The Invisible Wound:

The Long-term Impact of China's Cultural Revolution on Trust

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Abstract

As one of the most influential socio-political upheavals in the history of China, the Cultural Revolution (1966-1976) incentivized people to snitch on each other to signal loyalty to the central leader. To identify the causal effect of Cultural Revolution on trust, I use two sources of variation: (1) the regional intensity variation, captured by density of abnormal deaths on county level; and (2) cohort variation, constructed based on schooling experience during the Cultural Revolution. The major finding is that individuals from counties of higher revolution intensity and were schooling cohort during the revolution significantly trust less. By exploring the intergenerational transmission effect, I find only weak evidence that children of parents with more intensive exposure to the Revolution would trust less. Heterogeneous analysis by class origin and urban/rural dichotomy reveals that the effect is global across groups. Finally, considering the potential pitfalls of identification strategy, I perform several robustness checks and placebo tests, and our basic findings are stable across model specification.

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I. Introduction

As an important facet of social capital (Bourdieu,1985; Lin, 1982; Coleman, 1988, 1990; Burt, 1992; Putnam, 1993; Fukuyama, 1995), trust plays a key role in economic development, financial development, government efficiency, international trade, health and subjective wellbeing (Arrow, 1974; Knack and Keefer, 1997; La Porta et al., 1997; Guiso et al., 2004, 2008, 2009, 2013; Sapienza et al., 2013; Kawachi et al., 2008; Helliwell and Putnam, 2004). However, while there is a large literature documenting the significance of trust, the origin of trust is relatively under investigated: Does trust come from nature, or it's generated by nurture? Is trust part of cultural norm, or it can be easily influenced by contemporary public policy (e.g. Putnam, 1993; Uslaner, 2002, Bjørnskov, 2007, Guiso et al., 2006)? The answer to these questions lies in the heart of the trust literature, and is of key interest to both scholars and policy makers.

This paper investigates the impact of political institution on trust in the context of China's Cultural Revolution (1966-1976). The key idea is that institutions can provide incentive for (non)cooperative behavior. As one of the most severe sociopolitical upheavals in China, the Cultural Revolution serves as a chance to examine how institutions can discourage social trust. During the movement, people were incentivized to snitch on each other and signal loyalty to the Party, and many had betrayed their family members, friends, neighbors, colleagues, as revealed by memoirs, autobiography and interviews.

To identify the causal effect of the exposure to the Cultural Revolution on social trust, this paper takes advantage of both regional and cohort variation of the Cultural Revolution. The regional variation of the Cultural Revolution comes from the varying intensity of the Revolution across country, captured by the number of abnormal deaths during 1966-1976. Specifically, the abnormal deaths include deaths/suicide as a result of the struggle sessions, armed fights, and other conflicts during the revolution. The cohort variation is constructed based on the schooling experience during the Cultural Revolution, since schools were major arena for class struggle. The baseline identification strategy is Difference-in-Differences based

on both regional and cohort variation, and the major finding shows that having more schooling experience during the Revolution in a region with higher revolution intensity predicts lower level of social trust. In terms of the magnitude, the coefficient of the DID interaction term can be interpreted as changes in marginal effects. Specifically, an increase in revolution intensity from 25^{th} to 75^{th} percentile will lead to an increase in marginal effect of having cohort exposure to the Revolution on probability of trust by 0.03616 in absolute value. As a flexible specification, generalized DID is also employed using interaction terms of the revolution intensity and a series of 5-year cohort windows. The pattern of the coefficients by cohort windows is close to a V shape, illustrating individuals of 1956-1960 cohort are the most affected by the Cultural Revolution.

Next, I examine potential mechanisms through which the Cultural Revolution affects social trust. The first channel is that the Revolution may affect trust through destroying human capital, considering the schooling system was severely affected during the Cultural Revolution: most universities were shut down for years; high schools were first closed (1966-68) and resumed and experienced low-quality ex-pansion; schooling system became shorter; curriculum was changed; and students had intensively participated in the Revolution as Red Guards (Cai and Du, 2003). Therefore, with substantial changes in educational system, one may wonder whether the impact of the Cultural Revolution on trust is just an educational story. To shet light on this issue, I directly control for one's years of schooling and schooling quality to evaluate the educational mechanism. The results show a significant negative effect of the Revolution after controlling for one's educational attainment, suggesting that the Cultural Revolution has destroyed trust other than through affecting education.

As a second investigation into mechanisms, I focus on the role of class origin during the Cultural Revolution. As political labels during the Revolution, class origins were important part of one's social and political life. In our analysis, the class origin indicator is on individual level including three broad categories, namely the Good, Middle or Bad class origins. The underlying assumption of focusing on class origins is that the labels may be correlated with negative experiences during the revolution (e.g. a Bad class origin was more likely to be

treated as class enemy). This idea is executed with a DDD (triple differences) approach, which helps to remove any county-cohort varying trends. The major finding is that the Cultural Revolution impact on trust is global, that individuals from all three class origins suffered from this movement. In addition to class origin, I also conduct heterogeneous analysis based on variables with which the Cultural Revolution may have interactive effect on trust. Specifically, I consider urban/rural dichotomy, father's party membership, and other individual traumatic experience indicators. The major pattern from this analysis is that living in urban area, with a non-party member father, and having traumatic experience before indeed intensify the effect of the Cultural Revolution, yet which exacerbation is not statistically significant.

Finally, to explore the possible intergenerational transmission of the effect of Cultural Revolution from parents to children, I construct a sample of parent-child pairs in which children born after 1977. By examining the effect of parents' exposure to the revolution on childrens trust, I find that children of parents with more intensive exposure to the movement would trust less, yet which evidence is very weak in terms of statistical significance.

To provide robustness checks for the baseline DID identification strategy, I control for regioncohort trends to alleviate the concerns about unparalleled cohort trend between counties. The following region-cohort control variables are progressively added: (1) province-cohort trends, namely interactions between province dummies and linear, quadratic and polynomial cohort trends; (2) prefeture-cohort trends, interactions between pre-Cultural Revolution social, ethnic structure, inequality variables and linear, quadratic and polynomial cohort trends; (3) county-cohort trends, captured by the interaction terms between county dummies and linear, quadratic and polynomial cohort trends. All those controls do not change our baseline results.

As a second line of robustness checks, I construct three placebo tests. The first placebo test assumes that instead of 1966-1976, the Cultural Revolution was during 1950-1960 or 1980-1990. The underlying logic is that any cohort measures constructed based on the fake year windows should not have a significant impact on trust, otherwise we may worry that

the identification strategy may have captured something wrong. The second placebo test deals with the regional intensity variable, by using a random regional intensity of the Cultural Revolution with uniform distribution. Again, the DID term should not be statistically significant in this case, otherwise our identification is problematic. A third placebo test is to see whether the Cultural Revolution has impacts on outcomes when it should not. Specifically, I use mistreatment due to gender and registration status (rural/urban) as dependent variables. Since the Cultural Revolution is targeted on neither gender nor registration status, I expect there's no statistical significant effect of exposure to the revolution on those outcomes. Results from all three sets of placebo test validate the identification strategy.

To sum up, the contribution of this paper is two-fold. First, this paper adds a stone to understanding the origins of trust, demonstrating political institutions can provide incentives for (non)cooperative behaviors that affect trust. In addition, consistent with Alesina and La Ferrara (2002), this paper confirmed that a history of traumatic experience could result in a lower level of trust. In the case of African slave trade, Nunn and Wantchekon (2011) demonstrated a negative long-term impact of ancestral slave trade on contemporary individual trusting of others in African countries, making use of both historical data on slave trade and Afrobarometer data. In the context of ex-socialist regime, Lichter et al. (2015) looked at the long-term cost of mass surveillance system in East Germany on its contemporary social capital and economic outcomes. By taking advantage of the regional variation in the spy density, they found out that more intensive surveillance system results in lower social capital and worse economic performance. My results are complementary to theirs, in the sense that slave trade in Africa, mass surveillance system in the East Germany and the surveillance system in the Cultural Revolution China, are all detrimental incentive systems discouraging trust. ¹.

¹Other papers on historical events on trust include Rohner et al. (2013) and Durante (2009). Specifically, Rohner et al. (2013) examined the effect of the conflict on trust, finding that higher intensity of conflicts decreases generalized trust yet increases ethnic identity. Durante (2009) dated back to historical climate variation, and examined the historical relationship between environmental risk and trust. His major finding is regions with higher environmental variability display higher levels of trust. Besides, there are also a literature more specifically on political trust. Mishler and Rose (2001) examined the origins of political trust testing institutional and cultural theories in Post-Communist societies. Chen and Yang (2015) demonstrated destructive effects of Chinas Great Famine (1929-1933) on Chinese citizen's political attitudes and trust

Second, this paper also contributes to the literature of the Cultural Revolution in China studies. Given there is a significant qualitative examination of Cultural Revolution in political science, sociology, anthropology and China studies, quantitative evidence on the Cultural Revolution are relatively limited. Most empirical papers have been focusing on the effect the revolution on individual's educational attainment. For instance, Deng and Treiman (1997) examined father's and son's educational attainment during the revolution using China census data, and found out that it has generated a highly egalitarian educational achievement regardless of father's origins. Meng and Gregory (2002, 2007) and Giles et al. (2008) investigated into the interrupted education system during of the revolution on individual educational attainment. In terms of education and income, Zhou (2016) documented that the Cultural Revolution produced a lasting negative effect on permanent income for the subjected birth cohorts. With respect to economic development, Bai (2015) demonstrated a negative effect of the Cultural Revolution on economic development in rural China, and also investigated the effect of the Cultural Revolution on lending behavior, revealing that residents in more revolutionary counties have less mutual lending within community. This finding is also part of the trust story in this paper, in the sense that informal lending is often trust-based in rural China.

The rest of this paper proceeds as follows. In Section II, I briefly review the historical background of the Cultural Revolution. In Section III, a description of data and sample is provided. Section IV discusses the identification strategy and Section V presents the baseline empirical results. Section VI discusses the mechanisms though which the revolution may affect trust, and robustness checks are provided in Section VII. Section III conclusions this paper.

towards the government. In the context of Korea war, Hong and Kang (2015) looked into the long-term effect of wartime violence on the political attitudes and trust with a DID setting.

II. A Brief Review of the Cultural Revolution

As one of the most severe sociopolitical upheavals in the history of China, the Cultural Revolution is a *soul-touching revolution* lasting from 1966 to 1976. Originally aiming at preserving the pure Communist ideology, this political movement quickly became nationally spread and has deeply rocked China socially, politically, economically and psychologically (MacFarquhar and Schoenhals, 2006; MacFarquhar, 1997). This paper will not dive into the historical details of the Cultural Revolution (see e.g. MacFarquhar and Fairbank, 1991 for an overview). Instead, I will summarize three key stylized facets of the Revolution in the following.

2.1 Three Features of the Cultural Revolution

Though the Cultural Revolution is complex by nature, there are three key features of it that are particularly relevant to this paper's content: (1) Deep social mobilization, that all social, political and economic units and individuals were involved in this movement; (2) Class struggle as principle, that people fighting against class enemies and signaling their loyalty and revolutionariness to the Party; and (3) a state of semi-anarchy, in which the mass only comply the directions from the central government but not the local government. In the following, I will explain the three features in detail.

The foremost feature of the Cultural Revolution lies in its in-depth social mobilization. During the revolution, all social, economic, and political units and individuals (including workers, farmers, government officials, students, etc.) were involved in this movement. It should be noted that the deep social mobilization was originated from the special social and administrative structure in China before the Cultural Revolution. Specifically, in the urban area people were organized by work unit (Danwei), which is a linkage between individuals and central policies. It was also the institution through which the urban population was housed, organized, regulated, policed, educated, trained, protected, and surveyed (David Bray, 2005). In the rural area, farmers were organized by the People's Commune (19581984, Zhang, 1998). The structure within a People's Commune could be either two-levels (commune and production teams) or three-level (commune, production brigade, and production teams). Both work unit and the Peoples Commune were the first step of a multi-tired hierarchical linkage between individuals and the central government. They are the principle and basic units for implementing government policy, serving as economic, political, and social organizations.

The second feature of the Cultural Revolution is that class struggle served as principle for all walks of life². People were incentivized to fight against class enemies and signaling their loyalty and revolutionariness to the Party³. Broadly speaking, class enemies in the context of the Cultural Revolution are individuals who are considered to be disloyal to the Party or without revolutionary spirit. In many cases, class enemies refer to the "Bad" class people, e.g. the Black Five, the Black Seven or Black Nine. For instance, the Black Five includes landlords, rich peasants, anti-revolutionists, rightists and bad elements; the Black Seven has two more groups: capitalists and gangs; and the Black Nine adds traitors and spies. In addition, those who're revealed to be associated with the KMT(Chinese Nationalist Party), foreign acquaintances or associations, not loyal or disrespectful towards the Chairman were also considered as class enemies. However, political loyalty and revolutionariness was often vague, so that identifying class enemies became an arbitrary process. Family members, friends, neighbors, colleagues could be one's next class enemy. In such cases, people should "make a clear break" from class enemies and fight against them.

The third feature of the Cultural Revolution is it created a state of semi-anarchy, in which

²As a classification marking ones sociopolitical credential, class origin became an important part of individual life since the early 1950s, and established as the principle identifier of individual in economic, social and political life after the Socialist Transformation in 1956. The classification of class origin is often based on parents (mainly fathers) occupation and revolutionary credential before ones independence economically.

³Tania Branigan. 2013, March 27. China's Cultural Revolution: son's guilt over the mother he sent to her death. Retrieved from: http://www.theguardian.com/world/2013/mar/27/china-cultural-revolution-sons-guilt-zhang-hongping, March 27, 2013. Zhang Hongbing was 16 when he denounced his mother for criticizing Chairman Mao. He said "I felt this wasn't my mother. This wasn't a person. She suddenly became a monster. She had become a class enemy and opened her bloody mouth." Another related piece is the following: "...Almost all adult farmers had to participate the criticizing meetings in the Production team, and each participant had to face the challenge of whether they could denounce class enemies face-to-face" (Zhang, 1998, pp210).

the mass only comply the directions from the central government, but not the local government. During the Revolution, the instruction of central government was principle while the functioning of local government was almost paralyzed. From 1967 to 1968, people organized rebelling groups to "Seize Power" from the local governance, aiming at building up revolutionary substitute, during which time the Red Guard group were fractionized fighting in the form of armed fights to protect or subvert the local government. The dysfunction of local government, public security and jurisdiction system had lasted for years.

2.2 Assessment and Impacts

Marked by the collapse of the Gang of Four, the ten-year Cultural Revolution came to its end. In 1981, the Sixth Plenary Session of the 11th Party Central Committee of the Chinese Communist Party officially established the assessment of the Cultural Revolution in the Resolutions on Certain Questions in the History of the Party since the Founding of the PRC: [the Cultural Revolution] was an upheaval that was wrongly launched by party leaders, manipulated by the counterrevolutionary cliques, resulting in severe disaster and turmoil to the Party and the Chinese people. This initialed official criticism of the Cultural Revolution, and a new economic program aiming at liberalization was promoted⁴.

Since 1978, the central government and local court began to review the anti-revolutionary cases and criminal cases during the Cultural Revolution, and tried to correct injustice and wrong cases. Some identified to have been persecuted during the Cultural Revolution were rehabilitated, and those who took a strong pro-Cultural Revolution stance and conducted crime during the Cultural Revolution were arrested and imprisoned. Based on official record, nationwide more than 3,000,000 injustice and wrong cases of party and government officials were corrected, and more than 470,000 people regained their party membership, and tens of millions of people were rehabilitated⁵. These figures reflect the profound impact of the Cultural Revolution on the country as a whole.

⁴Deng Xiaoping, who took charge of the governance since 1978, identified the nature of the Cultural Revolution as an overall mistake, wrecking social morals.

 $^{^5} innocent,\, false$ and wrongful cases. http://cpc.people.com.cn/GB/64156/64157/4512071.html

However, while some remedy could be made afterwards the movement, the psychological scars are not easy to be erased. Following the Cultural Revolution, there emerged a new genre of literature named as Scar Literature⁶. Having witnessed the Cultural Revolution themselves, those writers portrayed the suffering of people during the movement and post-revolution psychological trauma. Academically, psychological trauma of Chinese people as a result of the Cultural Revolution was discussed by medical anthropologist Arthur Kleiman(1986)⁷. In his 1986 book, he identified a psychological linkage between physical pain and the experience of the Cultural Revolution through interviews and case studies. More recently, an internationally cooperated psychoanalytic research project (leading by the Sigmund-Freud-Institute), aims at explaining and relieving the traumatic experiences of witness of the Cultural Revolution and its possible intergenerational effect (Plänkers, 2011).

The impact of the Cultural Revolution is enormous in terms of economic development, human capital accumulation, political system, as well as culture and ethics. First, with respect to economic performance, the Cultural Revolution has resulted in huge loss of economic prosperity. As documented by the Office of the Central Leading Group on Financial and Economic Affairs (1999), during the ten-year movement, there are three years experienced negative growth, 2 years has growth rate less than 4%. In addition, due to the abnormal education system during the ten years, generations of people experienced the loss of education, and instead have involved in the political movements, laborious work and revolutionary activities. In terms of its impact on political system, the dysfunction of government, public security and procuratorial organs as well as courts lasted for years. Finally, a large number of historical and cultural relics were destroyed during the breaking up the Four Olds (old customs, old culture, old habits and old ideas) movement. Last but not least, numerous of

⁶Representative writers of Scar Literature include LIU Xinwu, ZHANG Xianliang, GU Hua, MO Yingfeng, etc.

⁷In Social Origins of Distress and Disease: Neurasthenia, Depression, and Pain in Modern China, Kleiman interviewed one hundred patients in Hunan province who had been diagnosed with neurasthenia, discovering that most of them actually had suffered trauma during the CR. To characterize this type of trauma, Kleiman used two terms: (1) somatization, describing the phenomenon that sufferers during the CR exhibited physical pain such as migraines, stomachaches, and cardiovascular problems; and (2) memory viruses, capturing the ceaseless shame, anxiety, nervousness, and fear originating in physiological humiliation that led the patients hiding parts of their memories.

people were persecuted in the violent struggles, and suffered a wide range of abuses including public humiliation, arbitrary imprisonment, torture, sustained harassment, and seizure of property. Therefore, the trauma of the Cultural Revolution may have been left behind to generations of Chinese people, among which a key aspect is the loss of trust which is the focus of this paper.

III Data and Sample

3.1 County-level Data

The key quantitative measurement of regional intensity of Cultural Revolution comes from county gazetteers. County gazetteers are comprehensive records of local geographical characteristics, demographics, economy, governance, transportation, education, culture and social customs and norms. The history of compiling county gazetteers can be dated back to the Han Dynasty (BC 202-220). Since the Ming dynasty (1368-1644), county gazetteers are published every 30-50 years. The county gazetteers covering the Cultural Revolution are mostly published in the mid-1980s or the early 1990s. Specifically, gazetteers has the information on abnormal deaths due to the Cultural Revolution from 1966 to 1976, including the deaths (including suicide) as a result of the struggle sessions, violent struggles, and other civil conflicts during the revolution⁸.

Figure 1 illustrates the regional variation of Cultural Revolution intensity, based on the 160 counties covered by the individual level survey used by this paper. This figure reveals that there's considerable variation of intensity both within and cross province. With respect to mean value of the intensity variable, Guangxi is the most intensive province and Shanxi Province is with the least revolution intensity. Besides, there's also significant variation of

⁸Walder and Su (2003) and Su (2003) first used the information from county gazetteers to study mass killings during the Cultural Revolution on county level, and compiled a national dataset on the Cultural Revolution. See Bai (2015) for an analysis of the Cultural Revolution on rural economic development with the dataset.

revolution intensity within province. Overall, the intensity of the Cultural Revolution is not uniform across the country.

3.2 Individual-level Survey and Trust Measure

The individual level data used in this paper is the second wave of Chinese Family Panel Studies (CFPS) conducted in 2012, covering 25 provinces in China. The survey is conducted by the Institute of Social Science Surveys (ISSS) of Peking University, and by now is one of the most comprehensive and nationally representative surveys in China. This survey is designed to examine Chinese social and economic changes through individual, family, and community-level data. The CFPS sampling method is PPS (probability proportional to size), and is representative of 95% of China population. An unique feature of CFPS is that it includes basic information (gender, birth year and place, occupation, marital status, and education etc.) of major family members of respondents, thus is a powerful dataset for studying family configurations. There are four components of this survey, including: (1) the adult survey, including individuals aged above 16; (2) children survey, including individuals aged from 0-15, answered either by children or their parents; (3) household survey and (4)community survey. As a panel survey, CFPS started from 2010 with the baseline coverage, and conducted the follow-up survey in 2012. The trust question of this paper is included in the 2012 questionnaires of adults' survey. However, since some information is only available in the 2010 survey, e.g. education history, class origin information, I will merge the information from 2010 wave to 2012 wave due to its panel structure.

The measure of trust used by this paper in CFPS survey is the generalized trust, which has been widely used in the General Social Surveys and the World Value Survey. The wording of the question is the following:

In general, do you think that most people can be trusted, or you can't be too careful in dealing with people?

0. You can't be too careful. 1. Most people can be trusted.

This measure differs from particularized trust, that this generalized trust is towards whom one has no information. Though this measure has been used in many large-scale surveys when laboratory setting is not available, there has been rich discussion on its validity in different cases. For instance, Knack (1991) validated that the generalized trust is a good measure of the underlying theoretical concept, and it is also a robust determinant of corruption or the prevalence of violent crime (Lederman et al. 2002; Uslaner, 2002). However, this measurement has complexity under experimental setting. Glaeser et al. (2000) found that under the experimental setting, this measure is a good measure of respondents own trustworthiness, that it is not correlated with the senders behavior but correlated with receivers behavior in the same game. In a recent study, Guiso et al. (2008) further decomposed the components of trust into beliefs and preferences, and demonstrated that the WVS-like trust measure captures mostly the belief based component of a trust game. Therefore, to the extent that this measure can well capture the theoretical part of the notion of trust as well as the belief of individuals, this paper will mainly focus on this trust measure as the key outcome variable.

3.3. Sample and Descriptive Statistics

The sample used in this paper constitutes individuals born from 1931 to 1994. The descriptive statistics of the CFPS 2012 sample are presented in Table 1.

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Table 1 Here $<<$

In Table 1, I provide the summary statistics of the full sample by an indicator whether a county is of high or low Cultural Revolution intensity (above or below the median). The t-test statistics of variable means by county intensity are provided in the final column. From Panel A, we observe that the individuals from counties with low revolution intensity have higher level of trust than those from high intensity counties, and the difference is statistically

significant. Other variables whose means are significantly different between the two groups include marital status, employment status, and years of schooling. On the other hand, the difference between the means of gender, age, ethnicity, party membership and class origin labels is not significant from zero. On county level, the average number of abnormal deaths for low-intensity counties is close to 6 deaths, while the counterpart for high-intensity counties is 302 deaths. For other county characteristics, ethnicity composition and social fragmentation do not differ significantly by county intensity grouops, and the difference in inequality (measured by education Gini coefficient) is only marginally significant. Given this table is descriptive and informative, a formal identification strategy is needed to address the causal relationship of trust and the Cultural Revolution.

IV. Identification Strategy

The first step of our identification strategy is to establish unique variation of the Cultural Revolution. In this section, I will make use of regional variation (revolution intensity) and cohort exposure variation to construct identification strategy.

Regional Variation

The first source of variation is regional intensity of the Cultural Revolution. As documented by scholars in political science, sociology and anthropology, there existed considerable variation in the severity of the Cultural Revolution (e.g. Walder and Su, 2003; Bu, 2008; Shi and Li, 2008). As described in Section III, this paper uses the measurement of regional intensity of the Cultural Revolution, namely number of abnormal deaths recorded in the county gazetteers, where abnormal deaths including the deaths/suicide as a result of the struggle sessions, violent struggles and other civil conicts during the revolution.

While scholars have documented the existence of the regional variation, an related question is: where does the variation of the Cultural Revolution come from? Using county gazetteers, Su (2003) examined mass killings during the Cultural Revolution in three provinces: Guangxi, Guangdong and Hubei. Specifically, he accounted for "bottom-up" and "up-bottom" factors that may affect the mass killing pattern. The "up-bottom" factors refer to the influence of the central government on local leaders, that mass killing is a result of Party-state's failure to constrain local leaders' radicalism. Therefore, Su (2003) indicates that counties more distant from provincial capital, more sparsely populated, poorer are more prone to mass killing. On the other hand, "bottom-up" factors argue that the mass killings may be a result of grassroots' cleavages, e.g. ethnic antagonism or leadership factionalism. Specifically, Su (2003) visited local ethnic composition and leaders origins (leaders from local versus from the outside). The empirical analysis finds no statistical significant role of the two factors. Reconciling those findings, Su (2003) concluded that the mass killings as a paradox between state sponsorship and state failure: the state promoted hatred and repression to establish new political order but failed to contain extreme radicalism at the remote reaches of its rule. In addition to Su (2003), some scholars also attribute the regional variation as a result of local military power. From the perspective of agricultural shock and conflict incidence, Bai (2015) used variation of county agricultural shock explaining the county mass killing, finding that deviation in precipitation during the Cultural Revolution predicts less killing during the Cultural Revolution.

To empirically explain the regional variation of the Cultural Revolution intensity, I conduct a regression on the county level based on our county sample. The dependent variable is constructed as the logarithm form of the density of abnormal deaths plus one, since we have 30 counties with zero abnormal deaths. The control variables can be grouped as following: (1) Up-bottom factors: county distance to Beijing; whether this county is on province borders; whether this county was a major destination of the Great Rally during the Cultural Revolution; party membership size in 1949; and population density in 1966; (2) Bottom-up factors: county ethnicity fragmentation measured by the fraction of Han Chinese among those who born before 1966; county social fragmentation, measured by a fragmentation index of surnames among people born before 1966; county inequality index, measured by educational gini coefficient for people born before 1966. All measures on fragmentation are calculated with the formula in Padro-i-Miquel et al (2012) using China census 1990. The regression results were shown in Appendix Table A1.

In Table A1, we progressively add explanatory variables to the OLS specification. In Column 1, our simplest regression results show that longer distance to Beijing, being a county on provincial border, as well as being a county is a major destination for the Great Rally all positively affect the county revolution intensity, which is consistent with Su (2003)'s findings. In Column 2, two more variables were added to the regression, namely logarithm form of party membership size in 1949, and population density at 1966. Both coefficients of the two variables are not statistically significant from zero. Column 3 further introduces variables on pre-Cultural Revolution ethnic and social fragmentation and inequality measure. While ethnic fragmentation is not statistically significant, higher fragmentation of surnames predicts lower revolution intensity, and higher educational inequality leads to lower revolution intensity, which is somewhat counter-intuitive. Finally, in Column 4, we add province fixed effects, to examine whether between-province variation is driving the previous pattern. Almost all the significance is gone in Column 4, showing that our explanatory variables cannot explain within-province variations.

Cohort Variation

The second source of variation is on cohort exposure to the Cultural Revolution. Specifically, I argue that not all cohorts were exposed to the Cultural Revolution uniformly, but that schooling cohort was exposed to the Revolution more intensively than its older or younger cohorts, based on the fact that schools during the Cultural Revolution were tools of political movement and important arena for class struggle. In addition, students intensively participated in the Revolution in various of ways, including being Red Guards, attend the Great Rally, destroying the "Four Olds", attending struggle sessions, learning about revolutionary contexts and spirits, and so forth.

During the Cultural Revolution, the schooling system was severely affected. With the estimation that *capitalistic intellectuals have taken control over schools* and teachers are capitalistic intellectuals (Zhou, 2004), a revolution in education system was motivated. The abnormal schooling system during the Cultural Revolution has been demonstrated by Cai and Du (2003), Meng and Gregory (2003, 2007) and Jiles et. al. (2015). In combination, all types of schools were severely affected during the Cultural Revolution. Most universities were shut down for a decade, high schools were closed (1966-68) and resumed and then had low-quality expansion (Zhou, 2004). Schooling system became shorter, shifting from 6-3-3 primary-junior-senior high school years to 5-2-2. There are also changes in curriculum, that the new curriculum focused on the context of the Cultural Revolution⁹. Last but not least, students had intensively participated in the Revolution. Students were organized as Red Guards, and encouraged to speak out freely, air their views fully, write and post big character posters, and launch big debates (*Daming Dafang Dazibao Dabianlun*). The school management and teaching system was totally destroyed.

To capture the cohort variation in exposing to the Cultural Revolution, I use empirical distribution calculated as the following. The first measure is the proportion of being at school during the Cultural Revolution. In CFPS, there is rich information on schooling time and how many years one was at certain level of school. Thus we can calculate what proportion of people were at school during the Cultural Revolution years (1966-1976) by birth cohort. Figure 2 shows the distribution, from which we see that those who were born in the late 1950s and the early 1960s are the most likely to have been at school during the Cultural Revolution. On the other hand, the older cohort (those born before 1946) and the younger cohort (those born after 1971) are not schooling cohort during 1966-1976.

>>Figure 2: Proportion of being at school during the Cultural Revolution <<

One may also concern about the distribution may vary by the Cultural Revolution severity: was revolution intensity associated with educational disruption? To examine this issue, I calculate two distributions by Cultural Revolution intensity, which is shown in Figure 3. It could be draw from this figure that the two distributions by county intensity are very similar,

⁹Political and literature course were merged and history class was cancelled. Students were asked to learn Mao's thoughts, essays, poems, Lu Xun's essays, the latest comments from People's Daily, Liberation Army Daily Daily, Red Flag magazine. Laborous work in the factory, farmland and sometimes in the army was included as curriculum.

that the late 1950s and early 1960s cohort are the most likely to have been at school during 1966-1976.

>>Figure 3: Proportion of being at school during the Cultural Revolution by Revolution Intensity <<

In addition to the above cohort measure, we can also calculate an alternative measure: the average length of schooling during the Cultural Revolution by cohort. Figure 4 shows this cohort trend. Similar to Figure 2, the highest value of length reached the late 1950s cohort. As a similar robustness check, I calculate this distribution by county revolution intensity (counties with positive and zero deaths). Figure 5 shows that the two distributions are very close to each other.

>>Figure 4: Average Years of Schooling during the Cultural Revolution<<

>>Figure 5: Average Years of Schooling during the Cultural Revolution by Revolution Intensity<<

Combining the above analysis, both the probability and average length of schooling during the Cultural Revolution illustrate a cohort pattern of exposing to the education system during the Cultural Revolution. Neither the older cohort (people born before the mid-1940s) nor the younger cohort (people born after 1970) was schooling cohort during the Cultural Revolution, and they were working in the factories or farmland, or staying at home as little kids. On the other hand, the schooling cohort during the Cultural Revolution was more intensively involved in the movement than its younger or older cohorts. Thus in the following analysis, the two distributions will serve as our main source of cohort variation.

Identification Strategy

Based on previous discussion of the variation in Cultural Revolution, next we will turn to the Difference-in-Differences specification as identification strategy. While both regional and cohort variation discussed above have captured some features of the Revolution, neither of them can identify the causal effect alone. On the one hand, even though Table A1 shows the Cultural Revolution intensity is not correlated with many socioeconomic factors when controlling province fixed effects, the regional variation of the Cultural Revolution intensity may still be endogenous due to omitted variable bias. Specifically, one may worry that the revolution intensity is not randomly distributed, so that the factors correlated to the intensity variable may also affect trust at the same time. On the other hand, the cohort variation for the Cultural Revolution may confound with other cohort-specific trend or experience that could influence trust. Motivated by the above concerns, here I will use a Difference-in-Differences strategy based on both regional and cohort variation to identify the effect of the Cultural Revolution on trust. The key merit of DID is the introduction of cohort dimention can eliminate time-invariant county characteristics which confound our causal interpretation. The specification of DID is the following:

$$Trust_{ijc} = \alpha + \gamma Intensity_c \times Cohort_j + X_{ijc}\mu + \theta_j + \eta_c + \epsilon_{ijc}$$

In the above equation, X_{ijc} is a set of individual control variables, and θ_j is a set of birth year dummies. η_c is county fixed effect that absorbs the main effect of Cultural Revolution regional intensity. ε_{ijc} is idiosyncratic error. Our key independent variable is the interaction term between the Cultural Revolution intensity of county c and the cohort exposure to the revolution of individuals born in year j. As a linear probability model, the above regression has the issue of heteroskedasticity. Therefore, robust standard errors are used, clustered on county level. As discussed above about cohort variation, I proxy the cohort exposure with two measures: (1) the probability of being at school during the Cultural Revolution; and (2) the length of being at school during the Cultural Revolution. A negative γ indicates that individuals in the region with higher revolution intensity and having more intensive cohort exposure to the revolution have lower level of trust. It should be noted that the DID specification is different from its traditional setting which involves a treatment and a control group. In fact, in the case of the Cultural Revolution, everyone is exposed to the event either directly or indirectly. Therefore, by assuming the impact of the Cultural Revolution has a continuous cohort variation, we actually use a dosage design, that both intensity measure and the cohort measure capture the "dosage" effect of the Cultural Revolution. The interaction term therefore identifies the effect of an increase of this dosage on individual social trust.

As our baseline identification strategy, we should notice the limitations of DID strategy. Specifically, DID cannot rule out the regional factors varying by cohort that affect trust, therefore a parallel cohort trend assumption between the high intensity counties and the low intensity counties is key to the validity of our identification. To examine the validity of this assumption, I use several ways to alleviate this conern. The first strategy is to control for county-cohort trends. Specifically, as robustness checks, I will construct province-, prefecture- and county-cohort trends and direct control for them in the DID specification. The second strategy is to use DDD (triple differences) specification, adding class origin as the third dimension for the analysis. In the DDD analysis, the county-cohort varying trends can be removed, since now we are looking at the differential effect within county-cohort cell between different classes. Specifically, we will conduct the heterogeneous analysis by class origin identifiers with the following specification:

$$Trust_{ijc} = \alpha_0 + \alpha_1 Class_i + \alpha_2 Class_i \times Cohort_j + \alpha_3 Class_i \times Intensity_c + \alpha_4 Cohort_j \times Intensity_c + \beta Class_i \times Cohort_j \times Intensity_c + X_{ijc}\gamma + \mu_i + \phi_c + \epsilon_{ijc}$$

Here $Class_i$ is individual class indicators, namely the Good, Middle or Bad class labels. The underlying assumption of using class as an additional dimension for the Cultural Revolution is that individual class orgin may be correlated with positive/negative experiences during the revolution. The key explanatory variable is the triple interaction term between intensity, cohort and class. Given the DDD specification, β identifies the effect of the Cultural Revolution on trust. In the following, both DID and DDD results will be shown based on different subsamples.

V. Results

5.1. DID Baseline

Table 2 presented the results from DID specification. Here I use three alternative measures of the revolution intensity variable for robustness. The intensity measure in Column 1 and 2 is logarithm form of one plus the number of abnormal deaths due to the Cultural Revolution. For cohort measures, Column 1 uses proportion of being at school during the Cultural Revolution and Column 2 use the average length of schooling during the Cultural Revolution. From Column 1, we could observe that individuals who were more likely to be at school during the revolution and in a county with higher revolution intensity significantly trust less. In terms of magnitude, since the base effect of cohort and regional intensity variable is absorbed by birth year dummies and county dummies, we interpret the coefficient of the interaction term as changes on marginal effects. Specifically, for the specification in Column 1, the coefficient for the DID term says that with revolution intensity changes from 25^{th} to 75^{th} percentile, the marginal effect of having cohort exposure to the Cultural Revolution on probability of trust will increase by 0.04095 in absolute value. The results in Column 2 show similar pattern, that longer schooling experience by cohort and higher county revolution intensity predict lower level of social trust.

In Column 3 and 4, I use an alternative way to construct the intensity variable, which is the logarithm form of one plus the number of abnormal deaths normalized by population size in 1966. The results are similar to those from Column 1 and 2. Finally, in Column 5 and 6, I use a third measure of the intensity variable, namely the logarithm form of one plus the density of abnormal deaths, with the population size measured in 1966. Both DID terms in Column 5 and 6 are consistently significantly negative, indicating that more cohort and regional exposure to the Cultural Revolution is associated with lower level of trust. For interpretation of the magnitude with this intensity measure, with the density of the abnormal deaths changes from 25^{th} to 75^{th} percentile, the marginal effect of having cohort exposure to the Cultural Revolution on probability of trust will increase by 0.03302 in absolute value. >>Table 2 Here<<

5.2 Generalized DID

In this section, I use a flexible generalized DID framework to investigate the effect Cultural Revolution regional intensity by cohort. The generalized specification is as following:

$$Trust_{ijc} = \alpha_0 + \alpha_1 Intensity_c + \sum_{j=1}^{12} \beta_j Cohort_j \times Intensity_c + X_{ijc}\gamma + \theta_j + \eta_c + \epsilon_{ijc}$$

In the above equation, X_{ijc} is still a set of individual characteristics, and here $Cohort_j$ is a dummy indicating individuals born in five-year window j. Since we have individuals born from 1931 to 1994, we have 13 cohort windows. Taking the first window as base group, we will have 12 interaction terms between the rest of five-year window dummies and the Cultural Revolution intensity dummies. We mainly focus on coefficient β_j , which is the DID estimator and varies by five-year cohort j. A series of coefficients β_j is plotted in Figure 6.

>>Figure 6 Here<<

From this figure, we observe a dip of the effect of the revolution intensity for cohorts born roughly from 1946 to 1960. Comparing with the base group (people born between 1931 and 1935), those who born after 1936 displayed increasingly larger effect of the Cultural Revolution intensity on trust. For the younger cohorts during the Cultural Revolution, this effect gradually returned to zero compared with the base group. In terms of statistical significance, the effect of revolution intensity is significant for the mid-cohort (roughly those who born between 1946 and 1960, and 1966-1970, while 1961-1965 is marginally significant). Overall, this V-shape pattern conveys the information that the revolution intensity variable mainly works for the middle cohort during the Cultural Revolution, and its effect on younger cohort gradually get back to zero compared with those who were born 1931-1935.

VI. Mechanisms

To investigate into the channels through which the Cultural Revolution may affect social trust, this section will look at the role of educational disruption, class origin, intergenerational transmission and other traumatic experience.

6.1 Education Disruption

The first mechanism that the Cultural Revolution affects trust is by destroying human capital. As illustrated in Section IV, the educational system was severely disrupted during the Cultural Revolution: universities and high schools were interrupted for several years, students participated in revolutionary activities, and the curriculumn was greatly framed towards the context of the revolution. As a result of the disruption, both education quantity and quality was affected during the revolutionary years. To see how this is the case, I draw three figures on the educational attainment and quality by cohort in Figure 7, 8 and 9.

>>Figure 7 Here<<

Figure 7 shows the actual years of education by educational levels, respectively primary school, junior high and senior high school. For primary school students, the Cultural Revolution cohorts are with fewer years of education than its younger and older cohorts. The pattern is similar for junior high and senior high school level, that their schooling cohorts during the Cultural Revolution are on average with less years of schooling.

>>Figure 8 Here<<

>>Figure 9 Here<<

Figure 8 and Figure 9 presents changes in educational quality by birth cohort, conditional on one's educational attainment. Figure 8 focuses on verbal test scores, and it's clear that the Cultural Revolution cohort have on average lower scores of verbal test conditional on their educational levels. Figure 9 provides cohort pattern with respect to number series test scores from CFPS 2010 survey. The number series test trend is less clear than the verbal counterpart, perhaps due to the fact that number series tests are often taken as logical test instead of knowledge based. Suming up the above trends, we noticed that individual eduaitonal quantity and quality had been profoundly affected during the Cultural Revolution. However, since it has been well demonstrated that education plays an important role in generating social capital (e.g. Helliwell and Putnam, 2007; Oreopoulos and Salvanes, 2011), it is very likely that the abnormal education system of the Cultural Revolution may damage social trust by lowering education quantity and quality. If this was the case, previous DID analysis would have captured the mechanical effect of a loss of education on social trust. To test this story, a straightforward way is to control for quantity and quality of schooling on individual level. The results are presented in Table 3.

>>Table 3 Here<<

In Table 3, I focus on the intensity measure of logarithm form of abnormal deaths density and the two cohort measures (proportion of being at school and the average length of schooling years), both of which have been discussed in baseline DID in Table 2. Here I progressively add educational controls to the DID baseline, namely: (1) actual years of schooling and its interaction term with revolution intensity; (2) verbal test scores and its interaction term with regional intensity; and (3) number series test scores and its interaction with the intensity variable. In Column 1 and 2, I add educational controls in (1), and the coefficient of the DID term gets larger. For the educational variables, more years schooling is associated with higher trust, which is consistent with previous studies. However, its interaction term with revolution intensity is not significant. In Column 3 and 4, I further control for verbal test related variables, aiming at capturing the education quality conditional on education with regional intensity is not significant. Finally in Column 5 and 6, I control for number series tests score and its interaction with intensity, the pattern is similar to Column 3 and 4. The overall pattern is that when we control for education quality and quantity, the coefficient of DID term actually gets a bit larger (compared to Column 5 and 6 in Table 2), and the direct effect of the revolution still survives after we controlled for educational attainment.

6.2 The Role of Class origins

In this section, I will examine the heterogeneous effect of the Cultural Revolution on trust by class origins. As political labels identifying individual sociopolitical credential, class origin established its role as an important determinant in economic, social and political life since the Socialist Transformation in 1956. The classification of class origin is often based on parents (mainly fathers) occupation and revolutionary credential before ones economic independence. There are three broad categories of class origin: the Good (red class origins), the Middle and the Bad (black class origins). The Red origins are typically families of revolutionary cadres, martyrs, pre-liberation industrial workers, as well as poor peasant families, and the Black origins include families of former capitalists, pre-liberation rich peasant families, landlord families etc. (Deng and Treiman, 1997).

The family class origin is an important dimension in disentangling the effect of the Cultural Revolution on trust. Being political minority during the Cultural Revolution, the Bad class origin was often the target of the class struggles (Sato and Li, 2007). However, while individuals with bad class origin were vulnerable during this period, the Red and Middle class individuals were still at risk of being identified and treated as counter-revolutionaries, since daily behavior was alternative source of information on political loyalty.

In CFPS survey 2010 baseline, we have the information for family class origin during the Cultural Revolution for respondents who were born before 1977^{10} . A mapping between classification in CFPS and the classification in Deng and Treiman (1997) is available in

¹⁰It should be noted that while the question is asking respondents' "family class origin", which is supposed to be on family level, the actual responses to this question is on individual level, and reported famly class origin is often differed within family members. In fact, "family class origin" mostly refers to the class origin of household head, and each individual has their own class orgin. To this extent, the response to this question is in fact a conceived class origin during the Cultural Revolution.

appendix Table A2. With the information of class origins, we are able to conduct DDD analysis. The results are shown in Table 4.

>>Table 4 Here<<

Table 4 shows results from DDD analysis, which specification is discussed in Section IV. In Column 1, we take the good and the middle as base group, and add the bad class dummy, its interaction with cohort and regional intensity measures, as well as the triple interaction terms. The results show that while the DID term (cohort times revolution intensity) for the non-bad class people is still statistically significant, the DDD term is negative and statistically significant, showing that there's no statistical difference in the effect of the Cultural Revolution on trust between Bad and non-Bad class people. Alternatively, in Column 2 we take Good and the Bad class as base group, and add Middle class dummy and related twoway and triple interaction terms with cohort and regional variation. The results are similar to those of Column 1, in the sense that the effect of the Cultural Revolution for non-Middle class people is still statistically significant, yet the difference of this effect between Middle and non-Middle people are not significant. Finally in Column 3, we add both Bad and Middle class dummies, with Good class origin as baseline. Again we see from the regression table that there's significant effect of experiencing the Cultural Revolution on trust for the Good class, yet the impact is not significant different between the Bad and Middle from the Red class. To sum up, this set of results suggest that the Cultural Revolution impact on trust is global, that all three class categories suffered from this event.

In spite of quantitative evidence, there is also qualitative evidence revealing the painful experience during the Cultural Revolution correlated with class origins. Zhang (1998) provided rich sources on qualitative discussion and interviews with respect to the class struggles during the Cultural Revolution. In the narratives by a production team member, the farmer remembered: "I am Middle-farmer class origin, but my wife is from a landlord's family... She's really good at farmland work, and no other women in the team is better than her. But she's always looked down upon. I am ashamed to have such a wife ". For the relationship

between neighbors, a farmer said: "I have a neighbor who is a landlord. I met her every day, and we're good friends... The Production Team asked me to participate the meeting, I was originally holding back. But the leader said it's not a matter of attitude to reveal class enemies, but a matter of class standing.... Then all of them spoke out, and I have to say something too". These class struggle cases were not uncommon during the Cultural Revolution days, either in urban or in rural area. By "making a clear break" with class enemies, social network as a whole was torn apart, and both perpetrators and victims were psychologically affected during this process.

6.3 Intergenerational Transmission

This section will explore the intergenerational transmission of the Cultural Revolution effects. The question here is whether parents exposure to the Cultural Revolution affects childrens trust through intergenerational transmission. Since an individual could either experience the Cultural Revolution directly or indirectly, I use two analytical samples by constructing sample of parents-children pairs. The first sample is individuals who were born after 1977, which have not experienced the Cultural Revolution directly. The proxy for parents exposure to the Cultural Revolution is the interaction term from the DID specification, namely parents cohort indicators times revolution intensity. The regression specification is the following, where δ_p indicates parent's birth year fixed effect:

$$Trust_{ijcp} = \alpha + \gamma Intensity_c \times ParentCohort_p + X_{ijc}\mu + \delta_p + \theta_j + \eta_c + \epsilon_{ijcp}$$

In spite restricting the sample to individuals born after the Cultural Revolution, a more flexible analysis of intergenerational effect is to add children's and parents' experience variables at the same time and do a horserace, and see whether individual experience or parental experience dominant. Specifically, we have the following specification:

$$Trust_{ijcp} = \alpha + \beta Intensity_c \times Cohort_j + \gamma Intensity_c \times ParentCohort_p + X_{ijc}\mu + \delta_p + \theta_j + \eta_c + \epsilon_{ijcp}$$

In this specification, we care about the β and γ , which captures individual experience and parental experience of the revolution respectively. The regression results are shown in Table 5.

$$>>$$
Table 5 Here $<<$

Table 5 incorporates fathers and mothers exposure to the Cultural Revolution respectively. First, for the restricted sample of individuals born after 1977, from Column 1 of Table 5 we see that fathers exposure to the Cultural Revolution is negatively associated with childrens trust, yet not statistically significant. For mother-children pair sample, the results in Column 2 illustrate that the effect of mothers exposure to the Cultural Revolution is still weak and insignificant. For Column 3 and 4, when we add both individual and parental experience variables, the individual DID term stands out to be negatively correlated with social trust. This set of analysis shows that there is no strong evidence for the intergenerational transmission of the impact of the Cultural Revolution, and individual experience of the Cultural Revolution dominants the effect.

6.4 Heterogeneous Analysis

In this section, I conduct heterogeneous analysis based on variables with which the Cultural Revolution may have interactive effects on trust. Specifically, I will consider urban/rural dichotomy, father's party membership, and other individual traumatic experience indicator. The rational of considering urban/rural dichotomy is based on the debate whether the Cultural Revolution was primarily an urban affair (Baum, 1971; Unger, 1998; Walder and Su, 2003; Su, 2003). Specifically, Baum (1971) claims that the Cultural Revolution is mainly in urban area, and only had spillover in adjacent rural area. However, this view is revisited by some scholars. Walder and Su (2003) and Su (2003) examined the Cultural Revolution in rural area and demonstrated that rural Cultural Revolution was also profound. In fact, many qualitative studies have well documented the Cultural Revolution in the rural area (e.g. Zhang, 1998). Having those in mind, we are empirically interested in whether there's differential effect of the Cultural Revolution by urban and rural regions. From Column 1 of Table 6, we see that the triple interaction term is negative but statistically insignificant, while the DID term is still significantly negative, suggesting that there's no significant differential effect of the revolution by urban/rural dichotomy.

As a second heterogeneous analysis, I look at father's party membership as a heterogeneous variable. Here we are curious whether father's party membership could be a protective factor during the Cultural Revolution. The results are shown in Column 2, where we spot that the DDD term is positive, showing that father's party membership might be a protective factor during the revolution, yet again the protective effect is not statistically significant from zero.

>>Table 6 Here<<

The final heterogeneous analysis is based on individual traumatic experience other than the Cultural Revolution. Specifically, we look at reported hunger experience/struggle experience. As discussed by Chen and Yang(2015), the hunger experience is very likely to capture the experience during the Great Famine (1959-1961). However, in CFPS 2010, this two experiences are categorized as one, so that we do not know which specific experience the respondent had. The underlying logic of the heterogeneous analysis is that overlapping traumatic experience may intensify one's distrust as a result of the Cultural Revolution. Column 3 of Table 6 reported the DDD results for other traumatic experience. It could be observed from the results that having traumatic experience indeed exacerbate the effect of the Cultural Revolution, yet the effect is not statistically significant.

VII. Robustness Checks and Placebo Tests

7.1 Add region-cohort trends

As a robustness check to the baseline DID specification, one may worry about the unobserved county-cohort differential trend may drive the results. In this section, I try to alleviate this concern by adding province-cohort controls, prefecture-cohort controls, as well as countycohort trends progressively. The province-cohort trend controls are interactions between province dummies and linear, quadratic and polynomial cohort trends, which results are in Column 1 and 2. Compare with DID baseline results in Table 2, Column 1 and 2 illustrate that the estimates are stable.

The prefecture-cohort trends are more specific to control for region-cohort varying factors. Specifically, one may concern the pre-Cultural Revolution social structure of the region, which may affect its level of trust. With China census data of 1990 and 2005, I construct several variables on prefecture level to capture its social structure, including (1) ethnic fragmentation measured by the proportion of Han Chinese as well as an index of ethnic fragmentation, calculated by ethnicity distribution of individuals born before 1960; (2) social fragmentation index, measured by the surname structure on the prefecture level, calculated with surnames of individuals born before 1960(Padro-i-Miquel et al, 2012); and (3) educational Gini coefficient based on educational attainment for individuals born before 1960. Then I add the interaction terms of those variables and linear, quadratic and polynomial cohort trends to the baseline regressions. Results are shown in Column 3 and 4, which are very similar to those in Column 1 and 2.

Finally, as a most conservative robustness check, I control county-cohort trends, captured by the interaction terms between county dummies and linear, quadratic and polynomial cohort trends. This is a conservative and demanding specification taking care of the county-cohort trend. The results with this are shown in Column 6 and 12, showing that the pattern is consistent with the baseline estimates.

$$>>$$
Table 7 Here $<<$

7.2 Placebo Tests

In this section, I construct three placebo tests for the identification strategy. The first placebo test aims at validate cohort variation we constructed for the Cultural Revolution. Specifically, I assume fake years of the Cultural Revolution before (1950-1960) or after (1980-1990) its true time span (1966-1976). The underlying logic of this check is that any cohort measures constructed based on the fake year windows should not have a significant impact empirically, otherwise we may worry that the interaction term between regional intensity and the cohort variation may have captured something wrong. The results for the placebo cohort are shown in Column 1 and 2 of Table 8, revealing that none of the DID term is statistically significant.

The second placebo test of our identification strategy generates a random regional intensity of the Cultural Revolution with uniform distribution. Again, the DID term should not be statistically significant, otherwise we may worried that the DID framework is not capturing the effect of the Cultural Revolution. The results from this placebo test are shown in Column 3 and 4 of Table 8. The key explanatory variable, namely the interaction term between cohort variation and the fake intensity variable does not have significant effect on trust.

Finally, a placebo test is conducted whether individual exposure to the Cultural Revolution can affect some outcome variables when it should not. Specifically, I use the following outcome variables in CFPS, with the wording of those questions as following: Have you ever experienced mistreatment of the following? Mistreatment due to gender and registration status (rural/urban). Since the Cultural Revolution is not targeted on either gender or registration status, I expect theres no statistical significant effect of exposure to the Revolution on such outcomes. The regression results are shown in Column 5 and 6. In Column 5 and 6, we mainly focus on the DID term, which are not statistically significant across regressions. All of the interaction term coefficients are close to zero. This supports our conjecture that the exposure to Cultural Revolution should not affect the outcomes which the movement was not tailored on.

>>Table 8 Here<<

VIII. Conclusion and Discussion

In this paper, I examine the long-term effect of exposure to the Cultural Revolution on trust outcome. The merit of studying the Cultural Revolution lies in the fact that this movement borrows us lens to observe the impact of political institutions on social trust. Specifically, during the Cultural Revolution, people are under an incentive system that encouraging mutual censorship, which was destructive for social trust. To identify the impact of the Cultural Revolution on trust, I take advantage of both cohort and regional variation. Specifically, the regional intensity of the Revolution is constructed with abnormal deaths from 1966 to 1976, and the cohort variation is captured by the schooling exposure during the Cultural Revolution. Based on the two sources of variation, a Difference-in-Differences strategy is employed. The major finding is that individuals from counties with higher intensity and belonging to schooling cohort during the Cultural Revolution significantly trust less.

To investigate the mechanisms of the Cultural Revolution on trust, I first examine whether a loss of human capital dominants the negative effect. The concern here is that the effect of the Cultural Revolution on trust may be just mechanical through decreasing human capital, given that the education system during the revolution years was highly irregular. To deal with this issue, I control for one's years of schooling and schooling quality, and find that there is still significant negative effect of the exposure to the revolution after controlling for one's educational attainment. The second mechanism focuses on the role of class origins. As a political label during the Cultural Revolution, class origins were important for one's social and political life, and often predictors of experiences during the movement. By incorporating class origin as a third dimension, I conduct DDD analysis which that the Cultural Revolution impact on trust is global, that all three class categories suffered from this event. Lastly, I look at the intergenerational transmission of the effect of Cultural Revolution from parents to children. Analysis from parent-children sample shows the intergenerational effect is negative vet very weak. Finally, considering the potential pitfalls of the DID specification, I perform several robustness checks and placebo tests, finding that the basic findings are very stable across model specification.

The overall message of this paper is that institutions can encourage non-cooperative behavior and affect social trust in the long term. However, there are still two important questions in our mind. First, given historical traumatic experience can affect trust in the long term, what kind of policies/treatment can be employed to counteract the negative effect? Second, how institutions can be designed to encourage cooperative behavior and notions in the long term? The answers to these two questions are no doubt the key to pursue in the future.

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Tables and Figures

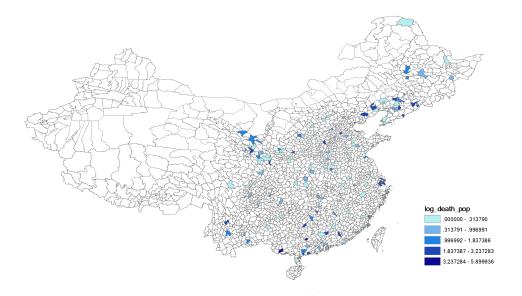
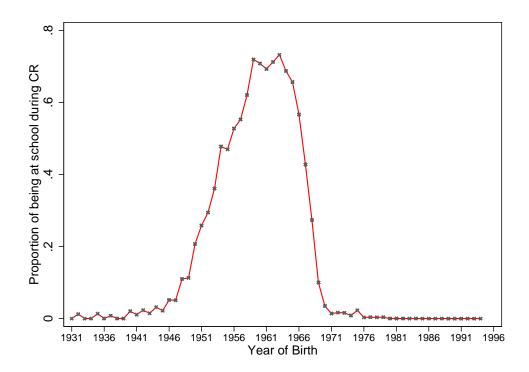
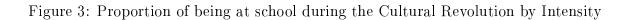


Figure 1: Regional Variation of Cultural Revolution Intensity

Figure 2: Proportion of being at school during the Culrual Revolution





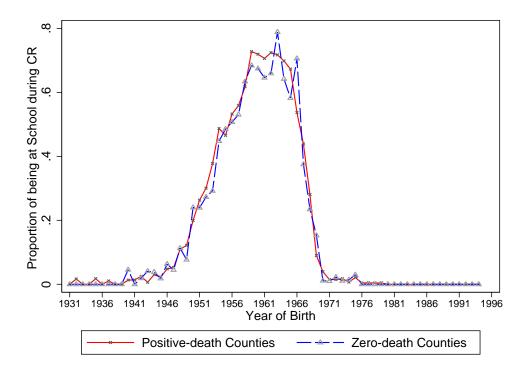
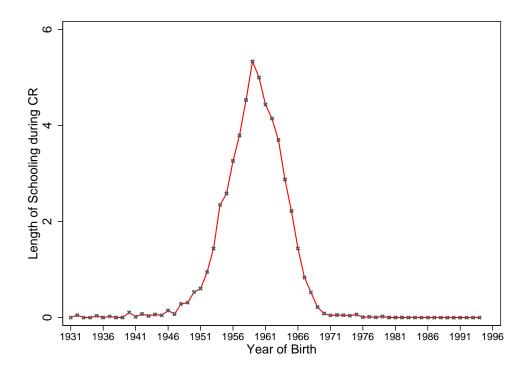
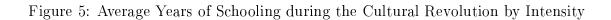


Figure 4: Average Years of Schooling during the Cultural Revolution





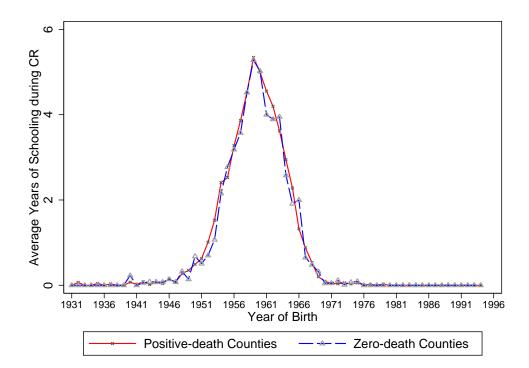
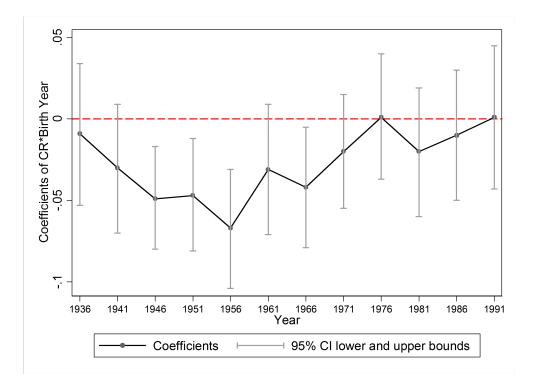


Figure 6: Generalized DID Graph



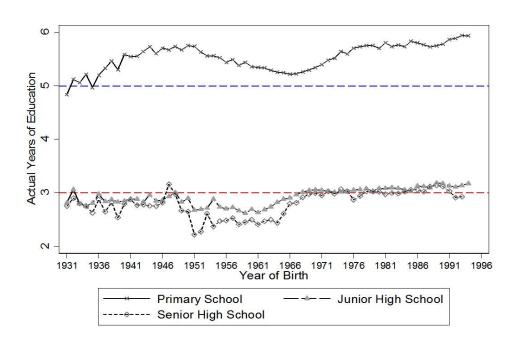
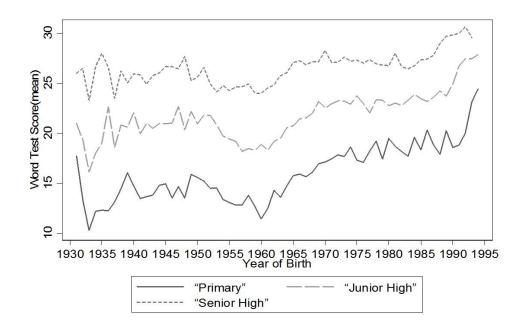


Figure 7: Changes in Actual Years of Schooling

Figure 8: Changes in Education Quality: Verbal Test Score



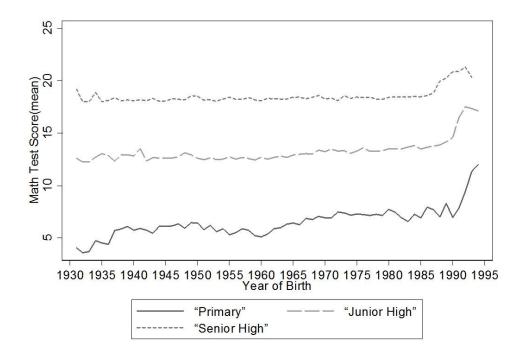


Figure 9: Changes in Education Quality: Number Series Test Score

	Low Inter	Low Intensity Counties	High Inte	High Intensity Counties	T-test
	Obs	Mean	Obs	Mean	p-value
A. Individual Characteristics					4
Trust	12435	0.554	11526	0.528	0
Male	12435	0.479	11526	0.476	0.69
Ethnicity Han	12435	0.922	11526	0.918	0.25
Age	12435	47.827	11526	47.736	0.64
Employed	12435	0.523	11526	0.552	0
Married	12435	0.838	11526	0.851	0.01
Years of schooling	12435	5.979	11526	6.097	0.05
Verbal test score	12435	16.786	11526	16.907	0.39
Number series test score	12435	9.817	11526	9.834	0.85
Party membership	12435	0.084	11526	0.081	0.42
Red Family Origin	9635	0.773	8861	0.776	0.59
Middle Family Origin	9635	0.174	8861	0.169	0.41
Black Family Origin	9635	0.053	8861	0.054	0.71
B. County characteristics					
Abormal Deaths	80	5.912	80	302.688	0
Percentage of Han Population	80	0.939	80	0.931	0.7
Ethnic Fragmentation Index	80	0.084	80	0.106	0.41
Social Fragmentation Index	80	0.957	80	0.958	0.64
Education Gini Coeff.	80	0.464	80	0.422	0.07

Table 1: Table 1: Descriptive Statistics

			tr	trust		
	Intensity	Intensity Measure 1	Intensity	Intensity Measure 2	Intensity	Intensity Measure 3
	(1)	(2)	(3)	(4)	(5)	(9)
Cohort (proportion) X Intensity	-0.01098^{*} (0.00575)		-0.00845 (0.00542)		-0.02018^{*} (0.01131)	
Cohort (length) X Intensity	~	-0.00222^{**} (0.00098)	~	-0.00189^{**} (0.00094)	~	-0.00431^{**} (0.00188)
Individual Characteristics County Dummies	YY	× ۲	ΥY		ΥΥ	۲ ۲
Birth Year Dummies	Υ	Υ	Υ	Υ	Υ	Υ
Observations R-squared	23,961 0.05996	23,961 0.06002	23,961 0.05989	23,961 0.05996	23,961 0.05992	23,961 0.05999
Note: This regression include the following individual control variables: gender dummy, Han ethnicity dummy, residential status (rural/urban), employment status, marital status, Party membership dummy. Robust standard errors clustered on county level. *** $p<0.01$, ** $p<0.05$, * $p<0.1$.	ollowing indi employment y level. ***	vidual contro status, mar p<0.01, ** p	l variables: { ital status, i<0.05, * p<	gender dumn Party memb <0.1.	ıy, Han ethn ership dum	icity dummy, my. Robust

Table 2: the Cultural Revolution and Trust: DID Baseline

			Tr.	Trust		
	(1)	(2)	(3)	(4)	(5)	(9)
Cohort (proportion) X Intensity	-0.02215^{*} (0.01168)		-0.02202^{*} (0.01130)		-0.02207*(0.01148)	
Cohort (length) X Intensity		-0.00468^{**}		-0.00472^{**}		-0.00475** (0.00193)
Years of schooling	0.01562^{***}	0.01561^{***}	0.01011^{***}	0.01007^{***}	0.00592^{***}	0.00596***
Years of schooling X Intensity	(0.00128) -0.00033	(0.00128) -0.00030	(0.00168) -0.00023	(0.00168) -0.00018	(0.00210) -0.00025	(0.00210) -0.00030
Vorhal toot goorg	(0.00117)	(0.00115)	(0.00153)	(0.00153)	(0.00156)	(0.00158)
			(0.00072)	(0.00073)	(0.00078)	(0.0078)
Verbal test X Intensity			0.0002	0.00001	0.00000	-0.00004
			(0.00046)	(0.00046)	(0.00054)	(0.00054)
Number Series score					0.00521^{***}	0.00510^{***}
					(0.00150)	(0.00150)
Number Series score X Intensity					0.00006	0.00019
					(0.00105)	(0.00105)
Individual Characteristics	Υ	Υ	Υ	Υ	Υ	Υ
County Dummies	Υ	Υ	Υ	Υ	Υ	Υ
Birth Year Dummies	Υ	Υ	Υ	Υ	Υ	Υ
Observations	23,961	23,961	23,961	23,961	23,961	23,961
R-squared	0.07124	0.07132	0.07339	0.07348	0.07420	0.07428
Note: This regression include the	following inc	include the following individual control variables:	ol variables:	gender dummy, Han ethnicity dummy	ny, Han ethn	icity dummy,

Table 3: the Cultural Revolution and Trust: Control for Education Quality and Quantity

residential status (rural/urban), employment status, marital status, Party membership dummy. Robust standard errors clustered on county level. *** p<0.01, ** p<0.05, * p<0.1.

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Cohort (length) X Intensity -0.00459^{**} -0.00561^{**} -0.0048 Individual Characteristics Y Y Y Y Education Controls Y Y Y Y Y County Dummies Y Y Y Y Y County Dummies 18,496 18,496 18,496 R-squared 0.07657 0.07654 0.0766 Note: This regression include the following individual control variables: ge dummy, Han ethnicity dummy, residential status (rural/urban), employment tus, marital status, Party membership dummy. Robust standard errors clust			(0.00588)	(0.00593)
Individual CharacteristicsYYYEducation ControlsYYYYEducation ControlsYYYYCounty DummiesYYYYDirth Year DummiesYYYYDirth Year DummiesYYYYDiservations18,49618,49618,49618,496Observations18,49618,49618,49618,496R-squared0.076570.076570.076640.0761Note: This regression include the following individual control variables: gege18,49618,496Note: This regression include the following individual control variables: gedummy, Han ethnicity dummy, residential status (rural/urban), employmenttus, marital status, Party membership dummy. Robust standard errors clust	Cohort (length) X Intensity	-0.00459** // /////////////////////////////////	-0.00561** (0.00310)	-0.00487** (0.00487**
Education Controls Y Y Y Education Controls Y Y Y County Dummies Y Y Y Y Birth Year Dummies Y Y Y Observations 18,496 18,496 18,49 R-squared 0.07657 0.07654 0.0766 Note: This regression include the following individual control variables: ge dummy, Han ethnicity dummy, residential status (rural/urban), employment tus, marital status, Party membership dummy. Robust standard errors clust	Individual Chanadometica	(10200)	Λ	(26200.0) V
County DummiesYYYBirth Year DummiesYYYWarar DummiesYYYObservations18,49618,49618,496Observations0.076570.076540.0766R-squared0.076570.076540.0766Note: This regression include the following individual control variables: gegeNote: This regression include the following individual control variables: geummy, Han ethnicity dummy, residential status (rural/urban), employmenttus, marital status, Party membership dummy. Robust standard errors clust	Education Controls Education Controls	- 7	- 7	- >-
Birth Year DummiesYYYObservations18,49618,49618,496Observations18,49618,49618,496R-squared0.076570.076540.0766Note: This regression include the following individual control variables: ge0.07660.0766Note: This regression include the following individual control variables: ge0.07660.0766Note: This regression include the following individual control variables: ge0.07660.0766Note: This regression include the following individual control variables: ge0.07660.0766Note: This regression include the following individual control variables: ge0.07660.0766Note: This regression include the following individual control variables: ge0.07660.0766Note: This regression include the following individual control variables: ge0.07660.0766Note: This regression include the following individual control variables: ge0.07660.0766Note: This regression include the following individual control variables: ge0.07660.0766Note: This regression include the following individual control variables: ge0.07660.0766Note: This regression include the following individual control variables: ge0.07660.0766Note: This regression include the following individual control variables: ge0.07660.0766Note: This regression include the following individual control variables: ge0.07660.0766Note: This regression include the following individual control variables: ge0.07660.0766Note	County Dummies	Υ	Υ	Υ
Observations18,49618,49618,496R-squared0.076570.076540.0766Note: This regression include the following individual control variables: ge dummy, Han ethnicity dummy, residential status (rural/urban), employment tus, marital status, Party membership dummy. Robust standard errors clust90.0765	Birth Year Dummies	Υ	Υ	Υ
R-squared 0.07657 0.07654 0.0766 Note: This regression include the following individual control variables: ge dummy, Han ethnicity dummy, residential status (rural/urban), employment tus, marital status, Party membership dummy. Robust standard errors clust	Observations	18,496	18,496	18,496
Note: This regression include the following individual control variables: ge dummy, Han ethnicity dummy, residential status (rural/urban), employment tus, marital status, Party membership dummy. Robust standard errors clust	R-squared	0.07657	0.07654	0.07664
on county level. *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$.	Note: This regression include dummy, Han ethnicity dummy tus, marital status, Party men on county level. *** p<0.01, *	the following ind , residential statu abership dummy. ** p<0.05, * p<0.	lividual control varias (rural/urban), em Robust standard er 1.	ables: gender ployment sta- rors clustered

		TLUSU		
	Individuals born	Individuals born after the Cultural Revolution	All	
	Father	Mother	Father	Mother
	(1)	(2)	(3)	(4)
Parent Cohort X Intensity	-0.00184	0.00337	-0.00168	0.00209
	(0.003)	(0.003)	(0.003)	(0.003)
Cohort (length) X Intensity		·	-0.00531^{***}	-0.00361^{**}
			(0.002)	(0.002)
Individual Characteristics	Υ	Υ	Ϋ́	Ϋ́
County FE	Υ	Υ	Υ	Υ
Birth Year FE	Υ	Υ	Υ	Υ
Parent Birth Year FE	Υ	Υ	Υ	Υ
Education Controls	Υ	Υ	Υ	Υ
Observations	5,255	5,250	21,042	21,452
R-squared	0.106	0.109	0.078	0.079

 Table 5: Intergenerational Effect

dummy, residential status (rural/urban), employment status, marital status, Party membership dummy. Robust standard errors clustered on county level. *** p<0.01, ** p<0.05, * p<0.1.

		Heterogeneous Variable	hble
	Urban	Father Party Membership	Other Traumatic Exp
	(1)	(2)	(3)
Het. Var.	0.01584	0.02905^{**}	-0.02649
	(0.01576)	(0.02137)	(-0.01972)
Het. Var. X Cohort (length)	0.00041	-0.01073	0.00530
	(0.00097)	(-0.01772)	(0.00774)
Het. Var. X Intensity	-0.01311	-0.01661	0.00494
	(-0.01925)	(-0.01628)	(0.00518)
Cohort (length) X Intensity 2	-0.00466^{*}	-0.00595^{***}	-0.00482^{**}
	(-0.02257)	(-0.02879)	(-0.02571)
Het. Var. X Intensity X Cohort (length)	-0.00043	0.00877	-0.00118
	(-0.00133)	(0.01742)	(-0.00253)
Individual Characteristics	Υ	Υ	Υ
County FE	Υ	Υ	Υ
Birth Year FE	Υ	Υ	Υ
Education Controls	Υ	Υ	Υ
Observations	23,961	23, 228	18,948
R-squared	0.074	0.076	0.077
Note: This regression include the following individual control variables: gender dummy, Han ethnicity dummy, residential status (rural/urban), employment status, marital status, Party membership dummy. Robust standard errors clustered on county level. *** $p<0.01$, ** $p<0.05$, * $p<0.1$.	ng individua employment r level. *** p	l control variables: gender status, marital status, Par <0.01, ** p<0.05, * p<0.1.	dummy, Han ethnicity ty membership dummy.

Table 6: Heterogeneous Analysis

			Trust	st		
	(1)	(2)	(3)	(4)	(5)	(9)
Cohort (proportion) X Intensity	-0.02662^{**} (0.01173)		-0.02207^{*} (0.01148)		-0.02302^{*} (0.01386)	
Cohort (length) X Intensity	,	-0.00553^{***} (0.00193)		-0.00475^{**} (0.00193)		-0.00506^{**} (0.00228)
Province-cohort trends	Υ	Ϋ́	Υ	Ϋ́	Υ	Ϋ́
Prefecture-cohort trends	Ν	Υ	Υ	Υ	Υ	Υ
County-cohort trends	Ν	Ν	Υ	Υ	Υ	Υ
Observations	23,961	23,961	23,961	23,961	23,961	23,961
R-squared	0.07798	0.07807	0.07420	0.07428	0.03647	0.03658
Note: This regression include the following individual control variables: gender dummy, Han ethnicity dummy,	clude the following indi	ividual control	lal control variables: g	cender dummy, H	y, Han ethn	icity dummy,

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residential status (rural/urban), employment status, marital status, Party membership dummy. Robust standard errors clustered on county level. *** p<0.01, ** p<0.05, * p<0.1.

				Depende	Dependent Variable	
	Trust	Trust	Trust	Trust	Mistreatment (Hukou)	Mistreatment(Gender)
	(1)	(2)	(3)	(4)	(5)	(9)
Cohort(CR 1950-60)X Intensity	0.00128 (0.00498)					
Cohort(CR 1980-90)X Intensity		0.00193 (0.00171)				
Cohort(proportion) X Random Intensity	V	~	-0.00065 (0.00773)			
Cohort(length) X Random Intensity			~	0.00056 (0.00131)		
Cohort (length) X Intensity					0.00130	-0.0084
					(0.00144)	(0.00075)
Individual Characteristics	Υ	Υ	Υ	Υ	Υ	Ϋ́
County FE	Υ	Υ	Υ	Υ	Υ	Υ
Birth Year FE	Υ	Υ	Υ	Υ	Υ	Υ
Education Controls	Υ	Υ	Υ	Υ	Υ	Υ
Observations	23,961	23,961	23,961	23,961	23,521	23,612
R-squared	0.05980	0.05984	0.05979	0.05980	0.00713	0.01069

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Table 8: Placebo Tests

	Loga	rithm Abnorn	nal Deaths De	nsity
	(1)	(2)	(3)	(4)
Distance to Beijing	0.00039***	0.00050***	0.00058***	0.00084
	(0.00015)	(0.00017)	(0.00017)	(0.00064)
On prov. boundary	0.36172**	0.41609^{**}	0.60331***	0.14520
	(0.17276)	(0.17759)	(0.18277)	(0.18338)
Great Rally County	0.71939***	0.74231**	0.91458**	0.40797
	(0.26657)	(0.33066)	(0.35794)	(0.67002)
Party membership size in 1949		0.07065	0.07360	0.04624
		(0.05087)	(0.05041)	(0.04980)
Population density in 1966		-0.03456	-0.01771	-0.09259
		(0.20024)	(0.19637)	(0.18385)
Revolutionary history	0.24540	0.17358	0.13201	0.17876
	(0.17740)	(0.19238)	(0.19997)	(0.23745)
City	0.19259	0.16922	-0.04418	-0.11336
	(0.20124)	(0.20481)	(0.22249)	(0.20925)
Han percentage			-0.79783	-0.07676
			(0.62756)	(0.94921)
Social Fragmentation			-20.63033**	-3.78370
			(9.96796)	(12.46237)
Education Gini Coeff.			-1.81524^{**}	-0.40728
			(0.71353)	(0.92862)
Province FE	Ν	Ν	Ν	Υ
Observations	160	157	157	157
R-squared	0.13369	0.14040	0.19927	0.49319

Appendix Tables Table A1: Determinants of the Cultural Revolution Intensity

Note: This regression is on county level. *** p < 0.01, ** p < 0.05, * p < 0.1.

			Dependent Variable	e		
	Years of Schooling	Verbal Score	Years of Schooling Verbal Score Number Series Score Good Class Middle Class Bad Class	Good Class	Middle Class	Bad Class
	(1)	(2)	(3)	(4)	(5)	(9)
CR Intensity Measure	-0.17506 (0.10672)	-0.14452 (0.25540)	-0.19349 (0.15504)	0.00807 (0.00873)	-0.00521 (0.00750)	-0.00286(0.00298)
Individual Characteristics	Λ	\mathbf{V}	$\mathbf{V} = \mathbf{V}$	X	\mathbf{V}	X
Province FE	Υ	Υ	Υ	Υ	Υ	Υ
Birth Year FE	Υ	Υ	Υ	Υ	Υ	Υ
Observations	23,961	23,961	23,961	18,496	18,496	18,496
R-squared	0.36196	0.36163	0.36961	0.03987	0.03601	0.01202
Note: This regression include the following individual control variables: gender dummy, Han ethnicity dummy, residential status (rural/urban), employment status, marital status, Party membership dummy. Robust standard errors clustered on county level. $*** p<0.01, ** p<0.05, * p<0.1.$	de the following indivision status, marital status <0.1.	idual control va s, Party membe	individual control variables: gender dummy, Han ethnicity dummy, residential status status, Party membership dummy. Robust standard errors clustered on county level.	, Han ethnicit standard erroi	y dummy, resid is clustered on	ential status county level.

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Table 2:
Appendix

Deng and Treiman (1997)	CFPS Classification
Good-class origins	
1. Revolutionary cadres	
2. Revolutionary army men	
3. Revolutionary martyrs	28
4. Pre-Liberation industrial workers and their families	14, 15
5. Former poor and lower-middle peasant families	11, 12, 13
Middle-class origins	
1. Families of pre-Liberation peddlers and store clerks, etc.	16, 17, 18, 24, 25, 26
2. Former middle-peasant families	3, 6, 10
3. Intelligentsia middle class (families of pre-Liberation clerks, teachers, professionals, etc.)	
4. others	4(bankrupt landlords, Pochan Dizhu)
Bad-class origins	
A. Families of former capitalists	20,21,22 (capitalists)
B. Families of rightists	
C. Pre-Liberation rich peasant families	5,7,8,9(rich peasants)
D. Families of bad elements (a label denoting criminal offenders)	
E. Pre-Liberation landlord families	1,2 (landlord)
F. Families of counterrevolutionaries	

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