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Adolescent Political Exposure and Gender Preferences in Adulthood:A Study of Chinese Counties during 1950-1990

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1. Introduction

There is a growing literature showing that childhood experiences play a critical role to determine people's cognitive skills (Heckman and Mosso, 2014). Few studies, though, have looked at how early experience shapes people's aspiration and worldviews that may also affect their life outcomes in adulthood. Developmental psychology has long revealed the role played by adolescent experience in the family and surrounding environment to shape a person's worldview (Scott, 2008; Lapour, 2009). Although interventions aiming at adolescents generally have been proved ineffective to raise people's cognitive skills (Heckman and Mosso, 2014), it is possible that a more stimulating environment helps adolescents develop a more positive view toward life, which in turn may lead to better adult outcomes. Based on this premise and taking advantage of China's radical social and political changes happening in the Mao Era (1949-1976), this paper studies whether adolescent exposure to a political environment that encouraged women's political participation led to a lesser inclination of sex selection in a family when it produced and raised children.

China has a long history of patriarchal culture that bounded women to their husbands and family duties. Discrimination against women had resulted in serious problems of missing women. The first half of the 20th century began to witness the erosion of the patriarchal culture, and the communist revolution in 1949 has greatly accelerated this process. Sociological and historical studies have long suggested that women liberation in the Mao Era (1949-1976) has had a long-lasting impact to raise women's status in China (Andors, 1983; Johnson, 1983). The pace of women liberation, though, was heterogeneous across region and time. Exploring this heterogeneity, we take the female membership in the Chinese Communist Party (CCP) as the measure for female political participation, and study how it exerted an impact

on adolescents' gender preferences and their actual behavior in adulthood. The study enriches three strands of literature.

First, our paper is related to a few studies that look at how adolescent experience affects adult outcomes (Giuliano and Spilimbergo, 2014; Gong, Lu, and Xie, 2017; Both, Fan, Meng and Zhang, 2017; Cameron, Meng and Zhang, 2017) in the larger literature on the long-term impacts of early-life experience. Our contribution is to link adult gender preferences and actual gender selection to gender-sensitive political exposure in adolescence. The paper that is the most close to our study is Booth et al. (2017) who conduct a laboratory study of Beijing and Taipei women born in 1958, 1966 and 1976 and make a comparison with their male counterparts. Their key findings are (1) Beijing women are more inclined for competition than Taipei women in all three birth cohorts, and (2) Beijing women born in 1958 are more competitive than Beijing men born in the same year and Beijing women of younger cohorts. These findings have two implications. First, short-term culture/institutional changes can have long-lasting effects on women, and second, new gender norms can be transmitted across generations and preserved over time. Our study can be seen as an extension to Booth et al. (2017) by providing a historical study to substantiate their experimental results. Moreover, we improve their study by establishing a causal relationship between adolescent exposure to female political participation and gender preferences and actual behavior in adulthood.

Second, our paper is closely linked to the literature on the impacts of political reservation programs that aim at lifting women's political status. Beaman et al. (2009) find that India's random reservation program has reduced villagers' biases against women leaders. Their more recent studies have found that women leaders serve as role models to raise the aspirations of parents and girls (Beaman et al. 2012). One of the challenges facing these studies is whether their results can be applied to other settings. For example, Ban and Rao (2008) find that in southern Indian states with low levels of gender disparity, female leaders performed no differently than male leaders. Another challenge is whether reservations for women leaders have a long-lasting

effect to permanently change societal perceptions about women. Beaman et al. (2009) show that people's views about women changed gradually after the reservation was introduced, but they have not answered the question whether this change was long lasting. Our study takes up these two challenges by showing that women's more active political participation can have long-lasting effects by changing the worldviews of the younger generations in a country such as China that has experienced fast reversion to its traditional culture in the recent decades.

Third, we make a contribution to the literature on sex imbalances in China and Asia. "Missing women" is a serious social problem in Asia (Sen, 1990). It has not only retarded social development in the region, but also created new economic and social problems. Empirical studies have found that sex imbalances have led to wasteful competitive savings (Wei and Zhang, 2011) and become a hotbed for crimes (Cameron et al., 2017). These studies, though, have taken gender preferences and gender selection as given. Our study complements them by identifying a mechanism through which sex imbalances are reduced.

Our sample covers about 1,200 counties for the period 1950-1990. Data were from county chronicles digitalized by the authors, the 1-percent sample of the 1990 National Census, the 2010 wave of China Family Panel Studies (CFPS 2010), and other reputable sources. Exploring cross-sectional variations in the data provided by county chronicles, we first study the impacts of female party membership in 1950, *FP*50, on the female-male ratio in the population in 1965, 1975, and 1990, respectively. The ordinary least squares (OLS) regressions have found that the impact was not significant in 1965, but significant in 1975 and 1990, suggesting that it took time to change social norms, probably having to wait until the young generations to grow up. To deal with the potential issue of missing variables, we instrument *FP*50 by two instruments, *MP* that measures the CCP's military presence in World War II in a county, and *GAP* that is equal to the number of months between the time of CCP's official announcement of "liberation" of a county and January 1950. Both instruments were orthogonal to gender norms but were correlated with *FP*50. Two instruments are

used because neither of them is sharp enough to identify *FP*50. The IV results are qualitatively similar to the OLS results.

Next, we study how adolescent political exposure affected women (and their husbands)'s actual birth choices --- measured by the female-male ratio of their live-born children --- and their willingness to raise daughters --- measured by the female-male ratio of their surviving children as of 1990, using the individual data provided by the 1-percent sample of the 1990 Census. Adolescence is defined by ages between 12 and 18. Accordingly, adolescent political exposure is represented by the average *FP* of a woman's adolescent years, $FP_{12\text{-}18}$. The data allow us to construct a county × adolescent cohort panel so time-invariant between-county variations of gender norms are controlled. Nevertheless, to deal with the potential problems created by county-specific and time-varying confounding factors, we run IV regressions in addition to OLS regressions. The IV here we use for $FP_{12\text{-}18}$ is *MP-NFP*, which is a dichotomy variable converted from *MP* times the national *FP* in the year when the woman was 12 years old. Both the OLS and IV regressions have confirmed a significantly positive and robust role played by gender-sensitive political exposure in adolescent years.

One potential problem the above exercises have to confront is that some women might not have finished their birth history by 1990, so our estimates may be subject to biases. To overcome this problem, we turn to study gender selection under the One-child Policy. This policy set a birth quota --- one or two children per family --- beyond which heavy fines would be applied. Gender selection was thus very common for second- or higher-order births. Taking advantage of this exogenous constraint on the number of births, we study whether the mother's exposure to more female political participation in her adolescence increased the chances of her second- or higher-order children being a girl. Again, we can control county and cohort fixed effects in our OLS regressions. Significant and positive results are found. In addition, IV regressions using the IV *MP-NFP* confirm these results.

We then explore the possible channels for adolescent political exposure to change

adults' fertility and nurturing choices. Using data from the opinion questions offered by CFPS 2010, we find adolescent political exposure did reduce the respondents' son-preferences. Going back to the 1-percent sample of the 1990 Census, we find that adolescent political exposure had the largest effects for people who finished high school, suggesting that a sufficient level of education was one of the channels for political exposure to change people's gender preferences.

The next issue we need to tackle is that the positive results for adolescent political exposure might be channeled through by contemporary *FP* that directly altered adults' son-preferences and actual gender choices. Toward that goal, we study whether contemporary *FP* played a role to determine a child's sex of second- or higher-order birth under the One-child Policy. We do not find such a role for contemporary *FP*. Finally, we put $FP_{12\text{-}18}$ and the average *FP* in 1980-1987, $FP_{80\text{-}87}$, together into one regression and compare their performances. Both the OLS and IV regression reject the role of $FP_{80\text{-}87}$, but confirm the role of $FP_{12\text{-}18}$.

The rest of the paper is organized as follows. Section 2 presents a succinct description of the CCP's role in transforming Chinese society, sex imbalances in the study period, and women's political status in the Mao Era. Section 3 introduces the data sources and construction of the variables used in the descriptive and econometric analyses. Section 4 provides descriptive evidence for the exogeneity of *MP* and *GAP* with respect to gender norms and their correlations with the CCP and female party membership in 1950 and over time. We also provide descriptive evidence for the linkage between *FP*50 and the population sex ratios over time. Section 5 studies the results for the long-term impacts of *FP*50 on the population sex ratio in 1965, 1975 and 1990, respectively. Section 6 presents the main results of the paper, including the impacts of $FP_{12\text{-}18}$ on the sex ratios of women's live-born children and surviving children, the sex of children of second- or higher-order births under the One-child Policy, and people's son preferences, as well as the role of education. Section 7 presents the comparative results for the role of political exposure in adolescent years and the role of political exposure in adulthood. Section 8 concludes the paper.

2. Historical Backgrounds

2.1 The CCP and the Transformation of Chinese Society

The interactions between the CCP and Chinese society have long been a key issue in the study of modern China. Most studies on the CCP's survival in the post-communist era focus on the CCP's transformation and adaptation to the evolving international environment and social changes inside the country (Guo et al., 2014; Zheng, 2010), as well as the gradual atrophy of the CCP's control over various aspects of society (Shambaugh, 2009). In the Mao Era, however, the party-state was in a central place to control and organize people's lives from the womb to the tomb. In its struggle to capture power and mobilize society before 1949, the CCP had to establish links with various social groups and political strata (Tsou, 1986). Acting on one of the most important lessons drawn from its military victory, the CCP began to penetrate every corner of Chinese society after it obtained power in 1949. The CCP had about four million members in 1949; its membership quickly expanded to more than 13 million in 1958, and nearly two-thirds of the members were lower-class farmers.[1] "The abstract state-society relationship was thereby translated into numerous concrete face-to-face interactions between a Party branch and the mass." (Liu, 2006) The party charter specifically requires that "all enterprises, villages, organizations, schools, research institutes, communities, People's Liberation Army companies and all other basic-level units should establish the basic-level party organization when there are more than three party members."[2]

The CCP was determined to change the social structure, fundamental economic organizations, and how people had lived their lives for generations. At the personal level, one of the salient features of the Mao Era was the promotion of the socialist New Man (Cheng, 2009). Although sacrifice for the country and loyalty to the party were its main characteristics, the New Man was also supposed to give up the old ways of living and embrace the modern ideas of social equality and new norms of personal

[1] See the next section for the source.

[2] The Charter of the Chinese Communist Party, Chapter Five, Article 29.

interactions. Joining the party was definitely an important channel to become a New Man. Party members served as role models for ordinary people to undertake a quick personal transformation through active political participation. Notwithstanding its ideological face, party membership carried tangible political and economic returns. Although not every CCP member was a cadre, party members served as agents of the state and had the privilege to participate in politics.

In rural villages and urban units, CCP members held regular meetings to study new party documents and discuss public affairs. And they carried out the party's policies (Li, 2009). Furthermore, CCP members had the opportunity to have a better career path, which in many cases led to better material rewards.[3] CCP members were considered as elites who were equipped with advanced revolutionary attitudes and exhibited superb performance in their workplaces and neighborhoods. In the Mao Era, the party intentionally provided membership to some once-disadvantaged groups, such as women, poor farmers, floor workers, and the illiterate. This effectively changed the perspective of social norms toward them.

2.2 Women's Changing Political Status in Modern China

During the long history of imperial China, women lived under the male-dominated culture and institutions. The power of the empire was only accessible to well-educated males through the imperial examinations. Since the Ming Dynasty, women's status was further deteriorated. One of the most notorious customs developed against women was foot-binding. Women were physically restricted to their houses. Women were first subject to the authority of their parents, and then to that of their husbands throughout their whole life. Even after their husbands died, women had to obey the Widows' Virtue. All the roles women could play were limited within their household; participation in social life or public affairs was only imaginable for a few brave women.

Since the late Qing Dynasty, the idea of gender equality was gradually introduced.

[3] Studies show that these advantages have lingered in the post-Mao era (Walder, 1995; Li et al., 2007; Guo et al., 2014).

The Kuomintang (KMT) government of the Republic of China (1912–49) introduced legislation to grant women equal status in educational opportunities, marriage freedom, property ownership, and political participation. However, all these reforms were hardly put into practice in rural areas, because of the weak capacity of the KMT to penetrate grassroots society.[4] Consistent with its revolutionary ideal, and also to get as much support as possible for war and production, the CCP encouraged women to venture outside their homes, to join the revolution during its struggle for power. Many women were absorbed into the CCP; women's liberation was one of the CCP's central themes to transform China. This tradition was enhanced after the party took power in 1949. The CCP held the first women's national congress in March 1949, nearly seven months before the formal announcement of the establishment of the PRC. The congress created the All-China Federation of Women (commonly known as the "national fu-lian"). In its charter passed by the congress, it was stipulated that the federation was the organization for China's women's movement, and it "will strive to abolish all the feudal customs imposed on women, protect women's rights and children's welfare, and actively organize women to participate in all kinds of endeavors of (national) construction, so to realize gender equality and the liberalization of women."[5] Clearly, fu-lian acted as an arm of the CCP to realize its vision of social equality. Female political participation was encouraged directly by the party and through fu-lian.

The CCP accelerated the elevation of women's political status in the later period of the Cultural Revolution. In 1973, female membership in the CCP's Central Committee reached a historical record of 12.9 percent. In 1975, when the Fourth National People's Congress (NPC) was convened, female representatives accounted for 22.6 percent of the total number of representatives, and women comprised one-fourth of the NPC's Standing Committee. Both were the highest in NPC history

[4] The KMT had only about 2.7 million non-soldier members in 1929 when it finished consolidating power, and the membership grew to 5.2 million in 1937. Furthermore, over two-thirds of the members were cadres and intellectuals. As a result, the organizational capacity of the KMT was limited to the upper classes and urban elites, with the grassroots and rural society left to "local tyrants and evil gentry" (Wang, 2003).

[5] https://baike.baidu.com/item/%E4%B8%AD%E5%8D%8E%E5%85%A8%E5%9B%BD%E5%A6%87%E5%A5%B3%E8%81%94%E5%90%88%E4%BC%9A?fromtitle=%E5%A6%87%E8%81%94&fromid=3348005. Accessed Dec 30, 2017. Translated by the authors.

until 2013.[6] However, the rise of women's political participation was reversed after Mao's death in 1976. As the next section will show, female party membership in the country declined for some time, and female party membership in the countryside declined steadily until 1990 when our data end.

Women's liberation in the Mao Era had a particularly large impact in the countryside, because male-dominated clan culture often dominated village life. The quick expansion of the party allowed many women who had poor education and little wealth to join the party, breaking the long history of male dominance and inevitably raising the status of women. Women's liberation had the potential to reduce the son preference, which was once widely held by rural families, and thus reduce the sex imbalance. Studies of India suggest that female leaders could bring about women-friendly policies and raise society's awareness of gender equality (e.g., Chattopadhyay and Duflo, 2004; Beaman et al., 2009, 2012). In the period we study, the incidence of women leaders was extremely low, and there was limited variation across counties. Female membership, for which we do have data, was more an indicator of women's political mobilization than women's decision-making power. For *FP* to influence the sex ratio, therefore, two channels other than the policy channel could be important.

The first was the "role model" channel emphasized by (Beaman et al. 2012). Female party members, elevated by their higher political, economic and social status, could serve as a role model for adolescent girls. In particular, the party deliberately promoted a female version of the New Man through the media, such as newspaper stories, movies, and novels, in which young women were always the heroines.[7] Teenage girls, who were already able to distill meanings from the surrounding environment, then could be influenced and started to hold higher aspiration for their

[6] Female membership in the NPC reached 23.4 percent in its 12th congress, which started in 2013. This was the outcome of a resolution the NPC adopted two years earlier. http://news.sina.com.cn/c/2015-09-01/221532265735.shtml. Accessed August 3, 2016.

[7] Two popular movies promoting a new image of women in the 1950s and 1960s were *Five Golden Flowers* (wu-duo jin-hua) and *Li Shuangshuang*. The first movie depicts five young woman cadres whose names just all happened to be "jin-hua"; the second movie describes how Li Shuangshuang, the head of her village's fu-lian, changed the perception of her fellow villagers—including her husband—about women (particularly about herself) as well as mobilized villagers to contribute to the commune.

future life. This must be greatly enhanced by the spread of education, particularly in the Cultural Revolution when women's status was raised to a historical high level. Education allowed youngsters, girls and boys alike, to better understand politics, including the role played by female party members. So the role model channel was more likely to function by influencing adolescents.

The second was the persuasion channel that was most likely to have an effect on adults. Every village had a local branch of the fu-lian. In addition to carrying out the tasks set by the CCP, the fu-lian often intervened if mistreatment of women or children happened. This could have an immediate effect to change the behavior of adults. In addition, the literature has shown that higher market value of adult women increases the survival rate of girls in historical China (e.g., Qian, 2008). In the case of Mao's China, CCP party membership carried political status and economic returns. Women's participation in the party thus demonstrated that women could have higher value than had been believed. This might raise parents' willingness to invest in daughters.

The two channels have different implications for our econometric analysis. To test the role model channel, we study whether political exposure in women's adolescent years affected their son-preferences and actual gender choices in their adulthood. And to test the persuasion channel, we study whether adult women were influenced by contemporary female political participation.

2.3 "Missing Women" and Sex Imbalances in China

Asia's "missing women" problem was first noticed by Sen (1990). It is a shortfall in the number of women because of sex-selective abortions and female infanticides, as well as unequal levels of health care and nutrition for newborn girls. Under a tradition of patriarchal order and son preference, sex imbalance in China has a long history. Table 1 shows the sex ratios of the population in historical China.

[Table 1 about here]

Sex imbalances in historical times were caused by a series of combined factors.

Discrimination against daughters could lead to poor health care and malnutrition, and eventually the premature death of females (Attane, 2009). Premature mortality could also be caused by infanticide and the abandonment of newborn girls (Hesketh and Zhu, 2006). For female adults, early life conditions could have persistent impacts on their health and mortality (Huang and Elo, 2009). Poor educational attainment and the lack of economic opportunities could also result in women's low bargaining power in household decisions, and thus lower their quality of life.

It is noteworthy that the male-female sex ratio declined steadily throughout the first half of the twentieth century, despite the tremendous turmoil in that period. Figure 1 shows the change in the female-male sex ratio in the population from 1949 to 1990.[8] Throughout most of the 1950s, the ratio continued to increase, although there was a dip just before the Great Famine. In the early 1960s, there was a sharp increase in the ratio. The effects of the Great Famine have to be considered for this increase, because women may have been more likely to survive the famine than men (Hoyenga and Hoyenga, 1982). The sex ratio settled at around 0.95 (or 105 if women = 100) in the 1960s, and moved back to around 0.94 (or 106 if women = 100) in the 1970s. However, there was a sharp drop in the ratio in the early years after the One-child Policy was introduced in 1979.

[Figure 1 about here]

China carried out its first three censuses respectively in 1952, 1964 and 1982. However, relatively detailed data, such as the sex ratio for different birth cohort are not accessible. The fourth census was done in 1990, and since then the census has been carried out regularly on a decade basis. We use data from the 1990 Census because it was the closest census to the Mao Era that provides accessible data. Figure 2 depicts the female-male sex ratio for each birth cohort recorded in the 1990 Census. The published statistics of the 1990 Census report the number of people by sex by five-year birth cohort. The figure presents the sex ratio for nine birth cohorts, starting

[8] Our econometric analysis will study the female-male ratio for the sake of better exposure. So from now on, we will present the sex ratio in terms of men = 1.

with the 1946–50 cohort and ending with the 1986–90 cohort (the horizontal axis is labeled by the ending year of each cohort).

Although the sex ratio of a birth cohort changed over time when the cohort became older (because men's and women's death rates may differ by age), and there were incompatibilities between cohorts (because different cohorts lived in different periods when they were the same age), Figure 2 provides a sense of the sex ratios at birth in individual periods of time. Relying on that information, we see that there were much larger fluctuations in the sex ratio at birth than the sex ratio of the population shown in Figure 1, although they followed more or less the same trends over time. Before 1960, the sex ratio at birth was between 0.93 (108 if women = 100) and 0.91 (110 if women = 100); it increased to around 0.95 in the 1960s and the early part of the 1970s, but after 1975 it reverted back to the level before 1960. The imbalance after the One-child Policy was introduced was alarming. According to the 1982, 1990, and 2000 censuses, the male-female sex ratio (women = 100) at birth increased from 108.5 in 1982 to 113.8 in 1990, and then to 119.9 in 2000.

[Figure 2 about here]

Li, Yi, and Zhang (2011) argue that the increase in the male-female sex ratio in the post-Mao period was a combined result of son preference, decrease in fertility induced by the One-child Policy, and introduction of gender selection technology. The implementation of the One-child Policy differed from place to place. Local governments could adjust the policy to their local conditions. For example, according to Central Document 7 of 1984, under some specified exceptional conditions, families could have a second child if the first one was a girl. But there was a lot of flexibility in the application of these "exceptions". Furthermore, the punishment for violating the One-child Policy ranged from mild monetary fines to forced abortion. Gender selection technology—the ultrasound B—was introduced in the early 1980s. "Records of the Customs Administration show that 2,175 high-quality color Ultrasound B machines were imported in 1989, with the peak years of importation falling between 1985 and 1989." (Zeng et al. 1993) The wide spread of ultrasound B machines made

it possible to conduct prenatal sex identification and selection. Under the pressure of the One-child Policy, parents with a strong desire for a son, especially when they had already given birth to a daughter, were more likely to have a prenatal abortion until a male fetus came.

However, explanations based on the One-child Policy and gender selection technology focus only on the imbalance of the sex ratio since the 1980s, and treat gender preferences as given. By investigating the sex ratios from 1950 to 1990, we try to identify whether female political status influenced the sex ratio over a longer period of time, and whether it worked by transforming society's perceptions about women.

3. Data Sources

We made use of county chronicles from about 1,200 counties in 21 provinces,[9] the 1990 Census, and internal publications of the CCP's local committees to obtain relevant historical information for 1950–1990. GIS sources were also consulted to obtain geographical information of the counties. Data of CFPS 2010 were used to study the son preference. In this section, we provide a description of those data sources.

Chinese counties had a long history to compile county chronicles (called *xian zhi*). This tradition was halted after the CCP revolution. By the late 1980s and early 1990s, however, counties began to compile chronicles again. Those chronicles provide retrospective records about the county since 1949. Relevant to our study, they provide annual information about population by gender, CCP membership and its gender composition, industrial output values, government budgetary expenditures and public spending, as well as the time of liberation in history.[10] Those data were used to

[9] These provinces are Heilongjiang, Jilin, Liaoning, Hebei, Shanxi, Shaanxi, Gansu, Shandong, Henan, Jiangsu, Anhui, Hubei, Sichuan, Zhejiang, Jiangxi, Hunan, Guizhou, Fujian, Guangdong, Guangxi, and Yunnan. In 1990, over 90% of population in mainland China lived in these provinces, and 1,841 counties (including county-level cities) came within the jurisdiction of these provinces. The Peking University Library has a collection of about 1,700 county chronicles for these counties. However, only about 1,600 of them report data of party membership, and about 1,200 of them report data of female party membership. Those counties are fairly evenly distributed across China (see our figures in the previous section), although counties in the western part of the country are systematically missing. Because the vast majority of the Chinese population lives in central and eastern parts of the country, this omission is not likely to affect our main results.

[10] Most of the data are presented in tables, but some are scattered in the text. We digitized the relevant tables, and in the later stage of data clearance, we supplemented the tables by manually reading the text. Although a county's

construct the population female-male sex ratio, the main explanatory variable *FP* and other control variables.[11]

After the round of compilation at the end of the 1980s and early 1990s, most counties stopped compiling county chronicles. Instead, the statistical yearbook has become the standard annual publication that records economic and social data of a county. Although we could get most of the social-economic data from the statistical yearbooks, none of them reports the composition of CCP membership. In addition, the source for us to obtain the largest sample of individual-level data from a census that could be matched to specific counties is the 1-percent sample from the 1990 Census.[12] Our data stop at 1990 for that reason.

In the 1990s, the CCP central committee and its committees at provincial, prefectural, and county levels all published internal publications, together titled *Materials of the Chinese Communist Party's Organizational History* (*Zhongguo Gongchandang Zuzhi Shi Ziliao,* abbreviated as *The Materials* hereafter). These publications provide detailed information of the CCP membership, its composition, and local branches from the country down to specific counties since the CCP's founding in 1921. We used the data provided by these publications to double-check the data of CCP membership provided by the chronicles. When there were missing data in the chronicles, these publications filled in that information. The information about CCP's Anti-Japanese bases and military jurisdictions also came from *The Materials* of each province.[13]

The chronicles do not record detailed educational attainment by gender at county

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geographic boundaries might have changed from 1950 to 1990, the county chronicles adjusted the demographic records, as well as other political, social, and economic statistics to its jurisdiction at the time when the chronicles were compiled.

[11] We also employ the statistics compiled by some provinces, which were mostly called "Sixty Years of XX Province" or "Fifty Years of XX Province", to check and supplement the information provided by the chronicles. Only a few provinces, such as Hebei, Guizhou, Jiangsu, Zhejiang, Jiangxi and Shanxi, provide county-level information since 1949 in these statistics.

[12] Nearly all the individual-level data from censuses done after the 1990s can only be matched to prefecture-level cities. One of the exceptions is the 1 percent sample of the 1997 agricultural census. But it only contains information from the agricultural population. The 2005 census also provides individual information matched to counties, but the size of the sample made publically available is well below 1%.

[13] We are indebted to Feiyue Li for sharing the data of CCP's bases and military presences during the Anti-Japanese War colletcted form *The Materials*.

level; only some of the chronicles report the results of the 1964 and 1982 censuses. We relied on the 1-percent sample of the 1990 Census to infer average educational attainment by gender. To be exact, the average years of schooling in a specific year were calculated for people who were age 18 years or older in that year. Individuals are supposed to have finished education by that age. The average years of schooling of each sex were calculated in the same way.[14]

Two other socioeconomic variables at county level we used are the shares of rural residents and Han people in 1990. Data for both variables were obtained from the 1990 Census. Because of the restriction set by the *hukou* system, there were limited changes in the two shares between 1950 and 1990. Therefore, we will treat them as time-invariant in this period. We can control the process of industrialization and urbanization by per capita industrial output.

We obtained a county's geographic attributes from the Chinese Historical GIS compiled by the Harvard Yenching Institute (Harvard Yenching Institute 2007). These attributes include the distance to the provincial capital, the distance to the nearest treaty port,[15] the share of hilly land,[16] and the average altitude.

We will use the individual information provided by the 1-percent sample survey of 1990 Census to explore the effects of *FP* on gender selection. The 1-percent sample asked each woman between 15 and 64 how many live-born girls and boys she had given birth to, and how many of them were still alive until 1990. Based on these statistics, we calculated the female share in total live-born births, and the female share in surviving children until 1990 for each woman surveyed. The 1-percent sample also provides information about each respondent's gender, age, education, ethnicity (Han or minority), *hukou* status, and relation to the household heads that we will make use of.

[14] In the 1-percent census sample, education is recorded by a category variable with values 1, 2, 3, … indicating illiterate, elementary school dropout, elementary school, and so forth. We converted this variable into a continuous variable of years of schooling by the rule illiterate = 0 year, elementary school = 6 years, middle school = 9 years, high school = 12 years, and college = 16 years. Dropout from a certain level is set to be the average of the schooling years one level below and the schooling years of that level.

[15] These treaty ports were cities along the coasts or the Yangtze River that the Qing government conceded to Western countries from the 1840s to the 1910s.

[16] Hilly land refers to land with a slope above 15 degrees.

CFPS 2010 will be used to study the son preference.[17] We were able to match our sample to 121 out of the 162 counties covered by the CFPS. Summary statistics of the variables to be used in econometric analysis can be found in the appendix.

4. Female Party Membership in 1950–90 and Its Historical Roots

A main issue concerning our identification of *FP*'s causal effects on sex imbalances is that the variation in *FP* might be brought about by regional cultural factors, particularly gender norms, that also impact the sex ratio. Some of those factors can be controlled by observables, but others cannot. Our estimates would fall prey to the endogeneity problem if we failed to address this issue. In the following, we will show that the distributions of the CCP membership and *FP* in the early 1950s were highly correlated with the military presence of the CCP in the Anti-Japanese War (1937-45) and its route of victory in the Civil War (1946-49), which were orthogonal to gender norms and thus can be used to construct the IVs for *FP*.

4.1 The CCP's Military Activities and Their Impacts on Its Membership

In the Anti-Japanese War, a part of the Second World War, the CCP established so-called "bases" in the Japanese occupied areas, mainly in the North China Plain, in addition to Yan'an, where its center of power was situated. The locations of those bases were determined by the strength of the Japanese armies and their Chinese cronies. Usually, they were located in provincial border areas where the Japanese armies did not patrol often. As a result, they should be orthogonal to gender norms, particularly within the same province. On the other hand, a stable military presence allowed the CCP to expand its membership. In this process, women might also begin to join the party on a large scale. Therefore, we expect that both the CCP membership in 1950 (*CCP*50) and the female party membership in the same year (*FP*50) would be higher in counties with higher CCP military presence. This argument can also be applied to the timing of liberation. Because a formal declaration of liberation usually

[17] CFPS is a longitudinal household and individual survey carried out by the Institute of Social Science Survey at Peking University on a biannual basis starting in 2010. Access to its data can be found at www.iSSS.edu.cn. Some of the urban districts surveyed by CFPS were once counties or affiliated to counties in the period covered by our study. We included them in our matching.

means that the CCP established a permanent government in a county,[18] an earlier liberated county would end up with a larger CCP membership and female membership by 1950. As we will see shortly, the timing of liberation was also orthogonal to gender norms. Therefore, the CCP's military presence in the Anti-Japanese War and the timing of liberation can serve as good IVs for *FP* in 1950 and after.

The CCP established many kinds of military forces during the Anti-Japanese War, many of which were local guerrillas that have left no systematic records. We then construct an index for the CCP military presence (*MP*) based on the presence of the CCP's principal forces, the 115th, 120th, and 129th Divisions of the Eighth Route Army, for which *the Materials* often have maintained good records. We say that the CCP armies were present in a county if any unit of the three divisions was ever stationed in that county. A county might receive a multiple number of units from one or more divisions in different periods of time. So we define *MP* as the sum of years that each presence had lasted for. The rationale is that the more military presences and the longer each lasted, the more likely women would join the party. Panel A of Figure 3 presents the distribution of *MP*. It is apparent that *MP* was much higher in northern China, particularly Hebei, Shanxi and Shandong Provinces, than the rest of the country. Within these provinces, gender norms differ. As the home of Confucius, Shandong province has heavier son-preferences than the two other provinces. On the other hand, son-preferences in Hebei and Shanxi are much lighter than provinces in the south (particularly Guangdong and Fujian) but heavier than provinces in the northeast and southwest. Therefore, it was highly unlikely that *MP* had anything to do with gender norms. Even if there was any correlation between them, that correlation will be controlled by the provincial or county fixed effects that we will add to our regressions.

[Figure 3 about here]

To measure the timing of liberation, we first identify the month and year when a county was first declared "liberated" by the CCP, and then calculate the gap between

[18] The CCP might have controlled a county for several years before it was formally declared "liberated". In addition, the CCP lost control of some of its bases for a period of time in the Civil War after they were declared "liberated". In both cases, we take the first official declaration as the time of liberation.

this month and January 1950 (*GAP* hereafter). Panel B of Figure 3 presents the distribution of the timing of liberation. We classify our sample counties into four groups. The first group includes counties that were liberated before May 1947 when the CCP armies started its strategic offensives against the KMT armies in the Civil War.[19] The second group was counties liberated during the CCP's strategic offensives but before its decisively winning campaigns were launched in August 1948. The third group was counties liberated during the CCP's decisively winning campaigns between September 1948 and May 1949. And the fourth group was counties liberated after the CCP armies crossed the Yangtze River in June 1949. North China and the northeast were liberated first. The areas that were liberated next were the sites of the CCP's decisively winning campaigns, particularly of the Ping-Jin Campaign (fought around today's two large cities, Beijing and Tianjin) and Huaihai Campaign (fought in today's Jiangsu and Shandong provinces in central China). Then liberation spread to southern and southwestern China after the CCP armies successfully overcame the KMT resistance along the Yangtze River.

The nature of liberation was quite different across the country. For example, as we have shown in Panel A, almost all the counties in Hebei, Shanxi and Shandong provinces had long been strongholds of the CCP armies since the Anti-Japanese War before they were formally announced to be "liberated". Most counties in Heilongjiang and Jilin provinces were directly taken over by the CCP armies from the Soviet Red Army at the end of the Anti-Japanese War and were subsequently announced "liberated". In contrast, southwestern provinces, such as Yunan and Sichuan provinces, were mainly peacefully transferred to the hand of the CCP armies soon after the KMT armies retreated to Taiwan.

The above evidence shows that both *MP* and *GAP* were exogenous with respect to gender norms. Figure 4 then shows that *CCP*50 (Panel A) and *FP*50 (Panel B) were

[19] When the Civil War started in the spring of 1946, the CCP had to give up many of its bases to the KMT armies. In May 1947, after winning several victories against the KMT armies, the CCP leadership decided to launch its strategic offensives that aimed at eliminating KMT's major military forces. The CCP won a major campaign, the Liao-Shen Campaign in the northeast, and was well prepared for the final decisive campaigns, the Ping-Jin and Huaihai campaigns, to be fought around Beijing and in central China. By June 1949, the CCP armies had crossed the Yangtze River. Then, its victory was sweeping across southern and southwestern China.

highly correlated with them. Comparing the two panels with the two panels in Figure 3, it is evident that both *CCP*50 and *FP*50 were heavier in areas with higher *MP* or liberated earlier. The reader will soon see that contemporary CCP membership and *FP* after 1950 were highly correlated with *CCP*50 and *FP*50, respectively. In our econometric analysis of sex imbalances, we will treat *CCP*50 and contemporary CCP membership as exogenous, because the CCP membership was always determined by its overall strategy --- first to seize power by military forces and then to implement the center's policy --- that was much broader than liberating the women. In contrast, *FP*50 and contemporary *FP* are likely to be subject to the concern of endogeneity because they might be affected by unobservable cultural factors that also determined sex ratios. The above descriptive analysis has shown that *MP* and *GAP* are good candidates for IVs. However, it is unlikely that using one of them alone is sufficient because the variations in *MP* existed mostly between North China Plain and the rest of the country and the variations in *GAP* for provinces south of the Yangtze River were small. Therefore, we will use both to instrument *FP*50. Because a contemporary *FP* enters our analysis in panel regressions, a time-variant IV is needed. We will leave the discussion to the point when we get to the regressions.

[Figure 4 about here]

4.2 Changing CCP Membership and Its Composition

Table 2 shows the CCP and female party membership at the national level and in our sample counties from 1949 to 1987. The first three columns show the situation at the national level. CCP membership increased steadily in the population, and, except for a short period after 1976, the ratio of female membership also increased at the national level. However, this ratio was still way below the share of women in the population by 1987. Our sample counties do not include any urban districts; party membership in them reflects the CCP's recruitment in the broad rural areas where the majority of residents were still rural until the late 1980s. The last two columns in Table 2 present CCP membership and female party membership in our sample counties. Although CCP membership followed the national trend, *FP* declined

steadily between 1976 and 1987. This prolonged decline might reflect the party's paradigmatic ideological and organizational shift to recruit better educated, economically more capable, and young members. Apparently, women in the countryside were not as competitive as their counterparts in the city.

[Table 2 about here]

The CCP membership persisted at the county level. The two panels in Figure 5 presents the scattered charts of the CCP membership in 1976 and 1985, respectively, against *CCP*50. It is evident that there was high persistence in the CCP membership. It was less so for *FP*, though. In Figure 6, we split the sample counties into four quarters by *FP*50 (higher-order quarters have higher values of *FP*50) and present the *FP* in each quarter over time. Reflecting the CCP's nationwide efforts to expand the party, there was a clear trend of convergence among the four quarters, although the top quarter remained above the other three quarters from 1950 to late 1980s.[20] This suggests that while *MP* and *GAP* can be good IVs for *FP*50, we need to add in other information in order to instrument contemporary *FP* in future years.

[Figure 5 and Figure 6 about here]

4.3 Descriptive Evidence for FP50's Long-run Effects on the Sex Ratio

One of the main empirical findings we will present is that *FP*50 has a long-lasting effect on the population sex ratios in the future years. In this subsection, we first present some descriptive results. For that purpose, Figure 7 links the population sex ratios in 1950-90 with the four quarters defined by *FP*50. Panel A in the figure presents the raw data. The sex ratios of the lower three quarters were not distinguishable in 1950. In subsequent years, the first quarter always had the lowest female-male ratios, and the third quarter dominated the second quarter except for a short period around the Great Famine. It is noteworthy that this pattern merged even if all three quarters of counties started with roughly the same level of sex ratio in 1950. This indicates that *FP*50 indeed had a diverging effect on the sex ratio. The worry is

[20] This raises the question whether the areas hosting the top quarter had different cultural preferences toward women, and we will try to deal with it in our empirical analysis.

about the fourth quarter, whose sex ratios remained the highest throughout 1950-90. A close check finds that the counties in the fourth quarter are mostly in the north and northeast of China, where son preferences were weaker than in the other regions, and the CCP built consolidated military bases or occupied earlier at the end of the Anti-Japanese War. Because the sex ratio of the population is a good indicator reflecting the cumulative results of son preferences, we regress *FP*50 on *CCP*50 and the logarithm of the population sex ratio in 1950 (*S*50), and use the residuals to regroup the counties. The performance of the four new quarters is presented in panel B of Figure 7. Except for the third quarter, which started with a low sex ratio, the other three quarters had similar levels of the sex ratio in 1950. But the first quarter diverged rapidly from the second and fourth quarters to have a lower sex ratio in the 1950s. After the mid-1960s, the order of the sex ratio began to get sorted out, and after 1980 it strictly followed the order of the four quarters of *FP*50.

[Figure 7 about here]

In summary, Figure 7 tells us that *FP*50 did not have a definitive relationship with the sex ratio in the 1950s, once *CCP*50 and *S*50 are controlled, but had a positive impact on the female-male sex ratio in the long run. This hints on the central theme of this paper, namely, it takes time to break up existing social norms and transform the gender perceptions in a short period of time. In particular, political mobilization before 1965 seemed not to have made sufficient impacts on adults' gender perceptions so to induce them either to raise more daughters or to improve women's nutrition. However, political mobilization in that period might have raised the awareness of female youngsters who then would raise more daughters when they got married. This is what we will test in our econometric analysis.

5. Female Political Participation and Sex Ratios in the Long Run

To show the exact causal relationship between female political participation and sex imbalances, we now conduct cross-sectional econometric analyses of *FP*50's long-term effects on the sex ratio, taking *MP* and *GAP* as its instruments. Although the mechanism is left out, this exercise is useful for the reason that it presents the

accumulative and long-term effects of female political participation.

The sex ratio in a county in any year after 1950 could be decomposed into two components: its predecessor in 1950 and the change happening in between. The change is a result of combined influence of *FP*50 (as well as *CCP*50, and other political and geographic characteristics), the temporal changes of socio-economic conditions between 1950 and that year, plus a random shock received during that time period. So our econometric model is

(1) $S_t = a_0 + a_1 FP50 + B_1 X_{50} + B_2 X_t + \varepsilon_t$.

In the equation, S_t is the logarithm of the population female-male sex ratio in year t; X_{50} is a set of variables describing the demographic and political conditions in 1950, as well as relevant geographical characteristics; X_t is a set of variables describing the social-economic conditions in year t; ε_t is an i.i.d. error term; and the a's and B's are parameters to be estimated.

In X_{50}, we include two dummy variables representing a county's status in the CCP's political hierarchy during the Anti-Japanese War, in addition to *CCP*50, *S*50 and a set of geographical characteristics. Liu and Zhang (2015) have shown that CCP's local elites --- often growing out from indigenous guerilla warfare --- were keener to develop the local political base than cadres sent from the center. It is thus reasonable to believe that women would be more likely to join the party in counties controlled by the CCP local elites. To account for that difference, we define two dummy variables, "central authority" and "local authority", in the following way. When a county established a local Anti-Japanese regime officially subjected to the CCP's central authority, which might take the form of an official local CCP branch or a military base established by the central military forces, the "central authority" dummy is assigned 1, and the "local authority" dummy is assigned 0. Conversely, when a county established a local CCP regime not officially subjected to the central authority, which could be a guerrilla base or a local CCP organization, the "local authority" dummy takes 1, and the "central authority" takes 0. When CCP's Anti-Japanese regimes were absent in a county, both dummies take value 0.

For the geographic characteristics, we control the distance to the provincial capital, distance to the nearest treaty port along the coast and the Yangtze River, the share of hilly grounds, and the average altitude. They may shape the regional culture, thus the gender structure in the population.

The variables in X_t are meant to account for the temporal changes in the socio-economic conditions since 1950. We measure them in the outcome year because in that way the temporal changes can be well summarized. In X_t we include the average schooling years of adults (18 years old or older), the female-male ratio of average schooling years for adults, the logarithm of per-capita industrial output value,[21] the percentage of Han, and the share of rural residents. The last two variables are measured in 1990 because that is the year when we have data. Since population mobility only started in the late part of the 1980s, these two variables would be almost constant in our study period.

To show the accumulative impacts of *FP*50, we study the sex ratio in three years, 1965, 1975, and 1990. Columns (1) - (3) in Table 3 are their OLS results. Consistent with Figure 7, *FP*50 does not show any significant effect on *S*65, but strong and significant effects on *S*75 and *S*90. The point estimates indicate that when *FP*50 is increased by 1 percentage point, the female-male ratios in 1975 and 1990 would increase by 0.09 and 0.05 percentage points, respectively. The effect in 1990 is smaller than the effect in 1975 probably because the accumulative effects of *FP*50 were weakened by the decline of female membership since 1976.

[Table 3 about here]

To deal with the endogeneity issue of *FP*50, we repeat the OLS regressions with instrumental variables in Columns (4) - (6). As we have previously shown, *MP* and *GAP* together serve as good instrumental variables for *FP*50. In the analysis, we exclude the sample counties liberated before 1941, because these counties, designated as "Old Bases" (*lao-qu*), were more likely to receive special policy treatments for social-economic development after the CCP took power, while we do not have data to

[21] The recordings of industrial output values in the county chronicles mostly ended in late 1980s, we take the value of per capita industrial output in 1985 instead of that in 1990 in the regressions for female-male population ratio in 1990.

control these treatments. We also exclude the sample counties liberated after January 1950 to avoid the simultaneity between liberation and *FP*50. Therefore, the variable *GAP* here takes value between 0 and 108. The IV estimates of *FP*50 are qualitatively the same as in the respective OLS regressions although, like in most IV regressions, their magnitudes are inflated. The F statistics of the Kleibergen-Paap test, which is robust to heteroskedasticity, are large enough to refuse the null that the instruments are weak, and the Hansen J statistics for over-identification indicate that both instruments are valid in the regressions. This sets the stage for us to move on to our main analysis about how political exposure could exert a definitive impact on female youngsters so they would raise more daughters in their prime ages.

6. Adolescent Political Exposure and the Willingness to Raise Daughters

We have shown that *FP*50 had a positive impact on the population sex ratio and it took time to for the impact to show up. However, we know little about how such changes had happened. In Section 2, we discussed two possible channels, the role model channel and the persuasion channel. By the second channel, *FP* changed parents' attitudes toward the daughter and the husband's attitudes toward the wife in contemporary time, so more daughters and more adult women survived. However, the result that *FP*50 did not have a significant impact on *S*65 suggests that this mechanism was unlikely to exist although there was a possibility that it took time to change adults' attitudes. In contrast, the first channel is consistent with *FP*'s accumulative effects found in the last section. In this section, we will focus on the role model channel and leave the test of the persuasion channel to the next section.

There are debates about the range of age for adolescence that is most susceptible to external influences (Dishion and Andrews, 1995; Brown et al., 2006； Kumpfer et al., 2015). Here we adopt the safest range, i.e., 12 – 18 years old (non-inclusive), to define adolescence. This range corresponds to middle school and high school in most parts of China. Next, we study how the parents' exposure to female political participation in their adolescence would change their fertility and nurturing choices.

6.1 Sex Ratios of Live-born Births and Surviving Children in 1990

In this subsection, we employ the individual-level data provided by the 1-percent sample of the 1990 Census to examine whether the *FP* in parents' adolescence would have an impact on the sex ratio of their children. The 1-percent sample asked each woman between 15 and 64 how many live-born girls and boys she had given birth to, and how many of them were still alive until 1990. This allows us to define two outcome variables: the ratio of girls in the total number of live-born births (*S-born*), and the share of girls in total number of surviving children in 1990 (*S-survive*).[22] Birth selection was not uncommon in rural China in the study period. Infanticide was a hidden yet socially tolerated practice to get rid of unwanted baby girls, who would not be reported as live-births. Selective abortion became widely spread after Ultrasound-B was introduced in the 1980s as a response to the One-child Policy. Therefore, *S-born* was subject to the intervention of the parents' gender preferences in fertility choice. In contrast, *S-survive* was affected not only by parents' fertility choice, but also by their nurturing choices regarding the distribution of nutrition, medical treatment and investment in education among sons and daughters.

Our data allows us to build a panel of county and mother's birth cohort to study how adolescents' exposure to female political participation would affect their fertility and nurturing behavior in their adulthood. This greatly buttresses our identification because the county fixed effects can effectively control unchanged gender norms and the cohort fixed effects can control contemporary and common changes across the country. The model we will estimate is

$$(2) \qquad Y_{icb} = b_0 + b_1 FP_{12-18,cb} + b_2 W_{cb} + b_3 H_i + \theta_c + \omega_b + \varepsilon_{icb}\,.$$

In the equation, Y_{icb} is the outcome variable (*S-born* or *S-survive*) for woman *i* of birth cohort *b* (the birth year) in county *c*; $FP_{12\text{-}18,cb}$ is the average *FP* of county *c* in the adolescent years (12 – 18 years old) of the cohort born in year *b*; W_{cb} is a set of county-level controls measured for cohort *b* in county *c*; H_i is a set of personal characteristics of woman *i*; θ_c and ω_b are, respectively, the county fixed effect and the cohort fixed effect; and ε_{icb} is an i.i.d. error term.

[22] Women with no live-born children or surviving children are dropped from the sample.

Because marriages were usually confined in the same county and the age gap between the husband and wife normally was not large in the Chinese family, the main explanatory variable $FP_{12\text{-}18,cb}$ also measures the adolescent political exposure of men born in year *b* in county *c*. So our future results should be read as reflecting the impacts of adolescent exposure on both women and men. As most counties only recorded their party membership from 1950 to late 1980s, we restrict our sample to women born during 1937 – 1970 to ensure that we can track $FP_{12\text{-}18}$.

In W_{cb}, we control the county's CCP membership, logarithm of the female-male sex ratio, average schooling years for adults, the female-male ratio of average schooling years for adults and the logarithm of per-capita industrial output value, all averaged out for each cohort's adolescent years. These variables capture the socio-economic conditions related to $FP_{12\text{-}18}$ that might also shape teenagers' gender perceptions. For the individual-level variables in H_i, we include the total number of live-born births, the woman's schooling years, her husband's schooling years, her ethnicity (whether Han or minority), and her *hukou* status.

[Table 4 about here]

Table 4 reports the results for Equation (2). Column (1) and Column (3) present the OLS results for *S-born* and *S-survive*, respectively. The two regressions return the same estimate for $FP_{12\text{-}18}$, which is significantly positive in both columns. The magnitude of the estimate is meaningful. For an increase of 1 percentage point in $FP_{12\text{-}18}$, the shares of daughters in live-born and surviving children would increase by 0.08 percentage points. The largest gap of $FP_{12\text{-}18}$ in the sample was 0.34, and the largest gap of *S-born* by county average was 0.19 and that of *S-survive* was 0.21. So the largest gap of $FP_{12\text{-}18}$ can explain 14.3 percent of the largest gap of *S-born* and 13.0 percent of the largest gap of *S-survive*. Note that because the age gap between the husband and the wife normally was not large, $FP_{12\text{-}18}$ also captured *FP*'s impacts on the husband. To the extent that birth and nurturing decisions are made jointly by the husband and wife in a typical Chinese family, our results should be read as the consequences of *FP*'s impacts on both men and women.

Other personal-level variables also return meaningful results. Larger families tended to have a larger share of daughters. This was probably a result of son-preferences: a family was large probably because its first several babies were girls so it kept having more children until a boy was born. Han and rural women were more likely to have lower shares of daughters in both live-born and surviving children. A woman's education had a positive effect, possibly by raising her awareness of gender equality. In contrast, her husband's education played no significant role. The CCP membership during a woman's adolescent years is shown to have a significantly negative impact. But this was perhaps an artifact of our earlier finding that CCP's penetration started and then was accumulated in the relatively poorer areas in the country.

One issue we need to worry is that even though we have controlled county and cohort fixed effects in the two regressions, endogeneity of $FP_{12\text{-}18}$ would arise if there were county-specific and time-varying factors that affected both $FP_{12\text{-}18}$ and a cohort's gender norms. For example, in the Cultural Revolution, some counties might take more radical moves than others to recruit female members, and at the same time, to push harder for the transformation of social norms. To deal with this issue, we introduce an IV for $FP_{12\text{-}18}$. To fit into the panel structure of the data, the IV has to be time-variant. In the end, we convert *MP* into a binary variable (taking value 0 if it is zero and 1 otherwise) and interact it with the national female CCP membership in the year before a woman entered adolescence, to create the following IV for $FP_{12\text{-}18,cb}$:

$$FP_{IV,cb} = B\_MP_c \times NFP_{b+12}$$

where B_MP_c stands for the binary variable of *MP* for county *c*, and NFP_{b+12} is the national *FP* when cohort *b* was 12 years old. The binary variable instead of *MP* itself is used because over the years *FP* gradually diverged from *FP*50 so *MP* becomes "too sharp" for *FP* in later years and a coarser measure actually becomes a better IV. The national *FP* takes value in the year when cohort *b* was 12 years old to better satisfy the exclusion restriction. There were two possible channels for the national *FP* to direct affect people's gender perceptions so the exclusion restriction would fail. One

was through its nationwide impacts that affected everyone in the country. But those impacts are well captured by the cohort fixed effects. The other was that adolescents might respond to the national *FP* not in line with their counties' own *FP* --- e.g., a county with a low *FP* might provide better access to radio or better informed school teachers so adolescents would become more responsive to the national trends. However, we would be still in the safe zone if responses were random with regard to local *FP*, yet there is hardly a reason to believe that they were nonrandom. Taking the national *FP* when a specific cohort was 12 years old further mitigates the concern, if not completely eliminate it, because it preceded the adolescent years we are concerned about.[23] Therefore, we conclude that $FP_{IV,cb}$ satisfies the exclusion restriction as long as MP_c does.

Columns (2) and (4) in Table 4 present the second-stage results of the IV regressions for Column (1) and Column (3), respectively. The results are qualitatively unchanged although the estimates for $FP_{12\text{-}18}$ are inflated, like in most IV regressions. The F-statistics of the Kleibergen-Paap test, robust to heteroskedasticity, are large enough to refuse a weak instrument.

6.2 Sex Selection under the One-child Policy

One potential problem of our analysis in the previous subsection is that the birth history of younger women is truncated in our sample so our results may contain some biases. To fix this problem, we then study sex selection in the first decade of the One-child Policy. This policy introduced a celling for the total number of children that a family could have. In most rural areas, a second birth was allowed if the first birth was a girl (the so-called 1.5 births policy). However, higher-order births were often found, mostly because the first two births were both girls. Births over the 1.5 quota were subject to heavy fines and other punishments. Therefore, sex selection was found mostly on the second- or higher-order births (Li, 2011). As the descriptive evidence of Section 3 has shown, sex imbalances got worse since the One-child

[23] One may still argue that adolescents would have a memory of what they learned when they were 12 years old. For that we have also tried to take the national *FP* of earlier years, e.g., when a woman was 10 years old. The results are qualitatively the same although the second-stage coefficients are more inflated.

Policy was introduced in 1979. The introduction of the Ultrasound-B technology greatly facilitated prenatal gender selection (Gupta, 2005; Zeng et al., 1993).

To conduct the analysis, we turn to the children subsample of the 1-percent sample of the 1990 Census and study the children who were born after 1979. The 1-percent sample did not provide the birth order of each child, but we can infer it from the birthdates of all the children in a household. This requires us to restrict the mother's age to a certain range so even her eldest child was still living in the household. In practice, we choose that range to be between 20 and 39 in 1990.[24] Then we study whether the mother's $FP_{12\text{-}18}$ would impact the gender of her children at different birth orders. We cannot completely avoid the truncation problem (young women might not have concluded their births by 1990), but because the One-child Policy imposed harsh fines on births over the 1.5 quota, sex selection at the second- or higher-order births became significant and thus provides us a chance to get more robust results regarding the role played by people's exposure to female political participation in their adolescent years.

Our econometric model is a revised version of Equation (2):

(3) $S_{jcb} = b_0 + b_1 FP_{12-18,cb} + b_2 W_{cb} + b_3 H_j + \theta_c + \omega_b + \varepsilon_{jcb}$.

In the equation, S_{jcb} is the sex (female = 1, male = 0) of child j born to a mother of cohort b in county c; $FP_{12-18,cb}$ is the average FP of county c during the adolescent years of the mother's cohort; W_{cb} is defined accordingly, as in Equation (2); H_j is a set of variables describing child j's individual characteristics: his/her parents' schooling years, his/her ethnicity and *hukou* status; θ_c and ω_b are the county fixed effect and the mother's cohort fixed effect, respectively; and ε_{jcb} is an i.i.d. error term.

The linear probability model is applied to estimate Equation (3). Table 5 reports the regression results for two sub-samples, respectively. Column (1) is the results for the sex of the first birth. We see that $FP_{12\text{-}18}$ had no significant effect on the gender of the first child. Nor did the CCP membership during the mother's adolescent years. A

[24] Early marriages were common in the countryside although China's 1952 marriage law set women's legal age of marriage to 20 years old. However, the age of first marriage gradually increased to the legal age over the years. So for a woman who was 39 in 1990, it is reasonable to believe that her children had not married out.

somewhat surprising result is that more educated parents are shown to be less likely to have a girl although the effects were very small. This might be because more educated people had higher awareness of and better access to the Ultrasound-B technology. Column (2) then reports the results for the sex of the second- or higher-order births. Now, $FP_{12\text{-}18}$ significantly increased the probability of a higher-birth child being a girl. A one percentage point increase in $FP_{12\text{-}18}$ would lead to an increase of 0.20 percent in the probability of a higher-order child being a girl. Therefore, a mother's higher exposure to female political participation in her adolescent years would indeed reduce her family's probability to select sex on its second- or higher-order births. Among the control variables, a new result is that a Han family was more likely to conduct sex selection than a minority family, while the results of the other variables are kept. Column (3) repeats the regression in Column (2) with the same IV constructed for Equation (2). Its results are qualitatively the same as those reported by Column (2).

[Table 5 about here]

6.3 Further Evidence

The analysis presented so far in this section has supported the role model channel. In this last subsection, we will add two more pieces of supporting evidence. One is to show that adolescent exposure had a persistent impact on people's son preferences, and the other is to show that education could be one of the channels for adolescents to get political influences. The first exercise fills the gap between adolescent exposure and behavior in adulthood in the causal chain "political exposure – changes of preferences – actual behavior". The second exercise tells us how preferences could be changed. The school is arguably one of the most important institutions that shape teenagers' worldviews because they have plenty of opportunities to learn from teachers and classmates. In particular, teachers, as adults, could be influenced by the local political atmosphere and then transmitted that influence to their students. If our story were correct, we should then observe that people with more education should be more affected by political exposure.

To carry out the first exercise, we resort the opinion questions asked by CFPS 2010. In its adult questionnaire, the CFPS asked each adult how important a list of things was to her/him. One of them was having sons to carry on the family name.[25] The answers were coded from 1 to 5, with 1 indicating "not important at all" and 5 indicating "very important". We then use the answers to this question to study whether $FP_{12\text{-}18}$ would affect a person's evaluation of his/her subjective importance to have a son to carry on the family name. We use the answers to this question to study whether $FP_{12\text{-}18}$ would affect a person's subjective evaluation of the importance to have a son. We restrict our sample to respondents born during 1937 – 1970 to track $FP_{12\text{-}18}$ in the matched sample. The model is essentially the same as Equation (2) although now the outcome variable is the categorical variable indicating the answer to the son-preference question. In accordance, the personal variables are changed to the respondent's schooling years, gender, *hukou*, ethnicity (Han or others) and income in 2010 (in logarithm).[26]

The ordered probit model is applied for the estimation. The panel structure allows us to control county-specific cultural traits and nationwide temporary trends.[27] Table 6 reports the regression results. Column (1) presents the estimates using the whole sample. $FP_{12\text{-}18}$ significantly reduced a respondent's subjective importance of having a son in 2010. Educational attainment had the same effect. Understandably, rural residents were more likely than urban residents to prefer having a son. None of the other personal variables had a significant impact. Because the son-preferences are more common among people with little education, in Column (2) we restrict our sample to the illiterate respondents. The impact of $FP_{12\text{-}18}$ indeed has increased substantially --- almost twice as large as the impact for the whole sample. Now the *hukou* status did not matter anymore; illiterate people shared the same son-preferences regardless of their residency.

[Table 6 about here]

[25] In China, children generally follow the surname of their father. Therefore, having only daughters is regarded as the end of the family line, which is a main cause for the son-preferences.
[26] As some respondents earned no income, we added 1 yuan to the income when we calculated its logarithm.
[27] Because we have a panel with large *t*, the ordered probit can provide consistent estimates.

Among the results of the county-level variables, Table 6 only lists those for the CCP membership in the respondent's adolescent years. However, this variable does not return any significant estimates. That is, only the exposure to more female political participation could change the respondent's son-preferences; the CCP penetration did not have this function.

To study the heterogeneous effects of political exposure altered by schooling, we go back to women's birth and nurturing decisions. Table 7 presents the results. In Column (1) to Column (3), we repeat Columns (1) and (3) in Table 4 and Column (2) in Table 5 that study, respectively, *S-born*, *S-survive* and the sex of second- or higher-order births under the One-child Policy, by adding the interaction term between $FP_{12\text{-}18}$ and a woman's schooling years. While the results for $FP_{12\text{-}18}$ are literally the same as before, the interaction term does not return any significant result in the three regressions. Therefore, more education did not have a uniform impact on the role of political exposure. However, this does not exclude the possibility that education at certain stages might still have an impact. Columns (4) – (6) then repeat the first three columns by replacing schooling years by a dummy variable indicating the enrollment in high school. While the positive results of $FP_{12\text{-}18}$ have remained, now the interaction term between $FP_{12\text{-}18}$ and high school also return significant and positive coefficients. By the point estimates, enrollment in high school would increase the impact of $FP_{12\text{-}18}$ by two thirds in the case of *S-born* and *S-survive* and 28 percent in the case of second or higher-order births. High school had such large effects, possibly because by high school, people became more conscious about the political environment around them and thus would be more likely to be molded by the political environment.[28] However, the fact that $FP_{12\text{-}18}$ remains significant indicates that adolescents were also influenced by other channels. The results in Table 7, therefore, only indicate that high school education enhanced the role of political exposure.

[Table 7 about here]

[28] The Red Guards in the initial stage of Cultural Revolution were all high-school students. During the Cultural Revolution, high school education spread quickly in China. High school students became an important political force and were used by Mao against his opponents.

7. A Comparative Study: Political Exposure in Contemporary Years

In the previous section, we showed that the political exposure in parents' adolescence would shape their gender preferences and influence the gender structure of their children. One worry, though, is that these impacts were actually channeled through female political participation in the contemporary years when parents had already reached the age of having children. This was possible because *FP* was highly correlated over time in a specific county. While it took time for gender norms to evolve, government policies and political mobilization, possibly assisted by a higher rate of female political participation, could impose an impact on families' gender structure in a short period of time. The One-child Policy certainly was a ready example. A higher rate of female political participation might change adults' gender norms by way of persuasion and punishment. This is what we mean by the persuasion channel. For this channel to play a role, we have to find that contemporary *FP* was significant to influence people's gender choices. In this section, we conduct a comparative study between $FP_{12\text{-}18}$ and contemporary *FP* in mothers' childbearing ages to test this channel as well as contemporary *FP*'s confounding role for $FP_{12\text{-}18}$.

One of the challenges we face is that a woman can have children at a wide range of age, so it is difficult to define the contemporary *FP* of her childbearing ages. To solve this problem, we still resort to the children subsample of the 1-percent sample of the 1990 Census and study children of the second- or higher-order births born under the One-child Policy. This allows us to pin down the year we measure contemporary *FP*, and minimizes the problem arising from the truncation of a woman's birth history. While we can study contemporary *FP* of each year, our explorative study has found that a panel regression may not be adequate in this case. Female membership began to decline since 1976 and the counties with higher levels of female membership declined faster. Therefore, it would be mostly likely that we got a negative result for *FP* in a panel regression. As an alternative, we study the average *FP* in the period 1980-1987 with the following cross-sectional specification: [29]

[29] The recordings of *FP* in the county chronicles and *the Materials* mostly ended in the late 1980s, we thus took its

(4) $S_{jct} = b_0 + b_1 FP_{80-87,c} + b_2 W_{80-87,c} + b_3 H_j + \omega_t + \varepsilon_{jct}$.

In the equation, S_{jct} is the sex (female = 1, male = 0) of child j of second- or higher-order birth who was born in county c in year t during 1980-1990; $FP_{80-87,c}$ is the average FP of county c in 1980-1987; $W_{80\text{-}87,c}$ is the same set of county-level controls we used before, albeit now they take their average values in 1980-1987; H_j is the same set of variables describing child j's individual characteristics as defined for Equation (3); ω_t is the year fixed effect to control the factors affecting the cohort born in year t; finally, ε_{jct} is an i.i.d. error term.

Columns (1) and (2) of Table 8 report the OLS and IV results, respectively, for Equation (4). The IV for $FP_{80\text{-}87}$ is defined as the product of MP and the national FP in 1979, i.e., $MP_c \times NFP_{1979}$. $FP_{80\text{-}87}$ did not return a significant result either in the OLS regression or in the IV regression. Therefore, contemporary FP did not have an impact on sex selection under the One-child Policy. The CCP membership in 1980-87 was significant in the OLS regression, but not in the IV regression.

[Table 8 about here]

We then add to Equation (4) $FP_{12\text{-}18}$ to compare the impacts of political exposure in adolescence and adulthood of the mother. Accordingly, we add in mother's cohort fixed effects to control the common factors affecting the women (and possibly their husbands) who grew up in the same period. Columns (3) and (4) present the OLS and IV results, respectively. Column (3) shows that $FP_{80\text{-}87}$ still did not return a significant result, but $FP_{12\text{-}18}$ did and its coefficient is comparable with the OLS result reported by Column (2) in Table 5. The results of Column (4) are obtained when both $FP_{80\text{-}87}$ and $FP_{12\text{-}18}$ are instrumented. The instrument for $FP_{12\text{-}18}$ is still $FP_{IV,cb}$. The results for the two variables are qualitatively unchanged. The key message we carry away from Table 8, therefore, is that the positive effect we have found for the mother's political exposure in her adolescence is kept even if we control contemporary FP in

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average for 1980-1987 instead of for 1980-1990.

her adulthood when she began to bear and raise children. In addition, contemporary *FP* did not play a role to affect sex selection under the One-child Policy.

8. Conclusion

Women's liberation was an essential part of China's modernization process in the last century. More positive perceptions about gender equality, as well as the improved status of women in political life contributed to this great transformation. Using data compiled from county chronicles and combining them with the 1990 Census, we have found that the growing number of women members in the CCP in the Mao Era, as a symbol of women's improved political status, played a significant role in shaping the younger generations' gender perceptions and consequently changed their birth and nurturing choices in adulthood.

In addition to contributing to the literature on early-life experiences, our paper makes a significant contribution to the study of modern Chinese history. To the best of our knowledge, our study is the first to utilize the county chronicles to study the Mao era, and the first to offer a systematic assessment of the spread of female CCP membership and its impacts on the sex imbalance in the countryside. The Mao Era witnessed some of the most devastating damages to Chinese society in the country's recent history. Our paper by no means is intended to glorify this period of time. Nevertheless, the rise of women's status was a distinctive achievement of the Mao Era, particularly in the countryside. By establishing a causal relationship between the rise of female party membership and the younger generations' awareness of gender equality, we have shown that raising women's political status was one of the channels to ignite the improvement in women's overall welfare in the Mao Era.

However, by our results, the decline of female party membership in the countryside after Mao's death in 1976 would also be responsible for the increase of gender selection under the One-child Policy. Indeed, the CCP has almost given up its recruitment of female members in the countryside ever since. This has resulted in the receding of public life for rural women. In the meantime, women's social status has

declined; discrimination against women in the workplace is not uncommon (Lai, Meng, Li, and Wang, 2017).

Notwithstanding this declining trend, women in contemporary China still likely enjoy higher status than women in other countries with comparable stages of economic and social development. Despite of a sharp decline since the early 1980s, China's female labor participation rate was 64 percent in 2014, still much higher than the world average of 50 percent in the same year (Lai et al., 2017). Booth et al. (2017)'s finding that Beijing women of all birth cohorts are significantly more inclined to compete than Taipei women indicates that the older generation's enhanced preferences for gender equality survived across generations. Together with the findings of our paper, we conclude that rising female political participation in the Mao Era did have exerted long-lasting effects on the Chinese society.

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Table 1. Sex Ratios in Chinese History

	Estimated sex ratio (female as 100)
1368-1398	112.93
1749-1845	116-121
1909-1911	121.71
1932-1936	113.04
1946-1947	110

Note: Sex ratios are for the whole population. They are collected from the estimates provided by Jiang (1998). The estimates for years before 1900 are based on the historical county chronicles compiled in the Qing Dynasty, and estimates for years after 1900 are obtained using the historical materials of the household censuses done by the KMT government.

Table 2. CCP and Female Party Membership in Selected Years (millions)

Year	Nationwide			Sample counties	
	Number of CCP members	*Population share of CCP members* (%)	*Share of female members* (%)	*Population share of CCP members* (%)	*Share of female members* (%)
1949	4.49	0.83	11.85	0.91	8.65
1955	9.39	1.53	10.07	1.36	9.58
1965	18.71	2.58	11.52	2.18	11.47
1975	33.38	3.61	13.23	2.81	13.09
1976	35.08	3.74	13.53	2.91	13.19
1978	36.98	3.84	13.46	3.01	12.89
1981	39.66	3.96	13.42	3.14	12.23
1985	44.26	4.18	13.71	3.28	11.80
1987	47.76	4.37	14.17	3.46	11.67

Notes: National data are obtained from the CCP internal publication *The Materials: 1921-1997*, Volume 7. Data for sample counties are obtained from *The Materials* compiled by each county as well as the county chronicles. County chronicles and the *Organization Materials* were mainly compiled in the late 1980s and early 1990s, so records are only available until the late 1980s.

Table 3. Impacts of *FP*50 on the Population Sex Ratio

	(1) *S*65	(2) *S*75	(3) *S*90	(4) *S*65	(5) *S*75	(6) *S*90
*FP*50	0.042	0.087***	0.050**	0.225	0.550***	0.416**
	(0.051)	(0.025)	(0.021)	(0.245)	(0.131)	(0.184)
*S*50	0.488***	0.356***	0.176***	0.498***	0.346***	0.161***
	(0.036)	(0.029)	(0.019)	(0.033)	(0.033)	(0.022)
*CCP*50	-0.314*	-0.364**	-0.237	-0.774	-1.335***	-0.986**
	(0.166)	(0.154)	(0.155)	(0.506)	(0.309)	(0.387)
Other controls	Y	Y	Y	Y	Y	Y
Provincial FEs	Y	Y	Y	Y	Y	Y
First-stage F statistic				11.868	25.881	28.861
Hansen J statistic				0.033	0.848	0.168
Observation	917	921	918	875	879	876
R-squared	0.674	0.641	0.518			

Notes: Standard errors clustered at the provincial level are in parentheses. Significance levels: * 10 percent, ** 5 percent, *** 1 percent. Other controls include the variables in X_{50} and X_t introduced in the text. Columns (1) – (3) are OLS regressions, and Columns (4) – (6) are IV regressions. The instrumental variables employed for *FP*50 are *MS* and *GAP*.

Table 4. Sex Ratios of Live-born Births and Surviving Children in 1990

	(1)	(2)	(3)	(4)
	S-born		*S-survive*	
	OLS	IV	OLS	IV
$FP_{12\text{-}18}$	0.081***	0.404*	0.081***	0.484**
	(0.029)	(0.221)	(0.030)	(0.225)
$CCP_{12\text{-}18}$	-0.415***	-0.911**	-0.429***	-1.048***
	(0.124)	(0.366)	(0.128)	(0.375)
Total number of live-born children	0.050***	0.050***	0.052***	0.052***
	(0.001)	(0.001)	(0.001)	(0.001)
Han	-0.005**	-0.005**	-0.005*	-0.005*
	(0.003)	(0.003)	(0.003)	(0.003)
Rural resident	-0.042***	-0.043***	-0.044***	-0.044***
	(0.002)	(0.002)	(0.002)	(0.002)
Schooling years	0.001***	0.001***	0.001***	0.001***
	(0.000)	(0.000)	(0.000)	(0.000)
Husband's schooling years	-0.000	-0.000	-0.000	-0.000
	(0.000)	(0.000)	(0.000)	(0.000)
Other county controls	Y	Y	Y	Y
County fixed effects	Y	Y	Y	Y
Cohort fixed effects	Y	Y	Y	Y
First stage F statistic		49.91		49.84
Observations	817,763	817,763	815,894	815,894
R-squared	0.023		0.023	

Notes: Standard errors clustered at the county level are in parentheses. Significance levels: * 10 percent, ** 5 percent, *** 1 percent. The results of county-level variables other than CCP membership are not shown to save space.

Table 5. Daughters Born under the One-Child Policy

	(1)	(2)	(3)
	First birth	Second or higher-order births	
	OLS	OLS	IV
$FP_{12\text{-}18}$	-0.006	0.198**	0.584*
	(0.107)	(0.096)	(0.352)
$CCP_{12\text{-}18}$	-0.577	-0.114	-0.897
	(0.479)	(0.535)	(0.875)
Han	-0.007	-0.011*	-0.011*
	(0.005)	(0.005)	(0.005)
Rural resident	0.003	0.008	0.007
	(0.004)	(0.006)	(0.006)
Mother's education	-0.001**	-0.001***	-0.001***
	(0.000)	(0.000)	(0.000)
Father's education	-0.001***	-0.001***	-0.001***
	(0.000)	(0.000)	(0.000)
Other county controls	Y	Y	Y
County fixed effects	Y	Y	Y
Mother's cohort fixed effects	Y	Y	Y
First-stage F statistic			115.81
Observations	379,251	428,343	428,343
R-squared	0.004	0.006	

Notes: Standard errors clustered at the county level are in parentheses. Significance levels: * 10 percent, ** 5 percent, *** 1 percent. The results of county-level variables other than CCP membership are not shown to save space.

Table 6. Adolescent Political Exposure and Son-preferences

	(1)	(2)
$FP_{12\text{-}18}$	-1.945**	-3.354**
	(0.863)	(1.565)
Schooling years	-0.018***	
	(0.005)	
Female dummy	0.024	0.031
	(0.029)	(0.045)
Rural resident	0.219***	-0.007
	(0.059)	(0.091)
Han	-0.149	-0.166
	(0.113)	(0.132)
Ln(income)	-0.006	-0.008
	(0.005)	(0.008)
$CCP_{12\text{-}18}$	8.432	11.230
	(5.507)	(8.284)
Other county controls	Y	Y
County fixed effects	Y	Y
Cohort fixed effects	Y	Y
Observations	9,170	3,648

Notes: Standard errors clustered at the county level are in parentheses. Significance levels: * 10 percent, ** 5 percent, *** 1 percent. Column (1) includes all the respondents; Column (2) only includes the respondents with no education; and Column (3) is the IV regression of Column (1). The results of county-level variables other than CCP membership are not shown to save space.

Table 7. The Impacts of Education

	(1)	(2)	(3)	(4)	(5)	(6)
	S-born	*S-survive*	Second- or higher-order births	*S-born*	*S-survive*	Second- or higher-order births
$FP_{12\text{-}18}$	0.078**	0.079**	0.201**	0.077***	0.077**	0.194**
	(0.032)	(0.033)	(0.102)	(0.029)	(0.030)	(0.096)
$FP_{12\text{-}18}$×schooling years	0.001	0.001	-0.001			
	(0.004)	(0.004)	(0.008)			
$FP_{12\text{-}18}$ ×high school				0.051***	0.052***	0.054*
				(0.017)	(0.017)	(0.030)
$CCP_{12\text{-}18}$	-0.415***	-0.429***	0.201**	-0.411***	-0.425***	-0.110
	(0.124)	(0.128)	(0.102)	(0.124)	(0.128)	(0.535)
# live-borns	0.050***	0.052***		0.050***	0.052***	
	(0.001)	(0.001)		(0.001)	(0.001)	
Han	-0.005**	-0.005*	-0.011*	-0.005**	-0.005*	-0.010*
	(0.003)	(0.003)	(0.005)	(0.003)	(0.003)	(0.005)
Rural resident	-0.042***	-0.044***	0.008	-0.042***	-0.043***	0.009
	(0.002)	(0.002)	(0.006)	(0.002)	(0.002)	(0.006)
Schooling years	0.001	0.001	-0.001	0.001***	0.001***	-
	(0.000)	(0.000)	(0.001)	(0.000)	(0.000)	(0.000)
Husband's	-0.000	-0.000	-0.001***	-0.000	-0.000	-
schooling years	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
Other county controls	Y	Y	Y	Y	Y	Y
County fixed effects	Y	Y	Y	Y	Y	Y
Cohort fixed effects	Y	Y	Y	Y	Y	Y
First stage F statistic						
Observations	817,763	815,894	428,343	817,763	815,89	428,343
R-squared	0.023	0.023	0.006	0.023	0.023	0.006

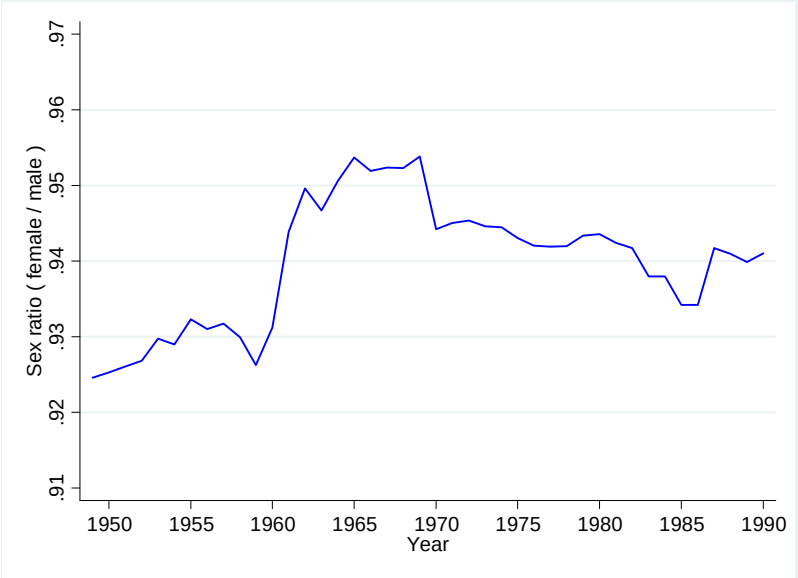
Notes: Standard errors clustered at the county level are in parentheses. Significance levels: * 10 percent, ** 5 percent, *** 1 percent. The results of county-level variables other than CCP membership are not shown to save space.

Table 8. Second or Higher-order Births:
Contemporary vs. Adolescent Political Exposure

	(1) OLS	(2) IV	(3) OLS	(4) IV
$FP_{80\text{-}87}$	0.077	0.417	-0.064	0.748
	(0.051)	(0.441)	(0.077)	(0.479)
$CCP_{80\text{-}87}$	0.359**	0.066	-0.051	1.319*
	(0.150)	(0.425)	(0.337)	(0.794)
$FP_{12\text{-}18}$			0.146**	0.782**
			(0.067)	(0.361)
$CCP_{12\text{-}18}$			0.444	-2.797*
			(0.346)	(1.607)
Family controls	Y	Y	Y	Y
County controls	Y	Y	Y	Y
Child's cohort fixed effects	Y	Y	Y	Y
Mother's cohort fixed effects			Y	Y
First-stage F statistic		10.64		8.386
Observations	432,546	432,546	425,676	425,676
R-squared	0.001		0.001	

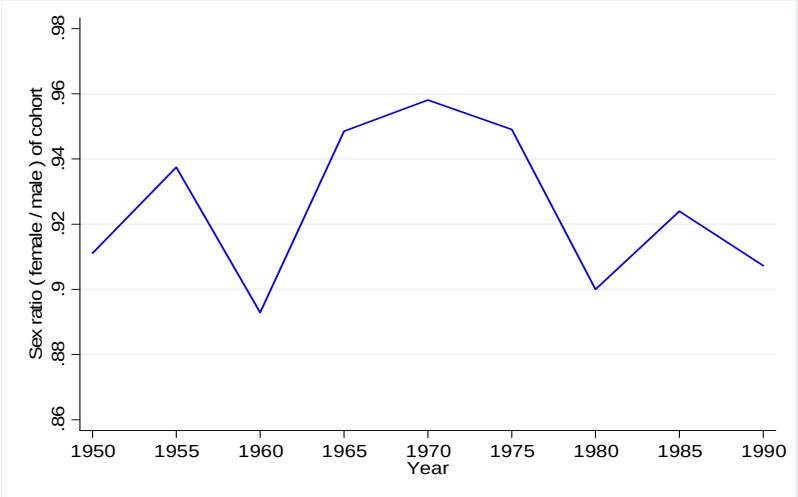
Notes: Standard errors clustered at the county level are in parentheses. Significance levels: * 10 percent, ** 5 percent, *** 1 percent. Family controls are the same as those used in Table 7, county controls are also the same, but take their averages in 1980-87.

Figure 1. Sex Ratios of the Population: 1949–90 (men = 1)



Note*:* The sex ratio of the population each year is calculated from the statistics provided by NBS (2010): *Compiled Materials on Sixty Years of the People's Republic of China*.

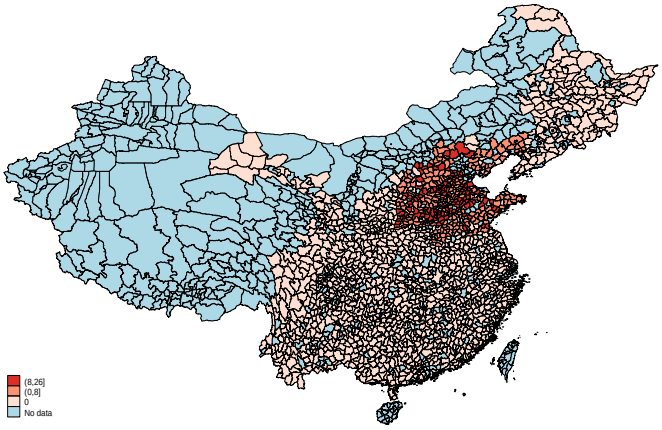
Figure 2. Sex Ratios of Birth Cohorts in the 1990 Census (men = 1)



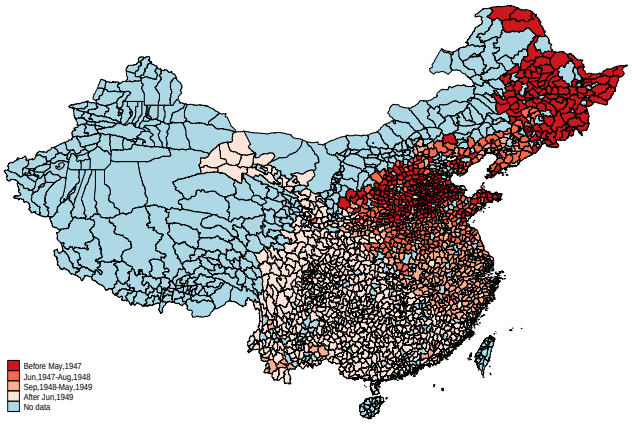
Note: The sex ratios are calculated from the 1-percent sample of the 1990 population census for nine cohorts who were

Figure 3: The CCP's Military Strength and Timing of Liberation

Panel A: Military Strength



Panel B: Timing of Liberation

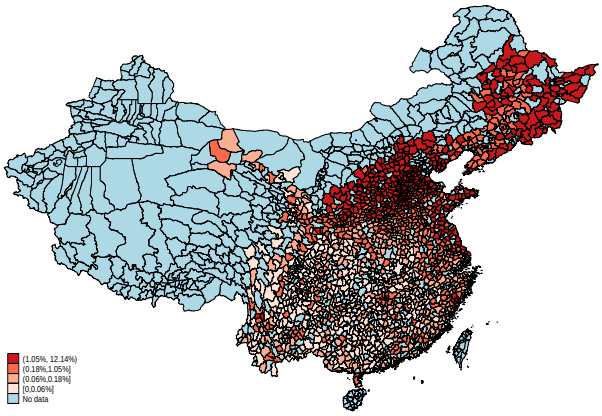


Notes: To construct the index of military strength in Panel A, we first identify the CCP's main military units in the Anti-Japanese War (115th Division, 120th Division and 129th Division of the Eighth Route Army) that were present in a county. Then we aggregate the number of years that these units stayed in a county during 1937-1945 and use the aggregated years as an index for military strength. The four groups of counties with data in Panel B are defined by their time of "liberation". The first group was liberated before CCP's strategic offensives in the Civil War; the second group was liberated during these offensives but before the decisive campaigns; the

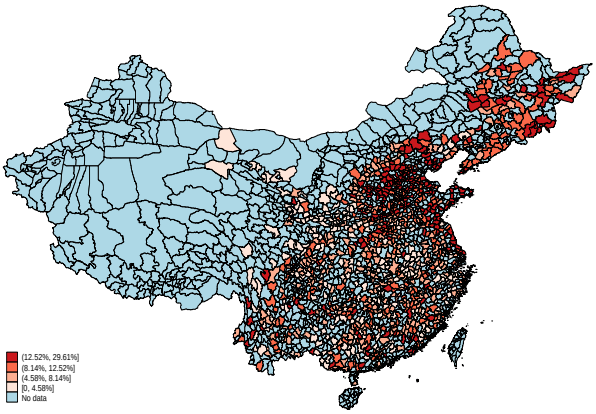
third group was liberated during the decisive campaigns; and the fourth group was liberated after the Yangtze River Campaign. Data for military strength are collected from the *Materials of the Chinese Communist Party's Organizational History*, and the data for the timing of liberation are collected from county chronicles and Baidu Wikipedia (Baidu Baike).

Figure 4. Distribution of *CCP*50 and *FP*50

Panel A: Distribution of *CCP*50

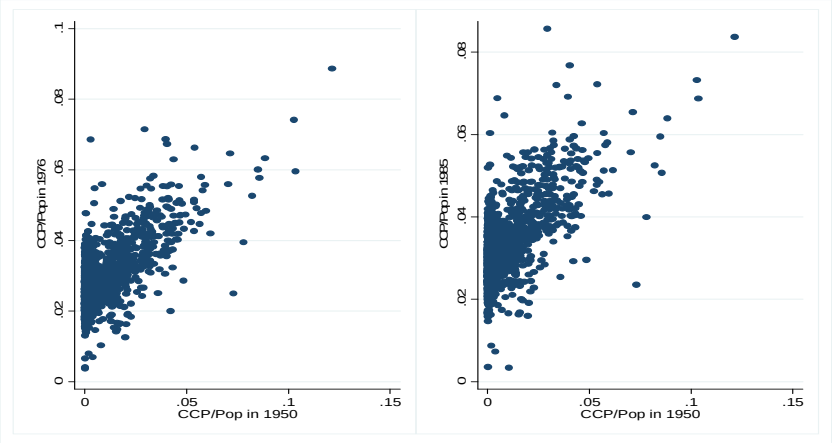


Panel B: Distribution of *FP*50



Notes: Data for *CCP*50 and *FP*50 are obtained from the county chronicles and CCP internal publications, *Materials of the Chinese Communist Party's Organizational History*.

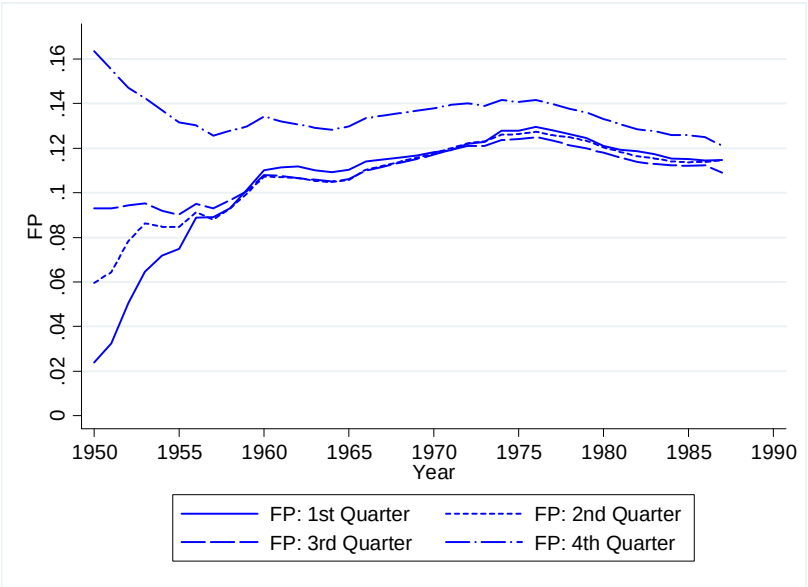
Figure 5. Persistence of CCP Membership in Sample Counties



Note: Figure 5(a) shows the correlation between CCP membership in 1976 and that in 1950, and the correlation coefficient is 0.434; Figure 5(b) shows the correlation between CCP membership in 1985 and that in 1950, and the correlation coefficient is 0.441.

Sources: County chronicles; *The Materials*.

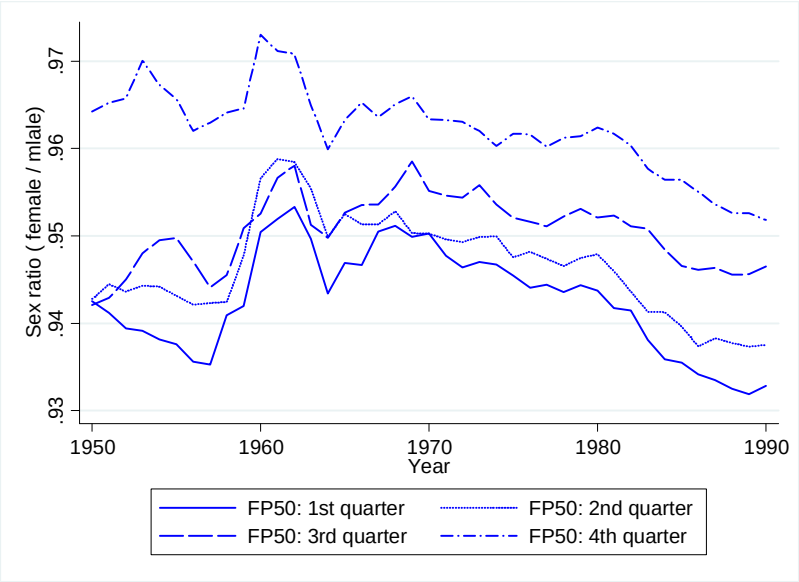
Figure 6. Female Party Membership by FP50 Quarters from 1950 to late 1980s



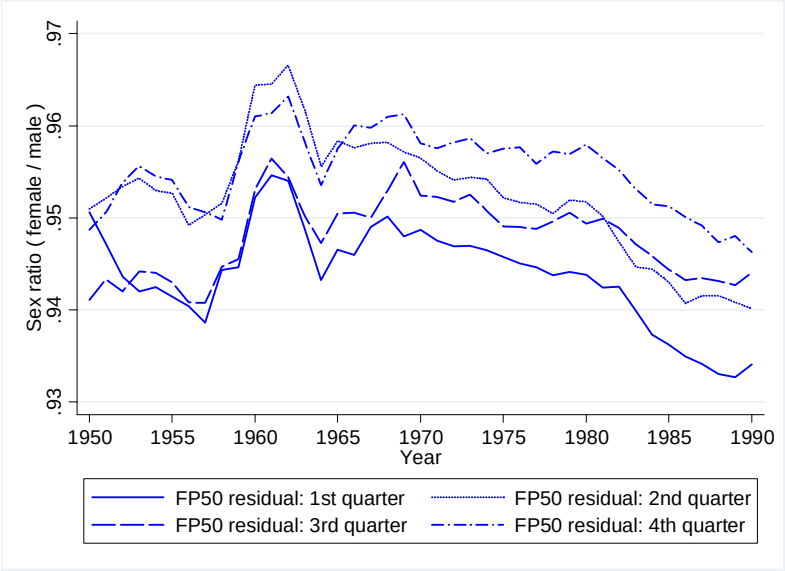
Sources: County chronicles; *The Materials*.

Figure 7. *FP*50 and Sex Ratios in 1950–90

Panel A: Raw Data



Panel B: *FP*50 Net of the Impacts of CCP50 and S50



Sources: County chronicles; The Materials.

Appendix. Summary Statistics of Variables

County-level variables (from county chronicles, *The Materials*, the 1990 census, the 1 percent sample of the 1990 census)

Variables	*Obs*	*Mean*	*Std. Dev.*	*Min*	*Max*
*FP*50 (Female CCP/CCP)	1,079	0.085	0.056	0.000	0.296
*CCP*50 (CCP/Pop)	1,569	0.008	0.013	0.000	0.121
Female-male ratio of the population in 1950	1,469	0.949	0.104	0.492	1.632
FP (Female CCP/CCP)	47,541	0.116	0.038	0.000	0.539
CCP (CCP/Pop)	63,749	0.024	0.013	0.000	0.490
Female-male ratio in the population	67,296	0.951	0.076	0.416	1.676
Population mean schooling years	67,896	3.254	1.678	0.000	10.438
Female-male ratio of schooling years	67,809	0.392	0.222	0.000	2.000
Per-capita industrial output (yuan)	61,740	118.748	299.117	0.000	10551.330
Per-capita social spending (yuan)	37,145	5.309	8.816	0.008	717.003
Per-capita budgetary spending (yuan)	47,190	21.061	27.437	0.019	1158.990
Population (thousand)	70,324	361.220	259.879	0.706	1999.443
Share of Han	1,711	0.873	0.255	0.005	1.000
Share of rural residents	1,710	0.881	0.089	0.147	0.983
Distance to provincial capital (km)	1,726	204.863	120.434	6.292	973.964
Distance to nearest treaty port along the coasts or Yangtze river (km)	1,726	319.749	241.654	3.353	1645.418
Altitude (km)	1,726	0.658	0.778	0.001	4.352
Share of hilly grounds	1,726	0.637	0.273	0.016	1.000
Central authority dummy	1,729	0.394	0.489	0.000	1.000
Local authority dummy	1,729	0.109	0.311	0.000	1.000
Military strength	1,729	1.696	3.702	0.000	26.000
Liberation gap	1,720	17.080	23.528	-31.000	184.000
National FP	42	0.123	0.013	0.099	0.145

Notes: The number of time-varying observations is counted by county-year, and the number of time-invariant observations is counted by county.

Individual-level variables from the 1-percent sample of the 1990 census

Variables	Obs	Mean	Std. Dev	Min	Max

Women Sample Born during 1937-70					
Number of live-born girls / Number of live-born children	1,547,974	0.463	0.346	0.000	1.000
Number of alive girls until 1990 / Number of alive children until 1990	1,543,519	0.463	0.351	0.000	1.000
Total number of live-born children	1,879,614	2.175	1.707	0.000	18.000
Han ethnic	1,879,614	0.928	0.259	0.000	1.000
Rural resident	1,877,810	0.901	0.299	0.000	1.000
Schooling years	1,879,614	5.264	3.800	0.000	16.000
Schooling years of husband	1,300,308	6.870	3.452	0.000	16.000
Children Sample Born after 1980					
Female dummy	1,295,946	0.475	0.499	0.000	1.000
Han ethnic	1,295,946	0.917	0.275	0.000	1.000
Rural resident	1,263,288	0.942	0.234	0.000	1.000
Mother's schooling years	1,295,946	5.438	3.759	0.000	16.000
Father's schooling years	1,232,838	7.591	3.186	0.000	16.000
Female dummy (born after 1980, birth order=1)	608,131	0.490	0.500	0.000	1.000
Female dummy (born after 1980, birth order>1)	687,815	0.461	0.498	0.000	1.000

Individual-level variables from CFPS 2010

Variables	*Obs*	*Mean*	*Std. Dev.*	*Min*	*Max*
Importance of having a son	19,523	4.049	1.137	1.000	5.000
Schooling years	19,515	5.265	4.773	0.000	22.000
Female dummy	19,523	0.508	0.500	0.000	1.000
Rural resident	19,496	0.708	0.455	0.000	1.000
Han ethnic	19,523	0.923	0.266	0.000	1.000
Income (yuan)	19,523	8915.545	18940.040	0.000	800000.000