

# Persistence Despite Revolutions

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## Abstract

Can efforts to eradicate inequality in wealth and education eliminate intergenerational persistence of socioeconomic status? The Chinese Communist Revolution and Cultural Revolution aimed to do exactly that. Using newly digitized archival records and contemporary census and household survey data, we show that the revolutions were effective in homogenizing the population economically in the short run. However, the pattern of inequality that characterized the pre-revolution generation re-emerges today. Almost half a century after the revolutions, individuals whose grandparents belonged to the pre-revolution elite earn 16 percent more income and have completed more than 11 percent additional years of schooling than those from non-elite households. We find evidence that human capital (such as knowledge, skills, and values) has been transmitted within the families, and the social capital embodied in kinship networks has survived the revolutions. These channels allow the pre-revolution elite to rebound after the revolutions, and their socioeconomic status persists despite one of the most aggressive attempts to eliminate differences in the population.

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## 1 Introduction

Many factors could contribute to the lack of mobility of a society. For example, children of the elite may have a substantially higher chance to remain as the elite if they reside in polity with lenient taxation schemes on wealth inheritance (e.g., Piketty, 2000). Children of the elite may be more likely to possess important drivers for success, if the education systems and neighborhood investments favor the elite to acquire additional, higher quality human capital (e.g., Borjas, 1992; Black et al., 2005; Chetty and Hendren, 2018a).

Can efforts to eradicate inequality in wealth and access to formal education manage to eliminate intergenerational persistence of socioeconomic status and foster mobility? Or would the former socioeconomic elite be able to recreate their advantage in an environment where wealth and access to education have been thoroughly reshuffled? In this paper, we investigate these questions in the context of two major revolutions that occurred back to back in China — the Communist Revolution in the 1950s and the Cultural Revolution from 1966 to 1976. The revolutions aimed to shut down two critical channels of intergenerational persistence: transmission of physical capital (e.g., land assets were expropriated from the rich and redistributed to the poor) and transmission of human capital through formal education (e.g., secondary schools and universities were closed for an extended period of time; the elite were excluded from the admission when they re-opened). Thus, the Communist and Cultural Revolutions represent some of the most radical attempts in human history to eliminate the advantages of the elite, and to eradicate inequality in wealth and formal education.

Take the family history of Guangyu Huang as an example, whose family lived through the revolutions. Guangyu was born in 1969. His grandfather, a rich landlord in Guangdong, lost his land and assets during the Communist Revolution. Guangyu's father, Changyi, grew up in the midst of the Communist and Cultural Revolutions, and as a result received neither inheritance of wealth nor formal education, and eked out a living by extracting persimmon oil. Guangyu grew up after the revolutions, but lived by collecting trash with his siblings during his early childhood. Eventually, Guangyu was admitted to Renmin University, one of China's most prestigious colleges. His fate changed in 1987 when he seized the opportunity of the first wave of private enterprise boom during the reform era of China, and founded GOME Electronics. GOME became a huge success, making Guangyu one of the richest men in mainland China between 2004 and 2018, with a net worth of RMB 36 billion (approximately US\$ 5 billion).

While Huang's family is certainly an extreme example, we show that this in fact represents a

more general pattern across China: despite extraordinary repression, the descendants of the pre-revolution elite are significantly and substantially better off today than those from the non-elite households. We show this by tracing the socioeconomic conditions of the pre-revolution elite and their descendants, following three generations in rural China: (i) the “grandparents” (roughly individuals born before 1940) — the generation who grew up before the revolutions; (ii) the “parents” (those born between, roughly, 1940 and 1965) — the generation who experienced shocks such as the expropriation (or redistribution) of land and school closure; and (iii) the “children” (born roughly after 1965) — the generation who grew up after the revolution ended: by the time they were teenagers, secondary schools and universities had reopened, and China had started the reforms that resumed private asset accumulation and private enterprises.

To systematically examine various socioeconomic outcomes among these three generations, we rely on two main data sources. First, to measure land asset ownership across Chinese counties before and after the Communist Revolution, we digitize all of the *County Gazetteers*, a set of archival records that each county keeps to chronicle important events. This allows us to examine not just the levels, but, crucially, the distribution of land ownership by residents in a particular county just before and after the Communist Revolution. This, to the best of our knowledge, is the first national dataset on historical inequality in land assets collected in China. Second, to measure contemporary socioeconomic outcomes of the pre-revolution elite and non-elite, as well as an array of factors that could shape these outcomes, we use the China Family Panel Studies, a large, representative survey of Chinese households. We link survey respondents to the pre-revolution asset ownership levels of their households, based on the “class labels” assigned to their grandparents at the beginning of the Communist Revolution, and we define those who were labeled as landlords and rich peasants (approximately the top decile of the population) as the pre-revolution elite.

We first document that after the Communist and Cultural Revolutions, the parents generation of the pre-revolution elite enjoyed no more tangible advantages in wealth and formal educational attainment than their non-elite peers. In the immediate aftermath of the Communist Revolution, the pre-revolution elite, who used to own six times more land per household than the rest of the population, no longer owned more land than the poor peasants. The county-level Gini coefficient in land ownership decreased from 0.5 before the revolution to under 0.1 right afterwards. The Cultural Revolution also effectively leveled the educational advantage of the former elite households. If anything, the parents generation of the pre-revolution elite received less formal education than their non-elite peers, as individuals with elite background were discriminated against in their access to formal education throughout the Cultural Revolution.

However, the immediate and immense impact of the revolutions felt by the parents generation is no longer present among the third, children generation. The patterns of inequality that characterized the grandparents generation re-emerges. By 2010, individuals whose grandparents were part of the pre-revolution elite earned a 16 percent higher income each year, have completed more

than 11 percent additional years of schooling, and hold more prestigious and demanding jobs than those from the non-elite households. In other words, while the revolutions explicitly aimed to reverse the rankings of socioeconomic status between the elite and non-elite households, they did not manage to do so beyond one generation. Such rebound is robust to using a range of alternative empirical specifications and accounting for a variety of potential confounding factors. In fact, the pre-revolution elite manage to regain their earning premium, nearly reaching the same level enjoyed by the new, post-revolution Communist elite, from which the vast majority of the pre-revolution elite are excluded. Translating the cross-sectional income gap into intergenerational mobility statistics, we find that individuals whose grandparents belonged to the pre-revolution elite have a 14.5% chance of staying in the top decile. This is higher than the persistence rate of the top decile (extrapolated from the two-generation transition matrix) in Taiwan (10.1%), Canada (11.1%), Russia (13.0%), and the U.S. (14.1%) — suggesting that the Chinese revolutions did not raise China's social mobility above the levels reached by several exemplar capitalist economies or an economy that transitioned away from the socialist system.

What explains the resurgence of the pre-revolution elite among the children generation? In particular, could the resurgence be accounted for by the greater physical capital, human capital, or social capital that may have been transmitted among the pre-revolution elite? We begin by ruling out a number of potential explanations for rebound. The revolutions' effective effort to shut down land inheritance — the most important asset in rural areas — and access to secondary and higher education as observed among the parents generation indicates that physical capital and human capital acquired through formal channels of schooling cannot play a key role in driving the rebound. Incomplete confiscation of the pre-revolution elite's assets was unlikely, and the collectivization movement that started in 1954 further prevented accumulation of hidden wealth. In fact, the pre-revolution landed elite was more likely to suffer from hunger during the Great Chinese Famine (1959-1961), a marker for their lost political and socioeconomic status during the revolutions. Moreover, we show that selective violence against the pre-revolution elite and selective migration of those with elite background are unlikely to account for the observed rebound. Finally, we document that the resurgence of the pre-revolution elite does not simply reflect a general regional rebound in inequality. Counties that were more unequal in terms of land holdings before the revolutions became relatively *more* equal in real estate wealth in 2000, and their residents express on average lower tolerance towards inequality. In other words, the grandchildren of the pre-revolution elite rebound even in regional environments that may appear less compatible with inequality.

We then document two distinct mechanisms that could explain at least part of the resurgence and persistence of the pre-revolution elite. First, human capital transmission through informal, non-school channels has survived despite the revolutions. Such informally transmitted human capital could encompass a range of elements from knowledge, to skills, to values. We find that the pre-revolution elite perform better in standardized reading tests than their non-elite peers, regard-

less of attainment in formal schooling. Moreover, the pre-revolution elite exhibit systematically different values and attitudes today: in particular, they are more likely to consider effort as important to success, and such differences in expressed work ethics is evident even among adolescents who have not completed formal schooling or participated in the labor market. These values and attitudes are reflected in their behavior: the pre-revolution elite work longer hours during work-days and spend less time on leisure during weekends. These patterns are much stronger for those among the children generation who co-live with their parents, and absent for those whose parents have passed away prematurely, consistent with the ideas that vertical transmissions of values (and human capital in general) require time spent together across generations.

Second, the pre-revolution elite has retained a certain degree of social capital, especially those based on traditional families and kinship clans. Families of the pre-revolution elite are also more tightly knit: members of the pre-revolution elite households are more likely to engage in assortative matching in marriage, forming households with both spouses belonging to pre-revolution elite families; individuals in the children generation are more likely to co-reside with parents and even grandparents; and they are more likely to interact with other family members. Beyond individual families, we find that the rebound of the pre-revolution elite is more substantial in counties that have stronger kinship clan presence, a vital fabric of traditional rural society in China.<sup>1</sup> On the contrary, the post-revolution Communist elite are hurt by strong kinship networks as they exhibit smaller income premium in those counties. To the extent that the revolutions fail to uproot the local kinship networks of which the pre-revolution landed elite were often at the center, descendants of the elite families benefited from such social capital, and these local social networks facilitated their rebound.

Taken together, these results suggest that despite the revolutions shutting down the transmission of physical capital and the human capital that can be acquired through schools, one observes a strong intergenerational persistence of socioeconomic status. Human capital transmitted through non-school channels and social capital rooted in local kinship clans are two prominent ingredients for outstanding economic performance. Both of them are centered around families, and even such aggressive and successful revolutions as China's Communist and Cultural Revolution fail to confiscate them from the elite. As a result, a certain degree of intergenerational persistence is maintained despite the revolutions.

Our paper connects three strands of literature: on social inequality and mobility, on cultural and value persistence within families, and on the role of social capital. Each of these strands of literature is enormous, and we simply cannot do justice to all previous works. Studies of intergenerational mobility of socioeconomic status often explain persistence by formal channels, in particular emphasizing the roles played by physical capital (e.g., inheritance) and human capital

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<sup>1</sup>Works across social science have documented the important role kinship networks play in rural China, throughout history and up until today: see, among others, Bian (1997), Tsai (2002), Greif and Tabellini (2017), and Martinez-Bravo et al. (2017).

acquired through education (e.g., accumulation of productive skills and knowledge through elite schools). We show that human capital transmitted through families (including, but not limited to, values; see a review of the literature by Alesina and Giuliano, 2015) and family networks in general (see Alesina and Giuliano, 2014 for a survey of the literature) have important consequences on intergenerational mobility.<sup>2</sup> Reminiscent of the older, theoretical literature (Becker and Tomes, 1979), we demonstrate that even if many of the formal transmission factors are deliberately muted, intergenerational persistence could still occur through human capital transmissions within the family, as well as family-based social networks.

By documenting the intergenerational mobility and inequality patterns in contemporary China, we also contribute to a growing literature on analyzing this pattern around the world.<sup>3</sup> Much of the literature on mobility focuses on two generations, with a few exceptions:<sup>4</sup> Boserup et al. (2014) estimate intergenerational wealth mobility across three generations in Denmark, and find that persistence across three generations can be higher than across two; Adermon et al. (2018) examine mobility in Sweden over four generations, and Barone and Mocetti (2020) document persistence among households in Florence over six centuries, both highlighting the critical role played by inheritance in fostering persistence over the long run. We join this literature by adding an important data point on China, providing one of the first estimates of intergenerational mobility in terms of asset ownership and income beyond two generations in developing countries, and emphasizing long-run persistence channels beyond wealth inheritance.

The three generations we examine are particularly important because they experienced one of the most radical attempts to suppress the elite and to foster mobility. The ability of the elite to weather large negative shocks to their socioeconomic status provides micro-foundations to the growing literature on long-run persistence (see Nunn, 2009; Michalopoulos and Papaioannou, 2020; Voth, 2020, for reviews of the literature). In particular, our results complement several recent works that analyze similar resurgence after shocks in distinct historical contexts. The scale of negative shocks that the elite faced ranges, from losing substantial slave assets during the U.S. Civil War (Ager et al., 2019), to forced migration in Poland after the Second World War (Becker et al.,

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<sup>2</sup>Our paper relates in particular to studies of the transmission of values promoting effort, education, and delayed gratification (see, among others, Galor and Özak, 2016; Dohmen et al., 2018; Figlio et al., 2019). Closer to our empirical context, a culture of valuing education is found to be persistent among localities in China that are historically more densely packed with individuals who excelled at the imperial civil service examinations (Chen et al., forthcoming), and such a culture could affect mobility patterns across China (Geng, 2020).

<sup>3</sup>Recent works include: Chetty et al. (2014) and Saez and Zucman (2016), which explore inequality and mobility patterns in the U.S.; Alesina et al. (2018b), which compares the mobility in the U.S. with several countries in Europe; Alesina et al. (2019), which describes mobility and inequality in Africa; Asher et al. (2019), which investigates educational mobility across India; and Piketty et al. (2019) and Fan et al. (2021), which document the rising wealth inequality and decreasing mobility in China.

<sup>4</sup>A few papers study the persistence of family status across more generations, but look at occupation or other proxies of status instead of income and wealth, e.g., Long and Ferrie (2018) on the U.S. and Britain between 1850 and 1910, Shiue (2018) on Tongcheng County in China between 1300 and 1900, and Campbell and Lee (2011a) on Liaoning Province in China between 1749 and 2005.

2020).<sup>5</sup> Hanley and Treiman (2004) and Guirking et al. (2020) document similar resurgence in post-Communist countries in Europe and Central Asia, respectively, as we do in China; transmission through educational attainment and high occupational status during the Communist period played important roles in explaining the resurgence, yet these channels of intergenerational persistence were all shut down during the Chinese revolutions.

In fact, the Chinese revolutions that we study are unparalleled in their effort to eradicate the advantage held by the elite, making the resurgence that we document remarkable: even such an aggressive and traumatic attempt is insufficient to uproot the differences between pre-revolution elite and non-elite households beyond two generations. In so doing, our paper contributes to the literature across the social sciences that studies the consequences of the Chinese revolutions on inequality and mobility. Several papers are closely related to our work: De la Rupelle and Li (2012) and Treiman and Walder (2019) explore the long-term effect of the Communist Revolution on household-level characteristics and the life chances of individuals with different class labels, respectively; Chen et al. (2015b) (focusing on urban dwellers) and Xie and Zhang (2019) (focusing on the broad population) document resurgence in educational attainment among grandchildren of the pre-revolution elite; and Sato and Li (2007) find that family background is associated with contemporary wealth. Building on these results, we examine a comprehensive set of outcomes of the pre-revolution elite, especially their income and economic conditions, and we systematically compare the pre-revolution elite with the new, Communist elite formed after the revolutions. Moreover, we identify, to the best of our knowledge, the first set of empirical evidence pointing to the channels through which such a persistence occurs despite the revolutions.

This paper is organized as follows. Section 2 provides institutional and historical background on the Communist Revolution and the Cultural Revolution in China. Section 3 describes our data collection effort. Section 4 shows that the revolution was successful in eliminating inequality and homogenizing culture for one generation, but the grandchildren of the pre-revolution elite are substantially richer today. Section 5 explores mechanisms through which such resurgence occurs. The last section concludes.

## 2 The Communist and Cultural Revolutions

As we cannot comprehensively depict the Communist Revolution and the Cultural Revolution with all of its rich historical details and complexities, in this section we focus on the particular aspects of the revolutions that intended to eradicate the advantages of the pre-revolution elite: confiscating their assets, removing their access to secondary and higher education, and even stigmatizing attitudes and values that they might have held prior to the revolutions. We describe these

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<sup>5</sup>Interestingly, resurgence does not necessarily occur in all contexts. For example, Acemoglu et al. (2011d) suggest a lasting negative effect of mass murder (the Holocaust) on the local socioeconomic conditions in Soviet Russia. Neither would positive shocks in educational attainment necessarily persist across multiple generations, as shown by Wantchekon (2016) in the context of colonial schools in Benin.

aspects in more detail and place them in their historical and institutional context in Appendix A.

### **The Communist Revolution and wealth redistribution**

The Communist Revolution was a series of movements that allowed the Chinese Communist Party to consolidate political power throughout China toward the end of the Chinese Civil War (1945-1949). A central component of the Communist Revolution was the Land Reform (1947-1953). Often described as one of the most extreme examples of wealth equalization in a short period of time in human history (Wong, 1973a), the Land Reform aimed to gain the support of the rural masses for the new Communist regime (Kung et al., 2012).

The *Agrarian Reform Law*, formally introduced in 1950, guided the Land Reform around the country. The law emphasized the Communist Party's commitment to expropriate the class of landlord and rich peasants, and to advocate the proprietorship of the general peasantry. Article 1 of the law states the overarching principles of the Land Reform:

*"The land ownership system of feudal exploitation by the landlord class shall be abolished and the system of peasant land ownership shall be introduced in order to set free the rural productive forces, develop agricultural production, and pave the way for China's industrialization."*

The expropriation and redistribution process consisted of two stages. First, local *ad hoc* committees assigned *class labels* to households, primarily based on their land holdings at the time (Hinton, 1966). Rural class labels broadly consist of five categories: landlords, rich peasants, middle peasants, poor peasants, and hired labor. Until the *Agrarian Reform Law* was repealed in 1987, the class labels were stable over time and through generations: the labels were passed along patriarchal lines regardless of the actual political inclination and behavior of individuals.<sup>6</sup>

Second, based on the assigned class labels, land and other production tools (e.g., cattle) were confiscated from the landlords and rich peasants, and redistributed to the middle, poor peasants, and the landless hired labor. We accordingly define the pre-revolution elite as the landlords and rich peasants (approximately 6% of the population in rural China) and the rest as non-elite. The Land Reform can be considered as a zero-sum game, since in the vast majority of cases, what was expropriated has been entirely redistributed (Wong, 1973b). By the time the Land Reform was concluded, the landless, poor, and middle peasants had received farmland for cultivation amounting to 43% of total land acreage in China, according to some estimates (e.g., Wong, 1973b).

Property rights over land were complicated during this period of Chinese history. Throughout the Land Reform, effective private ownership over land was still allowed. Since 1954, however,

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<sup>6</sup>Forging class labels was nearly impossible (Wemheuer, 2019). Class labels were common knowledge in villages. Moreover, a double record of class labels was kept: one in individual dossiers held by the village collective, and a separate record held by central security organs for Communist Party cadres (Cheng and Selden, 1994). Finally, class background was subject to potential rechecks by external teams during political campaigns, and providing false or misleading information could lead to serious consequences (Brown, 2015).



private land ownership (along with many other assets) has been abolished by the first Constitution of the People's Republic of China.<sup>7</sup> Potential incomplete confiscation during the Land Reform was effectively eliminated, since the landlords and rich peasants could no longer claim legal ownership of property and assets had they retained any. Moreover, the absence of land ownership rights suggests that the land assets were redistributed primarily in relative rather than absolute terms: namely, the ranking between the rich and the poor was reshuffled, but the poor did not necessarily receive private ownership in more assets.

### **The Cultural Revolution and education disruptions**

The Cultural Revolution was a decade-long, massive sociopolitical movement launched by Mao Zedong in 1966, initially intended to preserve the fruits of the Communist Revolution. Two aspects of the Cultural Revolution stood out: its stance toward the former elite, and its disruptive education policy. Since its inception, the Cultural Revolution was concerned with status inheritance. One of its primary goals was to completely eliminate any remaining advantage of the pre-revolution elite over the masses, and to prevent the pre-revolution elite from passing down their privileges to their offspring (e.g., Whyte, 1973). Throughout the Cultural Revolution, the former elite and their descendants were placed at a severe disadvantage — often explicitly in the selection criteria and procedures — in their access to public goods, job assignments, career promotions, and membership to the Communist Party (e.g., Unger, 1982b).

Among the many things to which the pre-revolution elite were denied access, education is a particularly important one. Motivated by the fear that the pre-revolution elite might be able to maintain their influence through formal education, the Cultural Revolution radically and severely disrupted secondary and higher education (MacFarquhar and Schoenhals, 2006). Almost all senior high schools and colleges were shut down between 1966 and 1968, and most universities remained closed until 1972 (Unger, 1982b). Moreover, merit-based admission into the few education programs still operating during the Cultural Revolution was suspended throughout the revolution. Admission was primarily based on class labels (at the expense of the elite) and political achievements rather than academic credentials (Shirk, 1982). As a result, the vast majority of the eligible applicants were workers, peasants, and soldiers (Deng and Treiman, 1997a).

Besides disrupting educational institutions themselves, the Cultural Revolution induced a wide range of disturbances across Chinese society concerning traditional values. The inheritance of cultural values from the pre-Communist era was regarded with suspicion. Teachers and intellectuals — and the value for education and “bourgeoisie knowledge” as represented by them — became the targets of denunciations (Wang, 2001). Children were also often encouraged to expose

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<sup>7</sup>The collectivization effort centralized land ownership and rights for agricultural production at the commune level. Individual farmers could lease land from the state and grow crops, although no rents were effectively paid to the state. The endowed land that individual farmers could grow food on was essentially land (re)allocated to them during the Land Reform (Lardy, 2008). Land remains publicly (or collectively) owned to this day, although private land use rights and limited transfer rights have been legalized since 1982.

their parents' counter-revolutionary behaviors, representing a broad effort to weaken the nuclear family structure.

With the end of the Cultural Revolution and start of the Reform-and-Opening era in 1978, private asset accumulation and private enterprise became legal again. The stigma attached to the pre-revolution elite class and the overt institutional disadvantage they faced were officially abolished in the 1980s (Walder and Hu, 2009a). The merit-based college entrance exam was resumed at the end of 1977, and more broadly, access to education and high-status occupations were no longer based on explicit political criteria (Lu and Treiman, 2008).

### 3 Data

#### 3.1 Distribution of land wealth around the time of the revolutions

In order to document the immediate effect of the Communist Revolution on wealth distribution, we focus on land assets, the most important form of wealth in rural China. We measure land distribution at the time of the Communist Revolution by digitizing the *County Gazetteers*. The *County Gazetteers*, published in the 1990s, are the county- or city-level archives that cover the historical period from 1949 to 1986.

We manually collect land distribution information around 1950 throughout rural China. Specifically, we collect information on land ownership and population by the five subgroups of the rural population corresponding to the class labels assigned during the Communist Revolution: landlords, rich peasants, middle peasants, poor peasants, and landless peasants. The distribution of land ownership is available both immediately before and after the Land Reform.<sup>8</sup> Due to the decentralized nature of the gazetteer compilation, such land ownership information is not always recorded in the same format. For example, some counties record land ownership information in table format (see Appendix Figure A.1 for such a case), while others embed such information in unstructured narratives (see Appendix Figure A.2). We standardize the records to the same units across counties.

Overall, we identify 639 counties in the gazetteers with the pre-Land Reform land distribution data necessary to calculate within-county inequality.<sup>9</sup> We construct various inequality measures to describe the landscape of wealth inequality across Chinese counties just before and after the Land Reform, such as the Gini coefficient based on county-level land ownership (see Appendix B.1 for details).

Figure 1, Panel A, maps the Gini coefficients on land ownership across China prior to the

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<sup>8</sup>Before the Land Reform, landlords sometimes lived in cities. Such absentee landlordism should have little effect on our estimates of pre-Land Reform inequality, as they accounted for only a very small share of the landlord population (Huang, 1985; Kung et al., 2012).

<sup>9</sup>Out of the 1,434 rural counties in China in the 1950s, 465 have no pre-Land Reform records, 330 do not provide sufficient information to construct reliable county-level inequality measures.

Communist Revolution, with darker shades indicating counties that were more unequal prior to the revolutions.<sup>10</sup> One observes substantial spatial heterogeneity in inequality — inequality was particularly high in the northeast and the south, likely resulting from a combination of geography and historical incidents.<sup>11</sup> Land inequality on the eve of the Communist Revolution is strongly associated the medium-run distribution of land in rural China, as captured by an independent data source that measure the land ownership distribution in the 1930s (see Appendix Table A.1).<sup>12</sup>

Although the data collected from the *County Gazetteers* does not cover the entire country, we do not think the sample selection generates severe biases. Appendix Table A.2, Panel A, presents summary statistics for counties in the sample along various historical and contemporary characteristics such as geographical traits, economic development, and land inequality. Counties with complete and incomplete or no land distribution data are balanced along most of these dimensions (see Panel B). Moreover, the land distribution based on the *County Gazetteers* lines up closely with the data drawn from an independent source that reports land redistribution at the province level (see Appendix Figure A.3; we cannot reject their correlation coefficient to be different from 1). We discuss various checks for sample selection in greater detail in Appendix B.2.

### 3.2 Individual outcomes across generations

We use the China Family Panel Studies (CFPS) to measure a variety of individual level outcomes across generations. CFPS is a large-scale, nationally representative panel survey; it is further representative at the provincial level, allowing for comparisons between sub-provincial administrative units, in five over-sampled provinces.<sup>13</sup> The CFPS completes interviews with a total of 14,798 sampled households and all individuals living in these households, amounting to 36,000 completed adult observations. For the baseline analyses throughout the paper, we restrict our attention to the subsample of 26,400 adults residing in rural counties. Unless otherwise noted, the measures we focus on in the analyses are elicited in the 2010 baseline wave of the survey.

<sup>10</sup>For the purpose of clearer visual illustration, we impute the Gini coefficients of the counties with missing data with prefecture averages. When a prefecture-level average cannot be computed, we take the provincial average. Provinces with no data are shown in gray. We do not use imputed data for any of the subsequent analyses.

<sup>11</sup>Northeastern provinces were closed to Han Chinese settlers until 1860; early movers enjoyed easy access to land, while late movers worked as tenants, creating high inequality in land ownership (Gottschang, 1987; Kung and Li, 2011). Higher inequality in the South than in the North is the result of both historical and geographical differences. Historically, more remote southern provinces were less subject to the Ming and Qing imperial governments' attempts to reduce land concentration, and civil servants had to cooperate with powerful landed gentry to collect taxes (Bernhardt, 1992). Geographically, the South is much more fertile than the North, and production surpluses were high enough to make land rental agreements economically attractive to both landlords and tenants (Kung et al., 2012).

<sup>12</sup>The source is *Land Utilization in China: A Study of 16,786 Farmers in 168 Localities, and 38,256 Farm Families in Twenty Two Provinces in China, 1929–1933*, compiled by John L. Buck in 1937. We aggregate these reports from villages to the county level, which covers 142 counties. The counties are not representative of China, but these reports are the most comprehensive data available on China's agricultural sector prior to 1949. See Appendix C for details.

<sup>13</sup>The CFPS is conducted by the Institute of Social Science Survey at Peking University; detailed information about the CFPS project can be found at [www.issas.edu.cn/cfps](http://www.issas.edu.cn/cfps). The 25 provinces of China covered by the CFPS represent about 95% of the population in mainland China. The 5 over-sampled provinces are Liaoning, Shanghai, Henan, Guangdong, and Gansu.

Importantly, each respondent is asked about the class label assigned to her family at the time of the Communist Revolution. As the class labels have been passed down through generations since the Communist Revolution, this allows us to identify the descendants of the pre-revolution elite. If a member of the younger generation does not know her ancestor’s class label, we use her father’s as class labels were passed down along patriarchal lines. Overall, 5.27% of rural respondents are identified as the pre-revolution elite, in line with the figure (6%) often suggested by historical accounts. Among the pre-revolution elite, 75.9% directly report that they hold elite class labels and the remaining are inferred from reports of older generation in the households.<sup>14</sup>

Associating each individual with her family class label allows us to compare members of the pre-revolution elite versus non-elite households across three generations. The first (grandparents) generation is those who were born before 1940 ( $N = 1,396$ ) — these individuals grew up *prior to* the Communist and Cultural Revolutions. The second (parents) generation is those who were born between 1940 and 1965 ( $N = 10,430$ ) — they grew up in the midst or immediate aftermath of the Communist and Cultural Revolutions, and they graduated from high school (if at all) before the merit-based university admission was resumed. The third (children) generation is those who were born between 1966 and 1990 ( $N = 9,844$ ) — they grew up largely during the post-1978 Reform-and-Opening era, during which ownership of private assets was reintroduced, universities reopened, and a market economy was partially established. Our results are robust to alternative choices of generation cutoffs around these historical landmark events.

To benchmark the socioeconomic status of the pre-revolution elite, we compare them with the new, Communist elite that emerged after the revolutions. Specifically, we define the post-revolution elite as those who belong to a household with at least one Chinese Communist Party member; 5.64% of the CFPS rural respondents in the children generation can be categorized as the post-revolution Communist elite. The Communist Party membership is extremely selective, and the Party maintains a membership quota around 6% of the population, coincidentally similar to the size of the pre-revolution landed elite. The correlation coefficient between pre- and post-revolution elite status is -0.9, indicating that these two elite groups are largely mutually exclusive.

In Table 1, we present the summary statistics (mean and standard deviation, in columns 1 and 2, respectively) of individual-level outcomes based on the CFPS, pooling all respondents from elite and non-elite backgrounds together, across three primary categories: income; educational performance; and labor market related outcomes.

### 3.3 Auxiliary data sources

We deploy a number of additional data sources, which we briefly describe below.

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<sup>14</sup>Intentional misreporting of class labels is unlikely as class background is an important component of family identity. In fact, we observe very little inconsistency of the reported class labels between multiple household members interviewed independently: 94.3% of the households have every household member reporting identical class labels. Our baseline results are robust to alternative measures of pre-revolution elites, which we discuss in detail in Section 4.

**Contemporary wealth distribution at the county level** In order to measure contemporary wealth distribution at the county level, we use the 1% micro sample of the 2000 Population Census.<sup>15</sup> We use the residential housing area per capita of the household to construct a contemporary inequality measure at the county level. Similar to the land-based Gini coefficients in the 1950s, we construct Gini coefficients based on housing size as one minus twice the area under the cumulative distribution function of the housing size. To capture quality differences in real estate, we adjust living size based on reported housing amenities.<sup>16</sup>

**Clan-based local network strengths** In order to capture the strength of clan-based local networks, we rely on several data sources to construct a variety of measures. The primary data source is a 20% micro sample of the 2005 1% Population Survey, which contains respondents' full names. We extract surnames and compute Hirschman-Herfindahl indices of surname concentration at the county level. We adjust for each surname's frequency (either at the province or country level), because high frequency of a common surname is less indicative of clan strength than the high frequency of a rare surname. We proceed similarly with two other data sources to measure clan networks among particular groups of the population, and we use them as robustness checks: (i) surname concentration among the highly educated individuals in the past, based on the roster of top imperial examination graduates (*jinshi*) in the Ming and Qing dynasties; and (ii) surname concentration among the successful enterprise owners in contemporary China, based on the annual above-scale survey of manufacturing establishments (1992-2008).

## 4 Repression and rebound of the elite

### 4.1 Successful revolutions in one generation

We first investigate whether the Land Reform during the Communist Revolution and the subsequent Cultural Revolution achieved their redistributive and egalitarian goals among the parents generation who were directly affected.

#### 4.1.1 Eradication of land inequality

We begin by comparing the size of land owned by pre-revolution elite and non-elite households, immediately before and after the Land Reform. Figure 2, Panel A, plots the cross-county distribution of average land holding among landlord households (in acres per capita) right before (in dotted line) and right after (in solid line) the Land Reform; and Panel B plots the corresponding distribution of the ratio in land holding between poor peasants and landlord households, before and after the Land Reform.

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<sup>15</sup>We focus on the year 2000 because it is the last census wave before mass rural to urban migration began in China. We discuss issues related to migration in greater detail in Appendix B.3.

<sup>16</sup>See Appendix B.4 for details of the inequality measure and amenity adjustment.

On the eve of the Land Reform, landlord households owned on average 6 acres of land per capita (with a long right tail — in some counties the average landlord households owned as much as 25 acres of land per capita). In relative terms, landlord households owned approximately 6 times more land than poor peasants before the Land Reform. This reflects the fact that while land assets were unequally distributed prior to the Land Reform, landlords in China owned a relatively small amount of land, often working on the land themselves, and sometimes hiring labor (Fei et al., 1992); see Appendix A for more historical details. In other words, Chinese landlords were closer to well-off farmers in small-scale farming economies than rentiers who own huge plots of land in plantation economies.

The dramatic reduction in land owned by the landlord households after the Land Reform is apparent. The distribution of the ratio of land holdings between the poor peasants and landlords shifted substantially to the right after the Land Reform, centered just above 1 which indicates equal land holdings.<sup>17</sup> Translating these patterns to Gini-coefficients, we plot the distribution of Gini-coefficients in land ownership across counties in Figure 2, Panel C, before (in dotted line) and after (in solid line) the Land Reform; we plot the corresponding spatial distributions in Figure 1, Panels A and B. One observes that within half a decade, the Land Reform sharply reduced the Gini coefficient from on average 0.5 to an unprecedentedly low level of 0.1. Moreover, the entire cross-county distribution is compressed: very little cross-county variation in landlord land ownership remained after the Land Reform.<sup>18</sup> The residual inequality after the Land Reform is *not* due to the limited implementation of land asset equalization; but rather, it is primarily driven by the fact that in about 67% of the counties, landlords were aggressively deprived of their land, and the poor peasants ended up with slightly *more* land per capita than landlords.

Thus, the Land Reform during the Communist Revolution was extremely successful at eradicating inequality in land asset ownership across China: it homogenized land ownership not only *within* but also *across* counties. The pre-revolution elite's land assets were largely wiped out and redistributed to the poor, and the distribution of land ownership inequality is compressed throughout the country. Such success should not be taken for granted. Many countries attempted land reforms in recent history, but often failed to achieve equality in land holdings even in the short run: e.g., Philippines (1930s), Columbia (1930s), Brazil (1930s), Mexico (1940s), Indonesia (1960s), Chile (1960s-1970s), and more recently, Zimbabwe (2000s) and South Africa (2010s). In fact, land asset confiscation and redistribution are extremely challenging, especially when state capacity is

<sup>17</sup>Appendix Figure A.4 plots the distribution of land gained by the households in hired, poor, and middle peasant categories after the Land Reform. One can see that the entire distribution lies above 0 — namely, non-elite households across all counties in China experienced net land gains, on average, after the Land Reform. Appendix Figure A.5 shows that the land gains of the poor households after the Land Reform were larger in more unequal counties prior to the reform.

<sup>18</sup>Correspondingly, Appendix Figure A.6 plots the pre-Land Reform Gini coefficients (x-axis) against the changes in Gini coefficients post the Land Reform. Each dot represents a county, and these dots largely fall along the 45-degree line: counties that were more unequal in terms of land ownership experienced a larger reduction in Gini coefficients after the Land Reform.

relatively weak, and the wealthy are politically entrenched and are able to evade or even revolt.

#### **4.1.2 Elimination of the elite premium on education**

Next, we examine whether the Cultural Revolution affected inequality in educational attainment among the parents generation, particularly the cohorts that would have attended secondary or tertiary education at that time.<sup>19</sup>

We first document the gap in educational attainment between the grandparents generation of the pre-revolution elite and non-elite. Figure 3 presents, for each birth cohort, the difference between the share of individuals from the pre-revolution elite households who completed at least secondary education and that for peers from the non-elite households (see Appendix Table A.3 for the results in regression form). Most of the cohorts born between 1930 and 1947 were not directly affected by the Cultural Revolution as they would have graduated from senior middle school before the disruption of higher education began. We observe that the pre-revolution elite among these cohorts are about 10 percentage points more likely to have completed at least secondary school education. This is an extremely large difference given that on average, only less than 10 percent of individuals from rural China completed junior secondary school for most of these early cohorts.

The advantage in educational attainment among members of the pre-revolution elite households sharply decreased starting from the 1947 cohort (the first cohort who reached the age to enter university when the Cultural Revolution began), as marked by the left edge of the shaded rectangle in Figure 3. The positive gap between the share of pre-revolution elite who completed secondary or above education and that of the non-elite rapidly shrank and eventually disappeared among the cohorts directly affected by the decade of the Cultural Revolution. In fact, among the cohorts born after 1955, who would be finishing primary school after the onset of the Cultural Revolution, the pre-revolution elite are worse off in terms of educational attainment than their counterparts in non-elite households. This is due to the combination of the expansion of basic education during this period disproportionately benefiting individuals from non-elite households, and the pre-revolution elite often being barred from accessing formal education.

#### **4.1.3 The life of the parents generation**

Finally, we examine the socioeconomic outcomes of the parents generation beyond asset inheritance (which was nonexistent) and educational attainment. Table 1, columns 3 and 4, compare the parents generation of the pre-revolution elite with their peers from the non-elite households. We control for cohort and county of residence fixed effects, hence exploring only within cohort within

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<sup>19</sup>The education system in China before the Cultural Revolution consisted of six years of primary education (starting at age 6 or 7) and six years of secondary education (or “middle school,” split into “junior” and “senior”). During the Cultural Revolution, primary and secondary schools were both reduced to five years (Pepper, 1978).

county differences between the elite and non-elite descendants. Column 5 presents the overall mean of the corresponding variables among the parents generation as a whole.

The individuals of the parents generation from the pre-revolution elite households earn a significantly *lower* — about 18% less — labor income in 2010 than their peers without an elite background (see Panel A). The negative income gap is particularly striking considering that the parents generation of the pre-revolution elite are actually less likely to be retired from the labor force as of 2010, plausibly due to the fact that they are more likely to work for the non-state sector where mandatory retirement age is less strictly enforced (see Appendix Table A.4, Panel C). In fact, we observe a similar pattern if we restrict attention to individuals from the parents generation who are younger than the typical retirement age, if we focus on the non-retirees in the sample, or if we incorporate pension and other retiree-related income sources (see Appendix Table A.5).

Panel B further examines labor market choices. Consistent with the fact that the parents generation of the pre-revolution elite were largely excluded from public sector jobs, we find that they are more likely to be self-employed or employers, less likely to work in the public sector such as state-owned enterprises, and more likely to hold a low-prestige occupation (although this last result is noisily estimated).

Panel C replicates results on educational attainment as shown previously. The parents generation of the pre-revolution elite no longer enjoy an advantage in attaining formal education, and if anything, they become less likely to complete secondary or tertiary education than their peers from non-elite households. Interestingly, despite the lack of formal schooling, the parents generation of the pre-revolution elite do *not* exhibit worse math skills, measured in a standardized test administered by the CFPS in 2010. This suggests that the pre-revolution elite may have maintained some degree of human capital by supplementing informal means of training and transmission such as home schools. Intergenerational transmission of human capital is clearer for reading skills: the parents generation of elite households are significantly more likely than their non-elite peers to belong to the top quartile in a standardized reading test carried out in 2010. We will return to the transmission of human capital through informal channels in Section 5.2.

Although it is challenging to comprehensively depict how the parents generation of the pre-revolution elite fared during and in the immediate aftermath of the revolutions, one may get a glimpse through their membership to the Communist Party of China as well as their experiences during the Great Chinese Famine (1959-1961). The parent generation of the pre-revolution elite are significantly less likely to be members of the Communist Party, an indicator of broad political and social status after the revolutions, and the ability to obtain preferential access to scarce resources. The decline of the pre-revolution elite in the parents generation is particularly evident during the Great Chinese Famine, one of the worst peacetime disasters in modern history caused by misallocation of food (Meng et al., 2015). We find that individuals among the parents generation of the pre-revolution landed elite were *more* likely to experience hunger during the Famine (see Appendix Table A.4, Panel F), despite the fact that their parents were landlords or rich peasants



with ample access to agricultural products merely a decade before the Famine.

Taken together, these results show that the Communist and the Cultural Revolutions were remarkably successful in the short run — essentially eradicating inequality in land ownership and educational attainment, and directly afflicting the lives of the parents generation. Members of the pre-revolution elite households no longer exhibited an elite premium in the dimensions that we can measure. The parents generation thus are unable to pass down to the subsequent generation the two factors highlighted by economists as central to successful economic performance — physical capital and human capital acquired through formal education.

## 4.2 Rebound after the revolutions

We now investigate the socioeconomic conditions among the third, children generation who grow up after the revolutions, comparing the outcomes of individuals belonging to the pre-revolution elite households with those who do not.

### 4.2.1 Income

We first compare contemporary labor income in the children generation for individuals with and without pre-revolution elite background. Table 1, Panel A, columns 6-7 present the results from the regression of total annual labor income on an indicator of whether one's grandparents were the pre-revolution elite. The specification controls for cohort fixed effects and county of residence fixed effects, absorbing cross-sectional differences in wage and labor market conditions between counties. Income is measured in 2010, thus it keeps the macroeconomic conditions at the time of measurement fixed for all subjects.

The children generation from the pre-revolution elite households earn on average RMB 1,912 more per year in income in 2010 than their counterparts from the non-elite households. Relative to the average wage, this amounts to an annual income gap of approximately 16%. In other words, *within* county inequality in contemporary China is at least partly still due to the divergent socioeconomic outcomes between the *pre-revolution* elite and non-elite households in the children generation.

To the extent that the pre-revolution elite may be disadvantaged in entering the public sector due to the legacy of the revolutions, and the post-revolution era was characterized by a private sector boom, one may be concerned that the income gap we document merely reflects differences in children generation's employment sectors. We decompose the identified income gap into between and within public vs. private sector differences in Table 2, Panel A. Column 1 replicates the baseline specification. Column 2 additionally controls for public and private sector fixed effects, taking out the cross-sector income differences across China. In column 3, we control for province-specific public-private sectoral income gaps to account for the provincial heterogeneity in such differences. Finally, in column 4, we control for a migrants fixed effect to account for the fact that

migrants may differentially benefit from the private sector boom. The elite versus non-elite income gap remains largely unchanged throughout columns 2 to 4, at 16-17%. This implies that the primary sources of the income gap are *within* employment sector rather than between.

The income gap between the pre-revolution elite and non-elite steadily increases as the cohorts become younger, in particular among those born after the 1960s, who entered the labor market after the Reform-and-Opening era started in 1978, when market forces began to function again (see Appendix Figure A.7 and Appendix Table A.3, which trace the income gap between the pre-revolution elite and non-elite for birth cohorts starting in 1930). As the proportion of one's professional career that overlaps with the Reform-and-Opening era increases, the pre-revolution family background plays a bigger role in predicting contemporary income and labor market performance.<sup>20</sup> This pattern suggests that household characteristics that may be relevant for the market help individuals accumulate higher gains from the labor market, as soon as the institutional and socioeconomic environment begins to (re)align with these characteristics.

### **Robustness of income rebound**

The positive elite vs. non-elite income gap that we identify is robust to a range of alternative empirical specifications. First, it is unaffected by the specific cohort cutoffs that define the children generation (see Appendix Table A.6, Panels A.1 and A.2). Second, the income gap remains largely unchanged when we use alternative definitions of the pre-revolution elite: (i) relying only on individuals' own reported class labels and not on inference from parents' answers (Panel B.1); (ii) restricting the sample of pre-revolution elite to those who are from households where parents and children do not share the elite class label (Panel B.2); and (iii) considering the pre-revolution elite to consist of only landlords (who were more likely to be rentiers; Panel B.3) or rich peasants (more likely to be a working elite; Panel B.4). Third, the magnitude of income gap we document remains similar when the outcome is instead the log of income (Panel C.1). Fourth, the income gap is robust to accounting for various correlation structures of the data: (i) allowing for spatial correlation across the CFPS sample (Panels D.1 and D.2); and (ii) clustering the standard error at the province or county level (Panels D.3 and D.4, respectively). Finally, the estimated income gap is unaffected by the specific sample composition of the CFPS: (i) reweighting the sample to account for potential sample unrepresentativeness within county (Panel E.1); (ii) restricting the sample to only the 5 over-sampled provinces in the CFPS that are representative at the county level (Panel E.2); and (iii) controlling for the household size or household generational composition, which could affect the sampling probability given the CFPS sampling frame (Panels E.3 and E.4).

The income gap we estimate is also unaffected when we take into account of a number of

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<sup>20</sup>This pattern also suggests that the rebound of the children generation of the pre-revolution elite is unlikely to be driven by the Township and Village Enterprises (TVEs), since their rebound occurred largely after the demise of the TVEs in mid to late 1990s (Park and Shen, 2003). Moreover, the TVEs were often headed by local cadres and Communist Party members, groups from which the pre-revolution elite were largely excluded (see next section for detailed discussions).

potential confounding factors. First, our baseline comparison does not capture life cycle variation in an individual's income trajectory, and one may worry that the differential age effects between the elite and non-elite may drive the observed cross-sectional income differences. We combine the panel structure of the CFPS, using income observed in subsequent waves of the survey between 2012 and 2018 to separately control for both the cohort fixed effects and the age fixed effects; the baseline elite income premium remains largely unchanged (Panel F.1). Second, one may also be concerned that the places where the pre-revolution elite tend to live experience differential development paths, which could account for the observed elite income premium. However, the elite income premium is unchanged if we control for province-specific cohort fixed effects (Panel G.1). Finally, one may be concerned that the income gap is primarily driven by the individuals whose parents are entrepreneurs or self-employed. We find that the elite income premium is unaffected when we control for parental career status (Panels H.1 and H.2).

### **Magnitude of the rebound in perspective**

To put the income gap between the children generation of the pre-revolution elite and non-elite in perspective, we compare it with a number of cross-sectional and intergenerational benchmarks.

We begin by comparing the income premium enjoyed by the descendants of the pre-revolution elite with that enjoyed by the emerging, post-revolution, Communist elite (see Table 3, Panel A). The pre-revolution elite are largely excluded from the post-revolution, Communist elite — in fact, the correlation coefficient between these two elite membership remains at around -0.9 (s.e. = 0.008) across the parents and children generations. We find that the pre-revolution elite's income premium is 70.9% of that exhibited among the post-revolution, Communist elite (see Table 2, Panel B). This indicates that the descendants of the pre-revolution elite have regained their elite status, at least in the economic domain, to a level that is comparable to the new elite of the current Communist incumbent who directly benefit from many structural factors such as preferential access to jobs in the public sector and state-owned enterprises.<sup>21</sup>

We consider two more important sources of cross-sectional income differences (Panel B). First, based on the same national survey data, Heshmati and Su (2017) find a gender income gap in China of 21% (as of 2010). The elite grandparents premium is thus more than four-fifths of the gender gap. A second benchmark is the rural-urban income gap within China. In 2010, an average urban *hukou* holder earned a 61% higher income than their peers with rural *hukou* status. Thus, the magnitude of the elite premium that we identify is about a third of the overall rural-urban gap one observes in China.

Another way to benchmark the income gap and the resurgence of the pre-revolution elite is

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<sup>21</sup> Ample evidence highlights the premium of the Communist Party patronage, either via a persistent effect on economic outcomes of belonging to a household with a revolutionary cadre or martyr, or through the economic benefits and rents received by those who join the Communist Party during their lifetime (e.g., Li and Walder, 2000). Appendix Table A.7 depicts the labor market outcomes and educational attainment of the post-revolution elite.

through intergenerational transition probabilities — in particular, the chance that one stays in the top decile in terms of income if one’s grandparents were in the top decile. We compare the implied transition probability based on the income gap we estimate in China’s context, with other contexts where comparable data is attainable (Panel C; Appendix D describes in detail the procedure of recovering the transition matrix from regression coefficients).<sup>22</sup> Our estimated income gap implies that individuals whose grandparents were in the top decile of the distribution have a 14.5% chance of staying in the top decile. This is much higher than the persistence rate of top decile in Taiwan (10.1%; Yu, 2019), Canada (11.1%; Corak and Heisz, 1998), Russia (13.0%; Popkin, 2016), and the U.S. (14.1%; Chetty et al., 2014). Thus, China’s two major revolutions, despite their explicit goals of eliminating class privileges and removing inequality, did not manage to increase social mobility substantially above what is observed in other economies that have transitioned away from the socialist system, or several exemplifying capitalist economies with no such revolutions.<sup>23</sup>

#### 4.2.2 Employment status and additional labor market outcomes

The children generation of the pre-revolution elite are more pro-market and entrepreneurial, as reflected by their employment sectors. Table 1, Panel B, presents the results of a regression of various employment statuses on the pre-revolution elite indicator. Employment status is measured by: (i) the ISEI score of the particular job, which ranks occupation categories so as to maximize the role of occupation as an intervening variable between education and income (Ganzeboom et al., 1992a); (ii) intergenerational occupational mobility from the agricultural to the non-agricultural sector; (iii) an indicator for being self-employed or owning an enterprise, and indicators for each of these two categories; and (iv) an indicator for public sector employment (equal to 1 if employed by a state-owned enterprise and 0 otherwise).

We find that the children generation of the pre-revolution elite have significantly higher overall occupational status as measured by the ISEI score. This is partially due to several reasons. The pre-revolution elite, in the children generation, are about 5% more likely to be self-employed; they are also more likely to be both entrepreneurs and owners of enterprises, although differences are not statistically significant at conventional levels for these subcategories.<sup>24</sup> Moreover, we find substantial intergenerational occupation upgrading from agriculture to non-agricultural sectors among those from the elite households: the children generation from pre-revolution elite house-

<sup>22</sup>A three-generation transition matrix is rarely estimated in other contexts due to data limitations. We thus extrapolate from the two-generation transition matrix, assuming the same transition probability between grandparents and parents as between parents and children.

<sup>23</sup>One may argue that without the revolutions, social mobility in China might have been much lower than what it is today. Such a counterfactual is inherently difficult to assess. Existing genealogical evidence shows that intergenerational mobility was quite low in China between 1300 and 1900 (Shiue, 2018).

<sup>24</sup>This relates to recent evidence that parental background is key in explaining business ownership in China; specifically, children of entrepreneurs are more likely to become entrepreneurs themselves (Jia et al., 2020). To the extent that self-employed small business in rural China often requires access to capital via social network and informal lending (e.g. Zhang and Loubere, 2013), this also suggests that the pre-revolution elite have stronger social ties and are able to excel at network-intensive career paths. We investigate the importance of social networks in Section 5.3.

holds are about 33% *more* likely to hold non-agricultural occupation than their peers from non-elite households, if their parents worked in the agricultural sector (the baseline rate is 30% with elites commanding a 10% premium,  $p\text{-value} = 0.003$ ). Finally, we observe that the children generation from elite households are slightly less likely to be employed in the public sector, though the difference is not statistically significant.

#### 4.2.3 Educational attainment

The pre-revolution elite's resurgence in the labor market is accompanied by their rebound in educational attainment. Among the cohorts that began secondary and tertiary education after the normalization of education (i.e., those born after 1961), the proportion of individuals from the pre-revolution elite households who completed at least secondary school immediately bounces back and remains much higher than that of their counterparts in the non-elite households (see the right section of Figure 3). We then analyze this pattern more rigorously in regressions, where we exploit across households, within county, and within cohort variation. As shown in Table 1, Panel C, individuals from pre-revolution elite households complete on average 0.75 years (or 11%) more schooling in the children generation. They are much more likely to complete secondary school and higher education than their counterparts from non-elite households.

The increased schooling also reflects differences in tangible human capital accumulation, as measured by math and reading skills in a standardized test administered in the 2010 CFPS module. Children generation of the pre-revolution elite households performed significantly and substantially better in math and reading than their peers from the non-elite households.

Given that just one generation ago, the pre-revolution elite did not enjoy any advantage in — if anything, were discriminated against in their access to — formal schooling, the rapid and systematic rebound of the children generation is particularly striking.

## 5 What explains the elite's rebound?

The pre-revolution elite has systematically rebounded in the children's generation. What explains their resurgence? Generally speaking, an individual's success hinges on her access to and accumulation of physical capital, human capital, social capital, as well as the macro-socioeconomic conditions that are compatible with these capitals. The success of the revolutions in shaping and suppressing the lives of the parents generation of the elite as portrayed in Section 4.1 indicates that key factors such as physical capital (accumulated through asset inheritance) and human capital that could be acquired from formal education cannot explain the rebound of the children generation of the pre-revolution elite.

In this section, we begin by discussing a number of factors that may have accounted for the elite rebound, and present evidence that they are unlikely to be important explanations. We then

focus on two factors that may play a prominent role and that the revolutions did not manage to annihilate among the elite: human capital transmitted in the family, and social capital.

## 5.1 Potential explanations unsupported by evidence

### Incomplete confiscation of wealth

The pre-revolution elite's comeback could simply reflect the failure of the Communist and Cultural Revolutions to thoroughly deprive elite households of their wealth and access to higher education. Wealth may be hidden if the Land Reform did not take away all the land from the landlord and rich peasant households beyond the subsistence level, and these families may leave behind other agricultural productive assets. This is unlikely because the pre-revolution landed elite were in fact more likely to suffer from starvation during the Great Chinese Famine, the *prima facie* evidence that they did not retain meaningful wealth after the Land Reform. Moreover, hidden assets became largely irrelevant due to the collectivization movement in 1952-1957 that completely eliminated private property rights (both usage and transfer rights) to any land and production assets soon after the Land Reform. To the extent that one could try to hide wealth and assets from being confiscated, it is primarily in the form of slaughtering cattle for one-off private consumption, and the estimated scale of such a behavior is rather low (Chen and Lan, 2017).

Finally, restitution is unlikely to drive the persistence among the rural elite that we document. Although a small fraction of the urban elite received a portion of their pre-revolution real estate properties back in the early 1990s, confiscated assets were not returned in rural areas. A systematic examination of the records in the *County Gazetteers* suggests that the ownership of a portion of the previously confiscated agricultural production assets such as semi-mechanized farming tools have been re-allocated from the collectives to households since 1981. However, these assets were typically allocated through lotteries or auctioned off, rather than returned to their original owners (Unger, 1985).

### Selective migration

The stark rebound of the pre-revolution elite in the children generation could reflect their different migration patterns. We consider two primary ways that migration may explain our results: (i) selection out of the sample, and (ii) spatial sorting of those included in the sample.

First, the pre-revolution elite may have a higher probability of migrating and thus being excluded from the CFPS sample. Appendix Table A.8, Panel A, suggests that selective migration in the children generation based on the pre-revolution elite status is negligible regardless of the definitions of migration (from birthplace, place of household registration, and places of residence at ages 3 and 12). While rural-urban migration was relatively unimpeded before the establishment of the household registration in 1958, we do not find evidence of differential migration of

individuals from the pre-revolution elite in the parents and grandparents generations (see Panels B and C, respectively). Since the CFPS does not cover split-off households outside the county, we rely on census data to explore the selection of rural emigrants (both separate individuals and entire households), using education as a proxy for earnings potential (see Appendix Table A.9). We find that in 2000, college-educated individuals with an agricultural *hukou* were significantly more likely to live in another county than their county of registration. Results are similar when we consider migration of entire households. Positive selection on education is also clear in 2005, after the big surge in rural-urban migration. These results suggest that our estimate of the elite premium in the children generation is in fact likely to be a lower bound.

Second, the premium earned by the pre-revolution elite in the children generation could result from their sorting into high-wage places, reflecting their ability to seize opportunities, or access to more valuable migration networks. We assess sorting by analyzing the heterogeneous effect of elite status on migration probability with respect to income differentials between provinces. We first measure income differentials as the difference between wages at origin and in the typical migrant destination, i.e., using a weighted average of wage differentials based on the migration patterns observed in CFPS. As this measure relies on past migration patterns and may thus be endogenous, we use as a second measure — shocks to revenues at origin arising from the interaction between international agricultural commodity prices and local suitability for growing different crops, following Imbert et al. (2020). These shocks change the wedge between origins and all destinations and should be orthogonal to past migration patterns. Appendix Table A.10 presents the result, and we find that the probability to migrate does *not* differ between the pre-revolution elite and non-elite, regardless of the measure of income differentials we use.

### Selective remittance

Although we do not observe patterns of selective migration, previous waves of elite migration may generate the observed income gap among those who stayed behind as they may receive remittances from émigré relatives. In particular, rural elite households may be more likely to have (rich) urban relatives, who could have supported them after the urban economy had picked up in the Reform era.<sup>25</sup> We do not find evidence that the magnitude of such remittances is substantial among the rural households we study, and we find no differential access to remittances in the pre-revolution elite households. Based on our calculation using the CFPS data, as of 2010, about 12% of rural residents among the children generation have received transfers from relatives not co-residing with them. Not all of these transfers are remittances. Compared to those from the non-elite households, individuals from pre-revolution elite households are in fact slightly less likely to

<sup>25</sup>Overseas migration among the rural elite was extremely rare. During or soon after the revolutions, the top wealthy families of the pre-revolution elite in major urban centers (in particular Shanghai) may have migrated overseas along with some of their assets, mainly to Hong Kong and Taiwan. See Lin (2018) for a breakdown by province of origin of immigrants from the mainland in the Taiwanese 1956 Population Census.

receive such transfers, and conditional on receiving the transfer, the amount is also slightly lower.

### **Selection through violence targeting the pre-revolution elite**

One may speculate that the pattern of persistence among the pre-revolution elite is driven by selective violence against the elite during the Communist and Cultural Revolutions. If killing and violence were more intense in historically less unequal places and more successful among individuals with fewer resources and a lower capacity to resist, or among those unable to ensure that their descendants perform well, then such a selection could generate a pattern of persistence and upwardly bias the estimates on intergenerational persistence.

We examine the relationship between pre-revolution local inequality (such as the landlord share of the population or land ownership Gini coefficients) and the intensity of violence (both cases of killings and cases of persecutions) reported in the corresponding counties.<sup>26</sup> We find that violence was *not* associated with regional inequality prior to the revolutions: this is the case for the violence both during the Communist Revolution (see Appendix Table A.11), and during the Cultural Revolution (see Appendix Table A.12). More importantly, the systematic killing of landlords and rich peasants was limited in scale as most of the pre-revolution elite survived the revolutions. The observed overall level of violence, albeit not zero, was too low to drive the persistence pattern that we document.

### **Persistence in inequality at the county level**

One may speculate that the pre-revolution elite rebound simply because they ride the tide of the general resurgence in inequality across China and local conditions that favor inequality. In order to examine the persistence (or lack thereof) in inequality at the aggregate level, we regress the real estate housing Gini coefficients in 2000 at the county level on the corresponding land ownership Gini coefficients just prior to the Land Reform.<sup>27</sup> We include province fixed effects throughout, and the results are presented in Appendix Table A.13 (Figure 1, Panel C, maps the real estate Gini coefficients in 2000 across counties). We observe a strong and sizable *negative* relationship between the pre-Land Reform inequality and contemporary inequality. The inequality patterns across China were reversed: historically more unequal places are *relatively* more equal

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<sup>26</sup>We rely on the *County Gazetteers* to collect data on persecution cases during the Land Reform. We extract the violence numbers from the text description of the Land Reform. We find 67 counties that document the violence quantitatively. The violence data include number of deaths, the population being struggled (*douzheng*), and the number of people labeled as anti-revolutionary (*fangeming*). We complement these data with statistics on mass killings during the Cultural Revolution from Walder and Su (2003) to assess the role of selective violence in our results.

<sup>27</sup>Combining the gazetteer data with contemporary counties in 2000 reduces the number of available counties with pre-Land Reform inequality measures to 572. While different bases of the inequality measures (land assets in the 1950s and housing sizes in 2000) could mechanically affect the overall level of inequality due to measurement, such differences would not necessarily affect the relative position of inequality with respect to other counties in the country. Moreover, we find that the baseline pattern we observe is robust to taking into account of differential urbanization rate, which could affect the association between land assets and housing size.



today (though this needs not be the case for the *absolute* level of inequality).<sup>28</sup>

We next unpack the sources of this reversal and find that much of the movement toward equality comes from the compression of the difference between the above-median and median households (see Appendix Figure A.9, where we decompose the inequality reversal over time by different parts of the distribution). Furthermore, the reversal pattern is more likely to occur in counties that have better access to domestic markets (see Appendix Table A.14). We provide detailed discussions of these results in Appendix E.

In addition to becoming relatively more equal, historically more unequal counties also become collectively *less* tolerant of inequality today. Specifically, when asked whether they agree with the statement “for the economy to thrive, one needs to enlarge income inequality in the population,” residents in counties that were more unequal prior to the Land Reform are substantially more likely to express strong disagreement (see Appendix Table A.15). This association is robust even controlling for cohort and income at the time of the survey.

Taken together, these county-level patterns suggest that instead of riding the tide of increasing inequality in recent decades, the pre-revolution elite rebound in spite of the fact that the local environment becomes relatively more equal and more hostile towards inequality.

## 5.2 Human capital transmitted through families

We now examine whether human capital has been transmitted among the pre-revolution elite through channels other than formal education (in particular, through families), and whether this could account for the elite’s rebound.

We begin by revisiting the results on basic math and reading comprehension abilities that we present previously. The parents generation of the pre-revolution elite performed equally well in math tests and substantially better in reading compared to their non-elite peers. The difference in the latter amounts to a level associated with about 2 years of formal education, despite the fact that they actually have completed fewer years of formal schooling due to the revolutions. This pattern suggests that certain skills and knowledge have been transmitted among the elite households through non-school channels. We observe high level of performance, in both math and reading, among the children generation of the pre-revolution elite as well, although this could reflect human capital acquired from a combination of school and non-school channels.

We next turn to values and attitudes, another important aspect of human capital. We focus primarily on work ethics, which is generally predictive of income and wealth across many contexts (Alesina and Giuliano, 2015). We find that the pre-revolution elite express much stronger value in hard work. When asked “do you agree that the most important factor that determines someone’s success is how hard she works,” the children generation of the pre-revolution elite are

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<sup>28</sup>Appendix Figure A.8 illustrates how seemingly opposite patterns at the county and individual levels could co-exist. The reversal of within county inequality captures the relative distribution of inequality patterns *across* counties throughout China. The pattern characterizing the pre-revolution elite over time largely occurs *within* counties.

much more likely to agree with the statement relative to their peers from the non-elite households (see Table 4, Panel A, columns 1 and 2). Such differences in expressed work ethics are not merely reflecting the pre-revolution elite's higher income and educational attainment: similar differences are observed even among young adults who have not yet participated in the labor market and experienced actual income differences themselves, and among adolescents who have not yet completed secondary education (see Appendix Table A.16, Panels A and B); and the expressed work ethics are *not* elastic to income changes over the period between 2010 and 2018 when we observe respondents repeatedly (see Appendix Table A.17).

The differences in expressed work ethics are consistent with actual differences in behavior. Table 4, Panel A reports the estimated differences on hours spent on work during weekdays and the hours spent on leisure on weekends between the pre-revolution elite and the non-elite. One can see that the children generation of the pre-revolution elite spend significantly and substantially more hours working on weekdays and fewer hours on leisure on weekends — amounting to 235 more hours at work (and hence less leisure) each year. We observe similarly high working hours among the parents generation of the pre-revolution elite, though intriguingly not in their expressed attitudes on work ethics.<sup>29</sup> The stigma attached to these values during the revolutions may have made the parents generation reluctant to express them publicly even to this day.

Interestingly, while the pre-revolution and post-revolution elites enjoy a similar income premium, the latter do not express stronger work ethics and do not spend longer hours working than the rest of the population (see Table 4, Panel A, columns 3 and 4), indicating that the high work ethics that we observe among the pre-revolution elite is not to be taken for granted among any socioeconomic elite group in China. This may come at a surprise given that the stereotypical narrative (often used by the Communist Party itself after the revolution) portrays the pre-revolution landed elite — especially the landlords — as a lazy, purely rent-seeking and exploitative class, and the Communist elite as the diligent working class. While some individuals may confirm such a stereotype, the average member of either elite class does not, which may reflect the fact that the average landlord and rich peasant did not own substantially more land than poor peasants before the revolution, and often engaged in farm labor themselves. Nonetheless, it is important to note that this does not necessarily suggest that high work ethics is uniquely held by the pre-revolution elite. In fact, the children from the non-elite households whose parents exhibit similarly high level of work ethics also out-perform their peers on the labor market (see Appendix Table A.18). In other words, the pre-revolution elite possess an important set of traits that has a high return in a modern, market economy.

In addition to the stronger work ethics, the pre-revolution elite also exhibit differences in a number of other important values. The pre-revolution elite, compared to their non-elite counterparts, are significantly more likely to value education of the next generation, and willing to

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<sup>29</sup>We observe higher levels of stated work ethics among the grandparents generation of the pre-revolution elite, although the difference is noisily estimated due to sample size of the older cohorts (see Appendix Table A.16, Panel C).

sacrifice other dimensions of living when financially constrained, consistent with the realized educational attainment among members of the elite households (see Appendix Table A.4, Panel D).<sup>30</sup> They are also more likely to: (i) have greater career aspirations, considering being rich as an important aspect of life; (ii) believe that inequality is desirable in the society in order to incentivize growth; and (iii) consider competition essential to maintain social cohesion — although differences are not always statistically significant at conventional levels.

Co-residence with the parents generation is an important factor to account for the attitudinal differences between the pre-revolution elite and non-elite.<sup>31</sup> We find that the sub-group of individuals in the children generation who co-live with their parents exhibits the largest elite vs. non-elite attitudinal differences, and the gap essentially vanishes among those whose parents have already passed away (see Appendix Table A.19). While co-residence with parents could be driven by the alignment of fundamental attitudes between the two generations, the inability to co-reside due to the parents' premature death makes such sorting less of a concern. The pattern observed here is consistent with the interpretation that vertical transmission, of which co-residence and spending a significant amount of time together are a pre-requisite, plays an important role in explaining the attitudinal differences among the children generation. Close interactions between the generations may play an even bigger role in the transmission of stigmatized values and attitudes.<sup>32</sup> Furthermore, the fact that parental deaths do not correspond to higher work ethics among the elite also suggests that it is unlikely that their stronger work ethics are simply a result of willingness to revenge and rectify the persecutions experienced by the previous generations.<sup>33</sup>

Taken together, these results indicate that despite the revolutions, families have been an important vehicle for transmitting human capital across generations, including knowledge, skills, and important values. We end this section with an assessment on the extent to which differences in human capital such as work ethics could account for the large income gaps that we document between the children generation of the pre-revolution elite and non-elite. In Appendix Table A.20,

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<sup>30</sup>In contrast to the greater investment in education, the pre-revolution elite spend *less* on real estate and housing compared to their non-elite counterparts, suggesting a shift towards investments in intangible assets (see Appendix Table A.4, Panel E). Such shift is similar to the patterns documented among Polish forced migrants after WWII (Becker et al., 2020).

<sup>31</sup>The vast majority of the cases of co-residence with parents that we observe are with biological parents, as the divorce rate in China is extremely low — less than 2 per 1,000 inhabitants as of 2010. One may also co-reside with extended family members, especially when not residing with parents; however, we do not directly observe such behavior.

<sup>32</sup>One could attribute part of the persistence and rebound to innate traits and characteristics, such as genetics, personalities broadly defined, intelligence, and emotional intelligence. The pattern that the pre-revolution elite's rebound may be affected by the co-residence with their parents suggests that such innate characteristics are unlikely to be the primary driver.

<sup>33</sup>A similar hypothesis is that the persecution of the grandparents and parents generations established or made salient an elite group identity (Akerlof and Kranton, 2000) and narrative (Benabou et al., 2018), which would be critical in fostering a set of key values and attitudes. The direct test of this hypothesis would require us to observe attitudes and values among the grandparents generation, *prior* to the revolutions; however, such data do not exist. An indirect piece of evidence inconsistent with the persecution-induced revenge and resentment is that we do *not* observe weaker differences among those in the children generation who do not know their class labels and thus may belong to families where the history of persecution is less salient.

we re-estimate the elite income gap among the children generation, and control for the values and attitudes that we examine in this section. The elite vs. non-elite income gap is dramatically reduced (drops by 75%).<sup>34</sup> One ought to be cautious in interpreting results from this exercise; this pattern nonetheless is suggestive that values and attitudes such as work ethics, and human capital transmitted through families more generally, could be an important channel through which the income advantage of the pre-revolution elite emerges again in the children generation.

### 5.3 Social capital: family-based social networks

Apart from family-transmitted human capital, social capital may be another key factor to the pre-revolution elite's success that the revolutions fail to eradicate. In this section, we explore the role that family-based social networks may play in fostering the pre-revolution elite's rebound.

We begin by examining the composition of households. Specifically, we ask whether members of the pre-revolution elite households are more likely to marry other descendants of the pre-revolution elite. Table 4, Panel B, columns 1 and 2 present the estimated likelihood of assortative matching based on the pre-revolution elite status. One observes that controlling for birth cohort and county of residence fixed effects, which hold fixed many factors related to the marriage candidate pool, the pre-revolution elite are significantly more likely to marry others who share their class background.<sup>35</sup> This suggests that homogeneous households are (still) formed and the revolutions did not lead to a thorough reshuffling of the marriage market. Moreover, we find that individuals in the children generation of the pre-revolution elite are substantially more likely to co-reside with their parents and even grandparents. This allows the pre-revolution elite to form households that contain significantly more generations, and the tightly knit multi-generational households are often considered as a hallmark of the traditional, Confucian familial arrangements.<sup>36</sup>

Next, we examine whether the presence of strong local networks based on traditional families and kinship clans is associated with the extent to which the pre-revolution elite manage to rebound. Kinship clans and family-based networks in general are vital fabrics of traditional rural society in China, where they still sustain cooperation, public goods provision, and resource allo-

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<sup>34</sup>In Appendix Table A.21, we re-estimate the elite vs. non-elite differences in values and attitudes, and control for formal educational attainment. We find that the gap is still present even accounting for differences in educational attainment.

<sup>35</sup>The probability to marry within the elite is even higher, and also statistically significant, for both the parents and grandparents generations. Similarly, the post-revolution, Communist elite are significantly more likely to marry within their class, and significantly less likely to intermarry with the descendants of the pre-revolution elite (see columns 3 and 4).

<sup>36</sup>Appendix Table A.4, Panel G further shows that the pre-revolution elite are more likely to interact with their family members financially: although this result is not significant at conventional levels, compared with their peers from the non-elite households, they are more likely to provide their relatives and extended family members with, or receive from them, financial help. Interestingly, we do not observe substantial differences in financial transfers exchanged with non-relatives, consistent with the fact that the social networks are largely coextensive with the extended family and strong ties are more usually leveraged than weak ties in China (Bian, 1997).

cation. We estimate the heterogeneous pattern of the income gap between the children generation of the pre-revolution elite and non-elite, with respect to kinship clan strength in the corresponding county of residence. We capture kinship clan strength using the concentration of surnames in a particular county's population, and the coefficient estimates are presented in Table 5 Panel A, column 1. We find that the rebound of the pre-revolution elite is much more substantial in counties that have stronger kinship clan presence: a one standard deviation increase in surname concentration in the local population is associated with a 31.4% increase in the observed income gap between the children generation of the pre-revolution elite and non-elite. This pattern is consistent for a variety of alternative clan strength proxies: the concentration of surnames among contemporary business owners and enterprises located in the county, as well as the concentration of surnames among historical civil service examination's top scorers born in the county; though the magnitude and the precision of the estimates differ depending on the measure used (see Appendix Table A.22).

In contrast with the pre-revolution elite, the post-revolution elite's income premium is *not* significantly associated with the local kinship clan strength (see Table 5, Panel B, column 1). While the new, post-revolution elite might have formed separate networks through which they thrive (e.g., the formal organization structure of the Communist Party and its extensive local branches), they do not generically benefit from the local kinship clan networks that the pre-revolution landed elite participate in. In fact, if anything, the presence of strong local clans slightly hurt the post-revolution elite.

To aid the interpretation of the results related to strong local clans, we investigate the correlation between the strength of local clans and the prevalence of traditional living arrangements that characterizes elite households. We find, presented in Table 5, Panel A, column 3 that the pre-revolution elite from counties with strong local kinship clans are significantly more likely to co-reside with older generations of the family, affirming that the kinship clan is capturing underlying family network patterns among the elite. Amplified co-residence in places with stronger clans is not observed among the post-revolution elite, indicating that such clans are specifically related to the pre-revolution elite.

Importantly, the social capital through local clan networks do not affect human capital transmission as examined in Section 5.3. In particular, we find that the pre-revolution elite are *not* significantly more likely to express stronger work ethics in counties with stronger kinship networks (see Table 5, Panel A, column 2). The post-revolution elite remain similar to the non-elite in their emphasis on effort, regardless of kinship clan presence. In other words, while social capital contributes to the pre-revolution elite's rebound, it likely operate in ways that are not directly related to enhancing value transmission among the elite.

Taken together, these patterns suggest that while the Communist and Cultural Revolutions eradicated the elite class's physical assets and opportunities to accumulate human capital through formal channels of schooling, the basic social fabrics within elite families and their kinship clans

may have survived. The descendants of the elite families benefited from such kinship networks, and their rebound was facilitated by these networks. The assortative matching and tightly knit families may further the pre-revolution elite's ability to preserve and access social capital tied to their kinship networks, in turn contributing to the persistence of the pre-revolution elite.

## 6 Conclusion

This paper investigates the extent to which efforts to eradicate inequality in wealth and education can shut off intergenerational persistence of socioeconomic status. We find that the Communist and Cultural Revolutions in China — among the most radical social transformations in recent human history — prevented the elite from transmitting to their children physical capital and human capital acquired from formal schooling. Nonetheless, the grandchildren of the pre-revolution elite, growing up after the revolution ended, systematically bounce back and earn substantially higher income than their peers.

We show that two channels — the transmission of human capital through families, and the survival of social capital manifested in kinship-based networks — contribute to the pre-revolution elite's persistence despite the revolutions. These channels, both centered around families, have been extraordinarily resilient despite such broad and deep institutional and political changes as the Chinese revolutions brought about. Thus, these channels may be largely and generally immune to policy interventions that aim to level the playing field, making them powerful sources of persistence across generations.

One may only speculate that had the Chinese revolutions involved mass killing of the elites themselves, lasted for more than one generation, or directly targeted transmission within the family sphere, the younger generation would be prevented from co-residing or exchanging with those who grew up prior to the revolutions. As a result, human capital transmission within families as well as family-based social capital among the elite may become severely undermined. Since policies targeting intergenerational mobility as extreme as the Chinese revolutions — let alone those more extreme — are exceptionally rare, intergenerational persistence would likely endure.

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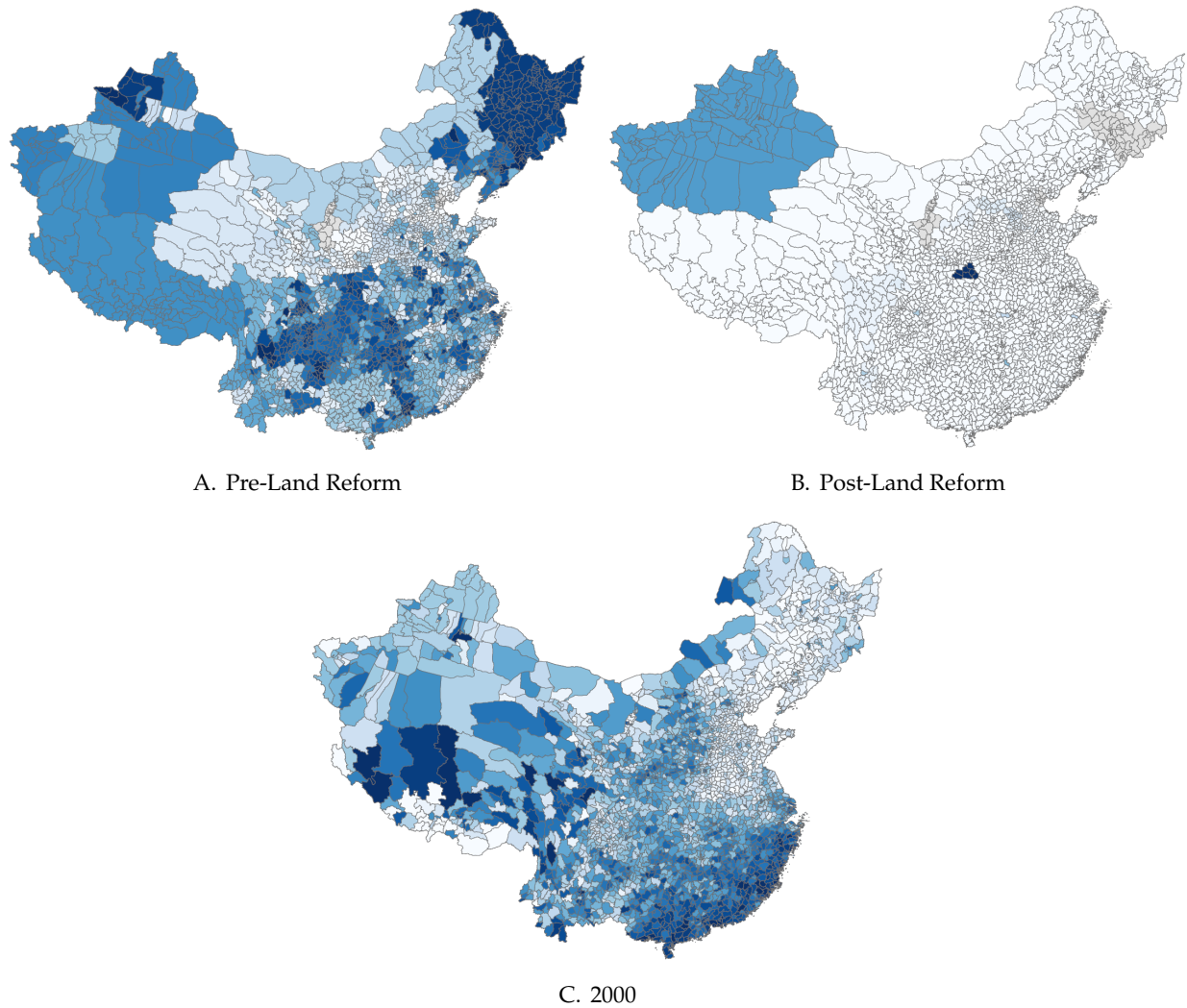
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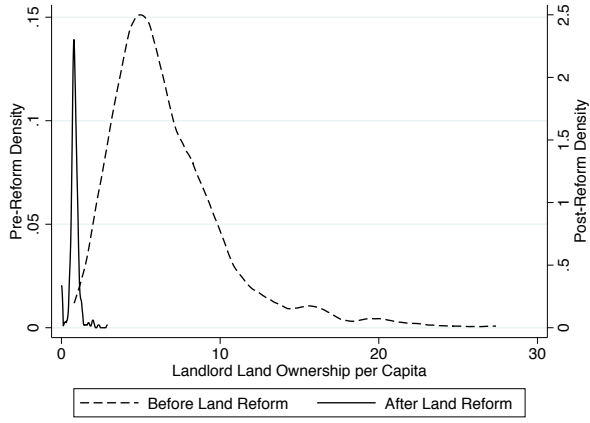
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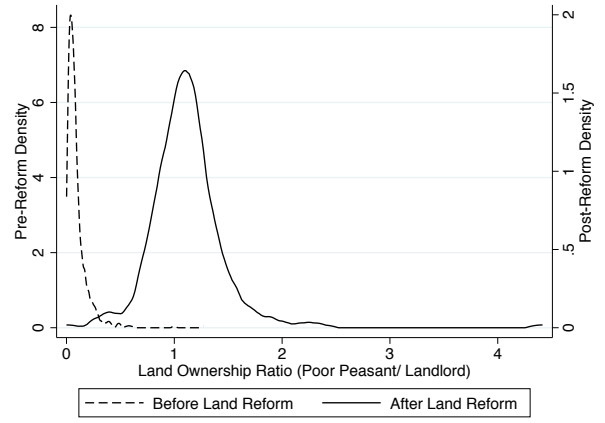
## Figures and tables



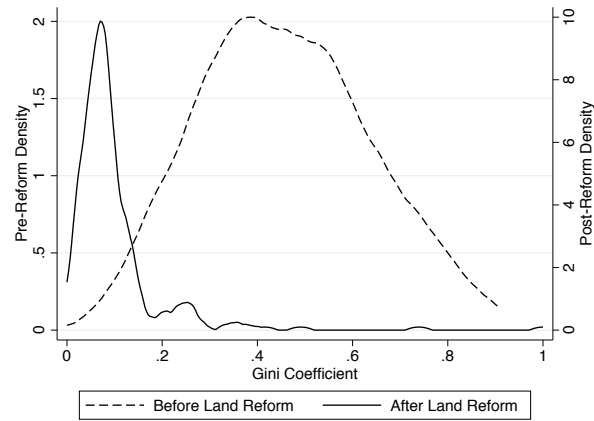
**Figure 1:** This figure displays Gini coefficients across Chinese counties. Darker color indicates higher within-county inequality. Panel A: Gini coefficients in land ownership prior to the Land Reform; counties with missing observations are imputed using prefecture averages (province averages if all counties in a prefecture have missing data); provinces with no data are shown in gray. Panel B: Gini coefficients in land ownership just after the Land Reform; same imputation strategy for counties with missing values. Panel C: Gini coefficients in housing size in 2000.



A. Landlord land ownership per capita

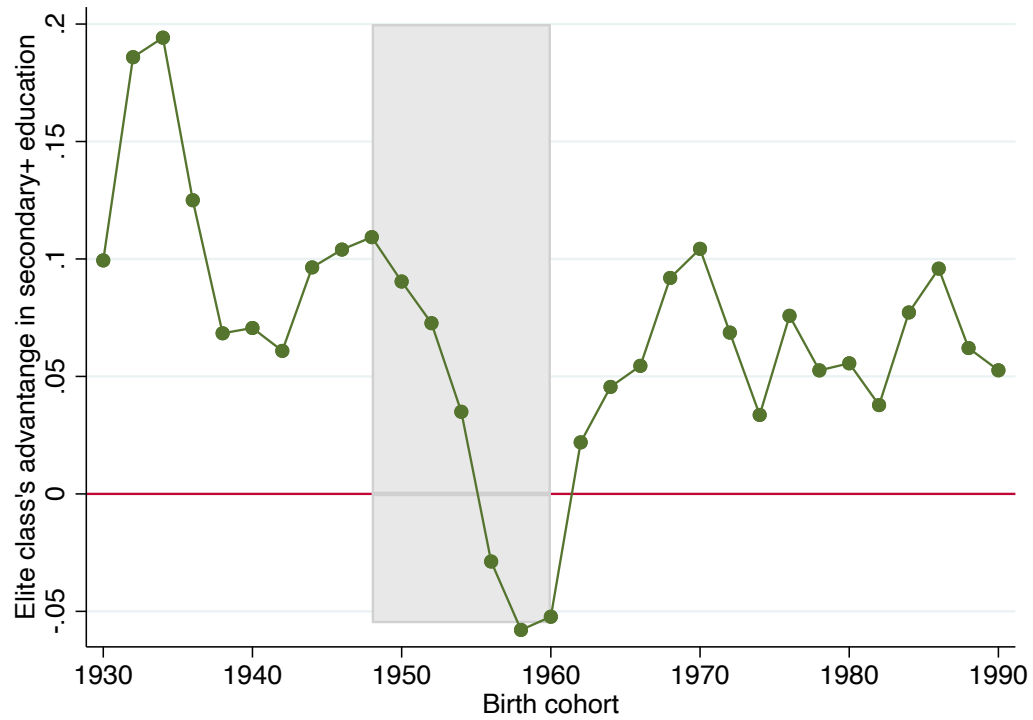


B. Land ownership ratio (poor peasant/landlord)



C. Gini coefficient

**Figure 2:** This figure displays various measures of the land distribution across Chinese counties. Panel A plots the number of acres of land owned per landlord household member before and after the Land Reform. Panel B plots the ratio of land ownership per poor peasant to the land ownership per landlord before and after the Land Reform. Panel C plots the Gini coefficient of land ownership before and after the Land Reform. The dashed (solid) line is the probability density function before (after) the Land Reform.



**Figure 3:** This figure plots the elite class's advantage in educational attainment — the average difference in the probability in completing at least secondary education between the elite class (defined as individuals from landlord or rich peasant households) and the non-elite class. The shaded area indicates the birth cohorts whose education could be potentially affected by the Cultural Revolution, i.e., those who would have completed or entered secondary school (age 12–18) between the start of the Cultural Revolution in 1966 and the normalization of education in 1972.



**Table 1: Parents and children generations of the pre-revolution elite**

	Both generations			Parents generation			Children generation		
			Std. dev.	Elite diff.		Overall	Elite diff.		Overall
	Mean			Coef.	Std. err.	Mean	Coef.	Std. err.	Mean
	(1)	(2)		(3)	(4)	(5)	(6)	(7)	(8)
<i>Panel A: Income</i>									
Annual labor income	8,809.188	24048.929		-1106.048**	474.688	6,148.240	1,911.524**	854.702	11628.269
<i>Panel B: Labor market sector choices</i>									
Non-agricultural job	0.399	0.490		-0.009	0.019	0.275	0.039*	0.023	0.509
Change to non-agricultural job from parents	0.164	0.572		-0.014	0.029	0.067	0.054*	0.031	0.250
Self-employed or employer	0.106	0.308		0.027*	0.016	0.075	0.046**	0.021	0.134
Individually owned business	0.058	0.233		0.013	0.010	0.047	0.023*	0.013	0.068
Non-individually owned business	0.033	0.178		0.002	0.007	0.027	0.023**	0.011	0.039
Employed in public sector	0.043	0.202		-0.012	0.008	0.030	-0.017	0.011	0.054
Career prestige score (ISEI)	30.298	13.088		-0.206	0.545	27.978	1.549**	0.758	32.335
<i>Panel C: Educational performance</i>									
Years of education completed	5.547	4.670		0.155	0.168	4.419	0.748***	0.190	6.743
Completed at least junior high school	0.139	0.346		-0.026**	0.011	0.102	0.041**	0.018	0.178
Top quartile in math test score (2010)	2.129	1.023		0.001	0.035	1.880	0.161***	0.045	2.393
Top quartile in reading test score (2010)	2.321	1.051		0.115***	0.038	1.990	0.120***	0.043	2.672

Notes: Columns 1 and 2 present the mean and standard deviation, respectively, of the variable for the parents and children generation combined. Columns 3 and 6 (4 and 7) present regression coefficients (standard errors) of estimated differences between members of the pre-revolution elite and non-elite households for the parents and children generations, respectively, controlling for cohort fixed effects and residence county fixed effects. \*\*\*  $p < 0.01$ , \*\*  $p < 0.05$ , \*  $p < 0.1$ . Sample: parents (1940–1965 birth cohorts; N = 10,429) and children generations (1966–1990 birth cohorts; N = 9,844). Note that Panel B contains only employed individuals (parents generation: N = 5,110; children generation: N = 5,820), except for “Individually owned business” and “Non-individually owned business,” which are available at the household level (parents generation: N = 10,401; children generation: N = 9,822).

**Table 2:** Decomposing income differences among the children generation

	Total annual labor income			
	(1)	(2)	(3)	(4)
<i>Panel A: Pre-revolution elite</i>				
Pre-revolution elite	1911.524** (854.702)	2006.232** (850.303)	1973.595** (853.649)	1932.799** (853.026)
<i>Panel B: Post-revolution elite</i>				
Post-revolution elite	2694.947*** (989.590)	2749.467*** (984.480)	2771.379*** (979.567)	2671.669*** (989.837)
County FE	Yes	Yes	Yes	Yes
Cohort FE	Yes	Yes	Yes	Yes
Sector FE	No	Yes	No	No
Province×Sector FE	No	No	Yes	No
Migrants FE	No	No	No	Yes

Notes: All specifications include cohort fixed effects and county fixed effects. Column 2 additionally includes sector fixed effects; column 3 includes province×sector fixed effects; and column 4 includes a migrant indicator variable, defining migrants as individuals whose current county of residence is different from their birth place. The mean of the dependent variable is RMB 11,628 (std. dev. 28,716). \*\*\*  $p < 0.01$ , \*\*  $p < 0.05$ , \*  $p < 0.1$ . Sample: 1966–1990 birth cohorts; number of observations = 9,844.

**Table 3:** Magnitude of income differences in perspective

Reference group	Magnitude	Source
(1)	(2)	(3)
<i>Panel A: cross-sectional differences in income, elite</i>		
Pre-revolution elite	16.4%	CFPS
Post-revolution elite	23.2%	CFPS
<i>Panel B: cross-sectional differences in income, other dimensions</i>		
Gender gap	21%	Heshmati and Su (2017)
Urban-rural gap	61%	CFPS
<i>Panel C: intergenerational mobility (probability of staying in top decile)</i>		
China	14.5 %	CFPS
Taiwan	10.1%	Yu (2019)
Canada	11.1%	Corak and Heisz (1998)
Russia	13.0%	Popkin (2016)
U.S.	14.1%	Chetty et al. (2014)

Notes: Panel A displays cross-sectional differences in income based on elite status for the children generation. Panel B displays cross-sectional differences in income based on demographic differences for the children generation. Panel C displays the probability that the grandchild of a grandparent in the top income decile will remain in the top income decile — see Appendix D for the detailed procedure of recovering the transition matrix from regression coefficients. \*\*\*  $p < 0.01$ , \*\*  $p < 0.05$ , \*  $p < 0.1$ . Sample for own calculations (CFPS): 1966–1990 birth cohorts; number of observations = 9,844.

**Table 4:** Values and social networks of the children generation

	Pre-revolution elite		Post-revolution elite		Summary statistics	
	Coef.	Std. err.	Coef.	Std. err.	Mean	Std. dev.
	(1)	(2)	(3)	(4)	(5)	(6)
<i>Panel A: values</i>						
Hard work is critical to success	0.076***	(0.028)	-0.026	(0.028)	3.911	0.629
Hours worked during weekdays	0.595***	(0.186)	-0.143	(0.178)	5.916	4.196
Hours on leisure during weekends	-0.807***	(0.145)	-0.092	(0.146)	13.129	3.331
<i>Panel B: tightly knit families</i>						
Spouse is pre-revolution elite	0.044**	(0.018)	-0.013*	(0.007)	0.031	0.173
Spouse is post-revolution elite	-0.014	(0.012)	0.140***	(0.022)	0.053	0.225
Parents coliving	0.214***	(0.019)	0.169***	(0.021)	0.233	0.423
Visit relatives during Spring Festival	0.467	(0.305)	1.425***	(0.325)	6.533	7.351

Notes: Columns 1 and 3 (2 and 4) present regression coefficients (standard errors) of estimated differences between members of the elite and non-elite households for the children generations, respectively, controlling for cohort fixed effects and residence county fixed effects. Columns 1-2 (3-4) compare the old, pre-revolution (new, post-revolution) elite with the non-elite. Columns 5 and 6 present the mean and standard deviation of the variable in the children generation. \*\*\*  $p < 0.01$ , \*\*  $p < 0.05$ , \*  $p < 0.1$ . Sample: children generations (1966–1990 birth cohorts;  $N = 9,844$ ).

**Table 5:** Elite and local clan networks

	Income	Values	Tightly knit families
	(1)	(2)	(3)
<i>Panel A: children generation of the pre-revolution elite</i>			
Clan $\times$ elite class	19627.351* (10355.243)	0.134 (0.241)	0.350** (0.141)
Elite class	1100.254 (1364.584)	0.071** (0.032)	0.200*** (0.019)
<i>Panel B: children generation of the post-revolution elite</i>			
Clan $\times$ elite class	-3332.150 (7501.590)	-0.169 (0.175)	0.031 (0.103)
Elite class	2876.729** (1255.690)	-0.017 (0.029)	0.167*** (0.017)
Mean	11,628	3.911	0.233
Std. dev.	28,715	0.629	0.423

Notes: Clan strength at the prefecture level is a population weighted surname-based HHI (rescaled from 0 to 1) at the county level, with surname data from the 2005 Census. The table presents regression coefficients (standard errors) of estimated differences between members of the pre-revolutionary/post-revolutionary elite and non-elite households for Panels A and B, respectively, controlling for cohort fixed effects and residence county fixed effects. Column 1 has total annual labor income as the outcome, column 2 has the opinion that hard work is critical to success as the outcome, and column 3 has an indicator for co-living parents as the outcome. \*\*\*  $p < 0.01$ , \*\*  $p < 0.05$ , \*  $p < 0.1$ . Sample: children generations (1966–1990 birth cohorts;  $N = 9,844$ ).

## ONLINE APPENDIX

表 2-2-1 三河县 1946 年土地改革前后各阶级土地占有情况变化表

项 目 阶 级 成 分	户 数	人 口		土 地 改 革 前			土 地 改 革 后				
		人 口	占 全 县 总 人 口 %	占 有 土 地 ( 亩 )	占 全 县 总 土 地 %	每 人 平 均 土 地 ( 亩 )	占 有 土 地 ( 亩 )	占 全 县 总 土 地 %	每 人 平 均 土 地 ( 亩 )		
地 主	694	5504	2.5	81863.9	12.6	14.87	22023.7	3.4	4	Landlords	
富 农	2849	18710	8.7	135640.53	20.8	7.25	94904.42	14.7	5.07	Rich peasants	
中 农	13173	71364	33.2	236716.77	36.4	3.32	240549.84	37.3	3.37	Middle peasants	
贫 农	24327	119565	55.6	196673.34	30.2	1.64	287418.43	44.6	2.4	Poor peasants	
总 计	41043	215134		650894.56		3.03	644896.39		3	Total	
	# house-holds	# individuals	%	Land area (mu)	Land area (%)	Land per person (mu)	Land area (mu)	Land area (%)	Land per person (mu)	Item	Class status
	Population			Pre-Land Reform			Post-Land Reform				

Figure A.1: Sample of County Gazetteer's record on land distribution before and after the Land Reform.

## 卷四 农业

### 第一章 生产关系变革

#### 第一节 封建生产关系

民国时期,邹县农村封建生产关系仍占主导地位。土地改革前,邹县境内地主、富农总人口数为 20990 人,占全县人口总数的 6.3%,占有耕地 74226 亩,占全县耕地面积的 11.4%,人均占有耕地 3.5 亩;中农总人口数为 147895 人,占全县人口总数的 44.3%,占有耕地 74226 亩,占全县耕地面积的 51.8%,人均占有耕地 2.3 亩;贫农总人口数为 164005 人,占全县人口总数的 49%,占有耕地 240394 亩,占全县耕地面积的 36.6%,人均占有耕地 1.4 亩;雇农总人口为 1393 人,占全县人口总数的 0.4%,占有耕地 1522 亩,占全县耕地面积的 0.2%,人均占有耕地仅为 1.09 亩。有的村庄更甚。据 1951 年 4 月,对邹县境内来傅、傅家堂、小贾庄、大黄庄、大屈庄、郭家庄 6 个自然村的调查表明,土地改革前,上述 6 个自然村的地主、富农总人口为 674 人,占有耕地 22795 亩,人均占有耕地 33.8 亩;中农、贫农、雇农总人口为 5995 人,占有耕地 8605 亩,人均占有耕地 1.4 亩。地主、富农人均占有耕地是中农、贫农、雇农人均占有土地的 24 倍强。

受封建土地所有制的压迫,无地、少地的农民迫于生计,只得靠租种地主的土地,忍受严重的超经济剥削。本县农村租佃形

Before the land reform, Zou County had 20990 landlords and rich peasants who accounted for 6.3% of the population and owned 74226 mu, 11.4% of total arable land, and 3.5 mu per capita.

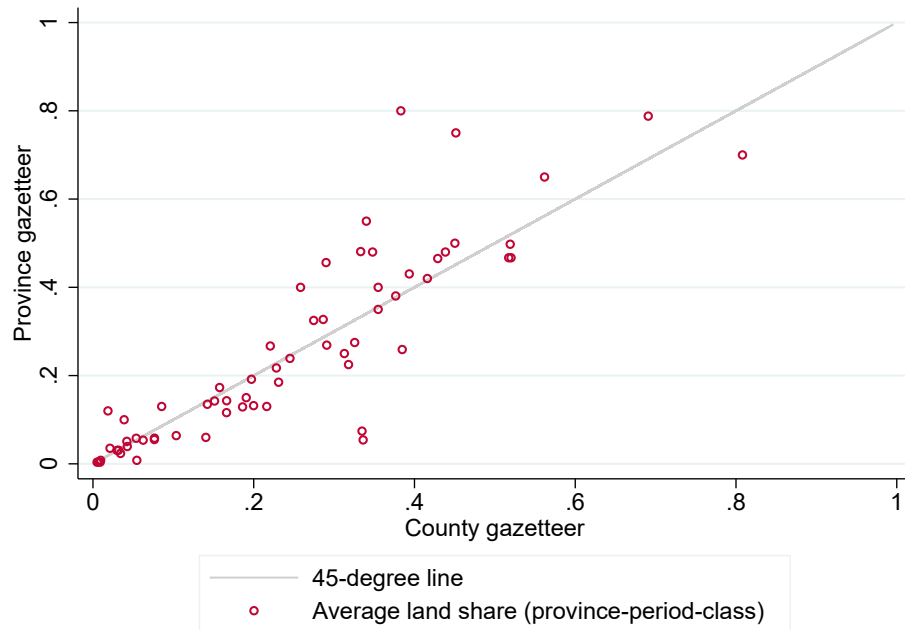
的一场革命。

1950 年 6 月,中央人民政府颁发《中华人民共和国土地改革法》。邹县成立土地改革委员会,广泛宣传土地改革法,并开办了两期干部训练班,轮训区、乡干部 300 余人。10 月,邹县确定 11 区(贾庄)为重点区,并在其 3 个乡进行土改试点。县委土改工作队与区干部共 105 人分驻各乡。试点于是年 12 月底告一段落。1951 年 1 月,土地改革运动在全县范围内展开,至是年 12 月结束。

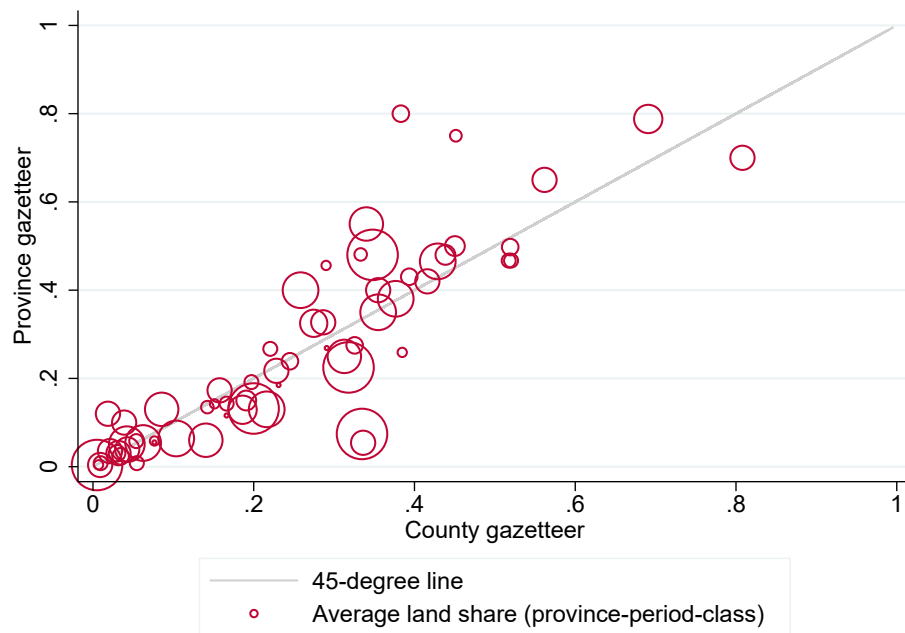
土改工作开展初期,地主阶级想方设法进行抵制对抗。对此,各级党委深入发动群众,与地主阶级展开面对面的斗争。逮捕恶霸地主、不法地主 440 人,交群众管制 1397 人,彻底摧垮了农村封建统治势力,保证了

Figure A.2: Sample of County Gazetteer's record on land distribution before and after the Land Reform.



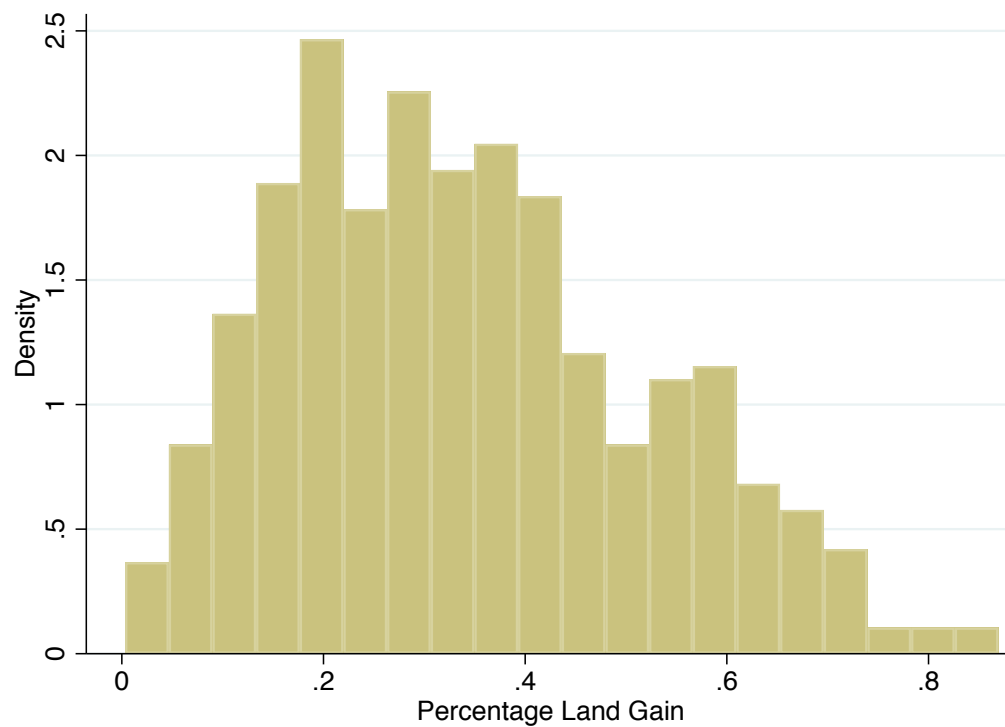


A. Unweighted

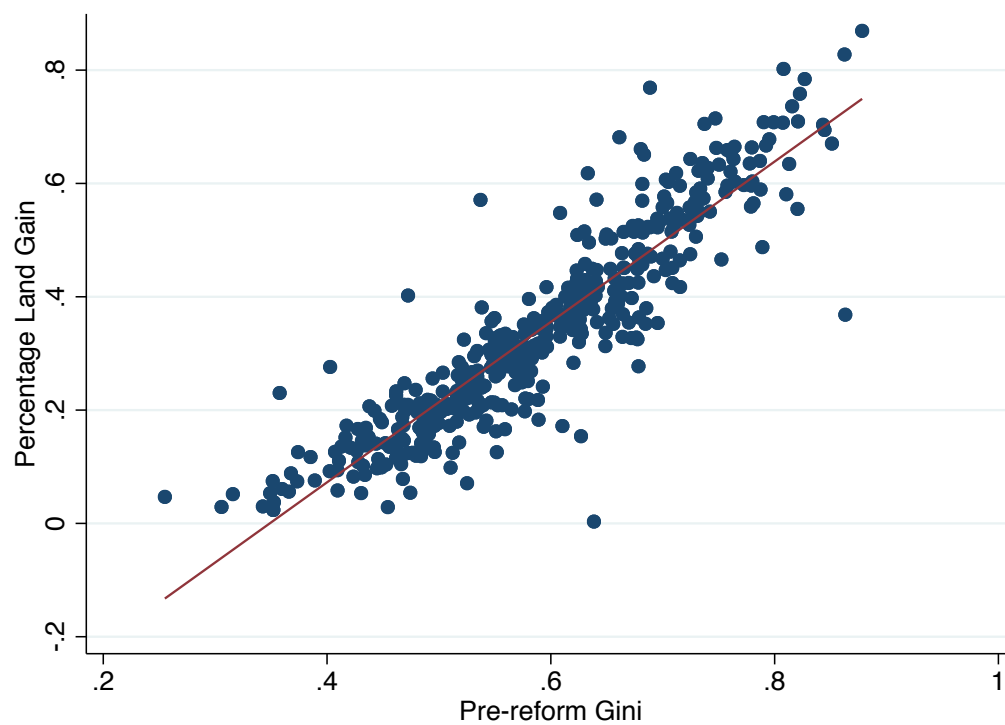


B. Weighted

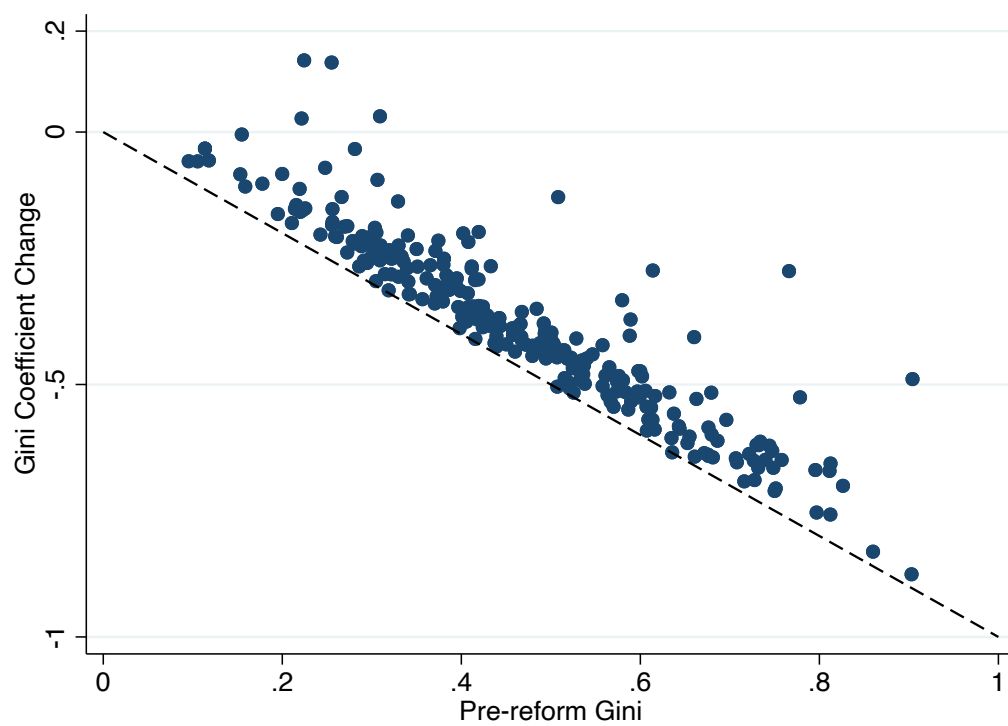
**Figure A.3:** Comparison of province and county gazetteer land ownership data. The data are from the *Province Gazetteers* and *County Gazetteers*, respectively. Each observation is a province-period-class — see Appendix B.2 for further details. Weights in Panel B are the number of counties based on which the province-level data in the *Province Gazetteers* are computed (when this information is missing, we assume it is the same as the number of counties available in the *County Gazetteers*).



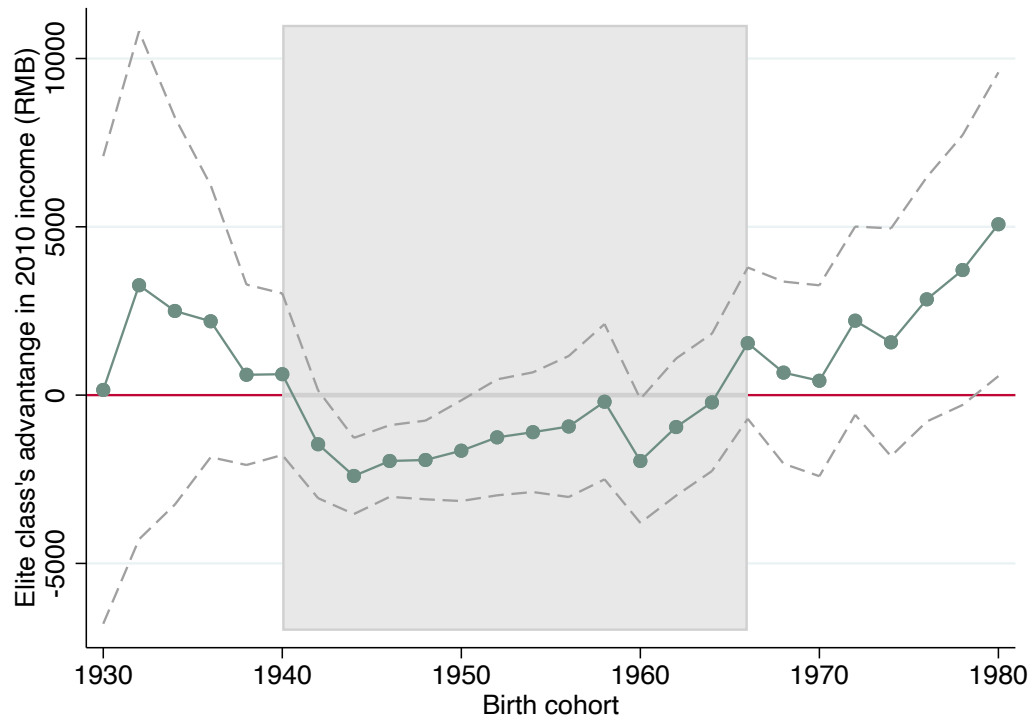
**Figure A.4:** This figure plots the probability density function of the average percentage land gain (% arable land in the county) for every 1 percent of the peasant population (in the hired, poor, and middle peasant categories) after the Land Reform across counties.



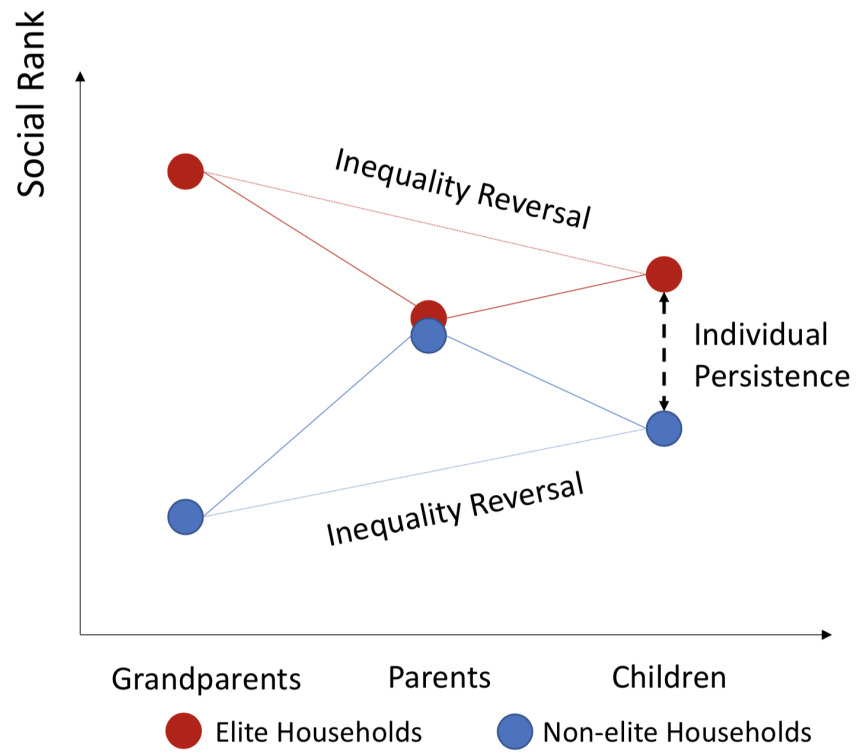
**Figure A.5:** This figure plots the pre-Reform Gini and the average percentage land gain (% arable land in the county) for every 1 percent of the peasant population (in the hired, poor, and middle peasant categories) after the Land Reform. The red line is the fitted line.



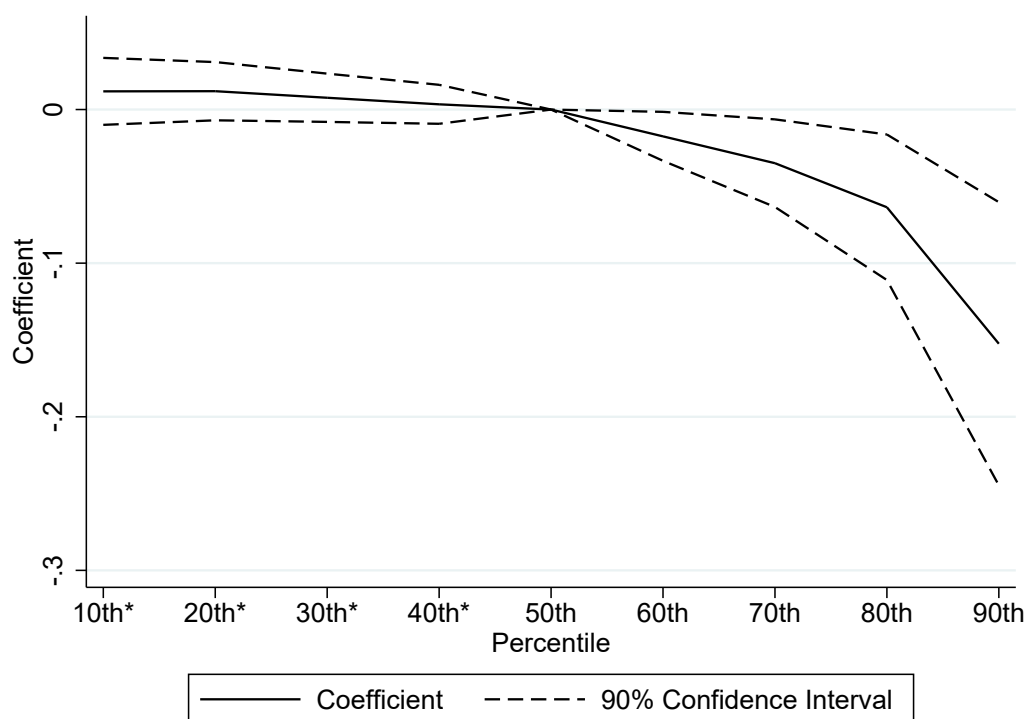
**Figure A.6:** This figure plots changes in Gini coefficient after the Land Reform (negative number means a decrease in Gini coefficient) relative to the pre-reform Gini coefficients. There are 252 counties that provide valid post-reform population and land data.



**Figure A.7:** This figure plots the elite class’s advantage in contemporary income — the average difference in 2010 income between the elite class (defined as individuals from landlord or rich peasant households) and the non-elite class. The shaded area indicates the birth cohorts belonging to the “parents” generation.



**Figure A.8:** This figure illustrates graphically how individual-level persistence and county-level reversal can be reconciled.



**Figure A.9:** This figure plots coefficients from regressing the ratio between the  $X^{th}$  and  $50^{th}$  percentiles of amenity-adjusted housing area distribution on the pre-Reform land ownership Gini. Note that one needs to interpret positive coefficients as indicating a reversal between historical and contemporary inequality when  $X < 50$  (the corresponding ratios are indicated by \*). Sample: counties with more than 80 households in the random 1% extract of the 2000 Census. The corresponding coefficients are reported in Supplemental Table S.7, Panel B.

**Table A.1:** Land ownership inequality: 1930s vs. 1950s

<i>Panel A: pre-Land Reform</i>					
	Share of land area per landlord (pre-Land Reform)				
	(1)	(2)	(3)	(4)	(5)
Share of land area per owner (1930)	0.078** (0.037)	0.074* (0.040)	0.083** (0.039)	0.082** (0.039)	0.075** (0.036)
# observations	50	50	50	50	41
<i>Panel B: contemporary</i>					
	Gini in 2000 (Amenity-adjusted housing area per capita)				
	(1)	(2)	(3)	(4)	(5)
Share of land area per owner (1930)	0.00041 (0.00038)	-0.00012 (0.00034)	-0.00015 (0.00033)	-0.00017 (0.00032)	-0.00045 (0.00031)
# observations	138	138	138	138	104
Control for geographic attributes	No	Yes	Yes	Yes	Yes
Control for region FEs	No	No	Yes	Yes	Yes
Control for night light level	No	No	No	Yes	Yes
Control for 2000 GDP	No	No	No	No	Yes

Notes: The land ownership data in 1930 is based on Buck's (1937) agricultural survey. Panel A (B) correlates the share of land area per landlord reported in the gazetteers (the amenity-adjusted housing Gini coefficient in 2000) to the share of land area per landowner reported in Buck (1937). Panel B restricts the sample to counties with at least 80 households in the random 1% extract of the Population Census \*\*\*  $p < 0.01$ , \*\*  $p < 0.05$ , \*  $p < 0.1$ .



**Table A.2:** County level summary statistics and balance table

Panel A: Summary Statistics									
Variable	Sample 1: Counties with sufficient data			Sample 2: Counties with insufficient data			Sample 3: Counties with no data		
	Mean	SD	Obs.	Mean	SD	Obs.	Mean	SD	Obs.
Distance to Shore	5.203	4.943	576	5.472	3.986	296	5.570	4.884	418
Longitude	112.419	6.968	576	112.56	6.650	296	111.628	8.818	418
Latitude	31.21	4.966	576	32.958	5.815	296	33.184	7.202	418
2000 GDP per capita	5279.456	4171.236	531	4665.502	3309.318	269	4655.372	3279.397	379
2000 Avg. Night lights	2.707	5.306	576	3.274	6.629	296	2.970	6.479	418
2000 Avg. Years of Edu.	6.926	0.908	576	7.051	0.986	296	6.964	1.209	418
2000 Median Years of Edu.	6.979	0.975	576	7.083	1.040	296	6.955	1.396	418
2000 Avg. Y. of Edu. ( <i>b. &lt;1950</i> )	4.344	1.195	576	4.438	1.332	296	4.348	1.519	418
2000 Median Housing Area	24.266	7.339	576	21.628	5.482	296	21.239	5.495	418
2000 Median Adj. Housing Area	30.163	10.200	576	26.526	7.248	296	26.123	7.697	418
2000 Housing Gini	0.324	0.029	576	0.315	0.028	296	0.306	0.030	418
Panel B: Balanced Test									
	Sample 1 = Sample 2 + Sample 3			Sample 1 = Sample 2			Sample 1 + Sample 2 = Sample 3		
	Diff.	SE	p-value	Diff.	SE	p-value	Diff.	SE	p-value
Distance to Shore	0.030	0.093	0.750	0.055	0.079	0.483	0.07	0.084	0.404
Longitude	-0.044	0.122	0.718	0.053	0.102	0.605	0.132	0.109	0.224
Latitude	-0.125	0.094	0.182	-0.053	0.079	0.498	0.038	0.084	0.653
2000 GDP per capita	-61.583	249.495	0.805	126.573	193.903	0.514	254.603	207.672	0.220
2000 Avg. Night lights	-0.979	0.354	0.006	-0.582	0.327	0.075	-0.078	0.349	0.823
2000 Avg. Years of Edu.	-0.092	0.058	0.113	0.006	0.052	0.901	0.092	0.056	0.101
2000 Median Years of Edu.	-0.049	0.059	0.408	0.061	0.055	0.268	0.127	0.058	0.030
2000 Avg. Y. of Edu.	-0.012	0.079	0.876	0.089	0.068	0.187	0.151	0.072	0.037
2000 Median Housing Area	0.8	0.398	0.045	0.903	0.308	0.003	0.589	0.329	0.074
2000 Median Adj. Housing Area	0.927	0.543	0.088	1.124	0.422	0.008	0.821	0.451	0.069
2000 Housing Gini	-0.001	0.003	0.858	0.002	0.003	0.493	0.004	0.003	0.165

Notes: This table checks potential county selection bias due to partial unavailability of inequality data. Panel A reports summary statistics for three samples: Counties with complete data (Sample 1), Counties with incomplete data (Sample 2), and Counties with no data (Sample 3). Panel B executes three balance tests: Sample 1 = Sample 2, Sample 1 = Sample 2 + Sample 3, Sample 1 + Sample 2 = Sample 3. 2000 Avg. Y. of Edu. (*b. <1950*) refers to the average educational attainment for cohorts born before 1950. \*\*\*  $p < 0.01$ , \*\*  $p < 0.05$ , \*  $p < 0.1$ .

**Table A.3:** Cohort-specific income and education premium

	Income	Education
	(1)	(2)
Pre-revolution elite (1930-1934)	5231.830 (5701.534)	0.115 (0.075)
Pre-revolution elite (1935-1939)	573.694 (1748.218)	0.056 (0.045)
Pre-revolution elite (1940-1944)	-1790.761** (906.126)	0.021 (0.031)
Pre-revolution elite (1945-1949)	-1681.932** (703.001)	-0.012 (0.015)
Pre-revolution elite (1950-1954)	-1103.076 (1042.003)	-0.036** (0.018)
Pre-revolution elite (1955-1959)	-711.768 (1299.792)	-0.047 (0.033)
Pre-revolution elite (1960-1964)	-737.980 (1225.034)	-0.024 (0.039)
Pre-revolution elite (1965-1969)	367.116 (1589.179)	-0.037 (0.025)
Pre-revolution elite (1970-1974)	3313.838* (1731.597)	-0.004 (0.031)
Pre-revolution elite (1975-1979)	2820.358 (2354.677)	0.023 (0.041)
Pre-revolution elite (1980-1984)	-199.180 (2231.323)	0.055 (0.053)
Pre-revolution elite (1985-1989)	2516.385 (2340.667)	0.102* (0.060)
Pre-revolution elite (1990-1994)	669.716 (1535.490)	0.068 (0.048)

Notes: The table presents regression coefficients (standard errors) of estimated differences between members of the elite and non-elite households. The outcome in column 1 is the total annual labor income. The outcome in column 2 is the probability of completing secondary education. Each row represents a separate regression. All specifications include county fixed effects. \*\*\*  $p < 0.01$ , \*\*  $p < 0.05$ , \*  $p < 0.1$ .

**Table A.4:** Auxiliary outcomes for the parents and children generations of the pre-revolution elite

	Both generations			Parents generation			Children generation		
	Elite class diff.		Overall	Elite class diff.		Overall	Elite class diff.		Overall
	Coef.	Std. err.		Coef.	Std. err.		Coef.	Std. err.	
Mean	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	
<i>Panel A: post-revolution elite</i>									
Post-revolution elite	0.110	0.312	-0.068***	0.014	0.160	-0.021**	0.009	0.056	
<i>Panel B: family composition</i>									
Number of siblings	3.128	1.896	0.035	0.080	3.669	-0.145**	0.067	2.557	
Number of generations in household	2.305	0.737	-0.034	0.035	2.201	0.134***	0.027	2.415	
<i>Panel C: retirement likelihood</i>									
Retired	0.062	0.241	-0.044***	0.010	0.096				
<i>Panel D: additional values</i>									
Important to become rich	3.659	1.194	-0.061	0.053	3.673	0.092	0.057	3.645	
Inequality is desirable	3.032	0.980	0.069*	0.038	3.109	0.060	0.048	2.949	
Competition is desirable	3.809	0.685	-0.001	0.028	3.825	0.075**	0.032	3.792	
Willing to sacrifice material goods for child's education	-7.374	9.439	1.778**	0.832	-7.007	1.255*	0.689	-7.593	
<i>Panel E: housing</i>									
House value as share of income	181.153	5,848.214	-24.910	29.950	90.097	-150.915	113.436	246.842	
House rental value as share of income	1.392	77.220	0.013	0.057	0.108	-1.684	1.492	2.318	
<i>Panel F: hunger</i>									
Experienced hunger during famine	0.131	0.338	0.033*	0.018	0.228				
<i>Panel G: family strength</i>									
Financial help from or to relatives	2,001.186	7,948.696	454.858	320.844	1,966.463	331.380	421.534	2,037.976	

Notes: Columns 3 and 6 (4 and 7) present regression coefficients (standard errors) of estimated differences between members of the elite and non-elite households for the parents and children generations, respectively, controlling for cohort fixed effects and residence county fixed effects. Column 1 (2) presents the mean (standard deviation) across the parents and children generations, while columns 5 and 8 present sample means for the respective generations. \*\*\*  $p < 0.01$ , \*\*  $p < 0.05$ , \*  $p < 0.1$ . Sample: parents (1940–1965 birth cohorts;  $N = 10,430$ ) and children generations (1966–1990 birth cohorts;  $N = 9,844$ ).

**Table A.5:** Parents generation — income accounting for retirement

	Income			
	(1)	(2)	(3)	(4)
<i>Panel A: age less than 55</i>				
Pre-revolution elite	-1119.289 (946.449)	-814.680 (942.424)	-802.964 (946.785)	-1082.811 (941.054)
<i>Panel B: age less than 60</i>				
Pre-revolution elite	-759.921 (746.185)	-607.469 (740.781)	-607.246 (743.573)	-741.433 (743.992)
<i>Panel C: outcome is total income</i>				
Pre-revolution elite	397.363 (418.712)	454.761 (416.483)	435.544 (416.614)	461.760 (417.891)
County FE	Yes	Yes	Yes	Yes
Cohort FE	Yes	Yes	Yes	Yes
Sector FE	No	Yes	No	No
Province×Sector FE	No	No	Yes	No
Migrants FE	No	No	No	Yes

Notes: The table presents regression coefficients (standard errors) of estimated differences between members of the elite and non-elite households. Panel A restricts analysis to only those younger than 55, Panel B to only those younger than 60, the standard age for retirement. Both Panels use the total annual labor income as the outcome. Panel C includes the entire sample of the parents generation, and uses total income (including pension and other non-wage income) as the outcome variable. All specifications include cohort fixed effects and county fixed effects. Column 2 additionally includes sector fixed effects; Column 3 includes province×sector fixed effects; Column 4 includes a migrant indicator variable, defining migrants as individuals whose current county of residence is different from their birth place. The mean of the dependent variable is RMB 11,628 (std. dev. 28,716). \*\*\*  $p < 0.01$ , \*\*  $p < 0.05$ , \*  $p < 0.1$ . Sample: 1941–1965 birth cohorts; N = 10,429.

**Table A.6:** Robustness of pre-revolution elite's rebound

	Total annual labor income			
	(1)	(2)	(3)	(4)
<i>Panel A.1:</i> children's generation as 1963-1987 birth cohort				
Pre-revolution elite	1675.130** (801.318)	1791.831** (797.180)	1740.392** (798.826)	1694.091** (799.536)
<i>Panel A.2:</i> children's generation as 1969-1993 birth cohort				
Pre-revolution elite	1942.361** (881.870)	2006.295** (874.383)	1989.603** (877.967)	1945.262** (880.763)
<i>Panel B.1:</i> alternate class label definition: self report elite				
Pre-revolution elite	1921.061* (1115.471)	2037.501* (1100.004)	1964.780* (1097.690)	1921.495* (1112.208)
<i>Panel B.2:</i> alternate class label definition: parents report elite, self does not				
Pre-revolution elite	2045.619 (1405.336)	2071.165 (1412.527)	2096.191 (1418.235)	2097.550 (1409.464)
<i>Panel B.3:</i> alternate class label definition: landlord household				
Pre-revolution elite	1595.361 (1272.599)	1669.239 (1271.163)	1735.032 (1283.233)	1602.970 (1270.352)
<i>Panel B.4:</i> alternate class label definition: rich peasant household				
Pre-revolution elite	1873.227* (1083.246)	1983.143* (1074.738)	1907.247* (1074.260)	1906.565* (1080.951)
<i>Panel C.1:</i> outcome is log income				
Pre-revolution elite	0.214*** (0.083)	0.222*** (0.082)	0.225*** (0.083)	0.217*** (0.082)
<i>Panel D.1:</i> spatial autocorrelation for counties within 50 KM				
Pre-revolution elite	1911.647** (852.449)	2006.355** (847.699)	1973.720** (852.457)	1933.005** (853.353)
<i>Panel D.2:</i> spatial autocorrelation for counties within 300 KM				
Pre-revolution elite	1911.647** (924.290)	2006.355** (938.499)	1973.720** (959.021)	1933.005** (927.974)
<i>Panel D.3:</i> cluster at province level				
Pre-revolution elite	1911.524* (1008.248)	2006.232* (1031.818)	1973.595* (1060.916)	1932.799* (1006.608)
<i>Panel D.4:</i> cluster at county level				
Pre-revolution elite	1911.524** (845.829)	2006.232** (845.465)	1973.595** (846.286)	1932.799** (843.393)
<i>Panel E.1:</i> weighted sample				
Pre-revolution elite	1735.299* (914.021)	1856.698** (905.860)	1821.461** (908.487)	1764.235* (912.325)

<i>Panel E.2: over-sampled provinces only</i>				
Pre-revolution elite	2609.253** (1262.709)	2709.580** (1240.669)	2609.161** (1235.702)	2532.109** (1267.519)
<i>Panel E.3: control number siblings</i>				
Pre-revolution elite	1852.635** (852.748)	1952.094** (848.351)	1921.476** (851.238)	1873.821** (850.916)
<i>Panel E.4: control number generations</i>				
Pre-revolution elite	2085.435** (860.125)	2164.887** (855.199)	2126.227** (855.811)	2103.055** (855.967)
<i>Panel F.1: age and cohort fixed effects</i>				
Pre-revolution elite	2016.970*** (626.940)	2006.232** (850.087)	1973.595** (853.432)	1932.799** (852.810)
<i>Panel G.1: province-specific cohort effects</i>				
Pre-revolution elite	1783.010* (916.384)	1891.401** (911.313)	1863.666** (912.700)	1802.952** (909.619)
<i>Panel H.1: control parents self-employed</i>				
Pre-revolution elite	1751.527** (864.785)	1853.410** (858.677)	1834.064** (858.562)	1772.232** (862.471)
<i>Panel H.2: control parents entrepreneur</i>				
Pre-revolution elite	1934.323** (857.051)	2025.886** (852.681)	1995.351** (856.030)	1956.105** (855.368)
County FE	Yes	Yes	Yes	Yes
Cohort FE	Yes	Yes	Yes	Yes
Sector FE	No	Yes	No	No
Province×Sector FE	No	No	Yes	No
Migrants FE	No	No	No	Yes

Notes: The table presents regression coefficients (standard errors) of estimated differences between members of the elite and non-elite households for the children generation. Panel A.1 changes the sample birth cohorts from 1966-1990 to 1963-1987; Panel A.2 changes the sample birth cohorts from 1969 - 1993. Panel B.1 defines pre-revolution elites based on self-reported class label; Panel B.2 defines pre-revolution elites as those for whom either parent reports being an elite but lack a self-reported elite label; Panel B.3 restricts the pre-revolution elite label to only landlord households; Panel B.4 restricts the pre-revolution elite label to only rich peasant households. Panel C.1 uses log(income) as the outcome instead, N = 4,935. Panel D.1 accounts for arbitrary spatial autocorrelation at the county level (Colella et al., 2019) assuming any two counties further than 50 KM apart have zero correlation; Panel D.2 accounts for spatial autocorrelation at the county level, assuming any two counties further than 300 KM apart have zero correlation; Panel D.3 clusters standard errors at the province level; Panel D.4 clusters standard errors at the county level. Panel E.1 uses the CFPS person-weights to weight the regression; Panel E.2 restricts analysis to only the oversampled provinces in the CFPS (Liaoning, Shanghai, Henan, Guangdong, and Gansu); Panel E.3 controls for the number of siblings; Panel E.4 controls for the number of generations living in the household. Panel F.1 uses Panel data for the years 2010, 2012, 2014, and 2018 (the 2016 data is much smaller than the others) to include both cohort and age fixed effects within the regression. Panel G.1 adds province by cohort fixed effects. Panel H.1 controls for a dummy for whether either parent is self-employed; Panel G.2 includes controls for a dummy for whether either parent is an entrepreneur (runs

a 'getihu'). Regression coefficients for pre-revolution elite (standard errors in parenthesis). All specifications include cohort fixed effects and county fixed effects. Column 2 additionally includes sector fixed effects; Column 3 includes province×sector fixed effects; Column 4 includes a migrant indicator variable, defining migrants as individuals whose current county of residence is different from their birth place. The mean of the dependent variable is RMB 11,628 (std. dev. 28,716). \*\*\*  $p < 0.01$ , \*\*  $p < 0.05$ , \*  $p < 0.1$ . Sample: 1966–1990 birth cohorts; number of observations = 9,844.

**Table A.7:** Parents and children generations of the post-revolution elite

	Both generations			Parents generation			Children generation		
			Std. dev.	Elite diff.		Overall	Elite diff.		Overall
	Mean			Coef.	Std. err.	Mean	Coef.	Std. err.	Mean
	(1)	(2)		(3)	(4)	(5)	(6)	(7)	(8)
<i>Panel A: Income</i>									
Annual labor income	8,809.188	24048.929		6,875.085***	861.554	6,148.240	2,694.947***	989.590	11628.269
<i>Panel B: Labor market sector choices</i>									
Non-agricultural job	0.399	0.490		0.154***	0.016	0.275	0.125***	0.023	0.509
Change to non-agricultural job from parents	0.164	0.572		0.103***	0.022	0.067	0.051	0.032	0.250
Self-employed or employer	0.106	0.308		-0.026***	0.009	0.075	0.010	0.020	0.134
Individually owned business	0.058	0.233		0.012**	0.006	0.047	0.012	0.011	0.068
Non-individually owned business	0.033	0.178		0.008	0.005	0.027	-0.003	0.008	0.039
Employed in public sector	0.043	0.202		0.026***	0.008	0.030	-0.010	0.012	0.054
Career prestige score (ISEI)	30.298	13.088		6.951***	0.588	27.978	4.608***	0.875	32.335
<i>Panel C: Educational performance</i>									
Years of education completed	5.547	4.670		2.737***	0.116	4.419	1.259***	0.176	6.743
Completed at least junior high school	0.139	0.346		0.164***	0.010	0.102	0.102***	0.019	0.178
Top quartile in math test score (2010)	1.257	0.437		0.184***	0.011	1.163	0.122***	0.020	1.356
Top quartile in reading test score (2010)	1.435	0.496		0.207***	0.013	1.299	0.081***	0.019	1.580

Notes: Columns 1 and 2 present the mean and standard deviation, respectively, of the variable for the parents and children generation combined. Columns 3 and 6 (4 and 7) present regression coefficients (standard errors) of estimated differences between members of the post-revolution elite and non-elite households for the parents and children generations, respectively, controlling for cohort fixed effects and residence county fixed effects. \*\*\*  $p < 0.01$ , \*\*  $p < 0.05$ , \*  $p < 0.1$ . Sample: parents (1940–1965 birth cohorts; N = 10,429) and children generations (1966–1990 birth cohorts; N = 9,844). Note that Panel B contains only employed individuals (parents generation: N = 5,110; children generation: N = 5,820), except for “Individually owned business” and “Non-individually owned business,” which are available at the household level (parents generation: N = 10,401; children generation: N = 9,822).



**Table A.8:** Migration in CFPS, by generation

	Migration indicators						
	Province level migration				County level migration		
	Born	Age 3	Age 12	Hukou	Born	Age 3	Age 12
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Panel A: Children generation							
Elite class	-0.010 (0.009)	-0.008 (0.009)	-0.012 (0.009)	-0.001 (0.007)	-0.049*** (0.015)	-0.042*** (0.016)	-0.053*** (0.015)
Mean	0.063	0.062	0.058	0.030	0.191	0.190	0.183
S.D.	0.242	0.241	0.234	0.171	0.393	0.392	0.387
Panel B: Parents generation							
Elite class	-0.005 (0.009)	-0.003 (0.009)	-0.012 (0.008)	-0.005** (0.002)	-0.013 (0.014)	-0.016 (0.014)	-0.021 (0.014)
Mean	0.055	0.054	0.045	0.008	0.175	0.174	0.166
S.D.	0.228	0.225	0.208	0.091	0.380	0.379	0.372
Panel C: Grandparents generation							
Elite class	0.032 (0.031)	0.033 (0.031)	0.027 (0.030)	-0.004 (0.009)	-0.005 (0.032)	0.000 (0.031)	0.002 (0.033)
Mean	0.134	0.133	0.122	0.014	0.285	0.282	0.274
S.D.	0.341	0.340	0.327	0.116	0.451	0.450	0.446
County FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cohort FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes

Notes: The table presents regression coefficients (standard errors) of estimated differences between members of the post-revolution elite and non-elite households for the children generation (Panel A), parents children (Panel B), and grandparents generation (Panel C). All specifications include cohort fixed effects and county fixed effects. Columns 1 through 4 define migration as an indicator if the current province of residence differs from the province of birth, residence at age 3, residence at age 12, or household registration (*hukou*), respectively. Columns 5 through 7 define migration as an indicator if the current county of residence differs from the county of birth, residence at age 3, residence at age 12 respectively. Sample: children generation (1966–1990 birth cohorts; N = 9,834), parents generation (1940–1965 birth cohorts; N = 10,415), and grandparents generation (pre-1940 birth cohorts; N = 1,390).

**Table A.9:** Migrant selection in terms of education

	Migration	
	Individual-level	Household-level
	(1)	(2)
<i>Panel A: 2000 Population Census</i>		
College-educated	0.067*** (0.005)	0.090*** (0.011)
<i>Panel B: 2005 Population Survey</i>		
College-educated	0.103*** (0.008)	0.149*** (0.016)

Notes: The dependent variables capture individual- (column 1) and household-level migration (column 2); they are dummy-coded. An individual is categorized as a migrant if her county of residence is different from her county of registration. A household is categorized as a migrant household if all its members are registered in a different county from the county of residence. The sample is restricted to agricultural *hukou* holders over 25 and born in or after 1990, and we only consider migrants who migrated after 25 to reduce endogeneity concerns, as these individuals likely have completed their education at the time of migration. In column 2, these sample restrictions apply to the household head. All regressions include (the household head's, in column 2) birth year fixed effects and province of registration fixed effects, and control for sex. Column 2 additionally controls for household size. Panel A uses micro data from a random 1% extract of the 2000 Population Census (sample size: 1,416,510 individuals; 520,938 households). Panel B uses micro data from a 20% extract of the 1% Population Survey of 2005 (sample size: 405,247 individuals; 136,269 households). \*\*\*  $p < 0.01$ , \*\*  $p < 0.05$ , \*  $p < 0.1$ .

**Table A.10:** Migrant sorting along wage differentials

	Migration dummy			
	(1)	(2)	(3)	(4)
Panel A: income differences				
Income difference $\times$ elite	0.011 (0.042)	0.009 (0.036)	0.007 (0.035)	0.004 (0.005)
Elite class	-0.013 (0.016)	-0.010 (0.014)	-0.013 (0.014)	-0.003 (0.007)
Income difference	0.297*** (0.075)	0.416*** (0.062)	0.403*** (0.063)	0.394*** (0.027)
Panel B: income shocks				
Income shock $\times$ elite	-0.010 (0.009)	-0.009 (0.009)	-0.006 (0.008)	0.002 (0.006)
Elite class	-0.009 (0.010)	-0.007 (0.010)	-0.012 (0.009)	-0.001 (0.006)
Income shock	-0.069** (0.027)	-0.068** (0.028)	-0.082*** (0.029)	-0.243*** (0.041)
County FE	Yes	Yes	Yes	Yes
Cohort FE	Yes	Yes	Yes	Yes
Migration from	Born	Age 3	Age 12	Hukou

Notes: All specifications include cohort fixed effects and county fixed effects; migration is measured at the province level. Panel A: *Income difference* is the wage differential between an individual's province of origin and the typical destination for migrants from her province of origin, i.e.,  $\sum_d (s_d w_d) - w_o$  where  $d$  is a destination,  $o$  the origin,  $s_d$  the share of emigrants from  $o$  who are in  $d$ , and  $w_{o/d}$  is the wage at origin/destination;  $s_d$  and  $w_{o/d}$  are measured in CFPS. *Income difference* measured in RMB 10,000. Panel B: *Income shock* is the average at the provincial level of Imbert et al.'s (2020) income shocks, which are defined as deviations from international agricultural commodity prices interacted with the local suitability for growing different crops. Columns 1 through 4 define migration as an indicator if the current province of residence differs from the province of birth, residence at age 3, residence at age 12, or household registration (*hukou*), respectively. Sample: children generation (1966–1990 birth cohorts;  $N = 9,833$ ).

**Table A.11: Violence during the Land Reform**

	Any report			Number of victims	
	Death	Struggle	Violence	Death	Struggle
	(1)	(2)	(3)	(4)	(5)
Pre-Reform landlord share	0.0013 (0.002)	-0.0003 (0.002)	0.00056 (0.0024)	0.00005 (0.00005)	0.00006 (0.00019)
Pre-Reform Gini	-0.009 (0.051)	-0.070 (0.075)	-0.020 (0.079)	0.0002 (0.0011)	0.005 (0.006)
# observations	639	639	639	639	639

Notes: The dependent variables capture different types of persecution perpetrated during the Land Reform (death, struggle sessions, and other violence). Each row corresponds to a separate regression. Columns 1–3 regress indicator variables equal to 1 if any persecution of the specified type is reported in the County Gazetteers, and 0 otherwise, on pre-Land Reform measures of land inequality; Columns 4 and 5 use as dependent variables the percentage of victims of the specified persecution type as a share of total population. \*\*\*  $p < 0.01$ , \*\*  $p < 0.05$ , \*  $p < 0.1$ .

**Table A.12:** Violence in the 1960s

	Revolutionary casualties		Violence victims	
	(1)	(2)	(3)	(4)
Pre-Reform landlord share	0.037 (0.043)	0.020 (0.043)	0.013 (0.048)	0.008 (0.047)
Pre-Reform Gini	0.009 (0.045)	0.012 (0.044)	-0.063 (0.050)	-0.077 (0.049)
Impute zeros	No	Yes	No	Yes
# observations	519	533	519	533

Notes: The dependent variables capture different types of persecutions perpetrated during the Cultural Revolution, using data from Walder and Su (2003). Each row corresponds to a separate regression. Columns 1 and 2 regress dummies equal to 1 if any persecution of the specified type is reported in the County Gazetteers, and 0 otherwise, on pre-Land Reform measures of land inequality; Columns 3 and 4 use as dependent variable the percentage of victims of the specified persecution type as a share of total population. Columns 2 and 4 report the regression coefficients after imputing missing values as zeros. \*\*\*  $p < 0.01$ , \*\*  $p < 0.05$ , \*  $p < 0.1$ .

**Table A.13:** Reversal of county level inequalities between 1950 and 2000

	Gini coefficient in 2000 (Amenity-adjusted housing area per capita)					
	(1)	(2)	(3)	(4)	(5)	(6)
Pre-revolution land Gini	-0.019** (0.009)	-0.018** (0.009)	-0.018** (0.009)	-0.019* (0.010)	-0.020* (0.011)	-0.024* (0.013)
# observations	572	572	572	572	572	411
Control for province FEs	Yes	Yes	Yes	Yes	Yes	Yes
Control for 2000 night light level	No	Yes	Yes	Yes	Yes	Yes
Control for 1950 education level	No	No	Yes	Yes	Yes	Yes
Control for geographic attributes	No	No	No	Yes	Yes	Yes
Control for market access	No	No	No	No	Yes	Yes
Regions	All	All	All	All	All	Non-coastal

Notes: This table reports the relation between the pre-reform land Gini and the 2000 Gini of the amenity-adjusted housing area per capita. All specifications include province fixed effects. The geographical attributes (Columns 4–6) include distances (km) to the shore, fast-speed road network, and major rivers, as well as the means and standard deviations of elevation and slope. Market access (Columns 5 and 6) include both external and internal market access: external (resp., internal) market access is defined as the weighted sum of the populations (from the 1953 Census) in coastal (resp., non-coastal) counties; the weights are the inverse of the exponential of distance, measured in km; coastal counties are defined as counties in provinces with access to the sea. Standard errors accounting for arbitrary spatial correlation (Colella et al., 2019) within a 300-km radius are in parentheses. \*\*\*  $p < 0.01$ , \*\*  $p < 0.05$ , \*  $p < 0.1$ . Sample: counties with more than 80 households in the random 1% extract of the 2000 Census (N = 572, except in column 6, where N = 411).

**Table A.14:** Reversal of inequality at county level – heterogeneous effects

	Gini coefficient in 2000 (Amenity-adjusted housing area per capita)					
	(1)	(2)	(3)	(4)	(5)	(6)
Pre-revolution land Gini	-0.073*	-0.072*	-0.055	-0.075*	-0.075*	-0.073*
	(0.039)	(0.039)	(0.036)	(0.039)	(0.039)	(0.038)
× External market access		-0.005				
		(0.030)				
× Internal market access			-0.084***			
			(0.017)			
× Distance to 1948 railways				0.038**		
				(0.017)		
× Distance to Ming courier stations					0.040*	
					(0.021)	
× Nb. of imperial exam. graduates						0.007
						(0.046)
# observations	572	572	572	572	572	572
Control for province FEs	Yes	Yes	Yes	Yes	Yes	Yes
Control for 2000 night light level	Yes	Yes	Yes	Yes	Yes	Yes
Control for 1950 education level	Yes	Yes	Yes	Yes	Yes	Yes
Control for geographic attributes	Yes	Yes	Yes	Yes	Yes	Yes
Regions	All	All	All	All	All	All

Notes: This table analyzes heterogeneity in the relation between the pre-Reform land Gini and 2000 Gini of the amenity-adjusted housing area per capita (both standardized). Regression (1) reproduces the result from Appendix Table A.13, column 5. In each regression (2)-(6), we interact the pre-Land Reform Gini coefficient with one of five dimensions of heterogeneity: (2) external market access, (3) internal market access, (4) distance to railways before the revolutions, measured in 1948, (5) distance to Ming dynasty (1368–1644) courier stations, and (6) total number of imperial examination graduates (*jinshi*) during the Qing dynasty (1644–1911), normalized by population in 1953. External (resp., internal) market access is defined as the weighted sum of the populations (from the 1953 Census) in coastal (resp., non-coastal) counties; the weights are the inverse of the exponential of distance, measured in km; coastal counties are defined as counties in provinces with access to the sea. All heterogeneity variables are standardized. All specifications include province fixed effects. Standard errors accounting for arbitrary spatial correlation (Colella et al., 2019) within a 300-km radius are in parentheses. \*\*\*  $p < 0.01$ , \*\*  $p < 0.05$ , \*  $p < 0.1$ . Sample: counties with more than 80 households in the random 1% extract of the 2000 Census.

**Table A.15:** Historical inequality and contemporary tolerance of inequality

	Tolerance of inequality		
	(1)	(2)	(3)
Pre-revolution Gini	-0.657*** (0.156)	-0.617*** (0.158)	-0.620*** (0.157)
DV mean	3.025	3.025	3.025
DV std. dev.	0.974	0.974	0.974
Cohort FE	No	Yes	Yes
Income control	No	No	Yes

Notes: This table shows the correlation between the county-level Gini coefficients in land ownership prior to the Land Reform and today's preference toward inequality. All regressions include province fixed effects. \*\*\*  $p < 0.01$ , \*\*  $p < 0.05$ , \*  $p < 0.1$ . Sample: all birth cohorts; number of observations = 4,612.



**Table A.16:** Work ethics of the pre-revolutionary elite

	Hardwork leads to success			
	(1)	(2)	(3)	(4)
<i>Panel A: Grandchildren generation</i>				
Pre-revolution elite	0.078 (0.098)	0.077 (0.098)	0.079 (0.098)	0.073 (0.098)
<i>Panel B: 1990-1995 birth cohorts</i>				
Pre-revolution elite	0.124* (0.075)	0.131* (0.075)	0.126* (0.075)	0.124 (0.075)
<i>Panel C: Grandparents generation</i>				
Pre-revolution elite	0.049 (0.050)	0.046 (0.049)	0.045 (0.049)	0.046 (0.050)
County FE	Yes	Yes	Yes	Yes
Cohort FE	Yes	Yes	Yes	Yes
Gender FE	No	Yes	No	No
Control family income	No	No	Yes	No
Migrants FE	No	No	No	Yes

Notes: The table presents regression coefficients (standard errors) of estimated differences between members of the elite and non-elite households. All specifications include cohort fixed effects and county fixed effects. Column 2 additionally includes gender fixed effects; Column 3 includes control for mean family income; Column 4 includes a migrant indicator variable, defining migrants as individuals whose current county of residence is different from their birth place. \*\*\*  $p < 0.01$ , \*\*  $p < 0.05$ , \*  $p < 0.1$ . Sample: Panel A, grandchildren generation (> 1995 birth cohorts, number of observations = 942); Panel B, children born between 1990-1995 (number of observations = 1,391); Panel C, grandparents generation (1919-1939 birth cohorts, number of observations = 1,396).

**Table A.17:** Elasticity to shocks

	(1)	(2)	(3)	(4)
<i>Panel A: income elasticity, change in self-reported value</i>				
Income difference	0.022 (0.018)	0.030 (0.021)	-0.063 (0.092)	0.024 (0.023)
Pre-revolution elite		-0.030 (0.073)	-0.059 (0.157)	-0.025 (0.075)
Income difference $\times$ elite		-0.046 (0.033)	-0.033 (0.097)	-0.042 (0.035)
N	3288	3288	345	2584
County FE	Yes	Yes	Yes	Yes
Cohort FE	Yes	Yes	Yes	Yes
Comparison group	N/A	All	Post-revolution elite	High education

Notes: The table presents regression coefficients (standard errors) of estimated differences between members of the elite and non-elite households for the children generation. The income difference interacted with elite status is the standardized difference in income between 2018 and 2010. The outcome is the change in the standardized valuation of hard work between 2018 and 2010. All specifications include cohort fixed effects and county fixed effects. The sample in columns 1 and 2 is restricted to the children's generation, the sample in column 3 only pre- or post-revolution elites in the children's generation, and the sample in column 4 only above median educated (or pre-revolution elite) in the children's generation. The mean of the dependent variable is -0.742 (std. dev. 0.924). \*\*\*  $p < 0.01$ , \*\*  $p < 0.05$ , \*  $p < 0.1$ . Sample: 1966–1990 birth cohorts; number of observations = 9,844.

**Table A.18:** Income premium of high work ethics among the non-elite

	Total annual labor income			
	(1)	(2)	(3)	(4)
<i>Panel A: parents with high value for hard work</i>				
Parents value hard work	3588.218*** (1098.965)	3573.071*** (1087.063)	3676.092*** (1089.116)	3642.602*** (1093.337)
<i>Panel B: parents with high hours worked</i>				
Parents worked long hours	4324.390*** (1316.144)	4351.922*** (1298.336)	4344.609*** (1206.878)	4364.237*** (1328.582)
County FE	Yes	Yes	Yes	Yes
Cohort FE	Yes	Yes	Yes	Yes
Sector FE	No	Yes	No	No
Province×Sector FE	No	No	Yes	No
Migrants FE	No	No	No	Yes

Notes: The sample includes only non pre- or post-revolution elites. The independent variable in Panel A (B) is a dummy for whether one parent is in the top quartile in terms of valuing hard work (hours worked). All specifications include cohort fixed effects and county fixed effects. Column 2 additionally includes sector fixed effects; Column 3 includes province×sector fixed effects; Column 4 includes a migrant indicator variable, defining migrants as individuals whose current county of residence is different from their birth place. The mean of the dependent variable is RMB 11,628 (std. dev. 28,716). \*\*\*  $p < 0.01$ , \*\*  $p < 0.05$ , \*  $p < 0.1$ . Sample: 1966–1990 birth cohorts; number of observations = 9,844.

**Table A.19:** Co-residence and vertical transmission of values

	Hard work is critical to success			
	All	Parents alive and co-living	Parents alive and not co-living	Parents not alive
	(1)	(2)	(3)	(4)
Pre-revolution elite	0.076*** (0.028)	0.134*** (0.043)	0.045 (0.060)	0.017 (0.055)
# observations	9,844	2,291	3,680	3,873
DV mean	3.911	3.924	3.891	3.922
DV std. dev.	0.629	0.649	0.628	0.617

Notes: The table presents regression coefficients (standard errors) of estimated differences between members of the elite and non-elite households for the children generation. Column 1 includes the full sample, column 2 restricts to only the children whose parents are alive and co-living with them, column 3 those whose parents are alive and not co-living with them, and column 4 those whose parents are not alive. \*\*\*  $p < 0.01$ , \*\*  $p < 0.05$ , \*  $p < 0.1$ . Sample: 1966–1990 birth cohorts; number of observations = 9,844.

**Table A.20:** Decomposing income differences

	Total annual labor income					
	(1)	(2)	(3)	(4)	(5)	(6)
<i>Panel A: children generation of pre-revolution elite</i>						
Pre-revolution elite	1911.524** (854.702)	394.003 (842.304)	700.184 (870.651)	344.451 (845.829)	1140.515 (845.362)	-20.722 (833.454)
<i>Panel B: children generation of post-revolution elite</i>						
Post-revolution elite	2694.947*** (989.590)	2157.084** (953.509)	1665.397* (970.431)	2046.239** (955.248)	1400.984 (978.621)	1122.254 (948.592)
County FE	Yes	Yes	Yes	Yes	Yes	Yes
Cohort FE	Yes	Yes	Yes	Yes	Yes	Yes
Control values	No	Yes	No	Yes	No	Yes
Control social network	No	No	Yes	Yes	No	Yes
Control education	No	No	No	No	Yes	Yes

Notes: The table presents regression coefficients (standard errors) of estimated differences between members of the elite and non-elite households for the children generation. All specifications include cohort fixed effects and county fixed effects. The mean of the dependent variable is RMB 11,628 (std. dev. 28,716). \*\*\*  $p < 0.01$ , \*\*  $p < 0.05$ , \*  $p < 0.1$ . Sample: 1966–1990 birth cohorts; number of observations = 9,844.

**Table A.21:** Decomposing values differences

	Hard work leads to success			
	(1)	(2)	(3)	(4)
<i>Panel A: children generation of pre-revolution elite</i>				
Pre-revolution elite	0.127*** (0.047)	0.123** (0.048)	0.124*** (0.047)	0.121** (0.048)
<i>Panel B: children generation of post-revolution elite</i>				
Post-revolution elite	-0.044 (0.046)	-0.048 (0.047)	-0.049 (0.046)	-0.052 (0.047)
County FE	Yes	Yes	Yes	Yes
Cohort FE	Yes	Yes	Yes	Yes
Control social network	No	Yes	No	Yes
Control education	No	No	Yes	Yes

Notes: The table presents regression coefficients (standard errors) of estimated differences between members of the elite and non-elite households for the children generation. All specifications include cohort fixed effects and county fixed effects. Outcome variable is the standardized agreement to hard work determining success. \*\*\*  $p < 0.01$ , \*\*  $p < 0.05$ , \*  $p < 0.1$ . Sample: 1966–1990 birth cohorts; number of observations = 9,844.

**Table A.22:** Elite and local clan networks — robustness

	Income	Values	Tightly knit families
	(1)	(2)	(3)
Panel A: Jinshi — children of the pre-revolution elite			
Clan × elite class	4303.127 (3673.932)	0.082 (0.081)	-0.021 (0.047)
Elite class	1956.814 (1568.855)	0.036 (0.035)	0.217*** (0.020)
Panel B: Jinshi — children of the post-revolution elite			
Clan × elite class	-3646.010 (3014.797)	-0.069 (0.066)	-0.022 (0.039)
Elite class	2765.004* (1457.291)	-0.044 (0.032)	0.185*** (0.019)
Panel C: NBS — children of the pre-revolution elite			
Clan × elite class	22110.037 (16132.246)	0.141 (0.357)	0.145 (0.210)
Elite class	566.995 (1597.360)	0.073** (0.035)	0.211*** (0.021)
Panel D: NBS — children of the post-revolution elite			
Clan × elite class	-1966.379 (12587.451)	0.081 (0.279)	-0.134 (0.164)
Elite class	2763.146* (1464.237)	-0.019 (0.032)	0.181*** (0.019)
Mean	11,628	3.911	0.233
Std. dev.	28,715	0.629	0.423

Notes: Clan strength at the prefecture level is a population weighted surname-based HHI (rescaled from 0 to 1) at the county level, with surname data from the highest Imperial examinations during the Qing and Ming dynasties (Panels A and B) or the National Business Survey (Panels C and D). The table presents regression coefficients (standard errors) of estimated differences between members of the pre-revolutionary/post-revolutionary elite and non-elite households for Panels A and B, respectively, controlling for cohort fixed effects and residence county fixed effects. Column 1 has total annual labor income as the outcome, column 2 has the opinion that hard work is critical to success as the outcome, and column 3 has an indicator for co-living parents as the outcome. \*\*\*  $p < 0.01$ , \*\*  $p < 0.05$ , \*  $p < 0.1$ . Sample: children generations (1966–1990 birth cohorts;  $N = 9,844$ ).

## Appendix A Historical background

In this section, we provide additional information on the Communist Revolution and the Cultural Revolution. Many books have been written about the historical details of these two revolutions (e.g., MacFarquhar and Schoenhals, 2006; Dikötter, 2016); here we focus on the particular aspects of the revolutions that intended to eradicate the advantages of the pre-revolution elite, including confiscating their assets, removing their access to secondary and higher education, and even stigmatizing attitudes and values that they might have held prior to the revolutions.

### A.1 The Communist Revolution and Land Reform

The Communist Revolution was a series of movements that allowed the Chinese Communist Party to consolidate political power throughout China toward the end of the Chinese Civil War (1945-1949). The most important of these movements was the Land Reform.<sup>1</sup> We complement Section 2 here by briefly describing the land ownership context prior to the Land Reform, how the Land Reform was implemented, and its effect on land distribution and rural China in general.

First, the context of rural China differed from other settings where land reforms have been implemented or considered. Before the Land Reform, landlords owned 6 times more land (per capita, on average) than poor peasants — see Section 4.1. In other words, while land assets were unequally distributed prior to the Land Reform, the Chinese context does not resemble the extreme land concentration observed in Latin America, characterized by the predominance of large plantations or latifundia — e.g., 92% of cultivated land in Bolivia in 1952 before the land reform (Wagner, 1989). Landlords in China owned a relatively small amount of land, working on the land themselves, and sometimes hiring labor (Fei et al., 1992). Thus, Chinese landlords were closer to well-off farmers in small-scale farming economies than rentiers who own huge plots of land. The rules established by the State Council to distinguish between landlords and rich peasants confirms this specific feature of rural China in the 1940s — see the discussion of class labels below.

Second, the Land Reform was designed to apply to the whole country, while adapting to local circumstances. The Land Reform started in 1947 in the newly “liberated” regions under the Communist Party’s rule and concluded in 1953 when the reform reached the entire country. It was formalized and implemented as a nationwide policy by the *Agrarian Reform Law* in late 1950. The law was based on *China’s Agrarian Reform Law Framework* approved in 1947 and built upon the Party’s earlier land reform experiences. Article 1 of the law, quoted in Section 2, emphasizes the Communist Party’s commitment to expropriate the class of landlord and rich peasants and advocate the proprietorship of the peasantry. The rest of the law lays out specific guidelines for transferring land ownership from landlords to poor peasants. Section 2, titled “Confiscation and Requisitioning of Land,” orders the landlords’ land, cattle, “excessive production tools,” and real estate properties to be confiscated (e.g., Article 2). Section 3, “Distribution of Land,” further instructs that the confiscated land and other assets should be distributed uniformly, fairly, and reasonably among landless peasants and poor peasants who owned very limited assets (e.g., Article 10).

To guide decision-making and the implementation of the Land Reform across China, the *Agrarian Reform Law* establishes a set of uniform principles. The *Agrarian Reform Law* was nationally ori-

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<sup>1</sup>Some of the background description here is also shown in Chen et al. (2017). In this paper, we primarily focus on the rural component of the Communist Revolution, namely, the Land Reform. A parallel movement of wealth confiscation and redistribution was carried out in the urban sector, often named the “Socialist Remold of Capitalist Enterprises.”



ented in tone and content, so that more detailed rules and explicit regulations pertaining to implementation needed to be provided in the form of supporting documents, including implementation legislation and important speeches by the central government and provincial authorities. To maximize the chances that implementation would go smoothly and efficiently, the central government devolved all land reform responsibilities to local governments, leaving considerable flexibility to interpret, adapt, plan, and carry out the Land Reform in each locality. This heavy emphasis on the informal and often personalized approach of implementing the Land Reform reflects the reality that the core field staff of the reform — local cadres complemented by the Peasants' Association — were technically under-trained but politically dedicated (Wong, 1973a).

The redistribution process typically consisted of two stages. First, the locality formed *ad hoc* committees and teams, mobilizing the rural masses via propaganda and indoctrination, and crucially, assigning *class labels* to families based on investigations of land holdings and discussions in mass meetings (Hinton, 1966). Second, based on the class labels, land and other production tools were confiscated from the landlords and rich peasants, and redistributed to the landless and poor peasants. The expropriation and redistribution were operationally one process, and in the vast majority of the cases, what was expropriated has been entirely redistributed (Wong, 1973b). Supplemental Figure S.1 presents a photograph taken during the Land Reform when rural residents were measuring the land in preparation for the redistribution.

The Land Reform was a zero-sum game, and the government made sure that the victims complied and the beneficiaries indeed received asset transfers. Both physical and psychological violence (or the threat of violence) were deployed during the confiscation process to suppress opposition from the expropriated households. A militia was organized for the purpose of the Land Reform, and it is estimated that for every landlord there were 8 organized peasants assisting the Land Reform implementation, among whom one was armed (Wong, 1973a). Forced confessions in small groups and mass trials attended by tens of thousands were also employed to induce submission through intense psychological pressure.

Third, the Land Reform achieved a thorough reshuffling of land assets and durably transformed the Chinese countryside. The Land Reform confiscated land from the landlords and rich farmers, and redistributed the land to the poor and landless. While scholars debate on the exact magnitude of land redistribution during the Land Reform, it has undeniably resulted in a “monumental and profound” socioeconomic revolution that affected almost every rural resident in China (Huang, 1995). In 1953, the central government declared that the Land Reform had achieved its goals in most of China. The landlord class was essentially eliminated, and their asset level brought down to that of middle or even poor peasants. Landless, poor, and middle peasants received farmland for cultivation amounting to 43% of total land acreage in China, according to some estimates (among others, see Wong, 1973b; Guillermaz, 1976; Perkins, 2013), which makes the Chinese Land Reform one of the most extreme examples of wealth equalization in a short period of time in human history (Wong, 1973a). The far-reaching social impact of the Land Reform is described by Schurmann (1971) as follows:

*[...] as a social revolution, land reform succeeded in destroying the traditional system of social stratification in the rural areas. The old rural gentry, whether based on the village or residing in towns, was destroyed. A social element, which had exercised leadership in the village by virtue of its status, its ownership of land, and its access to power had ceased to exist.*

Subsequent policies reinforced the Land Reform by further compressing the land distribution and reducing inequalities. This can be seen by looking at the evolution of property and use rights

over land. During the Land Reform period, effective private ownership over land was still allowed: the new owners held title deeds and had the right to use, purchase, sell, or rent the land as they pleased (Article 30 of the *Agrarian Reform Law*). In 1954, the first Constitution of the People's Republic of China abolished private land ownership. Individual farmers could lease land from the state and grow crops, although no rents were effectively paid to the state. The endowed land that individual farmers could grow food on was essentially land (re)allocated to them during the Land Reform (Lardy, 2008). The collectivization movement that occurred in parallel and accelerated in the mid-1950s gradually introduced restrictions in land use rights. By the end of 1956, all Chinese peasants were affiliated to a cooperative; however, collectivization was not complete. Cooperatives indeed fell into two categories (elementary or semi-socialist cooperatives and advanced or socialist cooperatives) offering different levels of ownership rights, and even in the advanced cooperatives peasants were allowed to retain small plots of land, some tools, and some animals to raise (Guillermaz, 1976). Collectivization was thus complete only during the Great Leap Forward starting in 1958, but as soon as the fall of 1959 rural trade fairs were reopened, and in the summer of 1960 private plots were restored (Perkins, 1966). The last major change to land use rights introduced in China was the household responsibility system, which was first experimented in 1979 and included virtually all Chinese peasants in 1983. Under this system, which still dominates Chinese agriculture today, ownership rights over land remain illegal, but private land use rights were reestablished. Importantly, the land confiscated during the Land Reform was not returned to their previous owners, land allocation is determined based on household demographics at the village level, and transfer rights are limited (Kung, 1995; Vendryes, 2010).

## A.2 Class labels

In order to facilitate asset confiscation and subsequent redistribution during the Communist Revolution, each household was assigned a class label based on what they owned. The specific class labels (in both rural and urban sectors) are listed as follows:

	Rural	Urban
<i>Non-elite</i>	Hired labor Poor peasants Middle peasants	Poor peasants in the city Workers Employees
<i>Elite</i>	Rich peasants Landlords	Enterprise owners Capitalists

More specifically, to supplement the *Agrarian Reform Law* and to aid the implementation of the Land Reform, the State Council issued a document titled “Decisions on Assigning the Class Labels in the Rural Sector” in 1950. It called local reform committees to divide up all rural residents into the broad classes listed above, and these uniform class labels would act as the basis for redistributive decisions during the Land Reform.

The class label was the only criterion used for asset redistribution. Those who were classified as landlords or rich peasants had their “excessive” assets confiscated, and those classified as middle peasants, poor peasants, and hired labor received asset transfers. Landlords and rich peasants were also the joint target of class-based discrimination until the 1980s (see Bian, 2002, for a review).

We thus group the landlords and rich peasants as the pre-revolution elite (approximately 6% of the population in the rural sector) and the rest as non-elite, according to the asset redistribution (during the Communist Revolution) and discrimination (until after the Cultural Revolution) that they faced. We investigate below alternative definitions of the elite. Our baseline results are robust to considering only the rich peasants, namely the “working” elite without the rentiers.

While the exact cutoffs used to categorize the class labels were often left to the discretion of local Land Reform committees, the State Council issued a document titled “Decisions on Assigning the Class Labels in the Rural Sector” in 1950 to provide general guidelines. For example, regarding household labeling as landlord versus rich peasants, the document stipulated that “in the landlord households, if there were people who regularly worked, and at the same time hired people to work on some of the land, then as long as the land rented out was more than 3 times as large as the land tilled by household members, these households should be classified as landlords rather than rich peasants.” Such a rule suggests that landlords working on the land they owned was a common phenomenon in rural China. Importantly, these labels were determined by family asset ownership prior to the reform,<sup>2</sup> and particularly land assets in rural areas: all members of a family shared the same label.

Until the *Agrarian Reform Law* was repealed in 1987, the label was stable over time and through generations, making it a major element of family and personal identity: once a label was assigned it was rarely revised (Unger, 1984), and forging class labels was nearly impossible, for three reasons. First, class labels were common knowledge in villages (Wemheuer, 2019), and the new elite with “good” class backgrounds had little incentive to collude with “bad” elements. Second, a double record of class labels was kept: one in individual dossiers, which in rural areas were held by the collective (4,000–5,000 households on average), and another, separate record held by central security organs for Party cadres (Cheng and Selden, 1994; Wemheuer, 2019); both records were inaccessible to the individuals concerned. Third, class background was subject to potential rechecks by external teams during political campaigns (Brown, 2015), and “providing false or misleading information could lead to serious consequences if, for example, a “landlord who had escaped the net” was uncovered” (Wemheuer, 2019). While the initial assignment of the class labels signaled the regime’s judgment about the “inherent loyalties of families” (Walder and Hu, 2009), class labels were preserved along patriarchal lines regardless of the actual political inclination and behavior of individuals. Moreover, each citizen was required to know her own class label. The elicitation of class labels thus allows researchers to trace family lineages, in particular the broad level of household assets prior to the revolutions. We describe in greater detail the elicitation of class labels in our data in Section 3.

The motivation behind class labels was to identify and therefore discriminate against the former elite and eliminate any educational or income advantage they might retain over the masses, consistent with the overarching goal of the Communist Revolution and the subsequent Cultural Revolution. Class labels determined in particular the likelihood of admission to high school and college, job assignments, promotions, and access to Party membership (Kraus, 1981; Unger, 1982; Lee, 1991). One unintended consequence of the system was, however, to remind people of who their parents and grandparents were, perhaps making family history and identity more salient.

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<sup>2</sup>Contrary to later political campaigns, no quotas were set during the Land Reform — e.g., in terms of a number or share of landlord labels (Kung et al., 2012). Local leaders may have however felt pressure to identify at least some “targets for class struggle” (Friedman et al., 1991).

### A.3 The Cultural Revolution

The Cultural Revolution is a massive sociopolitical movement launched by Mao Zedong in 1966, intended to preserve the fruits of the Communist Revolution. While it began as a purge of “disloyal” Communist Party officials, its scope quickly widened to target all elite groups and authority figures, leading to a decade long of chaos and violence until Mao’s death in 1976. We focus here on two main aspects of the Cultural Revolution: its stance toward the pre-revolution elite, and its disruptive education policy.<sup>3</sup> In this section, we complement Section 2 by (i) providing more details about the motivation behind the Cultural Revolution, (ii) comparing discrimination against the pre-revolution elite in their access to higher education during the Cultural Revolution with the rest of the Mao era, and (iii) describing briefly the Cultural Revolution’s onslaught on pre-Communist culture and beliefs.

First, discrimination against the pre-revolution elite was a key component of the Cultural Revolution. Since its inception, the Cultural Revolution was concerned with status inheritance. One of its primary goals was to prevent the pre-revolution or emerging elite from passing down their privileges to their offspring (Whyte, 1973; Deng and Treiman, 1997; Andreas, 2009) and thus “destratify” Chinese society (Parish, 1984). The initial motivation was to prevent the entrenchment of a bureaucratic elite, whom Mao viewed as a threat to the revolution. He feared that they became “a ‘privileged stratum’ and take the capitalist road, as allegedly [had] happened in the Soviet Union” (Bernstein, 1977). The scope of the Cultural Revolution quickly widened to encompass all high-status groups. Pre-revolution elite households often managed to secure elite professional occupations in the Communist regime (Rosen, 1982; Unger, 1982; Andreas, 2002; Walder and Hu, 2009). This fact, combined with the view that individuals with a “bad” class background — namely those with elite class labels — were inherently “revisionist,” or hostile to the revolution, justified in the eyes of Mao further discrimination and violence during the Cultural Revolution. In an interview given in 1965 to the French Minister of Cultural Affairs, André Malraux, Chairman Mao claimed that there was a broad “revisionist layer” in China, “large not in numbers but in the influence it exerts. This layer is made up of the former landlords, former rich peasants, former capitalists [...], and part of their children” (Andrieu, 1996). The goal then was to completely eliminate any remaining advantage of the pre-revolution elite and their descendants over the masses.<sup>4</sup>

The risk that the elite maintain their influence through education lies behind the radical and disruptive educational policy initiated during the Cultural Revolution (MacFarquhar and Schoenhals, 2006). The revolution severely disrupted higher education in two main ways. First, almost all high schools and colleges were shut down between 1966 and 1968, and most universities remained closed until 1972 (Bernstein, 1977; Unger, 1982). Supplemental Figure S.2 presents a photograph of students at Peking University, one of the best universities in China, during the Cultural Revolution, where students gathered to chant revolutionary slogans. Second, merit-based admission into higher education was suspended throughout the Cultural Revolution. When universities reopened in 1972, admission was primarily based on class labels (at the expense of the pre-revolution

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<sup>3</sup>The mass mobilization at the core of the Cultural Revolution led to large-scale disorganization. Before the imposition of martial law, the Cultural Revolution caused in less than two years a complete collapse of the state apparatus and severely disrupted production. Industry value added dropped from 44.6 to 12.6 million Chinese yuan (in constant 1990 prices) between 1966 and 1967, and it would not recover until 1980 (Dong and Wu, 2004).

<sup>4</sup>Recent research suggests that all of Chinese society was affected by the Cultural Revolution. While an earlier scholarly consensus regarded it as a mostly urban phenomenon (Baum, 1971), contributions since Walder and Su (2003) have investigated post-Mao sources, including sections in the gazetteers we use in this paper, and suggest an extensive rural impact.

elite, of course) and political achievements rather than academic credentials (Shirk, 1982). The only eligible applicants were workers, peasants, and soldiers, except for small quotas (below 5%) established for the “educable children [of class enemies]” (Deng and Treiman, 1997). Such a discrimination against the descendants of landlords and rich peasants remained until a meritocratic university entrance exam was reestablished in 1977 (see Chen, 2007; Roland and Yang, 2017, for more details about the resumption of the *gaokao*).

Second, discrimination against the descendants of the pre-revolution elite was the most extreme during the Cultural Revolution, but it characterizes the whole period between the Communist Revolution and the end of the Cultural Revolution. From the outset, the Chinese Communist Party oscillated between promoting mass education and a meritocratic elite with the technical skills and expertise necessary for economic development (Deng and Treiman, 1997; Andreas, 2009; Chen et al., 2015). In some years, admission into higher education was granted by “recommendation only,” and priority was given to workers, peasants, and children of “revolutionary cadres and martyrs” (Deng and Treiman, 1997). In other periods, the national college recruitment examination was re-established. Applicants with an undesirable class background were, however, systematically discriminated against (policy of “priorities among equivalents”).

Third, besides disrupting education, the Cultural Revolution induced a wide range of disturbances across Chinese society. The inheritance of culture and values from the pre-Communist era was regarded with suspicion: teachers became the targets of “struggle sessions,” which included public humiliations, beatings, and torture (Wang, 2001). Children were also often encouraged to expose their parents’ counter-revolutionary behaviors, representing a broad effort to weaken the nuclear family structure. An entire generation of urban students was sent to the countryside for political reeducation through manual work and contact with the masses (the “Sent-Down Movement”). Zhou (2004) shows that the probability of being sent down increased with the father’s educational attainment. The separation of children and parents during formative years of their lives could have significant implications on the vertical transmission of cultural values. However, this is less of a concern for our study as we focus on rural households, none of which sent away children during the Cultural Revolution since there were already residing in the countryside.

## Appendix B Additional details on data sources

### B.1 County Gazetteers: calculating county Gini coefficients in land ownership

We now describe how we calculate the county-level Gini coefficients in land ownership based on the *County Gazetteers* data.

We assume that land ownership among households within each of the five social classes is homogeneous. We assume that land ownership for landless hired peasants is zero if the value is missing. Some counties also list other special classes, for example, small land renters and half-landlord rich peasants; the land owned by these special classes, government, and other organizations is not included.

We define the county-level Gini as 1 minus twice the area under the (discrete) cumulative distribution function of land ownership. Supplemental Figure S.3 illustrates the construction of the Gini coefficients, where we normalize total population and total land ownership to 1 and plot the cumulative land ownership for each social class.

Given that land ownership statistics are only available in aggregate (by category), we make the following adjustment to re-scale the Gini coefficient to [0,1]. We define adjusted-Gini = 1 as the unequal world where landlords own all land, and adjusted-Gini = 0 as the equal world where everybody holds the same land share. Specifically, we re-scale the Gini as follows:

$$Gini = \frac{maxCDF - CDF(Land)}{maxCDF - minCDF}$$

where  $CDF(Land) = \sum_{Class} (Pop_{Class} \times CumulativeLand_{Class})$  is the cumulative density function of land ownership;  $maxCDF$  is the maximum value of CDF (i.e., extreme equality) under discrete distribution of population sub-groups, where everyone owns the same share of land in the society; and  $minCDF$  is the minimum value of CDF (i.e., extreme inequality) under discrete distribution, where all land is owned by landlords. The numerator ensures that the Gini coefficients are bounded below by 0, and the denominator scales the Gini coefficients so they are between 0 and 1.

We perform a number of robustness exercises using alternative measurements of county-level inequality: (i) using the raw Gini coefficients, without adjusting for the discrete nature of the distribution; (ii) using Gini coefficients with and without adjustment based on the amenity of the housing; and (iii) using Theil index to measure inequality. We show that the adjusted Gini is basically a linear transformation of the raw Gini *ad hoc*; the correlation is as high as 98.8% (see Supplemental Figure S.4). Moreover, the Gini coefficients with and without amenity adjustment are 95.3% correlated, and the adjusted Gini is also 91.9% correlated with the Theil index (see Supplemental Table S.1).

### B.2 County Gazetteers: sample selection

In Section 3.1, we introduce our measure of land ownership distribution based on the *County Gazetteers*. Here, we first describe the methodology we followed to collect the *County Gazetteers*; second, we discuss sample selection by comparing counties along the degree of completeness of the information available on land distribution prior to the Land Reform; and third, we assess selection by comparing the data with a distinct source of information, the *Province Gazetteers*.

First, our data collection effort goes through the following steps to maximize coverage and

ensure that the *County Gazetteers* data can be matched with contemporary counties. We start with all areas named “counties” in the 2000 administrative records. This ensures that all counties can be readily matched to contemporary census data. Next, we expand our efforts to areas named “cities” and add the data to our sample if the pre-Land Reform ownership distribution is available in the *County Gazetteers*. We regard the two as the same if they are documented under the same historical narratives in the most comprehensive Chinese online encyclopedia, Baidu Baike. Urban districts without documentation about the Land Reform are excluded. Note also that we exclude Tibet, Xinjiang, and Inner Mongolia due to different land policies designed for minority groups. Overall, we identify 639 counties in the gazetteers with the pre-Land Reform land distribution data necessary to calculate within-county inequality.

Second, as some *County Gazetteers* contain no or incomplete information on the land distribution prior to the Land Reform, sample selection may affect our findings. To assess this issue, we begin by comparing counties that differ in terms of the availability of the data we need to compute measures of inequality. Appendix Table A.2, Panel A, presents summary statistics for counties in the sample along the following dimensions: geographical characteristics (distance to the coast, longitude, latitude), economic development (contemporary GDP per capita, average nighttime luminosity, average and median years of education, average educational attainment for cohorts born before 1950),<sup>5</sup> average contemporary housing area (adjusted for housing amenities and non-adjusted), and contemporary housing Gini coefficient.

Panel B presents the p-values from three balance t-tests to check for potential sample selection based on observable features: between the counties with complete data and those with either incomplete or no data, between the counties with complete and incomplete data, and between the counties with at least some data and those without any data. Among all the 11 variables that we examine, counties with complete historical land ownership data differ from other counties only along median contemporary housing area (both raw and amenity-adjusted) and the average nighttime luminosity. Importantly, contemporary housing inequality is *not* associated with the availability of complete archival records on land ownership inequality prior to the Land Reform.

Third, to further assess the importance of selection in the *County Gazetteer* data, we compare them with data from a separate source. We collect data from the *Province Gazetteers* on land ownership by social classes, both before and after the Land Reform, as well as the number of counties that the provincial averages are based on. Although province and county gazetteers should draw on the same primary data, the average shares computed from these two sources differ, as they cover different subsets of counties. This allows us to assess the representativeness of the *County Gazetteer* data used in this paper.

We compute average land shares at the province level based on the province and county gazetteers, and plot them against each other, as shown in Appendix Figure A.3. Each dot corresponds to one province-period-class, e.g., it shows the average land share of poor peasants just before the Land Reform in Zhejiang province; we can match 64 such statistics at the province-period-class level. We see from Panel A that there is some variation, but most observations fall on or near the 45-degree line. We can further weight each observation by the number of counties used to compute the average share in the province gazetteer, which we do in Panel B. When a *Province Gazetteer* does not specify the number of counties used in the computation, we assume it is the same as the number of available *County Gazetteers*. This suggests that outliers are mostly due to provincial averages based on few county-level statistics.

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<sup>5</sup>Nighttime luminosity as a proxy for regional development level has been widely used: see Alesina et al. (2016) as a recent example and Donaldson and Storeygard (2016) for a review.

Supplemental Table S.2 provides similar evidence in regression format. Column 1 regresses the provincial averages from the *Province Gazetteers* on the provincial averages from the *County Gazetteers*; Column 2 introduces the same weights as in Appendix Figure A.3; and Columns 3, 4, and 5 introduce province, class, and period fixed effects, respectively. In all five specifications, the coefficient is statistically indistinguishable from 1 at conventional confidence levels and quite precisely estimated. The similarity between these two separate data sources suggests that the data collected from the *County Gazetteers*, while unable to cover the entire country, are unlikely to suffer from severe distortions due to sample selection.

### B.3 2000 Population Census: migration

In Section 3.3, we introduce the 1% micro sample of the 2000 Population Census as a data source to measure the contemporary wealth distribution at the county level. Summary statistics are presented in Supplemental Table S.3.

We focus on the year 2000 because it is the last census wave before mass rural to urban migration began in China. Although migration is an important factor in how local inequality evolves, pre-migration measures of local inequality ensure that the pattern of persistence (or lack thereof) in regional wealth inequality is not driven by selective migration across localities.<sup>6</sup> Three migration episodes may drive regional wealth inequality patterns. First, we cannot rule out that emigration at the onset of the Communist and Cultural Revolutions was affected by the pre-revolution land ownership distribution. Emigration was however a marginal phenomenon. The main destinations in the aftermath of the Civil War were Taiwan, with 1.2 million immigrants from mainland China by 1956 (Lin, 2018; Yap, 2018), and Hong Kong, with 385,000 by 1954 (Peterson, 2012). While large, these numbers accounted but for a small share of the Chinese population. Even if we assume all came from rural areas, these emigrants would account for less than 0.1% of the total rural population in China in 1950. Even if they were all landlords, they would account for less than 1% of the landlord population. Second, migration was relatively unfettered in the 1950s up until the Great Famine. While contemporaneous census data (censuses were carried out in 1953 and 1964) do not include sufficient information to study migration, we can estimate the incidence of migration using data on the birthplace of the grandparents and parents generations using the CFPS and 2000 Census data. CFPS results are displayed in Appendix Table A.8 and show that (i) migration (especially between counties of the same province) is not trivial in the children and grandparents generations, but quite marginal on average in the parents generation, (ii) across all three generations and regardless of the way we define migration (relative to the birthplace, the place of residence at age 3, the place of residence at 12, and the place of household registration or *hukou*, as well as between provinces or between counties) pre-revolution elite and non-elite households do not differ in their members' propensity to migrate, and (iii) if anything their members are less likely to migrate (this is significant in some cases, e.g., inter-county migration in the children generation). The 2000 Census data allow us to shed more light on (i) before the mass migration that occurred between 2000 and 2010, when CFPS was carried out: in each of the three generations, the average migration rate in 2000 (defining migration as living in a county different from one's county of registration) lay below 5%. Third, some rural to urban migration did occur between the introduction of economic reforms in the late 1970s and 2000. We can however show that rural emigration was still a marginal phenomenon in the 1980s and 1990s. In the 1990 Population Census,

<sup>6</sup>We assess the role of selective migration and remittances in explaining the pre-revolution elite's rebound in Section 5.1.



2.21% of agricultural *hukou* holders were living outside their places of registration. Migrants who changed their place of registration are not captured by this measure; this was however extremely rare at the time.<sup>7</sup>

We further use the 2000 Census in the paper to distinguish between individual- and household-level migration, the latter phenomenon being entirely missed by CFPS if migrants cross county boundaries. In 2000, 3.76% of agricultural *hukou* holders were living outside their counties of registration, while migration of all household members concerned 4.85% of agricultural *hukou* households and 2.80% of agricultural *hukou* holders.<sup>8</sup>

#### B.4 2000 Population Census: contemporary wealth distribution at the county level

In order to measure contemporary wealth distribution at the county level, we use a random 1% micro sample of the 2000 Population Census.

We use the residential housing area per capita of the household to construct a contemporary inequality measure at the county level. We rely on residential housing area to measure real estate property inequality, because this figure is reported for everyone in the population (both home owners and renters), and it is much less likely to suffer from self-reporting bias than savings and income. Moreover, as long as the same biases exist for all counties, our comparison of the relative differences in inequality across counties is still valid. An important caveat of inequality measures based on housing size is that as rural areas become more urbanized, the upper tail of the population could begin to reside in apartments that are of smaller size but higher value than rural houses. This would underestimate the contemporary local inequality, particularly in more urbanized counties. In Section 5, we take into account the urbanization rate and demonstrate that the results we document are unlikely to be driven by urbanization.

Similar to the land-based Gini coefficients in the 1950s, we construct Gini coefficients based on housing size as one minus twice the area under the cumulative distribution function of the housing size. Specifically, we sort all individuals  $i$  by their housing size per capita, compute the cumulative distribution function (CDF) of housing size ownership for each county  $j$ , and define the integral of the CDF as the modern housing Gini coefficient as follows:

$$Gini_j(Housing) = 1 - 2 \int_{i \in j} CumulativeHousing_i$$

To capture quality differences in real estate, we adjust living size based on reported housing amenities. Specifically, we inflate the living size by 10% for each of the following modern residential characteristics: building has more than one floor, independent kitchen, equipped with gas or electric stove, in-unit tap water available, equipped with hot bath water, or equipped with in-unit bathrooms. The amenity adjustment would take into account structural factors that make smaller living areas more valuable than larger ones (e.g., apartments versus rural houses). Our results are robust to using either amenity adjusted or non-adjusted living size as the basis of the inequality measure, and to adjusting the housing area either for all factors equally or following PCA loadings for the six different factors (see Supplemental Table S.5).

<sup>7</sup>Note that the 1990 Census incorporates intra-county mobility, while the 2000 Census does allow us to isolate inter-county movements. Note also that the definition of migrants differs in the two censuses: in 1990, only migrants absent from their places of registration for more than one year were counted; in 2000, the cutoff was reduced to six months.

<sup>8</sup>A household is categorized as agricultural if all its members hold an agricultural *hukou*; it is categorized as a migrant household if all its members are registered in a different county from the county of residence.

## Appendix C   Inequality decades prior to the revolutions

The main analysis that we present in the paper takes land inequality in the late 1940s, just before the Land Reform, as the starting point. To gauge whether land inequality on the eve of the Land Reform reflects the medium-run distribution of land in rural China, we complement our baseline analysis with a data source on land distribution that is independent from the *County Gazetteers*. Specifically, we measure the land ownership distribution in the 1930s, the earliest period for which data on land distribution across Chinese counties exist. The source is *Land Utilization in China: A Study of 16,786 Farmers in 168 Localities, and 38,256 Farm Families in Twenty Two Provinces in China, 1929–1933*, compiled by John L. Buck in 1937. Buck, the head of the Department of Agricultural Economics at the University of Nanking, sent his students to different villages across China to survey land utilization. We aggregate these reports from villages to the county level, which covers 142 counties. The counties are not representative of China, but these reports are the most comprehensive data available on China’s agricultural sector prior to 1949.

We first examine whether the land distribution in the 1930s is predictive of that in the late 1940s just before the Land Reform. Overall, 50 counties can be matched to the pre-Land Reform Gazetteer data. As shown in Appendix Table A.1, Panel A, the share of land area owned by landlords in the 1930s is positively, significantly, and robustly correlated with the corresponding measures in the late 1940s. In other words, the land distribution on the eve of the Land Reform reflects an agricultural landscape in China that had prevailed for at least several decades, and potentially for even longer periods.

We then examine whether the pattern of reversal in county-level land inequality in 2000 is robust to focusing on a longer time horizon — from the 1930s to 2000. We match 138 counties in the 1930s reports to the 2000 Census. In Appendix Table A.1, Panel B, we predict real estate inequality in 2000 with share of land area owned by landlords in the 1930s. This share is negatively (albeit not significantly) correlated with housing inequality measured in 2000. This, again, suggests that the Land Reform and Communist Revolution is a shock to China’s land distribution, which has been otherwise fairly slow-moving.

## Appendix D Measures of intergenerational mobility: transition matrix

### D.1 Theoretical derivation: the correspondence from transition matrix to regression coefficients

For a transitional matrix,

	Young Top X	Young Bottom 1-X
Old Top X	$a$	$b$
Old Bottom 1-X	$c$	$d$

We solve  $b, c, d$  as functions of  $a$  and  $X$  first.

$$b = 1 - a$$

$$c = \frac{(1 - a)X}{1 - X}$$

$$d = 1 - \frac{(1 - a)X}{1 - X}$$

Consider the following two regressions linking the rank of the young generation to the social status of the old generation. Regression 1: Regress the dummy of being in the top  $X$  of the young generation on the dummy of being in the top  $X$  of the old generation.

$$D_{young}(Top\ X) = \beta_1 D_{old}(Top\ X) + c + \epsilon$$

The coefficient is the expectation of probability difference of entering in the top  $X$  rank.

$$\beta_1 = a - \frac{X}{1 - X}(1 - a) = \frac{a - X}{1 - X}$$

Regression 2: Regress the rank of young generation on the dummy of being in the top  $X$  of the old generation.

$$Rank_{young}(Top\ X) = \beta_2 D_{old}(Top\ X) + c + \epsilon$$

The coefficient  $\beta_2$  is the expectation of rank difference. The cohort from top  $X$  of the old generation:  $a(1 - \frac{X}{2}) + (1 - a)\frac{1-X}{2} = \frac{1+a-X}{2}$ . The cohort from the bottom  $1 - X$ :  $\frac{(1-a)X}{1-X} \times (1 - \frac{X}{2}) + (1 - \frac{(1-a)X}{1-X})\frac{1-X}{2} = \frac{1-X+\frac{X(1-a)}{1-X}}{2}$ . The coefficient

$$\beta_2 = \frac{a - \frac{X(1-a)}{1-X}}{2} = \frac{a - X}{2(1 - X)}$$

### D.2 Empirical implementation

We try to compare our individual-level persistence with the US and Canada. We compute the three-generation decile by decile transition matrix in the US and Canada. There is no data capturing the persistence from grandparents to grandchildren. Thus, we compute the three-generation transition matrix from the parent-child transition matrix.

In the US, we compute the decile by decile parent-child matrix based on the  $100 \times 100$  matrix

provided by Chetty et al. (2014).<sup>9</sup> Corak and Heisz (1998) report the decile by decile transition matrix with Canadian income tax data. Additionally, we manually compute the decile by decile parent-child matrix using family panel data from Taiwan (Yu, 2019) and Russia (Popkin, 2016).

We further assume that the transmission are independent from generation to generation. Thus, the three-generation matrix  $M_3$  would be simply the squared parent-child matrix  $M_2$ :

$$M_3 = M_2^2$$

We reproduce below the three-generation transmission matrix in the US, estimated by Chetty et al. (2014):

	<i>Dec.1</i>	<i>Dec.2</i>	<i>Dec.3</i>	<i>Dec.4</i>	<i>Dec.5</i>	<i>Dec.6</i>	<i>Dec.7</i>	<i>Dec.8</i>	<i>Dec.9</i>	<i>Dec.10</i>
<i>Dec.1</i>	0.1406	0.1191	0.111	0.1055	0.0988	0.0923	0.0871	0.0821	0.0818	0.0815
<i>Dec.2</i>	0.1264	0.1149	0.1095	0.1054	0.1006	0.0955	0.0911	0.0863	0.0856	0.0847
<i>Dec.3</i>	0.1172	0.1112	0.1076	0.1047	0.1013	0.0974	0.0938	0.0898	0.0891	0.0880
<i>Dec.4</i>	0.1094	0.1074	0.1054	0.1036	0.1015	0.0990	0.0964	0.0932	0.0926	0.0916
<i>Dec.5</i>	0.1022	0.1034	0.1029	0.1022	0.1014	0.1002	0.0988	0.0969	0.0964	0.0956
<i>Dec.6</i>	0.0953	0.0991	0.1001	0.1005	0.1010	0.1013	0.1012	0.1008	0.1006	0.1001
<i>Dec.7</i>	0.0882	0.0943	0.0968	0.0985	0.1004	0.1023	0.1038	0.1051	0.1052	0.1053
<i>Dec.8</i>	0.0806	0.0890	0.0930	0.0961	0.0996	0.1033	0.1066	0.1100	0.1105	0.1111
<i>Dec.9</i>	0.0738	0.0839	0.0893	0.0936	0.0986	0.1041	0.1092	0.1148	0.1157	0.1169
<i>Dec.10</i>	0.0663	0.0776	0.0843	0.0900	0.0967	0.1044	0.1120	0.1209	0.1226	0.1252

We reproduce below the three-generation transmission matrix in Canada, estimated by Corak and Heisz (1998):

	<i>Dec.1</i>	<i>Dec.2</i>	<i>Dec.3</i>	<i>Dec.4</i>	<i>Dec.5</i>	<i>Dec.6</i>	<i>Dec.7</i>	<i>Dec.8</i>	<i>Dec.9</i>	<i>Dec.10</i>
<i>Dec.1</i>	0.1117	0.1059	0.1031	0.1003	0.0989	0.0972	0.0963	0.0963	0.0964	0.0967
<i>Dec.2</i>	0.1083	0.1045	0.1025	0.1004	0.0994	0.0979	0.0971	0.0970	0.0968	0.0968
<i>Dec.3</i>	0.1055	0.1035	0.1023	0.1008	0.1000	0.0986	0.098	0.0978	0.0973	0.0970
<i>Dec.4</i>	0.1032	0.1023	0.1017	0.1009	0.1004	0.0995	0.0991	0.0989	0.0985	0.0982
<i>Dec.5</i>	0.1007	0.1009	0.1009	0.1006	0.1004	0.0998	0.0995	0.0994	0.0988	0.0985
<i>Dec.6</i>	0.0988	0.0999	0.1004	0.1006	0.1008	0.1006	0.1005	0.1004	0.0999	0.0998
<i>Dec.7</i>	0.0960	0.0983	0.0995	0.1005	0.1011	0.1013	0.1016	0.1015	0.1011	0.1009
<i>Dec.8</i>	0.0939	0.0967	0.0985	0.1001	0.1011	0.1018	0.1024	0.1025	0.1023	0.1024
<i>Dec.9</i>	0.0911	0.0945	0.0967	0.0991	0.1006	0.1021	0.1034	0.1036	0.1041	0.1045
<i>Dec.10</i>	0.0916	0.0941	0.096	0.0984	0.1001	0.102	0.1038	0.1042	0.1056	0.1069

We reproduce below the three-generation transmission matrix in Taiwan, with data sourced from Yu (2019):

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<sup>9</sup>The 100 by 100 transition matrix can be downloaded from the data library of Opportunity Insights. See: <https://opportunityinsights.org/data/>

	<i>Dec.1</i>	<i>Dec.2</i>	<i>Dec.3</i>	<i>Dec.4</i>	<i>Dec.5</i>	<i>Dec.6</i>	<i>Dec.7</i>	<i>Dec.8</i>	<i>Dec.9</i>	<i>Dec.10</i>
<i>Dec.1</i>	0.1056	0.0979	0.1016	0.1301	0.0671	0.0967	0.1174	0.0872	0.1018	0.0946
<i>Dec.2</i>	0.1056	0.0979	0.1016	0.1301	0.0671	0.0967	0.1174	0.0872	0.1018	0.0946
<i>Dec.3</i>	0.1003	0.0961	0.1030	0.1295	0.0721	0.0973	0.1167	0.0881	0.1012	0.0957
<i>Dec.4</i>	0.0993	0.0981	0.1000	0.1314	0.0681	0.0982	0.1124	0.0904	0.1056	0.0964
<i>Dec.5</i>	0.1037	0.0963	0.1038	0.1283	0.0681	0.0995	0.1116	0.0869	0.1054	0.0963
<i>Dec.6</i>	0.1048	0.0944	0.1042	0.1275	0.0731	0.0982	0.1164	0.0851	0.0991	0.0972
<i>Dec.7</i>	0.0940	0.0973	0.1014	0.1335	0.0768	0.0981	0.1185	0.0898	0.0975	0.0931
<i>Dec.8</i>	0.0996	0.0960	0.1018	0.1313	0.0748	0.0963	0.1184	0.0876	0.0994	0.0948
<i>Dec.9</i>	0.0981	0.0992	0.0988	0.1310	0.0698	0.0988	0.1120	0.0916	0.1035	0.0972
<i>Dec.10</i>	0.1077	0.0893	0.1046	0.1191	0.0731	0.0922	0.1144	0.0857	0.1111	0.1026

We reproduce below the three-generation transmission matrix in Russia, with data sourced from Popkin (2016):

<i>Dec.1</i>	0.1253	0.1127	0.1311	0.1161	0.0877	0.0982	0.0947	0.1000	0.0508	0.0835
<i>Dec.2</i>	0.1207	0.0983	0.1244	0.1158	0.0888	0.1043	0.0992	0.1072	0.0568	0.0844
<i>Dec.3</i>	0.1205	0.0952	0.1177	0.1132	0.0874	0.1063	0.0986	0.1089	0.0614	0.0909
<i>Dec.4</i>	0.1162	0.0840	0.1093	0.1057	0.0842	0.1078	0.0984	0.1170	0.0712	0.1063
<i>Dec.5</i>	0.1149	0.0813	0.1075	0.1060	0.0853	0.1102	0.0994	0.1199	0.0720	0.1036
<i>Dec.6</i>	0.1165	0.0837	0.1123	0.1080	0.0853	0.1083	0.1004	0.1173	0.0677	0.1004
<i>Dec.7</i>	0.1154	0.0800	0.1027	0.1015	0.0808	0.1083	0.0984	0.1235	0.0745	0.1149
<i>Dec.8</i>	0.1143	0.0757	0.1046	0.1026	0.0833	0.1113	0.1003	0.1242	0.0749	0.1088
<i>Dec.9</i>	0.1132	0.0779	0.0987	0.0991	0.0795	0.1114	0.0962	0.1240	0.0809	0.1190
<i>Dec.10</i>	0.1173	0.0680	0.0841	0.0781	0.0719	0.1055	0.0939	0.1331	0.0927	0.1554

In the context of rural China and the pre-revolution elite,  $X = 10\%$ ,  $a_{Canada,X=10\%} = 0.1117$ ,  $a_{US,X=10\%} = 0.1406$ ,  $a_{Taiwan,X=10\%} = 0.1012$ , and  $a_{Russia,X=10\%} = 0.1554$ . In the US data, we also compute  $X = 5\%$ , and  $a_{US,X=5\%} = 0.0810$ .

$$\beta_{1,Canada,X=10\%} = \frac{0.01117}{0.9} = 0.0124$$

$$\beta_{2,Canada,X=10\%} = \frac{0.01117}{1.8} = 0.0062$$

$$\beta_{1,US,X=10\%} = \frac{0.01406}{0.9} = 0.0156$$

$$\beta_{2,US,X=10\%} = \frac{0.01406}{1.8} = 0.0078$$

$$\beta_{1,US,X=5\%} = \frac{0.0810}{0.95} = 0.0853$$

$$\beta_{2,US,X=5\%} = \frac{0.0117}{1.9} = 0.0426$$

$$\beta_{1,Taiwan,X=10\%} = \frac{0.0026}{0.9} = 0.0029$$

$$\beta_{2,Taiwan,X=10\%} = \frac{0.0026}{1.8} = 0.0014$$

$$\beta_{1,Russia,X=10\%} = \frac{0.0554}{0.9} = 0.0616$$

$$\beta_{2,Russia,X=10\%} = \frac{0.012}{1.8} = 0.0308$$

## Appendix E Reversal in county level inequality

In Section 5.1, we discuss whether the pre-revolution elite's rebound reflects the growing local inequality. In order to examine the persistence (or lack thereof) in inequality at the aggregate level, we ask whether contemporary inequality (proxied by inequality in housing size) in a given county is associated with land ownership inequality prior to the Communist Revolution. We provide a more detailed discussion of the results in this Appendix section.

Figure 1, Panel C, maps the real estate housing Gini coefficients in 2000 across counties. Relative to the land ownership inequality just after the Land Reform (Panel B), inequality had begun to re-emerge throughout China by 2000. Moreover, regions that were more unequal prior to the Land Reform (Panel A), such as the northeastern provinces, became relatively more equal in 2000; we can also note that inequality seems less spatially correlated in 2000, which may be partly due to the removal of historical determinants of land inequality prior to the Land Reform.

In Appendix Table A.13, we regress the real estate housing Gini coefficients in 2000 at the county level on the corresponding land ownership Gini coefficients just prior to the Land Reform. We include province fixed effects throughout. We exclude counties with less than 80 households<sup>10</sup> in the random 1% extract of the 2000 Census to reduce measurement error in within-county inequality, restricting the sample to 572 counties; we carry out extensive robustness checks to show that our results are not sensitive to this cutoff. Column 1 presents the baseline coefficient estimates. We observe a strong and sizable *negative* relationship between the pre-Land Reform inequality and contemporary inequality (measured in 2000). In other words, the Land Reform and Cultural Revolution were successful in the long run at the county level: past inequalities were not only suppressed; the Land Reform reversed the pattern across China and made historically more unequal places relatively more equal today. Note that since this analysis is conducted at the county level, the reversal we document does not suggest that counties more unequal prior to the Land Reform become more equal in 2000 in *absolute* terms, but rather, they become more equal *relative* to other counties.

This reversal pattern is robust to taking into account of a variety of factors that could affect inequality. In fact, time invariant factors that would be associated with inequality within county (e.g., geographic or structural reasons that make a county inherently more unequal than others) could not drive this reversal, unless the revolutions triggered a different set of regional characteristics to reshape inequality. Appendix Table A.13, Columns 2-5 test the robustness of the reversal finding. Column 2 controls for the contemporary county development level proxied by nighttime luminosity in 2000; column 3 controls for the historical county development level, proxied by average educational attainment level in 1950; column 4 controls for a variety of geographic attributes that may be associated with either development or within-county inequality, such as land ruggedness and distance to major transport routes;<sup>11</sup> and finally, column 5 controls for county-level access to external and internal markets.<sup>12</sup> The negative relationship that we document in Column 1 remains largely unchanged. It is also robust to excluding coastal regions where rich households may

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<sup>10</sup>The patterns observed in Appendix Table A.13 are robust to alternative thresholds — see Supplemental Table S.6

<sup>11</sup>The geographical controls include distances (km) to the shore, fast-speed road network, and major rivers, as well as the means and standard deviations of elevation and slope.

<sup>12</sup>External (resp., internal) market access is defined as the weighted sum of the populations (from the 1953 Census) in coastal (resp., non-coastal) counties. As is standard in the economic geography literature since Harris (1954), the weights are the inverse of the exponential of distance, measured in km. Coastal counties are defined as counties in provinces with access to the sea; the results are robust to defining coastal counties more narrowly as counties with direct sea access.

have been more likely to emigrate prior to the revolutions in order to evade confiscation (column 6) — such emigration of the wealthy could generate a reversal in inequality.

Finally, urbanization may induce households at the top of the income and wealth distribution to move to urban apartments that have smaller sizes than rural houses, and lead us to underestimate contemporary inequality and hence overestimate the inequality reversal over time. However, we find that the reversal in county-level inequality is remarkably robust to controlling for the urbanization rate in 2000 (proxied by the share of population in a given locality who hold an urban household registration, or *hukou*), as shown in Supplemental Table S.4.

Much of the movement toward equality comes from the compression of the difference between the above-median and median households. Appendix Figure A.9 decomposes the inequality reversal over time by different parts of the distribution. We estimate the correlation coefficients between the pre-Land Reform land Gini coefficient and the corresponding county's 2000 housing inequality. Instead of the overall Gini coefficient of 2000 housing inequality, we construct a separate inequality measure for each decile as the ratio between the  $X^{\text{th}}$  and 50<sup>th</sup> percentiles of the housing size in 2000 in a given county, where  $X$  ranges from 10 to 90. We trace out  $X$  along the x-axis, and the corresponding correlation coefficient estimates on the y-axis. We reverse the ratios if  $X < 50$ , so that one can interpret negative coefficients across the entire spectrum of  $X$  as indicating a reversal between historical and contemporary inequality. The estimated coefficients for percentiles below the median are in general indistinguishable from zero, suggesting that the reversal in equality did not occur among the lower half of the distribution in terms of housing size. This does not indicate a resurgence of historical inequality either — coefficient estimates close to zero suggest that the reshuffling of historical inequality is fairly persistent among below-median households. However, one begins to observe an increasingly negative coefficient as  $X$  increases beyond 50.

In Appendix Table A.14, we further investigate the underpinnings of the reversal in county-level inequality. We interact the pre-revolution land Gini coefficient with various time-invariant county characteristics that we expect, based on the literature, to have affected income and wealth distributions differently before and after the Mao era. This heterogeneity analysis shows that the reversal pattern is observed in counties that have better access to domestic markets.

Finally, the Communist and Cultural Revolutions may have had a persistent impact by altering local collective preferences (and norms). We investigate whether the revolutions affected the overall preference toward inequality and redistribution in a given county. Specifically, we examine the county-level average answer to the following survey question related to redistribution and inequality, as elicited in the CFPS in 2010:

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To what extent do you agree with the following statement:  
 For the economy to thrive, one needs to enlarge income inequality in the population.  
 1 = extremely disagree  
 5 = extremely agree

---

In Appendix Table A.15, we look at the relationship between pre-revolution land ownership inequality (measured by the Gini coefficient) and the contemporary average attitude toward inequality in the corresponding county. One sees that counties that were more unequal prior to the Land Reform display substantially lower tolerance toward inequality. This association is robust even controlling for cohort and income at the time of the survey, as shown in Columns 2 and 3. In



other words, the Communist Revolution and the Cultural Revolution appear to have generated a lasting impact across Chinese rural counties — rural counties that were more unequal prior to the revolutions have become collectively less tolerant of inequality.

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## Appendix S Supplemental figures and tables

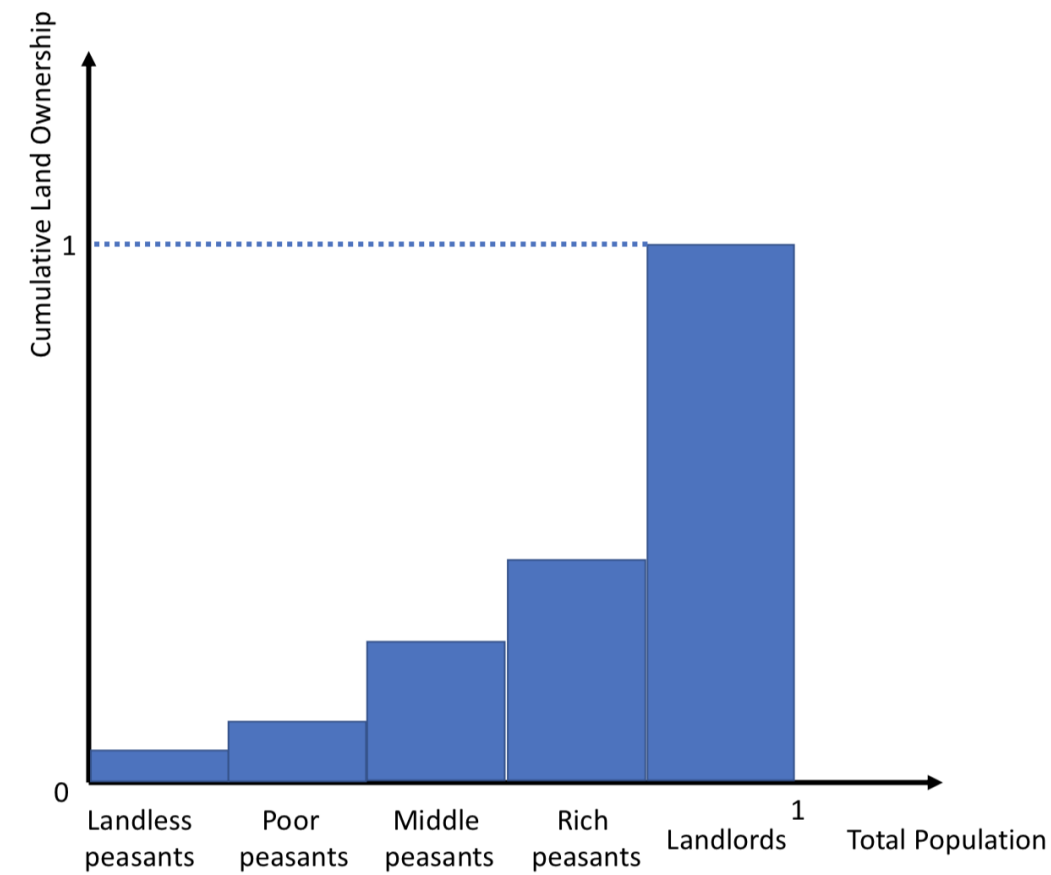


**Figure S.1:** Measuring land during the Land Reform.

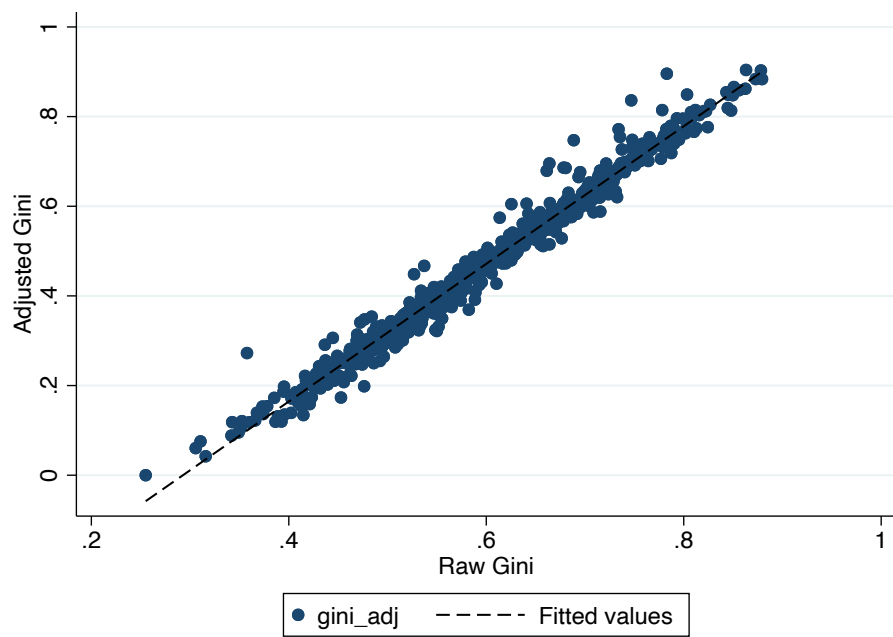


**Figure S.2:** Students chanting revolutionary slogans at Peking University during the Cultural Revolution.





**Figure S.3:** This figure gives a graphical illustration of the Gini coefficient calculation.



**Figure S.4:** Comparing land Gini with and without housing amenity adjustments

**Table S.1:** Correlation between county-level Gini and Theil indices

	Gini adj.	Gini raw	Theil raw
Gini adjusted	1.0000		
Gini raw	0.9534	1.0000	
Theil raw	0.9188	0.9598	1.0000

Notes: This table presents correlation coefficients for various measures of land ownership inequality from the *County Gazetteers*. The measures are (1) Gini coefficients with adjustment based on housing amenities, (2) the raw Gini coefficients, and (3) the Theil index.

**Table S.2:** Comparison of province and county gazetteer land ownership data

	Province gazetteer				
	(1)	(2)	(3)	(4)	(5)
County gazetteer	1.055*** (0.068)	1.019*** (0.079)	0.976*** (0.103)	1.010*** (0.117)	1.015*** (0.113)
Weights	No	Yes	Yes	Yes	Yes
Province FE	No	No	Yes	Yes	Yes
Class FE	No	No	No	Yes	Yes
Period FE	No	No	No	No	Yes

Notes: This table regresses average land shares from *Province Gazetteers* on average land shares from *County Gazetteers*. Each observation is a province-period-class, where period can be pre- or post-Land Reform, and class refers to the five class labels. The weights are the number of counties based on which the province-level data in the *Province Gazetteers* are computed (when this information is missing, we assume it is the same as the number of counties available in the *County Gazetteers*). Sample: all matched province-period-class observations in province and county gazetteers (N = 64).

**Table S.3:** Summary statistics — 2000 Population Census

Panel A: education and real estate					
	Mean	S.D.	Median	25 <sup>th</sup> Percentile	75 <sup>th</sup> Percentile
	(1)	(2)	(3)	(4)	(5)
Years of Education	7.043	3.342	6.000	6.000	9.000
Years of Education (born before 1950)	4.498	3.852	6.000	0.000	6.000
Housing Area per capita	26.293	19.136	21.333	15.000	32.000
Amenity-adjusted Housing Area	33.284	26.004	26.400	17.875	40.000
Amenity Adjustment Factor	0.243	0.148	0.200	0.200	0.300
Panel B: migration					
	Non-migrant or Same County		Other county, Same Province		Other Province
Migration by birth place	94.99%		2.93%		2.09%
Migration by place of registration	98.17%		0.70%		1.12%
Migration in 1995–2000	98.23%		0.73%		1.05%

Notes: Panel A summarizes the distribution (mean, standard deviation, median, 25<sup>th</sup> percentile, and 75<sup>th</sup> percentile) of five key variables from the 2000 Population Census in the 410 counties with more than 80 households and valid pre-reform Gini data: years of education, years of education of the population born before 1950, housing area per capita (in m<sup>2</sup>), amenity adjustment factor, and amenity-adjusted housing area (see text for details). Panel B summarizes migration by birth place, migration by place of household registration (*hukou*), and migration between 1995 and 2000 among agricultural *hukou* holders. The population is classified into three categories: non-migrants or migrants who moved within their birth county (resp. their county of registration, or their county of residence in 1995), migrants who crossed a county boundary but still reside in their birth province (resp. their province of registration, or their province of residence in 1995), and migrants living in a different province than the one they were born in (resp., their province of registration, or their province of residence in 1995). Sample: random 1% extract of the 2000 Population Census (N = 2,800,769).

**Table S.4:** Robustness: county-level inequality persistence with urbanization control

	Gini (Amenity-adjusted Housing Area per capita)					
	(1)	(2)	(3)	(4)	(5)	(6)
Panel A: full specification of Table A.13						
Pre-revolution land Gini	-0.019** (0.009)	-0.018** (0.009)	-0.018** (0.009)	-0.019* (0.010)	-0.020* (0.011)	-0.024* (0.013)
Panel B: with urbanization rate control						
Pre-revolution land Gini	-0.019** (0.009)	-0.018** (0.009)	-0.018** (0.009)	-0.019* (0.010)	-0.020* (0.011)	-0.024* (0.013)
# observations	572	572	572	572	572	411
Control for province FEs	Yes	Yes	Yes	Yes	Yes	Yes
Control for 2000 night light level	No	Yes	Yes	Yes	Yes	Yes
Control for 1950 education level	No	No	Yes	Yes	Yes	Yes
Control for geographic attributes	No	No	No	Yes	Yes	Yes
Control for market access	No	No	No	No	Yes	Yes
Regions	All	All	All	All	All	Non-coastal

Notes: This table reports the relation between the pre-reform land Gini and the 2000 Gini of the amenity-adjusted housing area per capita. Panel A reports the full specification of Table A.13, Panel B introduces the urbanization control. The urbanization rate is defined as the percentage of the county population with a non-agricultural household registration, or *hukou*. Columns are defined as in Table A.13. Standard errors accounting for arbitrary spatial correlation (Colella et al., 2019) within a 300-km radius are in parentheses. \*\*\*  $p < 0.01$ , \*\*  $p < 0.05$ , \*  $p < 0.1$ . Sample: counties with more than 80 households in the random 1% extract of the 2000.

**Table S.5:** Robustness: county-level inequality persistence with different amenity adjustments

	Housing Area per capita Gini					
	(1)	(2)	(3)	(4)	(5)	(6)
Panel A: Gini of Unadjusted Housing Area						
Pre-revolution land Gini	-0.017** (0.008)	-0.017** (0.008)	-0.017** (0.008)	-0.018** (0.009)	-0.020* (0.010)	-0.025** (0.013)
Panel B: Equal-weighted Amenity						
Pre-revolution land Gini	-0.019** (0.009)	-0.018** (0.009)	-0.018** (0.009)	-0.019* (0.010)	-0.020* (0.011)	-0.024* (0.013)
Panel C: PCA-weighted Amenity						
Pre-revolution land Gini	-0.017** (0.008)	-0.017** (0.008)	-0.017** (0.008)	-0.019** (0.009)	-0.020* (0.010)	-0.025** (0.013)
# observations	572	572	572	572	572	411
Control for province FEs	Yes	Yes	Yes	Yes	Yes	Yes
Control for 2000 night light level	No	Yes	Yes	Yes	Yes	Yes
Control for 1950 education level	No	No	Yes	Yes	Yes	Yes
Control for geographic attributes	No	No	No	Yes	Yes	Yes
Control for market access	No	No	No	No	Yes	Yes
Regions	All	All	All	All	All	Non-coastal

Notes: This table reports different adjustments for housing amenities. We consider six indicator variables from the 2000 Census: 1. multistory house, 2. independent kitchen, 3. fuel or gas access, 4. tap water access, 5. hot bath, and 6. in-unit restroom. Total amenity inflator is assumed to be 0.6. Panel A reports the housing Gini coefficient calculated with the raw housing area per capita (in m<sup>2</sup>). Panel B adjusts the housing area for all factors equally. Panel C adjusts the housing area with the following PCA loadings for the six different factors: 19.69%, 8.72%, 22.29%, 18.91%, 21.33%, and 9.05%, respectively. Columns are defined as in Table A.13. Standard errors accounting for arbitrary spatial correlation (Colella et al., 2019) within a 300-km radius are in parentheses. \*\*\*  $p < 0.01$ , \*\*  $p < 0.05$ , \*  $p < 0.1$ .

**Table S.6:** Robustness: county-level inequality persistence with different sampling criteria

	Gini (Amenity-adjusted Housing Area per capita)					
	(1)	(2)	(3)	(4)	(5)	(6)
Panel A: all matched counties						
Pre-revolution land Gini	-0.019** (0.009)	-0.018** (0.009)	-0.018** (0.009)	-0.018* (0.010)	-0.019* (0.011)	-0.023* (0.013)
# observations	574	574	574	574	574	413
Panel B: counties with > 50 households						
Pre-revolution land Gini	-0.019** (0.009)	-0.018** (0.009)	-0.018** (0.009)	-0.019* (0.010)	-0.020* (0.011)	-0.024* (0.013)
# observations	572	572	572	572	572	411
Panel C: counties with > 80 households						
Pre-revolution land Gini	-0.019** (0.009)	-0.018** (0.009)	-0.018** (0.009)	-0.019* (0.010)	-0.020* (0.011)	-0.024* (0.013)
# observations	572	572	572	572	572	411
Panel D: counties with > 100 households						
Pre-revolution land Gini	-0.019** (0.009)	-0.019** (0.009)	-0.019** (0.009)	-0.019** (0.010)	-0.020* (0.010)	-0.025* (0.013)
# observations	568	568	568	568	568	407
Control for province FEs	Yes	Yes	Yes	Yes	Yes	Yes
Control for 2000 night light level	No	Yes	Yes	Yes	Yes	Yes
Control for 1950 education level	No	No	Yes	Yes	Yes	Yes
Control for geographic attributes	No	No	No	Yes	Yes	Yes
Control for market access	No	No	No	No	Yes	Yes
Regions	All	All	All	All	All	Non-coastal

Notes: Panels A, B, C, and D report estimations with county samples including more than 0, 50, 80, and 100 households, respectively (the benchmark in Table A.13 is more than 80 households). Columns are defined as in Table A.13. Standard errors accounting for arbitrary spatial correlation (Colella et al., 2019) within a 300-km radius are in parentheses. \*\*\*  $p < 0.01$ , \*\*  $p < 0.05$ , \*  $p < 0.1$ .



**Table S.7:** Breakdown of inequality into deciles

Amenity-adjusted Gini	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Panel B: Counties with any household									
Gini	-0.0190** (0.00757)	0.0118 (0.0130)	0.0119 (0.0113)	0.00769 (0.00936)	0.00342 (0.00755)	-0.0174* (0.00949)	-0.0349** (0.0170)	-0.0636** (0.0282)	-0.152*** (0.0549)
Panel B: Counties with more than 80 households									
Gini	-0.0190** (0.00757)	0.0118 (0.0130)	0.0119 (0.0113)	0.00769 (0.00936)	0.00342 (0.00755)	-0.0174* (0.00949)	-0.0349** (0.0170)	-0.0636** (0.0282)	-0.152*** (0.0549)
Panel B: Counties with more than 100 households									
Gini	-0.0191** (0.00760)	0.0112 (0.0130)	0.0105 (0.0113)	0.00563 (0.00933)	0.00384 (0.00762)	-0.0139 (0.00941)	-0.0310* (0.0168)	-0.0583** (0.0281)	-0.157*** (0.0552)

Notes: This table reports the coefficients used in Figure A.9 (Panel B), along with coefficients using different samples (Panels A and C). \*\*\*  $p < 0.01$ , \*\*  $p < 0.05$ , \*  $p < 0.1$ . Sample: counties in the random 1% extract of the 2000 Census with available pre-Land Reform land distribution data; N for counties with any household = 574, N for counties with  $> 80$  households = 572, N for counties with  $> 80$  households = 568.