

# An Empirical Study of Social Intergenerational Mobility

## -- From the Perspective of Gender, Urban and Rural, and Cohort Differences

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### Abstract

Using the data of China General Social Survey and based on the subjective and objective measurement, this paper utilizes the econometric method of ordered probit, ordinary least squares robust regression and quantile regression to analyze the intergenerational mobility in China's society and its differences in gender, urban or rural areas and cohorts. The results show that fathers exerted a significant and positive effect on their children's social status, which indicates that there apparently exists an intergenerational inheritance in China. And there are no significant differences in gender with the effects on children group or children from different classes, but the differences in urban or rural area and cohorts is significant. Whether for the whole or different generations of urban offspring, the intergenerational inheritance of urban families is significantly higher than that of rural areas. Compared with the children born before the reform and opening up, the children born after the reform and opening up are more related to the fathers, especially in the middle and lower social status, and their intergenerational inheritance is significantly higher than the corresponding class born before that.

### Keywords

Intergenerational mobility; gender; urban or rural areas; cohorts; ordered probit; quantile regression.

## 1. INTRODUCTION

Social mobility mainly refers to the movement from one social status to another, which can be divided into intra-generational mobility and inter-generational mobility. Compared with intra-generational mobility, social intergenerational mobility can reflect the openness or closure of social opportunity structure in a longer historical scale and a larger historical scope, so it is considered to be an important indicator of the degree of openness of a society and is universally researched in sociology and economics [1]. Social intergenerational mobility generally measures the extent to which the offspring are influenced by their fathers. It is also an important indicator for measuring social equity and social vitality. In the social structure with higher intergenerational mobility, the development of individuals is rarely affected by the level of development of their parents, and the opportunities for individual access to development will be more equal. Therefore, improving intergenerational mobility is an important factor in achieving social fairness and justice and an effective way to enhance the social vitality [2].

Both sociology and economics have done a lot of research on social intergenerational mobility. Foreign research in this area started earlier, and their perspectives are more extensive due to

the availability of long-term tracking data. However, from the existing research in China, domestic scholars mainly focus on the trend of intergenerational mobility in China and the analysis of what affect the intergenerational mobility, and carry out research from the aspects of individual income, occupation, education, etc. Also, the datasets used by Chinese scholars is usually single year. Therefore, there exist a variety of viewpoints of China's intergenerational mobility such as openness, solidification, and stability, and no consensus on the social intergenerational mobility are formed in China. In addition, in terms of gender, urban and rural areas, and birth cohorts, the current analysis of the differences in China's intergenerational mobility is still relatively rare [3]. So, this paper intends to supplement the previous research from the following aspects: First, in order to overcome the limitations of the cross-sectional data of single year on the long-term fluctuation trend of intergenerational flows, this paper constructs a pooled cross-section dataset of China General Social Survey (CGSS) 2010, 2012, 2013 and 2015. Secondly, we measure the social status by subjective and objective methods and apply the ordered probit model, ordinary least squares robust regression and quantile regression, to analyze the relationship between the fathers and their offspring, especially the whole differences and stratum differences in the intergenerational mobility of Chinese society in terms of gender, urban and rural areas, and birth cohorts.

The rest of the paper is organized as follows: the second part is the literature review; the third part is the research design, including data description and variable selection, measurement model and descriptive statistical analysis; the fourth part is the empirical result analysis, the main measurement methods include orderly probit model, ordinary least squares robust regression and quantile regression; the final part is the conclusion.

## 2. LITERATURE REVIEW

Both sociology and economics have done a lot of research on social intergenerational mobility. Sociology has studied the social intergenerational mobility earlier than economics, and its research is mainly from the perspective of occupational status. Blau & Duncan used the occupational status model to analyze the social mobility situation in the United States, which opened the prelude to quantifying social mobility [4]. Later, Featherman et al, Hauser, and Erikson & Goldthrope used different methods to study intergenerational occupational mobility [5-7]. While economics generally focused on a perspective of income flow to study intergenerational mobility. based on the intergenerational income transfer model constructed by human capital investment theory, Becker & Tomes provided a basic theoretical framework for intergenerational mobility of income [8]. From then on, foreign scholars conducted a large number of empirical studies on intergenerational income mobility [9-13]. In view of the experience of foreign research, domestic sociology and economics also studied the social mobility problem in China from the above perspectives.

Throughout the existing research literatures, sociology has formed two different judgments on the intergenerational mobility of Chinese society based on the perspective of occupational mobility, namely "openness" and "solidification". The "openness" believes that the influence of the father on the socioeconomic status of the offspring is declining. The intergenerational mobility of the China's society is generally rising, and the social opportunities are becoming open and fair. Yang and Lian used the pooled cross-section dataset of CGSS and CLDS to construct the interaction term between social status and the year dummy variable to judge the trend of social mobility in China, and found that the influence of father's socioeconomic status on the offspring in the years of 2008 and 2010 was significantly lower than the year of 2006 [14]. Which indicates that China's social mobility is lifting. Zhang and Zhu also found that since the reform and opening up, the intergenerational occupational mobility of China's urban residents has shown an upward trend [15]. However, the "solidification" believes that the

inheritance effect of intergenerational mobility in Chinese society is intensifying, and the influence of the father on the economic status of the offspring is strengthening. Lu and Chen used the data of CHNS from 1989 to 2009 to find out that the social status of China's intergenerational status is more serious. Especially for the bottom group, 73.47% of them keep on the underlying social status generation by generation [16]. Zhang et al. have even found that the inheritance effect of occupation has expanded from two generations to three generations [17].

Meanwhile, using intergenerational income elasticity to analyze intergenerational income mobility is the mainstream research method of economics. Intergenerational income elasticity measures the extent of how the income of the offspring depends on the income of their parents. Wang used the survey data of the "Income Distribution Group of Urban and Rural Residents" of the Chinese Academy of Social Sciences in 1988 and 1995, and estimated that the intergenerational income elasticity in 1988 and 1995 was 0.384 and 0.424 respectively [18]. Guo and Wei used the data of 2004 to obtain the income elasticity of Chinese urban residents at 0.32 [19]. Since China's early research on intergenerational income elasticity is based on single-year data, it will lead to downward bias in intergenerational income elasticity [20]. Later studies used multiple years of father-son income data to analyze intergenerational income mobility and sought to reflect the overall trend of social intergenerational mobility in China. He and Huang used the data of CHNS from 1989 to 2009 and found that the intergenerational income elasticity of China in 2000, 2004, 2006 and 2009 was 0.66, 0.49, 0.35 and 0.46 respectively, and China's intergenerational income elasticity generally declined [21]. "However, compared with the relevant research results of the other countries, China's intergenerational income elasticity is still high, and the influence of China's family factors on the income of the children is still very strong," they added. Chen used the data of CHIPS and CFPS to estimate and analyze the trend of intergenerational transmission of urban and rural residents' income gap in China from 2002 to 2012. His study found that the intergenerational transmission of income disparity between urban and rural residents in China showed a downward trend, but the intergenerational transmission of urban residents was higher than that of rural residents [22].

In recent years, more and more research has focused on the heterogeneity of social intergenerational mobility. Zhang and Zhu used the 2014 survey data and the quantile regression to analyze the class differences in the intergenerational career mobility and its changes of China's urban residents since the reform and opening up. Their research show that there are structural differences in the intergenerational occupational mobility of urban residents in China. The intergenerational occupational status of the middle and upper levels is highly inherited, and the intergenerational occupational inheritance of the middle and lower classes is relatively low. Chen used the data of CGSS in 2015 to examine the characteristics and long-term trend of intergenerational mobility of urban and rural residents in China since the reform and opening up [23]. It is found that the relationship between the status of the parents and the occupational status of the offspring in rural areas is greater than that of the urban areas. That is, there are obvious urban-rural differences in the intergenerational mobility model. Zou and Ma used the CHNS to analyze the intergenerational transmission and the inequality of education [24]. They found that with regard to the degree of unequal educational opportunities, women were higher than men, the cities were higher than the rural areas, and the birth cohorts before the reform and opening up were higher than the birth cohorts born after that.

### **3. RESEARCH DESIGN**

#### **3.1 Data Description and Variable Selection**

The data used in this paper is the China General Social Survey (CGSS). The data uses a multi-stage, multi-level random probability sampling method to investigate 31 provinces,

autonomous regions, and municipalities across the country, with good sample representation. Compared to using single year cross section data, pooled cross section data can increase sample size, enhance sample representation, and obtain more precise estimates and more efficient test statistics [25]. Therefore, this paper combines these data into pooled cross section data. Considering the intention of this study and deleting the missing observations, we finally obtain 15,596 valid observation.

Comparing intergenerational mobility with a single indicator of income, occupation, and education, measuring intergenerational inheritance based on socioeconomic status can more fully reflect the influence of the parents on their offspring, then reducing the measurement error [26]. Measurements of socioeconomic status include subjective law, objective law, etc. Since CGSS2010, 2012, 2013, and 2015 all asked the current social status of the respondent and the family at the age of 14, the social status is shown by the discrete variable with a value of 1-10, which represents the social status from low to high, where 1 represents the lowest and 10 represents the top. Therefore, we use the respondents' responses to the social status of themselves and the family at the age of 14, to analyze the correlation between the parent and the social status of the offspring from a subjective measurement perspective. In addition, CGSS2010, 2012, 2013, 2015 reported the current ISCO88 occupational code of the respondent and the ISCO88 occupational code of the father and mother at the age of 14. We adopt the International Socio-Economic Index (ISEI) designed by Blau & Duncan to convert the ISCO88 code into the ISEI code and obtain ISEI value from 16 to 90. The International Social Economic Status Index (ISEI) is also the most commonly prevailing indicator for measuring individual socioeconomic status [27].

1. Explained variables: including the socioeconomic status of the offspring measured by subjective methods (*class\_self*) and the socioeconomic status of the offspring measured by objective methods (*isei\_self*).

2. Explanatory variables: (1) First, with the subjective measurement, the socioeconomic status of the family at the age of 14 is used as a proxy variable for the socioeconomic status of the father (*class\_f*). Secondly, although the concept of "men's work centers around outside, women's work centers around the home" is deeply rooted in Chinese families, and it is generally believed that fathers play a leading role in family decision-making, but as women's social status increases, their influence on offspring cannot be ignored. Therefore, in the objective measurement method, in order to avoid ignoring the role of the mother, the higher socioeconomic status of the father or mother is selected as the proxy variable of the father's socioeconomic status (*isei\_f*).

(2) Human capital variable ( $X_i$ ). According to Becker's theory of human capital, education and health are considered as the most common indicators for measuring individual human capital. Previous studies have often only used education as the only measure of human capital, leading to the omission of important variables. In order to reduce the possibility of missing important variables, this paper takes the educational degree (*edu*) and healthy degree (*health*) as the proxy variables of human capital. According to the educational degree of the respondents, the education value is scattered from 1 to 7, which respectively means illiterate and private, primary, junior high and high school (including technical secondary school, technical school), junior college, undergraduate, graduate student and above. The healthy degree of respondents includes very unhealthy and comparatively unhealthy, healthy, very healthy, so we correspondingly assign them with the number from 1 to 5.

(3) Control variables ( $Z_i$ ). In this paper, the control variables are also included in the empirical analysis: party (if respondent is CPC member, the value is 1, then value is 0), it reflects the influence of political factors; hukou (if the hukou of respondent is non-agriculture, the value is 1, then value is 0), ownership (if the respondent work at state-owned or collective

department, the value is 1, then value is 0), the two variables reflect the influence of institutional factors;  $\ln\_income$  (income of log value) and gender (male or female), urban and rural, birth cohort (cohort0=1950~1978, cohort1=1945~1949, cohort2=1979~1997).

### 3.2 Measurement Model

The empirical analysis of this paper is mainly composed of three parts: (1) The subjective measurement method takes the socioeconomic status of the father and the offspring as the values from 1 to 10, indicating the level of socioeconomic status, of which 1 means the lowest status and 10 means the highest status. Therefore, this paper chooses to use the ordered probit model to analyze the influence of the social economic status of the father (the socioeconomic status of the family at the age of 14) on the socioeconomic status of the offspring. (2) Based on the objective measurement method, firstly use the ordinary least squares (OLS) robust regression to analyze the correlation between the socioeconomic status of the father and the offspring, and further analyze the differences of the correlation in gender, urban and rural areas and birth cohorts. (3) Because the OLS regression can only analyze the average impact of the socioeconomic status of the father on the offspring, it cannot fully reflect the difference between the father and the children with different classes. While the "Quantile Regression" proposed by Koenker & Bassett can solve this problem well and overcome the shortcomings of OLS being vulnerable to outliers [28]. Therefore, this paper will use the quantile regression and construct the interaction items between gender, urban and rural, birth group and parent status respectively. Meanwhile, we select the 5th, 25th, 50th, 75th and 95th percentiles respectively as five social status levels to explore the class differences in social intergenerational mobility.

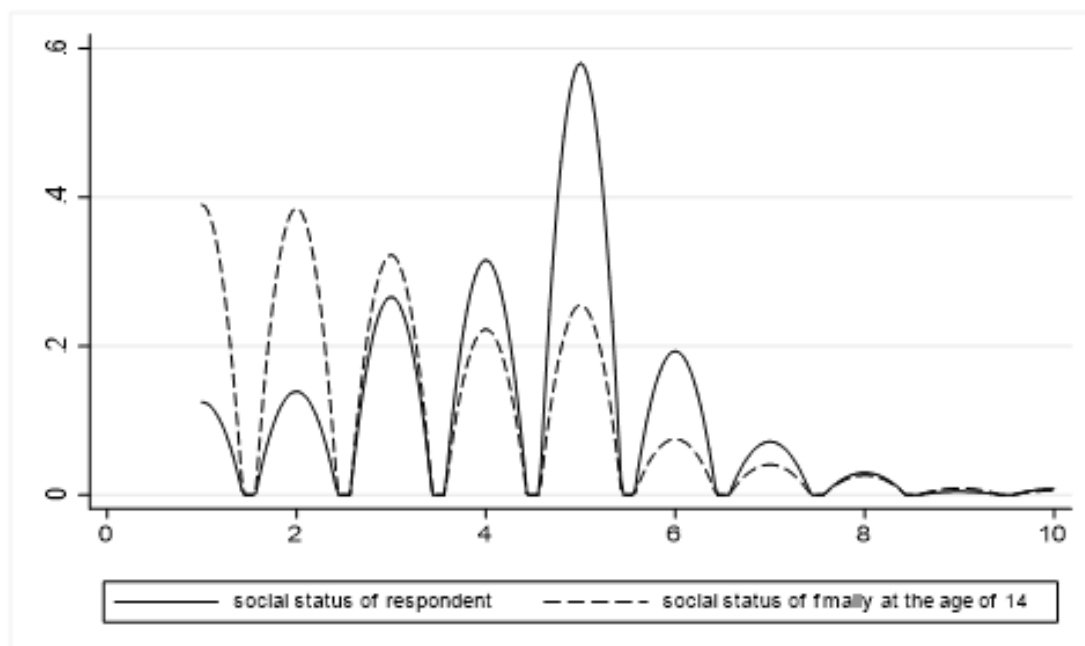
### 3.3 Descriptive Statistical Analysis

The descriptive statistics in Table 1 show that among the 15,596 observations, the mean social status of the offspring measured by the subjective method is 4.26, while the average social status of the father at the age of 14 is 3.10. Meanwhile, the average social economic status of the offspring based on the objective method is 35.77, while the average value of the social economic status of the father at the age of 14 is 30.56. Which show that the social status of the offspring has been significantly improved relative to their father. Fig. 1 and Fig. 2 are the nuclear density regression curve of the social status with the subjective and objective method. It can be seen that under the subjective measurement, the social status of the fathers at the age of 14 is mainly concentrated below 5, while the offspring Social status presents a centrally concentrated trend centered at 5, which shows that the social status of the offspring is more "intermediate" relative to the social status of the father. It is basically consistent with the statistical analysis of the social status of the subjective measured by Yang & Lian. Under the objective measurement, the socioeconomic status of the fathers at the age of 14 below or equal to 23 is with a large proportion, while the counterpart of the offspring is with a relatively lower proportion, and the ratio of the value from 24 to 60 is higher than that of the parents. It is obvious that the proportion of children with low social status declined relative to their parents, and the proportion of children with a medium and above social status increased.

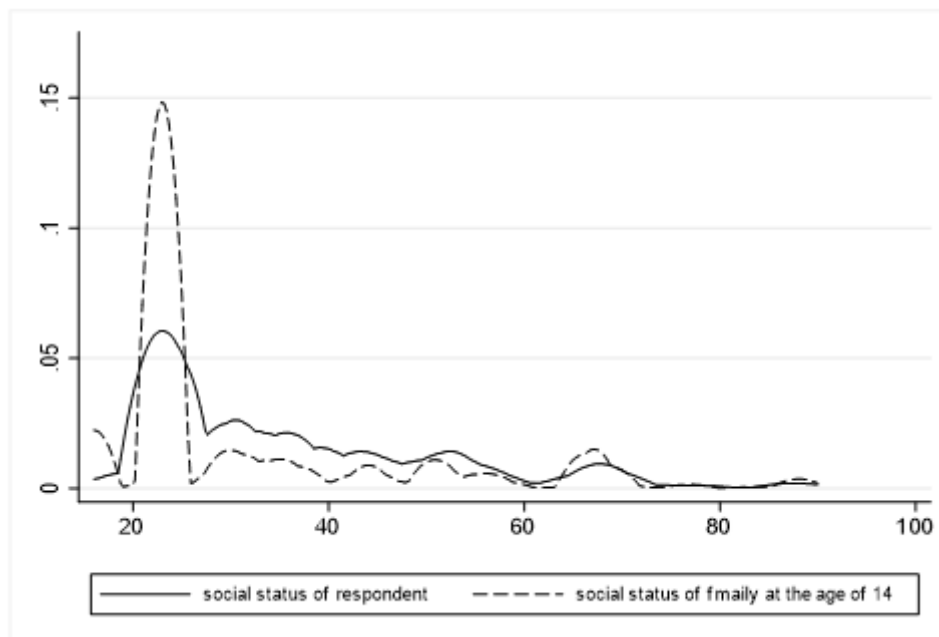
In addition, among the 15,596 observations, the proportion of female offspring and male offspring are respectively 43% and 57%; the proportion of urban samples and rural sample are respectively 30% and 70%; with the birth cohorts sample, the number of people born between 1950~1978 was the highest, accounting for 72%, while the proportion of samples born in 1945~1949 and 1979~1997 were respectively 3% and 25%.

**Table 1.** Descriptive statistics (N=15596)

Variables	Mean	Standard Deviation	Minimum	Maximum
class_self	4.26	1.65	1	10
isei_self	35.77	15.40	16	90
class_f	3.10	1.82	1	10
isei_f	30.56	15.33	16	90
edu	3.33	1.41	1	7
health	3.86	1.01	1	5
party	0.11	0.32	0	1
hukou	0.39	0.49	0	1
ownership	0.19	0.39	0	1
ln_income	9.60	1.18	2.08	15.61
male	0.43	0.50	0	1
female	0.57	0.50	0	1
urban	0.3	0.46	0	1
rural	0.7	0.46	0	1
cohort1(1945~1949)	0.03	0.17	0	1
cohort0(1950~1978)	0.72	0.45	0	1
cohort2(1979~1997)	0.25	0.43	0	1



**Figure 1.** Nuclear density line of intergenerational social status (subjective method)



**Figure 2.** Nuclear density line of intergenerational social status (objective method)

#### 4. ANALYSIS OF EMPIRICAL RESULTS

First, we will use the ordered probit regression to analyze the influence of the social status of the father on the offspring based on subjective measurement. Secondly, based on the objective measurement, the OLS regression will be used to analyze the correlation between the socioeconomic status of the father and the socioeconomic status of the offspring. Since the OLS regression cannot reflect the difference in the influence of the parents on the children of different classes, therefore, we use the quantile regression for further analysis.

##### 4.1 Empirical Results of the Social Status Measured by Subjective Method

In Table 2, model 1a does not consider the influence of human capital variables and control variables. The results show that the coefficient of the social status of the father is positive and significant at the level of 1%, indicating that the social status of the father has a significant positive influence on the social status of the offspring, and the social status has significant intergenerational inheritance, this result is consistent with most studies. With model 1b and model 1c, we sequentially added human capital variables with education and health as the main measures and control variables. The regression results show that the educational level and health status have a significant positive impact on the social status of the offspring, which indicates that the higher the level of education and the better the health of the sample, the higher the social status. In addition, after adding the human capital variables, the influence of the father on the social status of the offspring is weakened, which indicates that the improvement of human capital can help reduce intergenerational inheritance and promote social mobility.

Judging from the coefficient of control variables, the regression coefficient of party is significantly positive, indicating that party members have higher evaluation of self-social status than non-party members, and political identity has a positive effect on promoting social status. Among the variables reflecting institutional factors, the regression coefficient of hukou is significantly negative, which indicates that urban residents have lower evaluation of their social status than rural residents. The reason maybe that the income gap and life pressure faced by urban residents and the social stratification in city is more serious, which leads to a stronger sense of relative deprivation and a lower evaluation of their social status. On the other hand, social stratification in countryside is not large, income gap is small, and the abolition of

“agricultural tax” and agricultural production subsidies have led to the relatively high evaluation of rural social status. Additionally, the regression coefficient of the nature of the ownership is negative but not significant. The sample of the publicly-owned unit gives a relatively lower evaluation of social status. The reason maybe the fact that with the development of China's private economy and the reform of state-owned enterprises, the staff who worked at state-owned or collective department don't get such wanted expectation as social prestige from this kind of ownership, but there is no clear trend.

In addition, income has a significant positive impact on social status, indicating that the higher the income, the higher the social status. With regard to the gender, the male regression coefficient is significantly negative, which indicates that men's evaluation of their social status is lower than that of women. This can be explained from two sides, on the one hand, men face greater pressure on life and family pressure, and on the other hand, female's labor market participation is more and more frequent, their independence is stronger and their social status is relatively higher. The regression coefficient of the city is significantly negative, indicating that the urban residents have lower evaluation of their social status, and the reason is the same as the above. From the results of the birth cohorts, the regression coefficient of 1945~1949 was significantly positive, while the regression coefficient of 1979~1997 was significantly negative. This shows that compared with the sample born in 1950~1978, people born in 1945~1949 have a higher evaluation of their social status, and people born in 1979~1997 have a lower social status. The reason behind it may be that before the reform and opening up, workers and peasants were considered to be the main force of socialist constructors, they possess high social prestige, and consist of the vast majority of the social population. In addition, people's living standards were relatively low before the reform and opening up, the income gap is very small, therefore, people born before the reform and opening up generally have higher evaluations of their social status. After the reform and opening up, science and technology are the primary productive forces. Workers and farmers have gradually weakened their role in promoting social development due to lack of necessary skills. And the Gini coefficient climbed, the gap between the rich and the poor in the society continued to widen, social stratification gradually became apparent, which lead to lower self-evaluation of people's social status born in this period.

#### **4.2 Empirical Results of the Social Status Measured By Objective Law**

Because the self-assessment of the individual and the family's social status is subjective, there may exist measurement errors, which in turn affect the empirical results of the previous article. Therefore, we will use the objective method to measure the International Economic and Social Status Index (ISEI) for further analysis, and analyze the differences in the gender, urban and rural, and birth cohorts.

##### **4.2.1 Ordinary Least Squares Robust Regression Analysis**

First, we use the the ordinary least squares robust regression to estimate the influence of the father on the socioeconomic status of the offspring. In Table 3, from the whole sample, the coefficient of the socioeconomic status of the father is 0.041, and it is significant at the level of 1%, which indicates that the socioeconomic status of the father increases one unit, and the socioeconomic status of the offspring averagely increases 0.041. The father has a significant positive impact on the socioeconomic status of the offspring. For the human capital variables, education still has a significant positive impact on the socioeconomic status of the offspring, it is an important factor in promoting intergenerational mobility, but the impact of health on the social status of the offspring is not significant. Therefore, the government should vigorously support and promote the development of education and promote the equalization of educational opportunities. With regard to the control variables, the party, hukou, and ownership are all significantly positive, indicating that political identity and institutional factors still contribute to the improvement of the socio-economic status of the offspring. The coefficient



of income is significantly positive, indicating that the higher the income, the higher the social status.

**Table 2.** Ordered Probit Estimation Regression Results (N=15596)

	Model 1a	Model 1b	Model 1c
class_f	0.264*** (55.07)	0.246*** (49.14)	0.245*** (47.94)
edu		0.047*** (7.53)	0.020** (2.19)
health		0.120*** (14.14)	0.112*** (12.76)
party			0.219*** (7.76)
hukou			-0.113*** (-4.89)
ownership			-0.014 (-0.58)
ln_income			0.164*** (17.66)
male			-0.160*** (-9.17)
urban			-0.114*** (-5.50)
1945~-1949			0.275*** (5.39)
1979~1997			-0.161*** (-7.72)
Log likelihood	-27204.629	-27050.074	-26810.002
Pseudo R <sup>2</sup>	0.054	0.059	0.067

Note: t in parentheses; \*\*\*, \*\*, \* respectively imply the significant level of 1%, 5%, 10%.

With the samples by gender, urban and rural and birth groups, the coefficients of other major variables were significant except for health variables. For the gender variables, the influence of the father on the socioeconomic status of male and female offspring is significantly positive, and the impact on male offspring is slightly higher than that of female offspring. It shows that the social status of men is more affected by their fathers than by women, but the difference is not significant. From the perspective of urban-rural contrast, the influence of the father on the socioeconomic status of the offspring shows that the urban area is significantly higher than the rural area, which indicates that there is a strong intergenerational inheritance in the city. However, since the social status of the offspring and the fathers in the urban sample is significantly higher than the rural sample, the stronger intergenerational inheritance of the city means that the children in the city are more likely to maintain the existing the present or a higher social status, while rural children are likely to face "intergenerational mobility traps". Of the birth cohorts, the coefficient of cohort born after the reform and opening up is greater than that of before, it implies that contrast with the cohort born before the reform and opening up, father has a more significant effect on the cohort born after 1978. It is likely to exist the solidification of intergenerational mobility in our society.

In addition, the analysis shows that education has significantly different effects on the social status of offspring in urban and rural areas and birth groups. There is no significant difference in the gender. The details are as follows: (1) The impact of education on urban samples is significantly greater than that of rural samples. The reason may be that the uneven distribution of educational resources leads to the low level of education in rural samples, the promotion of education to the social status of rural samples is less than that of urban samples; (2) the impact on the samples born after reform and opening up is significantly greater than that born before the reform and opening up. After the reform and opening up, with the restoration of the college entrance examination system and the expansion of colleges and universities in the late 1990s, people's access to higher education has been enhanced, making education more effective in improving the social status of the born after the reform and opening up.

**Table 3.** Ordinary Least Squares Robust Regression Results

	Whole Sample	Female	Male	Rural	Urban	1950~1978	1979~1997
class_f	0.041*** (5.76)	0.040*** (3.98)	0.044*** (4.36)	0.020 (1.56)	0.043*** (5.17)	0.038*** (4.59)	0.048*** (3.26)
edu	4.399*** (43.43)	4.031*** (27.31)	4.706*** (33.47)	2.626*** (13.85)	4.859*** (40.24)	4.071*** (34.80)	5.370*** (25.30)
health	0.092 (1.09)	0.023 (0.19)	0.178 (1.45)	0.103 (0.91)	0.178 (1.57)	0.151 (1.60)	-0.058 (-0.26)
party	3.860*** (10.36)	3.703*** (5.34)	3.776*** (8.51)	3.608*** (4.13)	3.679*** (9.03)	4.552*** (10.62)	1.674** (2.10)
hukou	2.925*** (11.20)	2.965*** (7.84)	2.892*** (8.08)	5.071*** (6.18)	2.329*** (8.32)	3.446*** (11.09)	1.201** (2.40)
ownership	5.148*** (15.93)	5.692*** (11.21)	4.837*** (11.53)	14.521*** (12.52)	3.859*** (11.64)	5.777*** (14.70)	3.405*** (5.90)
ln_income	2.362*** (26.72)	2.396*** (19.01)	2.366*** (19.33)	2.025*** (16.07)	2.454*** (20.82)	2.479*** (24.41)	1.974*** (9.85)
male	-2.587*** (-14.85)			-1.832*** (-7.37)	-2.695*** (-12.06)	-2.499*** (-12.45)	-2.604*** (-6.87)
urban	1.523*** (8.16)	1.850*** (7.30)	1.275*** (4.80)			1.068*** (5.04)	3.003*** (6.71)
1945~1949	1.304*** (3.67)	1.996*** (3.83)	0.992** (2.08)	0.709* (1.90)	1.044* (1.75)		
1979~1997	0.709*** (3.11)	1.293*** (3.90)	0.278 (0.89)	0.710* (1.79)	0.548** (2.01)		
N	15596	6716	8880	4637	10959	11241	3910
R <sup>2</sup>	0.530	0.583	0.492	0.387	0.494	0.529	0.457

Note: t in parentheses; \*\*\*, \*\*, \* respectively imply the significant level of 1%, 5%, 10%.

#### 4.2.2 Quantile Regression Analysis

Table 4 analyzes the correlation between the social status of the father and the children of different classes in the overall sample. The empirical results show that the father has a significant positive impact on the social status of the different generations of children, and the intergenerational social status has a strong correlation. Specially, the influence on the upper generations is particularly significant, which implies that the families with higher status have stronger intergenerational inheritance. Further analysis of other factors' influence on the social

status of children from different strata is similar to the above. Except for the health status, the coefficients of other variables are wholly significant. It can be seen that the coefficient of education gradually increases with the increase of the social status (ie, the quintile) of the respondent, which indicates that education plays an increasingly important role in the higher social status of the offspring. And education dramatically contributes to promote the upward flow of offspring. In addition, the coefficient of party, hukou, and ownership has gradually increased with the increase of the social status of the respondent. This partly explains that the impact of China's market-oriented reform on political factors and institutional factors is not strong enough, political factors and institutional factors still play an important role in achieving higher social status.

**Table 4.** Quantile Regression Results for the Whole Sample (N=15596)

	Quantile Regression Model				
	5%	25%	50%	75%	95%
isei_f	0.031*** (4.11)	0.044*** (7.95)	0.042*** (6.80)	0.031*** (3.85)	0.061*** (3.09)
edu	1.649*** (13.48)	2.280*** (25.83)	3.183*** (31.77)	4.194*** (32.42)	5.740*** (18.14)
health	-0.012 (-0.10)	0.000 (0.00)	0.000 (0.00)	-0.087 (-0.70)	0.309 (1.02)
party	0.563 (1.48)	2.246*** (8.20)	4.673*** (15.03)	4.715*** (11.74)	6.871*** (7.00)
hukou	0.788** (2.50)	3.985*** (17.53)	4.872*** (18.89)	5.682*** (17.06)	2.290*** (2.81)
ownership	0.745** (2.29)	3.021*** (12.88)	5.211*** (19.58)	9.897*** (28.80)	11.644*** (13.85)
ln_income	0.357*** (2.89)	1.342*** (15.05)	2.013*** (19.90)	2.596*** (19.87)	3.771*** (11.80)
male	-0.776*** (-3.33)	-2.261*** (-13.43)	-2.873*** (-15.04)	-2.799*** (-11.35)	-0.951 (-1.58)
urban	0.133 (0.48)	1.030*** (5.14)	1.845*** (8.11)	2.030*** (6.91)	2.878*** (4.01)
1945~1949	1.457** (2.13)	1.501*** (3.04)	1.338** (2.39)	0.960 (1.33)	-0.000 (-0.00)
1979~1997	0.941*** (3.35)	1.381*** (6.82)	1.660*** (7.23)	1.339*** (4.52)	1.554** (2.14)

Note: t in parentheses; \*\*\*, \*\*, \* respectively imply the significant level of 1%, 5%, 10%.

Table5, table6 and table7 respectively analyze the class differences in intergenerational social status in terms of gender, urban and rural areas and birth cohorts. The empirical results show that: (1) the father has different effects on the female offspring of different classes, and the female in the lower and middle classes are more affected by the social status of the father, while the father don't exert a obvious impact on the upper class. Judging from the interaction between father's social status and gender, there is no significant differences in the correlation between the father and the male offspring compared with the female offspring. Further, the father's influence on the men with middle and lower classes is significantly lower than that of the women, while the impact on men with the upper class is significantly higher than that of the women. In sum, the influence of the father on the female offspring with lower class is stronger

than that of the male, while the male offspring with middle and upper classes is more affected by the social status of the father than the female offspring with counterpart class. (2) From the regression results of urban and rural samples, there is no significant difference in the influence of the social status of the fathers in the different classes of the rural population, and the coefficient of interaction between the social status of the father and the urban area are significant at each quantile (except 95th percentile). Compared with rural offspring of the different classes (except the upper level), the father has greater influence on the social status of urban children of the corresponding class, and the intergenerational inheritance of urban offspring is higher than rural children. At the 95% quantile, the coefficient of the social status of the father is significantly positive, and the coefficient of interaction between the social status of the father and the urban area is negative, which indicates that the influence of the father on the upper generation of the city is less than that of the rural area of the class. (3) The analysis of the interaction between the social status of the father and the birth cohorts in Table 7 shows that the correlation between father's social status and the children born in 1945~1949 presents a declining trend compared with the children born in 1950~1978. While the correlation between father's social status and the social status of the offspring born after the reform and opening up (1979~1997) showed a significant upward trend. Compared with the children born in 1950~1978, the children born before the founding of the People's Republic of China have no significant differences in intergenerational mobility. Comparing The children born in 1979~1997 and born in 1950~1978, there are significant differences in the correlation between the parent and the middle and lower classes of the offspring, but this significant difference is not found in upper class. The above results show that the social intergenerational mobility is wholly higher at the time before the reform and opening up, and after the reform and opening up, the intergenerational inheritance of the middle and lower classes has a clearly strengthening trend, and the higher stratum has a relatively high intergenerational mobility. This shows that there may be "intergenerational mobility traps" in China, that is, people in the lower classes are less likely to move upwards and finally maintain intergenerational non-flow or intergenerational downward mobility.

**Table 5.** Quantile Regression Results by Gender (N=15596)

	Quantile Regression Model				
	5%	25%	50%	75%	95%
isei_f	0.038*** (3.29)	0.053*** (6.90)	0.039*** (4.38)	0.016 (1.47)	0.031 (1.11)
isei_f×male	-0.011 (-0.72)	-0.020** (-2.04)	0.005 (0.46)	0.028** (2.00)	0.047 (1.30)
male	-0.311 (-0.58)	-1.688*** (-4.82)	-3.043*** (-7.50)	-3.659*** (-7.15)	-2.392* (-1.85)
Human capital variables	yes	yes	yes	yes	yes
Control variables	yes	yes	yes	yes	yes

Note: t in parentheses; \*\*\*, \*\*, \* respectively imply the significant level of 1%, 5%, 10%.

**Table 6.** Quantile Regression Results by Areas (N=15596)

	Quantile Regression Model				
	5%	25%	50%	75%	95%
isei_f	0.003 (0.14)	0.003 (0.28)	0.002 (0.13)	0.005 (0.27)	0.083* (1.90)
isei_f×urban	0.045** (2.28)	0.067*** (5.19)	0.059*** (3.84)	0.036* (1.81)	-0.030 (-0.63)
urban	-1.204** (-2.01)	-0.808** (-2.06)	0.355 (0.76)	1.087* (1.78)	3.623** (2.46)
Human capital variables	yes	yes	yes	yes	yes
Control variables	yes	yes	yes	yes	yes

Note: t in parentheses; \*\*\*, \*\*, \* respectively imply the significant level of 1%, 5%, 10%.

**Table 7.** Quantile Regression Results by Birth Cohorts (N=15596)

	Quantile Regression Model				
	5%	25%	50%	75%	95%
isei_f	0.027*** (2.99)	0.035*** (5.53)	0.032*** (4.47)	0.027*** (3.05)	0.076*** (3.43)
isei_f×1945~1949	-0.030 (-0.46)	-0.045 (-1.01)	-0.022 (-0.43)	0.004 (0.06)	-0.089 (-0.56)
isei_f×1979~1997	0.046*** (2.72)	0.071*** (6.11)	0.058*** (4.48)	0.026 (1.61)	-0.041 (-0.99)
1945~1949	2.418 (1.26)	2.696** (2.07)	1.847 (1.25)	0.888 (0.48)	2.045 (0.44)
1979~1997	-0.589 (-0.93)	-0.605 (-1.40)	0.013 (0.03)	0.480 (0.79)	2.784* (1.81)
Human capital variables	yes	yes	yes	yes	yes
Control variables	yes	yes	yes	yes	yes

Note: t in parentheses; \*\*\*, \*\*, \* respectively imply the significant level of 1%, 5%, 10%.

## 5. CONCLUSION

By constructing pooled cross section data with CGSS2010,2012,2013,2015, and based on subjective measurement and objective measurement of social status, using ordered probit model, ordinary least squares robust regression and quantile regression, this paper analyzes the social intergenerational mobility in China and the influence of the father on the social status of the offspring from the aspects of gender, urban and rural areas, and birth cohorts. Through empirical analysis, the following conclusions are drawn:

1. Whether it is based on subjective measurement or objective measurement, the social status of the father has a significant positive influence on the social status of the offspring. There is still significant intergenerational inheritance in China, and this intergenerational inheritance is especially significant in the upper class. For other factors, human capital has a significant positive effect on the social status of the offspring. Education is the most important human capital factor to promote the social status of the offspring. The influence of health on the social status is not significant. Therefore, promoting the development of education and promoting the equalization of educational opportunities are of great significance to improving China's social

mobility. The political factors and institutional factors represented by party, hukou and ownership also have a significant positive impact on social status. This means that China's household registration reform and market-oriented reforms need to be further deepened.

2. The analysis of the heterogeneity of social intergenerational mobility in terms of gender, urban and rural areas, and birth cohorts shows that there is no significant difference in the gender, parent`s socioeconomic status not only significantly affects the male, but also the female, and the degree of impact among male and female offspring is nearly similar. From the analysis of urban-rural differences, the influence of the father on the social status of the urban offspring is significantly higher than that of the rural offspring. The urban family has higher intergenerational inheritance, and the rural offspring may also face the intergenerational mobility trap. The analysis of the birth cohorts shows that compared with the children born before the reform and opening up, the correlation between the social status of the father and the children born after the reform and opening up is more significant, and there is a latent worry about the solidification of social intergenerational mobility in China.

Further analysis based on quantile regression shows that there is no significant gender difference in the social status of the offspring of the different generations. The influence of the traditional thinking of " son preference " becomes gradually weakened. Contrast with the middle and upper classes, the influence of the social status of the lower-class urban offspring is significantly higher than that of the rural offspring with the corresponding class. Comparing the influence of the father's social status on the different classes of the children born before in 1945~1949 with that born in 1950~1980, there is no significant difference between the children of the corresponding classes, which indicates that the social intergenerational flows of different classes before the reform and opening up are relatively stable. The influence of the father on the social status of the middle and lower classes born after the reform and opening up is significantly higher than that of the corresponding classes born before the reform and opening up, there is no significant difference in upper class. It shows that the middle and lower classes have strong intergenerational inheritance, while the middle and upper levels have higher intergenerational mobility, which may lead to the solidification of social classes and is not beneficial to social development.

Therefore, this paper draws the following enlightenment: Education plays an important role in promoting social mobility and constructing a fair society. It is necessary to increase support for education development, especially to promote the educational development of rural areas and enhance the role played by education in the upward mobility of rural population. At the same time, with accelerating the industrialization and urbanization, we should provide fair opportunities for the social mobility of the rural class. Additionally, China must continue to deepen the reform of the household registration system and the market economic system, providing more opportunities for the upper and lower levels of society to prevent society from being solidified.

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