



北京大学中国经济研究中心  
China Center for Economic Research

讨论稿系列  
Working Paper Series

E2023012

2023-09-11

## Land Reform, Emerging Grassroots Democracy and Political Trust: Evidence from China's Collective Forest Tenure Reform

Xing Chen  
Jintao Xu  
Yuanyuan Yi  
Andong Zhuge

### **Abstract:**

This study explores how the application of democratic rule in land reform decision-making determines villagers' political trust and satisfaction towards different levels of the government in China. Based on analyses of a two-period household survey data we find that in China's most recent Collective Forest Tenure Reform, the use of democratic rule improves villagers' trust for town and county cadres, whereas the impact on trust towards village cadres is only significant for the democracy involving all the villagers or households in a village. This pattern of trust is partly explained by our findings that the democratic process helped decrease the unresolved inter-village forestland disputes which usually requires town or county level cadres' intervene, whilst there seems no such impact on the within-village land disputes. Heterogeneity analyses show that democratic decision-making has a more pronounced effect in improving trust for villagers with lower income, and those without affiliation with the Chinese Communist Party (CCP) or to the village committee.

**Keywords:** Political trust and satisfaction, grassroots democracy, land reform, Collective Forest Tenure Reform, China

**JEL:** D72, D74, O17, P21, P25, P26, P32

# **Land Reform, Emerging Grassroots Democracy and Political Trust: Evidence from China's Collective Forest Tenure Reform**

Xing Chen

School of International Relations and Public Affairs, Fudan University, Shanghai, China.

[xingc@fudan.edu.cn](mailto:xingc@fudan.edu.cn)

Jintao Xu

China Center for Economic Research, National School of Development, Peking University, Beijing, China. [xujt@pku.edu.cn](mailto:xujt@pku.edu.cn)

Yuanyuan Yi \*

China Center for Economic Research, National School of Development, Peking University, Beijing, China. [yyyi@nsd.pku.edu.cn](mailto:yyyi@nsd.pku.edu.cn)

Andong Zhuge

School of International Relations and Public Affairs, Fudan University, Shanghai, China.

[gadzhu20@fudan.edu.cn](mailto:gadzhu20@fudan.edu.cn)

\* Corresponding author.

E-mail address: [yyyi@nsd.pku.edu.cn](mailto:yyyi@nsd.pku.edu.cn)

Address: National School of Development, Peking University, Weixiuyuan Road (Chengze Yuan), Haidian District, Beijing 100871, China.

## **Abstract:**

This study explores how the application of democratic rule in land reform decision-making determines villagers' political trust and satisfaction towards different levels of the government in China. Based on analyses of a two-period household survey data we find that in China's most recent Collective Forest Tenure Reform, the use of democratic rule improves villagers' trust for town and county cadres, whereas the impact on trust towards village cadres is only significant for the democracy involving all the villagers or households in a village. This pattern of trust is partly explained by our findings that the democratic process helped decrease the unresolved inter-village forestland disputes which usually requires town or county level cadres' intervene, whilst there seems no such impact on the within-village land disputes. Heterogeneity analyses show that democratic decision-making has a more pronounced effect in improving trust for villagers with lower income, and those without affiliation with the Chinese Communist Party (CCP) or to the village committee.

**Keywords:** Political trust and satisfaction, grassroots democracy, land reform, Collective Forest Tenure Reform, China

**JEL:** D72, D74, O17, P21, P25, P26, P32

# 1. Introduction

The political decision-making in rural China is a combination of administrative, hierarchical governance and grassroots democracy (Oi and Rozelle, 2000). Village is the lowest level of administration in the government hierarchy in China, having the longest distance to the central government. High cost of information asymmetry and vertical control (Martinez-Bravo et al., 2022), as well as the pressure of conflicts between rural cadres and villagers over taxation issues (O'Brien and Li, 2000), pushed the central government to enact *The Organizational Law of Village Committees* in 1998, that formalized village local elections. Thereafter, village-level elections have been employed for the autocracy to reduce the need to closely monitor local officials, for suspected corruption (Kennedy et al., 2004) and shirking in public good provision (Zhang et al., 2004; Luo et al., 2009; Shen and Yao 2008), tax revenue collection (Luo et al., 2007), and coordination consistent with the preferences and needs of each locality (Tsai, 2002; Li, 2002). Open and transparent grassroots elections have been found to reinforce the ruling capacity of the autocracy (Wong et al., 2019). Also, elected village leaders could disrupt the implementation of unpopular policies such as the One Child Policy because they are usually more tied to the clans or kinships of local villagers (Martinez-Bravo et al., 2022).

China is not the only autocratic regime that adopted democratic elections at the local level. Other examples include Mexico under the PRI (1929-2000), the Suharto Indonesia (1967-1998), the Zia Pakistan, and more recently, Vietnam, Yemen and Saudi Arabia. These institutional arrangements affect millions of people's livelihood worldwide. We have known some theories of the role of local elections for autocrats (e.g., Martinez-Bravo, 2014; Martinez-Bravo et al., 2022) and evidence on how they matter for local society and economy (e.g., Chattopadhyay and Duflo, 2004; Zhang et al., 2004; Shen and Yao, 2008). Less attention has been paid to the political attitudes of the villager constituents by economists and the channels that cause the differences in attitudes among villagers. An important channel is the actual distribution of power and villagers' power in decision-making that could determine local leaders' performance (Oi and Rozelle, 2000; Kennedy et al., 2004) and consequently the villagers' trust and satisfaction.

The most important and volatile element of political attitudes is trust, which is a valuable heuristic showing constituents' belief or confidence that the government is trustworthy and will produce outcomes consistent with their expectations (Abramson and Finifter 1981; Levi and Stoker 2000; Hetherington 2005; Citrin and Stoker 2018). Political trust is valued very high by the central government of China because the ruling party (i.e., the Communist Party) appreciates the principle of "popular sovereignty" which is a doctrine that the authority of the government is created and sustained by the consent of its people (Li, 2022). This makes China a unique and interesting case to investigate the political implications of this grassroots democracy under its authoritarian one-party state.

A large body of literature in political science on Chinese village elections and political trust offer consistent findings that villagers' trust is disparate towards different levels of government: villagers systematically rate higher for the higher levels of government bodies

than the lower levels (e.g., Li and O'Brien, 1996; Guo, 2001; Li, 2004; Dong and Kübler, 2018). It is puzzling for grassroots democracy that the elected leaders are among the least trusted. Sources for this puzzle include institutional settings (Liu, 2007), political and economic performance of the government (Mitchell and Scott, 1987; Yang and Zhao, 2013; Ning and Luo, 2012; Meng and Yang, 2012; Zhong 2014), socio-demographic and contextual factors such as culture values and education (Dong and Kübler, 2018), political structures (Li, 2012), political education and propaganda (Li, 2012; Ma, 2007; Zhai, 2018), and past participations in political events (Li 2012; Dong and Kübler, 2018).

Since *The Organizational Law of Village Committees* in China has given the grassroots “access to power”, how they exploit the “exercises of power” must influence their leader behavior and the decision-making process, which in turn determine their trust and satisfaction towards village-level and upper-levels of government. Few studies have explored this. An exception is Kennedy et al. (2004), which shows that elected leaders from open and transparent nominations produced better outcomes in villagers’ perception of “fairness” in collective land reallocations, compared to leaders elected from a closed, town-nominated process. However, Kennedy et al. (2004) only investigate villagers’ attitudes towards their elected leaders at the village level, not further to the higher levels.

Our study adds to the literature by taking a further step. We focus on how the application of democratic rule (i.e., “exercises of power”) in land reform decision-making in the Chinese grassroots democracy determines villagers’ trust and satisfaction towards different levels of the government. Land is scarce and the most important village property and collective asset, which is tied to villagers’ livelihoods as one of the main production factors and the key input to the rural economy’s most pervasive economic activity (Brandt et al., 2002; Kung and Liu, 1997). In rural China, village heads make decisions on the use and allocation of land. This determines each villager’s income and source of social security. Land is often used by village chiefs—in reforms or allocations and adjustments—to achieve their own goals. It has been found that the openly elected village chiefs are more inclined to maintain equal access to land that is consistent with their villager constituents’ preferences, despite their own interests (Rozelle and Li, 1998; Brandt et al., 2004; Yao, 2003; Kennedy et al., 2004; Martinez-Bravo et al., 2022).

We use the most recent Collective Forest Tenure Reform in China (the *Forest Reform*, hereinafter) to disentangle how grassroots democracy in land reform explains the disparate trust by villagers towards different levels of government. Since all village chiefs have currently been locally elected, different political consequences must be due to various degree of grassroots democracy in decision-making processes of local policies that villagers concern the most. Since *The Rural Land Contract Law*, promulgated by the central government in 2003, reallocation of land that had already been contracted to households, mostly cropland, has been prohibited for villages nationwide, regardless of cases of births or deaths. Reform policies of other types of land, by their own nature, create possibilities for reallocating resources. The *Forest Reform* has provided an ideal opportunity for us to investigate how the village cadres exploit issues of property rights and land reallocations, and how democratic decision-making influences villagers’ opinions on the trustworthiness of the village-level and higher levels of government.

After a few pilot cases since 2003, this *Forest Reform* was rolled out and initiated villages to collectively decide on adoption, reallocation of village-owned forestland to households and acknowledgement of forest tenure rights. In 2008, the Chinese central government promulgated the reform in the policy document *Collective Forest Tenure Reform in the Southern Collective Forest Areas in China*. Adoption of the *Forest Reform* could be based on decisions from majority voting – via village assembly or representative meetings, or determined by meetings of a few people (e.g., village cluster leaders<sup>1</sup>, village committee members, or the upper government). These decision routes provide villagers with different degrees of power to influence decision. Once adopted, the *Forest Reform* devolves tenure rights of forestland to household, along with the issuance of forestland certificates with clearly specified contract terms for each forestland plot and extended user rights including rights of transferability, inheritance, and collateralization. The variation in decision-making of the adoption of the reform provides a unique opportunity to understand the political consequences of grassroots democracy and land reforms.

Our analysis uses a novel panel dataset that assembles a two-wave household and village survey in eight forest-rich provinces in China over 2005-2010. We study 1,091 households located in 192 villages of 45 counties in eight provinces, who were randomly selected in 2006 and revisited in 2011. The survey collected the socio-economic information of both households and villages, and the decision-making processes as well as implementations of the reform. We use a quasi-experimental panel regression approach to estimate how the democratic rule used in the decision-making of land reform affects villagers' attitudes towards local cadres of the three government levels: village, town and county. By "democratic rule" we mean that the village assemblies or representative meetings were used to decide the adoption of the *Forest Reform*. On attitudes we use the ratings that villagers provided for the "trustworthiness", "fairness", and "acting in the interests (benefits) of villagers" of the cadres at the three levels.

We find the use of democratic rule improves villagers' trust for town and county cadres, whereas the impact on trust towards village cadres is not significant. This baseline finding confirms that trust towards different levels of government officials is disparate, as also found by many other studies such as Li and O'Brien (1996), Guo (2001), Li (2004), Dong and Kübler (2018). Also, the exclusion of the mass participation in discussion and decision on the adoption of the *Forest Reform* significantly undermines villager's trust and satisfaction towards the town and county cadres, and the magnitude of the undermining impact is greater than that of the improving effect of the use of democratic rule.

To investigate the sources of the disparate trust, two interesting findings are particularly noteworthy. The first is decreased unresolved inter-village forestland disputes resulted from the democratic process of the adoption of the *Forest Reform*. The democratic process, allowing the mass participation and presences of villagers' personal preferences, is able to strengthen the cohesion within the village. This cohesion may raise the difficulty in

---

<sup>1</sup> As *The Organizational Law of Village Committees* requires, each administrative village establishes a village committee. Village clusters, or village groups, are units below administrative villages. The clusters are formed based on residential areas of villagers that are grouped together.

resolving the conflicts between villages. In such cases the town or county level cadres' interventions are required and the resolutions decrease the number of unresolved disputes, which consequently improves villagers' trust and satisfaction.

The second is limited impact of the democratic process on the within-village land disputes. For thousands of years, villages have been self-governed with strong intra-village, informal institutions to resolve disputes, such as kinship/clan networks or reputation-based interactions (Fei 1989) or village customs (Ho 2005), where a new democracy likely won't add much value for resolving the within-village disputes. Furthermore, village cadres are closely observed by villagers for long, whose attitudes towards the village cadres could hardly be changed by some specific event. In particular, the choice of democratic decision-making for the *Forest Reform* is perceived as the legal compliance to the central government. On the contrary, villages that did not consider democracy usually had tough leaders with strong support of the local governments who shared bonds of interests with the village cadres. Local governments in this case are rarely trustworthy among the villagers. This also explains our baseline finding that excluding the mass participation in decision-making undermines villager's trust and satisfaction towards the town and county cadres in ways of both statistical significance and magnitude.

In addition, we find strong support for the idea that giving villagers access to decision-making process provides them a way to vocalize their preference for forestland under household management and rules of reallocation, which results a higher level of per-labor forest landholdings by the villagers, compared to the villager households without such decision-making power. Our heterogeneity analyses show that the use of democratic rule in decision-making has a more pronounced effect in improving trust for villagers with lower income, without affiliation with the Chinese Communist Party (CCP) or with the village committee.

Our identification relies on the assumption that the use of democratic rule is not correlated with other confounding factors that could determine the political perceptions and the reasons behind the adoption of the democratic rule during the *Forest Reform* implementation by village committees (i.e., the "treatment"). Such factors determining the treatment may affect outcomes and play a greater role after the *Forest Reform*. We conduct several checks on this assumption. *Firstly*, we perform the conditional balance tests showing that a number of factors determining both the treatment and the political attitudes exhibit almost identical distribution patterns. *Secondly*, we use the propensity score matching approach to match, for each treatment village, a comparable control village based on a number of criterion variables related to the treatment. *Thirdly*, we test whether it is the case that higher trust had existed in a village so that it was more likely or easier for reform, or the democratic rule to be adopted (i.e., the reverse causality check). To investigate this, we employ a multinomial logit model on the three outcomes—reform adopted via democratic process, reform adopted via non-democratic process, and reform not adopted—conditional on the political attitude variables. In all three exercises, we obtain estimates that are quantitatively similar to our baseline findings, or results suggesting the endogeneity of the use of democratic rule in the reform to villagers' political attitudes is not a major concern. We also perform an array of robustness checks to buttress our baseline findings,

including the use of alternative clustering options and substitute fixed effects.

We build on three strands of the literature. Firstly, we fill the gap in the literature on village democracy with an examination of exercises of power of constituents in rural China and their attitudes towards their leaders at different levels. Providing villagers a way to exercise their power in decision-making or influencing leader behavior would in turn determine the opinion of villagers about the performance of their leaders (Dahl, 2008). We investigate whether this leads to disparate opinions of villagers about their leaders at different levels and their political trust towards the government. The previous literature mainly focus on local elections and the election process (e.g., Elklit and Svensson, 1997; Kennedy et al., 2004; Bishop and Hoeffler, 2016), but overlook the role of democratic rule that empowers grassroot citizens in decision making. While China had extensively and successfully employed local elections nationwide during 2005-2010—the context of our study—it might not guarantee good governance in the event of imperfect institutions that undermine people’s trust and satisfaction.

Secondly, we contribute to the literature on political consequences of land reform. Land expropriation could have the consequences of lost political support for the government mainly due to the perceptions of unfairness by villagers, even though the government could use the expropriated land to provide public goods (Sha, 2023). There is a growing interest in the impact evaluation of the *Forest Reform*. The existing studies have examined the reform’s effects on investment (Zhang et al., 2016; Xie et al., 2016; Yi, 2023), tenure security (Yi et al., 2014; Ren et al., 2018), income (Yang and Ren, 2021), energy consumption (Yang et al., 2020), and efficiency (Yi et al., 2023). In the *Forest Reform*, villagers now have more opportunities to defend their economic and social rights through elections, and to reach an agreement that is fair to most of them by participating in the decision-making processes. Their attitudes towards various levels of the Chinese governments and their bifurcate trustworthiness have important implications for social welfare and national stability. The escalating popular protests and lodging complaints to the province or the Center is suggestive that villagers’ confidence in the Center’s capacity and local governments’ accountability are declining in recent years (Li 2004; Xiao and Wang, 2011). Our inquiry in grassroots democracy’s consequences on forestland resource reallocation and the subsequent political outcomes will elicit useful insights on the improvement of the future village governance and the reinforcement of the ruling capacity.

Thirdly, our paper is the first to study the impact of practices in grassroots democracy on the disparate pattern of villagers’ trust. Studies in political science have shown, using sampled surveys and interviews, that village elections are associated with a layered pattern of political trust in many places of China – i.e., higher levels of government bodies are found to be more trustworthy than lower levels (e.g., Li, 2004; Dong and Kübler, 2018; etc.). Like an early, popular rhyme says, “The Center is our benefactor, the province is our relative, the county is a good person, the town is an evil person, and the village is our enemy” (qtd. In Li and O’Brien, 1996: 28). Descriptive evidence also shows that people tend to believe that the Center’s intent and policies are good but lacks the capacity to enforce whilst local officials deviate or distort in implementation (O’Brien, 1994; Li and O’Brien, 1996; Unger, 2002). Presumably, rural villagers usually perceive their

relationship with the Center as political and symbolic, whereas their relationship with local governments is more concrete and tied to their social and economic benefits (Guo, 2001). Specifically, studies based on surveys in several provinces and municipalities across China (Xiao and Wang, 2010; Xie, 2012; and Li, 2004) have found that villagers rated their trust to the five levels of Party committees—the Center, province, county, town, and village—following a layered pattern from highest to lowest popular trust (hierarchical trust). There are also studies that found in some provinces, the ratings deviate from the layered, decreasing pattern described earlier, but villagers rated higher trust in village committees than that in town governments (Xiao and Wang, 2010; Hu 2010; Dong and Kübler, 2018). Few studies have explored the underlying channels for the patterns of the underlying layered trust for various levels of government. An exception is Hu (2010), which conjectures that village cadres’ kinship networks might impede the implementations of unpopular policies such as the One Child Policy, and in these situations, it is usually the town officials coming over to implement this unpopular policy. Different from the previous studies, we find an “inverse hierarchical trust” pattern for residents towards county and lower level governments in rural China. By far, few studies have established a causal link between grassroots democracy in China and villagers’ disparate trust. We attempt to contribute to this stand of the literature by identifying causal channels between grassroots democracy and the disparate trust at the three levels of the government.

The rest of this paper is structured as follows. Section 2 summarizes village governance in China, reviews the current literature on political trust, and derives our predictions of villagers’ attitudes of the trustworthiness of different levels of governments. Section 3 describes the data and the empirical strategy. Section 4 discusses our findings and Section 5 explores the mechanisms on how the use of democratic rule determines the disparate political trust of the villager constituents. Section 6 concludes.

## **2. Institution Background**

### **2.1 Village governance in rural China**

#### ***Grassroots democracy at the village level***

The difficulty in the size and heterogeneity of geography and population and the need to tailor policy implementation and governance to local conditions has demanded the Chinese One-Party state to be organized in several layers following the hierarchy of governments at the Center, province, prefecture/county, town, and village levels (Lieberthal, 1995; Dreyer, 2018). The villages, with the longest distance to the Center, are difficult to monitor. Information is highly asymmetric between the Center and the village governments, and village cadres implement central policies according to their own interests and resources: the cost of vertical control and monitor is very high for effective local governance (O’Brien, 1994; Martinez-Bravo et al., 2022), and the pressure of conflicts between rural cadres and villagers over taxation issues is tangible (O’Brien and Li, 2000).



Elections have largely been regarded as an effective apparatus to hold local officials accountable in public goods and services provision and policy implementation, because elected officials care more about votes and thus the concerns of constituencies (Lizzeri and Persico, 2001; Besley and Burgess, 2002; Besley and Coate, 2003). The central government of China started to be aware of the shortcomings of local governance and introduced village-level elections in the 1980s, and finally in 1998, the National People's Congress of the People's Republic of China promulgated *The Organizational Law on Village Committees* (the OLVC), with village-level democratic elections quickly spreading throughout the country. Since then, the Chinese political system has been developing towards a One-Party State with local, grassroots elections based on democratic decision-making, organization, and monitoring. Specifically, in each village, to manage local economic, social and political affairs, the village committee is comprised by three to seven members who are elected from and by the villagers every three years.

This system with democracy is imperfect in the senses of authority, autonomy and scope. *Firstly*, not all members of the village leadership are democratically elected. The OLVC requests that all village committees must be directly elected by villagers, and the member receiving the highest number of votes becomes the village chief. But the OLVC also explicitly stipulates that village committees must work under the leadership of the village branch of the Party. *Secondly*, not all local issues are determined by the village committees: many village issues are under the direct control by upper-level (i.e., the county or the town) government, partially because village does not belong to the bureaucratic ladder which begins above the village—i.e., the county—and culminates in Beijing (*Zhongnanhai*). *Nevertheless*, it is clear that the village chiefs are responsible for decision-making of investments and provision of public goods and services, land allocations and adjustments, and implementation for upper-level policies including taxes and fees collection, other land and fiscal reform policies, and so on (O'Brien, 1994; Martinez-Bravo et al., 2022).

### ***Disparate political consequences***

There are a number of studies document that, prior to the introduction of village elections, village committees shirked in efforts of public goods provision—such as ditches for irrigation, school buildings and local road constructions and repairs, and so on—and widespread complaints of corruption—for instance, enriching the members of village committees by means of renting or selling village collective properties such as land (e.g., Kennedy et al., 2004; Zhang et al., 2004; Shen and Yao, 2008; Luo et al., 2010; ). The OLVC maintained the standing of the village party branch, the responsibilities of the village committees, and the extant fiscal arrangement between the village committees and the upper-level governments. Village elections are also known as grassroots democracy because the elected village committees consist of the lowest geographical and social level of China's organizational system.

Though a large body of literature exists on this Chinese grassroots democracy, and some link village elections with social and economic performance, few link it with political trust. For example, Tsai (2002) conducted field surveys and described that the more responsiveness and provision of public goods by elected cadres were attributed to the fear of being elected out. Li (2002) found that in villages with free, open and transparent

elections, cadres were more likely to act in the expectation of villagers and raise objections in the local implementation of any town policy that deviated from the central policies and might hurt villagers. Also, substantial increases in public goods and services provision and investment have been found in villages with local elections (Zhang et al., 2004; Luo et al., 2007; Luo et al., 2009; Martinez-Bravo et al., 2022). Elections are found to enhance the accountability of the village committees in that substantially increased share of public expenditures in the village budget and reduced share of administrative costs and income handed to the town governments, associated with the fact that little influences on size of tax revenue but the burden shifted from individual villagers to enterprises instead (Zhang et al., 2004; Wang and Yao, 2007). On economic consequences, many studies have reached the conclusion that electoral village committees were associated with increased income for the poor, reduced income gap and the within-village income inequality (Shen and Yao, 2008; Martinez-Bravo et al., 2022), and thereby effective dislodging of corruption (Oi and Rozelle, 2000; O'Brien and Li, 2000).

To link village elections and consequences of villagers' evaluations in the event of land reallocations, Kennedy et al. (2004) investigated farmers' evaluation on village leaders' performance for elected leaders who managed the villages' collective land. The elected leaders were from competitive electoral processes but differed in the nomination process—either an open nomination or a closed, town-nominated process. They found that competitive village elections were not enough to constrain elected leaders' incentive to seek for enriching opportunities for themselves and their clan or kinship members. They showed that an open nomination process is one of the key factors that ensures a free and fair village election and limits the abuse of power from officials of higher-level government who could easily manipulate a competitive election for their own good by means of controlling the nomination process. They also documented that villagers overwhelmingly perceived effectiveness and fairness of the most recent land reallocation in villages with open nomination processes, whereas villagers with town-controlled, closed nominations reported unfair for the same land reallocation. However, this study does not look at political trust, nor taking a further step, whether grassroots democracy is heterogeneous in leading to disparate political attitudes of villagers towards different levels of the government.

The concept of political trust is a valuable heuristic, the most important and volatile element of political attitudes showing constituents' belief or confidence that the government is trustworthy and will produce outcomes consistent with their expectations (Easton, 1975; Miller, 1974; Abramson and Finifter 1981; Levi and Stoker 2000; Li, 2004; Hetherington 2004; Citrin and Stoker 2018). Political trust is important and worthwhile to study because it is valued very high by the central government. The rise and fall of political trust can cause huge impacts on people's political activeness, policy preference, and compliance with government authorities (Levi and Stoker, 2000). Existing studies have identified various sources of political trust in democracies and authoritarian regimes, and the sources include the protection of civil liberties, the economic performance, and citizens' political values (Chen, 2017; Shi, 2001). Interestingly, the existing studies have dominant findings of a layered pattern of villagers' political trust in many places of China: villagers systematically rated higher for the higher levels of government bodies than the lower levels, using past surveys and interviews (e.g., Li, 2004; Dong and Kübler, 2018; etc.). Descriptive

evidence also shows that people tend to believe that the Center's intent and policies are good but lacks the capacity to enforce whereas local officials deviate or distort in implementation (O'Brien, 1994; Li and O'Brien, 1996; Unger, 2002).

For the disparate trust towards different levels of government, the published English and Chinese studies have identified a number of sources. Among them, the root lies in institutions. For instance, the independency of decision-making and implementation by local governments led to differential performance in handling public crises, and ultimately resulted in differences in the level of legitimacy between local and central governments and then the perceived trustworthiness is disparate (Liu, 2007). Another important factor is political and economic performance of the government (Mitchell and Scott, 1987; Yang and Zhao, 2013; Ning and Luo, 2012; Meng and Yang, 2012). Importantly, the perceptions of local government performance strongly affect residents' political trust in it which would differ their trust towards the central government (Zhong, 2014). This implies that authoritarian political regimes could increase the level of political trust by the general public through improved performance and reduced corruption. In addition, socio-demographic and contextual factors (e.g., education) form peoples' cultural and social values, endow them with different ways and opportunities to understand the operation of the political system, and thence determine their perceptions of the quality of local government in different ways (Dong and Kübler, 2018). Also, political structures (Li, 2012), political propaganda (Li, 2012; Ma, 2007; Zhai, 2018), participations in political events such as elections of village committees, of deputies to local people's congress, as well as of the head of town government, etc. (Li 2012; Dong and Kübler, 2018): all explain the variation in the trust levels towards different levels of government.

Most importantly, for a local government, public participation and transparency will affect the power structure and composition, thereby determining its political and economic performance, and ultimately improving trust in government (Shi, 1999; Kim and Kim., 2007; Yu, 2013). Similarly, as Kennedy et al. (2004) found, grassroots democracy is not a *lump-sum* solution to improve village governments' performances. The key should be the democratic rule, or, namely, the quality of democracy—e.g., through open and transparent processes, public participation in decision-making is a way to achieve consensus among villagers to be in consistent with their expectations. A quote from O'Brien and Han (2009): “changes in the ‘exercises of power’ have not kept up with changes in the ‘access to power’.” Though the conduct of elections—including nomination procedures, competitiveness, and secret balloting—has been found to improve over time (Tan, 2004; He 2007; Long and Tong, 2011), few attention has been set on the “exercises of power” by the grassroots and consequences. This is the gap our study aims to fill in.

## **2.2 Land reform and the Collective Forest Tenure Reform in China**

Why land reform? Land is the primary factor of production and tied to villagers' livelihoods. Land determines villagers' income and their source of social security. The *Household Contract Responsibilities System* (HRS) reform in the early 1980s ended People's

Commune system and restored the family-based farming in rural China. The HRS reform has also affirmed that the sole owner of all village land is the village collective in each village, whose power to decide the land property rights system within the village is legitimate. Similar to other developing contexts, land is the most important collective property and asset in rural areas, and is used by local heads—in reforms or allocations and adjustments—to influence local constituents' behaviors in order to achieve their own goals.

The openly elected village chiefs are found to be more inclined to maintain equal access to land and this outcome is mostly consistent with their villager constituents' preferences, despite their own interests and minimized administrative costs (Rozelle and Li, 1998; Brandt et al., 2004; Yao, 2003; Kennedy et al., 2004; Martinez-Bravo et al., 2022). Leasing village land to enterprises has been notorious and suspected as corruption by village cadres who use village collective property to enrich themselves instead of their constituents (Martinez-Bravo et al., 2022).

Since the OLVC formally introduced the electoral reform in 1998 and requires direct elections for the village committee nationwide, statistics have shown that, by end of the 1990s, the vast majority of villages implemented grassroots elections (Heilmann, 2008). Now village elections have been universally adopted in rural China. Though the authority, autonomy and scope of elected village governments have experienced some progressive erosions in recent years, locally elected village chiefs have the responsibilities of decision-making on investments and provision of public goods and services, land allocations and implementation for upper-level policies including taxes and fees collection, other land and fiscal reform policies, and so on (O'Brien, 1994; Martinez-Bravo et al., 2022). Therefore, the most recent Collective Forest Tenure Reform (the *Forest Reform*) offers a prominent chance for us to disentangle how grassroots democracy in decision-making processes for land reforms determines the sources of disparate trust in different levels of government.

Overall, the *Forest Reform* aims to increase forestry productivity and has an important position in China's market-oriented reform since the early 1980s, for two reasons. *First*, forestry reform involves a wider range of land. China's forest land area reached 4.56 billion acres in 2003 when the reform was initiated, including 2.74 billion acres of collective forest land, which is 1.5 times larger than the arable land area. The total value of China's rural collective forestry resources is estimated at least 2 trillion yuan (NBS, 2016). *Second*, 90% of China's forestry land are in mountainous areas where poor population is concentrated. Therefore, this reform is expected to stimulate the development of rural area by increasing people's income. The reform document explicitly states one of the objectives as to promote the development of China's collective forestry and stimulate the rural economy.

It is important to note that the central government promulgated *The Rural Land Contract Law* in 2003 and has prohibited reallocations of cropland due to births and deaths in the family. A new land-related reform, by their own nature, create possibilities for reallocating resources. The *Forest Reform* provides such possibilities. *Firstly*, the aim of the reform was to devolve villages' collective-owned forestland to household management. The reform was a roll-out process after a few pilot cases starting in 2003 that initiated villages to collectively decide on adoption, reallocation of village-owned forestland to households

with acknowledged forest tenure rights. Then, the central government promulgated in its 2008 policy document *Collective Forest Tenure Reform in the Southern Collective Forest Areas in China*: village committees are required to conduct democratic processes to reach collective decisions on whether to adopt the *Forest Reform*. Practically, the decision-making process varies: either *based on majority voting* – via village assembly or representative meetings, or *determined by meetings of few people* – village cluster leaders, village committee members, or superior government. Once adopted, the implementation of the reform includes the devolution of the tenure rights of forestland to household, along with the issuance of forestland certificates with clearly specified contract terms for each forestland plot and extended user rights including rights of transferability, inheritance, and collateralization.

*Secondly*, the adoption of the reform associated with the opportunities for (re)allocations of forestland, is one of the most important village resources that is closely tied to villagers' production and income profiles. Each villager households would be given the right to use, earn, and dispose forest land and trees in accordance with the law, and the right to use forest tenure rights and certificates to apply for loans. The reform expects to liberalize forest management, increase forestry productivity and to regulate the flow of forest land.

Prior to an opportunity for the *Forest Reform*, villagers had only the management obligations for the collectively-owned forestland. The income and revenues from the forestland had belonged to village committees on behalf of the village collectively. Some villages had issued rental contracts between the committee and some villager(s) for the use and management for some area of the forests, and the contracted villagers held income rights. However, such kind of income rights was tacitly agreed informally, lack of legal support or clear property rights. Two challenges existed. The first is too many disputes in forestland boundaries and conflicts in user rights, making it impossible to divide them down the line by village committees themselves. Also, it is very common in each village that part or whole of the forest land were set for a special use in the hands of villagers—public welfare forest. The nature of common pool resources makes it too costly to clearly define the property rights except that the national policy deals with it.

*Thirdly*, the *Forest Reform* was a central mandated policy reform.<sup>2</sup> Adoption of the reform presents as an outcome of the village committee's decision on how to manage it under their responsibility to implement national policy subject to their financial constraints and organizational costs. Though village committees were *required* to make decisions for the adoption of the reform out of popular votes, it is up to each village committee to select the process. This decision-making process varies: some villages relied on the discussions in meetings by the village committee members only, whilst some other villages organized meetings of village representatives or the village assembly.

Therefore, the variation in decision-making of the adoption of the *Forest Reform* has

---

<sup>2</sup> The *Forest Reform* was significantly important as the previous General Secretary Hu Jintao pointed out that the *Forest Reform* was another major change in the current rural management system. In 2007, former Premier Wen Jiabao pointed out that the *Forest Reform* was the next step after the reform of household contract responsibility system in 1978.

provided us the unique opportunity to assess the use of democratic rule and its outcomes in villagers' trust. To be specific, we investigate how the grassroots village cadres exploit issues of land property rights in democratic or nondemocratic decision-making forms and how that led to different trust and satisfaction towards different levels of local governments. We add to the literature by exploring the quality of democracy in China's emerging grassroots democracy and villagers' attitude towards different levels of government.

## 2.3 Predictions

We wonder in such an imperfect democratic environment like rural China, how the use of democratic rule empowers villagers in decision-making and determines their trust towards local cadres? In general, the *Forest Reform*, same as other policies, follows a top-down process from central to province and then to county and town governments. Village cadres are the ultimate enforcers of this vertically mandated policy. Town governments are the lowest government-level in China's political hierarchy, who are in charge of the implementations of policies approved by province and county governments to all the villages within their jurisdictions. Their upper-level are county governments. In each county government, an Office of Forest Tenure Reform Implementation was set up and responsible for the issues related to implementation of the *Forest Reform*, including issuance of forestland certificates, management of land transfer platform, and so on.

During the period 2005-2010 that coincides with the study period of this paper, village elections had been formalized in all villages by the Ministry of Civil Affairs.<sup>3</sup> On one hand, the village committee candidates typically run on very local issues and are probably selected for qualities that have been long observed by their fellow villagers. On the other hand, positions in the village committee are not stepping stones for higher positions in the state administration. In this way, elected village cadres would degrade the *career-concern* possibility because political loyalty could not help them get promoted to higher level of governments. Therefore, they would generally consider the interests of the villagers and improve popular policies (Martinez-Bravo et al. 2022). Confirmed rights to land, or allocation of more land, obviously, belongs to such popular policies because forestland is an important production factor and asset for villagers' livelihood.

In the rest of the paper, we use household and village data to explore three precise predictions from our conceptualization of grassroots "exercises of power" and villagers' political attitudes towards local cadres of three different levels.

*First*, political trust in local governments is associated with both cultural factors and perceptions of the quality of local government (Dong and Kübler 2018). For village cadres, people are more likely to trust village cadres instead of town cadres or county cadres. **Given that the *Forest Reform* confirms villagers' rights to forest, and in most cases allocates**

---

<sup>3</sup> By the late 1990s, local elections had been implemented in the vast majority of villages. Since 2003, the authority, autonomy and relevance of elected village cadres were progressively undermined. (Martinez-Bravo et al. 2022). However, there was not an official revocation of village elections.

**some forestland to villagers, it should not undermine villagers' trust towards village leaders in general.**

*Second*, while village committees are elected, villagers' exercises of power could be executed in meetings with the participation of the mass villagers or at least the villagers' representatives. This is regarded as the democratic rule. For each important policy or reform, especially those closely tied to villagers' living and economic interests, such meetings help villagers deliver their interests and concerns, and witness the actions of village leaders who were accountable to the village population. Therefore, **the use of the democratic rule in the decision-making for the adoption of the *Forest Reform* is expected to improve villagers' evaluation on the performance of local cadres.**

*Third*, in this *Forest Reform*, forestland subject to reform—i.e., in terms of tenure rights confirmation—include three types: 1) the forestland that had long been used by villager households privately but lack of clearly-defined tenure rights; 2) the village-managed forestland that could be reallocated to villager households; and 3) the forestland with unclear tenure because of long-existed disputes between villagers and sometimes inter-villages. In the third case, the disputes are usually issues related to ownership, boundary, contract terms, etc. The *Forest Reform* needed to resolve these disputes in order to confirm forest tenure rights to the right owners. For the within-village disputes, it is unknown if a new democracy helps resolve existing disputes if some strong intra-village, informal institutions have long worked well as Fei (1989) and Ho (2005) found in self-governed villages in rural China. For the inter-village conflicts, usually the town or county leaders could step in and resolve the disputes. Thereupon, **the unresolved within-village and inter-village disputes could be higher in villages where the *Forest Reform* had been adopted in non-democratic process.**<sup>4</sup>

## 3. Data and Empirical Strategy

### 3.1 Data

We use a rich panel dataset derived from a two-wave household survey conducted by the Environmental Economics Program in China (EEPC) of Peking University.<sup>5</sup> The survey was designed to evaluate the performance of the Collective Forest Tenure Reform in a number of aspects including outcomes of tenure rights arrangement, forest management, household livelihood, and village-level socio-economics. The survey was conducted in 2006-2007 and 2011, covering 256 villages distributed in eight provinces in China.<sup>6</sup>

---

<sup>4</sup> By “non-democratic process”, we mean the process without the mass participation nor the presence of village representatives. We are not claiming that village committee's exclusive decisions are non-democratic.

<sup>5</sup> <https://www.efdinitiative.org/about-efd/organisation/environmental-economics-program-china-eepc>

<sup>6</sup> The survey was carried out in Fujian, Zhejiang, Jiangxi, Anhui, Yunnan, Hunan, Liaoning, and Shandong. The *Forest Reform* was rolled out in China and the timing of adoption varies across provinces.

Figure 1 depicts the locations of the surveyed villages. The sampling of the survey follows the principle of stratified random selection of households for face-to-face interviews. Specifically, in the first wave we randomly selected five to six counties—taking into account locations and importance in forestry—in each province considered as forest rich and in collective forest areas. Then, for each country, six villages were randomly chosen. Within each village, 10-20 households were randomly drawn for interview at their houses. The interview covers a range of topics including demographic characteristics, production activities of agriculture, forestry and livestock, sources of income, and the adoption and implementation of the *Forest Reform*. We also interviewed village leaders for village-level social-economics including location of the village, population, per capita income, land uses and areas, revenues and expenditures. The same villages and households were revisited in the second wave of the survey in 2011. All the data inquired referred to the past year of the time of each wave of the survey. Crucially, we collected information on the timing and decision-making process of the reform. We obtain a comprehensive dataset combining household and village-level characteristics, allowing us to investigate the relationship between the use of democratic rule in adoption of the reform and social-economic outcomes at both the household and village levels. We describe the construction of the variables of interest below.

#### ***Variable of political trust***

The outcome variable in question is the level of political trust among villagers towards local cadres of different government levels (i.e., village, town, and county). To operationalize political trust, household respondents were asked to rate the level of trustworthiness, fairness, and farmer-centricity of local cadres using a 0-10 scale of rating. The original questions are: *How do you think the cadres are trustworthy? How do you think the cadres do things fairly? How do you think the cadres act in the interest of farmers?* The questions were asked to each of the village-, town- and county-levels of government cadres. We use the ratings as the measure for the respondents' political trust, with higher scores representing greater level of trust and satisfaction towards the local cadres in question.

Table 1 summarizes the distribution of the scores for different levels of cadres. There is little variance among the three indicators of political trust for the same level of government on average. Villagers' trust towards village cadres stands at a mean around 7.5, and the mean trust towards town-level cadres is lower than 7.1, and that for county-level cadres drops to 6.7. This finding would challenge the disparate order of trust found by, e.g., Li and O'Brien (1996), O'Brien and Li (2004), and Li (2021) on that villagers had higher trust in higher-level government in China. Oppositely, we find that rural villagers have the highest level of trust towards village cadres but the lowest towards county cadres. This finding, however, aligns with the study that highlights the influence of rural culture in shaping political trust in rural China (Dong and Kübler, 2018).

#### ***Variable of the democratic ness of the Forest Reform***

The key explanatory variable is the form of decision-making for the adoption of the *Forest Reform*. According to the official document titled "*Village Democratic Decision-Making System*"<sup>7</sup>, a village is regarded of applying the democratic rule where a decision is made

---

<sup>7</sup> The basic organizational forms of democratic decision-making at the village level are the village assembly and the



via the *villagers' assembly or the village representatives meeting*. Our survey asked the question “How was the Collective Forest Tenure Reform adopted in the village? Describe the types of meetings organized to decide on the adoption of the Forest Reform.” Based on the answers, we subdivide the villages adopting the *Forest Reform* into two groups (see the Appendix Table A1 for all the types of meetings): (i) **the democratic group** consists of households where the *Forest Reform* was adopted via *the villagers' assembly meetings or the village representatives meetings, or the meetings when all heads of households signed for agreement*; (ii) **the non-democratic group** consists of households where the *Forest Reform* was adopted via *the village committee-and-party-branch meetings, or the village cluster leaders meetings, or the superior government's approval*. By “non-democratic group”, we mean that any decision-making without mass villagers' participation. We do not mean that village committee's exclusive decisions are non-democratic. In empirical analysis, we further narrow down the democratic group by restricting the standard for democratic process to the cases of *villagers' assembly or all household heads' signature for agreement*, as these cases show the greatest level of mass participation. We also test whether this restriction affects the estimate with a stronger effect of democratic decision-making on trust outcomes.

Figures 2-4 present the proportions of different types of meetings used to decide on the adoption of the *Forest Reform* in all the eight provinces. Over 60% of the surveyed villages adopted the reform based on the democratic decisions, while a total of 24% of the villages took non-democratic decision-making process and 12% did not adopt the reform. There exists considerable heterogeneity across provinces in the decision-making process (see Figure 3 and the Appendix Table A2). In particular, the vast majority (93%) of surveyed villages in Liaoning adopted the reform via either village assembly meetings or the villager representative meetings. Yunnan, Hunan, and Anhui appears to have much lower rates of applying the democratic rule. Figure 4 shows that there is little change in the form of decision-making before and after 2008, given that the share of villages in the democratic group is 72% and 75%, separately.

The Appendix Table A2 summarizes the distribution of the samples and their reform status by province. Overall, 11.96% of the households were in villages where the *Forest Reform* had not started yet by end of 2010, with Fujian and Shandong having the largest share of non-reform samples (33% and 29%, respectively). Of the samples where the reform was adopted, an average of 73% had been through democratic decision process (64.1% out of 88.0%). Interestingly, all the reformed samples in Fujian were via democratic decision-making process, and similar in Liaoning (92%).

### ***Village and individual characteristics***

There could be confounding effects stemming from village and household levels of factors that influence the timing, decision-making, and implementation of the *Forest Reform* and

---

village representative meetings. To convene a village assembly meeting, at least half of the villagers over 18 years old are required to be present, or representatives from at least two-thirds of the households in the village. For any decision, it must be approved by the majority, i.e., over half of those who are present at the meeting ([http://www.gov.cn/gongbao/content/2004/content\\_62862.htm](http://www.gov.cn/gongbao/content/2004/content_62862.htm)).

villagers' trust. We thus control for a set of village and household characteristics including family income, number of CCP members, average education level, population, etc. Table 2 summarizes these factors in the two periods. Overall, our samples are drawn from the rural population residing in less developed regions, characterized by low levels of education and income. For household-level attributes, the majority of villagers have completed nine years of the compulsory education (middle-school level). The average per capita income in 2010 is approximately 5275 CNY (equivalent to 758 USD), with more than half falling below the Poverty Line of 2300 CNY in 2010 (approx. 330 USD), set by *The Poverty Monitoring Report of Rural China* (NBS, 2016). And those belonging to the lowest decile of per-capita income earned less than 50 CNY per year (about 7 USD). Using the World Bank's Poverty Line of 1.90 USD per day (\$693.5 per year), 71% of our samples were under poverty.

Our main unit of observation for analysis is the respondent of each surveyed household. By design, the household survey interviewed the head of each household, and in some cases the spouse of the head or son/daughter were the respondent, based on the requirement that he/she should be familiar with the family productions. In the end we have more than 3000 individual-year observations in 184 villages of 98 towns and 40 counties in the eight provinces.

In the Appendix Tables A3 and A4, we report the 2005 mean values of the characteristic variables at the village level and the individual level, respectively, by group of villages, to perform balance tests between the groups of interest. There are in general limited difference between each of the pairwise groups: the unreformed villages *vs.* the reformed villages via non-democratic process, the unreformed villages *vs.* the reformed villages via democratic process, and the reformed villages via non-democratic process *vs.* the reformed villages via democratic process. But the reformed villages via democratic process had significantly lower share of migrant workers by 5% than those via non-democratic process. Compared to the unreformed villages, the reformed villages—via either non-democratic or democratic process—have in general higher share of forestland area over the village total land area, by 18 percentage points or so. Indeed, the forest rich villages tend to be early movers adopting the *Forest Reform* (Yi 2023; Yi et al., 2023). At the individual level, compared to the unreformed villages again, male respondents are 16%-19% higher, and the likelihood of the respondent being CCP members is about 6% higher in the reformed groups with weak statistical significance at 10% level. Our heterogeneity analysis considers these differences.

## 3.2 Model specification

### *Baseline specification*

We exploit the joint variation in the timing of the *Forest Reform* and the type of meeting used to decide on the adoption of the reform. Leveraging the staggered implementation of the reform across villages in the eight provinces, we employ the Difference-in-Difference (DID) approach to estimate the political outcome of the democratic process of the *Forest Reform*. The basic model is

$$\text{Trust}_{ijt} = \alpha + \beta_1 \text{Reform}_{jt} + \beta_2 \text{Reform}_{jt} \times \text{Democracy}_{jt} + \gamma_1 W_{jt} + \gamma_2 X_{ijt} + \delta_i + \lambda_t + \varepsilon_{ijt}$$

where the outcome variable  $\text{Trust}_{ijt}$  is villager  $i$ 's evaluation towards each of the three-level cadres in village  $j$  in year  $t$ ; the variable  $\text{Reform}_{jt}$  is binary, with value 1 indicating that the *Forest Reform* is adopted in village  $j$  in year  $t$ , and value 0 otherwise; the variable  $\text{Democracy}_{jt}$  takes value 1 if village  $j$  applied the democratic rule in making the decision of adopting the reform. Following the rules introduced in Section 3, we classify the observations into the *non-Reform* group, the democratic *Reform* group, and the non-democratic *Reform* group—the latter two groups altogether consist of all the observations where the reform was adopted.

Importantly, our baseline model uses two standards for  $\text{Democracy}_{jt}$  based on the meetings of the decision-making process: Standard 1 refers to the meetings with the village's mass participation or the villager representatives' participation; Standard 2 only refers to meetings with the mass participation as democracy. By doing this, we expect the decision-making with mass participation empowers all stakeholders to influence the policy and the implementation towards their interest, and consequently increase their political satisfaction and trust. The magnitude of this effect is expected to be greater than that of including the meetings with villager representatives.

We control for time-varying village-level ( $W_{jt}$ ) and household-level ( $X_{ijt}$ ) characteristics that could correlate with the reform, the type of meeting used for decision-making, and villagers' satisfaction and trust. Village-level variables include village total population, number of clusters, number of households, average annual income per capita, and number of migrant workers. Household-level variables include family size, annual per-capita income, number of CCP members, number of village cadres, and the highest (or average) level of education. In addition, we control for individual fixed effects ( $\delta_i$ ) for the confounding impacts arising from unobserved factors of the respondent that do not change over time, such as the differences in personal preferences towards the government. Also,  $\delta_i$  captures the pre-existing household differences because there is one respondent for each household. We add year fixed effects ( $\lambda_t$ ) to account for shocks common to all observations in a particular year. For instance, there might be other policies that could induce different trust towards local cadres. We allow for idiosyncratic differences,  $\varepsilon_{ijt}$ , to be correlated across individuals within a village, and cluster standard errors at the village level, because this is the variation level of the reform and of the choice of decision-making meetings.

In this baseline specification, the coefficient  $\beta_1$  estimates the impact of the non-democratic process of the *Forest Reform* on political trust, compared to the average opinion by a villager who has not experienced the reform at all.  $\beta_2$  captures the differential effect of the reform across villages with various degrees of democracy. The significant difference between  $\beta_1$  and  $\beta_2$  suggests the difference in the influence of non-democratic process *vs.* democratic process of the reform on a villager's satisfaction and trust towards local cadres, holding other factors constant.

### ***Threats to identification***

In the basic model, the identification of causality relies on the assumption that there is no other confounding variable correlated with villagers' attitudes towards local cadres and the use of democratic rule in the decision-making of the *Forest Reform*, holding all the controls constant and controlling for individual fixed effects and year fixed effects. In other words, the timing and the exploit of democratic decision-making for the adoption of the reform is conditionally exogenous to villagers' trust and satisfaction towards local cadres. Whereas, an empirical concern stems from the exposure of individuals to the reform and the use of democratic rule is possible to be non-random. There could be certain pre-existing factors that make some individuals more likely to locate in villages who adopted the reform via democratic process. Below, we discuss some possibilities of these factors, and provide solutions to each.

The first concern is that villages in different regions could have various degree of democracy prior to the *Forest Reform*, which could determine the likelihood of the use of democratic rule in decision-making. This pre-existing environment for democracy could also correlate with individuals' political opinions. This prior democratic environment is constant and can be removed by location-specific fixed effects. For other similar, pre-existing factors that do not vary with time, our baseline model removes their influences by controlling for individual fixed effects.

The second concern, for the factors that vary with time, such as higher income that is usually positively correlated with degree of democracy and political satisfaction (e.g., Hu 2010), we try to address this concern in four ways. *Firstly*, we test this assumption through a series of conditional balance tests for the pre-reform year (as in the Appendix Tables A3 and A4). The findings of limited statistical significance amongst the groups of interest provide strong support for the underlying assumption. *Secondly*, we employ the DID approach based on propensity score matching and show that the differences in the time-variant factors are not significant at both the pre-treatment and post-treatment periods using the matched sample. In this step we use a rich set of covariates to establish the "counterfactual" group for the treatment samples. One of the covariates, timber market price, is an important instrument we believe its influence is on village cadres' incentive of reform and the choice of decision-making process but not directly on respondents' trust towards cadres. *Thirdly*, we control for the potential source of endogeneity that may come from village chiefs in the cases they are pro-democracy and accountable. To check this robustness, we add to the baseline model the frequency of all meetings of village assemblies and representatives that discuss village affairs, and the average attending population percentage. We also control for the total number of years in office of the current village chief for each village. *Fourthly*, as an augmentation to the baseline model, we provide supplementary robustness checks on the concern for more time-variant factors, by including substitute fixed effects and multiple autocorrelations in the standard errors.

The third concern is the reverse causality between the reform process and political trust. For example, the democratic rule was used for decision-making because villagers were already happier (or unhappier) about the local cadres. To address this possibility, we

examine the possibility of adopting the *Forest Reform* and the possibility of using the democratic rule, separately, on the three indicators of political satisfaction for each of the village-, town- and county-level government. Presumably, the coefficient estimates of the political satisfactory indicators with limited statistical significance will lift the reverse causality concern.

## 4. Results

### 4.1 Baseline results

Table 3 summarizes the regression results from the basic model. We examine the impact of the *Forest Reform* and the associated meetings representing mass democracy for decision-making on villagers' evaluation on local cadres. Cols. (1)-(3) correspond to villagers' attitudes of the trustworthiness (*Trust*), the fairness (*Equity*), and acting in the interests of villagers (*Benefit*) towards the village cadres; and those towards the town cadres and the county cadres are reported in Cols. (4)-(6) and Cols. (7)-(9), respectively.

Panel A of Table 3 shows that the introduction of the *Forest Reform* had various effects on villagers' evaluation on local cadres at different levels. We find that the reform has decreased villagers' rating on *Trust* and *Equity* towards the town cadres in a statistically significant way (at the 5% level, Cols. 4 and 5). The point estimates of about -0.64 (-0.86) suggests a 9% (12%) decline in villagers' political satisfaction regarding trustworthiness (fairness), given the average rating score on *Trust* (*Equity*) is 7.05 (7.08) in Table 1. By contrast, villagers' attitudes towards village cadres remain unchanged (Cols. 1-3). We do not find the reform has a significant effect for cadres' integrity (*Benefit*) at any level of the government. It is plausible that villagers' belief in their cadres' actions in consistent with the villagers' benefits do not differ generally between the reformed and the non-reformed villages, because the village cadres have been, universally, elected out of democratic process by all the villagers. Moreover, there seems no significant difference for this belief in the town or county cadres between the reformed and the non-reformed villages, possibly because the non-reformed villagers might have never heard about the *Forest Reform* and they are not unhappy about the *status quo*.

However, it is important to investigate whether the use of democratic rule in the decision-making or implementation process makes any difference in villagers' opinions towards the cadres' behaviors in terms of trustworthiness, fairness, and integrity (i.e., actions in consistent with the villagers' benefits), albeit that the *Forest Reform* by design offers many benefits such as certifying villagers more forestland and tenure rights. Clearly, as Panel B and Panel C of Table 3 show, the reform being adopted via democratic process involving the mass (or representatives) participation significantly increased the ratings, by about 0.5 scores (a 6% increase from the mean rating score) towards village cadres' trustworthiness and integrity (Cols. 1 and 3, Panel C), and about 0.7 to 0.9 scores (an increase of 8% to 13% from the mean) towards town/county cadres (Cols. 4-9, Panels B and C).

To summarize the baseline results, three main interesting findings stand out. The first is the involvement of the mass people or the villager-representatives—representing the use of democratic rule—in the decision-making for the reform, has a strong and positive effect in improving villagers’ evaluation on the cadres’ trustworthiness, fairness, and integrity. Without a democratic decision-making, the reform undermines villagers’ trust, given by the negative and statistically significant coefficients of the “reform” variable in Panels B and C for the town/county cadres.

The second is the decision-making with the mass participation (Panel C), *c.f.* the mass or the representatives participation (Panel B), has a stronger effect in improving villagers’ political satisfaction. It is supported by both the larger magnitude of the coefficients of the interaction term between the variables “reform” and “democracy” and their statistical significance. This finding is consistent with our conjecture that, the mass participation in decision-making offers a way to empower all stakeholders to influence the policy and its implementation towards their interest so that improves villager’s trust and satisfaction. In other words, the non-democratic reform not only failed to inform villagers about the *Forest Reform* but possibly did a bad job in resolving the conflicts of forestland-related issues during the implementation of the reform. We will further explore the potential channels in the later Mechanisms section.

The third is, though the average rating for the village cadres is higher than that for the town/county cadres (i.e., the dependent variable mean) and this disparate political evaluation is consistent with Guo (2001), Li (2004) and Dong & Kübler (2018), the effect of the use of democratic rule is much stronger in magnitude to improve villagers’ rating for higher-level of government, compared to the village-level. Take the estimates from Panel C, the mass participation in decision-making increases villagers’ trust towards the village (town or county) government by 0.47 (0.80 or 0.70) scores, which is a 6% (11% or 10%) increase given the average score of 7.451 (7.054 or 6.749). By offering the opportunity of decision-making for land reform to the common people, the town/county government was regarded as better government of being more trustworthy, fair, and caring for villagers’ benefits; their evaluation scores were raised by 10%-13%, given the coefficients ranging from 0.7 to 0.9 over the mean scores of 7.05-7.08 (Col. 4-6) and around 6.75 (Cols. 7-9).

Also, we run the regressions on the basic model using each of the decision-making forms (with the non-reformed villagers as the reference), and report the results in the Appendix Table A5. In addition, we use each of the decision-making forms with all the other forms together with the non-reformed observations as the reference, and the results are reported in the Appendix Table A6. The results again confirm that, compared to non-reformed villages or all other decision-making forms, the ones with the mass participation (i.e., village assembly meetings or each household’s signature for agreement) significantly increases villagers’ trust for all levels of local cadres (the Appendix Table A6). Reform via meetings of only the village cluster leaders has led to the greatest dissatisfaction towards local cadres (the Appendix Tables A5 and A6). The estimates of the effect of each decision-making approach on villagers’ trust, from the Appendix Table A6, are plotted in Figure 5. While we observe that the extensive involvement of the mass people—via village assembly

meetings or the agreement by all households, have overwhelmingly largest positive effect on villagers' trust and satisfaction towards all the three levels of government, the adverse effect comes from the relatively closed decision-making process, with dramatic decline below the horizontal axis.

Overall, our baseline results suggest that the democratic decision-making in land reforms plays a critical role in shaping attitudes towards local cadres. These results highlight: 1) the importance of the use of democratic rule that provides villagers a way to exercise their power in decision-making to influence leader behavior in the context where the grassroots democracy already offers access to power; and 2) the need for more effective strategies that determines the opinions of villagers about the performance of their leaders and thus enhances the political trust and satisfaction towards local cadres at different levels of government in rural areas.

## 4.2 Heterogeneity

Different individuals may have distinct reactions to political and social changes due to their education and income levels, and personal political connections, for example, which could determine their understanding about politics, and their social and economic needs. Accordingly, their responses to a political and policy change may differ, and this would lead to different levels of political satisfaction among these subpopulations. Therefore, we explore the heterogeneous impact of democratic decision-making of the *Forest Reform* with respect to these dimensions.

### *The lower-income vs. the higher-income*

Table 4 compares the responses to democratic decision-making by villagers towards local cadres for their trustworthiness, fairness, and integrity between the low and the high-income households.<sup>8</sup> We find that, compare to the baseline results, the impact is more pronounced for lower-income individuals.

Specifically, for the lower-income individuals (Panel A), letting people discuss the adoption of the reform and allocate forestland out of their collective decisions is estimated to increase their ratings for the town and county cadres by 0.6 to 0.9 scores (Cols. 4-9). On the contrary, the non-democratic decision-making is found to pull down the ratings for the town government by 1.3 to 1.6 scores (significant at the 1% level, Cols. 4-6).

The higher-income individuals' opinions were not changing much by the use of democratic rule or not (Panel B), possibly because they generally exhibited a higher level of awareness concerning land property rights and in that case have a higher level of expectation in democracy (Li, 2004; Hu, 2007; Wong et al., 2019). The adverse effect of the non-democratic decision-making on these villagers' opinions were weakly significant (at the 10% level), especially on their trust towards the town government (Col. 4) and their perception on the fairness of the county government (Col. 8).

---

<sup>8</sup> By the median value of household per-capita net income in 2005 (941 CNY), we divide the household samples into the 833 lower-income households and 833 higher-income households.

Consistent with the earlier baseline results, the changes in their ratings towards the village cadres are not statistically significant for both the lower and the higher-income individuals (Cols. 1-3, Panels A and B). It is quite plausible that, given villagers' belief in their locally-elected village cadres, they would criticize the higher-levels of the government for excluding them from discussion and making decisions on land reform issues. The positive and salient effect of letting the poorer people make decisions for policies closely tied to their interests on their trust and satisfaction should not be ignored, as this could actually make a leap-forward progress in improving the well-being of the poor and the quality of state governance.

### ***Political connections***

Households with political connections, e.g., the CCP membership, are more likely to have access to information about land (re-)allocation policies and the *Forest Reform*. Also, such connections may determine their ratings on the indicators of political satisfaction, which may be very different from those by individuals without such connections. In the cases where non-democratic decision-making were encountered, individuals without CCP membership were likely to feel that they were not fully informed or excluded, and this would consequently make the local cadres lose trust among villagers in a more vigorous way. We explore this heterogeneous impact by dividing the sample into households with and without the CCP membership, and re-run the regressions for the basic model for the two sub-samples separately. The results are reported in Table 5.

Overall, the mean values of the dependent variables suggest that, the households with the CCP membership rated higher for the trustworthiness, fairness, and integrity of all levels of the cadres. We find the non-democratic decision-making led to certainly lower ratings by the households without CCP membership on the town government's trustworthiness, fairness, and integrity. And the sabotaging effect is sizable, by 0.9 to 1.1 scores, or roughly 13% to 26% (Cols. 4-6 of Panel A). Secondly, the choice of non-democratic process did not affect the satisfaction by the households with the CCP membership towards any level of the cadres, whilst the democratic process did significantly improve their satisfaction towards the town and county government (Panel B). Especially for the county government, the size of this improvement is considerable, ranging from a 22% increase in perceived trustworthiness, a 25% increase in rating their fairness, and a 29% increase in agreeing with that the county government cared about villagers' interests (Cols. 7-9, Panel B).

It is interesting that the households with the CCP membership seems not to dissatisfy with the choice of non-democratic process. Why is that? There are several potential explanations: First, CCP members are likely to hold their communist beliefs based on the Party ideological orientations. This ideological orientation is likely to reinforce the individual trust for local cadres who they perceive as sharing similar beliefs. Moreover, the CCP membership may offer political access to information about the economic benefits associated with the *Forest Reform*, including possibility of allocation of land resources, tenure rights, and other economic gains. Such information would provide incentive for them to support and promote the reform regardless of any choice of decision-making process for the reform. Lastly, CCP members and village cadres may have a role in



influencing the implementation of policies in ways that align with their own interests.

In the Appendix Table A7, we compare the households whose members having ever worked as village cadres and the households without such experience, using the same method as for the investigation of the heterogeneity in income and political connections. We find consistent results of that non-democratic decision-making undermining villagers' satisfaction, and of that the democratic decision-making improves satisfaction, are only for the households without village cadres. For these households, we also find, once applying the democratic rule for decision-making, villagers' ratings for the trustworthiness and the integrity of the village cadres could be improved not only towards the higher, town or county government, but also for the village cadres. The positive coefficient estimates are significant at the 5% or higher level.

Altogether, the non-democratic decision-making does not break villagers' trust, whereas the democratic process could reinforce their trust and satisfaction for local cadres. These findings draw attention to the need for policymakers to consider the sociopolitical dynamics of local communities in crafting effective strategies in the decision-making and implementation for policy reforms that are closely tied to peoples' livelihoods.

### 4.3 Robustness checks

We perform an array of robustness checks to buttress the multiple threats to our baseline findings that we discussed earlier in Section 3.2. First, we control for alternative fixed effects (Appendix Table A8) and clustering of standard errors (Appendix Table A9). Specifically, the province (and county, town) by year fixed effects control for macro-economic changes and policy influences of these three regional levels in each year. We also cluster standard errors at higher levels such as town, county and province (*c.f.* the village level as of Table 3), as well as in two-way at the year and province level, respectively. We find that all these checks yield similar estimates as those of the baseline results in Panel B of Table 3. This suggests that the baseline finding on the positive (negative) effect of democratic (non-democratic) process in the land reform on villagers' political satisfaction towards the higher level—i.e., the town and the county—government is not affected by location and time differences.

Second, consistent estimation of the causal treatment effects requires the selection of decision-making process (i.e., the treatment) to be exogenous conditional on  $W_{jt}$  and  $X_{ijt}$  in our basic model. However, as earlier discussed in Section 3.2, there could be time-variant factors such as income, village population size, labor force structure, resource endowment, village chiefs' preference for democracy, etc., that are likely positively correlated with degree of democracy and political satisfaction (e.g., Hu 2010). We take the following steps to check if our baseline results are robust to these factors. *Firstly*, a simple way to shed light on the endogeneity of the treatment placement due to these factors, is to examine whether these observable, time-varying characteristics are similar between the treatment and the control group in the pre-treatment period. As a series of conditional balance tests

in the Appendix Tables A3 and A4 show, there is limited statistical significance in the differences in these factors amongst the groups with different reform and decision-making type for the pre-reform year.

*Next*, to rule out potential endogeneity of the treatment due to some time-variant factors in terms of evolution of the democracy in village environment that also correlates with villagers' political trust, we add to the basic model the frequency of all meetings of village assemblies and representatives that discuss village affairs, and the average attending population percentage. We also control for the number of years in office of the current village chief for each village. Results are reported in the Appendix Table A10, and are very similar to the baseline findings of Table 3.

Furthermore, we use the DID approach based on propensity score matching to examine the robustness of our results to other observable sources of endogeneity. Specifically, at the first stage, we regress the likelihood of reform, of different reform decision-making process, respectively, on a set of village characteristics. The first-stage results are presented in Table A12.<sup>9</sup> The propensity scores are generated as fitted values of the first-stage estimation. A matched sample consists of 154 pairs of treated and untreated villages. Then we replicate the baseline regression conditional on a specification of the propensity scores for each of the treatment variables using individuals of the 154 pairs of villages. Table 6 reports the second-stage estimation results, and they are quantitatively similar to the baseline findings.

We perform balance tests for the village differences in these time-variant factors at both the pre-treatment (the Appendix Table A13) and post-treatment periods (the Appendix Table A14). Cols. 5-7 present the between-group differences as in Tables A3 and A4. We see that the difference in each of the time-variant village characteristics is statistically insignificant in both 2005 and 2010, suggesting these factors may not drive the adoption of the reform and the selection of decision-making approaches for the reform.

Fourth, we test the possibility of reverse causality on that the democratic rule was used because villagers were already happier (or unhappier) about the local cadres. We regress the likelihood of adopting the *Forest Reform* by a logit model, and the likelihood of adopting the reform via democratic process by a multinomial logit model, separately, on the three indicators of political satisfaction for each of the village-, town- and county-government. The results are reported in the Appendix Table A11. The point estimates of the political satisfactory indicators are statistically insignificant, implying that the selection

---

<sup>9</sup> In the Appendix Table A12, the first set of columns report the result of multinomial regression on the likelihood of village opting out the reform (=0), adopting the reform via non-democratic process (=1), or via democratic process (=2). The significant and positive coefficients of the variable indicating the province already started the forest reform and the length of period since the local election for village cadres imply that the provincial-level characteristics may drive the selection of decision-making forms for the reform. Other village variables do not suggest any statistical power in explaining the choice. Each column of Cols. 2 to 4 presents result of the first-stage logit model estimation on the probability of being treated—i.e., the treatment refers to adopting the reform for Panel A of Table 6, adopting the reform via the mass or villager representatives participation for Panel B of Table 6, and adopting the reform via the mass participation for Panel C of Table 6, respectively. The covariates are selected based on the desirability of over-parameterizing the logit model for the best possible match, among the time-variant factors that we discuss earlier and may be associated with the treatment variable and the outcome. The individual parameter estimates from the model should not possess a causal interpretation, but only association (Heckman and Navarro-Lozano, 2004; Lee, 2013).

of democratic process was not determined by current satisfaction. In other words, improving villagers' political satisfaction is not the local cadres' prior intention which drove them to organize village assembly or representatives meeting to discuss the issues related to the *Forest Reform*. This finding would lift the concern on reverse causality.

Finally, we examine whether our results are sensitive to the fact that there are a few of missing values in the ratings for local cadres' performance, we interpolate the missing values and re-run the regressions. By linear interpolation we replace the missing values with the average village means. We re-run the regressions and the consistent estimates to the baseline results (in the Appendix Table A15) reassure our main findings that allowing villagers to make decisions for land reform and land reallocations had a strong improving effect on villagers' satisfaction towards local cadres.

## 5. Mechanisms

Why does democratic decision-making make such a difference in villagers' satisfaction for local cadres during the *Forest Reform* in the context of grassroots democracy, i.e., where local election for the village committee has been universal in rural China? And how do changes in decision-making translate into differential political trust and satisfaction for higher level (i.e., town and county) of cadres? In this section we explore plausible mechanisms that could explain the results of Table 3. Specifically, we name the mechanisms as the conflict-resolving effect and the privatization effect.

### 5.1 Conflict-Resolving

Grassroots democracy was introduced in an authoritarian country like China in association with village elections to increase constituents' satisfaction with local cadres and therefore the political stability of the regime (Martinez-Bravo et al., 2022). We believe democratic process can effectively address conflicts but may display differences. Especially for rural areas where land reallocation usually brings about disagreement in boundaries, usufruct rights, fairness, etc., village assembly or representatives meetings allow the villagers to discuss thoroughly and resolve these issues. Involving more villagers would also help informing them about the *Forest Reform*, property rights of the standing trees on their foreland, management rights of their forestland, which could also increase their trust and satisfaction towards the local cadres. This conjecture resonates with the existing literature on democratic governance and conflict resolution. Scholars have long recognized that democratic institutions can play a significant role in mitigating conflicts within communities, particularly at the local level (Pratt 2006, Esteban and Ray, 2008; Hegre 2014).

We test this conjecture by looking into two types of forestland disputes: the within-village disputes and the inter-village ones. In the event to decide on the adoption of the *Forest*

*Reform* where some historical disputes existed, or the reform was bringing some disagreements in the forestland that were subject to reallocation, the within-village disputes could usually be resolved given that all stakeholders could discuss and seek for resolutions that make everyone happy. However, it could also be true that this democratic process would add little to the existing, strong and self-governed informal institutions in China's rural villages that had been effective for thousands of years. For instances, the kinship/clan networks, village customs, or reputation-based interactions worked well in resolving the within-village conflicts (Fei, 1989; Ho, 2005). Often village cadres live closely and observed by villagers for long, and their choice of democratic decision-making for the reform is perceived as the legal compliance to the central government, the villagers' attitudes towards the village cadres is thus hardly be changed by some specific event. It is interesting to explore how exactly a new democracy in this context has an impact on the mass satisfaction through conflict resolution.

For inter-village disputes, the democratic process may have different effects. Experience in democracy and the mass participation are able to strengthen the cohesion within the village. This cohesion may raise the difficulty in resolving the conflicts between villages. In such cases the town or county level cadres should intervene and could resolve the disputes, which consequently improves villagers' trust and satisfaction for the town/county government. Villages that did not consider democracy usually had tough leaders with strong support of the local governments who shared bonds of interests with the village cadres. Local governments in this case are rarely trustworthy among the villagers.

Table 7 presents the results of regressions using "the unresolved forestland disputes" as the dependent variable for our basic model. Panel A focuses on the within-village disputes and Panel B on the inter-village disputes. In addition to the number of unresolved forestland disputes, we also look at the intensity of the disputes—i.e., the ratio of the number of unresolved within-village (or inter-village) disputes over the total number of households in the village.

As the insignificant estimates in all models of Panel A suggest, we do not find that the *Forest Reform* has decreased either the number or the intensity of the unresolved within-village forestland disputes. Moreover, there seems no difference in resolving these disputes between the villages using democratic process and the villages using non-democratic process. These two findings provide evidence on that a new democracy did not add much value by resolving more cases of the within-village disputes in places where informal institutions plausibly complement formal institutions and functioning well in handling land disputes (Liu et al., 2021). This limited reduction in the unresolved within-village disputes explains the insignificant effect of the democratic decision-making on villagers' trust towards the village cadres, as we found in our baseline results in Table 3.

However, as the results in Panel B shows, the democratic process significantly reduced the number (and intensity) of inter-village disputes by 30% (22%), given the point estimate of -0.740 (-0.002) *c.f.* 2.5 (0.009), the mean of dependent variable. It is also evident that the *Reform*, determined by any non-democratic process, has led to significantly higher number and intensity of inter-village disputes. This is notable implication that a change in decision-

making through democratic process did translate into higher trust and satisfaction towards the town/county level cadres because of the reduced inter-villages forestland disputes.

In summary, democracy represents a promising approach to alleviate the tensions that arise between villagers and local cadres. It is of utmost importance for higher-level authorities, particularly town/county governments to administer justice and ensure that land reform practices are equitable. Failing to do so may further erode public trust in town or county-level officials, especially in the aftermath of non-democratic land reforms. In essence, informal institutions are of an alternative form of government (Dixit, 2004), policy reforms, usually relying on formal institutions, could complement rather than crowd-out the functions of informal institutions in achieving expected outcomes.

## 5.2 Privatization

Giving villagers access to the exercises of power in making decisions for forestland reallocation, they could vocalize their preferences for forestland under household management, as well as the rule of reallocations. In the end, the *Forest Reform*, which was adopted by a village via democratic decision-making process, would devolve **more are of forestland to villagers**, compared to other means of reform decision. We name this channel as the “privatization” effect that could make villagers happier about the government. This is a direct effect of “privatization”.

Likewise, private ownership of land with secure tenure rights provides a stimulus for labor and investment in land (Besley, 1995; Bandiera, 2007; Barbier and Burgess, 2001; Yi et al., 2014; Yi, 2023), and income increase (Foster et al., 2002). To put it simply, with more land and forestry resources, villagers’ operational factor of production increases, which would in turn bring more sources of income and make them happier about the government. We check whether the outcomes of enhanced trust and satisfaction by villagers for local cadres were as a result of **expected higher income**. This is an indirect effect of “privatization” through income.

We regress each of the dependent variables of the village per-labor forest landholding (area in natural logarithm term), the household per-*Mu* income from forestry (in log), and that from non-forestry sources (in log) on the reform and its decision-making forms, in the same way as in the basic model. Table 8 presents the estimation results. As expected, the *Reform* has led to an increase in the per-labor area of forest landholding by the villager households (Col. 1)—this is meant by the *Forest Reform* from its design. It is estimated that the reform increases the average area of per-labor forest landholding by over 50%. Cols. (2) and (3) suggest that, though the reform via non-democratic adoption also increases the operational area of forestland by villagers, that via democratic process—especially those involving the mass participation—has amplified this increasing effect by a larger extent (76% *c.f.* 31%). This finding supports the direct “privatization” effect of empowering villagers with exercises of power that could make the villages devolve a larger area of forestland to household management.

Interestingly, we do not find any evidence for the indirect income effect—i.e., the empowerment in decision-making enhances trust and satisfaction due to the expectation of income increase. There does not exist a significant difference in household-level, per-*Mu* income from forestry and non-forestry sources by the decision-making process of the reform (Cols. 4-6 and 7-9).

These two findings imply that the use of democratic rule does not provide an immediate increase in income which could be expected by villagers and enhance their trust towards the government. Otherwise, the enhancement in villagers' trust and satisfaction was rather a direct effect of the empowerment in decision-making that influences leader behavior and government policies consistent with the grassroots' interest. The findings highlight the potential of democracy—and more specifically, the “exercises of power” in democracy—to enhance the overall effectiveness of land reform policies, especially with respect to the welfare and livelihoods improvement for the poor.

## 6. Conclusions

This paper investigates the extent to which the forestland reform might engender greater trust in local cadres among villagers in China. In our empirical setting, local village committees were elected based on *The Organizational Law of Village Committees*. Although the law has given the grassroots “access to power”, how they exploit the “exercises of power” to influence their leader behavior or the policies in light of their interests vary greatly in local contexts. The variations could shape villagers' trust and satisfaction for the government.

We examine how the “exercises of power” in land reform decision-making in the Chinese grassroots democracy determines villagers' trust and satisfaction towards different levels of the government. We use the most recent Collective Forest Tenure Reform in China, which rolled out since 2003. This reform allowed villages to collectively decide on whether to adopt the reform and then reallocate the village collectively owned forestland to households with acknowledgment of farmers' forest tenure rights including transferability, inheritance, and collateralization. Our analysis is based on a difference-in-difference regression approach, using a two-wave household and village survey in eight forest-rich provinces in China over 2005-2010. Specifically, we estimate how the use of the democratic rule in the decision-making for land reform affects villagers' attitudes towards local cadres of the three government levels: village, town and county.

We find the use of democratic rule (i.e., using village assemblies or representative meetings to decide the reform program) significantly improves villagers' trust and satisfaction for town and county cadres, whereas the impact on trust towards village cadres is only significant for the democracy involving all the villagers or households in a village. The estimated improvement ranges from 8% to 13% increase in the rating score by villagers for the town and county cadres. This effect is robust to a number of tests on the assumption of

exogenous choice of decision-making process to villagers' trust, and alternative controls of fixed effects and multiple autocorrelations in the standard errors. The quantitatively similar estimates suggest they are not affected by the pre-existing differences in location, time, and socio-economics across villages, in support of the causal interpretation of our findings.

The positive effect of democratic process in the land reform on villagers' trust and satisfaction is heterogeneous. The effect is more pronounced for villagers with lower income, and without affiliation with the Chinese Communist Party (CCP) or with the village committee. This positive and salient effect on political trust and satisfaction of letting the poorer, and/or politically disadvantaged people make decisions for policies that are closely tied to their interests should not be ignored. Such empowering instrument could substantially improve the well-being of the vulnerable population and their cooperation with the local government.

We also explore two plausible mechanisms that could explain the difference in villagers' trust for local cadres during the land reform in question. *Firstly*, we find the democratic process helped decrease the unresolved inter-village forestland disputes which usually requires town or county level cadres' interventions, and this explains the higher trust and satisfaction towards the town/county level cadres. There is no significant impact of the democratic process on reducing the within-village disputes, supporting the insignificant effect of the democratic decision-making on trust and satisfaction towards the village cadres. In China for thousands of years, villages had been self-governed, with strong intra-village institutions to resolve disputes, such as the kinship networks, or just reputation-based interactions (Fei 1989), or village customs (Ho 2005). Thus, in such a context of strong informal institutions for conflict resolution, a new democracy likely won't matter much. Indeed, new democracies tend to perform not as well as mature institutions (Persson and Tabellini, 2009). In some sense, democracy and informal village institutions are substitutes in conflict resolutions in villages (Liu et al., 2021). *Secondly*, we find strong support for the idea that giving villagers access to the decision-making process provides them a way to vocalize their preference for forestland under household management and the rule of reallocation, which results a higher level of per-labor forest landholdings by the villagers, compared to the villager households without such decision-making power.

Note that our survey questions did not resemble government-style questions, but rather focused on villagers' opinions and livelihoods. The survey only considered the local cadres that are close to their daily life, yet their attitudes towards the provincial or central government were not asked since they may have little contact or knowledge. The sample representativeness of the poor population implies that our estimates provide as lower bounds of the land reform's effect on political trust and satisfaction. Our findings are based on data collected from a specific sample of villages in two periods in China. Caution is needed in exercises to generalize the results to other contexts and with a longer time frame. While our estimates are specific to the particular context, we believe it is of particular interest as it showcases an important land reform initiative and large variations of local cadres' choice of the approaches to make decisions. Other countries that facing similar issues may consider selecting similar approaches, especially when targeting the disadvantaged population.

Future research is warranted to better understand the dynamics of the exercises of power and beliefs that have been formed in the past. The Chinese political system is established upon the support and trust from its people. Our findings on that giving the mass people opportunities for decision-making of major issues increases their trust for the government and reduces disagreement or conflict between local governments and the people, imply that attention should be paid to the development of grassroots democracy and village autonomy. However, the *2019 No. 1 Central Document* (on January 3<sup>rd</sup>, 2019) and the *2019 Regulations of the Communist Party of China on Rural Work* (on August 19<sup>th</sup>, 2019) announced the fully implementation of the policy that the village party branch secretary takes the role of village chief. It is striking as both the grassroots democracy and village autonomy are going backwards and this could bring about risks of losing the political trust established during the *Forest Reform* and in the past. This is a top-of-priority issue for policy makers to treat with caution.

## Acknowledgements

Generous financial support from the following organizations is acknowledged for the completion of the two-wave household and village surveys in the eight Chinese provinces: the Ford Foundation, the World Bank Group, Environmental for Development Initiative at the University of Gothenburg, and the National Science Foundation of China (NSFC, project no. 70821140353 and 70773001).

## References

- Abramson, P. R., & Finifter, A. W. (1981). On the Meaning of Political Trust: New Evidence from Items Introduced in 1978. *American Journal of Political Science*, 25(2), 297–307. <https://doi.org/10.2307/2110854>
- Bandiera, O. (2007). Land Tenure, Investment Incentives, and the Choice of Techniques: Evidence from Nicaragua. *The World Bank Economic Review*, 21(3), 487–508.
- Barbier, E. B., & Burgess, J. C. (2001). Tropical Deforestation, Tenure Insecurity, and Unsustainability. *Forest Science*, 47(4), 497–509.
- Besley, T. (1995). Property Rights and Investment Incentives: Theory and Evidence from Ghana. *Journal of Political Economy*, 103(5), 903–937.
- Besley, T., & Burgess, R. (2002). The Political Economy of Government Responsiveness: Theory and Evidence from India. *The Quarterly Journal of Economics*, 117(4), 1415–1451.
- Besley, T., & Coate, S. (2003). Elected Versus Appointed Regulators: Theory and Evidence. *Journal of the European Economic Association*, 1(5), 1176–1206.



- Bishop, S., & Hoeffler, A. (2016). Free and fair elections: A new database. *Journal of Peace Research*, 53(4), 608–616.
- Brandt, L., Huang, J., Li, G., & Rozelle, S. (2002). Land Rights in Rural China: Facts, Fictions and Issues. *The China Journal*, 47, 67–97.
- Brandt, L., Rozelle, S., & Turner, M. A. (2004). Local Government Behavior and Property Right Formation in Rural China. *Journal of Institutional and Theoretical Economics (JITE) / Zeitschrift Für Die Gesamte Staatswissenschaft*, 160(4), 627–662.
- Chattopadhyay, R., & Duflo, E. (2004). Women as Policy Makers: Evidence from a Randomized Policy Experiment in India. *Econometrica*, 72(5), 1409–1443.
- Chen, D. (2017). Local Distrust and Regime Support: Sources and Effects of Political Trust in China. *Political Research Quarterly*, 70(2), 314–326.
- Citrin, J., & Stoker, L. (2018). Political Trust in a Cynical Age. *Annual Review of Political Science*, 21(1), 49–70.
- Dahl, R. A. (2008). *Polyarchy: Participation and Opposition*. Yale University Press.
- Dixit, A. K. (2004). *Lawlessness and Economics: Alternative Modes of Governance*. Princeton University Press.
- Dong, L., & Kübler, D. (2018). Sources of Local Political Trust in Rural China. *Journal of Contemporary China*, 27(110), 193–207.
- Dreyer, J. T. (2018). *China's Political System: Modernization and Tradition*. Routledge.
- Easton, D. (1967). *A Systems Analysis of Political Life*. Wiley.
- Elklit, J., & Svensson, P. (1997). The Rise of Election Monitoring: What Makes Elections Free and Fair? *Journal of Democracy*, 8(3), 32–46.
- Esteban, J., & Ray, D. (2008). On the Saliency of Ethnic Conflict. *American Economic Review*, 98(5), 2185–2202.
- Fei, X. (1989). *Rural Development in China: Prospect and Retrospect*. University of Chicago Press.
- Foster A.D., M. R. Rosenzweig, and J.R. Behrman (2002). Population growth, income growth and deforestation: Management of village common land in India. University of Pennsylvania.
- Guo, X. (2001). Land Expropriation and Rural Conflicts in China. *The China Quarterly*, 166, 422–439.
- He, B. (2007). *Rural Democracy in China: The Role of Village Elections*. Springer.
- Heckman, J., & Navarro-Lozano, S. (2004). Using Matching, Instrumental Variables, and Control Functions to Estimate Economic Choice Models. *The Review of Economics and Statistics*, 86(1), 30–57.

- Hegre, H. (2014). Democracy and armed conflict. *Journal of Peace Research*, 51(2), 159–172.
- Heilmann, S. (2008). Policy Experimentation in China's Economic Rise. *Studies in Comparative International Development*, 43(1), 1–26.
- Hetherington, M. (2004). *Why Trust Matters: Declining Political Trust and the Demise of American Liberalism*. Princeton: Princeton University Press.
- Ho, P. (2005). *Institutions in Transition: Land Ownership, Property Rights and Social Conflict in China*. Oxford University Press.
- Hu, D. (2010). Villagers' political trust and its Influence on village-level election participation: An empirical study based on a survey of P Village in Huizhou City, Guangdong Province in China. *Jinan Journal (Philosophy & Social Science Edition)* (in Chinese) (3): 156–162.
- Kennedy, J. J., Rozelle, S., & Shi, Y. (2004). Elected leaders and collective land: Farmers' evaluation of village leaders' performance in rural China. *Journal of Chinese Political Science*, 9(1), 1–22.
- Kung, J. K., & Liu, S. (1997). Farmers' Preferences Regarding Ownership and Land Tenure in Post-Mao China: Unexpected Evidence from Eight Counties. *The China Journal*, 38, 33–63.
- Kim, B.S. and Kim, J.H., 2007. Increasing trust in government through more participatory and transparent government. In *Proceedings of the Capacity-development Workshop on Restoring Trust in Government through Public Sector Innovations*. New York: United Nations Public Administration Network.
- Kim, B., & Kim, J. H. (2010). Increasing trust in government through more participatory and transparent government.
- Lee, W.-S. (2013). Propensity score matching and variations on the balancing test. *Empirical Economics*, 44(1), 47–80.
- Levi, M., & Stoker, L. (2000). Political Trust and Trustworthiness. *Annual Review of Political Science*, 3(1), 475–507.
- Li, L. (2002). Elections and Popular Resistance in Rural China (Revised Version). *China Information*, 16(1), 89–107.
- Li, L. (2004). Political Trust in Rural China. *Modern China*, 30(2), 228–258.
- Li, L. (2012). Hierarchical trust in Government (“差序政府信任”). *Twenty-First Century* (in Chinese) (131): 108–114.
- Li, L., & O'Brien, K. J. (1996). Villagers and Popular Resistance in Contemporary China. *Modern China*, 22(1), 28–61.
- Li, L. (2022). Decoding Political Trust in China: A Machine Learning Analysis. *The*

- China Quarterly*, 249, 1-20.
- Lieberthal, K. (1995). *Governing China: From Revolution Through Reform*. W. W. Norton.
- Liu, H. (2007). The effect mechanism of government performance on the Level difference of legitimacy: A comparison between central Government and local government. *Journal of Beijing University of Aeronautics and Astronautics Social Sciences Edition (in Chinese)* (1): 34–37.
- Lizzeri, A., & Persico, N. (2001). The Provision of Public Goods under Alternative Electoral Incentives. *American Economic Review*, 91(1), 225–239.
- Long, S. & Tong Z. (2011). The Standardization of Villager Committee Election Procedures.
- Luo, R., Zhang, L., Huang, J., & Rozelle, S. (2010). Village Elections, Public Goods Investments and Pork Barrel Politics, Chinese-style. *The Journal of Development Studies*, 46(4), 662–684.
- Luo, R., Zhang, L., Huang, J., & Rozelle, S. (2007). Elections, fiscal reform and public goods provision in rural China. *Journal of Comparative Economics*, 35(3), 583–611.
- Ma, D. (2007). Political trust and its origins: A comparative study of eight Asian countries and regions. *Journal of Comparative Economic & Social Systems (in Chinese)* (5): 79–86.
- Martinez-Bravo, M., Padró i Miquel, G., Qian, N., & Yao, Y. (2022). The Rise and Fall of Local Elections in China. *American Economic Review*, 112(9), 2921–2958.
- Meng, T., & Yang, M. (2012). Objective Governance Performance and Political Trust of County Governments in China during the Transition Period -- From "Economic Growth Legitimacy" to "Public Product Legitimacy". *Journal of Comparative Economic & Social Systems (in Chinese)* (4): 122–135.
- Miller, A. H. (1974). Political Issues and Trust in Government: 1964-1970. *American Political Science Review*, 68(3), 951–972.
- Mitchell, T.R., & Scott, W.G. (1987). Leadership Failures, the Distrusting Public, and Prospects of the Administrative State. *Public Administration Review*, 47, 445.
- National Bureau of Statistics. (2016). *The 2016 Poverty Monitoring Report of Rural China*. Beijing: China Statistical Press.
- Ning, G., & Luo, L. (2012). Public policy credibility: An important dimension of building government trust. *CASS Journal of Political Science (in Chinese)* (6): 108–114.
- Oi, J. C., & Rozelle, S. (2000). Elections and Power: The Locus of Decision-Making in

- Chinese Villages. *The China Quarterly*, 162, 513–539.
- O'Brien, K. J. (1994). Implementing Political Reform in China's Villages. *The Australian Journal of Chinese Affairs*, 32, 33–59.
- O'Brien, K. J., & Han, R. (2009). Path to Democracy? Assessing village elections in China. *Journal of Contemporary China*, 18(60), 359–378.
- O'Brien, K., & Li, L. (2000). Accommodating "Democracy" in a One-Party State: Introducing Village Elections in China. *The China Quarterly*, 162, 465-489.
- Qiu, T., Zhang, D., Choy, S.B. & Luo, B. (2021). The interaction between informal and formal institutions: A case study of private land property rights in rural China. *Economic Analysis and Policy*, 72, 578-591.
- Pratt, N. C. (2006). *Democracy and Authoritarianism in the Arab World*. Lynne Rienner Publishers.
- Persson, T., & Tabellini, G. (2009). Democratic Capital: The Nexus of Political and Economic Change. *American Economic Journal: Macroeconomics*, 1(2), 88–126.
- Ren, Y., Kuuluvainen, J., Yang, L., Yao, S., Xue, C., & Toppinen, A. (2018). Property Rights, Village Political System, and Forestry Investment: Evidence from China's Collective Forest Tenure Reform. *Forests*, 9(9), 541.
- Shen, Y., & Yao, Y. (2008). Does grassroots democracy reduce income inequality in China? *Journal of Public Economics*, 92(10), 2182–2198.
- Sha, W., 2023. The political impacts of land expropriation in China. *Journal of Development Economics*, 160, p.102985.
- Sha, W. (2023). The political impacts of land expropriation in China. *Journal of Development Economics*, 160, 102985.
- Shi, T. (1999). Village Committee Elections in China: Institutional Tactics for Democracy. *World Politics*, 51(3), 385–412.
- Shi, T. (2001). Cultural Values and Political Trust: A Comparison of the People's Republic of China and Taiwan. *Comparative Politics*, 33(4), 401–419.
- Tan, Q. (2004). Building Institutional Rules and Procedures: Village Election in China. *Policy Sciences*, 37(1), 1–22.
- Tsai, Lily Lee. (2002). "Cadres, Temple and Lineage Institutions, and Governance in Rural China." *The China Journal*, no. 48.
- Tsai, L. L. (2002). Cadres, Temple and Lineage Institutions, and Governance in Rural China. *The China Journal*, 48, 1–27.
- Unger, J. (2002). *The Transformation of Rural China*. M.E. Sharpe.
- Wang S, Yao Y. Grassroots democracy and local governance: Evidence from rural China. *World Development*. 2007 Oct 1;35(10),1635-49.

- Shen, Y., & Yao, Y. (2008). Does grassroots democracy reduce income inequality in China? *Journal of Public Economics*, 92(10), 2182–2198.
- Wong, S., Tang, B., & Liu, J. (2020). Village Elections, Grassroots Governance and the Restructuring of State Power: An Empirical Study in Southern Peri-urban China. *The China Quarterly*, 241, 22-42.
- Xiao, T., & Wang, X. (2010). The change of Chinese farmers' political Trust--A tracking study of 60 villages in five provinces (1999~2008). *Management World* (in Chinese), 26(9): 88-94.
- Xiao, T., & Wang, X. (2011). How to win or lose "Popular Sentiment" -- An analysis of factors affecting farmers' political trust: A survey of 60 villages in five provinces (cities) (1999-2008). *China Rural Survey* (in Chinese) (6): 75–82.
- Xie, L., Berck, P., & Xu, J. (2016). The effect on forestation of the collective forest tenure reform in China. *China Economic Review*, 38, 116–129.
- Xie, Z. (2011). On the level difference of Chinese farmers' political trust—Based on the empirical study of a Village. *Journal of Zhejiang Party School of C. P. C.* (in Chinese) (3), 77–82.
- Yao, Y. (2003). The Rational versus the Political Model in Collective Decision: The Case of Land Tenure Choice in Chinese Villages. *China Economic Quarterly* (in Chinese), 2, 679-700.
- Yang, H., & Zhao, D. (2015). Performance Legitimacy, State Autonomy and China's Economic Miracle. *Journal of Contemporary China*, 24(91), 64–82.
- Yang, L., & Ren, Y. (2021). Property rights, village democracy, and household forestry income: Evidence from China's collective forest tenure reform. *Journal of Forest Research*, 26(1), 7–16.
- Yang, X., Xu, J., Xu, X., Yi, Y., & Hyde, W. F. (2020). Collective forest tenure reform and household energy consumption: A case study in Yunnan Province, China. *China Economic Review*, 60, 101134.
- Yi, Y., Köhlin, G., & Xu, J. (2014). Property rights, tenure security and forest investment incentives: Evidence from China's Collective Forest Tenure Reform. *Environment and Development Economics*, 19(1), 48-73.
- Yi, Y. (2023). Devolution of tenure rights in forestland in China: Impact on investment and forest growth. *Forest Policy and Economics*, 154, 103025.
- Yi, Y., Carlsson, F., Köhlin, G., & Xu, J. (2023). Allocative efficiency or misallocation of resources? The emergence of forestland rental markets and the forest devolution reform in China. *European Review of Agricultural Economics*, 50(2), 395–420.
- Yu, W. (2013). Government transparency and political trust: An analysis based on the

- 2011 Urban Service-oriented Government Survey in China. *Chinese Public Administration* (in Chinese) (2), 110–115.
- Zhai, Y. (2018). Traditional Values and Political Trust in China. *Journal of Asian and African Studies*, 53(3), 350–365.
- Zhang, H., L. Zhou, J. Xu, & J. Zhao (2016). Forest rights reform, grassroots democracy and investment incentives, *China Economic Quarterly* (in Chinese), 15 (3), 845-868.
- Zhang, X., Fan, S., Zhang, L., & Huang, J. (2004). Local governance and public goods provision in rural China. *Journal of Public Economics*, 88(12), 2857–2871.
- Zhong, Y. (2014). Do Chinese People Trust Their Local Government, and Why? *Problems of Post-Communism*, 61(3), 31–44.

# Figures

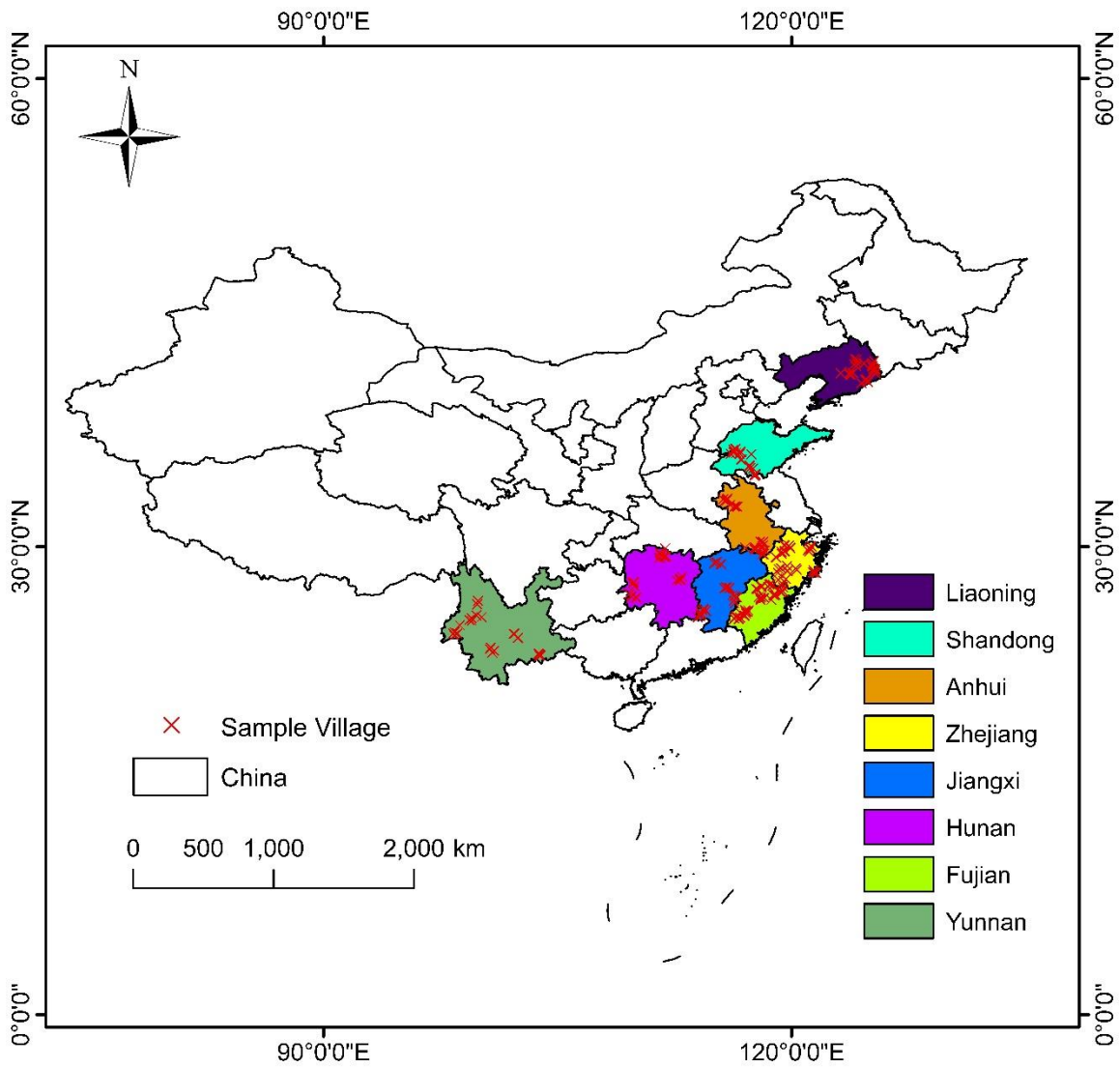


Figure 1: Distribution of surveyed villages and provinces in China

## Village samples

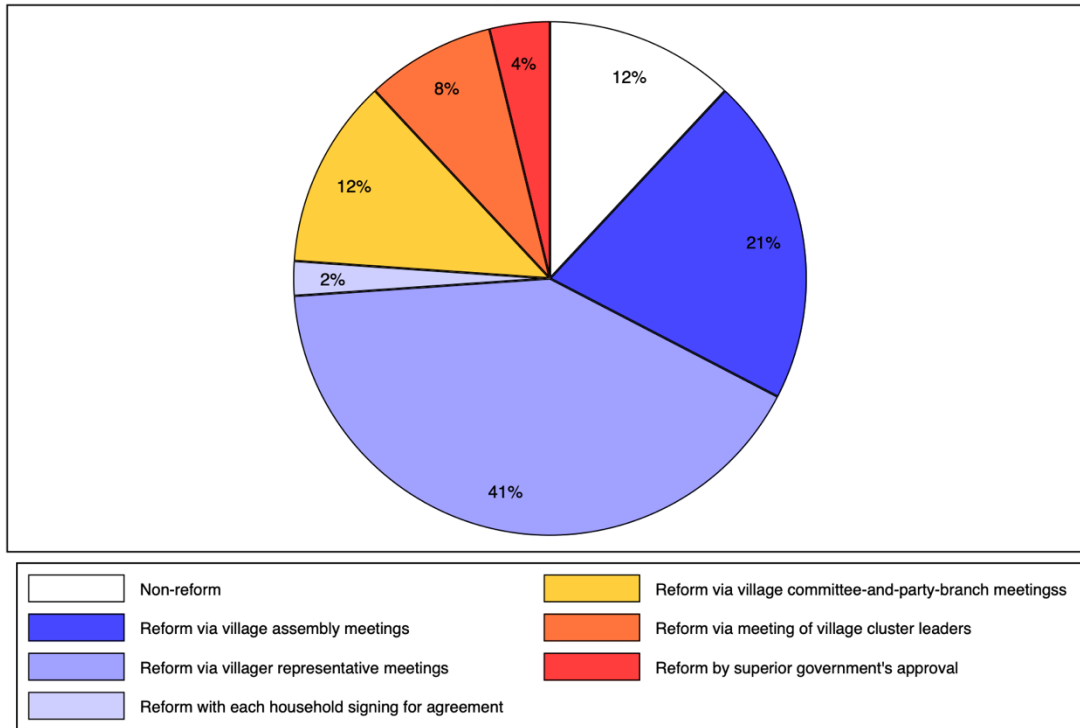


Figure 2: Reform decision-making process: all village samples



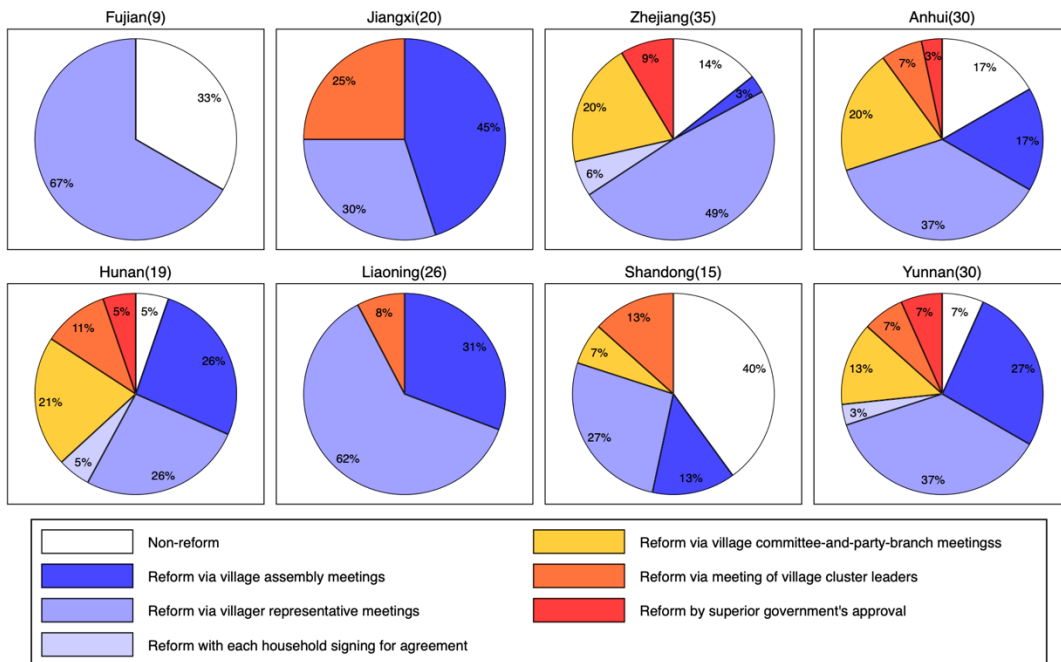


Figure 3: Reform decision-making process: by province

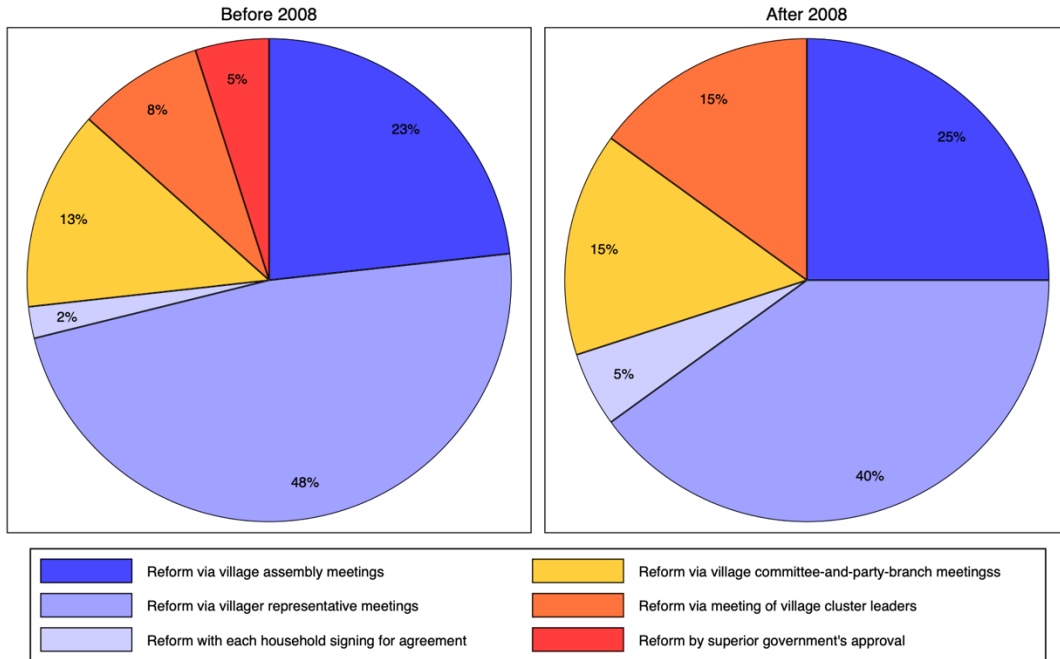


Figure 4: Reform decision-making process: before and after 2008

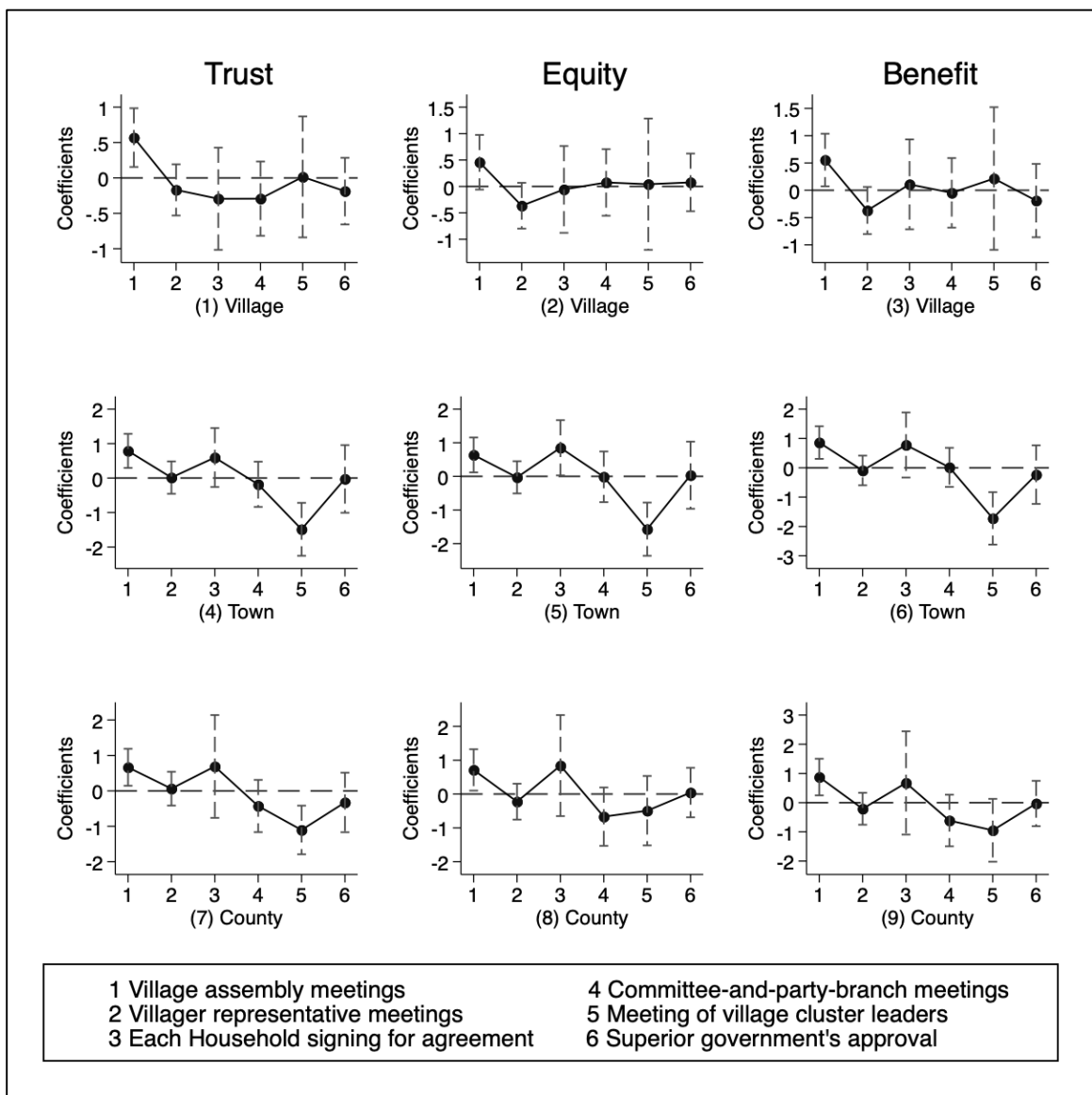


Figure 5: The effect of each reform decision-making approach on villagers' evaluation for local cadres w.r.t. *Trust*, *Equity*, and *Benefit*

## Tables:

Table 1 Summary of political trust and satisfaction for different levels of cadres

Variables	Statements/Questions (answer scale: agree min=0, max=10)	Obs.	Mean	Std. Dev.
<i>vtrust</i>	Village cadres are trustworthy	3224	7.451	2.306
<i>vequity</i>	Village cadres work fairly	3125	7.491	2.448
<i>vbenefit</i>	Village cadres act in the interests (benefits) of villagers	3099	7.437	2.520
<i>ttrust</i>	Town-level cadres are trustworthy	2738	7.054	2.315
<i>tequity</i>	Town-level cadres work fairly	2634	7.075	2.395
<i>tbenefit</i>	Town-level cadres act in the interests (benefits) of villagers	2605	7.078	2.416
<i>ctrust</i>	County cadres are trustworthy	2448	6.749	2.256
<i>cequity</i>	County cadres work fairly	2346	6.750	2.301
<i>cbenefit</i>	Town-level cadres act in the interests (benefits) of villagers	2321	6.754	2.335

Table 2 Summary statistics for household-level and village-level characteristics

Variables	Total		2005		2010	
	Mean	Std. Dev.	Mean	Std. Dev.	Mean	Std. Dev.
<b><i>Household level</i></b>						
Household income per capita (CNY)	3381.73	5733.53	1488.19	2924.26	5275.28	7073.87
Number of CCP members	0.30	0.56	0.29	0.55	0.31	0.57
Number of village cadres	0.11	0.37	0.10	0.31	0.12	0.43
Highest level of education (No. of years)	8.89	3.21	9.03	3.00	8.75	3.4
Share of male-headed households	0.95	0.22	0.95	0.22	0.94	0.23
Number of households	3414		1707		1707	
<b><i>Village level</i></b>						
Total population	1597.05	1599.74	1604.26	1931.91	1589.83	1183.19
Total number of households	408.87	288.31	385.26	256.04	432.48	316.26
Total number of village clusters	9.98	6.82	9.89	6.94	10.07	6.72
Total land area (Mu)	19451.89	33009.39	17506.94	24390.65	21396.84	39782.95
Share of forestland	0.59	0.31	0.57	0.30	0.62	0.31
Forestland share under household management	0.64	0.37	0.62	0.39	0.67	0.35
Number of migrant workers	277.02	337.97	277.03	338.43	277.01	338.43
Net income per capita (CNY)	3908.88	2690.59	2905.0	1804.45	4912.76	3038.99
Number of unresolved within-village disputes	4.30	4.33	4.18	3.98	4.41	4.66
Number of unresolved inter-village disputes	2.5	2.03	2.5	1.99	2.5	2.07
Number of villages	368		184		184	

Note: 1 Mu = 1/15 hectare.

Table 3 Impact of the democratic ness of the *Forest Reform* on villagers' trust and satisfaction

Level of government	Village			Town			County		
Dependent variable	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
	Trust	Equity	Benefit	Trust	Equity	Benefit	Trust	Equity	Benefit
<b>Panel A: Reform effect</b>									
Reform	-0.240 (0.271)	-0.289 (0.341)	-0.273 (0.341)	-0.641** (0.276)	-0.855** (0.398)	-0.510 (0.386)	-0.222 (0.397)	-0.736* (0.435)	-0.248 (0.407)
Adj. $R^2$	0.1911	0.1805	0.1996	0.1536	0.1970	0.1991	0.2376	0.2364	0.2456
<b>Panel B: Democratic effect (Standard 1: the mass or representatives participation)</b>									
Reform	-0.394 (0.312)	-0.231 (0.402)	-0.281 (0.405)	-1.194*** (0.344)	-1.317*** (0.459)	-1.051** (0.436)	-0.800* (0.420)	-1.133** (0.465)	-0.773* (0.443)
Reform * Democracy	0.225 (0.206)	-0.084 (0.262)	0.012 (0.268)	0.786*** (0.276)	0.637** (0.301)	0.742** (0.301)	0.831*** (0.262)	0.549* (0.308)	0.718** (0.319)
Adj. $R^2$	0.1914	0.1800	0.1990	0.1627	0.2022	0.2063	0.2474	0.2397	0.2517
<b>Panel C: Democratic effect (Standard 2: the mass participation)</b>									
Reform	-0.356 (0.274)	-0.386 (0.345)	-0.397 (0.345)	-0.843*** (0.283)	-1.029** (0.401)	-0.732* (0.384)	-0.414 (0.401)	-0.942** (0.438)	-0.493 (0.409)
Reform * Democracy	0.473** (0.204)	0.406 (0.247)	0.517** (0.233)	0.802*** (0.239)	0.692*** (0.249)	0.890*** (0.268)	0.701*** (0.256)	0.764** (0.297)	0.897*** (0.308)
Adj. $R^2$	0.1939	0.1822	0.2024	0.1627	0.2031	0.2094	0.2448	0.2449	0.2570
Individual fixed effect	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Year fixed effect	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Obs.	3034	2836	2784	2116	1906	1848	1612	1408	1358
Dependent var. mean	7.451	7.490	7.437	7.054	7.075	7.078	6.749	6.750	6.754

Note: Standard errors in parentheses, clustered at the village level. \*\*\*, \*\*, \* indicate significance at 1%, 5% and 10%. Constant is not reported in each model. All specifications control for household-level and village-level time-varying factors, including household income per capita, family number, number of CCP members and village cadres, highest education level of the household, village population, number of groups, number of households, number of migrant workers and average income per capita.

Table 4 Heterogeneity: Lower-income vs. higher-income

Level of government	Village			Town			County		
Dependent variable	Trust	Equity	Benefit	Trust	Equity	Benefit	Trust	Equity	Benefit
<b>Panel A: Lower-income household</b>									
Reform	-0.519	-0.301	-0.235	-1.507***	-1.558***	-1.268***	-0.533	-0.858	-0.443
	(0.390)	(0.432)	(0.414)	(0.427)	(0.463)	(0.459)	(0.538)	(0.581)	(0.632)
Reform * Democracy	0.298	-0.064	0.192	0.847**	0.620*	0.868**	0.863**	0.686*	0.896**
	(0.246)	(0.308)	(0.318)	(0.339)	(0.361)	(0.357)	(0.355)	(0.357)	(0.353)
Individual fixed effect	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Year fixed effect	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Obs.	1530	1446	1428	1028	938	918	730	642	626
Adj. $R^2$	0.1975	0.1967	0.1916	0.1830	0.2185	0.2474	0.2950	0.2838	0.2791
Dependent var. mean	7.388	7.417	7.346	7.035	7.050	7.078	6.762	6.762	6.789
<b>Panel B: Higher-income household</b>									
Reform	-0.276	-0.101	-0.292	-0.880*	-1.104	-0.812	-0.973	-1.320*	-1.051
	(0.444)	(0.572)	(0.581)	(0.454)	(0.731)	(0.661)	(0.603)	(0.698)	(0.648)
Reform * Democracy	0.215	-0.034	-0.161	0.634*	0.653	0.572	0.860*	0.479	0.586
	(0.307)	(0.353)	(0.359)	(0.381)	(0.448)	(0.467)	(0.443)	(0.531)	(0.555)
Individual fixed effect	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Year fixed effect	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Obs.	1504	1390	1356	1088	968	930	882	766	732
Adj. $R^2$	0.1870	0.1678	0.2137	0.1427	0.1888	0.1624	0.2036	0.1928	0.2148
Dependent var. mean	7.515	7.565	7.530	7.072	7.100	7.078	6.738	6.738	6.721

Note: Standard errors in parentheses, clustered at the village level. \*\*\*, \*\*, \* indicate significance at 1%, 5% and 10%. Constant is not reported in each model. All specifications control for household-level and village-level time-varying factors, including household income per capita, family number, number of CCP members and village cadres, highest education level of the household, village population, number of groups, number of households, number of migrant workers and average income per capita.

Table 5 Heterogeneity: CCP membership

Level of government	Village			Town			County		
Dependent variable	Trust	Equity	Benefit	Trust	Equity	Benefit	Trust	Equity	Benefit
<b>Panel A: Household without CCP membership</b>									
Reform	-0.424 (0.325)	-0.418 (0.373)	-0.428 (0.353)	-0.897*** (0.338)	-1.089** (0.471)	-0.860** (0.423)	-0.481 (0.369)	-0.832* (0.463)	-0.296 (0.452)
Reform * Democracy	0.441** (0.223)	0.356 (0.260)	0.456* (0.245)	0.741*** (0.258)	0.637** (0.273)	0.891*** (0.283)	0.472* (0.285)	0.461 (0.314)	0.562* (0.328)
Individual fixed effect	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Year fixed effect	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Obs.	2482	2308	2270	1676	1488	1446	1278	1098	1062
Adj. R2	0.2006	0.1910	0.2050	0.1732	0.2250	0.2347	0.2669	0.2658	0.2843
Dependent var. mean	7.361	7.402	7.332	6.912	6.927	6.927	6.657	6.642	6.635
<b>Panel B: Household with CCP membership</b>									
Reform	0.189 (0.532)	-0.157 (0.620)	-0.121 (0.634)	-0.447 (0.763)	-0.960 (0.975)	-0.303 (0.974)	0.422 (1.131)	-1.199 (1.109)	-0.952 (1.077)
Reform * Democracy	0.670 (0.492)	0.546 (0.545)	0.819 (0.546)	1.026** (0.465)	0.934** (0.452)	0.988* (0.517)	1.563*** (0.520)	1.812*** (0.580)	2.081*** (0.603)
Individual fixed effect	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Year fixed effect	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Obs.	552	528	514	440	418	402	334	310	296
Adj. R2	0.0990	0.1034	0.1443	0.0158	0.0352	0.0408	0.1356	0.1356	0.1182
Dependent var. mean	7.857	7.882	7.903	7.646	7.681	7.701	7.145	7.201	7.256

Note: Standard errors in parentheses, clustered at the village level. \*\*\*, \*\*, \* indicate significance at 1%, 5% and 10%. Constant is not reported in each model. All specifications control for household-level and village-level time-varying factors, including household income per capita, family number, number of CCP members and village cadres, highest education level of the household, village population, number of groups, number of households, number of migrant workers and average income per capita.



Table 6: Robustness: Estimates of DID based on PSM matching

Level of government	Village			Town			County		
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Dependent variable	Trust	Equity	Benefit	Trust	Equity	Benefit	Trust	Equity	Benefit
<b>Panel A: Reform effect</b>									
reform	-0.005 (0.334)	-0.035 (0.435)	-0.018 (0.446)	-0.624* (0.347)	-0.685 (0.469)	-0.351 (0.473)	-0.135 (0.504)	-0.748 (0.593)	-0.071 (0.562)
adj. R2	0.2514	0.1737	0.1556	0.2482	0.2197	0.2410	0.2501	0.2416	0.2599
<b>Panel B: Democratic effect (Standard 1: the mass or representatives participation)</b>									
reform	-0.363 (0.401)	-0.393 (0.587)	-0.367 (0.624)	-1.403*** (0.476)	-1.608** (0.717)	-1.382** (0.663)	-0.630 (0.562)	-1.321* (0.670)	-0.785 (0.660)
reform * democracy	0.545* (0.313)	0.514 (0.472)	0.498 (0.525)	1.221*** (0.432)	1.325** (0.624)	1.469** (0.596)	0.862** (0.402)	0.881* (0.492)	1.082** (0.496)
adj. R2	0.2545	0.1756	0.1570	0.2696	0.2426	0.2678	0.2595	0.2511	0.2744
<b>Panel C: Democratic effect (Standard 2: the mass participation)</b>									
reform	-0.135 (0.350)	-0.190 (0.453)	-0.213 (0.470)	-0.833** (0.372)	-0.938* (0.515)	-0.679 (0.498)	-0.226 (0.511)	-0.871 (0.610)	-0.227 (0.583)
reform * democracy	0.530* (0.315)	0.618 (0.390)	0.780* (0.429)	0.808* (0.436)	0.876** (0.404)	1.147** (0.484)	0.466 (0.527)	0.546 (0.469)	0.706 (0.505)
adj. R2	0.2537	0.1769	0.1613	0.2550	0.2279	0.2560	0.2502	0.2426	0.2634
Individual fixed effect	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Year fixed effect	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Obs.	1110	1004	998	726	616	608	584	472	470
Dependent var. mean	7.378	7.427	7.357	6.871	6.900	6.869	6.533	6.542	6.555

Note: Standard errors in parentheses, clustered at the household level. \*\*\*, \*\*, \* indicate significance at 1%, 5% and 10%. Constant is not reported in each model. The first-stage matching uses all the covariates in the Appendix Table A12. 80 pairs of villages (out of the total 184 villages) were matched. The second-stage regression use all household samples in the matched 80 pairs of villages and control for the household-level and the village-level time-varying variables, including household income per capita, family number, number of CCP members and village cadres, highest education level of the household, village population, number of groups, number of households, number of migrant workers and average income per capita.

Table 7: The *Forest Reform* vs. the within-village and the inter-village forestland disputes

	(1)	(2)	(3)	(4)	(5)	(6)
<b>Panel A: within-village disputes</b>						
Dependent variable	Number of within-village disputes			Within-village dispute intensity		
Reform	-0.385 (0.863)	0.592 (1.094)	-0.342 (0.889)	-0.007 (0.006)	-0.003 (0.007)	-0.007 (0.006)
Reform * Democracy (standard1)		-1.344 (0.975)			-0.007 (0.004)	
Reform * Democracy (standard2)			-0.170 (1.015)			-0.003 (0.003)
Adj. $R^2$	0.3165	0.3211	0.3127	0.5211	0.5262	0.5199
Dependent var. mean		4.296			0.016	
<b>Panel B: inter-village disputes</b>						
Dependent variable	Number of inter-village disputes			Inter-village dispute intensity		
Reform	0.142 (0.215)	0.679** (0.298)	0.287 (0.216)	0.001 (0.001)	0.003** (0.001)	0.002** (0.001)
Reform * Democracy (standard1)		-0.740** (0.341)			-0.002** (0.001)	
Reform * Democracy (standard2)			-0.570 (0.457)			-0.002 (0.002)
Adj. $R^2$	0.5927	0.6021	0.5970	0.7907	0.7950	0.7937
Dependent var. mean		2.5			0.009	
Village-level controls	Yes	Yes	Yes	Yes	Yes	Yes
Village fixed effect	Yes	Yes	Yes	Yes	Yes	Yes
Year fixed effect	Yes	Yes	Yes	Yes	Yes	Yes
Obs.	368	368	368	368	368	368

Note: Standard errors in parentheses, clustered at the household level. \*\*\*, \*\*, \* indicate significance at 1%, 5% and 10%. Constant is not reported in each model. All specifications control for village-level characteristics, including total population, number of groups, number of migrant workers, and average income per capita. Within-village dispute intensity= number of within-village disputes / village total households. Inter-village dispute intensity = Number of inter-village disputes / village total households.

Table 8 The *Forest Reform* and per-labor forest landholdings, incomes

Dependent variable	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
	(Log) Per-labor forest landholding			(Log) Household forestry income per Mu			(Log) Household non-forestry income per capita		
Reform	0.506*** (0.155)	0.497** (0.243)	0.313** (0.152)	0.310 (0.287)	0.546 (0.377)	0.216 (0.292)	-0.994 (1.017)	-0.739 (1.071)	-1.047 (1.022)
Reform * Democracy (standard1)		0.012 (0.250)			-0.338 (0.303)			-0.364 (0.463)	
Reform * Democracy (standard2)			0.756** (0.296)			0.363 (0.274)			0.206 (0.467)
Village-level controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Village fixed effect	Yes	Yes	Yes	No	No	No	No	No	No
Individual fixed effect	No	No	No	Yes	Yes	Yes	Yes	Yes	Yes
Year fixed effect	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Obs.	368	368	368	3414	3414	3414	3414	3414	3414
adj. $R^2$	0.8307	0.8297	0.8402	0.2057	0.2074	0.2076	0.3410	0.3416	0.3409
Dependent var. mean in levels		15.880			122.922			2550.717	

Note: Standard errors in parentheses, clustered at the household level. \*\*\*, \*\*, \* indicate significance at 1%, 5% and 10%. Constant is not reported in each model. Forestry income includes forestry subsidies and sales income of forest products in each household. All specifications controls for village-level time-varying variables, including total population, number of groups, population share of migrant workers, and average income per capita. Cols. (4)-(9) use household samples and also control for household-level time-varying variables, including number of family members, number of CCP members and village cadres, and highest level of education.

# Appendix:

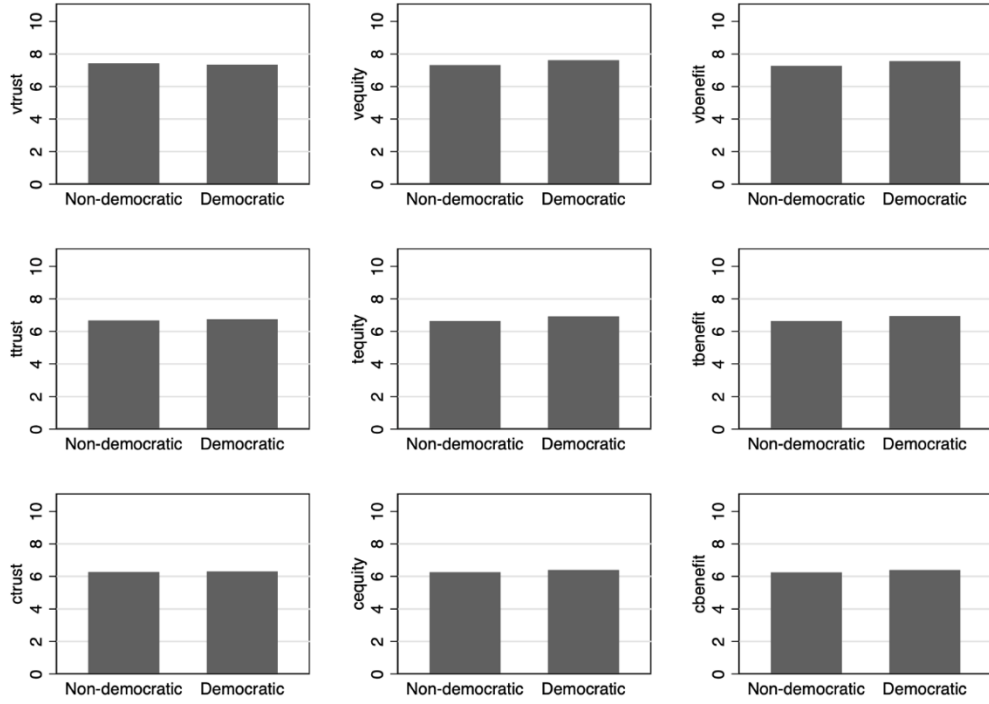


Figure A1 Pre-reform political trust and satisfaction by reform type

Table A1 Two standards for the democratic ness of decision-making of the *Forest Reform*

Standard	Democratic group	Non-democratic group
1	Reform via the village assembly Reform with each household signing for agreement Reform via the villager representative meetings	Reform via village committee-and-party-branch meetings Reform via meetings of village cluster leaders Reform by superior government's approval
2	Reform via the village assembly Reform with each household signing for agreement	Reform via the villager representative meetings Reform via village committee-and-party-branch meetings Reform via meetings of village cluster leaders Reform by superior government's approval

Table A2 Distribution of samples and the democratic ness of decision-making of the *Forest Reform* by province

Provinces	Observations				Village forest reform situation		
	Counties	Towns	Villages	Villager households	Non-reform (%)	Democratic process (%)	Non-democratic process (%)
Fujian	6	9	9	118	33.33	66.67	0
Jiangxi	4	11	20	292	0	75	25
Zhejiang	7	19	35	552	13.89	55.56	30.56
Anhui	8	24	30	446	16.67	53.33	30
Hunan	2	6	19	282	5.26	57.89	36.84
Liaoning	2	6	26	430	0	92.31	7.69
Shandong	3	7	15	250	28.57	57.14	14.29
Yunnan	8	16	30	1044	6.67	66.67	26.66
Total	40	98	184	3414			
Sample mean					11.96	64.13	23.91

Table A3 Balance test: village-level characteristics

	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Variable	Total	Unreformed villages	Non-democratic reform villages	Democratic reformed villages	Conditional diff. (Unreformed vs. Non-democratic)	Conditional diff.(Unreformed vs. Democratic)	Conditional diff. (Non-democratic vs. Democratic)
Number of forest disputes	4.179 (3.975)	2.955 (1.647)	4.295 (4.207)	4.364 (4.171)	-1.341* (0.726)	-1.410*** (0.517)	-0.069 (0.739)
Number of village groups	9.886 (6.943)	8.364 (5.835)	10.750 (7.150)	9.847 (7.055)	-2.386 (1.642)	-1.484 (1.387)	0.903 (1.254)
Total number of households	385.261 (256.039)	373.636 (247.718)	390.955 (311.298)	385.305 (236.367)	-17.318 (70.465)	-11.669 (56.368)	5.649 (51.523)
Total population	1,604.261 (1,931.910)	1,717.682 (1,472.805)	1,926.795 (3,482.348)	1,462.847 (964.250)	-209.114 (612.224)	254.834 (321.568)	463.948 (529.737)
Total number of adult labor	814.592 (598.097)	920.864 (792.134)	780.636 (621.401)	807.441 (549.876)	140.227 (192.147)	113.423 (173.774)	-26.804 (106.095)
Total number of CCP members	37.793 (22.057)	36.273 (19.132)	38.477 (25.477)	37.822 (21.356)	-2.205 (5.590)	-1.549 (4.472)	0.655 (4.299)
Income per capita (CNY)	2,904.995 (1,804.454)	2,768.682 (1,880.890)	3,038.591 (2,058.237)	2,880.593 (1,700.021)	-269.909 (505.299)	-111.911 (424.686)	157.998 (346.203)
Migrant labor ratio	0.176 (0.128)	0.198 (0.131)	0.212 (0.150)	0.158 (0.115)	-0.014 (0.036)	0.040 (0.030)	0.054** (0.025)
Number of enterprises	7.174 (51.478)	0.909 (1.342)	20.477 (104.573)	3.381 (6.093)	-19.568 (15.829)	-2.472*** (0.629)	17.096 (15.692)
Enterprise output (in 10K CNY)	881.998 (3,636.478)	55.818 (101.601)	1,290.842 (3,949.880)	883.581 (3,841.442)	-1,235.024** (598.174)	-827.762** (355.314)	407.262 (690.218)
Total land area (Mu)	17,506.939 (24,390.645)	14,185.637 (49,428.746)	18,194.912 (23,876.867)	17,869.635 (16,734.885)	-4,009.276 (11,062.438)	-3,683.998 (10,484.767)	325.278 (3,899.153)
Forestland share	0.567 (0.302)	0.402 (0.355)	0.580 (0.323)	0.593 (0.276)	-0.178* (0.090)	-0.191** (0.079)	-0.012 (0.055)
Forestland share under household management	0.617 (0.394)	0.612 (0.399)	0.655 (0.401)	0.604 (0.393)	-0.042 (0.104)	0.008 (0.091)	0.050 (0.070)
Forestland share under collective control	0.165 (0.290)	0.220 (0.342)	0.106 (0.222)	0.177 (0.300)	0.114 (0.080)	0.042 (0.077)	-0.072 (0.043)

Note: Robust standard deviation in parentheses. \*\*\*, \*\*, \* indicate significance at 1%, 5% and 10%.

Table A4 Balance test: individual-level characteristics

	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Variable	Total	Unreformed villages	Non-democratic reform villages	Democratic reformed villages	Conditional diff. (Unreformed vs. Non-democratic)	Conditional diff. (Unreformed vs. Democratic)	Conditional diff. (Non-democratic vs. Democratic)
Gender (Male = 1)	0.806 (0.396)	0.657 (0.476)	0.845 (0.362)	0.815 (0.388)	-0.188*** (0.040)	-0.158*** (0.038)	0.030 (0.021)
Urban <i>hukou</i> (Yes = 1)	0.970 (0.172)	0.944 (0.231)	0.981 (0.137)	0.969 (0.172)	-0.037** (0.019)	-0.026 (0.018)	0.012 (0.009)
Age	48.677 (11.817)	49.388 (11.702)	49.007 (12.038)	48.432 (11.753)	0.380 (1.055)	0.956 (0.946)	0.575 (0.688)
Years of education	5.924 (3.207)	5.528 (3.622)	5.817 (3.126)	6.032 (3.162)	-0.289 (0.311)	-0.503* (0.288)	-0.214 (0.181)
CCP membership (Yes = 1)	0.176 (0.381)	0.118 (0.323)	0.186 (0.390)	0.181 (0.385)	-0.068** (0.031)	-0.063** (0.027)	0.005 (0.022)
Village cadre (Yes = 1)	0.073 (0.261)	0.051 (0.220)	0.072 (0.258)	0.078 (0.268)	-0.021 (0.021)	-0.027 (0.018)	-0.006 (0.015)
Worked in Forestry Dept. (Yes = 1)	0.013 (0.111)	0.006 (0.075)	0.007 (0.084)	0.016 (0.125)	-0.002 (0.007)	-0.010 (0.007)	-0.009 (0.006)

Note: Robust standard deviation and standard errors in parentheses. \*\*\*, \*\*, \* indicate significance at 1%, 5% and 10%.



Table A5 Baseline: different reform approaches

Level of government	Village			Town			County		
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Dependent variable	Trust	Equity	Benefit	Trust	Equity	Benefit	Trust	Equity	Benefit
Reform via village assembly meetings	0.211 (0.303)	0.064 (0.387)	0.157 (0.375)	-0.003 (0.308)	-0.339 (0.413)	0.178 (0.413)	0.309 (0.435)	-0.188 (0.507)	0.428 (0.488)
Reform with each household signing for agreement	-0.325 (0.283)	-0.482 (0.355)	-0.468 (0.356)	-0.596** (0.288)	-0.842** (0.396)	-0.532 (0.383)	-0.141 (0.416)	-0.829* (0.467)	-0.325 (0.435)
Reform via villager representative meetings	-0.547 (0.420)	-0.347 (0.505)	-0.175 (0.507)	-0.037 (0.469)	0.001 (0.525)	0.273 (0.637)	0.440 (0.806)	0.029 (0.836)	0.360 (0.948)
Reform via village committee-and-party-branch meetings	-0.498 (0.354)	-0.233 (0.433)	-0.317 (0.437)	-0.793** (0.392)	-0.857* (0.509)	-0.494 (0.459)	-0.570 (0.502)	-1.306** (0.564)	-0.772 (0.546)
Reform via meeting of village cluster leaders	-0.236 (0.494)	-0.255 (0.708)	-0.081 (0.733)	-1.951*** (0.430)	-2.272*** (0.519)	-2.073*** (0.535)	-1.174** (0.478)	-1.175* (0.611)	-1.098* (0.614)
Reform by superior government's approval	-0.406 (0.323)	-0.222 (0.405)	-0.454 (0.450)	-0.617 (0.524)	-0.790 (0.599)	-0.697 (0.583)	-0.474 (0.529)	-0.669 (0.525)	-0.236 (0.504)
Individual fixed effect	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Year fixed effect	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Obs.	3034	2836	2784	2116	1906	1848	1612	1408	1358
Adj. R2	0.1933	0.1810	0.2010	0.1721	0.2120	0.2194	0.2487	0.2429	0.2566
Dependent var. mean	7.451	7.490	7.437	7.054	7.075	7.078	6.749	6.750	6.754

Note: Standard errors in parentheses, clustered at the village level. \*\*\*, \*\*, \* indicate significance at 1%, 5% and 10%. Constant is not reported in each model. All specifications control for household-level and village-level time-varying variables, including household income per capita, family number, number of CCP members and village cadres, highest education level of the household, village population, number of groups, number of households, number of migrant workers and average income per capita.

Table A6 Baseline: different reform approaches (separate regressions)

Level of government	Village			Town			County		
Dependent variable	vtrust	vequity	vbenefit	ttrust	tequity	tbenefit	ctrust	cequity	cbenefit
Reform via village assembly meetings	0.570***	0.458*	0.555**	0.787***	0.637**	0.861***	0.666**	0.713**	0.877***
	(0.210)	(0.262)	(0.244)	(0.250)	(0.263)	(0.282)	(0.264)	(0.310)	(0.317)
Adj. R2	0.1949	0.1825	0.2025	0.1617	0.2016	0.2080	0.2436	0.2431	0.2557
Reform with each household signing for agreement	-0.294	-0.057	0.109	0.595	0.850**	0.778	0.689	0.842	0.676
	(0.366)	(0.416)	(0.418)	(0.434)	(0.416)	(0.562)	(0.735)	(0.756)	(0.896)
Adj. R2	0.1907	0.1799	0.1990	0.1534	0.1974	0.1992	0.2375	0.2367	0.2453
Reform via villager representative meetings	-0.169	-0.365*	-0.370*	0.014	-0.028	-0.092	0.063	-0.224	-0.209
	(0.183)	(0.220)	(0.219)	(0.238)	(0.243)	(0.257)	(0.242)	(0.268)	(0.277)
Adj. R2	0.1911	0.1824	0.2014	0.1528	0.1961	0.1983	0.2367	0.2363	0.2453
Reform via village committee-and-party-branch meetings	-0.293	0.076	-0.047	-0.182	-0.013	0.015	-0.427	-0.668	-0.612
	(0.266)	(0.319)	(0.323)	(0.333)	(0.382)	(0.338)	(0.374)	(0.437)	(0.448)
Adj. R2	0.1914	0.1800	0.1990	0.1531	0.1961	0.1982	0.2381	0.2388	0.2473
Reform via meeting of village cluster leaders	0.015	0.043	0.215	-1.488***	-1.572***	-1.724***	-1.103***	-0.492	-0.946*
	(0.433)	(0.630)	(0.662)	(0.389)	(0.401)	(0.453)	(0.348)	(0.520)	(0.545)
Adj. R2	0.1905	0.1799	0.1992	0.1691	0.2112	0.2154	0.2458	0.2368	0.2495
Reform by superior government's approval	-0.187	0.077	-0.189	-0.025	0.034	-0.233	-0.326	0.044	-0.029
	(0.239)	(0.277)	(0.341)	(0.498)	(0.506)	(0.506)	(0.425)	(0.370)	(0.393)
Adj. R2	0.1907	0.1800	0.1991	0.1528	0.1961	0.1984	0.2370	0.2353	0.2445
Obs.	3034	2836	2784	2116	1906	1848	1612	1408	1358
Dependent var. mean	7.451	7.490	7.437	7.054	7.075	7.078	6.749	6.750	6.754

Note: Standard errors in parentheses, clustered at the village level. \*\*\*, \*\*, \* indicate significance at 1%, 5% and 10%. Constant is not reported in each model. All specifications control for household-level and village-level time-varying variables, including household income per capita, family number, number of CCP members and village cadres, highest education level of the household, village population, number of groups, number of households, number of migrant workers and average income per capita.

Table A7 Heterogeneity: village cadres

Level of government	Village			Town			County		
Dependent variable	Trust	Equity	Benefit	Trust	Equity	Benefit	Trust	Equity	Benefit
<b>Panel A: Household without village cadres</b>									
Reform	-0.333 (0.320)	-0.344 (0.376)	-0.475 (0.350)	-0.820** (0.320)	-1.236*** (0.430)	-0.984*** (0.373)	-0.346 (0.412)	-0.950** (0.433)	-0.433 (0.433)
Reform * Democracy	0.466** (0.221)	0.321 (0.257)	0.540** (0.251)	0.798*** (0.257)	0.662** (0.303)	0.837*** (0.305)	0.547** (0.276)	0.552 (0.341)	0.714** (0.343)
Individual fixed effect	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Year fixed effect	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Obs.	2600	2414	2366	1752	1556	1502	1350	1158	1112
Adj. R2	0.1839	0.1808	0.1966	0.1561	0.2133	0.2220	0.2462	0.2468	0.2625
Dependent var. mean	7.381	7.416	7.361	6.951	6.961	6.977	6.676	6.658	6.555
<b>Panel B: Household with village cadres</b>									
Reform	0.065 (0.992)	-0.011 (2.067)	0.328 (2.032)	-0.651 (0.886)	-0.485 (1.793)	0.180 (1.835)	1.204 (1.699)	-0.217 (1.734)	-0.504 (1.696)
Reform * Democracy	0.937 (0.581)	1.071 (0.677)	1.017 (0.691)	0.807 (0.661)	0.614 (0.607)	0.920 (0.732)	0.709 (0.927)	0.790 (1.018)	0.846 (1.039)
Individual fixed effect	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Year fixed effect	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Obs.	154	150	150	130	126	126	84	80	80
Adj. R2	0.3620	0.1816	0.1961	-0.0346	-0.1655	-0.2028	0.1408	0.1918	0.2843
Dependent var. mean	8.122	8.196	8.148	7.930	8.023	7.911	7.406	7.543	7.609

Note: Standard errors in parentheses, clustered at the village level. \*\*\*, \*\*, \* indicate significance at 1%, 5% and 10%. Constant is not reported in each model. All specifications control for household-level and village-level time-varying variables, including household income per capita, family number, number of CCP members and village cadres, highest education level of the household, village population, number of groups, number of households, number of migrant workers and average income per capita.

Table A8 Robustness: Control for alternative fixed effect

Level of government	Village			Town			County		
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Dependent variable	Trust	Equity	Benefit	Trust	Equity	Benefit	Trust	Equity	Benefit
<b>Panel A: Province by year fixed effect</b>									
Reform	-0.413 (0.305)	-0.298 (0.347)	-0.309 (0.350)	-1.139*** (0.373)	-1.375*** (0.427)	-1.062** (0.426)	-0.933** (0.374)	-1.207*** (0.460)	-0.684 (0.423)
Reform * Democracy	0.215 (0.202)	0.019 (0.257)	0.081 (0.258)	0.735** (0.287)	0.687** (0.293)	0.771*** (0.293)	0.686** (0.282)	0.533* (0.315)	0.644** (0.322)
adj. R2	0.1934	0.2020	0.2195	0.1631	0.2066	0.2088	0.2426	0.2370	0.2487
Individual fixed effect	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Province by year fixed effect	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
<b>Panel B: County by year fixed effect</b>									
Reform	-0.821** (0.329)	-0.866** (0.377)	-0.721** (0.361)	-0.985*** (0.358)	-1.204*** (0.381)	-0.747** (0.361)	-0.590* (0.329)	-0.993** (0.411)	-0.544 (0.398)
Reform * Democracy	0.202 (0.226)	0.075 (0.255)	0.073 (0.251)	0.777*** (0.295)	0.842*** (0.278)	0.884*** (0.268)	0.625** (0.279)	0.639** (0.294)	0.643** (0.311)
adj. R2	0.1880	0.2033	0.2244	0.1582	0.1959	0.2188	0.2226	0.2177	0.2249
Individual fixed effect	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
County by year fixed effect	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
<b>Panel C: Town by year fixed effect</b>									
Reform	-0.984*** (0.317)	-0.937** (0.391)	-0.667 (0.595)	-1.240*** (0.449)	-2.387*** (0.828)	-1.826*** (0.507)	-0.036 (0.281)	-1.008 (0.785)	-0.517 (0.534)
Reform * Democracy	-0.015 (0.177)	-0.018 (0.238)	-0.150 (0.207)	0.467* (0.274)	0.556** (0.279)	0.642** (0.247)	0.099 (0.239)	0.051 (0.194)	0.117 (0.254)
adj. R2	0.1768	0.1888	0.2157	0.1029	0.1307	0.1557	0.1692	0.1566	0.1508
Individual fixed effect	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Town by year fixed effect	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Obs.	3034	2836	2784	2116	1906	1848	1612	1408	1358
Dependent var. mean	7.451	7.490	7.437	7.054	7.075	7.078	6.749	6.750	6.754

Note: Standard errors in parentheses. \*\*\*, \*\*, \* indicate significance at 1, 5 and 10%. Constant is not reported in each model. All specifications control for household-level and village-level time-varying variables, including household income per capita, family number, number of CCP members and village cadres, highest education level of the household, village population, number of groups, number of households, number of migrant workers and average income per capita.

Table A9 Robustness: Use of alternative clustering for standard errors

Level of government	Village			Town			County		
Dependent variable	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
	Trust	Equity	Benefit	Trust	Equity	Benefit	Trust	Equity	Benefit
<b>Panel A: Cluster at town</b>									
Reform	-0.413 (0.318)	-0.298 (0.372)	-0.309 (0.380)	-1.139*** (0.396)	-1.375*** (0.448)	-1.062** (0.457)	-0.933*** (0.336)	-1.207*** (0.430)	-0.684* (0.385)
Reform * Democracy	0.215 (0.208)	0.019 (0.263)	0.081 (0.255)	0.735** (0.287)	0.687** (0.280)	0.771*** (0.277)	0.686** (0.273)	0.533* (0.284)	0.644** (0.303)
<b>Panel B: Cluster at county</b>									
Reform	-0.413 (0.313)	-0.298 (0.385)	-0.309 (0.412)	-1.139** (0.463)	-1.375*** (0.501)	-1.062* (0.527)	-0.933*** (0.293)	-1.207*** (0.349)	-0.684** (0.303)
Reform * Democracy	0.215 (0.235)	0.019 (0.278)	0.081 (0.291)	0.735* (0.374)	0.687** (0.334)	0.771** (0.349)	0.686** (0.302)	0.533* (0.301)	0.644* (0.325)
<b>Panel C: Cluster at province</b>									
Reform	-0.413 (0.330)	-0.298 (0.434)	-0.309 (0.471)	-1.139* (0.488)	-1.375** (0.513)	-1.062 (0.569)	-0.933** (0.299)	-1.207** (0.350)	-0.684* (0.348)
Reform * Democracy	0.215 (0.114)	0.019 (0.164)	0.081 (0.241)	0.735* (0.373)	0.687* (0.339)	0.771* (0.358)	0.686** (0.212)	0.533** (0.172)	0.644** (0.257)
<b>Panel D: Cluster at province by year</b>									
Reform	-0.413 (0.320)	-0.298 (0.420)	-0.309 (0.456)	-1.139** (0.473)	-1.375** (0.497)	-1.062* (0.551)	-0.933*** (0.290)	-1.207*** (0.340)	-0.684* (0.337)
Reform * Democracy	0.215* (0.110)	0.019 (0.159)	0.081 (0.233)	0.735* (0.361)	0.687* (0.329)	0.771** (0.347)	0.686*** (0.206)	0.533*** (0.166)	0.644** (0.250)
Individual fixed effect	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Province by year fixed effect	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
adj. R2	0.1934	0.2020	0.2195	0.1631	0.2066	0.2088	0.2426	0.2370	0.2487
Obs.	3034	2836	2784	2116	1906	1848	1612	1408	1358
Dependent var. mean	7.451	7.490	7.437	7.054	7.075	7.078	6.749	6.750	6.754

Note: Standard errors in parentheses. \*\*\*, \*\*, \* indicate significance at 1%, 5% and 10%. Constant is not reported in each model. All specifications control for household-level and village-level time-varying variables, including household income per capita, family number, number of CCP members and village cadres, highest education level of the household, village population, number of groups, number of households, number of migrant workers and average income per capita.

Table A10 Robustness: Control for village chief-level factors

Level of government	Village			Town			County		
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Dependent variable	Trust	Equity	Benefit	Trust	Equity	Benefit	Trust	Equity	Benefit
<b>Panel A: Reform effect</b>									
Reform	-0.161 (0.250)	-0.184 (0.317)	-0.181 (0.330)	-0.621** (0.273)	-0.820** (0.394)	-0.471 (0.386)	-0.231 (0.389)	-0.753* (0.435)	-0.272 (0.409)
adj. $R^2$	0.1996	0.1916	0.2077	0.1540	0.1965	0.1986	0.2372	0.2348	0.2460
<b>Panel B: Democratic effect (Standard 1: the mass or representatives participation)</b>									
Reform	-0.302 (0.297)	-0.096 (0.385)	-0.168 (0.397)	-1.169*** (0.341)	-1.281*** (0.453)	-1.012** (0.436)	-0.827** (0.409)	-1.172** (0.461)	-0.780* (0.440)
Reform * Democracy	0.205 (0.209)	-0.128 (0.261)	-0.020 (0.267)	0.780*** (0.277)	0.638** (0.305)	0.746** (0.308)	0.846*** (0.254)	0.572* (0.303)	0.685** (0.311)
adj. $R^2$	0.1997	0.1913	0.2071	0.1627	0.2017	0.2057	0.2472	0.2383	0.2512
<b>Panel C: Democratic effect (Standard 2: the mass participation)</b>									
Reform	-0.275 (0.255)	-0.274 (0.322)	-0.296 (0.334)	-0.814*** (0.281)	-0.985** (0.398)	-0.686* (0.385)	-0.416 (0.393)	-0.954** (0.437)	-0.506 (0.411)
Reform * Democracy	0.480** (0.193)	0.391* (0.232)	0.504** (0.225)	0.772*** (0.239)	0.666*** (0.251)	0.867*** (0.268)	0.677*** (0.241)	0.750** (0.292)	0.859*** (0.299)
adj. $R^2$	0.2024	0.1931	0.2103	0.1622	0.2021	0.2083	0.2439	0.2429	0.2563
Individual fixed effect	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Year fixed effect	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Village election controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Obs.	3034	2836	2784	2116	1906	1848	1612	1408	1358
Dependent var. mean	7.451	7.490	7.437	7.054	7.075	7.078	6.749	6.750	6.754

Note: Standard errors in parentheses, clustered at the village level. \*\*\*, \*\*, \* indicate significance at 1, 5 and 10%. Constant is not reported in each model. All specifications include household-level and village-level time-varying factors and extra controls reflecting the village chiefs' tendency to be more pro-democracy. That include the frequency of all meetings of village assemblies and representatives that discuss village affairs, and the average attending population percentage. We also control for the total number of years in office of the current village chief for each village.

Table A11: Robustness: reverse causality check

Level of government	Dependent variable	Reform dummy (Logit)	Reform approach (References: non-reformed villages)	
			1	2
Village	trust	-0.780 (0.503)	-1.194 (0.889)	-0.899 (0.920)
	equity	-0.568 (0.378)	0.276 (0.658)	-0.049 (0.384)
	benefit	0.996* (0.558)	0.487 (0.470)	0.481 (0.732)
Town	trust	-1.641* (0.857)	-2.285* (1.188)	-1.519 (1.330)
	equity	1.183* (0.680)	1.383* (0.709)	0.816 (1.071)
	benefit	0.325 (0.913)	0.562 (0.920)	0.522 (1.431)
County	trust	-0.987 (1.046)	-0.222 (1.045)	-0.169 (0.833)
	equity	0.485 (1.645)	0.324 (1.354)	-0.589 (1.788)
	benefit	0.648 (1.368)	-0.063 (0.897)	0.956 (1.379)
	Village-level controls	Yes	Yes	
	Obs.	184	184	

Note: Standard errors in parentheses, clustered at the village level. \*\*\*, \*\*, \* indicate significance at 1%, 5% and 10%. Constant is not reported in each model. All specifications control for village-level characteristics, including total population, number of groups, number of migrant workers, and average income per capita. Reform approach is a categorical variable (0 stands for unreformed villages, 1 stands for reformed villages via non-democratic process; 2 stands for reformed villages via democratic process).

Table A12: Covariates for the reform approach: multinomial logit and logit models

Dependent variable	Reform approach (Mlogit, References: non-reformed villages)		Reform dummy (Logit)	Democracy reform dummy (Logit, standard1)	Democracy reform dummy (Logit, standard2)
	(1)	(2)	(2)	(3)	(4)
Province already started forest reform (1=yes)	4.667*** (1.112)	4.013*** (0.973)	4.159*** (0.992)	1.856** (0.799)	0.146 (0.585)
Length of time for grassroots democracy implementation	3.661*** (0.509)	3.405*** (0.583)	3.467*** (0.577)	-0.077 (0.171)	0.147 (0.230)
Log (total population)	-0.912 (0.735)	-0.830* (0.437)	-0.870* (0.487)	-2.875** (1.342)	-1.966 (1.431)
Log (income per capita)	0.464 (0.348)	0.650 (0.435)	0.633 (0.427)	0.335** (0.170)	0.273*** (0.060)
Log (migrant workers)	-1.046 (5.361)	-4.959 (5.585)	-4.441 (5.251)	-4.768*** (1.159)	-0.612 (1.084)
Log (total land area)	1.904 (1.652)	1.290 (1.543)	1.474 (1.433)	-0.197 (0.286)	0.397 (0.511)
Log (forest land area)	-0.215 (0.283)	0.356* (0.206)	0.188 (0.252)	0.478*** (0.138)	0.033 (0.483)
Proportion of forest land area	0.967 (5.463)	-1.061 (5.348)	-0.554 (5.771)	-0.532 (1.044)	-0.102 (1.251)
Proportion of private forest land area	-0.754 (0.985)	-0.926 (0.899)	-0.953 (0.891)	-0.017 (0.198)	-0.049 (0.554)
Proportion of most common surname	-3.354 (2.154)	-3.308 (2.049)	-3.290 (2.313)	-0.867 (0.838)	-1.405 (1.298)
Log (Timber market price)	0.025 (1.676)	0.282 (1.537)	0.258 (1.516)	0.314 (0.255)	-0.353 (0.478)
Average household education level	-0.543 (0.768)	-0.446 (0.718)	-0.468 (0.741)	-0.001 (0.191)	-0.235 (0.191)
Average household CCP members	0.458 (1.694)	-0.098 (1.416)	-0.120 (1.420)	0.270 (0.842)	0.502 (0.998)
Average household village cadres	-8.183 (5.238)	-7.511 (4.600)	-7.656 (4.928)	-0.771 (1.681)	-1.070 (1.887)
Pseudo R <sup>2</sup>	0.3690		0.7322	0.1998	0.1794
Obs.			184		

Note: Standard errors in parentheses, clustered at the village level. \*\*\*, \*\*, \* indicate significance at 1%, 5% and 10%. Constant is not reported in each model. Reform approach is a categorical variable (0 stands for unreformed villages, 1 stands for reformed villages via non-democratic process; 2 stands for reformed villages via democratic process). Cols. (2)-(4) are the first-stage results for the probability of the treatment placement (i.e., the selection of reform, or each reform approach).



Table A13 Post-matching balance tests (2005)

Variable	(1) Total	(2) Unreformed villages	(3) Non- democratic reformed villages	(4) Democratic reformed villages	(5) Conditional diff. (Unreformed vs. Non- democratic)	(6) Conditional diff. (Unreformed vs. Democratic)	(7) Conditional diff. (Non- democratic vs. Democratic)
Number of forestland disputes	2.975 (2.205)	3.000 (1.715)	3.200 (3.254)	2.814 (1.790)	-0.200 (0.833)	0.186 (0.485)	0.386 (0.771)
Number of village clusters	8.625 (5.916)	7.778 (5.331)	10.350 (6.792)	8.209 (5.621)	-2.572 (1.972)	-0.432 (1.511)	2.141 (1.733)
Total number of households	330.638 (210.505)	367.111 (252.659)	298.250 (167.907)	334.302 (210.553)	68.861 (70.350)	32.809 (67.113)	-36.052 (49.225)
Total population	1,330.562 (1,049.660)	1,743.778 (1,564.781)	1,136.650 (742.705)	1,262.884 (863.749)	607.128 (404.064)	480.894 (387.749)	-126.234 (211.100)
Total number of adult labor	706.237 (538.692)	936.722 (814.612)	587.300 (343.042)	672.512 (442.455)	349.422* (206.525)	264.211 (201.485)	-85.212 (101.812)
Total number of CCP members	32.175 (17.075)	36.889 (20.076)	29.400 (12.441)	31.419 (17.370)	7.489 (5.485)	5.470 (5.381)	-2.019 (3.830)
Income per capita (CNY)	2,430.400 (1,093.375)	2,101.722 (959.762)	2,410.100 (1,072.337)	2,616.256 (1,157.623)	-308.378 (329.654)	-514.534* (285.380)	-206.156 (296.394)
Migrant labor ratio	0.198 (0.119)	0.208 (0.131)	0.232 (0.123)	0.178 (0.110)	-0.024 (0.041)	0.029 (0.035)	0.053 (0.032)
Number of enterprises	0.938 (1.276)	0.778 (1.060)	1.300 (1.593)	0.953 (1.413)	-0.522 (0.435)	-0.176 (0.328)	0.347 (0.414)
Enterprise output (in 10K CNY)	281.600 (1,471.628)	38.000 (67.994)	753.800 (2,673.952)	159.953 (831.321)	-715.800 (598.958)	-121.953 (128.379)	593.846 (605.784)
Total land area (Mu)	6,917.050 (14,086.723)	4,008.000 (3,531.345)	12,179.402 (27,016.248)	5,723.999 (4,450.469)	-8,171.402 (6,106.219)	-1,715.999 (1,068.480)	6,455.403 (6,022.503)
Forestland share	0.438 (0.298)	0.460 (0.368)	0.408 (0.274)	0.442 (0.279)	0.052 (0.106)	0.018 (0.096)	-0.034 (0.074)
Forestland share under household management	0.700 (0.389)	0.673 (0.393)	0.711 (0.412)	0.689 (0.395)	-0.038 (0.131)	-0.016 (0.110)	0.022 (0.110)
Forestland share under collective control	0.138 (0.274)	0.202 (0.327)	0.069 (0.129)	0.163 (0.321)	0.133 (0.082)	0.039 (0.091)	-0.094 (0.057)

Note: Robust standard deviation and standard errors in parentheses. \*\*\*, \*\*, \* indicate significance at 1%, 5% and 10%.

Table A14 Post-matching balance tests (2010)

	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Variable	Total	Unreformed villages	Non-democratic reformed villages	Democratic reformed villages	Conditional diff. (Unreformed vs. Non-democratic)	Conditional diff. (Unreformed vs. Democratic)	Conditional diff. (Non-democratic vs. Democratic)
Number of forestland disputes	4.000 (4.548)	4.000 (4.665)	5.200 (5.845)	3.429 (3.736)	-1.200 (1.708)	0.571 (1.232)	1.771 (1.419)
Number of village groups	8.775 (5.983)	7.778 (4.941)	10.350 (6.961)	8.452 (5.886)	-2.572 (1.945)	-0.675 (1.469)	1.898 (1.792)
Total number of households	367.175 (302.697)	392.556 (295.101)	394.850 (434.328)	343.119 (227.532)	-2.294 (119.505)	49.437 (77.276)	51.731 (102.482)
Total population	1,356.650 (1,123.169)	1,542.056 (1,183.026)	1,420.850 (1,527.420)	1,246.619 (860.090)	121.206 (441.007)	295.436 (306.190)	174.231 (363.702)
Total number of adult labor	695.963 (564.498)	744.111 (619.153)	784.650 (830.836)	633.095 (355.326)	-40.539 (236.309)	111.016 (154.413)	151.555 (192.130)
Total number of CCP members	36.263 (23.183)	37.722 (25.111)	35.300 (24.701)	36.095 (22.136)	2.422 (8.094)	1.627 (6.783)	-0.795 (6.459)
Income per capita (CNY)	4,374.250 (2,182.574)	4,110.000 (2,008.880)	4,175.250 (2,291.125)	4,582.262 (2,231.261)	-65.250 (697.639)	-472.262 (582.022)	-407.012 (614.184)
Migrant labor ratio	0.207 (0.141)	0.233 (0.149)	0.242 (0.157)	0.179 (0.126)	-0.009 (0.050)	0.054 (0.040)	0.063 (0.040)
Number of enterprises	31.400 (112.687)	62.389 (183.051)	10.100 (35.955)	28.262 (96.551)	52.289 (43.825)	34.127 (45.198)	-18.162 (16.951)
Enterprise output (in 10K CNY)	541.638 (2,230.672)	1,111.167 (2,962.111)	835.600 (3,352.988)	157.571 (635.649)	275.567 (1,024.516)	953.595 (697.108)	678.029 (749.350)
Total land area (Mu)	11,756.349 (44,746.598)	5,993.871 (5,325.415)	8,060.172 (7,721.785)	15,986.066 (61,473.969)	-2,066.301 (2,135.480)	-9,992.195 (9,612.657)	-7,925.894 (9,679.334)
Forestland share	0.519 (0.326)	0.398 (0.402)	0.576 (0.291)	0.543 (0.300)	-0.179 (0.115)	-0.145 (0.105)	0.033 (0.079)
Forestland share under household management	0.718 (0.348)	0.655 (0.365)	0.795 (0.304)	0.708 (0.361)	-0.139 (0.110)	-0.053 (0.102)	0.086 (0.088)
Forestland share under collective control	0.170 (0.309)	0.202 (0.327)	0.123 (0.242)	0.179 (0.334)	0.079 (0.094)	0.022 (0.092)	-0.056 (0.074)

Note: Robust standard deviation and standard errors in parentheses. \*\*\*, \*\*, \* indicate significance at 1%, 5% and 10%.

Table A15 Robustness: baseline specification with linearly interpolated missing values

Level of government	Village			Town			County		
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Dependent variable	Trust	Equity	Benefit	Trust	Equity	Benefit	Trust	Equity	Benefit
<b>Panel A: Reform effect</b>									
Reform	-0.240 (0.271)	-0.289 (0.341)	-0.273 (0.341)	-0.465* (0.266)	-0.824** (0.335)	-0.529 (0.333)	-0.063 (0.368)	-0.478 (0.520)	-0.027 (0.467)
Adj. R2	0.1911	0.1805	0.1996	0.1637	0.1734	0.1827	0.1569	0.1772	0.1727
<b>Panel B: Democratic effect (Standard 1: the mass or representatives participation)</b>									
Reform	-0.394 (0.312)	-0.231 (0.402)	-0.281 (0.405)	-0.873*** (0.332)	-1.078*** (0.408)	-0.793* (0.404)	-0.518 (0.429)	-0.607 (0.553)	-0.467 (0.523)
Reform * Democracy	0.225 (0.206)	-0.084 (0.262)	0.012 (0.268)	0.593** (0.266)	0.363 (0.292)	0.376 (0.293)	0.677** (0.291)	0.186 (0.293)	0.632* (0.343)
Adj. R2	0.1914	0.1800	0.1990	0.1690	0.1749	0.1843	0.1641	0.1771	0.1780
<b>Panel C: Democratic effect (Standard 2: the mass participation)</b>									
Reform	-0.356 (0.274)	-0.386 (0.345)	-0.397 (0.345)	-0.649** (0.267)	-0.963*** (0.338)	-0.662* (0.336)	-0.212 (0.373)	-0.676 (0.513)	-0.260 (0.459)
Reform * Democracy	0.473** (0.204)	0.406 (0.247)	0.517** (0.233)	0.733*** (0.238)	0.571** (0.237)	0.544** (0.233)	0.595** (0.228)	0.781*** (0.273)	0.907*** (0.315)
Adj. R2	0.1939	0.1822	0.2024	0.1714	0.1777	0.1864	0.1619	0.1860	0.1839
Individual fixed effect	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Year fixed effect	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Obs.	3034	2836	2784	2870	2678	2616	2604	2324	2262
Dependent var. mean	7.451	7.491	7.437	7.076	7.112	7.111	6.827	6.832	6.788

Note: Standard errors in parentheses, clustered at the village level. \*\*\*, \*\*, \* indicate significance at 1%, 5% and 10%. Constant is not reported in each model. All specifications control for household-level and village-level time-varying variables, including household income per capita, family number, number of CCP members and village cadres, highest education level of the household, village population, number of groups, number of households, number of migrant workers and average income per capita.