysis. Column (4) shows that, relative to counties led by FD3 cadres, those led by YRD cadres had a greater increase - 30.1 percentage points higher - in average schooling levels; Column (5) includes both YRD and guerrilla dummies in the regression, and the results indicate that the YRD premium in education increase is 28.7 percentage points, statistically significant at the 10 percent level. Guerrilla presence is also associated with an education increase of 13 percentage points, though the figure is not statistically significant. Column (6) includes the interactions of YRD leadership and a guerrilla presence. We find that most of the YRD effect on educational improvement results from the counties led by YRD-affiliated cadres that also had guerrilla presence; the premium is 38 percentage points (relative to FA3 counties). In counties led by YRD-affiliated cadres without a guerrilla presence, the educational achievement growth is also faster than that of FA3 counties (by 22 percentage points), but the coefficient estimate is not statistically significant.

The results in Table 17 confirm that counties led by cadres from weaker factions that also had stronger local accountability did pursue policies that led to faster improvements in local educational achievement. We believe that these are likely levers through which faction and local accountability impact the local development.

5.7.2 State-Owned Enterprise (SOE) Shares in the Local Economy in 1998

Another pro-local policy that county leaders might have undertaken was to encourage the development of the private sector. In this subsection, we examine whether counties led by YRD-affiliated cadres and counties with guerrilla presence are more conducive to private-sector development. China started its large-scale SOE reform in 1998 (see Hsieh and Song, 2015), and the top-down nature of that SOE reform likely would hide the footprint of the locally initiated private-sector development after 1998 (Huang et al., 2017); thus, we focus on the share of the SOE in the county economy as of 1998. We use two measures of SOE share in the economy: the SOE share of the county's total sales revenues, and the SOE share in terms of the number of firms.

In Panel A of Table 18, we regress the SOE sales-revenue share in 1998 on the county's YRD affiliation, guerrilla presence, and their interactions, after controlling for the initial conditions and geography. Columns (1)-(3) include the full sample; Columns (4)-(6) trim the tail 5% of the counties. In Column (1), we find that, relative to counties with FA3 affiliations, counties with YRD affiliations are associated with a 22 percentage point lower SOE sales-revenue share in the county's economy in 1998. Column (2), which includes both YRD and

	Full Sample			Trimming Tail 5%		
	(1)	(2)	(3)	(4)	(5)	(6)
Power Structure						
YRD	0.273	0.262		0.301**	0.287**	
	(0.216)	(0.218)		(0.135)	(0.137)	
Guerrilla		0.162			0.130	
		(0.128)			(0.113)	
YRD×GuerrillaNo [b_0]			0.209			0.220
			(0.248)			(0.142)
YRD×GuerrillaYes [b_1]			0.375*			0.380**
			(0.201)			(0.152)
Initial Conditions						
Ln_GVOPC_52	-0.025	-0.014	-0.014	-0.055	-0.045	-0.041
	(0.128)	(0.125)	(0.124)	(0.116)	(0.113)	(0.111)
Ln_pop_52	-0.254	-0.301	-0.293	-0.073	-0.113	-0.119
	(0.201)	(0.203)	(0.200)	(0.118)	(0.123)	(0.122)
Geography						
Share of Plains (%)	0.011	0.011	0.011	-0.000	0.000	-0.001
	(0.011)	(0.011)	(0.011)	(0.008)	(0.008)	(0.008)
Distance to Xiamen	0.001	0.001	0.001	-0.000	-0.000	-0.000
	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)
Obs.	55	55	55	51	51	51
R^2	0.087	0.095	0.095	0.084	0.105	0.110
$H_0 : b_0 = b_1$			0.309			0.221

Table 17: The Effect of Factions and Guerrilla Presence on the Changes in the Average Years of Schooling for Individuals Born in 1952-1972 Relative to Those Born Prior to 1930, as Observed in the 1990 Census

NOTES: The dependent variable is the difference in log of the average education level of the cohort born between 1952 and 1970 and the log of the average education of the cohort born before 1930, as observed in the 1990 Census. Intercepts are not reported. In the right panel, the 5% tail observations are trimmed from the analysis. The last row reports the p-values of the hypothesis that $b_0 = b_1$. White standard errors are in parenthesis. *, **, and *** respectively indicate 10 percent, 5 percent and 1 percent statistical significance.

guerrilla dummies, demonstrates that the YRD coefficient barely changed, while the guerrilla presence is not significantly associated with the SOE share. In Column (3), where we interact YRD and Guerrilla dummies, we find that counties with both a YRD affiliation and a guerrilla presence are associated with 25.3 percentage point lower SOE sales-revenue share, and counties with a YRD affiliation but without a guerrilla presence are associated with 21.3 percentage point lower SOE sales-revenue share; both effects are statistically significant at 1 percent level. These effects are qualitatively and quantitatively similar when we trim the tail 5 percent of the counties.

Panel B of Table 18 replicates the results using the share of SOEs in terms of the total number of firms in 1998. Overall, the qualitative results are similar to those in Panel A. An exception is that the guerrilla presence is more strongly related to the reduction of SOE importance. For instance, counties led by the weak faction that also have a guerrilla presence show drop in the SOE number share by 22.8 percentage points (and statistically significant), but the counties that are led by a weak faction but do not have a guerrilla presence show a drop that is half that size, around 11.7 percentage points (and not statistically significant).

The results in Table 18 confirm that counties led by cadres from the weak faction and with stronger local accountability pursued policies that were more conducive to private-sector development. Because the private sector tends to be more productive than the SOEs (Shleifer 1998; Megginson and Netter, 2001), a lower SOE share in the local economy tends to be associated with faster local economic growth. We believe that this is likely another lever through which factional competition and local accountability impact the local development.

5.8 Limits to Pro-Local Policies

One interesting question is how much discretion would county-level cadres have in choosing pro-local policies in an authoritarian regime? It is reasonable to hypothesize that there are limits to what local leaders can do to promote local interest, and that the pro-local policies that local leaders may implement are limited to those not easily observed by upper-level leaders, especially if ties between lower- and upper-level leaders are loose at best. As in our theory, the local leaders' behavior relies on two factors: connection with upper-level authority (the factional connection) and connections with the grassroots community (local accountability). Because the higher-level government holds the power of promotion, demotion and even political purge, the local leaders dare not overtly disobey the center. Therefore, we implicitly assume that YRD cadres are likely to enact policies favorable to local residents only when doing so does not openly defy their superiors. In other words, two types of cadres will perform in the same way when they implement tasks that are easily monitored by the upper-level authority.

5.8.1 One-child Policy

We use the population growth after the one-child policy to test the above hypothesis. The one-child policy was launched as a national policy by the central government in 1979; it was a highly visible policy. Following the launch of the policy, all levels of the government hierarchy established population and family planning commissions, which made enforcement of the policy easily observable. Due to these reasons, even though taking a "loose" birth policy would increase the local cadres' popularity among the local population, the YRD-affiliated cadres would not be expected to openly defy the central government's national policy.

Figure 7 shows that the kernel density plot of the population growth rates among counties with YRD-affiliated leaders and those with FA3-affiliated leaders between 1984 and 1998. The two density plots do not exhibit

	Full Sample			Trimming Tail 5%		
	(1)	(2)	(3)	(4)	(5)	(6)
Panel A: SOE Sales Revenue Share in the County in 1998						
Power Structure						
YRD	-22.866***	-22.610***		-20.370***	-20.353***	
	(6.494)	(6.585)		(6.304)	(6.407)	
Guerrilla		-2.547			-0.282	
		(6.196)			(6.322)	
YRD×GuerrillaNo [b_0]			-21.343***			-19.706***
			(7.418)			(7.271)
YRD×GuerrillaYes [b_1]			-25.320***			-21.454***
			(7.441)			(7.404)
$H_0 : b_0 = b_1$			0.597			0.818
Panel B: SOE Count Share in the County in 1998						
Power Structure						
YRD	-15.965**	-15.157**		-13.466**	-13.020*	
	(6.697)	(6.784)		(6.608)	(6.806)	
Guerrilla		-8.046			-6.805	
		(5.295)			(5.427)	
YRD×GuerrillaNo [b_0]			-11.735			-9.559
			(7.214)			(7.180)
YRD×GuerrillaYes [b_1]			-22.782***			-19.747***
			(6.947)			(6.844)
$H_0 : b_0 = b_1$			0.071			0.131
Obs.	56	56	56	52	52	52
Controls for Initial Conditions	Yes	Yes	Yes	Yes	Yes	Yes
Controls for Geography	Yes	Yes	Yes	Yes	Yes	Yes

Table 18: The Effect of Factions and Guerrilla Presence on the Share of SOE in the County Economy in 1998

NOTES: The dependent variable in Panel A is the SOE share of sales revenue in the county in 1998; the dependent variable in Panel B is the SOE share in terms of the number of firms (count share) in 1998. In the right panel, the 5% tail observations are trimmed from the analysis. All regressions control for the initial conditions and geography variables as in Table 17. White standard errors are in parentheses.

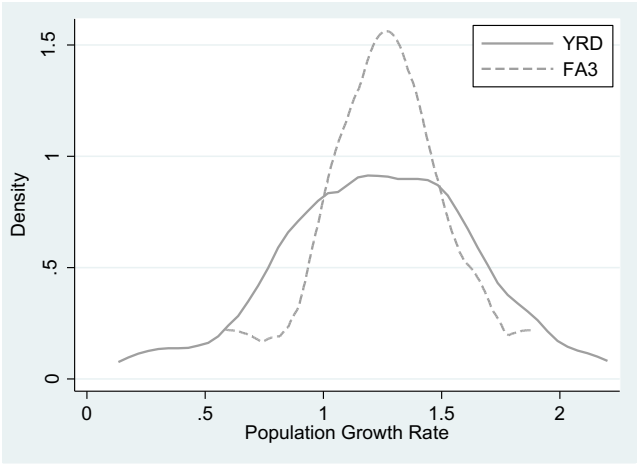


Figure 7: Kernel Densities of Population Growth Rates Among Counties Led by YRD- and FA3-affiliated Cadres, 1984-1998.

	Full Sample			Trimming Tail 5%		
	(1)	(2)	(3)	(4)	(5)	(6)
Power Structure						
YRD	-0.053	-0.052		-0.094	-0.089	
	(0.109)	(0.113)		(0.109)	(0.115)	
Guerrilla		-0.008			-0.042	
		(0.116)			(0.096)	
YRD×GuerrillaNo [b_0]			-0.033			-0.056
			(0.126)			(0.120)
YRD×GuerrillaYes [b_1]			-0.087			-0.158
			(0.128)			(0.118)
Obs.	56	56	56	51	51	51
R^2	0.054	0.054	0.057	0.144	0.148	0.161
Controls for Initial Conditions	Yes	Yes	Yes	Yes	Yes	Yes
Controls for Geography	Yes	Yes	Yes	Yes	Yes	Yes
$H_0 : b_0 = b_1$			0.40			0.312

Table 19: The Effect of Factions on the Population Growth Rates in the Counties in Fujian, 1984-1998

Notes: The dependent variable is the county's population growth rates between 1984 and 1998. In the right panel, the 5% tail observations are trimmed from the analysis. All regressions control for the initial conditions and geography variables similar to those in Table 17, with the exception that Ln_GVOPC_78 and Ln_POP_78 (instead of the levels in 1952) are used. The last row reports the p-values of the hypothesis that $b_0 = b_1$. White standard errors are in parenthesis. *, **, and *** respectively indicate 10 percent, 5 percent and 1 percent statistical significance.

	Number of Months between the Start of HRS in the County from December 1978	
	(1)	(2)
Power Structure		
YRD	-1.647	
	(3.074)	
YRD×GuerrillaNo		1.375
		(3.615)
YRD×GuerrillaYes		-5.389
		(3.428)
Initial Conditions		
Ln_GVOPC_52	-6.783**	-7.467***
	(2.561)	(2.291)
Geography		
Share of Plains (%)	0.354	0.517
	(0.340)	(0.358)
Ln (Distance to Xiamen)	0.030*	0.025
	(0.017)	(0.016)
Ln(Elevation)	17.834	23.913
	(19.374)	(21.418)
Constant	22.934	16.822
	(49.828)	(50.463)
Obs.	59	59
Adjusted-R^2	0.169	0.238

Table 20: Effect of Power Structure on the Initiation of the Household Responsibility System (HRS) in Counties in Fujian Province

obvious differences in mean population rates, though there is more dispersion among YRD-affiliated counties. This pattern is confirmed in the regression analysis in Table 19: the coefficients for power structure are never statistically significant in explaining population growth rates in all specifications.

5.8.2 Household Responsibility System (HRS)

At the beginning of the rural reform in early 1980s, the Chinese central government launched the *household responsibility system (HRS)*, which allowed households to contract land from collective organizations. Households could make operating decisions independently within the limits set by the contract agreement, and they could freely dispose of surplus production over and above national and collective quotas. HRS represents one of the most significant institutional reforms in the Chinese agricultural sector. It gave the farmers the residual claim rights for production from the land after meeting the procurement quota. When it was initiated in secret in Xiaogang Village of Fengyang County in Anhui Province in December 1978, such a system was prohibited by the central government. The program was clearly a pro-local policy. By 1982, the HRS was recognized by the central government as a form of beneficial institutional innovation. In 1983 the HRS spread throughout China, and most village collectives adopted it.

Table 20 shows the results of the tests for whether factions and local accountability measures might have affected the timing of the initiation of the HRS in the county. From the county gazettes, we collect the time (year and month) that a county government unofficially or officially allowed for the implementation of the HRS. We use the number of months between the county's initiation of the HRS and December 1978 as the dependent variable, a larger value of which indicates a later adoption of the HRS . We find that YRD-affiliated counties allowed or adopted the HRS about 1.6 months earlier than FA3-affiliated counties, but the difference is statistically insignificant. In Column (2) we show that the difference is mainly coming from YRD-affiliated counties with a guerrilla presence, where the HRS was permitted or adopted about 5.4 months earlier than FA3 counties. But the difference is again not statistically significant.

The two case studies reported in this subsection on the One-Child Policy and the HRS adoption suggest that there was a limit on how much local leaders were willing to go against the central government in their desire to adopt pro-local polices. In counties with weaker factions, or those that feature local accountability pressures, leaders would choose more pro-local policies; at the same time, their political instincts would also limit the degree to which they would defy the central government, particularly if the policy in question were clearly observable to the higher level governments. Doing so would have implied higher probability of being politically purged.

5.9 Factions, Grassroots Support, and Political Survival: Some Direct Evidence

We have advanced the idea that local politicians' decisions about what types of local development policies to pursue are shaped by their incentives for political survival, and that their chances of political survival depend on the factional support from higher-level government as well as the grassroots support from local citizens. As we illustrate in our model, local cadres from the strong faction may find it advantageous in terms of political survival to cater to the policies desired by higher-level officials instead of pro-local policies; by contrast, local cadres from the weak faction may find pro-local development policies to enhance their political survival. Providing direct evidence for this mechanism is not easy, as the career paths of the county-level cadres were impossible to track. In this section, we exploit a unique historical event, the Cultural Revolution of 1966 to 1976, to provide direct evidence about and a rare glimpse into the mechanisms that relate faction affiliation, grassroots support, and political survival.

After the initiation of the Cultural Revolution in 1966, county-level Communist Party committees gradually lost power amid the chaos. To sustain political order, the central authority launched the so-called "Three Support, Two Military" (shorthand for "Support the Left, Support the Peasants, Support the Workers; Military Training, Military Control") Movement in 1967, which facilitated military cadres to organize the Core Leading Group of the County Revolutionary Committee to be in charge of local administrations. In essence, the military purged local cadres from power in the process. The county Core Leading Group stayed in power until late in 1970, when the county party committees were reestablished and military cadres gradually retreated from the county leadership. That is, the county party committees attempted to regain their leadership around the end of 1970. Consistent with our model, we expect that those counties that either kept a close connection with the provincial leaders, or had strong grassroots support were likely to regain their power from the military-led Core Leading Group faster after 1971.

Table 21 shows the results of our direct examination of the association between the two potential sources of a local leader's support - the connection to higher-level government and to grassroots backing - with the ability

	(1)	(2)
FA3	-3.238**	-6.042
	(1.254)	(6.308)
Famine Control	-6.224**	-7.078**
	(3.070)	(3.337)
FA3×Famine Control		4.019
		(8.863)
Constant	9.609***	10.292***
	(2.553)	(2.782)
Obs.	53	53
R^2	0.116	0.103

Table 21: The Effect of FA3 and Famile Control (1959-1961) on Retaking the Power During 1971 and 1979

of a faction to regain power from the military Core Leading Group. The dependent variable in Table 21 is the speed of regaining power by the original faction in the county between 1971 and 1979, as captured by "years to regain power during the period." We use FA3 and Famine Control during the Great Chinese Famine (1959-1961) to proxy the connection to the provincial leaders and grassroots support, respectively. In Column (1), the negative OLS coefficient estimates of FA3 and Famine Control mean that FA3-affiliated counties and counties with strong grassroots support regain power faster. Interestingly, in Column (2) we find that the interaction term FA3×Famine Control is positive, suggesting that counties that already had strong connections to the higher-level government benefit less from pro-local policies in terms of their speed in regaining power; however, the coefficient estimate is not statistically significant.

The results from Table 21 provide direct evidence that connections to strong factions and grassroots support both helped the local cadres to regain power from the military Core Leading Group more quickly; in addition, grassroots support is not as effective in speeding this process for the strong FA3 faction as for the weak YRD faction. Both are consistent with the mechanisms of political survival described in our model presented in Section 2.

6 Conclusion

What explains persistent regional differences in development performance? Do local leaders make decisions with their own political survival in mind, taking into account the political connections they have – or lack – and the degree of local accountability they face? Moreover, do the policy decision made by leaders in response to these incentives have long-lasting implications? In this paper, we investigate, both theoretically and empirically, the role of factional political competition and local accountability in explaining the enormous local variations in development performance. Our evidence comes from the county-level variations within Fujian Province in China. When the communist armies took over Fujian Province from Nationalist control circa 1949, cadres from two different army factions – the Third Field Army (FA3) and the Yangtze-River Detachment (YRD) – were assigned as county leaders. Counties also differed in another key respect: whether a local guerrilla presence existed prior to the communist takeover. Members of FA3 (the "strong faction") dominated the Fujian Provincial Standing

Committee of the Communist Party. We argue that local leaders' incentives regarding development policies depended on whether they were from the strong faction in the provincial government. County leaders from the strong faction were less likely to pursue policies friendly to local development because their political survival depended more on their loyalty to the provincial leader above than on the grassroots support from local residents below. By contrast, in a situation similar to that encountered by politicians facing stronger electoral competition in democratic countries, the political survival of county leaders from the weak faction was based to a greater extent on local grassroots support, which could be best secured if these leaders focused on local development. In addition, the presence of guerrillas in a county further improved development performance either because it intensified local accountability of the county leader, or because it better facilitated the provision of local public goods beneficial to development, or both.

We offer evidence that the historical assignment of local cadres' factions and the presence of local guerrillas had little to do with the initial economic conditions – though these features were somewhat related to geography, as proxied by the share of plains in the county and the distance of the county from Xiamen, the provincial commercial hub near the Taiwan Strait. We provide robust evidence that counties led by cadres affiliated with the weak political faction (YRD) and counties with a local guerrilla presence tended to experience a less severe degree of famine – as measured both by the degree of birth cohort losses and by the rate of deaths during the Great Chinese Famine (1959-1961). These counties had significantly faster real annual economic growth rates in the whole period (1952-1998), and, especially, in the post-reform period (1978-1998). We also find positive interaction effects between weak factions and local accountability: counties that had both a guerrilla presence and a leadership from cadres affiliated with the weak factions tended to grow the fastest and suffered the least severe levels of famine. The magnitudes of these effects also imply first-order importance. For instance, counties that were led by weak factions and that also had a guerrilla presence had annual growth rates from 1978 to 1998 that were 3.3 percentage points higher (or 0.85 standard deviations higher). We further provide evidence that two potential mechanisms for such long-term effects could be improvement in local education, and the development of the private sector. Our findings underscore the important roles played by factional political competition and local accountability in shaping local leaders' policy choices. Such choices may in turn have drastic implications for economic growth, education, private-sector development, and citizens' lives and deaths (both literally and figuratively).

We believe that the insights we uncovered in this paper from Fujian Province, the superstar performer even in the miracle-growth environment in China, are robust and general in settings of one-party-ruled countries, where political purges and turnovers are important concerns for politicians. *De facto* one-party rule has been quite common in the world. Indeed, at the country level over the past four decades, about 45 percent of country-years (among a sample of 179 countries) can be characterized as having *de facto* one-party rule (Cruz, Keefer, and Scartascini, 2016). Our insights regarding the importance of political competition and local accountability for local development may also be relevant for democracies. In future work, we will continue to examine the connections between factional competition, local accountability, political survival, and local development in other provinces in China, and around other parts of the world.

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