

**Social Consequences of Forced Urban-Rural Migration in China:**

**Sibling Model for Send-Down Experience**

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## **Abstract**

During the Cultural Revolution, a large proportion of Chinese youth in cities were forced to go to the countryside as a result of the state's "send-down" policy. Local government policies typically dictated a formulaic assignment of send-down (such as keeping the oldest, or the youngest, child in city) with no apparent rationality when a family had more than one child. Thus, the comparison of siblings who were sent down with those who were not constitutes an ideal research design that mimics a true experiment. Comparison between two siblings, with one having been sent down while the other having not, allows us to study the true influence of send-down experiences on later life chances. We use the fixed-effects model for the statistical analyses.

## **Social Consequences of Forced Urban-Rural Migration in China:**

### **Sibling Model for Send-Down Experience**

During the Cultural Revolution, a large proportion of Chinese youth in cities were forced to go to the countryside as a result of the state's "send-down" policy. Zhou and Hou (1999) characterize the send-down movement as a "natural experiment" and report a study that found generally negative influences of a send-down experience on later life chances.

Zhou and Hou's study is based on a cross-sectional survey of urban residents that was conducted in 1993 and 1994. There are two reasons why their findings may be biased. First, some youth who were sent-down may have stayed in the countryside or went to other cities, making the comparison of those with a send-down experience and those without a send-down experience in selected cities problematic. Second, family background characteristics, some of which may be unobserved, were associated with the likelihood of being sent-down, potentially making their estimates of the effects of being sent-down more negative than actually the case.

This paper capitalizes on a unique feature of a dataset we designed specifically to better address the important question raised by Zhou and Hou. The dataset came from a survey, "Study of Family Life in Urban China", that we conducted in summer 1999 in three Chinese cities: Shanghai, Wuhan, and Xi'an. We also refer to the study as the "3-City Survey." In the 3-City Survey, we collected information about send-down experiences and socioeconomic attainment not only for the respondent but also for the sibling (if available) closest in age to the respondent. During the Cultural Revolution, local government policy typically dictated a formulaic assignment of send-down (such as keeping the oldest, or the youngest, child in city) with no apparent rationality when a family had more than one child. Thus, the comparison of siblings who were sent down with those who were not constitutes an ideal research design that mimics a true experiment. Comparison between two siblings, with one having been sent down while the other having not, allows us to reach a more definitive answer than Zhou and Hou as to the true influence of send-down experiences on life chances.

## Data

We conducted the “Study of Family Life in Urban China” in Wuhan, Shanghai, and Xi’an in 1999. At each research site, the study initially targeted a probability sample of 1,000 households, with a two-stage probability sampling method. At the first stage, 50 neighborhood communities were randomly chosen in proportion to size. Within each selected neighborhood community, 20 households were randomly chosen. A Kish table was used to select an adult respondent (18 years or older) within each selected household.

If the person being interviewed was younger than 60, we first interviewed the person with Questionnaire A, in which we collected all relevant information, including that pertaining to the support of his/her parents. We then interviewed one of his/her parents with Questionnaire A+, which was specifically tailored to the elderly. If the person initially selected was 60 years or older, we interviewed the person with Questionnaire B, which is similar to Questionnaire A+ and specifically tailored to the elderly. We then randomly selected one of his/her children for interview with Questionnaire B+, which is very similar in content to Questionnaire A for adult respondents. The survey design called for matching between an adult respondent and one of his/her elderly parents only if both parties lived in the same city. Although the instruction stipulated a “random” selection when an elderly parent was first interviewed and multiple adult children were possible candidates, we suspect that some interviewers took the short cut of interviewing the co-residential adult child if the elderly person was in a co-residential household.

For our initial analyses, we pool all respondents who answered Questionnaire A and Questionnaire B+, across the three cities. We will also examine whether there are systematic differences by questionnaire form and city in later stages of the study. Because our study capitalizes on sibling information, respondents who either did not have a sibling or did not report a sibling were dropped from the analyses. Through this procedure, we have 936 sibling pairs in Wuhan, 769 sibling pairs in Shanghai, and 820 sibling pairs in Xi’an, for a total of 2,524 pairs.

We first examine sibling pairs with respect to the sent-down experience: (yes, yes), (yes, no), (no, yes), and (no, no). The numbers of cases for the four types are respectively 246, 319, 300, and 1,659. We are interested in knowing, descriptively, if socioeconomic status, as measured by educational attainment and occupational status, significantly differs across the types and why. We measure educational attainment by both years of schooling completed and attainment of post-secondary education (binary). We measure occupation by an international socioeconomic status index (provided by Donald Treiman) and by the status of working in professional and managerial jobs (binary).

The key statistical analyses of this study mainly involve the use of a simple fixed-effects model with two siblings per family. The fixed effects model requires that we restrict the analyses to sibling pairs in which one, and only one, of the siblings was sent down. As discussed earlier, there are 619 such pairs. Let  $j$  ( $j = 1, \dots, n$ ) denote the  $j$ th's family of origin. Let  $i$  ( $i = 0, 1$ ) denote the  $i$ th's sibling within a family, with  $i = 0$  denoting the sibling who was not sent down, and  $i = 1$  denoting the other sibling who was sent down. We also wish to control for a vector covariates ( $x_{ij}$ ) that vary both by family and by sibling, such as age and sex. We parameterize the (additive) influence of sent-down experience with a parameter  $\delta$ . The fixed-effect model is powerful in allowing for unobserved family-level unobserved factor, denoted by  $\alpha_j$ , which also encompasses all observed but fixed family-level characteristics. The sibling-specific models then are:

$$(1) \quad y_{0j} = \beta'x_{0j} + \delta + \alpha_j + \varepsilon_{0j}$$

$$(2) \quad y_{1j} = \beta'x_{1j} + \alpha_j + \varepsilon_{1j}$$

Taking the difference between equations (2) and (1) eliminates the family-level unobserved factor and leads to the following simple equation:

$$(3) \quad y_{1j} - y_{0j} = \beta'(x_{0j} - x_{0j}) + \delta + (\varepsilon_{1j} - \varepsilon_{0j})$$

Equation (3) basically states that, the difference in social outcome between a sent-down sibling and the other sibling results from the sent-down experience, adjusting for other differences between siblings and controlling for all possible family-level unobserved heterogeneity. While model described above is for a

continuous outcome variable, it is also applicable for binary outcome variables assuming a continuous latent dependent variable (Powers and Xie 2000, Chapter 5). We apply the fixed-effect model to the two outcome variables – education and occupation, both in continuous scales and in dichotomous forms.

## References

- Powers, Daniel A. and Yu Xie. 2000. *Statistical Methods for Categorical Data Analysis*. New York: Academic Press.
- Zhou, Xueguang and Liren Hou. 1999. “Children of the Cultural Revolution: The State and the Life Course in the People's Republic of China.” *American Sociological Review* 64:12-36.