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Fighters:
Clan Conflict, Sex Imbalance, and Its Evolution.

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Abstract: This study addressed a long-standing but not formally tested hypothesis that local fighting for resource and dominance in underdeveloped counties arouses a need for sons, and hence sex imbalance, by combining historical and contemporary data in China. OLS estimates showed that Chinese counties with clan conflicts have experienced severe sex imbalance, and this effect is significant in rural areas but not in urban areas. Furthermore, by employing forced relocation and scattering of clansmen since the late-1990s in China, we found that forced relocation and scattering of clansmen significantly cushioned the effect of clan conflict for rural people born after 2001.

Keywords: sex imbalance, son preference, conflict, forced relocation and scattering of clansmen

JEL Codes: J13, J16, N45

1. Introduction

The ancestral home of the famous Chinese American Kungfu star, Bruce Lee—Shunde County, Guangdong Province of China—has experienced clan conflicts for centuries, and, in the 2010 census, females accounted for only 46.1% of the population. Local fighting for resources and dominance has been prevalent in many underdeveloped countries, especially in those where market systems and legal institutions are malfunctioning. In such areas, sons have always played a major role in local power struggles.

Many developing countries are characterized by severe male-biased sex imbalances. For example, compared to OECD countries, where females account for 50.7% of the population, the percentage is as low as 48.5% in developing countries

such as China, India, and Afghanistan (World Bank Database, 2017).[1] Explanations of such sex imbalances have focused on both cultural and economic factors. The former perspective suggests that sex imbalances originate from cultural factors, such as the need for men in religious rituals, kinship systems, and customs concerning the linkages between parents and offspring after marriage (Vlassoff, 1990; Zeng et al., 1993; Das Gupta, 2009; Ebenstein and Leung, 2010; Almond et al., 2013). Recently, however, economic factors have attracted more attention. Female survival rates, and consequently sex imbalances, respond to the relative potential incomes of women, along with other outcomes for girls relative to boys (Becker, 1981; Rosenzweig and Schultz, 1982; Das Gupta, 1987; Thomas et al., 1991; Clark, 2000; Foster and Rosenzweig, 2001; Burgess and Zhuang, 2001; Duflo, 2003; Rholf et al., 2005; Qian, 2008; Alesina et al., 2013).

One factor that is often mentioned is the perceived need for sons to uphold—through violence, if necessary—a family's power vis-à-vis its neighbors in underdeveloped countries where markets and legal systems are malfunctioning. (Miller, 1981, 1989; Mahadevan and Jayashree, 1989; Oldenburg, 1992; Rowe, 2007). Yet, there is little empirical research on this hypothesis. One challenge of studying the effect of fighting for local dominance on sex imbalance is that such conflicts usually occur at the country level. No systematic data are available, and country-specific characteristics are hard to control for. Within-country local power struggles have been seen in both India and China for centuries, at the county or village level (Miller, 1981, 1989; Mahadevan and Jayashree, 1989; Oldenburg, 1992; Rowe, 2007). However, no systematic data on local power struggles are available in India (Oldenburg, 1992).[2] This study, therefore, aimed to investigate the effect of local fighting for dominance on sex imbalance by employing clan conflict in China, which have existed for hundreds of years.

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[1] This "missing women" phenomenon arises from the abortion of female fetuses, female infanticide, and the fatal neglect of female children (Miller, 1989; Sen, 1990, 1992; Hesketh and Xing, 2006).

[2] Oldenburg (1992) used the murder rate as a crude proxy variable for local power struggle to see its effect on sex imbalance.

Clan organization is the core cultural characteristic of traditional rural society in China. A clan is a kin-based organization consisting of patrilineal households that trace their origin to a common male ancestor, in most cases with the same family name and locating in the same village or town, involving hundreds or tens of hundreds of people. One of the by-products of clans is clan conflict (*Zongzu xiedou*), whose purpose is to fight for the right of control, which is embodied in the fight for the property rights of mountains, rivers, water and land, and for the disputes caused by trivial matters of life (Zheng, 1998). Clan conflicts have existed for centuries in traditional rural China and can be traced back to the early Ming Dynasty (1368 AD). They were still prevalent after 1949, especially in the vast rural areas where legal and market systems are underdeveloped.[3] These long-lasting clan conflicts and struggles for local dominance have caused people in such areas to favor sons. In some areas, as recently as the 1960s and 1970s, boys were required to receive martial arts training to prepare for such clan-based fighting (Su, 2017). To examine the correlation between clan conflict and sex imbalance in China, this study examined county-level data on clan conflict in more than 1,600 counties in 21 provinces, as well as sex imbalances reported in the 1982–2010 population censuses. Clan conflict itself was found to contribute to nearly 28% of the sex imbalance in China.

Although various covariates were controlled in the aforementioned OLS estimations, we still had identification concerns. One concern was that unobservable cultural and economic factors coexisting with clan conflict could contribute to sex imbalance. Since clan conflicts mainly occur in rural areas, we estimated the difference in the effect of clan conflict on sex imbalance between rural and urban areas. The difference-in-difference (DID) results better mitigated the endogeneity bias caused by the missing variables. Furthermore, we check whether the effect of local power struggle on sex imbalance would dwindle with the policies weakening clan/ethnic cohesiveness, by employing China's massive land requisitions beginning in the late 1990s. The

[3] China’s central government promulgated policies to prohibit clan conflicts (Lianhua Gazetteer, 1989). Nevertheless, such conflicts still occasionally occur (Xu, 1989; Liu, 1993; Zheng, 1998).

massive land requisitions, which forced clansmen to relocate and scatter, disintegrated clan cohesiveness, and thus cushioning the effect of clan conflict on sex imbalance. This is similar to a difference-in-difference-in-differences (DDD) estimator, which is less likely to be confounded by the effects of missing variables and can further confirm the causal relationship between clan conflict and sex imbalance. We compared the differences in the change in sex imbalance during 2000–2010 between counties with radical or mild waves of clansmen relocation, in both counties with and without clan conflicts. In conflicting counties, radical waves of clansmen relocation significantly reduced sex imbalance, while no such effect existed in counties without clan conflicts. We further compared rural female births for cohorts born before and after the massive rural land requisition between counties with and without clan conflict. The interaction of clan conflict and rural land requisition was found to have a significantly positive effect on rural female births for cohorts born after 2001, while it was insignificant for cohorts born prior to 2001. Then, we repeated the exercise using the urban sample and found that no significant difference existed in the coefficients of the interaction term across cohorts for urbanites. These estimates allow us to distinguish the effects of the interaction of rural land requisition and clan conflict from the effects of time-invariant county characteristics and time-variant factors.[4]

[4] We also utilized two-stage least-squares (2SLS) estimations with instrumental variables (IVs) to attenuate the endogeneity concerns. We employed clan polarization to instrument clan conflict. As suggested by Horowitz (1985) and Montalvo and Reynal-Querol (2005a, 2005b), ethnic polarization should perfectly capture the likelihood of ethnic conflict; this means there is less violence in highly homogeneous and highly heterogeneous societies, while more conflicts arise in societies with large ethnic minorities facing an ethnic majority. In China, the probability of clan conflict is determined by the number and structure of family names in a region, which had been in turn affected by the civil wars between the Southern Song and its nomadic rivals as well as wars among nomadic tribes during the Song and Yuan Dynasties (Wu, 1997; Hou, 2001). In counties with only one family name (no such cases existed in our sample), no clan conflicts occur. More conflicts exist in counties with oligopolistic family clans, while there is less violence in counties with many family clans where each clan is small and weak. We used family-name polarization and the number of wars from 1125 AD to 1279 AD in a county to instrument clan conflict in that county. The 2SLS estimates confirmed the causal relationship between clan conflict and sex imbalance. The results are not reported to save

This study's findings also contribute to a deeper understanding of the social and economic outcomes of cultural norms. Research connecting cultural norms with economic and social phenomena such as trust, investment, growth, and government quality has grown rapidly in recent decades (Engerman and Sokoloff, 1997; La Porta et al., 1998; Acemoglu et al., 2001; Glaeser et al., 2004; Acemoglu and Johnson, 2005; Ostrom, 2005; Olson, 2008; Tabellini, 2010; Nunn and Wantchekon, 2011; Alesina et al., 2013; Michalopoulos and Papaioannou, 2013; Acemoglu et al., 2014; Greif and Tabellini, 2015; Becker et al., 2016). Existing evidence on cultural norms is mainly based on cross-country comparisons that hardly control country-specific characteristics. Cross-regional analysis within a country can help to avoid the estimation bias caused by unobservable country-specific characteristics (Alesina and Fuchs-Schündeln, 2007; Tsai, 2007; Dell, 2010; Grosjean, 2011; Foltz, 2014; Xu and Yao, 2014; Ding et al., 2018). Using county-level data in China, we were able to better identify the effects of traditional culture by isolating country-specific features.

Few empirical studies have investigated changes in the impact of cultural norms over time (Alesina and Fuchs-Schündeln, 2007). By analyzing the weakened effect of clan conflict on sex imbalance brought about by forced relocation, this study adds to this line of enquiry by providing evidence showing how cultural norms and their effects change with socioeconomic development.

The rest of this study is organized as follows: Section 2 describes the empirical models, data, and sources. Section 3 presents the empirical examination of the long-term effects of clan conflict on sex imbalance. Section 4 investigates the changes in the effects of clan conflict brought about by policies eroding clan cohesiveness and weakening clan conflict. Section 5 empirically investigates three alternative explanations. Section 6 concludes the study.

2. Models and Data

2.1 Baseline Model

space, but available upon request.

We began the estimations of the effect of long-lasting clan conflict on contemporary sex imbalances using a cross-sectional baseline model:

$$\text{Sexratio}_{c,p} = \alpha_p + \beta_0 + \beta_1 Clan\ Conflict_{c,p} + X_{c,p}\beta_2 + \varepsilon_{c,p}, \quad (1)$$

where c denotes a county and p a province. $Sexratio_{c,p}$ is the male–female ratio of county c; $Clan\ Conflict_{c,p}$ is the clan conflict of county c, and $X_{c,p}$ is a vector of control variables, including historical and contemporary county-specific characteristics. α_p denotes province-fixed effects. The sample included 1,643 counties from 21 provinces in China, excluding Liaoning, Jilin, Heilongjiang, Inner Mongolia, Xinjiang, Qinghai,[5] and Tibet, for which data were not available as these provinces were not historically assimilated into the Ming and Qing Empire. Four municipalities—Beijing, Tianjin, Shanghai, and Chongqing—and city districts (*shixiaqu*) were excluded from the sample as well, since they are probably characterized by a lot of recent migration.

2.2 Data and Sources

Sex Imbalance

The analysis of sex imbalance used county-level data from the Chinese Population Census for the years 1982, 1990, 2000, and 2010. We calculated sex imbalance using the number of males divided by the number of females.

Since the aggregate sex ratio might be affected by economic factors such as nutritional, medical, and health conditions, we also used the birth ratio as a robustness check, which could help eliminate the effects of economic conditions. Birth-ratio data were collected from the County-level Data in the Chinese Population Censuses in 2000 and 2010.[6]

Clan Conflict

The county-level traditional custom of clan conflict was measured by two means: First, we used the custom of clan conflict in a county during the Qing Dynasty. The data were collected from county gazetteers compiled in the late Qing period and county

[5] Counties in Xining Prefecture are included in our sample since Xining belonged in Gansu Province in the Qing Dynasty.

[6] Population censuses in 1982 and 1990 did not report county-level birth ratios.

gazetteers compiled in the Republic of China. Second, we utilized the custom of clan conflict in a county after 1949 and until the 1990s. The data were collected from the first round of county gazetteers compiled after 1949.[7] These two are dummy variables that equal 1 if a county is recorded in the gazetteer as having a custom of clan conflict and 0 otherwise. If a county has a tradition of clan conflict, it means the county has experienced numerous clan conflicts for hundreds of years, with each conflict involving hundreds or even tens of thousands of people. For example, the local gazetteer of Baise County in Guangxi Province documented the following:

> "Before 1949, clan conflicts occurred frequently, due to contradictions and disputes originated from marriages, land, forests, water resources, and so on. Hundreds of local people, and sometimes even several villages (thousands or tens of thousands of people) were entangled in each conflict. Wooden sticks, knives, and even guns were used."

For detailed information about the records of clan conflict, see Figure A1 in the Appendix.

Control Variables

We included a series of covariates in the estimations. First, to isolate economic development and urbanization, which might affect both struggles for dominance and sex imbalance, we controlled for the average per capita GDP from 2000 to 2010 (denoted as *GDP Per Capita*) and the percentage of urban population in 1982, 1990, 2000, and 2010 (denoted as *Urban1982*, *Urban1990*, *Urban2000*, and *Urban2010*, respectively). Data for county-level GDP came from the *China County Social and Economic Statistics Yearbook* (*Zhongguo Xianshi Shehui Jingji Tongjinianjian*). Data for urbanization in 1990, 2000, and 2010 came from the County-level Data in the Chinese Population Census, while the data for urbanization in 1982 were calculated from the 1% sample of the 1982 Population Census.

A major determinant of cultural differences in gender-role attitudes is whether

[7] China's central government organized two rounds of compiling county gazetteers after 1949. The first ones were compiled around 1990.

a society is matrilineal or patrilineal (Engels, 1902). In most human societies, matrilineal orientation was replaced by a patrilineal one, making wives more dependent on their husbands and their property. As a consequence, women were no longer equal participants in community life. To account for this determinant, we controlled for the proportion of people belonging to matrilineal minorities.[8] Nomadic culture might also affect the status of women, since male physical strength might be important among nomads (Alesina et al., 2013). We controlled for the proportion of people belonging nomadic minorities.[9] Information about matrilineal and nomadic minorities came from the official website of the National Ethnic Affairs Commission of the People's Republic of China.[10] Meanwhile, whether a culture prefers a nuclear family structure or an extended family structure might also affect sex imbalance (Alesina et al., 2013). We controlled for the proportion of people living with four generations or more to proxy the preference for an extended family structure using county-level data from the Chinese Population Census. Finally, we controlled for the proportion of minorities (i.e., not Han Chinese), since minorities have many special characteristics, such as being less influenced by clan culture and the one-child policy. The proportion of minorities came from the County-level Data in the Chinese Population Census.

We also controlled for various county-level traditional characteristics. The first was traditional transportation, which might affect migration, and hence, clan polarization and confrontation. Meanwhile, counties with better transportation conditions might be richer and have a more balanced sex ratio. We borrowed one of the categories of the *Chong-Fan-Pi-Nan* system formulated by the Qing government in 1731. The government used this system to classify the importance of a locality based on the comprehensiveness of the local administration.[11] Prefectures and counties were

[8] Around 1949, the matrilineal minorities included Naxi, Gaoshan, Lahu, Tu, Mulam, and Pumi.

[9] Around 1949, the nomadic minorities included Mongolian, Manchu, Uygur, Yi, Tibetan, Hani, Lahu, Kazak, Tu, Xibo, Kirgiz, Daur, Salar, Tajik, Pumi, Ewenki, Yugu, Uzbek, and Tatar.

[10] http://www.seac.gov.cn/seac/ztzl/zgmzjs/index.shtml.

[11] The *Chong-Fan-Pi-Nan* system was first proposed by Jinhong (who served as *Buzhengshi*) and was formulated in 1731. This system classified prefectures and counties into four groups: *Chong*

classified into four groups. A *Chong* classification indicated that the prefecture was of strategic importance for transportation and communication, which were essential for national security. *Chong* was a dummy variable equaling 1 if a prefecture was classified as such and 0 otherwise. The data for this system were obtained from *The Draft History of Qing* (*Qingshigao*), vols. 54–78. Second, regions that historically had stronger clans may have a higher probability of clan conflict. Meanwhile, locations that historically had stronger clans might have had a denser clan culture, and therefore, a strong desire for males in religious rituals and kinship systems. As suggested by Kung and Ma (2014) and Zhang and Ma (2017), clan lineage is an appropriate proxy for clan culture as one aspect of Confucianism. Similar to those studies, we used the number of Confucian temples in a county during the Qing Dynasty to proxy Confucian norms and denoted it as *Temple*. The data were collected from *Imperial Geography of the Qing Dynasty in 1820* (*Jiaqing Chongxiu Yitongzhi*). The personalities of local people might also play a role in sex imbalance. People with "tough" or "strong" personalities might easily enter into conflicts, and hence, prefer boys. To isolate this alternative explanation, we controlled for the personalities of local people, particularly *Nan*, which is a category the Qing used to designate a locality with a strong and tough personality, which could lead to high crime rates. *Nan* is a dummy variable that equals 1 if a county was classified as *Nan* and 0 otherwise. The data were collected from *The Draft History of Qing* (*Qingshigao*), vols. 54–78.

Third, we controlled for the economic origins of gender roles. Above all, as argued by Alesina et al. (2013), plough-positive agriculture has a negative effect on women's roles. Using data from the Food and Agriculture Organization (FAO), we identified the geo-climatic suitability of finely defined locations for growing plough-positive cereals (wheat, barley, rye, wet rice) and denoted it as *Plough*. Meanwhile, as argued by Qian (2008), tea planting has a positive effect on women's roles. We used a

(important to national security), *Fan* (important to businesses), *Pi* (problematic in terms of tax collection), and *Nan* (high in crime). The imperial court distributed and designated power according to this system.

dummy variable of whether a county planted tea and denoted it as *Tea Planting*. The data came from the *Prefectural City Statistic Yearbook* (*Dijishi Tongji Nianjian*), 1990–2010.[12]

Fourth, we controlled for wars. Exposure to war might drive small conflicts (Calderón et al., 2011; Gallegos and Gutierrez, 2011; Noe and Rieckmann, 2013; Mattina, 2017). Meanwhile, war might also distort gender roles (Whyte, 1978; Oldenburg, 1991; Bethmann et al., 2013, 2014). We used the number of wars in a county between 1600 BC (when written records appeared) and 1911 AD and denoted it as *War*. The data came from the *Chronology of Warfare in Dynastic China* (*Zhongguo Lidai Zhanzheng Nianbiao,* 1985).

Finally, the strictness of one-child-policy implementation might also affect the male–female ratio. Thus, following Ebenstein (2010) and Wei and Zhang (2011), we controlled for the fines to the excess children at the provincial level to proxy for the strictness of one-child-policy implementation and denoted it as *One-child Policy*. The data came from Ebenstein (2010). We also controlled for the average life expectancy of males, which could affect the male–female ratio. Due to a lack of county-level data, we used provincial-level life expectancy. Data were collected from the 2010 census.

Identification

Although various covariates were controlled, there were several identification concerns. The first was reverse causality. Counties with severe sex imbalances might have a higher propensity for conflict. Likewise, the omitted variable problem was a concern. Some unobservable cultural and economic variables coexisting with clan conflict could contribute to sex imbalance. For instance, traditional clan conflicts could be related to the local culture, among other factors that consequently influence long-term sex imbalance. Our dummy variable for whether a county was denoted as having clan conflicts could have also suffered from measurement errors. Such problems would

[12] The *Prefectural City Statistic Yearbook* records the yearly output of tea and/or tea-planting areas. We define a county as "planting tea" if the output or planting area is greater than zero. The *Prefectural City Statistic Yearbook* does not report the information for output and/or planting area every year. So, we checked all *Prefectural City Statistic Yearbook*s to collect this information.

introduce bias into the OLS estimates. Since clan conflicts mainly occur in rural areas (Freedman, 1965; Watson, 1982; Duara, 1988; Fei, 2001), we estimated the difference in the effect of clan conflict on sex imbalance between rural and urban areas. The county-level data in the 1990 Chinese Population Census and the 0.1% sample of 2010 Chinese Population Census disclose male–female ratios in rural and urban areas. Thus, we used rural and urban sex ratios to conduct a DID test.

Rural Land Requisition and Forced Relocation and Scattering of Clansmen

Large-scale rural land requisition began at the end of the 1990s. It was a critical resource for industrial development and local-government revenues when the fiscal reforms of the 1990s centralized power (Chen and Kung, forthcoming). During that period, agricultural land requisition caused an estimated 53 million farmers to lose their land and farm-based livelihoods (Xu et al., 2013). They had to permanently relocate to cities or small towns, which weakened the cohesiveness of rural clans. In some regions, these farmers obtained urban *hukou* (household registration identity) along with urban social security, public services, and affordable housing. In other regions, they had to migrate temporarily as obstacles to integration are mirrored in cities where social services are not equally available to migrants.

The county-level percentage of agricultural land requisitioned for national infrastructure from 2001 to 2010 was used to measure forced clansmen relocation. The data were collected from the *Prefectural City Statistic Yearbook* (*Dijishi Tongji Nianjian*), 2002–2011. A drawback of this variable is that of the 1,643 counties in the sample, only 446 had land-requisition records. Hence, we also used prefecture-level land-use-right leasing for a robustness check. We used the ratio of the total land with use rights leased from 2001 to 2013 to the arable land in the initial year.[13] Data were collected from *China Land & Resources Almanac* (*Zhongguo Guotu Ziyuan Nianjian*), 2002–2012, and *China Land and Resources Statistical Yearbook* (*Zhongguo Guotu*

[13] We extended the ending year to 2013 rather than 2010 since land leased during 2011–2013 was mostly requisitioned before 2010. In other words, land leased during 2011–2013 affected rural clansmen's relocation before then.

Ziyuan Tongji Nianjian), 2013–2014.

Table 1 presents the descriptive statistics of the variables. Figure 1A and B present the spatial distribution of clan conflicts during the Qing Dynasty and from 1949 to the 1990s, respectively. Figure 2 shows the variations in sex ratios in 2010 across counties. Hebei, Henan, Shandong, Jiangsu, and northern Zhejiang, which experienced few clan conflicts, had mild sex imbalances. Nevertheless, in the rest of China, counties that experienced severe clan conflicts were more likely to have severe sex imbalances.

3. Long-Lasting Clan Conflicts and Sex Imbalance

3.1 Baseline Empirical Results

We begin with the estimations for the effect of traditional clan conflict on sex imbalance (estimation model (1)).

Table 2 presents the estimation results. Panel A shows that historical clan conflict is significantly statistically correlated with contemporary sex imbalances in all estimations. Columns 1, 3, 5, and 7 have only the key independent variable, while columns 2, 4, 6, and 8 control for provincial fixed effects. The estimates changed little, implying that the estimates are robust. Columns 1 and 2 show a significantly positive relationship between historical clan conflict and sex imbalance reported in the 1982 population census. Counties with a historical custom of clan conflict had a higher male–female ratio by 0.021, contributing to 28.0% of the sex imbalance. Columns 3 and 4, 5 and 6, and 7 and 8 show significantly positive relationships between the historical clan conflict and sex imbalances, as reported in the 1990, 2000, and 2010 censuses, respectively; counties with a historical custom of clan conflict had higher male–female ratios by 0.018, 0.016, and 0.016, contributing to 21.4%, 17.0%, and 21.3%, respectively, of sex imbalances in the corresponding years.

Panel B shows that contemporary clan conflict is significantly statistically correlated with contemporary sex imbalances in all estimations. In sum, contemporary counties with a custom of clan conflict have higher male–female ratios by around 0.015, contributing to about 20.0% of sex imbalances.

3.2 Adding More Controls

A potential concern with the OLS estimates reported in Table 2 was that locations with historically more hegemonic clans might have higher levels of potential clan conflict, but those places might also have denser clan cultures—that is, a strong desire for males in religious rituals and kinship systems. This would bias the OLS estimates. We addressed this by directly controlling for the number of Confucius temples, a proxy for traditional culture. It is also possible that local transportation, local personal characteristics, economic performance, urbanization, and some other factors coexisting with clan conflict might also contribute to sex imbalance. Our first strategy to address these concerns was to control for observable characteristics.

Table 3 presents the estimation results. Panel A shows that historical clan conflict is significantly statistically correlated with contemporary sex imbalance, while panel B shows that contemporary clan conflict is significantly statistically correlated with contemporary sex imbalance. In sum, counties with a custom of clan conflict have higher male–female ratios, with clan conflict itself contributing to approximately 20% of sex imbalances.

Moreover, economic development was significantly negatively correlated with sex imbalance in almost all estimations. However, once clan conflict was taken into account, Confucius temples had never had a significantly positive correlation with sex imbalance. This implies that clan culture might not be a direct factor explaining long-lasting sex imbalance; rather, it works through other mechanisms, such as clan conflict. Once clan conflict is controlled, it never works. Tea planting also had no significant correlation with sex imbalance, which could be because sex imbalance only changed in specific time periods when tea prices and the economic value of girls rose (Qian, 2008).

3.3 Different Effects on Rural and Urban Societies

Although various covariates were controlled, some unobservable cultural and economic variables might still coexist with clan conflict and sex imbalance. Since clan conflicts mainly occur in rural areas (Freedman, 1965; Watson, 1982; Duara, 1988; Fei, 2001), we estimated the difference in the effect of clan conflict on sex imbalance

between rural and urban areas. We didn't actually need to assume that the variation of socio-economic factors in urban and rural areas are the same, instead, we only infer that in theory the effect holds only in rural areas. This can better identify the effects of traditional clan conflict on sex imbalance by isolating omitted county-specific variables.

Table 4 shows the estimation results. Columns 1, 2, 5 and 6 show the effect of clan conflict on sex imbalance in rural areas, indicating a significantly positive relationship between clan conflict and sex imbalance. For instance, counties with a historical custom of clan conflict had a higher male–female ratio by 0.014 in 1990, contributing to 20.1% of the sex imbalance, while counties contemporarily with a custom of clan conflict had a higher male–female ratio by 0.012, contributing to 18.2% of the sex imbalance. Columns 3, 4, 7 and 8 show no significant relationship between clan conflict and sex imbalance in urban areas.

As we have argued above, the drastic rural land requisition, which started in the end of the 1990s, might weaken the impact of clan conflict on sex imbalance. Thus, people born after 1999 would be less affected by clan conflict. We did cohort analysis to check the different effects of clan conflict on sex imbalance for cohorts born before and after the massive rural land requisition (year 1999). Comparing sex imbalances within counties across cohorts can difference out time-invariant county characteristics. Comparing sex imbalances within cohorts between counties with and without clan conflict can difference out changes over time that affect these regions similarly. To check, we used individual-level data of the 0.1% sample from the 2010 census. We divided people into two groups: cohorts born before 1999 and in/after 1999.

The empirical estimates shown in Table 5 are consistent with our predictions. Columns 1 and 5 in Table 5 show the cohort effects of clan conflict on sex imbalance for rural people. The regression results support our hypotheses. The estimated coefficient of clan conflict was significantly positive for the cohort born before 1999, while no significantly positive effects for cohorts born after 1999. Nevertheless, the coefficients of clan conflict for urbanities were insignificant and did not see significant divergence across cohorts, as presented in columns 3 and 7.

3.4 Robustness Checks

We first checked the robustness of our results using alternative sex-imbalance measures. Since the aggregate sex ratio might be affected by some economic factors, such as nutritional, medical, and health conditions, we used birth ratio to perform a robustness check. Using either sex ratio at birth in 2000 or 2010 yielded estimates that are qualitatively identical to the estimates obtained using our baseline variables. As reported in Table 6, a significantly positive relationship exists between clan conflict and sex ratio at birth. Counties with a historical custom of clan conflict had higher male–female ratios at birth by 0.044 in 2000 and 0.032 in 2010, contributing to 19.3% and 15.3% of the sex imbalance in 2000 and 2010, respectively. Meanwhile, counties with a contemporary custom of clan conflict had higher male–female ratios at birth by 0.031 in 2000 and 0.021 in 2010, contributing to 14.4% and 10.6% of the sex imbalance in 2000 and 2010, respectively. This is slightly weaker than the contribution of clan conflict to sex imbalance among the whole population (nearly 28%), which is reasonable since sex imbalance arises from not only abortions of female fetuses but also the murder of female infants and the "fatal neglect of female children" (Miller, 1989; Sen, 1990, 1992; Hesketh and Xing, 2006).

We also tested the robustness of the results by using only samples from south of the Yangtze River. One counterargument could be that southern China had a small population of Han Chinese, few family clans, and thus a high probability of clan conflict. Hence, the observed correlation between family names and clan conflict would be mainly attributable to variations between the northern and southern provinces. Although province fixed effects had been included in the previous estimations, here we omitted the northern provinces and used only provinces south of the Yangtze River to isolate variation between northern and southern China. The estimates using this alternative sample selection, reported in Table 7, are virtually identical to our baseline estimates.

4. Rural Land Requisition and Forced Relocation of Clansmen

4.1 DDD Analysis.

If local power struggle affects sex imbalance, how this culture changes remains interesting. Will the policies of disintegrating clans/ethnics work? In recent decades, China's rural land has been expropriated by local governments for urban use, forcing clansmen to relocate, thus weakening clan cohesiveness.

We then tested the differences in the effects of rural land requisition on sex-ratio change in counties with and without clan conflicts. This is similar to a differences-in-differences-in-differences (DDD) estimator. The main advantage of this strategy is that the estimates are less likely to be confounded with the effects of missing variables. Table 8 shows the OLS estimates. Panel A shows the estimations of prefectural-level agricultural land requisition. It shows that the interaction of clan conflict and agricultural land requisition had a significantly negative effect on sex-ratio change from 2000 to 2010. Counties with severe waves of agricultural land requisition experienced less increases or greater declines in sex ratios from 2000 to 2010. Using county-level agricultural land requisition data yielded estimates that are qualitatively identical to the estimates in Panel A. The OLS estimates shown in Table 8 confirm that forced-relocation policy significantly reduced sex imbalance in clan-conflict counties. Such results further confirm the causal relationship between clan conflict and sex imbalance.

As mentioned earlier, rural land requisition started at the end of the 1990s in most provinces, suggesting that only people born after 1999 would be affected by it. In other words, rural land requisition should show no effect on sex imbalance in the 1982, 1990, and 2000 population censuses. A falsification test was performed to check the effect of the interaction of land requisition and clan conflict on sex imbalances in the 1982, 1990, and 2000 censuses. Consistent with our prediction, the estimates in Table A1 show no statistically significant relationship between the interaction terms and sex imbalances in 1982, 1990, and 2000. Moreover, the major findings regarding the effects of clan conflict on sex imbalance still hold.

One challenge is that economic development coexisting with land requisition contributes to decreased sex imbalance. Counties with rapid economic development in the 2000s may have had more land requisition to support industrial development; meanwhile, those counties might have also seen a decrease in sex imbalance thanks to economic development. Thus, what we observe in Table 8 might be biased. Although a variable measuring economic performance had been included in the previous estimations, here we performed a falsification test. The estimates reported in Table A2 show that the interaction term of economic performance (measured as average per capita GDP during 2000–2010) and clan conflict had no correlation with sex imbalance.

Finally, the correlation between land requisition and clan conflict should also be tested, to exclude a potential counterargument that counties with clan conflict might experience significantly severe land requisition while counties without clan conflict experienced mild or even no land requisition, thus no comparison between the conflicting counties and nonconflicting counties actually existed. The estimates presented in Table A3 are in favor of our interest, showing that there existed no significant correlation between land requisition and clan conflict. Such results further confirm our findings that rural land requisition reduced sex imbalance in clan-conflict counties.

4.2 Cohort Effects

Different effects of rural land requisition on weakening the impact of clan conflict on sex imbalance should also be found for cohorts born before and after the massive rural land requisition (year 1999). Female births should have increased for cohorts born after 1999 in former clan-conflict regions experiencing rural land requisition, and that increase should be larger for regions experiencing more severe land requisition. We used individual-level data of the 0.1% sample from the 2010 census to check.

Figure 3 depicts the effect of clan conflict on sex imbalance for cohorts born before 1999. Figure 3 (a) and (b) depict the effects for rural and urban people

respectively. As is presented, the positive effect of clan conflict on sex imbalance only exists for rural people. Figure 4 depicts the effect of clan conflict on sex imbalance for cohorts born after 1999 in counties without rural land requisition, while Figure 5 shows the effect of rural land requisition on weakening the impact of clan conflicts on sex imbalance. As is shown, for rural people born after 1999, the positive effect of clan conflict on sex imbalance still holds in counties without rural land requisition, while rural land requisition significantly weakens the impact of clan conflict on sex imbalance. Nevertheless, such effects are insignificant for urbanities.

Table 9 presents the estimates of the interaction term of clan conflict and rural land requisition. Columns 1 and 7 of Panel A show that the coefficients of the interaction terms of clan conflict and prefectural-level land requisition diverged for different cohorts in rural areas. For cohorts born prior to 2001, the coefficients of the interaction of clan conflict and land requisition were insignificantly, while for cohorts born in and after 2001, the interaction of clan conflict and land requisition had a significantly negative effect on male births. Nevertheless, the positive effect of clan conflict itself on male births still holds. Columns 4, 5, 10 and 11 show that neither the coefficient of the interaction terms nor that of clan conflict is significant for urbanities. Panel B in Table 9 shows the coefficients of the interaction term of clan conflict and county-level land requisition. We again found significant divergence in the coefficients of the interaction term of rural land requisition and clan conflict for rural people, but no significant divergence across cohorts was observed for urbanites. These results lend credibility to the interpretation that clan conflict increased sex imbalance, and rural land requisition weakened the effect of clan conflict on sex imbalance.

5. Excluding Alternative Explanations

Although we used DID/DDD and cohort effects to difference out time-invariant county characteristics and the changes over time to identify causality between clan conflict and sex imbalance, here we further address endogeneity issue by examining the most plausible alternative explanations. Specifically, we consider three sets of variables:

clan culture, economic performance and urbanization.

Clan Culture. On one hand, clan culture might aggravate sex imbalance. Clan culture increases the need for men in ancestor sacrifice rituals and kinship systems. Meanwhile, the clan culture, which was likely to coexist with Confucian idea of "education to be a politician" (*Xue er you ze shi*), might be also likely to give rise to the valuation of education and hence strong "son preference" given that only boys were allowed to take part in the civil exam. On the other hand, clan culture might intensify clan conflict. We used two indexes to proxy for clan culture, the number of Confucius temples reported in *Imperial Geography of the Qing Dynasty in 1820* and the number of genealogies compiled from 1005AD to 2007AD which were collected from "Comprehensive Catalogue of Chinese Genealogies". The results are presented in columns 1-4 of Table10. As is presented, no significant correlation exists between clan culture and clan conflict.

Economic Performance. One alternative explanation of our results is economic performance. Better economic performance might attract more immigrants and hence more diversified clans and a lower level of potential clan conflict (Horowitz, 1985; Montalvo and Reynal-Querol, 2005a, 2005b). Meanwhile, economic development might reduce sex imbalance. Columns 5-6 in Table 10 presents the results. As is shown, regional economic performance had no significant correlation with clan conflict.

Urbanization. On one hand, regions with high levels of urbanization might have more family names and a lower level of potential clan conflict; on the other hand, urbanization might reduce sex imbalance. We checked urbanization as a potential channel. Columns 7-8 in Table 10 reports insignificant correlations between clan conflict and urbanization.

Taken together, the above results confirm that our major findings and causality results are unlikely to be driven by factors other than clan conflict.

6. Conclusion

It has long been observed that economic conditions affect sex imbalance.

Nevertheless, previous studies have mostly focused on the effects of women's potential income on survival rates and other outcomes for girls. One long-recognized but not formally tested factor is the perceived need for sons to uphold—with violence—a family's power among its neighbors (Miller, 1981, 1989; Mahadevan and Jayashree, 1989; Oldenburg, 1992; Rowe, 2007). This is crucial for sex imbalances in underdeveloped countries, especially where local fighting for resources and dominance is prevalent. We formally tested this hypothesis by combining clan conflict data in historical and modern China with contemporary sex-imbalance data.

This study's findings provide evidence that current variations in sex imbalance are shaped by differences in local power struggles—that is, clan conflict has a significantly positive effect on sex imbalance. Clan conflict itself contributes to nearly 28% of the variation in sex imbalance across counties in China. Specifically, we found that the effect is significant in rural areas but not in urban areas. Furthermore, we checked the evolution of the effects of clan conflict on sex imbalance based on land-requisition policies forcing clansmen to relocate and scatter. We found that relocation significantly cushioned the effect of clan conflict on sex imbalance for rural people born after the massive agricultural land requisition. In other words, the effects of rural tradition on human behavior may fade in the process of modernization.

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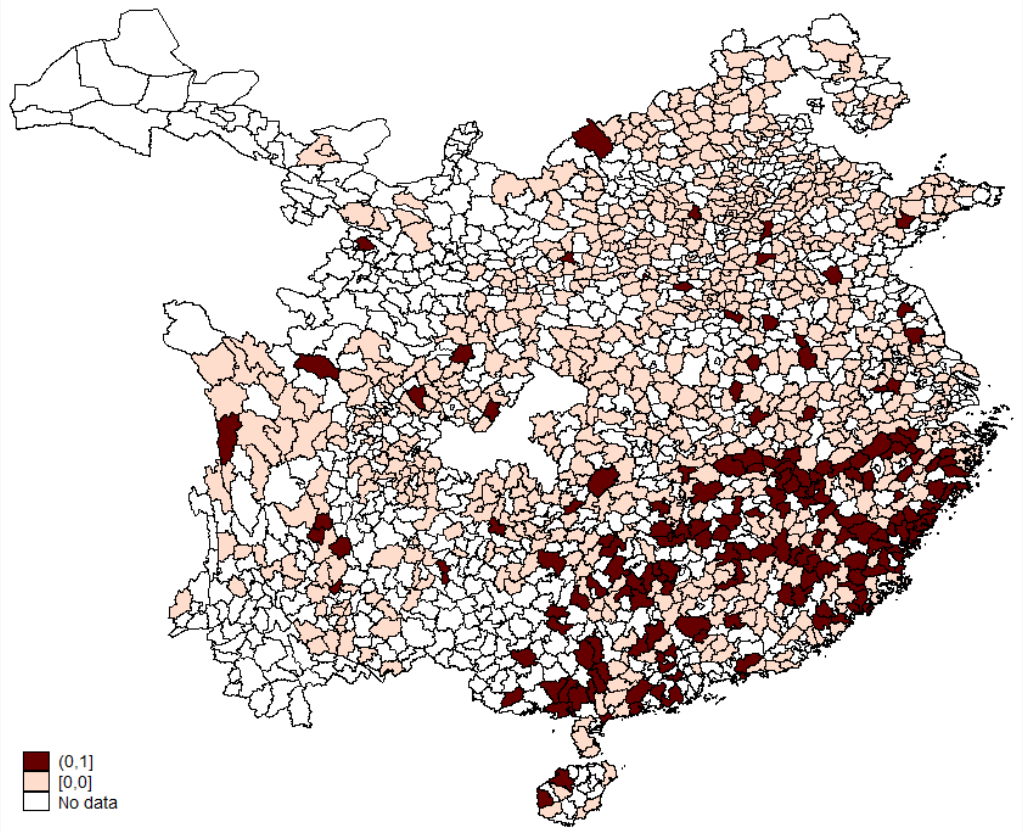


Figure 1A Spatial Distribution of Clan Conflict in the Qing Dynasty

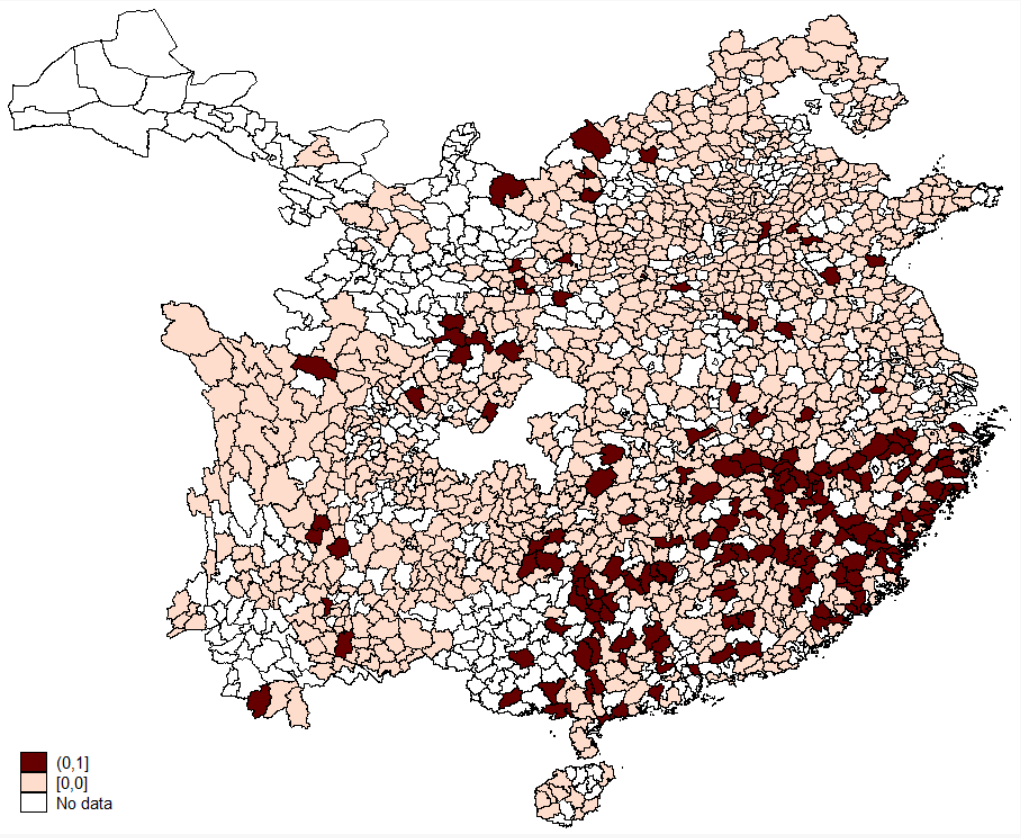


Figure 1B Spatial Distribution of Clan Conflict from 1949 to the 1990s

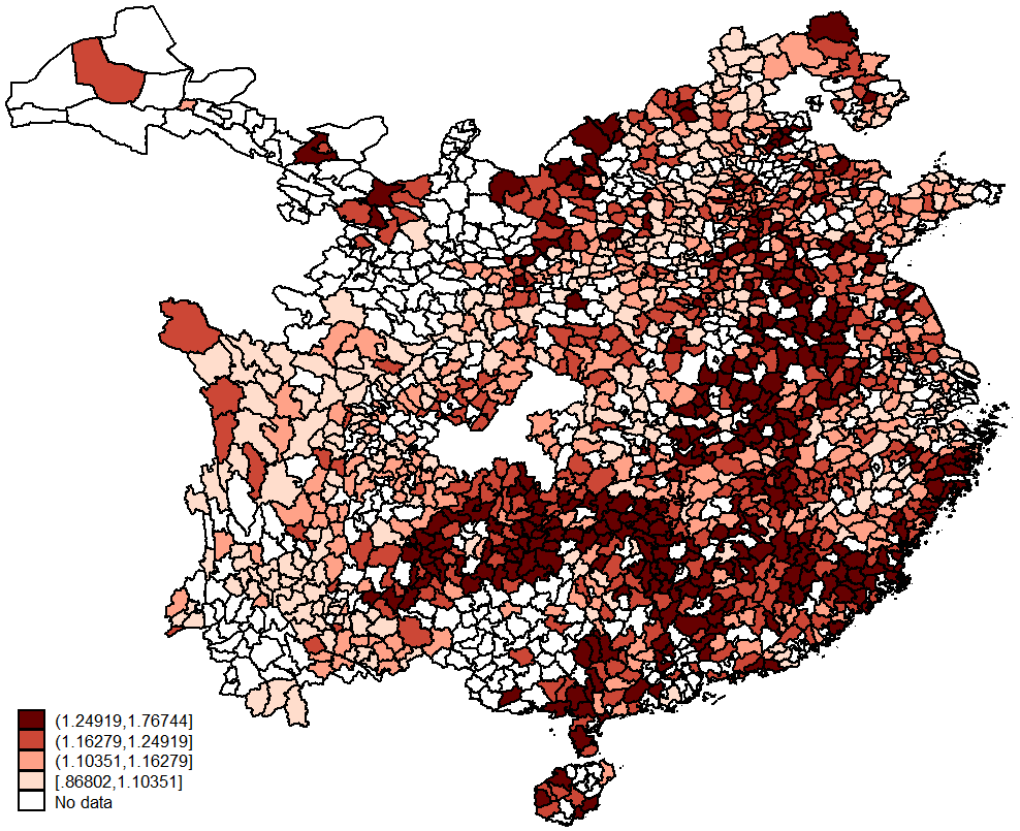


Figure 2 Male/Female Ratio in 2010

Table 1 Descriptive Statistics

Variable	Obs	Mean	Std. Dev.	Min	Max
Male/female ratio					
County level					
Sexratio1982	1643	1.0599	0.056	0.826	1.531
Sexratio1990	1643	1.0668	0.050	0.861	1.676
Sexratio2000	1643	1.0735	0.052	0.842	1.693
Sexratio2010	1643	1.0557	0.052	0.728	1.557
Birthratio2000	1643	1.1845	0.142	0.809	1.932
Birthratio2010	1643	1.1769	0.106	0.844	1.767
Rural-sexratio1990	1555	1.0549	0.048	0.877	1.248
Urban-sexratio1990	1643	1.1749	0.177	0.895	2.863
Rural-sexratio2010	1643	1.0407	0.095	0.466	3
Urban-sexratio2010	1643	1.2015	0.470	0.499	15
Individual level					
Sexratio2010	2062636	0.5123	0.500	0	1
Clan conflict					
Clan Conflict in Qing Dynasty	1219	0.186	0.389	0	1
Clan Conflict in 1990s	1643	0.137	0.344	0	1
Agricultural land requisition					
Agricultural Land Requisition Prefectural Level	1643	0.005	0.013	0.0001	0.225
Agricultural Land Requisition County Level	446	0.012	0.034	0.000	0.305
Controls					
ethnical characteristics					
Normadic	1640	0.043	0.156	0	0.974
Matrilocal	1640	0.004	0.038	0	0.593
Extended Family1982	1643	0.006	0.005	0	0.034
Extended Family1990	1643	0.070	0.035	0	0.309
Extended Family2000	1643	0.008	0.006	0	0.069
Extended Family2010	1643	0.008	0.006	0	0.063
cultural norms					
Temple	1643	1.685	2.561	0	32
Minority1982	1643	0.111	0.242	0	1
Minority1990	1643	0.125	0.254	0	1
Minority2000	1643	0.114	0.242	0	0.993
Minority2010	1643	0.116	0.244	0	0.987
Nan	1643	0.575	0.493	0	1
economic origins					
Plough	1639	1651.896	1336.731	0	7879.422
Tea Planting	1643	0.394	0.489	0	1
war					

War	1643	2.575	4.911	0	51
economic performance					
Chong	1643	0.506	0.498	0	1
GDP Per Capita	1643	7450.124	7466.775	886.5	103711.6
Life Expectancy of Males	1643	69.309	2.069	63.983	72.58
Urban1982	1643	0.097	0.058	0.001	0.849
Urban1990	1643	0.148	0.153	0	0.876
Urban2000	1643	0.150	0.085	0.024	0.738
Urban2010	1643	0.179	0.096	0.027	0.885
one-child policy					
One-child Policy79-82	1643	770.812	77.745	543.108	855.4
One-child Policy79-90	1643	770.774	150.013	509.164	1414.345
One-child Policy79-00	1643	858.951	269.724	462.877	2147.747

Table 2 OLS Estimates of Clan Conflicts on Male/Female Ratio: Baseline Models

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
	D.V.: Sexratio1982		D.V.: Sexratio1990		D.V.: Sexratio2000		D.V.: Sexratio2010	
	Panel A: clan conflict in Qing dynasty as independent variable							
Clan Conflict in Qing Dynasty	0.023***	0.021***	0.025***	0.018***	0.028***	0.016***	0.027***	0.016***
	(0.004)	(0.004)	(0.004)	(0.0039)	(0.0036)	(0.0036)	(0.004)	(0.004)
Province F.E.		y		y		y		y
Obv.	1177	1177	0.04	0.18	1192	1192	1188	1188
Adj. R-sq	0.03	0.17	1218	1218	0.05	0.34	0.04	0.22
	Panel B: clan conflict in 1990s as independent variable							
Clan Conflict in 1990s	0.022***	0.015***	0.023***	0.014***	0.024***	0.013***	0.021***	0.012***
	(0.004)	(0.004)	(0.003)	(0.003)	(0.004)	(0.004)	(0.004)	(0.004)
Province F.E.		y		y		y		y
Obv.	1562	1562	0.03	0.16	1599	1599	1594	1594
Adj. R-sq	0.02	0.18	1639	1639	0.02	0.30	0.02	0.23

Notes: This table does not have any control variables. The unit of observation is a county. The dependent variable is male/female ratio in 1982, 1990, 2000 and 2010. The independent variables are whether a county had a social norm of clan conflict in the Qing dynasty (Clan Conflict in Qing Dynasty) or until the 1990s (Clan Conflict in 1990s), in which 1 means there existed clan conflict and 0 means no clan conflict. In columns 1, 3, 5 and 7, we do not control for province fixed effect, while in columns 2, 4, 6 and 8, we control for province fixed effect. The numbers in brackets are standard deviations. * * * 、 * * and*, respectively, represent the significant levels of 1%, 5% and 10%.

Table 3 OLS Estimates of Clan Conflicts on Male/Female Ratio: Adding More Controls

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
	D.V.: Sexratio1982		D.V.: Sexratio1990		D.V.: Sexratio2000		D.V.: Sexratio2010	
	Panel A: clan conflict in Qing dynasty as independent variable							
Clan Conflict in Qing Dynasty	0.011***	0.016***	0.015***	0.015***	0.018***	0.011***	0.020***	0.013***
	(0.004)	(0.004)	(0.0036)	(0.0038)	(0.0034)	(0.0035)	(0.0038)	(0.0038)
Normadic	-0.027*	-0.016	-0.052***	-0.026*	-0.045***	-0.014	0.013	0.048***
	(0.014)	(0.016)	(0.013)	(0.014)	(0.012)	(0.013)	(0.013)	(0.014)
Matrilocal	-0.128*	-0.073	-0.044	-0.062	0.111*	-0.028	0.205***	-0.016
	(0.068)	(0.079)	(0.064)	(0.075)	(0.064)	(0.066)	(0.071)	(0.076)
Extendedfamily1982	-1.375***	-1.463***						
	(0.344)	(0.345)						
Extendedfamily1990			-0.062	-0.052				
			(0.042)	(0.046)				
Extendedfamily2000					-1.933***	-2.073***		
					(0.226)	(0.219)		
Extendedfamily2010							-1.570***	-1.541***
							(0.258)	(0.252)
Temple	-0.0017***	-0.003***	-0.002***	-0.0025***	-0.0003	-0.001***	-0.000	-0.0015**
	(0.0006)	(0.0006)	(0.0006)	(0.00056)	(0.0005)	(0.0005)	(0.000)	(0.0006)
Minority1982	-0.041***	-0.039***						
	(0.009)	(0.010)						
Minority1990			-0.012	-0.026***				
			(0.008)	(0.009)				
Minority2000					0.008	-0.007		
					(0.007)	(0.008)		
Minority2010							0.004	0.002
							(0.008)	(0.009)
Nan	-0.010***	-0.005*	-0.005*	-0.0008	-0.005*	-0.0004	-0.004	-0.001
	(0.003)	(0.003)	(0.027)	(0.0026)	(0.0025)	(0.002)	(0.003)	(0.003)
Plough	-0.000***	-0.000***	-0.000***	-0.000	-0.000***	-0.000***	-0.000***	-0.008***
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.001)
Tea Planting	0.005	0.007	0.001	0.0037	-0.001	-0.002	-0.006*	-0.0015
	(0.004)	(0.004)	(0.003)	(0.0039)	(0.003)	(0.004)	(0.003)	(0.004)
War	0.001***	0.0004	0.0006*	0.0002	0.0004	0.000	0.0002	0.000
	(0.0003)	(0.0003)	(0.0003)	(0.0003)	(0.0003)	(0.000)	(0.0003)	(0.000)
Chong	0.003	0.0027	-0.001	-0.001	0.0001	0.0008	0.005*	0.006**
	(0.003)	(0.0029)	(0.003)	(0.003)	(0.003)	(0.002)	(0.003)	(0.0027)
GDP Per Capita	-0.000***	-0.000***	-0.000***	-0.000***	-0.000	-0.000	0.000***	0.000

	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
Life Expectancy of Males	0.005***		-0.000		-0.007***		-0.007***	
	(0.001)		(0.000)		(0.0008)		(0.001)	
Urban1982	0.223***	0.264***						
	(0.031)	(0.032)						
Urban1990			0.210***	0.201***				
			(0.028)	(0.029)				
Urban2000					0.093***	0.061***		
					(0.023)	(0.023)		
Urban2010							0.041**	0.006
							(0.020)	(0.020)
One-child Policy79-82	0.000		-0.000		-0.000		-0.000	
	(0.000)		(0.000)		(0.000)		(0.000)	
Province F.E.		y		y		y		y
Obv.	1095	1095	0.20	0.26	1163	1163	1157	1157
Adj. R-sq	0.23	0.32	1170	1170	0.27	0.40	0.21	0.34
				Panel B: clan conflict in 1990s as independent variable				
Clan Conflict in 1990s	0.012***	0.014***	0.015***	0.013***	0.018***	0.011***	0.018***	0.011***
	(0.0037)	(0.0038)	(0.0033)	(0.0035)	(0.003)	(0.0036)	(0.0036)	(0.0036)
Normadic	-0.015	-0.005	-0.035***	-0.018*	-0.023**	-0.0055	0.015	0.043***
	(0.010)	(0.010)	(0.008)	(0.009)	(0.009)	(0.010)	(0.009)	(0.010)
Matrilocal	-0.042	-0.008	0.018	0.008	0.157***	0.100***	0.126***	0.011
	(0.035)	(0.038)	(0.030)	(0.034)	(0.034)	(0.034)	(0.035)	(0.036)
Extendedfamily1982	-1.321***	-1.341***						
	(0.277)	(0.276)						
Extendedfamily1990			-0.030	-0.012				
			(0.034)	(0.036)				
Extendedfamily2000					-2.082***	-2.239***		
					(0.204)	(0.205)		
Extendedfamily2010							-1.419***	-1.359***
							(0.210)	(0.207)
Temple	-0.0018***	-0.0028***	-0.0017***	-0.0025***	-0.0004	-0.0015***	-0.0007	-0.0016***
	(0.0005)	(0.0005)	(0.0005)	(0.0005)	(0.0005)	(0.0005)	(0.0006)	(0.0005)
Minority1982	-0.045***	-0.042***						
	(0.0067)	(0.0076)						
Minority1990			-0.020***	-0.025***				
			(0.0058)	(0.007)				
Minority2000					0.0026	-0.0037		
					(0.0059)	(0.007)		

Minority2010							-0.001	-0.001
							(0.006)	(0.007)
Nan	-0.006**	-0.002	-0.003	0.0009	-0.002	0.002	-0.0035	0.0007
	(0.0025)	(0.0005)	(0.002)	(0.002)	(0.002)	(0.002)	(0.0025)	(0.002)
Plough	-0.000***	-0.000***	-0.000***	-0.000***	-0.000***	-0.000***	-0.000***	-0.000***
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
Tea Planting	0.004	0.007*	0.0007	0.004	0.0008	0.002	-0.005*	0.001
	(0.0029)	(0.0036)	(0.0026)	(0.003)	(0.0026)	(0.002)	(0.0027)	(0.004)
War	0.0007**	0.00027	0.00026	-0.000	0.00001	-0.0002	0.0001	0.00016
	(0.0003)	(0.00025)	(0.00028)	(0.0003)	(0.0003)	(0.0003)	(0.0003)	(0.00029)
Chong	0.0027	0.0025	-0.000	0.0003	0.001	0.0026	0.0042*	0.005**
	(0.0026)	(0.0025)	(0.002)	(0.002)	(0.002)	(0.0022)	(0.0025)	(0.002)
GDP Per Capita	-0.000***	-0.000***	-0.000***	-0.000***	-0.000***	-0.000	0.000***	0.000***
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
Life Expectancy of Males	0.005***		0.0004		-0.007***		-0.006***	
	(0.0008)		(0.0007)		(0.0007)		(0.0008)	
Urban1982	0.164***	0.176***						
	(0.021)	(0.021)						
Urban1990			0.144***	0.136***				
			(0.019)	(0.019)				
Urban2000					0.070***	0.048**		
					(0.019)	(0.019)		
Urban2010							0.034**	0.004
							(0.016)	(0.017)
One-child Policy79-82	0.000		-0.000		-0.000		0.000	
	(0.000)		(0.000)		(0.000)		(0.000)	
Province F.E.		y		y		y		y
Obv.	1458	1458	0.18	0.25	1560	1560	1551	1551
Adj. R-sq	0.22	0.31	1577	1577	0.27	0.37	0.23	0.35

Notes: The unit of observation is a county. The dependent variable is male/female ratio in 1982, 1990, 2000 and 2010. The independent variables are whether a county have had a social norm of clan conflict in the Qing dynasty or until the 1990s, in which 1 means there existed clan conflict and 0 means no clan conflict. In columns 1, 3, 5 and 7, we add all control variables (Normadic, Matrilocal, Extendedfamily, Temple, Minority, Nan, Plough, Tea Planting, War, Chong, GDP Per Capita, Life Expectancy of Males, Urban, One-child Policy79-82), without province fixed effect, while in columns 2, 4, 6 and 8, we add both control variables (Normadic, Matrilocal, Extendedfamily, Temple, Minority, Nan, Plough, Tea Planting, War, Chong, GDP Per Capita, Urban, without Life Expectancy of Males and One-child Policy79-82, which we only have provincial level data) and province fixed effect. The numbers in brackets are standard deviations. * * * 、 * * and*, respectively, represent the significant levels of 1%, 5% and 10%.

Table 4 Difference between Urban and Rural in impacts of Clan Conflict on Sex Ratios

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
	D.V.: Sexratio1990				D.V.: Sexratio2010			
	Rural		Urban		Rural		Urban	
Clan Conflict in Qing Dynasty	0.014***		0.020		0.013*		0.009	
	(0.0038)		(0.015)		(0.007)		(0.005)	
Clan Conflict in 1990s		0.012***		0.007		0.020**		-0.007
		(0.003)		(0.014)		(0.0079)		(0.043)
controls	y	y	y	y	y	y	y	y
Province F.E.	y	y	y	y	y	y	y	y
Obv.	1058	1408	1057	1405	963	1257	957	1249
Adj. R-sq	0.32	0.29	0.22	0.21	0.11	0.21	0.10	0.10

Notes: The unit of observation is a county. The dependent variable is male/female ratio in 1990 and 2010 in rural and urban areas. The independent variables are whether a county have had a social norm of clan conflict in the Qing dynasty or until the 1990s, in which 1 means there existed clan conflict and 0 means no clan conflict. We add both control variables (Normadic, Matrilocal, Extendedfamily, Temple, Minority, Nan, Plough, Tea Planting, War, Chong, GDP Per Capita, Urban, without Life Expectancy of Males and One-child Policy79-82, which we only have provincial level data) and province fixed effect. The numbers in brackets are standard deviations. * * * 、 * * and*, respectively, represent the significant levels of 1%, 5% and 10%.

Table 5 Cohort Effects of Clan conflict on Male/Female Ratio

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
	Panel A: Clan Conflict in Qing Dynasty				Panel B: Clan Conflict in 1990s			
	Rural		Urban		Rural		Urban	
Birth year	Clan Conflict Coeff. (Std. error)	Obvs.	Clan Conflict Coeff. (Std. error)	Obvs.	Clan Conflict Coeff. (Std. error)	Obvs.	Clan Conflict Coeff. (Std. error)	Obvs.
Born before 1999	0.0067***	1223914	-0.0002	204572	0.007***	1493394	-0.004	249215
	(0.002)		(0.003)		(0.0018)		(0.003)	
Born in and after 1999	-0.006	182348	0.008	26006	-0.003	225352	0.005	31982
	(0.007)		(0.009)		(0.007)		(0.008)	
1999	0.003	14658	0.002	2581	0.035***	18053	0.008	3141
	(0.012)		(0.028)		(0.010)		(0.026)	
2000	0.017	15002	0.028	2703	0.006	18533	0.039	3318
	(0.012)		(0.029)		(0.011)		(0.028)	
2001	0.023	15247	-0.053**	2533	0.020	18984	-0.033	3076
	(0.015)		(0.026)		(0.014)		(0.025)	
2002	-0.011	14725	0.031	2329	-0.016	18164	0.059*	2866
	(0.014)		(0.030)		(0.013)		(0.028)	
2003	-0.014	14665	0.017	2157	-0.027**	18118	-0.041	2682
	(0.014)		(0.028)		(0.014)		(0.030)	
2004	-0.010	16800	0.019	2362	-0.008	20891	0.041	2942
	(0.013)		(0.031)		(0.012)		(0.028)	
2005	-0.004	16836	0.016	2305	-0.002	20744	0.012	2828
	(0.013)		(0.032)		(0.014)		(0.031)	

2006	-0.002	17238	0.007	2184	0.004	21336	0.021	2718
	(0.012)		(0.033)		(0.012)		(0.029)	
2007	-0.008	16721	-0.008	2184	-0.004	20644	-0.030	2655
	(0.013)		(0.028)		(0.012)		(0.028)	
2008	-0.033**	16774	0.005	2050	-0.025	20696	-0.016	2522
	(0.016)		(0.029)		(0.016)		(0.030)	
2009	-0.020	15928	0.008	1775	-0.004	19664	-0.007	2190
	(0.013)		(0.033)		(0.013)		(0.033)	
2010	-0.018	7754	0.089*	843	-0.021	9525	0.011	1044
	(0.022)		(0.051)		(0.021)		(0.049)	

Note: The unit of observation is an individual in the 2010 Population Census. The dependent variable is the gender of each individual, with 1 to be male and 0 to be female. The independent variable of columns 1-4 is the clan conflict in the Qing Dynasty, while that of columns 5-8 is the clan conflict in the 1990s. Columns 1, 2, 5 and 6 are for rural people, columns 3, 4, 7 and 8 are for urban people. We add all individual level controls (education, race and birth year), county level controls and province fixed effect. All standard errors are clustered at county level. The numbers in brackets are standard deviations. * * *, * * and*, respectively, represent the significant levels of 1%, 5% and 10%.

Robustness Checks-1

Table 6 OLS Estimates of Clan Conflict on Male/Female Ratio at Birth

	(1)	(2)	(3)	(4)
	D.V.: Birthratio2000		D.V.: Birthratio2010	
Clan Conflict in Qing Dynasty	0.044***		0.032***	
	(0.011)		(0.008)	
Clan Conflict in 1990s		0.031***		0.021**
		(0.010)		(0.008)
Controls	y	y	y	y
ProvinceFE	y	y	y	y
Obv.	1137	1526	1132	1518
Adj. R-sq	0.26	0.24	0.23	0.24

Notes: The table reports the OLS estimates of clan conflict on sex ratio at birth. The dependent variable is male/female birth ratio in 2000 and 2010. The unit of observation is a county. We add both control variables (Normadic, Matrilocal, Extendedfamily, Temple, Minority, Nan, Plough, Tea Planting, War, Chong, GDP Per Capita, Urban, without Life Expectancy of Males and One-child Policy79-82, which we only have provincial level data) and province fixed effect. The numbers in brackets are standard deviations. * * * 、 * * and*, respectively, represent the significant levels of 1%, 5% and 10%.

Robustness Checks-2

Table 7 Only Provinces in the South of the Yangtze River

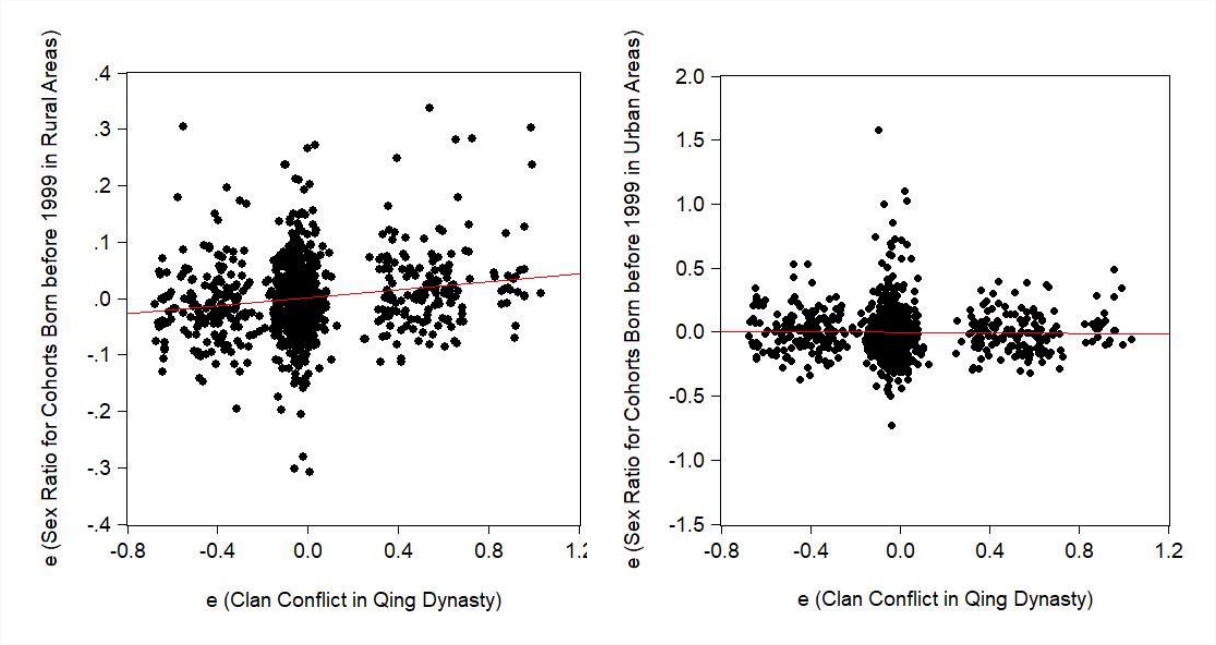
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
	D.V.: sexratio1982		D.V.: sexratio1990		D.V.: sexratio2000		D.V.: sexratio2010	
Clan Conflict in Qing Dynasty	0.014***		0.021***		0.011**		0.018***	
	(0.004)		(0.005)		(0.004)		(0.004)	
Clan Conflict in 1990s		0.011***		0.011**		0.012***		0.017***
		(0.004)		(0.0046)		(0.0043)		(0.004)
Controls	y	y	y	y	y	y	y	y
Province F.E.	y	y	y	y	y	y	y	y
Obv.	426	588	448	619	450	624	447	621
Adj. R-sq	0.32	0.33	0.10	0.11	0.28	0.27	0.22	0.23

Notes: The table reports the OLS estimates with only provinces in the south of the Yangtze River. The dependent variable is male/female birth ratio in 1982, 1990, 2000 and 2010. The unit of observation is a county. We add both control variables (Normadic, Matrilocal, Extendedfamily, Temple, Minority, Nan, Plough, Tea Planting, War, Chong, GDP Per Capita, Urban, without Life Expectancy of Males and One-child Policy79-82, which we only have provincial level data) and province fixed effect. The numbers in brackets are standard deviations. * * * 、 * * and*, respectively, represent the significant levels of 1%, 5% and 10%.

Table 8 Different Impacts of Forced Relocation of Clansmen on the Change of Male/Female Ratio from 2000 to 2010, in Clan-conflict Counties and No-clan-conflict Counties

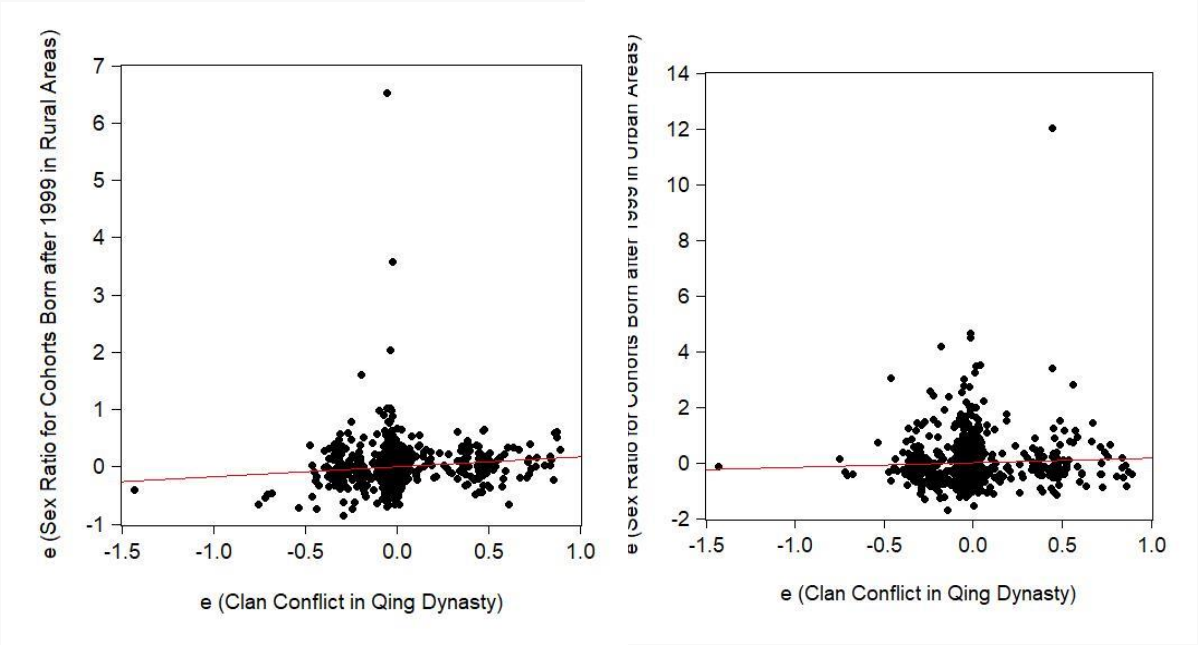
	(1)	(2)
Panel A: prefectural level agricultural land requisition		
Agricultural Land Requisition at Prefectural Level*Clan Conflict in Qing Dynasty	-1.151**	
	(0.587)	
Agricultural Land Requisition at Prefectural Level*Clan Conflict in 1990s		-1.386**
		(0.563)
Clan Conflict in Qing Dynasty	0.005	
	(0.004)	
Clan Conflict in 1990s		0.003
		(0.004)
Agricultural Land Requisition at Prefectural Level	2.902***	2.692***
	(0.375)	(0.337)
Controls	y	y
Province F.E.	y	y
Obv.	0.32	0.30
Adj. R-sq	1029	1293
Panel B: county level agricultural land requisition		
Agricultural Land Requisition at County Level*Clan Conflict in Qing Dynasty	-0.200***	
	(0.019)	
Agricultural Land Requisition at County Level*Clan Conflict in 1990s		-0.181***
		(0.023)
Clan Conflict in Qing Dynasty	0.0035*	
	(0.0018)	
Clan Conflict in 1990s		-0.003
		(0.003)
Agricultural Land Requisition at County Level	0.061*	0.138***
	(0.029)	(0.022)
Controls	y	y
Province F.E.	y	y
Obv.	338	439
Adj. R-sq	0.30	0.34

Notes: This table shows different impacts of forced relocation of clansmen during the 2000s on the change of sex ratio from 2000 to 2010, in clan-conflict counties and no-clan-conflict counties, respectively. The unit of observation is a county. We add both control variables (Normadic, Matrilocal, Extendedfamily, Temple, Minority, Nan, Plough, Tea Planting, War, Chong, GDP Per Capita, Urban, without Life Expectancy of Males and One-child Policy79-82, which we only have provincial level data) and province fixed effect. The numbers in brackets are standard deviations. * * * 、 * * and*, respectively, represent the significant levels of 1%, 5% and 10%.



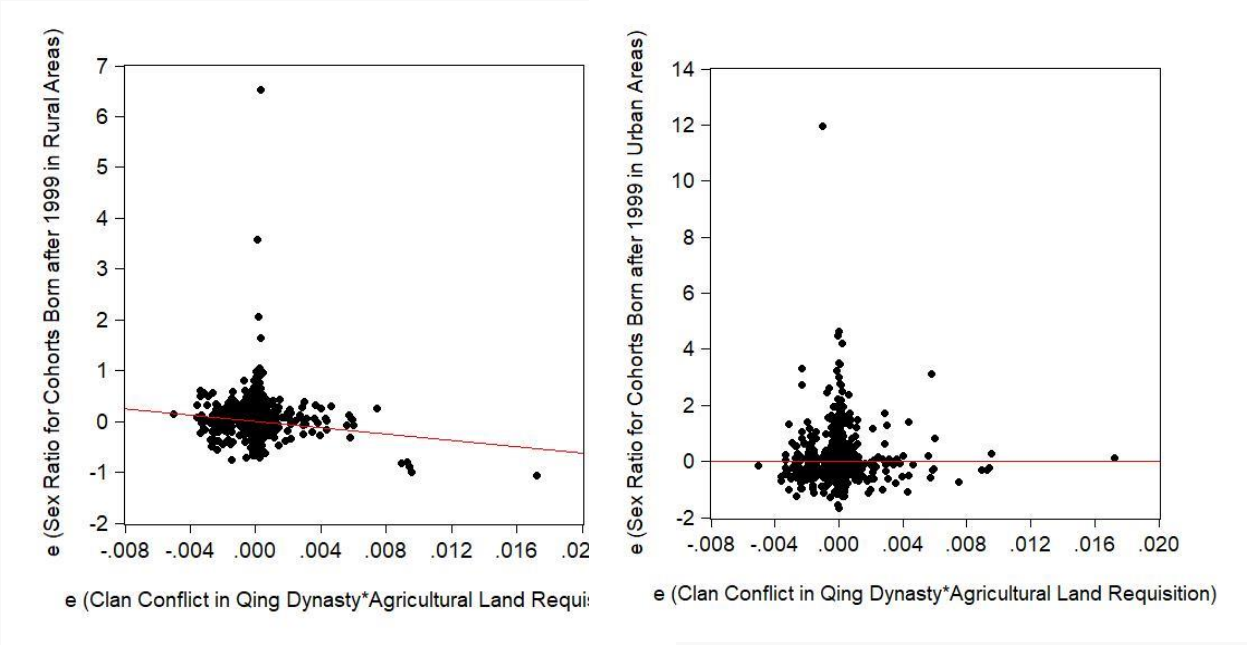
(a) For Rural People (b) For Urban People

Figure 3 Effects of Clan Conflicts on Sex Imbalance for Cohorts born before 1999



(a) For Rural People (b) For Urban People

Figure 4 Effects of Clan Conflicts on Sex Imbalance in Counties without Rural Land Requisition for Cohorts born after 1999



(a) For Rural People (b) For Urban People

Figure 5 Effect of Rural Land Requisition on Weakening the Effect of Clan Conflict for Cohorts born after 1999

Table 9 Cohort Effects of Forced Relocation of Clansmen on Male/Female Ratio

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
	Panel A-1: prefectural level agricultural land requisition (Clan Conflict in Qing Dynasty)						Panel A-2: prefectural level agricultural land requisition (Clan Conflict in 1990s)					
	Rural			Urban			Rural			Urban		
Birth year	Interaction Term Coeff. (Std. error)	Clan Conflict Coeff. (Std. error)	Obvs.	Interaction Term Coeff. (Std. error)	Clan Conflict Coeff. (Std. error)	Obvs.	Interaction Term Coeff. (Std. error)	Clan Conflict Coeff. (Std. error)	Obvs.	Interaction Term Coeff. (Std. error)	Clan Conflict Coeff. (Std. error)	Obvs.
Born before 1999	0.546	0.004	1223914	-1.850**	0.008	204572	-0.058	0.008***	1493394	-1.366*	0.0027	249215
	(0.534)	(0.0029)		(0.808)	(0.005)		(0.480)	(0.0025)		(0.791)	(0.0045)	
Born in and after 1999	-9.220***	0.031***	182348	-0.267	0.009	26006	-7.941***	0.029***	225352	0.763	0.0029	31982
	(2.944)	(0.011)		(1.994)	(0.013)		(2.925)	(0.011)		(1.787)	(0.012)	
1999	7.586**	-0.027	14658	-7.563	0.037	2581	0.583	0.033**	18053	-6.129	0.037	3141
	(3.083)	(0.018)		(6.558)	(0.038)		(3.166)	(0.015)		(6.114)	(0.039)	
2000	7.751***	-0.015	15002	-5.989	0.058	2703	6.217**	-0.019	18533	-6.148	0.068	3318
	(2.891)	(0.018)		(6.380)	(0.043)		(2.817)	(0.015)		(5.969)	(0.041)	
2001	-19.043***	0.101***	15247	-3.834	-0.035	2533	-13.300***	0.074***	18984	-8.350	0.008	3076
	(4.278)	(0.019)		(6.542)	(0.038)		(4.835)	(0.020)		(6.058)	(0.035)	
2002	-13.428***	0.046**	14725	2.781	0.018	2329	-10.351**	0.027	18164	-0.041	0.060	2866
	(4.348)	(0.020)		(6.251)	(0.042)		(4.554)	(0.019)		(5.769)	(0.038)	
2003	-9.467*	0.025	14655	0.718	0.015	2157	-8.799*	0.009	18118	5.832	-0.068*	2682
	(5.368)	(0.022)		(7.943)	(0.041)		(4.973)	(0.021)		(7.183)	(0.041)	
2004	-10.251**	0.031	16800	-1.386	0.025	2362	-9.866**	0.030	20891	3.124	0.028	2942
	(5.144)	(0.021)		(8.090)	(0.047)		(4.823)	(0.020)		(7.069)	(0.040)	
2005	-10.611***	0.039**	16836	3.863	-0.0006	2305	-9.243**	0.036*	20744	4.443	-0.008	2828

	(3.612)	(0.019)		(7.197)	(0.044)		(3.764)	(0.019)		(7.034)	(0.045)	
2006	-15.479***	0.060***	17238	9.229	-0.031	2184	-11.198**	0.048***	21336	14.559*	-0.040	2718
	(4.419)	(0.017)		(9.497)	(0.051)		(4.749)	(0.018)		(7.579)	(0.043)	
2007	-11.262**	0.039*	16721	-12.347	0.047	2184	-6.875	0.025	20644	-7.400	0.005	2655
	(4.722)	(0.021)		(8.287)	(0.044)		(4.683)	(0.020)		(7.508)	(0.043)	
2008	-12.499***	0.018	16774	-4.909	0.028	2050	-9.594**	0.015	20696	0.592	-0.019	2522
	(4.256)	(0.023)		(6.785)	(0.043)		(4.571)	(0.023)		(6.964)	(0.046)	
2009	-10.395**	0.021	15928	25.291***	-0.102**	1775	-14.525***	0.053***	19664	20.498**	-0.096*	2190
	(4.552)	(0.019)		(8.172)	(0.048)		(4.162)	(0.018)		(8.678)	(0.050)	
2010	-14.899***	0.041	7754	-6.007	0.116	843	-8.718	0.014	9525	7.339	-0.023	1044
	(5.601)	(0.031)		(12.279)	(0.072)		(5.679)	(0.031)		(9.944)	(0.069)	

	Panel B-1: county level agricultural land requisition (Clan Conflict in Qing Dynasty)						Panel B-2: county level agricultural land requisition (Clan Conflict in 1990s)					
	Rural			Urban			Rural			Urban		
Birth year	Interaction Term Coeff. (Std. error)	Clan Conflict Coeff. (Std. error)	Obvs.	Interaction Term Coeff. (Std. error)	Clan Conflict Coeff. (Std. error)	Obvs.	Interaction Term Coeff. (Std. error)	Clan Conflict Coeff. (Std. error)	Obvs.	Interaction Term Coeff. (Std. error)	Clan Conflict Coeff. (Std. error)	Obvs.
Born in 1999 and before	0.137*	0.006	382287	-0.280*	0.019*	56119	0.199**	0.0056	474917	0.021	0.013	69512
1999	(0.072)	(0.0065)		(0.154)	(0.011)		(0.088)	(0.0052)		(0.137)	(0.010)	
Born in and after 1999	-0.389**	-0.030	59232	0.061	-0.040	7343	-0.368*	-0.019	73960	0.024	0.021	9123
	(0.174)	(0.039)		(0.363)	(0.031)		(0.202)	(0.028)		(0.366)	(0.017)	
1999	0.343	0.022	4586	1.527	-0.141*	747	0.149	0.031	5762	0.056	0.129	912
	(0.446)	(0.066)		(0.964)	(0.081)		(0.560)	(0.034)		(1.206)	(0.080)	
2000	0.162	0.040	4782	0.031	-0.027	772	-0.500	0.035	5957	-0.261	-0.046	958
	(0.395)	(0.039)		(1.675)	(0.085)		(0.440)	(0.029)		(1.508)	(0.094)	
2001	0.401	-0.108	4656	-0.308	0.069	722	-0.752*	-0.051	5881	1.509	0.028	912

	(0.508)	(0.091)		(1.412)	(0.107)		(0.404)	(0.049)		(1.444)	(0.075)	
2002	0.193	-0.097	4711	-0.687	0.171	702	0.196	-0.059	5845	-0.975	0.172**	852
	(0.391)	(0.064)		(1.952)	(0.130)		(0.606)	(0.057)		(1.711)	(0.083)	
2003	-0.222	-0.102	4544	1.532	-0.018	586	0.341	-0.172***	5693	1.181	-0.055	741
	(0.455)	(0.078)		(2.394)	(0.103)		(0.646)	(0.049)		(1.979)	(0.112)	
2004	-0.221	-0.040	5406	1.078	-0.230	695	0.305	-0.032	6824	0.669	-0.048	855
	(0.284)	(0.049)		(1.287)	(0.142)		(0.405)	(0.044)		(1.421)	(0.091)	
2005	-0.712**	-0.003	5608	-0.188	-0.224*	617	-0.656*	-0.013	6961	-0.280	-0.077	775
	(0.298)	(0.058)		(1.475)	(0.135)		(0.396)	(0.044)		(1.390)	(0.133)	
2006	0.112	-0.018	5671	-0.126	-0.073	591	0.402	-0.007	7047	-1.824	0.172	759
	(0.355)	(0.051)		(1.415)	(0.209)		(0.495)	(0.048)		(1.305)	(0.107)	
2007	-1.261***	-0.014	5560	1.230	0.006	595	-0.982**	0.009	6934	1.731	-0.090	725
	(0.368)	(0.058)		(1.368)	(0.109)		(0.496)	(0.043)		(1.179)	(0.112)	
2008	-2.015***	0.052	5695	-1.749	-0.100	572	-1.048*	0.003	7116	-0.361	-0.042	716
	(0.414)	(0.054)		(1.145)	(0.131)		(0.583)	(0.051)		(1.337)	(0.102)	
2009	-1.019**	-0.091	5421	-0.727	-0.040	530	-1.534***	0.037	6769	-0.786	0.009	655
	(0.415)	(0.056)		(1.360)	(0.080)		(0.429)	(0.039)		(1.386)	(0.099)	
2010	-1.136**	0.021	2592	-3.409	0.211	214	-0.576	-0.016	3171	-2.727	0.050	263
	(0.570)	(0.078)		(2.898)	(0.239)		(0.818)	(0.050)		(2.702)	(0.172)	

Note: The unit of observation is an individual in the 2010 Population Census. The dependent variable is the gender of each individual, with 1 to be male and 0 to be female. The interaction term of Panel A-1 is prefectural level agricultural land requisition and clan conflict in the Qing Dynasty. The interaction term of Panel A-2 is prefectural level agricultural land requisition and clan conflict in the 1990s. The interaction term of Panel B-1 is county level agricultural land requisition and clan conflict in the Qing Dynasty. The interaction term of Panel B-2 is county level agricultural land requisition and clan conflict in the 1990s. Columns 1-3 and 7-9 are for rural people, columns 4-6 and 10-12 are for urban people. We add all individual level controls (education, race and birth year), county level controls and province fixed effect. All standard errors are clustered at county level. The numbers in brackets are standard deviations. * * *, * * and*, respectively, represent the significant levels of 1%, 5% and 10%.

Table 10 Testing Clan Culture, Economic Performance and Urbanization as Alternative Explanations

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
	Temple		Genealogies 1005-2007		GDP Per Capita		Urban1982	
Clan Conflict in Qing Dynasty	-0.313		-1.157		-396.250		-0.00019	
	(0.212)		(5.582)		(548.727)		(0.0039)	
Clan Conflict in 1990s		0.025		2.149		69.285		-0.0082
		(0.186)		(4.642)		(499.994)		(0.0053)
Controls	y	y	y	y	y	y	y	y
Province F.E.	y	y	y	y	y	y	y	y
Obv.	1118	1502	1085	1462	1118	1502	1118	1502
Adj. R-sq	0.20	0.20	0.32	0.30	0.32	0.31	0.30	0.27

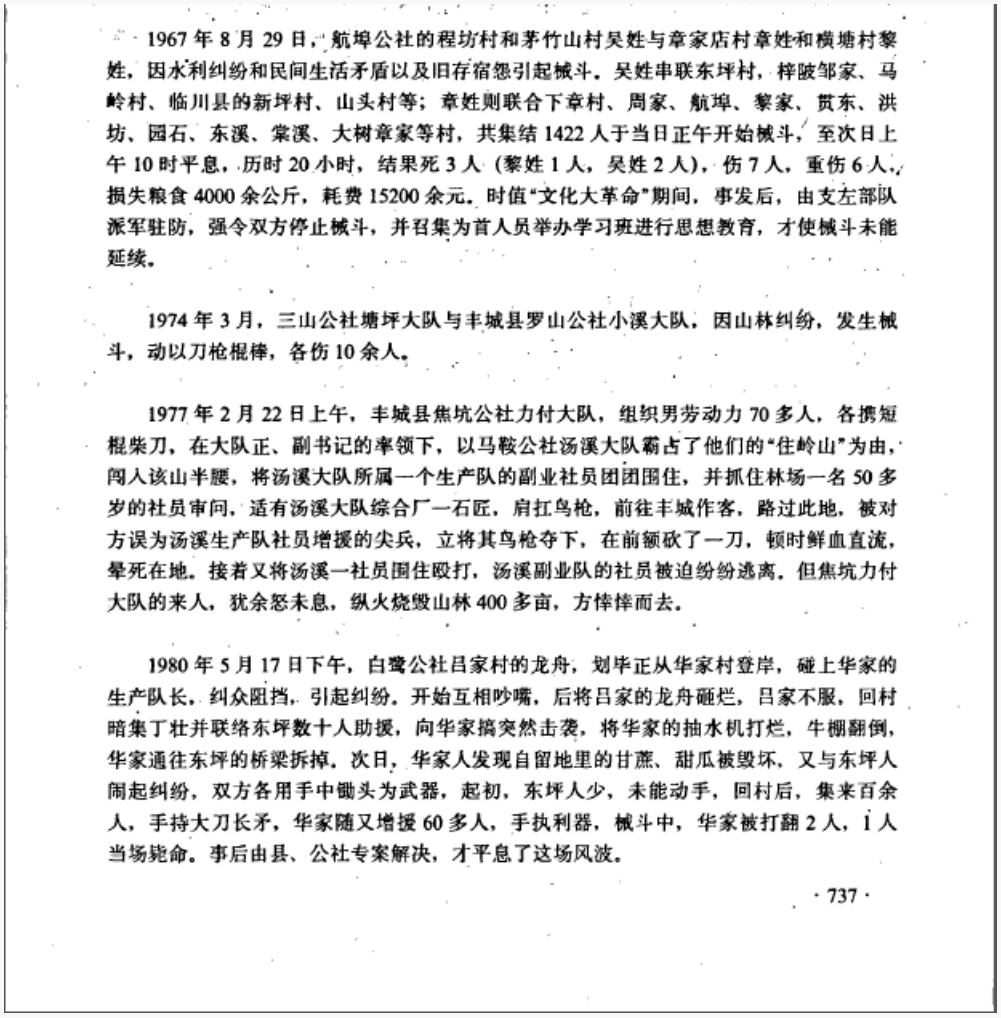
Notes: This table shows the estimates of the correlation between clan conflict and three alternative channels. The unit of observation is a county. We add both control variables (Normadic, Matrilocal, Extendedfamily, Temple, Minority, Nan, Plough, Tea Planting, War, Chong, GDP Per Capita, Urban, without Life Expectancy of Males and One-child Policy79-82, which we only have provincial level data) and province fixed effect. The numbers in brackets are standard deviations. * * * 、 * * and*, respectively, represent the significant levels of 1%, 5% and 10%.

【攀华宗、闹械斗】　旧时，当地土豪劣绅和一些封建宗族的头头利用山权、水利纠纷和龙舟竞赛等，以维护宗族利益为名，大攀同姓华宗，结成宗族同盟，聚众械斗。

Appendix Figure A1 Records about the Custom of Clan Conflict in History

Source: Yujiang Gazetteer.

Translation: *Before 1949, clan conflicts occurred frequently, due to contradictions and disputes originated from mountain, water resources and dragon boat race. People from different clans but with the same family name swore that they had the same ancestor (Lianzong) for fighting with other family names.*



1967 年 8 月 29 日，航埠公社的程坊村和茅竹山村吴姓与章家店村章姓和横塘村黎姓，因水利纠纷和民间生活矛盾以及旧存宿怨引起械斗。吴姓串联东坪村，梓陂邹家、马岭村、临川县的新坪村、山头村等；章姓则联合下章村、周家、航埠、黎家、贯东、洪坊、园石、东溪、棠溪、大树章家等村，共集结 1422 人于当日正午开始械斗，至次日上午 10 时平息，历时 20 小时，结果死 3 人（黎姓 1 人，吴姓 2 人），伤 7 人，重伤 6 人，损失粮食 4000 余公斤，耗费 15200 余元。时值"文化大革命"期间，事发后，由支左部队派军驻防，强令双方停止械斗，并召集为首人员举办学习班进行思想教育，才使械斗未能延续。

1974 年 3 月，三山公社塘坪大队与丰城县罗山公社小溪大队，因山林纠纷，发生械斗，动以刀枪棍棒，各伤 10 余人。

1977 年 2 月 22 日上午，丰城县焦坑公社力付大队，组织男劳动力 70 多人，各携短棍柴刀，在大队正、副书记的率领下，以马鞍公社汤溪大队霸占了他们的"住岭山"为由，闯入该山半腰，将汤溪大队所属一个生产队的副业社员团团围住，并抓住林场一名 50 多岁的社员审问，适有汤溪大队综合厂一石匠，肩扛鸟枪，前往丰城作客，路过此地，被对方误为汤溪生产队社员增援的尖兵，立将其鸟枪夺下，在前额砍了一刀，顿时鲜血直流，晕死在地。接着又将汤溪一社员围住殴打，汤溪副业队的社员被迫纷纷逃离，但焦坑力付大队的来人，犹余怒未息，纵火烧毁山林 400 多亩，方悻悻而去。

1980 年 5 月 17 日下午，白鹭公社吕家村的龙舟，划毕正从华家村登岸，碰上华家的生产队长，纠众阻挡，引起纠纷，开始互相吵嘴，后将吕家的龙舟砸烂，吕家不服，回村暗集丁壮并联络东坪数十人助援，向华家搞突然击袭，将华家的抽水机打烂，牛棚翻倒，华家通往东坪的桥梁拆掉。次日，华家人发现自留地里的甘蔗、甜瓜被毁坏，又与东坪人闹起纠纷，双方各用手中锄头为武器，起初，东坪人少，未能动手，回村后，集来百余人，手持大刀长矛，华家随又增援 60 多人，手执利器，械斗中，华家被打翻 2 人，1 人当场毙命。事后由县、公社专案解决，才平息了这场风波。

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Appendix Figure A2 Records about the Custom of Clan Conflict Contemporarily

Source: Chongren Gazetteer.

Translation: *On August 29, 1967, Wu family from Chengfang Village and Maozhushan Village, Zhang family from Zhangjiadian Village and Li family from Hengtang Village fought with each other, due to disputes from water resource, contradictions in civil life and traditional grievances. A total of 1422 people began to fight from that noon until the next day, lasting for 20 hours. 3 people died(1 person in Li, 2 in Wu), 7 injured and 6 seriously injured.*

In March 1974, Tangping Village and Xiaoxi Village fought with each other for the disputes from mountain forests. Knives, sticks and guns were used. More than 20 people were injured.

On the morning of February 22, 1977, Lifu Village started to fight with Tangxi Village, as the latter occupied their "Zhuling Mountain". The members of the Tangxi Village were forced to flee. The coming people were still angry and burned over 400 acres of forest of the Tangxi Village.

On May 17, 1980, the Lv family from Lvjia Village and Hua family from Huajia Village fought with each other, due to the Dragon boat race. More than hundreds of people were involved, and large swords and spears were used. One person from the Hua family was killed and 2 people from the Hua family were injured. Finally, after the intercession of the local government, the storm was calmed down.

Table A1 Falsification Test - Impacts of Forced Relocation of Clansmen on Male/Female Ratio in 2000, 1990 and 1982

	(1)	(2)	(3)	(4)	(5)	(6)
	D.V.: Sexratio2000		D.V.: Sexratio1990		D.V.: Sexratio1982	
	Panel A: prefectural level agricultural land requisition					
Clan Conflict in Qing Dynasty* Agricultural Land Requisition at Prefectural Level	-1.064		-1.878		-0.123	
	(0.751)		(1.251)		(0.916)	
Clan Conflict in 1990s*Agricultural Land Requisition at Prefectural Level		-0.147		-1.211		-0.651
		(0.698)		(0.794)		(0.823)
Clan Conflict in Qing Dynasty	0.018***		0.026***		0.019***	
	(0.005)		(0.006)		(0.006)	
Clan Conflict in 1990s		0.013***		0.019***		0.017***
		(0.004)		(0.005)		(0.005)
Agricultural Land Requisition at Prefectural Level	-2.829***	-2.872***	-1.447	-1.502***	-3.535***	-3.030
	(0.491)	(0.427)	(1.170)	(0.486)	(0.597)	(0.509)
Controls	y	y	y	y	y	y
Province F.E.	y	y	y	y	y	y
Obv.	1035	1302	1033	1292	968	1204
Adj. R-sq	0.43	0.42	0.28	0.24	0.34	0.31
	Panel B: county level agricultural land requisition					
Clan Conflict in Qing Dynasty* Agricultural Land Requisition at County Level	0.187		0.128		0.095	
	(0.216)		(0.183)		(0.139)	
Clan Conflict in 1990s*Agricultural Land Requisition at County Level		-0.010		-0.040		-0.128
		(0.165)		(0.135)		(0.112)
Clan Conflict in Qing Dynasty	0.013		0.015		0.010	
	(0.014)		(0.011)		(0.009)	
Clan Conflict in 1990s		0.027**		0.023**		0.021***
		(0.011)		(0.009)		(0.007)
Agricultural Land Requisition at County Level	0.036	0.096	0.055	0.122	-0.010	0.058
	(0.110)	(0.106)	(0.091)	(0.085)	(0.073)	(0.071)
Controls	y	y	y	y	y	y
Province F.E.	y	y	y	y	y	y
Obv.	320	413	336	434	340	441
Adj. R-sq	0.43	0.40	0.42	0.38	0.54	0.51

Notes: This table shows falsification tests of economic development on clan conflict and male/female ratio in1982, 1990, 2000 and 2010. The unit of observation is a county. We add both control

variables (Normadic, Matrilocal, Extendedfamily, Temple, Minority, Nan, Plough, Tea Planting, War, Chong, GDP Per Capita, Urban, without Life Expectancy of Males and One-child Policy79-82, which we only have provincial level data) and province fixed effect. The numbers in brackets are standard deviations. * * * 、 * * and*, respectively, represent the significant levels of 1%, 5% and 10%.

Table A2 Falsification Test - Economic Development on Clan Conflicts and Sex Ratio

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
	D.V.: Sexratio1982	D.V.: Sexratio1990	D.V.: Sexratio2000	D.V.: Sexratio2010	D.V.: Sexratio1982	D.V.: Sexratio1990	D.V.: Sexratio2000	D.V.: Sexratio2010
Clan Conflict in Qing Dynasty*GDP Per Capita	0.000	0.000	0.000	0.000				
	(0.000)	(0.000)	(0.000)	(0.000)				
Clan Conflict in 1990s*GDP Per Capita					0.000	0.000	0.000	0.000*
					(0.000)	(0.000)	(0.000)	(0.000)
Clan Conflict in Qing Dynasty	0.011*	0.014**	0.0084*	0.008				
	(0.006)	(0.0057)	(0.005)	(0.0055)				
Clan Conflict in 1990s					0.011**	0.013**	0.007	0.005
					(0.005)	(0.005)	(0.0048)	(0.005)
GDP Per Capita	-0.000***	-0.000***	-0.000	0.000***	-0.000***	-0.000***	-0.000	0.000***
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
Controls	y	y	y	y	y	y	y	y
Province F.E.	y	y	y	y	y	y	y	y
Obv.	1095	1170	1163	1157	1458	1577	1560	1551
Adj. R-sq	0.28	0.24	0.41	0.36	0.28	0.21	0.37	0.36

Notes: This table shows falsification tests of economic development on clan conflict and male/female ratio in1982, 1990, 2000 and 2010. The unit of observation is a county. We add both control variables (Normadic, Matrilocal, Extendedfamily, Temple, Minority, Nan, Plough, Tea Planting, War, Chong, GDP Per Capita, Urban, without Life Expectancy of Males and One-child Policy79-82, which we only have provincial level data) and province fixed effect. The numbers in brackets are standard deviations. * * * 、 * * and*, respectively, represent the significant levels of 1%, 5% and 10%.

Table A3 Falsification Test - Correlation between Land Requisition and Clan Conflict

	(1)	(2)	(3)	(4)
	Agricultural Land Requisition at Prefectural Level		Agricultural Land Requisition at County Level	
Clan Conflict in Qing Dynasty	0.0002		0.015	
	(0.0003)		(0.015)	
Clan Conflict in 1990s		0.0002		0.007
		(0.0002)		(0.006)
Controls	y	y	y	y
Province F.E.	y	y	y	y
Obv.	339	441	1035	1299
Adj. R-sq	0.39	0.32	0.51	0.49

Notes: This table shows falsification tests of the correlation between land requisition and clan conflict. The unit of observation is a county. We add both control variables (Normadic, Matrilocal, Extendedfamily, Temple, Minority, Nan, Plough, Tea Planting, War, Chong, GDP Per Capita, Urban, without Life Expectancy of Males and One-child Policy79-82, which we only have provincial level data) and province fixed effect. The numbers in brackets are standard deviations. * * * 、 * * and*, respectively, represent the significant levels of 1%, 5% and 10%.