Inequality Persistence and Revolution :
What can we learn from the Long March in China? [*]

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Abstract

How persistent are the institutions determining social mobility? We show that the distribution of land and human capital exhibit a surprisingly high level of intergenerational persistence. We investigate the impact of one of the most radical changes one can think of, Mao's revolution in rural China, on inequality persistence. To identify places which experienced different degrees of reform for exogenous reasons, we build on a unique historical event, the Long March of the Red Army in the mid 1930s, which was retreating to escape the Nationalists. We show that in the Long March counties, formerly poor families have now more land than others, and that the revolution disrupted the intergenerational transmission of human capital.

Yet, overall, the persistence of inequality is remarkable. Most villages are not Long March villages and in those villages, the historical poverty of households is strongly negatively correlated with less land today. For most areas in rural China, the reform failed to completely disrupt the transmission of social inequalities at the country level.

JEL Classification: D63, P48, O13.
Keywords: land reform, inequalities persistence, China, education.

1 Introduction

Institutions play an important role in economic development. This strong consensus, still fueled by the recent literature, vanishes however as the questions narrows. Especially, the question of institutions' ability to transform society and the relevance of external reform remains debated. Some scholars have argued that institutions' success depended on their degree of adequation with the local environment (Hayek, Rodrik). Others have claimed that external reforms could have fruitful outcomes. Acemoglu et al. (2009) show some of the positive consequences of the radical change brought by French Armies to various European regions in the aftermath of the French Revolution. Yet, the depth as well as the scope of the change remain unclear. In the related literature focusing on the impact of institutional change, the outcomes of interest are often limited at the aggregate level : urbanization, or GDP per capita. They may not be the outcomes intended by the reforms *per se.* For instance, Acemoglu et al. (2009) investigate the impact of French Revolution reforms on growth, which was not the objective the Revolution followed. But are institutional changes able to reach what they aimed for? Are external reforms able to redistribute economic opportunities? This is a much more difficult question to answer, as the capacity of reforms to modify the socio-economic structures of a country is difficult to assess.

In this paper, we address this issue by focusing on the Chinese case. Rural China experienced the most dramatic political change one can think of : a revolution. One of the goals pursued by the Maoist revolution was the instauration of an egalitarian society, and meant the destruction of the old elites. During the first years of the PRC, campaigns to suppress counterrevolutionaries as well as land reform led to massive executions and arrestations. Draconian reforms targeted the old determinants of social status, like land ownership and education. Were they successful in achieving one of their main goal, namely, eliminating thoroughly the inequalities associated with households' main asset-their land? Given the size and the heterogeneity of a country like China, answering such a question requires to compare places facing reforms f different intensity, but of similar conditions. A unique historical event, the Long March, allows us to do so. To our knowledge, we are the first to use it. The Long March was the strategical retreat of the Red Army in the mid 1930s. The counties crossed by the Red Army had no specific patterns regarding the likelihood of inequalities to persist. Yet, the March allowed the Communists' victory. Mao's access to power gave them a definitive political importance : they faced more systematic changes and benefited from additional resources.

We obtain two main results. First, in the places crossed by the Long March, inequalities have been durably disrupted. This shows clearly that revolution and governmental

reforms are actually able to strongly affect inequality persistence, and to resitribute opportunities. Second, most areas have not been crossed by the Long March, and in these areas, despite political upheaval, historical inequalities are still impacting nowadays opportunities. Overall, the persistence of inequalities is remarkable.

To conduct our research, we focus on the transmission of human capital across generations, and the impact of rural households' class origin on their actual landholdings. Prior to the land redistribution, households were assigned a given class status according to their properties; afterwards, land was taken from the richest households to be given to the poorest ones. The landlords were the targets of numerous campaigns and class struggles, whereas the landless and poor peasants were put at the top of the new socio-political hierarchy. Yet, historians have reported local evidence on how the middle peasants took over the power that the poor peasants should have enjoyed, as they were more respected by the villagers. Reforms that were undertaken under Mao's regime have reflected recurrent concerns about the persistence of the old social structure.

The policies based on class-label have been discontinued in 1978; socio-political factors do not govern land and education access anymore. Land is distributed in a far more equal way than it used to be; education has spread extensively throughout rural areas. In the 1930s, the Gini of landholdings was of 0.72, more than a quarter of the the rural population was landless, and the top 1% owned 18.5% of the land[1]. In the 2000s, all rural households are entitled to land use rights, according to their demographic characteristics - ownership remaining collective. The Gini of land distribution is 0.44, and the top percentile is using 8.1% of the land[2]. The illiteracy rate, of 80% in the 1930s, had dropped to 7% in 2000 [3], while the average schooling in rural area increased from three years of education to eight years in the 2000s [4]. Social characteristics should not matter, theoretically, in land distribution, and should not shape educational opportunities. If they were to, one would rather expect them to be related to the post 1949 order and to the new elites than to the prerevolution ones. Yet, simple regressions shows that this seems not to be the case. Present inequalities find historical roots in the prerevolutionary situation.

In order to assess the impact of the reforms implemented, we need to disentangle the strength of the reforms from the preexisting social trends. Many indicators reflecting the strength of reforms are likely to be endogenous to the initial socio-economic population structure and its level of inequalities. They may reflect village level conditions rather than political will. Interestingly enough, history provides us with a relatively exogenous

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[1]See Brandt and Sands (1990).

[2]In 2002, according to CHIP survey

[3]according to UNESCO, see Meng (2002)

[4](according to CHIP survey)

indicator : the Long March. Encircled by the Nationalist Force, the Communists had no resources to fight a war of position. The Long March was a strategical retreat, that allowed them to escape Nationalists pressure and to establish new bases in the North. If the Red Army might have raised awareness among villagers, and built support through propaganda work, the Long March owes much of its impact to the post 1949 period. As it became a founding myth of the People's Republic of China, the places it went through received an increased attention during the reform period. There, the reforms could not fail, and eventually beneficiated from additional resources of different kind (human, financial, etc.). At the county level, the final road can be considered as exogenous to the initial propensity of implementing radical reform. We provide much elements to support this claim.

Using the rich data of the Chinese Household Income Project on 9200 rural households in 2002, we focus on households involved in agricultural work, who account for 90% of rural population. We do not focus on political elites, as we lack the necessary data. When we compare the places that were crossed by the Long March with the ones that were not, we found very distinct patterns. In places crossed by the Long March, the former landless and poor peasants' households use a bigger amount of land than the former richer ones. Regarding education, the educational outcomes are not impacted by their grandfathers'.

Yet, overall, it appears that the former poor and landless peasants rely on less land than the other households. And the intergenerational transmission of human capital is strong throughout China. The old social structure still shapes, somehow, the economic opportunities of the younger generations.

Our findings are consistent with the work of Acemoglu and Robinson (2008), which stressed that institutions do persist, despite frequent changes along the political or economic dimensions. Depending on the strength of the changes brought by reforms, members of the old elite may find an access to the new political opportunities. They may as well keep resources that the younger generation will use, and pass useful skills to their offsprings. Similarly, Sato and Li (2007) and Sato and Li (2008) have stressed the persistence of long term inequality in rural China on education and wealth. Walder and Hu (2009) have produced evidence of social status inheritance in urban areas. Our work, using an innovative methodology, provides an other facet of inequalities persistence.

This paper is organized as follows. Section 2 provides important elements to understand land and education in China. After providing elements on institutional reforms between the late 1940s and the mid 1970s (Section 2.1), it describes how land is allocated nowadays (Section 2.2) and discusses plausible mechanisms of intergenerational transmission (Section 2.3). Section 3 focusses on the Long March. It explains why counties crossed by the Long March received a special treatment, and why this treatment can be

considered as exogenous (Section 3.1), then displays statistical evidence for both assumptions. A survey conducted in Hunan in 1930s confirms relative exogeneity (Section 3.2), while 2000s data shows that counties crossed by the Long March exhibits political specificities (Section 3.3). Section 4 presents our identification strategy. Section 5 displays our results, concerning land (Section 5.1) and education (Section 5.2).

2 Institutional Context : Land and Education

2.1 From the late 1940s to the late 1970s : how institutional reforms tackled inequality persistence

"Why should the poor and hired peasants lead? The poor and hired peasants should lead because they make up from 50 to 70 percent of the population, are the most numerous, and work the hardest all year long. (...) They plant the land, they build the buildings, they weave the cloth, but they never have enough food to eat, a roof to sleep under, or clothes to wear.

Their life is most bitter, they are oppressed and exploited and pushed around. Hence they are the most revolutionary."

Proclamation to the Peasants, March 1948
Shanxi-Hebei-Henan-Shandong Border Region Government [5]

The social order was deeply affected during the three decades preceding the decollectivization. When Mao came to power, not only the land distribution was equated, and educational system deeply reorganized; but the social structure itself underwent subsequent transformation. In the early years of the PRC, violent campaigns and large-scale executions[6] created a climate of terror.

The land reform, which took place between 1946 and 1952, was intending to transfer rights to the poorer rural household and to redistribute power. Before the land reform, rural families involved in agriculture had to be classified according to their possessions. Five main categories were defined : landlord, rich peasant, rich middle peasant, lower middle peasant, poor peasant and landless peasant. These labels depended on the possessions of the households, and on individual involvement[7] in labour and land markets,

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[5] quoted in Hinton (1966)

[6] Estimates of the number of deaths caused by counterrevolutionary campaigns and land reform during the three first years of the PRC vary between 700 000 and 3 millions (Strauss (2002), Meisner (1999), Domes (1973)).

[7] The instructions given to attribute the class labels were focusing on individuals rather than on the family. (Zhang (2004))

namely whether these households were hiring or selling labour force.[8] The precise criteria to be used were subject to extensive variation throughout China; this label thus indicated someone's relative position in its origin village. Work teams (*gongzuodui*) were organized at the county level, and were then dispatched to villages to supervise the land reform process, as recalled by Sato and Li (2008). The situation of each villager was to be discussed during mass meetings, as reported in Hinton (1966)[9].

As stressed by Cohen (1993), "Once assigned, these labels remained fixed until the end of the collective area[10]. (..) Those with 'rich peasant' or 'landlord' labels could be subject to public humiliation and condemnation, while the 'poor and lower-middle peasants' were defined by the Communist state as the new rural political elite". Seized land and properties from landlords or rich peasants were to be redistributed to the poorest one, lower-middle, poor and landless peasants. The land redistributed involved 44% of arable land[11].

This class status, alongside with political loyalty, impacted the educational achievements of individuals, at all the different levels of school entrance. Admission was subject to both "class origin" and former performance at school. The respective weight of these criteria varied across time. For example, during the Great Leap Forward (1958-1959), class became an important criteria, while from 1962 on, a more meritocratic line was followed (Unger (1982)).

Later on, both land and education faced even more drastic changes. With the introduction of People's Commune in 1958, land was fully collectivized, private ownership was almost eliminated. In 1966, the Cultural Revolution started. Educational policies faced a dramatic shift, and the educational system was severely disorganized. University closed, people-run schools multiplied; as a consequence, education quality decreased sharply (Deng and Treiman (1997), Hannum et al. (2007)).

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[8]Typically, the landlords were owning land and perceiving rents. The rich peasants were working part-time on their land, and relied subsequently on wage labour. Middle peasants were not hiring additional workers, or on a very small scale; but, at the same time, they did not need to sell their labour force. This distinguished them from the poor peasants, who relied on wage employment, and were not likely to rent the small plot of land they were working on. Last, the landless peasants were the peasants having no land at all. The appendix (section 7) provides an excerpt of an official document.

[9]The Outline of the Land Law of China, approved in 1947 by the Communist Party, assigned to the village association and its committee, and to the poor peasants association and its committee the task of executing the land reform.

[10]Labels were inherited through the male line.

[11]Of 700 million *mu* (115 million acres) at the time (figure from Du (1996), quoted by Kung et al. (2010)).

2.2 Land allocation after 1979 : the "Household Responsibility System"

In the early 1980s, the rural People's Commune were dismantled, and replaced by a system of near-independent family smallholdings. The decollectivization was partial, since land ownership remained in the hands of the village collective. Yet, land use rights were conceded to households through the contractual framework of the "Household Responsibility System".

The village land was divided into plots, which were then distributed to households on a demographic basis. When land was heterogeneous, the common procedure was to grade the plots according to their fertility, usually into two or three grades, and to conduct lotteries to allocate land within each grade. Three main rules of allocation have been followed. The first type of land distribution was made according to household size. The second one was according to household number of laborers. The third one was a combination of the two others. The rule to be followed was generally decided at the county level. (See Unger (1985) for a detailed account of land reform in 28 villages). Other properties were subject to a similar shift away from collective control. Production tools and draught animals were also given or sold off through auctions or lotteries. Commercial fishponds and, to a smaller extent, factories, auctioned off their use through multi-year contracts to the highest bidding families.

Although the initial land distribution granted use rights to households through 15-year contracts, many village collective have reallocated the land among the villagers before the end of these contracts. A survey conducted in 2005 among 3000 households[12] indicates that more than 74% of the surveyed villages have reallocated their land since the introduction of the Household Responsability System. According to the CHIP survey, between 1998 and 2001, nearly 60 % of villages have conducted a village-wide reallocation. 23% of them have conducted a small readjustment in 2002. Last, villages may have started new contractual round of "household responsibility system" even before the end of the previous one. Rules of land reallocation being based on observable demographic characteristics, it gives a reason explaining why land distribution in China is still egalitarian, despite demographic changes or outmigration.

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[12]by Washington Rural Development Institute, Renmin University and Michigan State University

2.3 How could prerevolution elites have passed advantages to their offspring?

How prerevolution "land status" could interplay with land allocation processes after 1980s' reforms? There are reasons to think that land distribution could be influenced by social status and household's relative position in the local distribution of power. Unger (1985) provides anectodal evidence of favoritism in the initial attribution of plots during the decollectivizaton. More generally, as stressed by Rozelle and Li (1998), land rights regulations vary across China, and so does the space left for village leaders' discretionary intervention. Land rights formation has been shaped by local interactions between villagers and village leaders. Household's power and social influence may have interfered with village land management practice. Social status is therefore likely to play a role in land reallocation process.

From what has been said above, two main elements can help households to get a higher access to land : skills in agricultural business, and social connections. These two elements are likely to be deeply entangled, as entrepreneurial knowledge may require socio-political know-how, if social networks are critical in activity success. The question is whether their transmission has been disrupted by decades of political change and upheavals. Unger (1986) reports how "bad-class origin" groups of family had organized themselves after land decollectivization, in order to pool their land and organize agricultural production within cooperative venture. Historical accounts based on monographic studies report that traditional notions of social order were still visible in rural life after the land reform (Chan et al. (1984)) and that "local networks were too deeply structured to be readily destroyed by particular policies" (Friedman, Pickowicz and Selden (1991)). In a village located in South China, in Guangdong province, middle peasants took advantages of their education, their experience in farming and their social position to take over the power that poor peasants should have enjoyed[13].

This did arouse political concern even during the land reform process. Wong (1974) reports that the progresses of land reform were slow in Southern region, as kinship ties were much stronger than "class" divisions[14]. Officials repeatedly emphasized that "The purity of the leadership of the peasants' associations at all levels should be safeguarded. The masses should be mobilized to re-elect the leadership where there is impurity.(...) The term 'purity' here means to prevent landlords, rich peasants, and their agents from joining the peasants' associations and, still more important, from holding leading positions in the peasants' associations." (Liu Shaoqi, First Vice Chairman of the Chinese Communist Party, quoted in Hinton (1966)).

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[13]See Chan et al. (1984)

[14]Levine (1989) reports how land reform faced difficulties in Dongbei as well.

Official warnings were followed by intensified procedures, that were meant to ensure durable change in the distribution of power. After the land reform was over, the "bad" class origin remained the target of political struggles and recurrent campaigns.

With the decollectivization, the degree of political control hold by local officials over individuals' economic outcomes and activity was to step back, opening opportunities for the former rich peasants to use inherited skills or social capacities.

First descriptive statistics   Farming households rely on 1.72 mu[15] of agricultural land per capita[16]. But this variable is lower for offspring of poor peasant families (1.67 mu) compared to former rich families (1.83 mu). To look at the households relying on the bigger amount of land per capita in their village is interesting[17]. In 5.5% of the villages surveyed in 2002 CHIP data, the head's father of such households used to be landlord or rich peasant. Does this figure change according to villages implication in revolution period? The CHIP data provides information on whether the villages are old revolutionary areas. Around a fifth of the surveyed villages used to be Communists' strongholds before 1949. There, reforms were conducted far more intensively than elsewhere, as shown by Kung et al. (2010). Statistics displayed in table 1 show that in old bases, the villagers using the biggest area of land are more often of poor background.

Table 1: Origin of the villager with the highest amount of agricultural land

Hh with the highest land area : status of head's father	All villages	Old revolutionary bases	Other villages
Landless or poor peasant	62	71.9	59.4
Lower middle peasant	13	10.8	13.6
Rich middle peasant	19.4	14	20.8
Rich peasant	3.2	2.7	3.4
Landlord	2.3	0.5	2.8
Total	100	100	100
Number of villages	816	186	630

Sample restricted to households using agricultural land

However, villages which were communist bases before 1949 had specific characteristics. Geographic location as well as population attitude were probably of crucial importance in the choice of such bases. Descriptive statistics of the former class origin of household

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[15]The mu is the Chinese unit for land size, one mu equates to 666,67 m^2

[16]We do not take into account land used for homestead and for other economic activities, like ponds.

[17]There are usually ten households surveyed in each village

head's father confirm distinct patterns. In former bases, a higher share of the population stems from landless or poor peasant families. And less villagers are landlords' offspring, as we can see in table 2. Eventually, inequality was lower in the old liberated areas, mostly located in the North of the country, than in the Southern "Newly liberated areas", as stressed by Kung et al. (2010).

Table 2: Class composition in villages and in old base area

Status of head's father	All villages	Old revolutionary bases	Other villages
Landless or poor peasant	63.89	68.47	62.58
Lower middle peasant	13.08	12.60	13.22
Rich middle peasant	17.57	14.63	18.42
Rich peasant	3.23	2.77	3.37
Landlord	2.21	1.53	2.41
Total	100	100	100
Number of villages	7949	1770	6179

Sample restricted to households using agricultural land

Considerable heterogeneity characterized early twentieth-century China. All across the territory, the traditional social order was more or less likely to resist the political transformation that took place; when powerful enough, the old elites were probably able to oppose drastic changes, or to alleviate the intensity of land redistribution. In former revolutionary bases, former landless peasants are more often at the top of the land distribution than in other villages; but both types of villages are quite different in terms of former class origin. Because of initial specificities, it is hard to infer anything on the long term effect of communist reforms. A deep investigation of the reforms' effect would require an exogenous variation in the intensity of the reforms implemented. Interestingly enough, Chinese history provides such a feature, indicating somehow the relative strength of the change that occurred during the Maoist period : the Long March.

3   Reform intensity and the Long March

3.1   How counties crossed by the Long March received a special treatment

"Speaking of the Long March, one may ask, "What is its significance?" We answer that the Long March is the first of its kind in the annals of history, that it is a manifesto, a propaganda force, a seeding-machine.
(...) In the eleven provinces it has sown many seeds which will sprout, leaf, blossom, and bear fruit, and will yield a harvest in the future.

> In a word, the Long March has ended with victory for us and defeat for the enemy. Who brought the Long March to victory? The Communist Party."

<div align="right">

On Tactics Against Japanese Imperialism
Report given by Mao Zedong at a Party conference, December 27, 1935

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The Long March impact on the areas crossed was essentially an indirect one, and is due to the symbolic importance that it gained after its completion, and, above all, after Mao's access to power. The statement made by Mao as it reached the end of the First Army Long March was a decisive point in the event's destiny, as it transformed this military retreat into the epic gesture of the Red forces throughout China.[18] Thanks to the achievements which the March embodied, it created opportunities for the participants, at all levels. Some of the major political figures took great advantages from their participation to the Long March. Besides Mao Zedong, many communist leaders, like Liu Shaoqi, Zhou Enlai, Deng Xiaoping and Chen Yun, were Long march veterans. And as for as the simple participants, they enjoyed afterwards increased benefits. All veterans from the Long March should receive a pension of 28 euros per month[19]. And many of them found interesting opportunities in administration. Anecdotal evidence can be found in Jocelyn and McEwan (2006). For instance, they report how the prefect of Yanru, in Songlingpo Mountain, Qumu Sihua, hold his position to the Long March, for his father had joined a divisional force of the Red Army and survived the Long march.

The places crossed by the Long March received special attention from the government and the party. Zunyi, the town in Guizhou province where a decisive meeting was hold, is one of the five red sites the most "sacred" [20]. Memorials to the glory of the Long March were built all along the path, as reported by an historian and a journalist who walked the Long March in 2006 (Jocelyn and McEwan (2006))[21].

The crossing of Red soldiers may have had also an immediate effect. In most areas, they were not staying more than one night; as front and rear units were often apart, their crossing was usually lasting a few days. Some places could be the theater of fights against nationalist or warlords' armies. Partial land redistribution and attacks against the landlords were part of the Reds's political program, but were also a mean to cover their needs, as they were supposed not to take anything from the peasants; landlords and rich peasants were looted and sometimes killed. At the same time, it was also a mean to gain support from the villagers, to spread propaganda, and to recruit new members. In

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[18]Mao's declaration was so important in Long March history that the figure of its length, given by Mao at that time, is still the official one, despite controversies.

[19]As reported by Sun (2006)

[20]As reported by Sun (2006)

[21]In 2006, the Chinese Government, marking the seventeenth anniversary of the Long March, announced that more than 260 million Yuan would be spent to maintaining 41 memorials (Xinhua News Agency September 22, 2006).

villages where the Red would stopped, they replaced nationalist slogans by their owns, put placards on the walls; when time allowed, they organized some theater plays prompting the villagers to rebel. Mao himself said that the Long March was *"a propaganda force. It has announced to some 200 million people in eleven provinces that the road of the Red Army is their only road to liberation. Without the Long March, how could the broad masses have learned so quickly about the existence of the great truth which the Red Army embodies?"*.

The time spent in the crossed areas was usually short; there are a few exceptions, however; amongst them, the experience of the Zhongdian area[22], populated by Tibetans, is very interesting. The Second Army left such a positive impression there that around 15 years later, the Revolution found local support among the population. Some Tibetans volunteered to fight alongside the Communists. Nowadays, the region stands as one of the most stable areas of the region; no disorders followed the 2008 Lhasa riots, unlike in other Tibetan autonomous areas. It has been one of the rare prefectures with a first Party secretary coming from the local ethnic group. Some of the local government members have been associated with the Communists for three generations[23].

### 3.1.1 Context and discussion on event's exogeneity

1927 marks the beginning of the Chinese civil war, which opposed the Kuomintang (KMT) to the Chinese Communist Party (CCP). KMT's Nationalist Revolutionary Army, commanded by Chiang Kai-Shek, launched five campaigns of encirclement against the Red Army. The three first one failed to destroy Communist forces. The fourth offensive had mitigated results. Afterwards, military strategy was changed. The Nationalists decided to concentrate all their effort against the Reds' Jiangxi base. Knowing that the Red Army was lacking men and equipment, the Nationalists opted for attrition war. The fifth encirclement campaign was launched, which eventually forced the Red Army to retreat, in October 1934. With this retreat began the Long March. There were several armies that retreated under the Nationalists' pressure. The main one, the First Army, ended its march in October 1935, after 370 days of retreat[24]. The other ones, the Second Army, the Fourth Army, and the 25th Army left their base later; the final junction between the various forces occurred in October 1936. A map of the Long March of the different armies across China[25] is displayed below, in Figure 1.

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[22]This county, located in North Yunnan, was renamed Shangri-la in 2001

[23]All these elements originate from exchanges I have had with Ed Jocelyn, who has been doing much research on the revolutionary area in Kham and on the Long March.

[24]The distance walked by the First Army is subject to debate. Following Mao's calculation, the commonly reported figure is 8 000 miles, or 12 500 km. However, two English men who walked the entire journey of the First Army actually completed 4 000 miles. See Jocelyn and McEwan (2006).

[25]Coming from the official Chinese website marking the seventeenth Anniversary of the March. It may not be included in the final version of the paper, as we are not its authors, and copyright issued are not
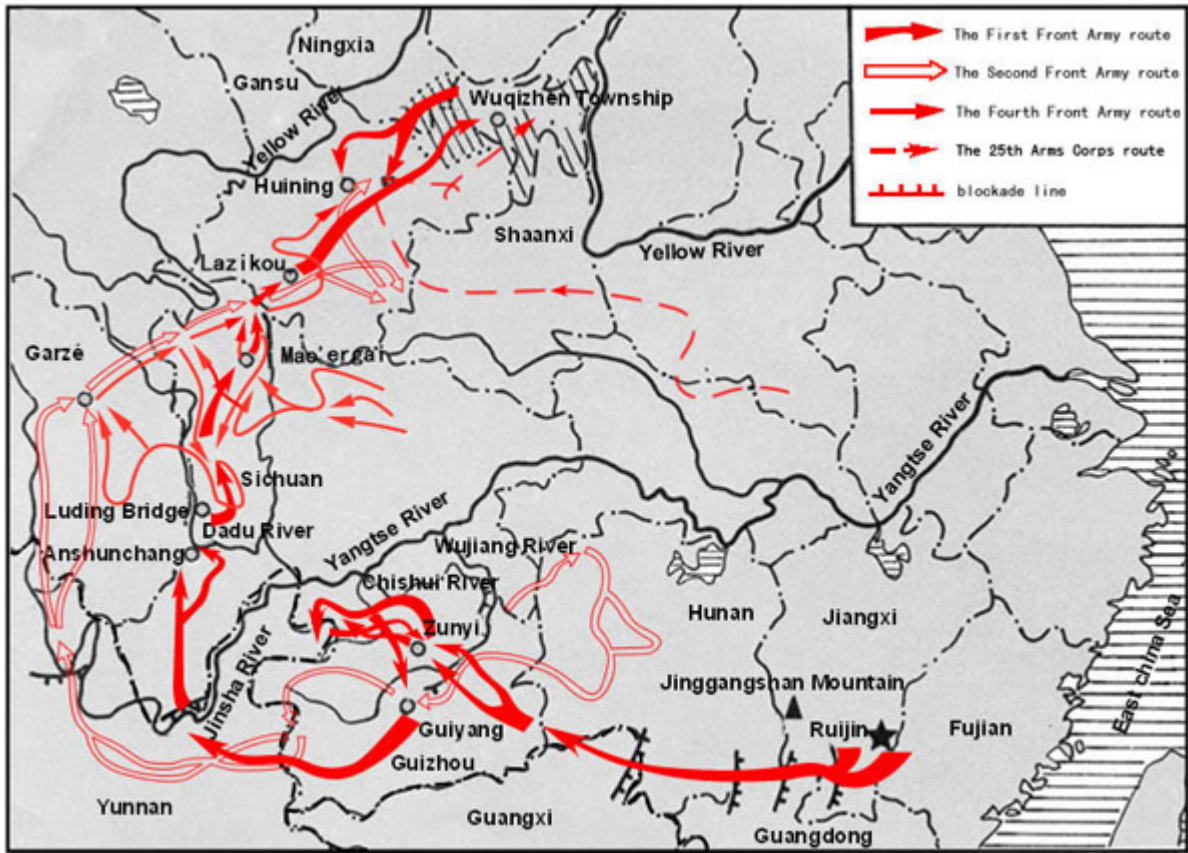
The Long March Route (August, 1934 — October, 1936)

Figure 1: The Long March routes of the different armies

The main concern we should have would be the possible correlation between the path followed by the Red soldiers and a particular social structure in the villages crossed. This would be the case if they had chosen their way according to the degree of help they could expect from villagers, or if they had decided to go through places where their retreat would be made easier by locals' favorable attitude. This would also be the case if the places they had to avoid, namely, where the KMT was already settled, were places where landlords were systematically more powerful.

Regarding the latter concern, supporters of KMT and supporters of Communist had, in average, very dissimilar backgrounds. However, when one compares the places where KMT had already settled with others, they might not be places where the elite was stronger from the start. Let us recall that until 1927, the Communists were allied with the KMT, following instructions received from the Soviet Union. The power that KMT conquered upon warlords in South-East China had been mostly established through a joint expedition with Communist troupes. Then, regarding ideology, the communist program on land reform was largely inspired from Sun Yat-Sen "Three Principles", and therefore was shared with KMT. Obviously, the land reform was not meant to be implemented through similar methods, yet the goal of redistributing the land 'to the tiler' might not constitute a definitive gap between their respective ideology. Even in a Communist base area like Jiangxi province, the rural local elites were not supportive of the KMT from the start; Wei (1989) shows that their involvement in KMT blockade strategy was more a late alliance of convenience than an unquestionable commitment. Last, it should be stressed that some of the KMT and Communist leaders shared similar formation. Prominent KMT's leaders had been trained in the USSR. On the Communist side, He Long, who led the Second Army, had been commander of the KMT Twentieth Army in 1923.

Regarding the former concern, we should stress that the Red Army destination was very vague, and going westwards or northwards implied to encounter both independent warlords and hostile non Han population on the way. Yet, it is hard to deny that the road followed was very specific, geographically speaking. Determined by military strategy, and by the need to escape the Nationalist army, the choice of one path rather than an other was crucial to the survival of the army. To discourage followers, the main roads were avoided, rugged and mountainous terrains were favored.

Our argument has four main points. First, our unit of analysis is the county, rather than the village. We focus on counties crossed by the Long March, as opposed to those which were not. The communist soldiers were most likely to march through a mountainous village than to pass by the one easy to access. But the county they were crossing was

made clear by the website of origin.

not necessarily more mountainous than the neighboring one. Endogeneity concerns are less severe at this level, especially as major terrain characteristics are shared by many counties.

Second, the hurry commanding the Red Army retreat, and the lack of information available implied much uncertainty. The decision of leaving the Jiangxi soviet, taken in Spring 1934, was kept as a secret and was only known by a handful of Red army's leaders; even Mao learned about the Long March only two months before the departure. Historians report that the choice regarding the directions were all but the result of a careful planning. "Where to go? Nobody knew. They sent the sixth army corp as bird dog, while the seventh had to fight the nationalists." [26] It failed[27]. Even after, possibilities emerging during the March, like reaching Hunan, or heading for USSR border, were far away goals; in the meantime, the road was much hazardous. In attempts to loose followers, they were at risk of loosing themselves; in Guizhou province, the general Xiao Ke "said the biggest problem was trying to find out where they were. They would ask people, 'what's at the end of this road?' Those people didn't know - they had never been out of the village."[28] Shaanxi, the ending point, became a destination to reach only one month before the end, after Mao accidentally learned about a Communist presence there from a soldier.

Actually, the very fact that they did not end their march sooner, and that they had to fight against local population or warlords, shows that the places they were crossing were not especially welcoming nor suitable. Numerous attempts to settle in these areas failed. The Sixth Red Army left the Jiangxi soviet in July 1934 to find a location where to settle, but failed; later on, the Fourth Army tried to establish a base in Hunan province, but failed and had to continue its march. Last, the fate of the base established in Yan'an, at the end of the Long March, might have been different without the material help and the intervention of the warlord Zhang Xueliang, formerly on the side of the KMT. Too worried by the Japanese threat to let the Nationalist concentrate on fighting the Communist, he decided to help the Communists; in December 1936, he kidnapped and detained Chiang Kai-Shek, in what was called afterwards the "Xi'an Incident".

This actually relates to our last argument : where the Red armies were aiming to go, and whether they could actually go there, involved different conflicting actors. First, it depended much on the balance of power between warlords and Nationalists, itself subject to the Japanese threat. Some warlords (in Guangxi, Guangdong) decided to let the Communist go, only because they were worried by Chiang Kai-Shek or reluctant to waste

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[26]Huang, quoted by Sun (2006).

[27]In early October 1934, two thirds of the 9000-soldier army commanded by the general Xiao Ke died in a battle in Northeast Guizhou.

[28]as quoted by Salisbury (1985).

their forces for him. Others were fully hostile (in Hunan, Sichuan) and did everything they could to stop them. Then, there was internal conflicts between the different leaders of the Red Army, especially between Mao and Zhang Guotao, the leader of the Fourth Army. It added further contingency to the road.

3.2 Long March exogeneity : Evidence from a survey conducted in Hunan in 1930s

History provides no elements to think that the counties crossed by the Long March were systematically special compared to neighboring areas exhibiting similar geographical conditions. Ideally, we would need data on land distribution, collected before the Long March, and data collected after land reform and subsequent rural policies. Although we do not have disaggregated data at a National level regarding pre Mao period, we found the results of an interesting survey conducted by the Bureau of Foreign Trade of the Ministry of Industry in the 1930s, in a province crossed by the Long March. Part of the results were published in English in Ministry of Industry (1936); the figures we are using below have been collected from this journal's paper archives[29]. Information provided includes the socio-economic structure of the population (the respective shares of tenants, owner-tenants and hired workers), as well as the respective shares of low land and high land in every county of the province. Unfortunately, the exact month and year of data collection is not mentioned.

Originally, this survey was part of a series of handbooks proposed for publication by the Ministry of Industry and approved in July 1932 by the Executive Yuan (the executive branch of the Nationalist Government of Nanjing); all the provinces were to be investigated along numerous dimensions (Chang (1934)). The English review of the handbook was published in January 1936, which means that the data are referring either to 1934 or to early 1935, namely, before the Second Army crossed the province (since its started its Long March after November 1935). The very South of Hunan province was crossed by the First Army in late 1934 (November). The probability that data were collected after is not null, though small, given the ambitious nature of the enterprise [30]. Yet, this uncertainty is not too worrisome. Even if the Long March may have affected population composition (if landlords were killed and villagers joined), it was probably at the village level, but not at the county level. Moreover, because Hunan province was one of the first area to be crossed by the marchers, they were probably more preoccupied by loosing their followers than by recruiting additional soldiers. Last, it still gives insight on the situation before post 1949 reforms.

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[29]Pages 25 to 34

[30]Chang (1934) describes the scope of the work undertaken. For example, the first Handbook, covering Jiangsu province, comprised more of 1000 pages.

The first information being reported is the composition of farmers according to their landownership status. This is of particular interest for us, as it gives a broad picture of the organization of agricultural production in each county. Yet, it is an imperfect measure, and it can not be used to do comparison across time for this particular province. Indeed, the different categories they use are different from the one used afterwards during land reform. The survey defines four "classes" among farming families : the 'landowners', who are also cultivators, the 'owner-tenants', who cultivate leased land in addition to their own, the 'tenants', who work on land rented from others, and the 'hired farm workers'. Whether households are hiring farm labour or renting out some land is absent from the data, but it played a crucial role during the land reform when it came to the 'landlord' and 'rich peasants' categories. More specifically, in this survey, the intermediate category of the 'owner-tenants' is not of high interest, as it mixes distinct categories relevant for the land reform process. It is important to recall that the survey was designed under the patronage of a Nationalist team, which explains probably the absence of the classical communist concern regarding "labour exploitation"[31]. Despite all these limitations, this survey gives still a picture of the economic structure of the region at the time of the Long March, and allows to compare the different areas of Hunan.

Among the 75 counties of Hunan, 20 were crossed by the Long March. A simple t-test shows that these areas are not significantly different that the one who were not. Especially, if we do not consider the intermediate category, the "owner-tenants households", whose ulterior distribution into the land reform categories can not be predicted (as the amount of land owned was determinant), the other categories, whose observation is more relevant, are very similar across the two areas.

Table 3 displays the results. 36.4% of households in the Hunan counties that were crossed by the Long March were labeled as landowners at the time of the survey, they were 34.8% in counties that were not. 28,2% of households are simple tenants in counties crossed by the Long March, whereas they amount to 32,1% in counties not crossed by the Long March. These differences are not significant.

The other interesting variable reported is the distribution of land across two categories : low land and high land. As mentioned before, one of our concern is that the counties crossed by the Long March were systematically different from the one that were not; because, for example, the March path was going through difficult terrain, that may have implied distinct pattern regarding agricultural production, hence shaping different socio-economic organization. Table 4 shows the results.

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[31]Such a remark was made as well in 1934 in a review of the handbook on Jiangsu : Chang (1934) critics the absence of figures on "wealthy landowners possessing land and not working it themselves but renting it out to others".

Table 3: Households - Mean comparison between counties crossed or not crossed by the long march

Variables	Counties crossed by Long March		Counties not crossed by Long March		t-test
	Mean	St. Dev.	Mean	St. Dev.	$P(diff \neq 0)$
Hunan province in the 1930s Share of :					
landowner households	36.42	11.72	34.76	16.67	0.68
owner - tenant households	30.68	7.51	25.92	11.4	0.09*
tenant households	28.2	11.22	32.13	14.05	0.26
hired worker households	4.22	4.773	6.66	7.07	0.16
Number of counties	20		55		

Table 4: Land - Mean comparison between counties crossed or not crossed by the long march

| Variables | Counties crossed by Long March | | Counties not crossed by Long March | | t-test |
	Mean	St. Dev.	Mean	St. Dev.	$P(diff \neq 0)$
Hunan province in the 1930s					
Share of :					
high land	0.41	0.17	0.38	0.23	0.53
low land	0.59	0.17	0.62	0.23	0.53
Area of cultivated land (*mu* per family)	12.65	7.99	15.13	7.9	0.23
Number of counties	20		55		

In the counties that were not crossed by the Long March, the share of high land, 38%, is smaller than in the one who were crossed : 41%. Correspondingly, the area of cultivated land per family is smaller in counties crossed by the Long March. These differences are however small and non significant. It may be partially explained by the scale we focus on. Differences which are strong at the village level may be smoothed at the county level, as broad geographic patterns may be shared by numerous neighbouring counties.

3.3 Long March consequences : what can we observe in 2000s data?

In this chapter, we argue that while relatively similar in the 1930s, places crossed and not crossed by the Long March had different experience regarding the reforms and measures taken by the Communist after they took on power. The event they experienced was to be transformed into an Epic victory when it ended. As it played a major role in Communist accession to power and was therefore given much symbolical importance, the reform conducted by the Communist were of different intensity, with respect to similar places that did not experience the March. Yet, is it visible in our data? If these areas received an increased attention, if the political need of obtaining successful results translated

into higher monitoring, increased political or economic investment, or different attitude among the population, all this may have strongly impacted political life and political outcomes. In this part, we aim at showing that some political characteristics differ across the counties crossed by Long March and those which were not. We focus on two elements, both showing that the crossing of the Red Army in the 1930s has had long term impacts. The first one is related to the population and to Communist Party membership, at village level, it is the proportion of households who are members of the Communist Party. The other one is the designation as a "poor county", which translates into economic advantage for the areas.

Data The data we use here and throughout this chapter originates from the Chinese Household Income Project (CHIP) rural sample. The survey was conducted by the Chinese Academy of Social Sciences (CASS) in 2003 and inquired rural households about their situation during the preceding year, 2002. It provides rich information on households head and spouse parents situation : their education, their membership to the Party, their class status at the time of the land reform. The sample size is relatively large: 9200 households distributed across 961 villages. The figure 2 displays, on a map of China, the 122 counties surveyed in our data. It can be seen that they are well distributed across the Chinese territory. In the figure 3, the counties crossed by the Long March appear in grey. The counties crossed by the Long March and belonging to our sample are in red[32]. The Section 7.2 of the Appendix provides details on how we identified counties crossed by the Long March.

Figure 2: The 122 counties surveyed in our data
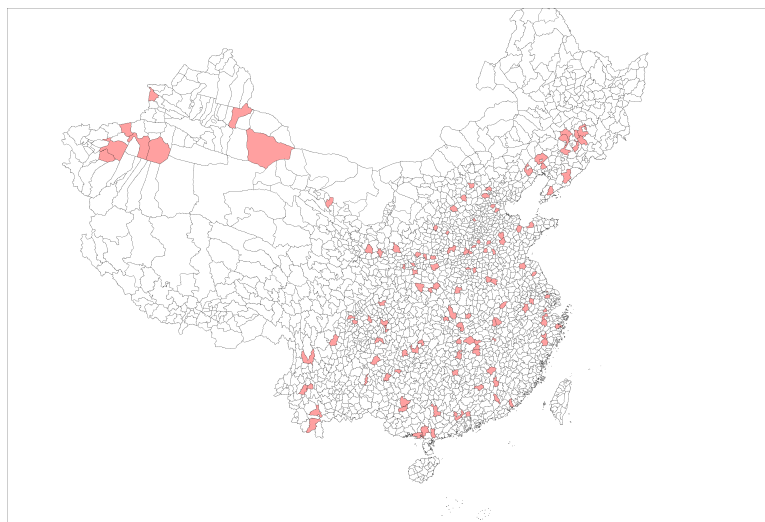
Figure 3: The surveyed counties and the Long March
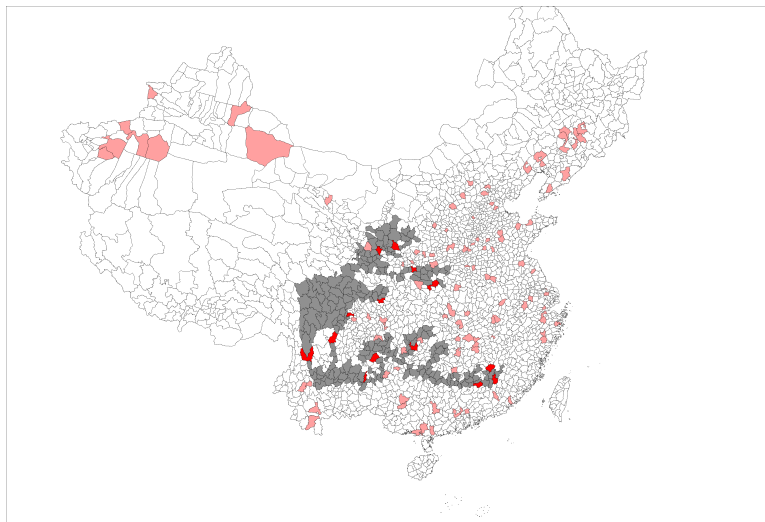
The share of households belonging to the Communist Party   We first focus on the share of households belonging to the Communist Party in villages. If the Long March has impacted subsequent political outcomes of the areas it crossed, we could expect that in these areas a higher share of households would belong to the Chinese Communist Party. We do not have any claims regarding the mechanisms involved. It could be that a higher number of people enrolled in the CCP; it could be as well that an increased political investment was made in these places.

   Our dependent variable is the share of households with a Communist Party member at the village level. We use a generalized linear model choosing as link function the Logit, assuming a binomial distribution for the error terms. [33]

   As independent variables, we consider the geographical condition of the village (whether it is plain, hilly or mountainous), whether the village is populated by an ethnic minority, and the size of the village. To control for village size, we first consider the number of villagers in 1998. To avoid capturing with our variable Long March the differences between the South and the North of China, we introduce province fixed effects in all our regression. As we expect to observe some positive correlation within counties, we cluster the standard errors at the county level. The first regression we run, which has a limited number of variables but avoids endogeneity problems, gives the expected result, as table 5 shows

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[33]The dependent variable we focus on being a proportion, it is bound by zero and one, a feature that OLS fail to address. In this case, the Logit transformation can be of peculiar interest, given the values it takes. To model it, we follow Papke and Wooldridge (1996). This setting fits particularly well our data, as we do not have to face the interpretation problems arising with 0 and 1 values : since each village has at least one household belonging to the Party (the village Party secretary's), there are no zero in our data. Moreover, it never happens that all households in a village belong to the Communist Party : the highest share is 31%.

: the coefficient of the dummy Long March is significant at the 5% level and positive. In the villages located in counties crossed by the Long March, the share of households belonging to the Communist Party is higher. We run different regressions, varying the controls, enriching the set of independent variables. We add the distance to the county seat, to check that the variable Long March is not actually capturing remoteness, but it is not the case as unchanged results show. We also introduce controls for the wealth of the village, like the land available per household in the village. We replace the total population in 1998 by the number of households in 1998, to avoid endogeneity that may arise if a higher share of CCP members means different fertility patterns in the village (if for example family planning policies are applied differently). The standard deviation increases slightly. We consider also other controls reflecting the economic development of the village, like the net income of the village in 1990, the salary of cadres, the time by which the main road has been built. These last controls are all arousing concerns regarding endogneity; what interests us here is that the introduction of these controls does not modify the sign and magnitude of the coefficient of the Long March variable.

Controlling for variables impacting political outcomes is a difficult exercise. Many important determinants of political membership in a village may then have been durably changed by the share of Party members itself. Therefore, we run two other regressions on different samples. First, we reduce the sample to villages which might be more similar, by considering only the provinces that have been crossed by the Long March and that have been sampled in our data. We still find a very significant impact of the Long March dummy.

Then, we may be concerned that we are only capturing elements preexisting to the Long March, like, in this case, a strong communist presence. Such interpretation is difficult to rule out using 2000s data. We have provided historical elements, showing that the road followed owed little to local population opinions, and we have used old data on Hunan province. The only exception to our claim is the starting point of the March, Jiangxi soviet being a Communist stronghold far before the March started. One way to check our concern is therefore to drop the Jiangxi province from our sample. What is really interesting is that, once we drop the Jiangxi province from our sample, not only our results hold, but they are even stronger than before. This is not surprising, as communist presence was important in many counties in Jiangxi, not only in places crossed by the Long March. This shows at least that results are not driven by the comparison between Jiangxi and the rest of the territory.

We saw that areas crossed by the Long March display different patterns regarding the political membership of villagers. But does it mean different political outcomes? Maybe in these areas CCP membership has not the same meaning, and did not reflect

Table 5: Share of CCP households in the village - GLM - Link function : Logit

	(1)	(2)	(3)	(4)	(5)	(6) Long March data sample	(7) without Jiangxi
				Dependent variable : village share of households with at least one Party member			
Long March	0.106**	0.103**	0.110**	0.111**	0.102*	0.104**	0.148***
	[0.0506]	[0.0514]	[0.0512]	[0.0543]	[0.0529]	[0.0514]	[0.0515]
Village geography (reference: mountainous)							
- plain	-0.0194	-0.00759	-0.0241	-0.0131	-0.0285	-0.0184	-0.0218
	[0.0483]	[0.0469]	[0.0499]	[0.0489]	[0.0502]	[0.0637]	[0.0521]
- hilly	0.0160	0.0236	0.0161	0.00679	0.00929	-0.00804	0.0276
	[0.0417]	[0.0410]	[0.0421]	[0.0433]	[0.0435]	[0.0713]	[0.0453]
ethnic minority	0.0522	0.0553	0.0819	0.0215	0.0749	0.0895	0.0732
	[0.0653]	[0.0647]	[0.0532]	[0.0676]	[0.0543]	[0.0742]	[0.0548]
village population in 98	-0.000181***	-0.000182***	-0.000169***				
	[0.0000202]	[0.0000201]	[0.0000185]				
distance to county seat		0.000772					
		[0.000685]					
village land/cap. in 98			0.0403***		0.0405***	0.0189	0.0398***
			[0.0103]		[0.0110]	[0.0191]	[0.0110]
number of hh in 98				-0.000783***	-0.000704***	-0.000775***	-0.000726***
				[0.0000808]	[0.0000740]	[0.000123]	[0.0000765]
village road opened: (reference: after 1980)							
- before 1969				0.124***			
				[0.0419]			
- between 1970 and 1979				0.0303			
				[0.0380]			
- is not yet opened				-0.0533			
				[0.0502]			
village net income in 90					0.0000282	0.0000855**	0.0000264
					[0.0000189]	[0.0000423]	[0.0000191]
Province dummies	yes	yes	yes	yes	yes	yes	yes
Constant	-1.690***	-1.714***	-1.775***	-1.633***	-1.772***	-2.238***	-1.765***
	[0.172]	[0.174]	[0.170]	[0.163]	[0.165]	[0.104]	[0.163]
Observations (villages)	958	958	958	957	956	279	913
AIC criteria	0.505	0.507	0.507	0.511	0.509	0.542	0.512

Standard errors clustered at the county level in brackets

* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

nor translate into different policies. We therefore examine a concrete outcome at the county level, which opens access to economic resources.

The designation as a poverty county In China, counties designated as poverty counties receive alleviation funds, like for example special loans facilities or increased subventions. The designation of poor counties originates from 1986, when the Chinese government engaged in a massive program fighting rural poverty. The newly established inter-ministerial Leading Group for Economic Development in Poor Areas (LGEDPA) was in charge of determining a line allowing to select the counties which were to benefit from the new alleviation funds. In 1986, the Leading Group designated 258 counties as national poor counties. The standard rule was to design a county as poor when its rural net income per capita was below 150 yuan. However, only one third of the national designated counties were in this case. Indeed, counties with an important ethnic minority population as well as counties located in old revolutionary bases were subject to higher poverty line of 200 yuan, (which applied to another third of the eventually designed counties), and even 300 yuan for counties considered as important revolutionary base areas or populated by an even larger minority population. In 1993, following important complaints of poor counties that were not labeled as such, 326 counties were labeled as poor at the National level, which increased their total number to 592. (Park et al. (1986)).

In parallel to the national designation in 1986, 370 counties were designed as poor at the provincial level, and would receive provincial funds. [34]

Park et al. (1986) have shown the importance of political consideration in the National designation, and have evoked the subsequent crowding out of poor counties. Riskin (1994) and Gustafsson and Yue (2006), using different method and data, also show that many poors do not live in nationally designated poor areas, while the majority of the population of these designated poor areas is actually not poor. In interesting regressions, Park et al. (1986) show that counties which were old revolutionary bases have a higher probability of being labeled as a poverty county. They control for income per capita and for grain output per capita. The only reserve one can make is that they have a small number of controls, and that the location of old bases (*laoqu*) is the result of a strategical choice, and might not be an exogenous. Interviews they conducted with various officials confirm that political factors have plaid a role in the designation of these impoverished counties. The poor county label seems therefore to be a good candidate to test whether the Long March may have brought significant outcomes to the places crossed.

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[34]Because the criteria used as well as the benefits implied depends on province authorities, less data and documents are available, so their number might have slightly changed.

Among the 122 counties surveyed in our data, 32 are poverty counties at the province level, 70 are poverty counties at the national level. 14 counties are both. The province poverty line is not necessarily set up under the national one, and does not involve the same criteria, as our data show. In three provinces, all types of combinations coexist: counties which are labeled poverty county only at the national level, only at the province level, and at both levels. This can be explained by the fact that the selection of poor counties at the national level has not been made all in once. It is plausible as well that a similar process occurred at the provincial level, and that additional counties were designated as poor later on. Such facts tend eventually to suggest that political connectedness may matter and discriminate two areas closed to the poverty threshold. Interestingly enough, the three provinces are Jiangxi, Hunan and Shaanxi, three provinces that happened to have played an important role in PRC history, and which were crossed by the Long March.

We use a Probit model to estimate the probability, for a given village, of being located in a poverty county, first at the national level and then at the province level. We want to determine whether being in a county crossed by the Long March or not actually differentiate two villages with similar observable characteristics. It is important to control for economic characteristics, as the Long March crossed mostly remote areas, thus more likely to be poor. We control for geographical conditions, for the main ethnicity in village (minority or not), for village net income in 1990, for the amount of land available per household in 1998. The results are displayed in table 6. We found that the Long March dummy increases the probability of being in a "province level" poverty county, but that it has no effect on the definition of "national level" poverty county[35]. This result is very interesting. The national designation process was based on a comparison across all territory, and it might be difficult for county officials to interfere with the designation process. And the second wave of national designation may actually have downplayed the influence of political consideration for this category of poor counties. This is consistent with Park et al. (1986), where the effect of political factor is much bigger on the first wave of poor counties than on the late sample including both waves. An interesting check would be to consider only the counties designated as poor in 1986, and see whether the effect of the Long March would increase. However, we have not been able to access to the necessary information yet.

Running the Probit regression for national level poverty counties without this province does not change the result : the coefficient of the dummy Long March remains non significant. Pooling national level with province level poverty counties allows to keep all the sample - there, the dummy Long March is of smaller value, but still positive and

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[35]The difference of sample size between regressions at the national level and province level is explained by the fact that in our sample, none of the counties of Anhui province is actually a poverty county at the province level. Since there are province fixed effects, the 63 villages of this province have been dropped.

Table 6: County labelled as poverty county - Probit Model

	Dependent variable : probability, for a given village, to be in a county designated as poor at the :					
	(1) National level	(2) National level	(3) Province level	(4) Province level	(5) Province level "Han Long March"	(6) Province level Provinces crossed by Long March
Long March	-0.0562 [0.0909]	-0.0562 [0.0909]	0.378** [0.154]			0.416*** [0.153]
Long March in Han villages				0.485*** [0.169]	0.485*** [0.168]	
Village geography (reference : mountainous)						
- plain	-0.0391 [0.0582]	-0.0391 [0.0582]	-0.311*** [0.0615]	-0.303*** [0.0619]	-0.302*** [0.0627]	-0.389*** [0.0626]
- hilly	-0.0141 [0.0658]	-0.0141 [0.0658]	-0.121*** [0.0430]	-0.113*** [0.0431]	-0.113*** [0.0435]	-0.244*** [0.0660]
ethnic minority	-0.204*** [0.0722]	-0.204*** [0.0722]	0.144 [0.110]	0.189* [0.110]	0.189* [0.111]	0.299* [0.179]
land per hh in 1998	-0.00962** [0.00413]	-0.00962** [0.00413]	-0.00785* [0.00426]	-0.00780* [0.00418]	-0.00758 [0.00507]	-0.000890 [0.00593]
village net income in 1990	0.0000953*** [0.0000224]	0.0000953*** [0.0000224]	-0.000144*** [0.0000408]	-0.000144*** [0.0000405]	-0.000144*** [0.0000406]	-0.000179*** [0.0000527]
village arable land					-0.000000914 [0.00000862]	
province dummies	Yes	Yes	Yes	Yes	Yes	Yes
Observations	956	956	893	893	893	488
Pseudo R2	0.144	0.144	0.383	0.392	0.392	0.478

Marginal effects; Standard errors clustered at the county level in brackets

Column (6) : subsample restricted to provinces that were crossed by the Long March (even if surveyed counties were not crossed).)

* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

significant. (These regressions are not displayed in the table).

We try as well to run the regression on a limited sample, keeping only the provinces that happened to be crossed by the Long March. Results are holding, as last column of the table shows.

Obviously, we might have not been able to control for all the relevant variables, as we do not have the precise criteria according to which the counties were labeled as poverty county, and we are using data posterior to the designation of most counties. Because of the help received the relevant economic characteristics may not be observable anymore. Luckily, the village net income of 1990 is available, but it is still a noisy measure of the situation at the time of the designation, was it 1986 or 1993; information on village size dates from 1998, and all the other variables are reflecting 2002 situation. Yet, the geographical condition of the villages did not change. Then, despite the development brought by a decade of alleviation funds, these poverty counties are still poorer than the others : Gustafsson and Yue (2006) show that in 2002 the poverty is more extensive in the counties designated as poor. Therefore, the 2000s variables are still relevant. The results we have obtained thus confirm that the Long March affected durably political outcomes of the areas it went through.

4 Identification Strategy

We want to understand whether the distribution of opportunities has persisted across time, or whether the dramatic changes brought by communist reforms strongly disrupted their inheritance : are households' relative endowments still shaped by that of their forebears? Such a question is especially interesting if one considers outcomes whose distribution should be explained by existing rules, and not by social status. This is one of the reason why we choose to focus on land and education, two important assets shaping individual opportunities.

Does access to land and education relate to what it used to be for one's grandfather, before the People's Republic of China was proclaimed? More importantly, how a household fare compared to other villagers, and has it changed across time? Answering this question implies to examine an equation of the type :

$$Y_{2000s} = \beta Y_{\text{preMao}} + \eta Z + \mu$$

where Y_{2000s} indicates households' relative opportunities, and Y_{preMao} would pertain to household forefathers' opportunities. Z is the set of characteristics explaining Y_{2000s}.

Whatever would be the coefficient and the sign of β, we could not inferred much on whether inequalities persisted despite institutional change. Positive β, signaling impor-

tant persistence, could be driven by entire places, originally very inegalitarian, where few changes were implemented because of local resistance. Similarly, null or negative β could result from social trends existing before the Communist seized power; inheritance of social status would have been disrupted simply because, for example, evolving economic conditions had already produced a shift in the balance of power.

To be able to interpret the eventual impact of Y_{preMao} in relation with the revolution, we need an additional indicator. This is why we compare two types of places, where institutional changes brought by revolution and reforms were of different scope and intensity. Our hypothesis is the following : where revolution has benefited from additional resources, were they human or financial, less persistence should be seen in the distribution of the assets it targeted. Let the subscript "RAR" characterize places which faced a "Revolution with Additional Resources". We are interested by the following relation :

$$Y_{2000s} = \beta Y_{\text{preMao}} + \beta_{RAR} Y_{\text{preMao}} \times \text{RAR} + \alpha \text{RAR} + \eta Z + \mu$$

Under Mao, the distribution of opportunities was reversed. Reforms aimed at destroying the traditional socio-economic hierarchies and their foundations, namely an unequal distribution of land and human capital. If these changes have had long term impact, the former poors may have been more likely to keep the advantages they gain during the Maoist decade when RAR $= 1$. If β shows a reversal in the distribution of opportunities, β_{RAR} should have the same sign than β and a higher magnitude. If β implies persistence of pre Mao distribution, we should find a β_{RAR} of opposite sign.

To be able to rely on the interaction term, we need that the likelihood of reforms to durably transform the distribution of opportunities was *a priori* the same in all areas. Reform of a given type, before implementation, would have had a similar impact in "RAR" and "non RAR".

This assumption would not hold if choosing, as RAR areas, old revolutionary bases. If the election of some of them might have been contingent, it is likely that their choice was heavily dependent on the degree of durable popular support the Communists could hope. Instead, we focus on the Long March as a RAR indicator, as we believe that the final road was not endogenous to the initial composition of counties crossed.

Let us take the case of land. We are interested in the following specification :

$$\text{Land}_{2000s} = \beta \text{PoorFamily}_{preMao} + \beta_{RAR} \text{PoorFamily}_{preMao} \times \text{LongMarch} + \eta Z + \gamma_v + \mu$$

$\text{PoorFamily}_{preMao}$ characterizes the households' class status before the land reform, therefore indicates its relative land endowment in origin village. As present day Land_{2000s} depends much on the land available in the village, and the process governing (re)allocations

there, we introduce village fixed effects, γ_v.

Our key assumption is two households with similar Z, but different "class" background, would have the same difference in μ in all types of villages, located or not in a Long March area. Under this hypothesis, β_{RAR} is identified.

5 Results

5.1 Land

We run the following regression :

$$\text{Land}_{2000s} = \beta \text{PoorFamily}_{preMao} + \beta_{RAR} \text{PoorFamily}_{preMao} \times \text{LongMarch} + \eta Z + \gamma_v + \mu_c$$

If radical changes initiated in the late 1940s in rural China canceled the role of households' pre Mao endowments, the coefficient of $\text{PoorFamily}_{preMao}$, should be null and non significant. If, despite dramatic policies, these variables are still at play, if we obtain a negative coefficient, it will imply a positive β, and therefore a long term persistence in the distribution of crucial assets in rural area. Then, to understand what this result owes to what happened during the Mao period, and whether it says something on the effectiveness of radical institutional transformation, we will look at the coefficient of the interacted term, $\text{PoorFamily}_{preMao} \times \text{LongMarch}$. It should be positive if radical reforms with additional resources are more likely to affect durably households livelihood, and to reverse in a persistent way the old pattern in land distribution.

Dependent variable Our dependent variable in all the specifications is the household's agricultural land, on which the household has use rights granted by the village. Homestead land, land used for fishponds, land leased in from others are not included[36]. The average size of households agricultural land is 7 mu[37]. We focus on households who have some agricultural land. Around 10% of the 9200 households surveyed declare no land or report missing values. Among them, there are many households with an urban registration (*hukou*), households working for the public sector, occupying administrative functions; there are teachers, enterprise managers. That is why we consider as preferable not to take them into account, as the households with a small amount of land will be very different from many households without any land.

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[36]When summing irrigated and dry land, we divide the amount of dry land by two, an usual transformation in the literature on rural China. When dry and irrigated land were allotted in the early 1980s, their respective share should have been similar across households. But the size of plots may have been a constraint at some point, especially after several reallocations. When necessary, the quality was taken into account.

[37]The mu is the Chinese unit for land size, it equates to 666,67 m^2

Independent variables : land allocation Land distribution, in the early 2000s, depends on the criteria followed during the decollectivization and the eventual reallocation(s) which followed. The rule to adopt was defined at county level, but village leaders have played an important role in their implementation; moreover, decisions of reallocation have been taken at the natural village level (in our sample, only one fifth of the villages report that land reallocations are decided at the administrative village level, an administrative unit gathering several natural villages).

As land allocation was made according to a linear combination of demographic criteria, we use an additive model. Given our focus, the top of the distribution is of crucial importance to us, which is an other reason to avoid a specification in log. The criteria usually used were demographic criteria were household size and household number of workers. We use the share of working members instead as it should be less correlated with household size than the absolute number of working members. These variables are imperfect, as they might be quite different of what they were at the time of the last land reallocation. However, as the Land Administration Law was amended in 1998, almost three fourths of the villages have renewed Household Responsibility Contract. 40% of the villages started a new round of the Household Contract Responsibility System between 1997 and 1999; an other 32% started a new contract round after between 2000 and 2002. More than the half of the villages have proceeded to village reallocation(s) or partial land adjustment between 1998 and 2002, even in the absence of a new contracting round. If we consider that both a reallocation or the start of a new contract round may imply some redistribution of land within the village, then it means that considering 2002 demographic variables makes sense for at least 82% of the villages. In the remaining village, which have, for most of them, implemented the last contract round in the early 1990s, village wide reallocation before 1998 are not excluded.

We introduce as well the share of male workers. First of all, women are very often at a disadvantage during land reallocation (Judd (2007), Duncan and Li (2001)), despite similar legal rights. In some villages male and female were explicitly not entitled to the same amount of land. Then, the tradition calls for a married woman to move to her husband's village. Virilocal marriage, that is, marriage where the woman leaves her natal village to join her husband's village, applied to an estimated 92 to 98 percent of rural Chinese marriages at the end of the 1990s[38]. Since only men can inherit land, women often have to wait for the next reallocation to occur. Single working women may be also disadvantaged, as they are expected to leave their village in the near future[39].

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[38]Jin et al. (2004)
[39]Hare et al. (2007)

Independent variables : inequality persistence   We use the classification of house-holds' forefathers established before the land reform, the *chengfen*. Our data reports such information for head and spouse's parents. We create a dummy "poor family", which aggregates the information we have on head and spouse's antecedent. It equates to one when nobody, amongst head and spouse parents, was from middle or rich peasant origin.

In our survey, 10 % of households head and spouse have at least one parent of rich peasant or landlord origin; 24% of households have no such background, yet have middle peasant origin, and 66% of the rural households have only "poor peasants" or "landless peasants" grandparents. Descriptive statistics are provided in table 14, in the appendix (Section 7.1.1). They show that in average, family with a poor peasant background use a slightly smaller amount of land than families who were not classified as poor peasants at the time of the reform.

The term of interest is the interaction term $Poorfam \times LongMarch$, and should capture differences in institutional persistence across places that experienced a revolution mobilizing additional resources and places that did not.

By the end of 2005, there was 2872 county level divisions in China; and 243 of them had been crossed by the Long March. This means that around 8.5% of the counties were crossed by the Long March[40]. In our data, among the 122 counties surveyed, 14 have been crossed by the long march. This amounts to 11.5% of the counties of our sample; a figure close to the national equivalent, that gives us confidence in the representativeness of our survey. The surveyed counties crossed by the Long March are located in eight provinces: Jiangxi, Guangdong, Hubei, Sichuan, Guizhou, Yunnan, Shaanxi and Gansu. They are spread across Chinese territory, and enjoy various geographic and economic conditions. (See details in the appendix, section7.2).

Table 15, in the appendix (section 7.1.2), reports descriptive statistics for regions which were and which were not crossed by the Long March. The share of poor peasant is lower in the areas crossed by the long marchers (62% versus 66% for all China). This is consistent with the fact that the March went through areas located in South-West China, where land was much more inequally distributed as compared to the North, and the population of rich peasants and landlords more numerous. But if we look only at the eight provinces where the Long March counties are located, the overall share of households with a poor family background decreases from 66% to 61.2%. Last, the correlation between the two dummies is very weak (-0.024), and it is further weakened by a restriction to the aforementioned subsample of seven provinces.

Regression results : land allocation and inequality persistence

The first regression we run includes only demographic controls (first column of table

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[40]taking into account the administrative divisions effective by the mid 2000s.

7). One additional household member increases the household land by 1.033 *mu*.

Table 7: Family Status impact on land distribution - OLS with village FE

	(1) Basic setting	(2) Poor fam	(3) Education	(4) CCP head	(5) Reallocation	(6) Poor fam
		Dependent variable is household land				
Poor and lower-middle peasant		-0.239* [0.129]	-0.233* [0.130]	-0.250* [0.130]		-0.244* [0.130]
Hh size	1.033*** [0.0825]	1.033*** [0.0825]	1.034*** [0.0827]	1.033*** [0.0823]		
Share of working members	1.273*** [0.324]	1.258*** [0.321]	1.353*** [0.343]	1.239*** [0.321]		
Share of male members	0.750** [0.355]	0.747** [0.353]	0.753** [0.350]	0.755** [0.354]	0.613* [0.341]	0.609* [0.340]
Head education			0.0623 [0.0376]			
Hh head is CCP member				0.464** [0.194]		
Corrected number of hh residents[a]					1.124*** [0.0876]	1.124*** [0.0876]
Corrected number of workers[b]					1.364*** [0.284]	1.352*** [0.282]
Observations	7949	7949	7949	7949	7871	7871
Number of villages	862	862	862	862	849	849
Number of counties	115	115	115	115	114	114
Adjusted R^2	0.052	0.052	0.053	0.053	0.058	0.058

Marginal effects; Standard errors clustered at coun level in brackets

* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

Sample restricted to households using agricultural land

[a] = hh number of residents in 1998 if no /village reallocation after 1998 and = 2001 nb if some reallocation occurred after 1998

[b] = share of working members in 2002 divided by the corrected number of residents

In the second regression (second column of table 7), we see that the dummy "poor family" has a significant and negative impact, though very small (it accounts for 3% of land standard deviation), and of limited significance (at the 10% level). This impact is robust to the adjunction of various controls : head's years of education, head belonging to the Communist Party. Head education is positive, but non significant. Belonging to the Communist Party is positive and very significant. Being a member of the Communist Party, in rural China, is often associated with increased opportunities : a positive correlation with land endowment confirms the value of land among rural households.

We may be worried by measurement error due to reallocations. Especially, it could be that the proportion of poor peasant is different in areas where land is more reallocated, namely in areas where 2000s demographic variables will better account for land distribution. Demographic variables would then not have the same explanatory power. We use other information available in our data to assess the magnitude of this problem. We now whether a village wide reallocation occurred between 1998 and 2002. We have as well the number of permanent residents in the households for each of the four previous years. This measure is however very noisy, both because of the question formulation and the institutional constraints attached to residence registration. Yet, if a big change

has affected the household size, it should also have affected this variable. We construct a variable which equates to the household number of residents in 2001 when land was recently reallocated; and which equates to the number of residents in 1998 when land was not reallocated after 1998. It is a rough way of accounting for eventual changes. Column 5 and 6 of table 7 show that the dummy "poor and lower-middle peasant" keep a similar magnitude and significance[41].

Finding an impact of the class status of the previous generation, even that small, is already interesting. It signals long term persistence, though without allowing much interpretation regarding the mechanisms involved. Given the variety of situations experienced during the land reform across China, we may suspect that this result actually hinders a fair amount of heterogeneity.

Regression results : inequality persistence and reform intensity   Now, we introduce the interaction term of the "class status" background with the dummy Long March, in order to identify whether regions that experienced different types of reform are dissimilar. The result, displayed in table 8, is striking, as the coefficient of the interaction term is significant at the one percent level, positive, and of considerable magnitude. In counties crossed by the Long March, a poor family background entitles households to 0.833 *mu* more than it does in other counties. This account for 11.5% of land standard deviation.

This result is robust to the introduction of additional controls, like head education and political characteristics. If we compare column 2 of table 8 with column 3 of table 7, we see that the coefficient of the variable education is now significant. These regressions reveals that the limited result obtained for class status alone hides much heterogeneity. The coefficient of the dummy "Poor and lower-middle peasant"[42] alone is more significant, and smaller. In areas which were not crossed by the Long March, former poor households rely to smaller amount of land than others.

The first issue we face when focusing in Long March area is related to geography, as the route was often crossing very mountainous places. Inequalities may be less likely to be disrupted in villages located in mountainous areas. Non mountainous area are better connected to other villages and to urban areas, to their labour markets and their culture : social mobility might be higher there. We therefore introduce a term interacting the class background and the geographical characteristic of the village. Its introduction does not alter our result, as shown in column 4 of table 8. We see that former poor peasants

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[41]We do not use this "corrected" demographic variable in what follow. Some important differences between the 2002 household size and the given number of residents for 2001 cast some doubts on the variable's accuracy. Moreover, missing values make us loose 80 observations.

[42]Named "Poor family" in what follows

Table 8: Family Status impact on land distribution - OLS with village FE

	Dependent variable is household land					
	(1)	(2)	(3)	(4)	(5)	(6)
	Long March	Education	CCP head	Geography	Ethnicity	All ctrl
Poor and lower-middle peasant	-0.323**	-0.320**	-0.337**	-0.637*	-1.539***	-1.557***
	[0.137]	[0.137]	[0.138]	[0.360]	[0.572]	[0.574]
Long March X poor family	0.833**	0.868**	0.861**	0.937**	0.892**	0.919**
	[0.382]	[0.379]	[0.381]	[0.399]	[0.421]	[0.420]
Hh size	1.034***	1.036***	1.035***	1.035***	1.033***	1.034***
	[0.0827]	[0.0830]	[0.0826]	[0.0826]	[0.0832]	[0.0831]
Share of working members	1.263***	1.360***	1.244***	1.261***	1.257***	1.238***
	[0.322]	[0.344]	[0.322]	[0.322]	[0.321]	[0.320]
Share of male members	0.765**	0.772**	0.774**	0.778**	0.772**	0.780**
	[0.353]	[0.349]	[0.353]	[0.351]	[0.353]	[0.353]
Head education		0.0633*				
		[0.0377]				
Hh head is CCP member			0.470**			0.473**
			[0.196]			[0.194]
Non mountainous village X Poor family				0.396	0.113	0.106
				[0.380]	[0.418]	[0.422]
Han village X Poor fam					1.267**	1.279**
					[0.605]	[0.608]
Observations	7949	7949	7949	7949	7949	7949
Number of villages	862	862	862	862	862	862
Number of counties	115	115	115	115	115	115
Adjusted R^2	0.052	0.053	0.053	0.052	0.053	0.054

Marginal effects; Standard errors clustered at county level in brackets

* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

Sample restricted to households using agricultural land

living in mountainous areas which were not crossed by the Long March rely on much less land than others. Our results on Long March are not driven by the comparison between mountainous villages and other. To the contrary, the tiny increase in significance and magnitude suggests that our effect was downplayed by the fact that mountainous areas are less prone to change.

Similarly, the Long March crossed areas mostly populated by ethnic minorities, which were far less likely to change under the pressure of Communist reforms. There has been fights against the Communists in numerous areas, so that areas populated by ethnic minority were the latest to undergo land reform (Wong (1974)). Moreover, clanic society of Southern regions were more likely to resist the land reforms as it implied to break kinship ties. Land reform difficulties and violence in the 1950s may even have strengthen the social ties within villages. We introduce a term interacting the household status with a dummy indicating whether the village population is mostly from an ethnic minority. Its coefficient is significant at the five percent level, as shown in the fifth column of table 8.

We may worry that we capture other patterns which characterize the broad regions where the March took place, and differentiate more generally North from South, or Coast

from West. Land reform was decentralized, and China was divided into six Greater Administrative Areas: Northeast[43], North[44], East[45], Central-South[46], Northwest[47] and Southwest[48]. The reform progressed at very different pace in each area. For example, it was the fastest in East China. North and Northeast undertook it sooner. In Central South and Southwest, it faced the strongest opposition. In general, the old CCP headquarters had completed it before 1950, and were given a leading role in the process. So whether there was some in a given region could impact much the reform process.

The Long March went trough provinces where reforms faced much more difficulties than elsewhere, so we may actually underestimate its effect by not considering the different regional patterns. To answer the concern that there might be broad trends in inequality persistence at the regional level, we add the interacted term between regional dummies and class status. This means that our term of interest is now "detrended" from its average effect at regional level; and counties are compared within six large regions. The results are presented in the first two columns of 9.

The coefficient of our term of interest is of higher magnitude : 1.157, and significant at the one percent level. Taking into account broad regional trends allows us to highlight a higher effect. As we add additional controls (column 3 of table 9), differences across population groups widen. The households of poor origin, from the Southwest region, living in mountainous and ethnic areas, and in counties not crossed by the Long March, are relying on 1.8 *mu* less than the others.

We control as well for a pre Mao Communist presence, by adding an interaction between Poor family household and Old base village. The Long March left areas where the Communist had settled, and may have led to the establishment of new bases. Could the Long March interaction term capture the impact of old bases ? In column 4, we replace the interaction Long March X Poor family by the interaction CCP base X Poor family. It is non significant. When including it alongside with the Long March term, we see that our results remain unchanged (column 5). Column 6 of table 9 provinces a last control: we add the CCP membership of household head. The coefficient associated with Central South looses its significance. Yet, we obtain an ever stronger effect for our term of interest.

Province level variation and the different armies We might fear that the counties compared are not similar enough to identify properly the term of interest. We restrict

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[43]Liaoning, Jilin, Heilongjiang, Jehol
[44]Hebei, Shanxi, Inner Mongolia, Beijing, Tianjin
[45]Shandong, Jiangsu, Anhui, Zhejiang, Fujian, Shanghai
[46]Henan, Hubei, Hunan, Jiangxi, Guangdong, Guangxi
[47]Shaanxi, Gansu, Qinghai, Xinjiang
[48]Sichuan, Yunnan, Guizhou, Sikang

Table 9: Long March and family status impact on land distribution - Within the six land reform regions - OLS with village FE

	(1) Six Regions X Poorfam	(2) Regions X Poor and Long March	(3) Regions X Poor Han X Poorfam	(4) alone	(5) Old base X Poor fam with Long March	(6) and CCP head
			Dependent variable is household land			
Poor and lower-middle peasant	-0.618* [0.323]	-0.971** [0.372]	-1.806*** [0.647]	-1.520** [0.662]	-1.804*** [0.651]	-1.791*** [0.650]
Long March X Poor family		1.157*** [0.436]	1.097** [0.449]		1.106** [0.460]	1.123** [0.451]
Land reform regions X poorfam - Reference : Southwest X poorfam						
- East X poor family	0.657* [0.387]	1.010** [0.429]	0.709* [0.371]	0.368 [0.347]	0.715* [0.380]	0.681* [0.391]
- CentralSouth X poor family	0.649 [0.423]	0.871** [0.439]	0.690* [0.403]	0.442 [0.390]	0.700* [0.413]	0.651 [0.417]
- North X poor family	0.335 [0.407]	0.688 [0.446]	0.402 [0.394]	0.0735 [0.372]	0.405 [0.395]	0.401 [0.411]
- Northeast X poor family	0.0697 [0.490]	0.423 [0.524]	0.384 [0.525]	0.0919 [0.514]	0.384 [0.525]	0.333 [0.533]
- Northwest X poor family	-0.0345 [0.550]	0.108 [0.520]	-0.0252 [0.495]	-0.142 [0.538]	-0.0260 [0.498]	-0.0873 [0.494]
Hh size	1.034*** [0.0827]	1.036*** [0.0829]	1.035*** [0.0833]	1.033*** [0.0831]	1.035*** [0.0833]	1.036*** [0.0832]
Share of working members	1.251*** [0.321]	1.255*** [0.323]	1.250*** [0.321]	1.243*** [0.319]	1.250*** [0.320]	1.231*** [0.320]
Share of male members	0.752** [0.353]	0.780** [0.352]	0.777** [0.354]	0.751** [0.355]	0.777** [0.354]	0.786** [0.353]
Non mountainous village X Poor family			0.00464 [0.410]	-0.0503 [0.399]	0.00129 [0.406]	
Han village X Poor fam			1.131* [0.636]	1.199* [0.650]	1.132* [0.634]	1.143* [0.595]
Old base X Poor fam				0.176 [0.334]	-0.0273 [0.329]	-0.0197 [0.340]
Hh head is CCP member						0.469** [0.194]
Observations	7949	7949	7949	7949	7949	7949
Number of villages	862	862	862	862	862	862
Number of counties	115	115	115	115	115	115
Adjusted R^2	0.052	0.053	0.053	0.053	0.053	0.054

Marginal effects; Standard errors clustered at coun level in brackets

* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

Sample restricted to households using agricultural land

our sample to the provinces that have been crossed by the Long March. Results hold, as shown in first column of table 10.

Then, the starting point of the March, in Jiangxi province, is in our data, and it can not be said as exogenous. It was a communist stronghold when the Long March started. We hope to keep a significant Long March effect on former poor peasant families after having dropped the ancient Communist bases in Jiangxi. Then, the evolution of the coefficient might be informative as well, as the likelihood of late 1940s reforms to succeed is not as endogenous as one could think, and as reforms implemented there were quite radical. The support from which the Communists benefited was not unconditional[49], so that a decade after the departure of the Red Army, reform might have been far less easy to conduct than they would have been in the 1930s. Regarding reforms intensity, because of the role Jiangxi played in the revolution, it was an important place in CCP mythology after Mao's rise to power. Anecdotal evidence reports that land reform implemented there was rather radical. Sun (2006) reports how rich peasants had automatically the worst plots, and landlords had not the right to possess some. Moreover, because of their role during the revolution, many parts of Jiangxi received considerable funds once Mao came to power. To exclude the starting point from our sample is a good way to assess how much our Long March effect owes to Jiangxi situation.

We run a regression restricted to provinces crossed by the Long March. Once we drop the old bases of Jiangxi, we see that the coefficient decreases sharply (0.752), but remains significant at the 10 % level. It shows that our results are not driven by Jiangxi. At the same time, it is consistent with our conclusion regarding the effect of radical changes. In Jiangxi, as revolution brought considerable changes, the gap between the former poor and the other has been durably reversed.

Then, to better account for regional characteristics, we consider interactions between the province and the class status. Now the coefficient of the interacted term Long March X Poor equates to one, and is significant at the five percent level. Its decrease might be driven by the fact that, when restricting to province level, we are more dependent to counties sampling within provinces. It is notably the case for Guangdong province, as we compare the unique Long March county, located in the North, with counties located on the coast or in the suburban areas of important cities.

Last, different armies took part to the Long March, and followed different roads. The most important one is the First Army, conducted by Mao. The Second Army was also important, and there is anecdotal evidence of long term impact in Yunnan (see above).

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[49]Increased mobilization and pressuring policies to raise funds or recruit men had eroded considerably people's support in Jiangxi soviet (Benton (1989), Sun (2006)), while treatment of the peasants improved slightly after the First Army left. KMT strategy increased much the power of rural elite in the late 1930s (Benton (1989)).

Table 10: Long March and regional variation - OLS with village fixed effects

	(1)	(2)	(3)	(4)	(5)	(6)
		Dependent variable is household land				
	Long March provinces only			Long March effect within province		
		no Jiangxi bases		Red Armies	Red Armies	Red Armies
Poor and lower-middle peasant	-2.153***	-2.026**	-1.457**	-0.467	-1.461**	-0.450
	[0.796]	[0.809]	[0.695]	[0.313]	[0.697]	[0.299]
Long March X Poor family	1.070**	0.752*	1.005**		0.964*	
	[0.443]	[0.426]	[0.474]		[0.524]	
First Army X Poor family				1.086**		0.976*
				[0.511]		[0.513]
Only Second X Poor family				2.414**		2.426**
				[1.128]		[1.145]
Only Fourth X Poor family				0.666**		0.392
				[0.312]		[0.616]
Only 25th X Poor family				0.875		1.157
				[0.627]		[0.771]
Hh size	0.970***	0.935***	1.037***	1.040***	1.037***	1.040***
	[0.108]	[0.110]	[0.0839]	[0.0837]	[0.0838]	[0.0835]
Share of working members	1.842***	1.775***	1.257***	1.254***	1.255***	1.251***
	[0.529]	[0.536]	[0.322]	[0.322]	[0.322]	[0.322]
Share of male members	0.653	0.686	0.798**	0.801**	0.799**	0.804**
	[0.591]	[0.609]	[0.354]	[0.352]	[0.353]	[0.351]
Han village X Poor fam	1.618**	1.577*	0.945		0.940	
	[0.798]	[0.807]	[0.592]		[0.589]	
Regional dummies X Poor family	yes	yes	no	no	no	no
Province dummies X Poor family	no	no	yes	yes	yes	yes
Old base X Poor fam					0.111	0.257
					[0.509]	[0.532]
Observations	4236	4091	7949	7949	7949	7949
Number of villages	444	429	862	862	862	862
Number of counties	63	61	115	115	115	115
Adjusted R^2	0.055	0.054	0.053	0.052	0.052	0.052

Marginal effects; Standard errors clustered at county level in brackets

* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

Sample restricted to households using agricultural land

Column (1) and (2) : subsample restricted to provinces which were crossed by the Long March

The Fourth Army was led by Zhang Guotao, a rival of Mao. Given the conflicts which took place between Mao and Zhang Guotao, we would expect that counties crossed by the Fourth Army were not shed much into light after Mao's access to power. Moreover, after the Fourth and the First Army split, the Fourth Army's March was not successful; the Fourth Army suffered considerable losses; the soldiers that survived had to retreat to the Shaanxi base. Last, 25th Army March has been much less emphasized, so that in the 2000s, people living on its road have usually no knowledge of it[50], unlike on the route of other armies.

We now differentiate the counties that have been crossed by one particular army from the others. This exercise if of limited relevance, as we have only one or two counties to identify the specific effect of each army. Yet, we do not want the Long March effect to be driven only by these counties. Results, presented in the three last columns of 10, are quite interesting. The dummy First Army X Poor family includes First Army route, which actually was joined by other armies at some points. The coefficient keeps its value and significance. The second army has a very strong effect. Among the counties concerned there is Lijiang county, in Yunnan, and which is adjacent to Zhongdian county, already mentioned for the remarkable effect of Long March there. The coefficient associated with the Fourth Army is much smaller, and non significant once we control for the dummy old revolutionary base. Last, the coefficient associated with the 25th Army is non significant.

Missing values Among the households using agricultural land, 239 report missing information for the class status of at least one of head or spouse's parents. A high share of them (around 40%) are living in areas crossed by the Long March. It might be that in these areas, poorer, more mountainous, life expectancy is shorter. It might be possible as well that fights and violent political campaigns implied more deaths there. In our sample, the age at death[51] is slightly lower in areas crossed by the Long March (60 years old versus 65 years old in non Long March areas) and a higher share of individuals died between 15 and 50 years old (20 % in long march areas versus 15.5% elsewhere). Such statistics are obviously very limited as they face similar problems of missing values.

To address the issue of missing values, we first regress the household land on our basic set of independent variables[52], keeping all households, and including the dummy "missing class status". The coefficient of the dummy is null and non significant (coefficient of -0.01, with standard errors of 0.369). Then, we allocate a class status to these missing individuals, according four simple combinations. First, we consider that they are all of similar background : all from poor families, then all from non poor families. Then, we

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[50]According to Ed Jocelyn.

[51]of head and spouse's parents

[52]Household size, share of working members, share of male members, CCP household head.

allocate a different status in Long March and non Long March area : we assume that the households reporting missing values have not a poor peasant background in Long March area, and have a poor peasant background in non Long March area. We assume the reverse as well, namely that the missing values correspond to households stemming from poor origin in Long March area, but not elsewhere. In the four regressions we run, the coefficient of the interaction term is strongly significant, and its value is between 0.9 and 1.1.

We finally allocate the values in a very unfavorable way for us. We assume that the distribution of class status, among individuals with missing values, is exactly the opposite of what we hope to find. Namely, we consider that for these missing values, in Long March area, the biggest plots are in the hands of former rich peasants. The median of land endowment, among households with missing class origin, is of 5.2 *mu*. In Long March area, we affect the status of poor peasant to households relying on less than 5.2 *mu*. In non Long March area, we affect the status of poor peasant to households with more than 5.2 *mu*. In the regression we run, the coefficient of the interaction term decreases at 0.8; its significance decreases, but it is still significant at the 10% level[53]. This imperfect strategy is a way to build further confidence in the results we obtained.

5.2   Education

Regarding now education, we want to examine whether the youngest generation education is affected by grandparents education. We run the following regression:

$$Edu_{2000s} = \beta' Edu_{preMao} + \beta'_{RAR} Edu_{preMao} \times \text{LongMarch} + \eta' Z + \gamma_v + \mu_c$$

Where Edu indicates the years of education, $Edu_{i,2000s}$ being the educational attainment of the youngest generation (which started to be educated in the 1980s). Edu_{preMao} should relate to the educational attainment of the oldest generation, which was educated before the 1950s, and for whom educational choices were made before the reform period. The coefficient of the interaction term should be negative if radical reforms with additional resources were more likely to affect durably households livelihood.

We want to investigate whether grandparents level of education has still an impact on grand children education, or whether Mao's dramatic reforms canceled the reproduction of educational inequalities. We are thus interested in the educational level of cohorts which were born after the end of the Cultural Revolution, and whose educational attainment was not affected by radical discriminatory policies implemented under Mao.

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[53]in regressions controlling for the interaction between the class status and mountainous area alone, and then adding interaction term between class status and ethnicity, or/and the interaction term between class status and old base

A high share of Edu_{2000s} variation should be explained by the γ_v, the village fixed effects. First, Mao's China underwent through considerable changes regarding education, of heterogeneous intensity across locations. Then, China is characterized by high differences across territory regarding education opportunities. Education provision varies from one village to another; moreover, distance to school can impact considerably educational choices.

At the household level, we do not have information on individual ability. The Z, the other variables we control for, are gender and age; they allow us to take into account differences between younger and older cohorts and between boys and girls. Given the little number of controls we have, the sample choice is very important. We restrict our sample to the people who entered school after the implementation of the household responsibility system was complete, as the partial decollectivization could have increased the incentives to withdraw kids from school. Implemented in 1978, it was adopted nationwide in 1981. We focus on individuals who were born after 1976 : they may have entered in primary education in 1982 or after. We keep only individuals older than 15 years old, the age by which they should have completed compulsory education.

The grandfathers generation The grandfathers for whom we have information were born mostly during the first half of the XXth century. If we do not consider the two extreme percentiles, the fathers of household head were born between 1893 and 1951. The median is 1927. Educational level in the countryside was low. In average, they had completed 3 years of schooling. 28% had no schooling at all. 95% of them achieved 6 years of education or less. Only the top percentile followed more than 10 years of schooling. 22 individuals were reported to have achieved between 13 and 16 years of education.

We do not have information on the mechanism trough which the class status (*chengfen*) of grandfathers could be related to educational background. We prefer therefore not to introduce the *chengfen* dummies as controls in our regressions.

Sample definition The late cohorts of our "grandfathers" started school under Mao (when they did) and were therefore fully subject to education discriminatory policies. Therefore, we choose to focus on earlier cohorts. In the first sample we consider, we focus only on households where the grandfather (the head's father) was born before 1925 or in 1925. They should have gone through all possible entrance examinations before the 1950s, where class status started to play a role. If they began primary school between 6 and 8, those who entered university did so 12 years after, thus between 1943 and 1945. As university was 4 years, they should have completed university by 1949. So they had gone through their schooling before the proclamation of the PRC. Let us recall that only

22 individuals entered university (or equivalent institutions) in our sample, and only 4 reported 16 years of schooling.

However, such concern may not be relevant in rural area, where many adults could not even enter primary school. And we may bias our results by selecting only the older households. In the second sample we use, we choose to consider individuals who were born until 1937. For them, 6 years of primary education would have been completed between 1949 and 1951; therefore, the access to primary education was not affected by class status. This larger sample may help us to assess the robustness of our results.

To better assess the choice of the last cohort to be included in our sample, we run mean comparison tests of the years of schooling for grandfathers between "Long March" and "no Long March" areas. As we argue that education opportunities should have been the same for all the cohorts educated before the proclamation of the PRC, regardless of whether they were crossed by the Long March or not, there should be no significant difference across both areas for cohorts born before 1925. Yet, as later cohorts are added, the likelihood of having faced different opportunities increases. We run t-test for all possible samples, comparing Long March with no Long March areas, and varying only the year of birth of the later cohort to be added. This procedure may help us to see whether no difference was to be seen for first cohorts, as well as whether differences are observable when the later cohorts, potentially subject to different policies, are included. To avoid results driven by outliers, we drop the first percentile (individuals born before 1874 and 1892); we therefore focus on cohorts born after 1893 and before 1951. We plot the difference obtained by a mean comparison test between both samples, as well as the boundaries of the confidence interval, both at 90 and 95 %. The figure 4 shows the graphic obtained.

Figure 4: Mean test of grandfathers education across Long March and no Long March areas done on different samples, varying the year of the last cohort to be added
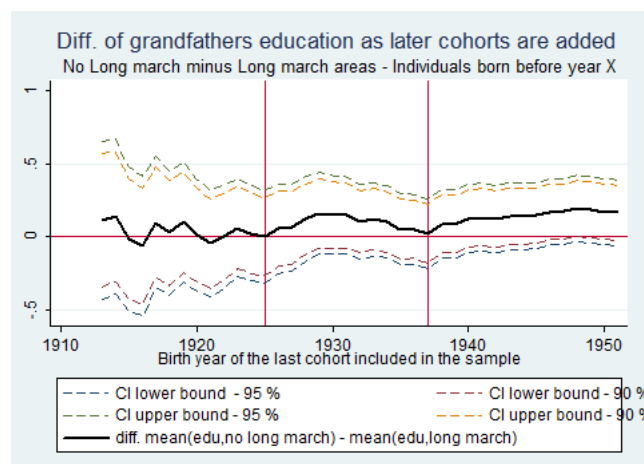
The X axis plot the year of the last cohort to be part of the sample; for each younger cohort added, the mean comparison test is run again.We see in the corresponding figure that the difference between the average years of schooling is small. Areas not crossed by the Long March display a slightly higher level of education; the difference tops up at 0.17 when all cohorts are taken into account. In average, individuals have completed 3 years of schooling; a 0.17 difference remains relatively small (5% of a standard deviation). It becames significant when cohorts born in 1949 are included. It is null and non significant for cohorts born before 1925. The difference seems to increase slightly afterwards (non significantly) : in the late 1940s, some areas experienced early land reforms. Though educational policies were not systematically affected, children's educational outcomes might have been. However, difference remains null and non significant when considering all grandfathers born before 1937.

The main sample we use in our estimation includes the cohorts born before 1925. Worried that we may be too strict in our sample definition, and measure effects valid for older generations only, we use a broader sample in a second step, taking into account cohorts born until 1937. For this sample, difference across Long March and no Long March areas regarding education are still non significant.

Table 11: Child education- OLS Model with village FE - Grandfathers were born before 1925

	Dependent variable : years of education					
	(1)	(2)	(3)	(4)	(5)	(6)
	(no cluster)				With cohort dummies	
			CCP head		CCP head	lighting
grandfather schooling	0.0623**	0.0768***	0.0762***	0.0745**	0.0739**	0.0739**
	[0.0282]	[0.0284]	[0.0289]	[0.0288]	[0.0293]	[0.0292]
grandfather schooling X Long March		-0.146*	-0.146*	-0.148*	-0.148*	-0.155**
		[0.0866]	[0.0844]	[0.0790]	[0.0767]	[0.0755]
male	0.249**	0.247**	0.244**	0.310**	0.307**	0.302**
	[0.123]	[0.122]	[0.121]	[0.119]	[0.119]	[0.119]
age	0.0702***	0.0708***	0.0706***			
	[0.0173]	[0.0173]	[0.0174]			
hh has telephone	0.454***	0.471***	0.443***	0.413***	0.384**	0.385**
	[0.150]	[0.147]	[0.151]	[0.147]	[0.149]	[0.149]
hh head is CCP member			0.191		0.197	0.191
			[0.151]		[0.148]	[0.148]
lighting						2.242***
						[0.237]
cohort dummies	No	No	No	Yes	Yes	Yes
Observations	3287	3287	3287	3287	3287	3287
Adjusted R^2	0.026	0.027	0.028	0.055	0.056	0.057

Marginal effects; Standard errors in brackets

* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

Sample restricted to children aged between 15 and 26

We use OLS with village fixed effects to estimate the equation described above. Keeping consistency with our setting, we cluster the standard errors at the county level. To

control for wealth, we use the dummy indicating whether the household has a telephone. 42% of the surveyed households have a telephone. Results are presented in table 11.

The main results, displayed in the second column of table 11, show that in areas which were not crossed by the Long March, the educational attainment of individuals born after 1976 is significantly impacted by the education of their grand-father. In the sample used in our regressions, the average education of grand fathers is 2.2, with a standard deviation of 2.5. The average education of their grandchildren is 8.6 years, with a standard deviation of 2.3. A coefficient of 0.07 means that one additional standard deviation of grand father schooling (2.5 years) increases the educational attainment of individuals by 0.21 years. The effect is small, but significant.

What is interesting is that the partial effect of education in the areas crossed by the Long March is negative, and appears to offset the first coefficient obtained for grandfather schooling. Education persistence appears stronger in areas which were not crossed by the Long March, as a comparison with the first column shows. The distinction between counties which experienced- or not- the Long March reveals some heterogeneity in human capital transmission across generations. Results are consistent with the conclusion developed before for land allocation : while some persistence of pre-Mao inequalities can be observed in nowadays' rural China, areas which experienced deeper reforms are much less concerned.

We run a set of additional regressions to build further confidence in our results. First, political opportunities of parents could affect children's education. To include related variables is problematic, as they should be correlated with other independent variables : the areas crossed by the Long March may have offered different opportunities regarding Communist Party membership; there, education may have been valued in a different way. Education of the grand father as well may have affected Communist Party membership of the father, both in a direct and in an indirect way. However, as this variable may have played a crucial role in impacting education of the children, we add it to our regression. As we can see in the third column of table 11, the coefficient of the variable "Communist Party membership of the father" is positive, but non significant. The term of interest, the specific effect of grand father in areas that were not crossed by the Long March, remains significant and of similar value.

We are then worried that areas crossed by the Long March display different demographic pattern, because of the different context they experienced under Mao. Our results would be driven by the fact that children inhabiting these areas belong to different cohorts, and thus could not experience the same educational policies or reform only because they were born before their implementation. We therefore add cohort fixed effects. The coefficient of interest remains significant (see column (4), (5) and (6) of table 11). The last

regressions includes an other wealth control : whether the household has some electricity. A very tiny number of households do not have electricity : 100 households. It is likely that it indicates the poorest families. It is very significant. Its introduction decreases the value of the coefficient of our term of interest, which is now significant at 5%. Though not much informative, as it accounts for a very small fraction of our sample, it indicates that better controlling for poverty should strengthen our results.

Yet, it is to be stressed that we have few variation to estimate both village fixed effects and cohorts fixed effects. There are, in average, six children with grandfathers born before 1925 by village; however, in some villages there is only one or two. To overcome this problem, we run similar regressions considering only villages with at least five children sampled. This method might select specific villages, as they are places that might display particular demographic pattern - either being more populated, or displaying higher fertility rate. Table 12 shows that our main results are not only holding, but are much more significant. The magnitude of the effect increases. This comes from our implicit sample selection. Villages with an high number of children per households are mostly located in Central South region. A fifth of them are located in North, East (Anhui excluded) and Northeast regions. This share doubles when we consider the whole sample[54]. Therefore, we over select provinces that were crossed by the Long March: it explains a stronger effect.

An other way of allowing more variation is to consider county fixed effects instead of village fixed effects, or to increase sample size. Table 13 presents regressions with county fixed effects. We are able to compare a higher number of children within cohorts. As village level controls, we introduce dummies for mountainous area, non ethnic village, and old CCP base. We might not be able to control for all relevant characteristics; moreover, many controls we could add are correlated with post 1949 outcomes. In the spirit of what we have done in the previous section, in land regressions, we include the interaction of grandfather education with the six main administrative regions (see above). The dummy "grandfather education", alone, characterizes areas not crossed by the Long March, and located in Northwest region. When specific persistence patterns at the regional level are taken into account, the coefficient of the interaction term Long March X grandfather education becomes significant.

Then, we increase sample size. As evoked before, the choice to consider only grandfathers born before 1925, though necessary, select older households. We extend our sample to the cohorts born before 1937. Our results hold, as we can see in the third column of table 13.

Worried that our results would be driven by geographic characteristics of areas, by

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[54]North, East (Anhui excluded) and Northeast regions account for 41% of total sample.

Table 12: Child education- OLS Model with village FE - Grandfathers were born before 1924 - villages with at least five observations

	(1)	(2)	(3)	(4)	(5)	(6)
			Dependent variable : years of education			
	(no cluster)				With cohort dummies	
			CCP head		CCP head	lighting
grandfather schooling	0.0532*	0.0737**	0.0736**	0.0707**	0.0705**	0.0706**
	[0.0297]	[0.0302]	[0.0307]	[0.0304]	[0.0308]	[0.0308]
Long March X grandfather edu		-0.197***	-0.196***	-0.197***	-0.196***	-0.204***
		[0.0690]	[0.0673]	[0.0619]	[0.0602]	[0.0582]
male	0.297**	0.294**	0.291**	0.344***	0.341***	0.334***
	[0.129]	[0.128]	[0.127]	[0.124]	[0.123]	[0.123]
age	0.0608***	0.0618***	0.0616***			
	[0.0194]	[0.0194]	[0.0195]			
hh has telephone	0.358**	0.384**	0.354**	0.339**	0.307*	0.309*
	[0.163]	[0.159]	[0.164]	[0.157]	[0.160]	[0.160]
hh head is CCP member			0.200		0.209	0.200
			[0.155]		[0.152]	[0.151]
lighting						2.287***
						[0.208]
cohort dummies	No	No	No	Yes	Yes	Yes
Observations	2162	2162	2162	2162	2162	2162
Adjusted R^2	0.021	0.025	0.026	0.052	0.053	0.053

Marginal effects; Robust standard errors clustered at county level in brackets

* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

Sample restricted to children aged between 15 and 26

ethnic composition, or by former revolutionary history, we include interaction terms of such characteristics with grandfather education. Our results hold : in counties crossed by the Long March, the education of the grandfather plays a much smaller role than in areas not crossed by the Long March. The difference is significant. The Long March effect seems to counteract the intergenerational transmission of educational outcomes.

Table 13: Child education- OLS Model with county FE - grandfathers were born before 1925 or 1937 - Interactions with the six Greater Administrative Regions

	(1)	(2)	(3)	(4)	(5)	(6)
				Dependent variable : years of education		
				Gdfathers born before 1937		
		Region X	coun FE alone	Mountain X	Han X	CCP base X
grandfather schooling	0.0669***	0.0805	0.124*	0.125*	0.164*	0.154
	[0.0198]	[0.0724]	[0.0716]	[0.0720]	[0.0948]	[0.108]
Long March X grandfather edu	-0.0626	-0.0906*	-0.0919**	-0.0914**	-0.0935**	-0.0887*
	[0.0577]	[0.0542]	[0.0449]	[0.0450]	[0.0469]	[0.0502]
male	0.308***	0.309***	0.282***	0.282***	0.283***	0.283***
	[0.103]	[0.103]	[0.0693]	[0.0693]	[0.0694]	[0.0695]
age	0.0987***	0.0995***	0.0923***		0.0921***	0.0922***
	[0.0188]	[0.0187]	[0.0154]		[0.0154]	[0.0154]
hh has telephone	0.565***	0.566***	0.492***	0.492***	0.496***	0.496***
	[0.102]	[0.102]	[0.0731]	[0.0729]	[0.0737]	[0.0735]
hh head is CCP member	0.358***	0.356***	0.412***	0.411***	0.412***	0.410***
	[0.110]	[0.110]	[0.0705]	[0.0708]	[0.0707]	[0.0709]
mountainous vill.	-0.617***	-0.612***	-0.522***	-0.509**	-0.501***	-0.493**
	[0.210]	[0.213]	[0.174]	[0.204]	[0.174]	[0.203]
han	-0.177	-0.175	0.106	0.108	0.222	0.218
	[0.266]	[0.266]	[0.363]	[0.362]	[0.389]	[0.390]
old CCP base	0.186	0.180	0.115	0.116	0.110	0.141
	[0.358]	[0.363]	[0.249]	[0.249]	[0.248]	[0.298]
mountainous village X grandfather edu				-0.00545		-0.00406
				[0.0397]		[0.0392]
Han village X grandfather edu					-0.0543	-0.0541
					[0.0576]	[0.0588]
lighting						-0.393
						[0.515]
Old base X grandfather edu						0.0115
						[0.0353]
cohort dummies	Yes	Yes	Yes	Yes	Yes	Yes
6 regions X gdfather edu (reference : Northwest X gdfather edu)	No	Yes	Yes	Yes	Yes	Yes
Observations	3272	3272	6259	6259	6259	6259
Adjusted R^2	0.073	0.072	0.083	0.083	0.084	0.083

Marginal effects; Robust standard errors clustered at county level in brackets

* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

Sample restricted to children aged between 15 and 26

6   Conclusion

What is the long-run impact of revolution on inequalities? Are radical changes able to reach what they aim for? China offers an interesting case to study the persistence of inequalities of opportunities. During the Mao period, from 1949 to 1978, numerous policies were designed in order to tackle this issue, and to prevent prerevolution elites to transmit increased opportunities to their offspring. Political violence and radical changes aimed at redistributing power to the poorest individuals. Draconian reforms built strong barriers to elite transmission. Our objective is to understand to what extent they reached their goal.

Discriminatory measures and class-label policies were discontinued in 1978. Since then, both land allocation and educational outcomes have not depended on political characteristics. Social characteristics should not matter in explaining their distribution. Even if they were to, one would rather expect them to be related to the post 1949 social order and to the new political elites which emerged subsequently.

However, we show that in 2002, land access is impacted by the social structure that prevailed before the land reform. Families classified as poor peasants or landless before 1949 still rely on a smaller amount of land than others. As for individuals born before 1925, the more educated they were, the more educated are their grandchildren. This shows that prerevolution elites were able to transmit some advantages to their offspring. Given the heterogeneity regarding both the way radical policies were implemented under Mao and the way local population reacted to them, it is however difficult, as this point, to draw strong conclusion regarding the likelihood of institutional change to affect in the long run the inheritance of economic opportunities.

Interestingly enough, Chinese history provides an interesting event to look at : the Long March. The retreat of the Red Army was not motivated by revolutionary objectives per se; the main preoccupation of the Communist was to escape Nationalists' encirclement campaigns, that forced them to leave their base in Jiangxi. The final road was not the result of a careful planning; the areas crossed were not offering particularly welcoming conditions. Yet, the places crossed experienced distinct changes as compared as neighboring places, especially after PRC proclamation, as the Long March became a founding myth.

These places benefited from additional resources, which may explain why institutional change had persistent impact on the distribution of land and education. There, families of poor origin are using a higher amount of land, and the intergenerational transmission of human capital appears to have been durably disrupted. We may explain the success of the reforms undertaken in these areas precisely by their geographical boundaries : their

past gave them a symbolical importance which made them beneficiary of resources from which the rest of the territory was deprived.

7   Appendix

Resolution on Class Stratification in Rural Areas by the State Council of the Chinese Central Government in 1950

The principles had been defined at various occasions : by Mao in 1933 in *How to Differentiate the Classes in the Rural Areas*; by Ren Bishi in 1948 in the speech addressing "Several Problems in Land Reform"; by the Resolution on Class Stratification in Rural Areas by the State Council of the Chinese Central Government in 1950. We report here the extract of the document concerning landlord and rich peasant classification, quoted by Zhang (2004).

I. Landlord

Possesses land, does not labor himself or only does some supplemental work, and makes a living by exploitation. Such a person can be defined as landlord. The landlord's major form of exploitation is to collect land rent from peasants.

II. Rich peasant

A rich peasant generally has his own land. The rich peasant mainly exploits by hiring long-term farmhands. Besides this, rich peasants may also rent a patch of land to others and collect land rent. Sometimes he will loan money to others and collect interest or run a small business. Rich peasants may manage lineage ancestral halls or temples. Some may own a large amount of fertile land and not hire farmhands, but cultivate it by themselves. He may exploit peasants by collecting land rent and by usurious exploitation; such a person should be regarded as a rich peasant. (RCS, 3-4)

In a landlord's family, anyone who does labor, so long as he doesn't dominate but rather is dominated by the family, should be classified with an appropriate status of laborer. (RCS 6)

7.1   Descriptive Statistics

7.1.1   Class status

Table 14: Descriptive statistics and family classification

Households	All		Were poor peasants		Were not poor peasants	
Variables	Mean	St. Dev.	Mean	St. Dev.	Mean	St. Dev.
Agricultural land	6.97	8.06	6.84	8.035	7.23	8.107
Household size	4.14	1.278	4.16	1.281	4.1	1.272
share of working members	0.61	0.257	0.61	0.257	0.63	0.257
share of men	0.53	0.151	0.53	0.152	0.53	0.149
head education (years)	7.93	3.08	7.88	3.088	8.04	3.062
head father education	2.99	2.706	2.71	2.566	3.51	2.872
hh head is communist	0.17		0.18		0.15	
head father was communist	0.12		0.13		0.1	
plain	0.46		0.47		0.45	
hilly	0.31		0.31		0.31	
mountainous	0.23		0.22		0.25	
ehtnic minority	0.13		0.13		0.12	
East	0.23		0.25		0.2	
North	0.09		0.09		0.11	
Northeasth	0.11		0.1		0.13	
CentralSouth	0.31		0.32		0.27	
Southwest	0.15		0.14		0.17	
Northwest	0.1		0.1		0.11	
Number of households	7949		5207		2742	

Sample restricted to households using agricultural land

7.1.2 Long March

Table 15: Descriptive statistics and Long March

Households	All		counties crossed by Long March		counties not crossed by Long March	
Variables	Mean	St. Dev.	Mean	St. Dev.	Mean	St. Dev.
Agricultural land	6.97	8.06	7.48	9.914	6.92	7.821
Household size	4.14	1.278	4.32	2.921	4.12	1.274
share of working members	0.61	0.257	0.64	0.236	0.61	0.259
share of men	0.53	0.151	0.53	0.152	0.53	0.149
head education (years)	7.93	3.08	7.5	3.301	7.98	3.05
head father education	2.99	2.706	2.93	2.71	3	2.705
hh head is communist	0.17		0.17		0.17	
head father was communist	0.12		0.1		0.12	
poorfam	0.66		0.62		0.66	
middlefam	0.24		0.28		0.24	
richfam	0.1		0.1		0.1	
plain	0.46		0.2		0.49	
hilly	0.31		0.31		0.31	
mountainous	0.23		0.49		0.2	
ethnic minority village	0.13		0.18		0.12	
East	0.23		0		0.26	
North	0.09		0		0.1	
Northeasth	0.11		0		0.13	
CentralSouth	0.31		0.33		0.3	
Southwest	0.15		0.51		0.11	
Northwest	0.1	0.301	0.16	0.368	0.09	0.292
Number of households	7949		813		7135	

Sample restricted to households using agricultural land

7.2 The Long March road

7.2.1 Sources

In order to identify the counties crossed by the Long March, we have gathered information from different sources. The website of the Marxism Research Network from the Chinese Academy of Social Science provides a list of counties which have been crossed by the different armies. However, the list is not exhaustive, and does not differentiate the different armies. Ed Jocelyn and Andrew McEwan, before walking the March of the First Army in 2006, retraced the exact route from soldiers' diaries and from some published day-by-day accounts of the armies' movements. Their book lists the name of the towns and villages they crossed; then, some Internet research allowed us to find the counties they were located in. Last, as part of governmental celebration of the 70 years birthday of the March, websites were launched, providing useful information and maps. One of the most complete map is is available at the following url : http://www.snwh.gov.cn/cz/Html/ditu/131122666.htm

After having identified the 122 counties in our data, and located them on a map, we have carefully investigated whether they had been on the road of any of the retreating armies. To build a map which could display their location with respect to the Red Armies roads, we are doing a similar work for the rest of the territory. Thanks to the published work of Ed Jocelyn and Andrew McEwan, we have been able to retrace the full list of the counties crossed by the First Army. Regarding the other routes, our work is still in progress.

7.2.2 The different steps of the Long March of First Army

The First Red Army left Jiangxi in October 1934. The 25th Army Group left its base area (the Hubei-Henan-Anhui Base Area) in November 1934, and joined Yongping Town in Shaanxi in September 1935. The First Army arrived in Wuqi, North of Shaanxi, in October 1935.

The Fourth Army left its base, the Sichuan Shaanxi base area, in March 1935, joined the First Army in July 1935, split later on after disagreement between the leaders. The Second Army left from Hubei, where it was based, in November 1935. All the armies joined in Shaanxi in October 1936.

Here are some of the major steps of the March of the First Army. The way it progressed throughout Western China, considered at the county level, seems contingent enough to be used a an interesting source of variation. Some parts of what follows have been already included in the section on Long March.

The Red Army, after having left Jiangxi province, first went through Guangdong

and Guangxi. These provinces were under control of warlords who were not Red allies, but were either worried by Chiang Kai-Shek, or reluctant to waste their forces for him. Therefore they let the Red army pass, hoping that having the communists to fight would prevent Chiang to turn his forces against them. But they could not appear as supporting them as well too obviously; nor did they wanted to give a pretext to Chiang to invade the territory. Therefore, once on their territories, they have incentives to fasten the Red army passage.

Then, in Hunan province, the warlord forces were hostile, and were doing anything to prevent the Red army of entering the province.

In Guizhou province, the Red Army took a sinuous road, in an attempt to loose their followers. Xiao Ke, a general who participated to the long march, "said the biggest problem was trying to find out where they were. They would ask people, 'what's at the end of this road?' Those people didn't know - they had never been out of the village." [55]

They headed then towards Sichuan province. They had some reasons to join the province, as they hoped to find fertile lands, and as a base had been established by the Fourth Army in the North of the province. But they had to face Sichuan warlord. The Fourth Army had established there for there was a war between different warlords willing to take the control of the province. The Fourth Army sought it could take advantage of the conflicts and division between them to take the power. But after having settled, they also had to fight the warlords that eventually triumphed from the others.

The next province on their way was Tibet. They choose to go through mountains, to discourage their followers, and avoid traps from nationalists (that would have been unavoidable, would they have taken the main roads). The ethnic minorities populating these areas were highly hostile.

The March ended with Gansu and Shaanxi, where they eventually established their Northern base. These provinces seemed not to offer welcoming conditions for the Red Army. Otto Braun had reported that "Nationalist press predicted that the Red Army would never survive there. They would not find the necessary to feed or clothe them, nor additional men to be recruited. This press announced that this march from Sichuan to North-East was a death march."

Going through Gansu was an individual decision from Mao, taken during one night, as a result of an internal fights between different leader. An order from Zhang Guotao to stop and turn back South appeared as a way to impose personal power; he therefore choose to flee during the night.

Last, Mao's arrival in Northern Shaanxi has often been said to be random. The Red Army had not much idea about where to go. According to Sun (2006), it was a

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[55]as quoted by Salisbury .

long marcher who originated from Shaanxi, Jia Tuofu, who mentioned a red presence in Shaanxi, and suggested to join them, after having seen that Mao was clueless about the next direction to follow.

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