

The Studies on Intergenerational Mobility in China

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ABSTRACT

This paper discusses how household panel surveys can be informative about the intergenerational mobility. We consider issues both of data and of the statistical methods that were applied to those data. Then, we provide three examples of household panel surveys in China. At last, we review and discuss the development of the empirical studies on intergenerational mobility in China.

KEYWORDS

Intergenerational Mobility; Panel Data; Household Surveys.

1. INTRODUCTION

Since the work of Wang(2005), the number of studies on China's intergenerational mobility is increasing. We searched the Web of Science (WOS) and the China National Knowledge Infrastructure (CNKI) and found 116 and 168 empirical articles on intergenerational mobility, respectively. The intergenerational mobility and economic justice have been a hot topic in China. However, due to lack of longitudinal data with long period of coverage, the China's studies always don't follow academic conventions of the sort more routinely undertaken in top journals. As a result, the official document never cites the empirical evidence of existing literature to measure the degree of intergenerational mobility.

In this paper, we discuss survey data requirements for intergenerational analysis and review the estimation methods that have been used to examine the intergenerational correlation in labour earnings when using household panel surveys. Then we review empirical studies on China's intergenerational mobility. Finally, we present the discussion and provide the conclusion.

2. SURVEY DATA AND METHOD REQUIREMENTS

2.1. Survey Data Requirements

What are the data requirements necessary for deriving estimates of intergenerational associations in labour income? We discuss data requirements with reference to four criteria.

(1) *Measures of income.* The data must include monetary measures of well-being, e.g. earnings or wages. Measures are required to be observed for both children and parents and should ideally be continuous to easily modelling.

(2) *Family linkages*. A basic requirement for intergenerational research is that researchers can successfully match data about parents with data about their children. To control for the life-cycle bias in earnings, observation period for sons' income should lag one generation after fathers' income. So, contemporaneous observations on income for an individual and their parent(s) are not accepted, that is to say, cross-sectional data is abandoned by academic circles.

(3) *Large and representative samples*. In general, the smaller the sample, the more likely that estimates are more prone to sampling variability and hence less reliable. Non-representative samples potentially limit the extent to which findings can be generalised.

(4) *Repeated observations*. Researchers are often concerned that income may be subject to measurement errors or transitory fluctuations. As a result, an observation on income at one point in time may be unreliable. In general, the more waves of data that are available for each generation, the better it is for the estimates on intergenerational mobility.

2.2. Method Requirements

A range of econometric procedures is available when using household panel data. The most classic procedure was developed by Solon (1992). First, he controls for typical income and life-cycle bias by age constraints: sons are restricted to the cohort born between 1951 and 1959 and the earnings for fathers were observed in 1967 and the earnings for sons were observed in 1984. He gave an interval for the estimates on intergenerational income elasticity (IGE) using Ordinal Least Square (OLS) estimator and Instrumental Variable (IV) estimator. This procedure is very simple and become the preferred for the researchers on intergenerational mobility. As an alternative, Zimmerman (1992) proposed a complete model to estimate the parameters on intergenerational mobility and cross-sectional inequality. His approach requires more econometric and programming technique, especially when the panel data is not balanced. As a result, the approach has not spread. The two studies use the data from the Panel Survey of Income Dynamics (PSID) and National Longitudinal Survey (NLS), respectively. These data are structured well and have plenty of information on earnings of both fathers and sons. However, The Swedish level of living survey (SLLS) only have the information about the sons' income and their parents' education and occupation. As a result, Bjorklund and Jantti (1997) developed a two-sample two-stage least squares (TS2SLS) estimator. They first use data from the fathers' generation to estimate their regression of log earnings on education and occupation, use the results to construct a prediction of father's log earnings, and then estimate a second-stage regression of son's log earnings on father's predicted log earnings.

The above studies concern the bias from measurement error and life cycle pattern of current earnings. Nicoletti and Francesconi (2006) account for the selection bias induced by standard coresidence conditions in the British Household Panel Survey (BHPS). They try different estimation methods to correct for sample selection and find that only the inverse propensity score can attenuate the selection problem. This problem arises from sample design. The Panel Study of Income Dynamics (PSID) has not suffered from this bias, because the survey followed children from the original families as they have grown into adulthood and formed their own household.

In recent decade, the large administrative data is available. Chetty et al. (2014) use large samples drawn from Internal Revenue Service (IRS) tax records and find that canonical log-log specification yields very unstable estimates of mobility because the relationship between log child income and log parent income is nonlinear, and the estimates of IGE are sensitive to the treatment of children with zero or very small incomes. To obtain a more stable summary of intergenerational mobility, they introduced a rank-rank specification by ranking children and their parents based on their incomes relative to other counterparts in the same birth, and characterize mobility based on the slope of this rank-rank relationship.

Recently, the use of generic data is reshaping the studies on intergenerational mobility. Using the data include information on the genetic profile of the parents, Rustichini et al.(2022) concluded that the IGE may be larger than in the standard model, and depends on distribution of the genotype.

3. HOUSEHOLD PANEL SURVEYS IN CHINA

In China, there are no administrative and gene data. Several household panel surveys are available nowadays. The most influential surveys, which is open to the public, are the China Health and Nutrition Survey(CHNS), China Family Panel Studies(CFPS) and China Laborforce Dynamics Survey(CLDS).

The CHNS began in 1989 with a sample of over 19,000 individuals living in 4,400 families in nine provinces. Information on these individuals has been collected, including a wide-ranging set of socioeconomic factors (income, employment and education) and other related health, nutritional and demographic measures. The primary advantage of the CHNS is its long period of coverage. To date, the survey includes ten waves covering from 1989 to 2015. A disadvantage of the CHNS is not nationally representative. However, this disadvantage is becoming less serious. On one hand, the number of surveyed provinces is increasing from nine to fifteen and covering most provinces southeast to the Hu line, east of which 96 percent of the Chinese lived. On the other hand, the sample size is increased. In the last wave, there is a sample of 7,319 families with 20,914 individuals.

The China Family Panel Studies (CFPS) is a nationally representative, biannual longitudinal survey launched in 2010 by the Institute of Social Science Survey (ISSS) of Peking University, China. The studies focus on the economic, as well as the non-economic, wellbeing of the Chinese population, with a wealth of information covering such topics as economic activities, education outcomes, family dynamics and relationships, migration, and health. To date, the CFPS surveyed five waves, excluding the pre-survey in 2020. In the last wave of 2022, about 62,500 interviews were completed in CFPS 2020.

The China Labor-force Dynamics Survey (CLDS), launched by Sun Yat-Sen University, is the first national longitudinal social survey targeted at the labour force in China. Using a rotating panel design, the survey is conducted every two years and has accumulated three waves of data in 2012, 2014 and 2016. It will take long-run time for the CLDS to meet the above requirements on intergenerational analysis.

As a result, the CFPS and CLDS is not accepted for intergenerational analysis. The CHNS is the only option.

4. THE EMPIRICAL RESEARCH ON CHINA

In China, due to lack of longitudinal data with long follow-up periods, researchers always use cross-sectional data to estimate the level and trend of intergenerational mobility (Wang 2005; Yuan & Chen 2011; Wang 2018; Zhu & Tang 2018; Li & Zhang 2021; Wang & Shao 2021). The preferred procedure is Solon's "OLS+IV". However, the results of interval are not desirable. The two estimates combined together give large intervals and could not supply useful information on the rate of intergenerational mobility. Most important, most data are from the Chinese household income project (CHIP) and Chinese General Social Survey (CGSS). The CHIP and The CGSS are not panel surveys but repeated cross-sectional survey. The empirical results from which cannot be comparable with that of developed countries.

In addition, some scholars use short panel data to perform intergenerational analysis. Using five waves of data from (CHNS) (1989 - 2000), Yao & Zhao (2006) reported an IGE of 0.7. This procedure is similar to the OLS estimation used in cross-sectional studies and is subject to the same inconsistency. Subsequent works use more waves of data from (CHNS) and suffers from less bias (Han

2011; Wang & Jin 2013; Liu & Shen 2018). Existing results indicate that China has low rate of intergenerational mobility.

To sum up, China is lack of high-quality panel data and the estimate could not control for multiple bias. The direction of bias is unclear. However, as the data improve, so will the estimates.

5. CONCLUSIONS

We have considered how household panel surveys are used to understand the intergenerational mobility from the perspective of both data requirements and the statistical methods. Although there is a growing number of household panel surveys in China, many of them are not suitable for intergenerational analysis of the sort more routinely undertaken in developed countries. Previous studies on intergenerational mobility in China are unreliable. However, as data improves, the quality of estimates also improve. Especially the CHNS and the CFPS will meet these data requirement after several waves. To obtain robust estimates on intergenerational mobility, there is still a lot of work to be done in data collecting in China.

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