

An Analysis of the Effect of "Send-down Movement" Experience on Gender Perception

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Abstract: In 1960s and 1970s, roughly 18 million urban youths in China were sent to rural areas under the command of government to bear heavy agricultural work. This paper adopts discontinuity in policy to conduct a Regression Discontinuity Design (RDD) to examine how send-down experience in the youth affects long-term gender perception. The result shows that being sent-down in the youth on average shifts the score of gender perception several decades later towards the more progressive direction by 1-1.4 standard deviations. This implies that, even in rural areas where agriculture is dominant and people bear heavy manual work, gender equality can be achieved by a fair institution.

Keywords: Gender perception, Agricultural work, Rural areas

1. Introduction

The “Send-down” movement is a large social movement in China between the 1950s and 1970s in which millions of urban youths were forced to migrate to rural areas. Since most students were less than 20 when sent to rural, their perception could be affected by this experience in youth. This study aims at examining the effect of being sent down on gender perception. The students are born with heavy manual work in the movement, which male has an advantage so that they may form a sense of male superiority. However, a rural area in the send-down movement is not like traditional agricultural societies; instead, both genders did the same work in an egalitarian atmosphere, getting paid only based on productivity rather than gender, which may undermine male superiority. This contradiction makes the result ambiguous and worth exploring. In other words, this study intends to identify the relative importance of the characteristics of the work and the institution in which it is done.

The main result of this study is that send-down experiences in youths have a positive effect on building progressive gender perceptions. The effect is not only statistically significant but also considerable in magnitude. It is estimated that being sent down to rural areas, on average, shifts the aggregated score of gender perception towards the egalitarian direction by a 1-1.4 standard deviation.

2. Literature Review

2.1. Gender ideology formation

Determinants of individual gender ideology can be clustered into “interest-based” and “exposure-based” [1]. The “interest-based” explanation argues that gender ideology formation relies on the

interest structure of an individual; that is, when gender equality is more beneficial, individuals are more likely to hold egalitarian gender beliefs. On the other hand, the “exposure-based” explanation emphasizes the importance of personal experience, which contends that exposure to egalitarian environments or events will lead to more progressive gender perception. This study corresponds with the second class, focusing on the influence of rural experience in youth on gender perception.

“Exposure based” class traditionally includes the following factors in determining gender perceptions: maternal education and employment [1-2], religion [3], education [4-5], labor force participation [2][6], marriage status and so on [3][6]. However, despite it being an important factor of socioeconomic environment, only few studies focus on rural/urban residence or experience on gender ideology, and results have not reached a consensus. Johnson adopts data from The National Survey of Families and Households in 1980s and 1990s and finds no evidence of urban residents being more egalitarian, which he explains as a result of large scale migration [7]. On the contrary, while also studying U.S. in almost the same period, Carter and Borch find that individuals in more urban locales maintain more liberal gender-role attitudes than their rural counterparts [8]; Istenič also finds that urban residents tend to have more progressive gender perception than rural or farm residents in Slovenia [9]. In summary, although classic theory has sharply predicted that urban residents should have more liberal and progressive attitudes [10], evidence in the aspect of gender is scarce and previous studies have exclusively focused on developed and capitalist countries. This study thus adds to the discussion of influence of rural/urban experience on gender perception, in a brand-new context of an underdeveloped and socialist country.

2.2. Socialist rural and gender

In this part, I will explain why the send-down movement provides a new empirical context and may lead to astonishing results contrary to what classic theory predicts. Before the China Communist Party took power in 1949, China was a country dominated by patriarchal and male superiority. Women were seen as appendages of their husbands and were abolished of education and working opportunities. There was also a clear labor division between males and females, with famous axioms saying, “Men plough, women weave” and “Men rule outside, women rule inside” [11]. After the founding of People’s Republic of China, the government launched a series of policies that granted women the right to divorce and remarry, own property rights, and equal access to education and the labor market [12]. Women’s social status rose significantly, as Mao’s famous saying, “Era has changed, male and female are the same. Female can do whatever male can do”.

This turn in social atmosphere was reflected in rural China in 1960s and 1970s when send-down movement took place and is recorded in recollections and interviews. Male and female are equally treated in labor division, with female often participate in heavy manual work. In fact, many female *zhiqing* (students who were sent down) participated in labor work desperately and actually did heavier work than male to prove that female is not inferior to male. Therefore, people’s attitude towards women were not only affected by slogan from the government, but also from the ability and spirit displayed on those female *zhiqing* [13]. In addition, Gongfen system ensures that all *zhiqings* are paid based on their labor contribution but not gender (If a woman contributes more than a man, she gets more wage), which represents an institutional guarantee for gender equality [14].

3. Data and variable construction

3.1. Data source

The data is from China Family Panel Survey (CFPS), a large and national-wide social investigation program in China. Starting in 2010, the survey was conducted every two years, and each wave

followed up with individuals investigated in previous waves, making it a panel database. The survey covers 25 out of 31 provinces in China, and CFPS2010 contains participants from 162 counties.

The 2010 and 2014 waves of CFPS are used since information on send-down experience is only contained in the former, and questions about gender perception are only asked in the latter. Therefore, The sample is restricted to those who conducted both survey waves, which gives me 25618 observations.

3.2. Variables construction

3.2.1. Independent variable

The treatment variable of this study is a dummy variable indicated by whether a person had a send-down experience. It can be taken from a question in CFPS2010 asking if an individual has certain experiences, which contain experience of being sent down.

Since send-down movement focused on urban students, the comparison can be made between those who experienced send-down and those who were eligible but stayed in urban areas. Following previous paper on send-down experience, it is assumed that those with a non-agricultural hukou when 12 years old were eligible for send-down movement [15]. After excluding observations with an agricultural hukou when 12 years old, there are 3425 observations left, 439 of which have been send-down experience.

3.2.2. Outcome variable

Gender perception is used in this study to evaluate the degree of gender egalitarianism. Existing studies and investigations measure gender perception mainly from six perspectives: the primacy of the breadwinning role, belief in separate gendered spheres, working women and relationship quality, wife/motherhood and the feminine self, household utility, and acceptance of male privilege [16]. CFPS2014 asks to what extent an individual agrees with four statements regarding gender perception which cover three perspectives of gender perception measure. The questions are on Likert Scale, with 1 representing completely agree and 5 representing completely disagree. The four statements are:

- (1)" Men should focus on career and women should focus on family life";
- (2)" For women, marrying a good husband is better than being competent at work";
- (3)" A woman can only be made a woman with children";
- (4)" Husbands should bear half of the housework."

Statement (1) captures belief in separate gendered spheres, statement (4) focuses on household utility and statement (2) & (3) both correspond to attitude on wife/motherhood and the feminine self. The results of the four questions are represented by "gendered labor division", "attachment to husband", "attachment to children," and "housework division," respectively. To ensure the four scores' directions are the same (lower points represent more egalitarian gender perceptions), the result of the fourth question are reversed.

Table 1 shows the correlation matrix of the four measures. Most correlations are weak and some are negative, which means that the metrics captures different dimensions of gender perception 4 . In order to depict the general impact of send-down experience on gender perception, an index is constructed by aggregating the four measures which is the equally weighted average of z-scores of the four metrics. A higher z-score means a less progressive gender attitude.

Table 1: Correlations among measures of gender perception

	Gendered labor division	Attachment to husband	Attachment to children	Housework division
Gendered labor division	1			
Attachment to husband	0.43	1		
Attachment to children	0.36	0.41	1	
Housework division	-0.17	-0.21	-0.26	1

3.2.3. OLS control variables

Following previous literature discussing the determinants of gender perception [2][4][5][6], several control variables are selected including age, marital status, income, education level, working status, having a child or not, gender, health status, and ethnic status.

3.2.4. Predetermined control variable

Adding covariates into RD estimation can improve the precision of the estimation as long as they are predetermined. The variables selected include gender, ethnic status, education attainment before age 15, parents' education attainment and political status when one was 14, parents' absence during 4 and 12, and migration experience before 12.

4. Empirical strategy

4.1. OLS estimation

The baseline model directly compares the gender perception between those sent down and those who lived in the city but stayed. The OLS estimation function is as below:

$$gender\ perception_{ip} = \beta_0 + \beta_1 * senddown_i + X_i\gamma + \delta_p + \varepsilon_{ip}, \quad (1)$$

where $gender\ perception_{ip}$ is the outcome variable of the individual i living in province p , $senddown_i$ is a dummy variable depicting whether the individual had send-down experience, X_i is a series of control variables of personal and family characteristics, δ_p is province fixed effect and ε_{ip} is the error term. The coefficient interested in is β_1 , which depicts the difference in gender perception between send-down youths and their peers who stayed in cities.

4.2. Regression discontinuity design

The OLS results can be biased due to the non-random selection of being sent down. Although several individual and family characteristics that may seem to determine whether one has the send-down experience are controlled, such as the father's educational attainment, education level, and age, there still exists a concern that the selection is driven by some unobservable factors, such as revolutionary zeal, secret political tie with local officers or attempt to forge a fake hukou [17].

To address endogeneity, send-down movement is considered as a natural experiment and Regression discontinuity design (RDD) can be adopted to estimate the local effect of experiencing send-down to gender perception.

To illustrate the identification strategy, some background information on the send-down movement will first be introduced in a very brief style. Starting in 1955, the send-down movement was a large-scale and government-directed political movement whose aim was sophisticated and multidimensional, including strengthening socialist ideology, lessening the problem of employment in urban and eliminating the urban-rural gap [18]. It encouraged or forced youth in urban areas to suspend school life to go to rural areas. Before 1968 the movement was relatively moderate and voluntary, and only 1.29 million urban students were sent down between 1962 and 1966 [18].

Since 1966 the Cultural Revolution broke out, the economic condition worsened in China, with industry output falling by 13.8% in 1967 and 4.2% in 1968, intensifying the employment problem in China [19]. In addition, the education system nearly collapsed during the Cultural Revolution, leaving the fresh graduates nowhere to go. Facing the political stability brought about by more than ten million fresh urban graduates with nothing to do, sending them down to rural became the only option for the government. In December 1968, Mao made the famous instruction in a speech: “It is very necessary for the urban educated youth to go to the countryside to be re-educated by the poor farmers”, which indicates the beginning of a new stage of the movement, featured by its large scale and compulsory requirements. During 1967 and 1969, approximately 4.7 million urban youth were sent down to rural areas, and 17 million students were sent down in the years following 1968 [19].

After Mao’s death and the end of a Cultural Revolution in 1976, political pressure from the government weakened a lot. In October 1978, the Second National Conference on Send-Down Youth declared that the scale of the send-down movement should be shrunk and youths should return to the urban. Most urban youths returned to cities before 1980 [19].

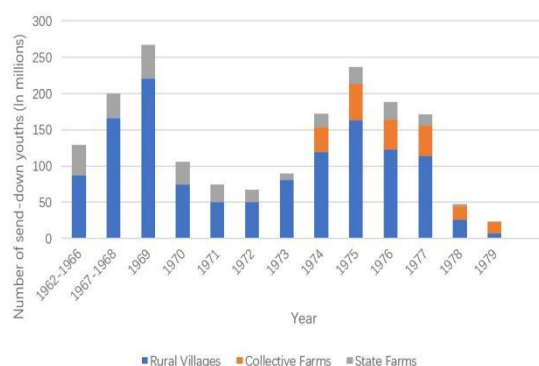


Figure 1: number of send-down youths (in millions), 1962-1979

Figure 1 displays the annual number of send-down youths. As can be seen, a massive decrease happened in 1978, when the number was cut down by more than two thirds. This implies that 1978 can be seen as a cut-off in terms of probability of being sent-down. In fact, this also corresponds with the reality. In August 1977, the 11th CPC National Congress declared the end of cultural revolution, which brought a loose political atmosphere nation-wide. The recovery of National College Entrance Examination in 1978 indicates the re-establishment of education system, which provided chance to receive education for graduates. It is well documented that top leaders started to be concerned about send-down in March 1978 and suggested “not implementing send-down if there is not a necessity”. Under this situation, the number of send-down youth is likely to decrease in 1978.

In the mid-20th century, children in China typically started school when they were 8 years old, and elementary school, junior high school, and senior high school took 6 years, 3 years, and 3 years to complete. The academic year in China starts in September, so people born before September 1960 is likely to enter elementary school in 1968 and complete junior-high school in 1977, while those born in or after September 1960 are likely to graduate from junior high school in 1978. Since 1977

graduates are more likely to experience send-down than 1978 graduates do, those born slightly before September 1960 are more likely to experience send-down than those born in or after September 1960, which is used to construct a RD design.

The selection of bandwidth is of great importance in RD estimation. A smaller bandwidth estimates a more local effect, thus making the results more accurate, but at the cost of a smaller sample size. The method given by Calonico, Cattaneo, and Titiunik is used to estimate the optimal bandwidth [20], but also adjust the bandwidth for robustness. Since slope of send-down probability varies a lot across the cut-off (as shown in Figure 2), an interaction term is included in RD equations to allow for different bandwidths of two sides. The estimated optimal bandwidths are 92 and 69 months, respectively.

5. Results

5.1. Results of OLS estimation

Concerning some individuals with non-agricultural hukou when 12 years old also experienced send-down, the sample pool is restricted to those living in urban areas and use hukou12(hukou status when 12 years) as a control variable. The sample is further restricted to exclude those born before 1946 or after 1978 because they are not likely to experience send-down. The results are shown in Table 2 below.

Table 2: OLS estimation of effects of send-down experience on gender perception

	Gendered labor division	Attachment to husband	Attachment to children	Housework division	average	Average(fourth metric excluded)
	(1)	(2)	(3)	(4)	(5)	(6)
Send-down	-0.14** (0.06)	-0.10 (0.07)	-0.10* (0.06)	-0.2*** (0.06)	-0.09*** (0.04)	-0.12** (0.05)
Province fixed effect	Y	Y	Y	Y	Y	Y
N	7510	7498	7502	7509	7486	7481
R2	0.09	0.07	0.05	0.02	0.05	0.10

Notes: Standard errors are reported in parentheses. *Significant at 10%; **significant at 5%; ***significant at 1%.

The coefficients of experiencing send-down are negative across all four measures of gender perception, which means that send-down experience is correlated with a more egalitarian gender attitude. Coefficients of impact on gendered labor division, attachment to children and housework division are statistically significant, and the average score of gender perception is also significantly lowered by send-down experience. The fourth metric is also excluded to conduct an aggregated score of the first three measures because the fourth question is asked in the opposite direction compared to the other three makings and has a much lower mean value, making it seem unique. The coefficient is also significant.

5.2. Results of RD estimation

Figure 2 displays the trend of send-down probability among individuals whose hukou status was non-agricultural when 12 years old. The x-axis variable Birth cohort illustrates the month cohort in which one was born, and August 1960 is normalized to 0. As we can see, there is a clear jump across the

cut-off. Urban youths born before August 1960 had a probability of about 0.4-0.5, while those born after the cut-off hardly experienced send-down. Column (1) of Table 3 displays first stage of RD design (Equation 3), It can be seen that being born after August 1960 significantly reduced the probability of being sent-down by 22 percentage points.

The regression result is shown in Table 3. that the send-down experience significantly reduced the average score of gender inequality by 0.71 (remember, the less the score, the more egalitarian an individual is), compared to one standard deviation of 0.70. Considering that the fourth metric in constructing the score is special, the estimation is reconducted with the fourth metric excluded. The coefficient is still negative and significant. The predetermined variables are added as control variables for robustness. The results are robust to adding control variables. Although the coefficients across all scenarios are only significant at the 10% level, they are more economically significant, representing changes of 1 to 1.4 standard deviations of the dependent variable. The coefficients are all positive and significant in reduced form estimates, indicating that the cohort born straight after August 1960 is less egalitarian than those born straight before August 1960. This corresponds with the previous prediction since cohorts born straight after August 1960 are less likely to experience send-down.

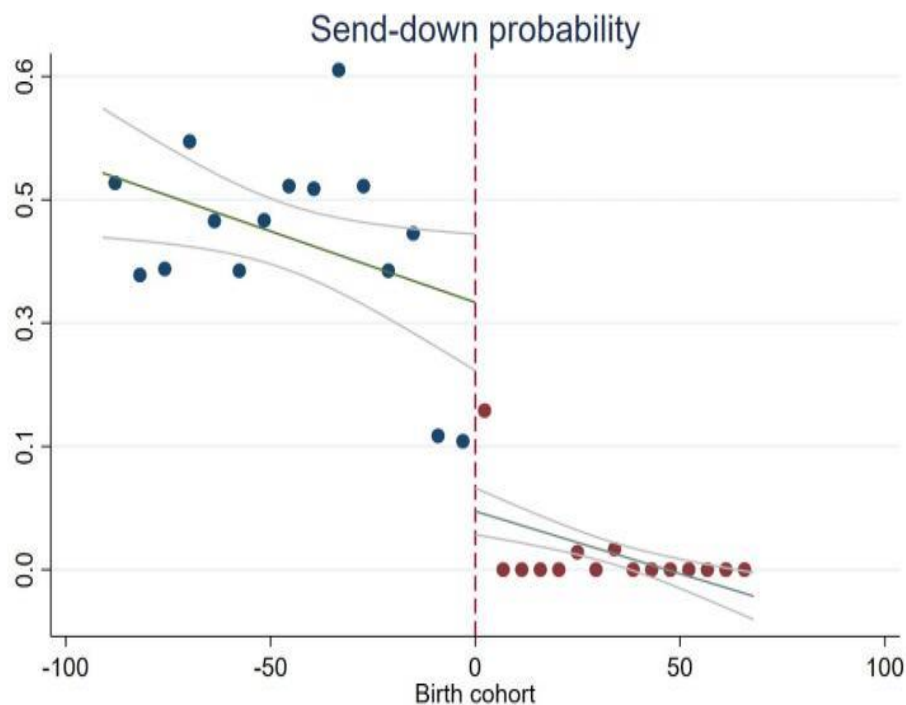


Figure 2: Trend of send-down probability among urban youths

Table 3: RD estimation of effect of send-down experience on gender perception

		Without control variables			With control variables	
		Send-down	average	Average (fourth metric excluded)	average	Average (fourth metric excluded)
		(1)	(2)	(3)	(4)	(5)
First stage and reduced form results	Born after August 1960	-0.22* (0.07)	-0.16* (0.09)	-0.26* (0.13)	-0.20* (0.11)	-0.30* (0.15)
	N	998	998	999	905	906
	RD estimation(2SLS)					
	Send-down		-0.73* (0.40)	-1.16* (0.60)	-0.90* (0.47)	-1.34* (0.70)
	Standard deviation of dependent variable		0.70	0.94	0.70	0.95
	Province fixed effect	Y	Y	Y	Y	Y

Notes: Standard errors are reported in parentheses. *Significant at 10%; **significant at 5%; ***significant at 1%.

6. Conclusion and discussion

Using the discontinuity of send-down policy as a natural experiment, this paper studies the role of rural experience during youth in shaping gender perception. OLS and RD estimation show that send-down experience positively correlates with egalitarian gender attitudes. RD results indicate that being sent down can shift the score of gender attitude by 1-1.4 standard deviation.

This result reflects an interesting contradiction: while rural people are generally less egalitarian toward gendered issues, a rural experience in youths makes individuals originally living in cities more egalitarian. One explanation is that while rural areas are traditionally associated with discrimination against women and boys favors, rural areas in the 60s and 70s in China differ. The first reason is the requirements and push from the Chinese government, which had strongly called for gender equality since coming to power in 1949. This trend went to a peak together with political campaigns during Cultural Revolution in the 60s, when "degenderizing" took place in every aspect of China and gendered labor participation was nearly erased away. However, this alone would not explain the contradiction because the peers of send-down youths also experienced the social transition and Cultural Revolution. Therefore another reason is suggested. Unlike those staying in cities, send-down youths experienced heavy agricultural work in person, where they witnessed the capability and passion of females with their own eyes. In a standardized working environment with no labor division between genders, no difference in getting paid, no discrimination against women and even no special consideration for women, they formed a perception of total equality between males and females.

This study has clear policy implications. Eliminating gendered discrimination has been an important policy goal for many governments, and the traditional view of gender relations is usually more likely to sustain in rural areas. This paper shows that send-down youths become more egalitarian

compared to their city peers after a rural experience. This abnormality is likely due to the interaction of the prosperity of the female spirit and the fair institution of the rural labor market. Therefore, gender inequality in rural can be changed by proper institutional arrangements. Pushing over the wall of gendered division in the working sphere, permitting females' entrance to traditionally male work, and establishing a system of equal payment may be the first steps to building an egalitarian rural.

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