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INFLUENCE OF FAMILY BACKGROUND ON CURRENT FAMILY WEALTH IN RURAL CHINA *

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Abstract

This paper examines the influence of family human capital on offspring's economic status in post reform rural China, using nationally representative cross-sectional survey of rural households for 2002. Focuses are on family class origin and occupational experiences. The major findings are as follows. First, parental experiences of a nonagricultural family business before collectivization have a positive and statistically significant effect on offspring's family wealth. Second, the offspring of landlord/rich peasant and middle peasant families are more likely to have higher family wealth than poor and lower-middle peasant families. The findings suggest the robustness of the rural family as the cultural entity.

Keywords: human capital, family background, intergenerational correlation, distribution of wealth

JEL Classification Codes: D31, J24, N35, O15

I. *Introduction*

This paper examines the influence of family human capital on offspring's economic status in post reform (after the 1980s) rural China. Focus is on two indicators of family background:

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parent's experience of nonagricultural family business before collectivization and family class origin (*jiating chengfen*). The data source is a nationally representative cross-sectional survey of Chinese rural households for the year 2002. Our empirical results suggest that both indicators significantly influence family wealth in 2002. This indicates the strength and robustness of the Chinese rural family as a cultural institution that preserves and transmits human capital across radical institutional changes.

Outside the direct transfer of wealth through inheritance, common framework for the intergenerational transmission of economic status focuses on the transmission of human capital across generations (Black 2005; Bowles et al. 2005; Erikson and Goldthorpe 2002; Grawe and Mulligan 2002; Solon 1992). That is, well-off families can invest more in their children's education, and well-educated children are more likely to achieve higher economic status. Another complementary trait is that wealthy parents are more likely to have higher educational level that directly and indirectly affects their children's human capital formation.¹ It is interesting to investigate the degree the transmission paths of economic status are relevant in transition economies: those that have experienced the establishment and collapse of the socialist system within a few generations. Under the socialist regime, firstly, direct transfer of family wealth over generation had been strictly controlled, and secondly, offspring of former well-off families were often institutionally discriminated against in education, employment, and other social attainments. Therefore, a stylized assumption is that intergenerational transmission of economic status had been interrupted and families belonging to higher wealth group before the socialist transformation tended to move to lower economic status under the socialist regime. The question is that what happened after the market transition.

In our previous paper, Sato and Li (2008), we compared the educational attainment of male heads of household by their birth cohorts and their parents' class background before the revolution using the same data source with this paper. We found that male heads of household of landlord/rich peasant origin who received education during the Maoist era (from the 1950s to the late 1970s) apparently discriminated against formal school education. However, as described below, we also found that current family wealth of the relevant heads of household tends to be rather higher than their poor and lower-middle peasant origin counterpart when other factors are controlled for. The present paper is a continuation to our previous paper and elaborates the correlation between family background and offspring's socioeconomic status in rural China by focusing on the significance of family human capital. We firstly define family as an economic unit that makes an investment in the physical and human capital of its members, and secondly, as a cultural institution that promotes the socialization of children and the building up of their human capital. Offspring's human capital formation is considered to be affected by the level of family human capital. We conceptualize family human capital as the quality of intergenerational interactions focusing on education, skill formation, and attitudes toward socioeconomic advancement. Although parental education is the most common component, family human capital could consist of many other factors. For example, occupational skills and experiences of parents are also an important component that directly and indirectly affects children's human capital formation. Moreover, family human capital includes family members' broader mentalities and attitudes toward economic and social conditions of families that can not be

¹ For the notion of family and family human capital, see Bengtson et al. (2002), Bowles et al. (2005), Coleman (1988), Erikson and Goldthorpe (2002), Grawe and Mulligan (2002), Mincer and Polachek (1974), and Solon (1992).

evaluated by formal measures such as parental schooling and occupational status.

Because family human capital is a highly complex concept, it is difficult to find appropriate operational measures. Our suggestion is, in addition to parental education, add the following two indicators of family background as more comprehensive proxies for the overall level of family human capital. The first proxy is parent's experience of nonagricultural family business before the total collectivization of agriculture (up to 1957). Rural China experienced the establishment and collapse of the collective agricultural system between the late 1950s and the early 1980s with nonagricultural family business stalled for two decades.² Considering this situation, parental family business experiences before collectivization could be a comprehensive measure of the stock of occupational skills and experiences that may affect offspring's economic activities following decollectivization. The second proxy is family class origin. Family class origin was designated during the land reform period (late 1940s to early 1950s) based on economic status (mainly land holdings) before the land reform: this remained unchanged until the end of the Maoist era. Therefore, as discussed later, family class origin represents two factors: family's relative socioeconomic status in the local society before the socialist transformation and socio-political conditions surrounding families after the socialist transformation.

Our working hypotheses are as follows. First, in a rural setting of developing economies, family human capital transmitted over generations, as well as formal education, plays a critical role as a determinant of offspring's human capital formation and economic outcomes. Second, the socialist transformation in rural China could not destroy family human capital stock in well-off families, although their physical capital was thoroughly destroyed. Third, family human capital stocks preserved throughout the Maoist era again play a role following the revival of the family as the basic unit of economic activities in the post reform era. To examine these working hypotheses, we estimate the family wealth function by employing the above-mentioned two proxies of family human capital as the focal explanatory variables.

The previous literature on the intergenerational transmission of socioeconomic status in modern and contemporary China concentrates on education, official position, marriage, and fertility (Campbell and Lee 2003, 2006; Deng and Treiman 1997; Ting 2004; Knight et al. forthcoming). We believe the current analysis is the first attempt to investigate the intergenerational effect of family background on offspring economic status in a nationwide context.

The paper is structured as follows. In Section 2, we discuss the framework of the empirical study. Section 3 estimates the family wealth function employing indicators of family human capital. Section 4 presents our conclusions and their research implications.

II. *Empirical Framework*

1. **Data and Outcome Measure**

The data source for this paper is a nationally representative cross-sectional survey of

² We do not mean that private economic activities vanished altogether under the People's Commune system. Recognized and unrecognized private activities, including commerce and manufacturing, constituted an indispensable part of peasant income during the Maoist era (see, for example, Zhang 1998, Gao 2006, and Sato 2003).

Chinese rural households conducted in the spring of 2003 by the Chinese Household Income Project (CHIP) under the auspices of the Chinese Academy of Social Sciences. The reference year is 2002 (hereafter referred to as the 2002 CHIP survey). The survey covers 9,200 rural households distributed across 122 counties in 22 provincial-level administrative units.³ The sampling frame for the survey is a sub sample of the official rural household survey conducted by the National Bureau of Statistics (NBS).

In the following empirical study, we concentrate on families with male heads of household who are mature adults in 2002. Mature adults are defined here as those between the ages of 35 and 59 years in 2002. The reason we exclude households with younger heads of household is that they are likely to be in a transition stage to a stable family, and therefore their current economic outcomes may not be proper proxies for the economic status of the family over a longer time span. Similarly, heads of household over 60 years of age will not be representative. The previous literature, including Harding et al. (2005), defines mature adults as those aged 30-59 years. Considering that rural China has been experiencing dynamic changes in the economic environment, we set a narrower age range for mature adults. Thus, the working data set for our empirical analysis contains 6,660 households.

The outcome measure is the family's current economic status. It is difficult to measure the family's economic status properly based on a cross-section of data. Although a year of income can be misleading because of year-to-year fluctuations, a panel data set that can represent the steady stream of family income over a longer period is not available. In the following empirical study, we employ current family wealth as the proxy for the long-term stream of family income. Specifically, the level of family wealth is measured by per capita amount of financial assets, durable goods, housing assets, fixed productive assets, and other family assets in 2002.

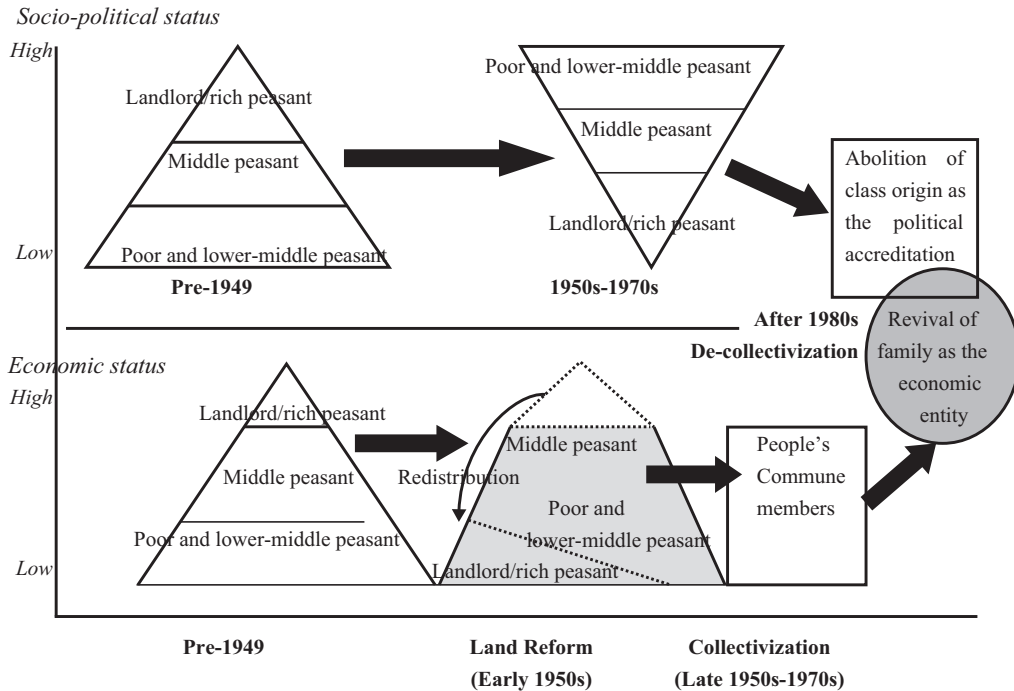
2. Family Class Origin

Of the two proxies of family human capital, the influence of parental occupational experiences on offspring's occupational and economic conditions will be easily understood. One common finding of the extant literature is that a parent's experience of self-employment positively affects the probability of entering self-employment during the offspring's generation (see, for example, the case of the United States discussed in Dunn and Holtz-Eakin 2000 and Fairlie and Robb 2005), suggesting intergenerational transmission of skills and entrepreneurships. Family class origin, however, will be unfamiliar to non-China scholar. Here we briefly explain its meaning in Chinese rural society before and after the socialist transformation.

Figure 1 illustrates a conceptual framework of family class origin in the sociopolitical and economic hierarchy in rural China. The upper part of the figure addresses the sociopolitical hierarchy, while the lower half of the figure describes the economic hierarchy. The economic and sociopolitical hierarchy in the pre-1949 era is depicted as a pyramid. Families labeled as landlord/rich peasant—the minority—were at the top rung of both the economic and

³ 22 provincial-level administrative units covered include Beijing, Hebei, Shanxi, Liaoning, Jilin, Jiangsu, Zhejiang, Anhui, Jiangxi, Shandong, Henan, Hubei, Hunan, Guangdong, Guangxi, Chongqing, Sichuan, Guizhou, Yunnan, Shaanxi, Gansu, and Xinjiang. The CHIP survey was administered in 1988 and 1995 using a similar sampling framework and questionnaires. However, these rounds of the survey did not include information on family class origin. For details of the sampling framework and sampling method of the CHIP 2002 survey, see Gustafsson, Li, and Sicular (2008).

FIG. 1. FAMILY CLASS ORIGIN (chengfen)



sociopolitical hierarchies. Middle peasant families were at the middle level, and poor and lower-middle peasant families—the majority—were at the bottom of the structure (see the left-hand side of the figure). During the land reforms (late 1940s to early 1950s), the land and other property of landlord/rich peasant families were forfeited, and redistributed to families categorized as poor and lower-middle peasant. Landlord/rich peasant families were allowed to keep minimum means of production after the land reform. The properties of families designated as middle peasant were basically protected (see the trapezoid in the lower-middle part of the figure). After the thorough collectivization of agriculture in the late 1950s, peasant families had basically lost their autonomy as the unit of production under the People's Commune, although small private activities persisted under the collective agricultural system (Zhang 1998). After the early 1980s, the peasant family was revived as an economic entity through decollectivization and family attributes again became relevant to a family's economic conditions (see the right-hand side of the figure).

With regard to the sociopolitical hierarchy (see the upper part of Figure 1), family class origin became a critical determinant of sociopolitical status throughout the Maoist era (Huang 1995; Unger 1982; Watson 1984; Zhang 1998). Family class origin, as an implied political label, influenced the rural population's education, employment, party membership, and all other social and economic opportunities. The pyramid-shaped sociopolitical hierarchy in the pre-1949 era became an inverse pyramid after the 1950s. Families labeled as landlord/rich peasant dropped to the bottom rung of the sociopolitical hierarchy as the 'bad' class, middle peasant

families remained at the mid-level as the 'middle' class, and poor and lower-middle peasant families were at the top of the structure as the 'good' class (see the upper right-hand side of the figure). It was not until 1979 that the Communist Party announced the abolition of the class system as a measure of political accreditation.

The 2002 CHIP survey provides information on the class origin of the heads of the household and their spouses' parents. Based on this information, we adopt the following classification of family class origin.

- (1) Families of landlord/rich peasant (*dizhu/funong*) origin. This is a family where either parent of the head of the household is of landlord/rich peasant origin.
- (2) Families with poor and lower-middle peasant (*pinxiazhongnong*) origin. This is where both parents of the head of the household are of poor peasant or lower-middle peasant origin.
- (3) Families of middle peasant (*zhongnong*) origin. This is a family where both parents of the head of household are of middle peasant origin, or one of the parents is of middle peasant origin and the other is of a poor or lower-middle peasant origin. It should be noted that, rich middle peasants (*fuyu zhongnong*) and some other minor middle-class categories such as small landholders (*xiao tudi chuzuzhe*) and merchants (*shangren*) are classified as middle peasants.

In the overall working sample, families of landlord/rich peasant origin, middle peasant origin, and poor and lower-middle peasants' origin comprise 6.0, 20.1, and 73.9 per cent, respectively.

One possible criticism of the use of family class origin is that it is a crude indicator of family characteristics because the socioeconomic conditions of families designated as a certain class during the land reform (for example, landlords) vary considerably across regions. Our rationale for the validity of family class origin is as follows. First, although the economic substance of a certain class before the land reform varies between regions, it is reasonable to assume that class status represents relative socioeconomic status within each of the regional units where the land reform was implemented. If so, we can control the regional variation in the economic substance of a certain class by employing an appropriate regional dummy variable. In this manner, the county is the appropriate regional unit because it was the basic unit used for applying land reform policy. Thus, it will be appropriate to use family class origin as a measure of family's relative socioeconomic status in the local society before the socialist transformation. Second, because family class origin became a fixed political label after the 1950s, its sociopolitical meaning was common to all areas and families of same class origin faced basically same socio-political environment during the Maoist era.

3. Birth Cohorts

The process of economic reform towards the market economy in China is roughly divided into two phases (Naughton 2007). The early phase of reform is from the end of the 1970s to the late 1980s, characterized by the revival of market relations (and in rural areas, the decollectivization of agriculture and the development of Township and Village Enterprises or TVEs). The late phase of reform is the 1990s and after (more specifically, after 1992-1993 when the Chinese leadership accelerated reforms following the disruption of the Tiananmen

TABLE 1. CLASSIFICATION OF HISTORICAL COHORTS

Birth year (age in 2002) of male heads of household	Period when in adolescence (Year of 15th birthday)	Period when mature adulthood reached (Year of 35th birthday)	Birth years of fathers of male heads of household [Percentage of fathers who had reached age 35 up to 1957]	Historical events when male heads of household were in their adolescence	Number of observations
Early-reform cohort					
1943-1954 (48-59)	1958-1969	1978-1989	Born in -1929: 89% Born in 1930-: 11% [56%]	1957: Collectivization of agriculture, 'rural socialism education' movement, 'anti-rightist' movement. 1966-1976: The Great Cultural Revolution.	3018 (45.3%)
Late-reform cohort					
1955-1967 (35-47)	1970-1982	1990-2002	Born in -1929: 45% Born in 1930-: 55% [18%]	1976: Destruction of the Gang of Four. 1978: Third plenum of the 11th CPC Central Committee. 1979: Abolition of family class origin as an indicator of political accreditation. Early 1980s: Decollectivization.	3642 (54.7%)
Total number of observations					6660 (100.0%)

Source: The data source for this and the following tables is the 2002 CHIP survey.

Square incident in 1989). This period is characterized by the 'deepening' of marketization and includes the privatization of TVEs and the wave of rural-urban labour migration.

As illustrated in Table 1, to examine the differences in the role of family human capital in the above-mentioned different phases of economic reform, we divide the sample households into two cohorts according to the birth years of the household heads: an early-reform cohort and a late-reform cohort. The early-reform cohort consists of families with male heads of household born 1943-1954, who reached mature adult status (that is, 35 years old) during the early phase of economic reform. The late-reform cohort consists of families with male heads of household born 1955-1967, who reached mature adult status during the late phase of economic reform. Of the sample households in the working data set, the early-reform cohort accounts for 2,873 (45.3 per cent) and the late-reform cohort accounts for 3,466 (54.7 per cent).

By dividing sample households into cohort groups, we can find interesting cohort differences in the relative family wealth by class origin. Table 2 reports the association between family class origin and the relative family wealth in the local society in 2002. The figure in each cell is the ratio of average per capita wealth of families belonging to a certain class origin

TABLE 2. RELATIVE WEALTH OF SAMPLE FAMILIES BY CLASS ORIGIN
(ratio of class mean to grand mean aggregated at the county level)

Family class origin	Per capita family wealth in 2002 (county grand mean = 100)		
	Landlord/rich peasant	Middle peasant	Poor and lower-middle peasant
Birth cohort of male heads of household			
Early-reform cohort (3018)	97.7 (197)	108.2 (635)	99.6 (2186)
Late-reform cohort (3642)	108.7 (202)	102.0 (680)	97.2 (2760)
Total of both cohorts (6660)	103.3 (399)	105.0 (1315)	98.3 (4946)

Notes: (1) This table reports the relative wealth of families belonging to a certain class within the county where the sample households reside. Relative wealth is measured by the ratio of the group mean (average of per capita wealth of families belonging to a certain class origin) to the grand mean aggregated at the county level. Note that the county grand mean includes households with immature adult heads (younger than 35 years or older than 59 years).

(2) Number of observations (households) in parenthesis. Family wealth is defined as the total value of financial assets, durable goods, housing assets, and fixed assets for production (at current prices). The number of observations in each cell (a certain class status and cohort) remains the same throughout Tables 4 and 5.

to the grand average aggregated at the county level (county average = 100). Regarding the early-reform cohort, the average wealth of families of middle peasant origin is higher than the other classes. Concerning to the late-reform cohort, average per capita wealth of the former landlord/rich peasant families becomes the highest among classes.⁴ This suggests the possibility that the class background of family has different effects on offspring's economic status by the different phases of economic transition.

4. Data Coverage and Possible Bias

Here we discuss the coverage of our data and possible bias. The sampling framework of the official household survey by the NBS is based on the *hukou* (household registration) system. Because the rural samples of the 2002 CHIP survey are sub samples of the NBS official household survey, our working data set is representative for the population holding rural *hukou* status, but it does not include those who had changed their *hukou* from a rural to an urban status. If there was a considerable volume of permanent rural-urban migration by changing *hukou* status, and if we found a large difference in the probability of obtaining urban *hukou* status among people of different class origins, this could be a possible source of bias in our empirical analysis. However, we argue that the bias would not be serious for the following reasons. First, the volume of permanent rural-urban migration with changing *hukou* status is relatively small. Based on the urban household data of the 2002 CHIP survey, we estimated that the ratio of rural-urban migration with changing *hukou* status was approximately 8 per cent

⁴ While not reported in the table, similar associations are found when we use the five-year (1998-2002) average of per capita family income.

of the total population in 2002. This relatively low volume reflects the long-lasting strict restriction on rural-urban migration since the establishment of the *hukou* system at the end of the 1950s. Second, we did not find strong evidence of class origin-based selective migration during the entire Maoist era. Based on the 2002 CHIP urban survey, the ratio of former landlord/rich peasant family members to the total number of permanent migrants is 6.3 per cent. This is almost the same as the percentage of former landlord/rich peasant families in our working data set.

III. *Estimation of Family Wealth Function*

1. Family Wealth Function

In this section, we estimate family wealth function using OLS and examine whether the proxies of family human capital influence offspring's economic status. The variables used in the family wealth function are described in Table 3. The dependent variable is the log of per capita family wealth in 2002. As mentioned above, family wealth is defined as the sum of financial assets, durable goods, housing assets, and fixed assets for production. The explanatory variables comprise: (a) proxies of family human capital, (b) measures of the human capital of male heads of household who are mature adults, (c) variables indicating family characteristics in 2002, and (d) an indicator of the level of regional economic development.

Proxies of family human capita are defined as follows. First, regarding to the experiences nonagricultural family business before the collectivization, we introduce a dummy variable that indicates whether parent of male heads of household (or their spouses' parent) had any experiences of nonagricultural family businesses before collectivization (up to 1957) (a-1 in Table 3). Second, concerning to family class origin, we utilize dummy variables for the above-mentioned three class categories (poor and lower-middle peasant status is specified as the reference category) (a-2). In addition, we employ indicators of parental education and political status: (a-3) years of schooling completed by fathers of the male heads of household⁵; (a-4) a dummy variable for Communist Party membership of the fathers of male heads of household.⁶

Table 4 reports the association between family class origin and other measures of family human capital by birth cohorts. First, regarding to nonagricultural family business experiences, we see the following class and cohort differences. As for the early-reform cohort, as expected, the proportion of families having nonagricultural family business experience is lower among families of poor and lower-middle peasant origin than families of landlord/rich peasant origin and middle peasant origin. For the late-reform cohort, since the majority of the fathers' generation had reached mature adult status after the 1950s (see Table 1), the relevant proportion decreased in families of landlord/rich peasant origin families whose economic basis was

⁵ The literature on the intergenerational correlation of human capital generally uses the educational attainments of both the father and mother. We estimated the family wealth function, including the mother's educational level and political attainment, and confirmed that the mother's attributes do not have a statistically significant effect. For simplification, we do not include mothers' attributes in the discussion.

⁶ Although educational and cultural goods available at home can also be a component of family human capital, we do not consider them in our research. This is because most of these goods in well-off families were lost with the land reform.

TABLE 3. DESCRIPTION OF VARIABLES FOR FAMILY WEALTH FUNCTIONS

Variables	Description
<i>Dependent variable</i>	
Log of per capita family wealth in 2002	Log of per capita amount of family wealth in 2002 including total value of financial assets, durable goods, housing assets, and fixed assets for production
<i>Explanatory variables</i>	
(a) Family human capital	
(a-1) Parents' experience of nonagricultural family business before collectivization	1 if parents and/or parents-in-law of male heads of household were age 20 or over in 1957 and had any nonagricultural family businesses, otherwise 0
(a-2) Family class origin	Dummy variables for family class origin (landlord/rich peasant; middle peasant; poor and lower-middle peasant)
(a-3) Father's years of schooling	Years of schooling completed by fathers of male heads of household
(a-4) Father's Communist Party membership	1 if fathers of male heads of household having Communist Party membership, otherwise 0
(b) Human capital of male heads of household	
(b-1) Years of schooling	Years of education completed by male heads of household
(b-2) Communist Party membership	1 if male heads of household having Communist Party membership, otherwise 0
(c) Current family characteristics	
(c-1) Size of contracted farmland	Per capita contracted farmland in 2002 in mu (one mu = 0.067 hectare)
(c-2) Household size	Total number of family members, 2002
(c-3) Age of heads of household	Age of male heads of household in 2002 and its square term
(c-4) Birth cohort of head of household	1 if male head of household belongs to the early-reform cohort, otherwise 0

destroyed by the land reform. It should be noted that the interclass difference in parental family business experience is not so large even in the early-reform cohort. This is mainly because nonagricultural activities were common in pre-revolution rural China and partly because we cannot control for the size of the business due to data limitation. Second, in the fathers' generation, as expected, level of schooling and political status show opposite associations with family class origin. The level of schooling is highest for families of landlord/rich peasant origin and lowest for poor and lower-middle peasant families in the both cohorts. Third, the percentage of fathers with Communist Party membership is highest in poor and lower-middle peasant families and lowest in former landlord/rich peasant families.

Measures of the human capital of male heads of household who are mature adults are as follows: (b-1) years of education completed; (b-2) a dummy variable for Communist Party membership. Table 5 reports the associations of family class origin and these two variables. This table clearly illustrates the legacy of class-based discrimination during the Maoist era.

TABLE 4. ASSOCIATION OF FAMILY CLASS ORIGIN AND OTHER MEASURES OF FAMILY HUMAN CAPITAL

Family class origin	Landlord/rich peasant	Middle peasant	Poor and lower-middle peasant	Total
Birth cohort of male heads of household				
% Proportion of families having experience of nonagricultural family business up to 1957				
Early-reform cohort	14.2	13.1	8.2	9.6 <i>P</i> = 0.000
Late-reform cohort	7.4	10.9	7.5	8.2 <i>P</i> = 0.016
% Educational level of fathers of male heads of household (years of education completed)				
Early-reform cohort				45.4
No schooling	24.4	40.6	48.7	29.5
1–3 years	30.0	26.5	30.3	21.1
4–6 years	29.4	27.7	18.4	4.0
7 years or more	16.2	5.2	2.6	<i>P</i> = 0.000
Late-reform cohort				35.9
No schooling	19.3	31.6	38.2	29.8
1–3 years	22.7	26.6	31.1	26.4
4–6 years	36.6	29.3	24.9	7.9
7 years or more	21.3	12.5	5.8	<i>P</i> = 0.000
% Proportion of fathers of male heads of household having Communist Party membership				
Early-reform cohort	2.5	4.9	8.5	7.3 <i>P</i> = 0.000
Late-reform cohort	5.0	13.4	15.5	14.5 <i>P</i> = 0.000

Note: *P* denotes the significance level of the chi-square test of independence in cross-tabulation between family class origin and the relevant measures of family human capital. The number of observations in each cell (a certain class status and cohort) remains the same throughout Tables 2, 4 and 5.

First, contrary to fathers' generation, the educational level of male heads of household with a landlord/rich peasant family background is relatively lower. Similar class-based disparities are found with Communist Party membership. It should be noted that the association has become weaker for the late-reform cohort. This implies that the significance of class origin as a determinant of sociopolitical attainment has diminished. This is an expected outcome of the official abolition of class origin as a measure of political accreditation at the end of the 1970s.

To control family's demographic characteristics, we employ the following variables: (c-1) the size of the contracted farmland allocated from the village; (c-2) the total number of family members and its square; (c-3) the age of male heads of household and its square; (c-4) the birth cohort of male heads of household (1 if early-reform cohort).

Lastly, the county dummies are also employed as the control for regional variation in the classification of family class origin at the land reform period and other spatial socioeconomic factors.

TABLE 5. ASSOCIATION OF FAMILY CLASS ORIGIN AND ATTRIBUTES OF MALE HEADS OF HOUSEHOLD

Family class origin	Landlord/rich peasant	Middle peasant	Poor and lower-middle peasant	Total
Birth cohort of male heads of household				
% Years of education completed				
Early-reform cohort				
1-6 years	56.3	44.6	47.7	47.6
7-9 years	37.6	46.3	44.2	44.2
10 years or more	6.1	9.1	8.1	8.2
				$P = 0.068$
Late-reform cohort				
1-6 years	29.7	20.3	22.4	22.4
7-9 years	50.5	62.9	60.8	60.6
10 years or more	19.8	16.8	16.8	17.0
				$P = 0.024$
% Proportion of fathers of male heads of household having Communist Party membership				
Early-reform cohort	9.6	19.7	22.9	21.3
				$P = 0.000$
Late-reform cohort	11.9	14.7	16.5	15.9
				$P = 0.138$

Note: P denotes the significance level of the chi-square test of independence between family class origin and the relevant measures of male heads of household's human capital. The number of observations in each cell (a certain class status and cohort) remains the same throughout Tables 2, 4 and 5.

2. Effects of Class and Occupational Background of Families

Table 6 reports the estimation results.⁷ Equation 1 of the table is a baseline estimation that includes only the main effects of family human capital. Equation 2 adds the interaction terms of family human capital and birth cohort of male heads of household.

From Table 6, we first find that neither of the two formal measures of parental human capital—formal schooling and Communist Party membership—have a statistically significant influence on offspring's family wealth. This implies that family human capital that cannot be measured by parental formalistic attributes matters. When we turn our eyes to the two comprehensive proxies of family human capital, the following points are found from Table 6.

First, parent's experience of nonagricultural family business is positively and significantly correlated with children's family wealth. If parents of male heads of household had any experiences in carrying on nonagricultural family business before collectivization, other factors remain the same; current family wealth will become approximately 5 per cent higher than families without such experience (equation 1).

To examine whether this finding suggests the direct transmission of occupational

⁷ As an alternative to the family wealth function, we also estimated the family income function using the five-year (1998-2002) average of per capita family income. The estimated outcomes are consistent with the family wealth function reported in Table 7 and we can elicit similar conclusions.

TABLE 6. FAMILY WEALTH FUNCTION, 2002 (OLS estimation)

<i>Dependent variable:</i> Log of per capita family wealth, 2002	Equation 1	Equation 2
	Baseline	With interaction term with birth cohort
<i>Explanatory variables</i>		
<i>Family human capital</i>		
(a-1) Parents' experience of nonagricultural family business before collectivization	0.052 (1.85)*	0.028 (0.73)
(a-2) Landlord/rich peasant origin	0.059 (1.75)*	0.123 (2.64)***
Middle peasant origin	0.058 (2.87)***	0.076 (2.76)***
(a-3) Father's years of schooling	0.001 (0.32)	0.0004 (0.09)
(a-4) Father's Communist Party membership	0.015 (0.58)	0.018 (0.70)
<i>Human capital of male heads of household</i>		
(b-1) Years of education completed	0.021 (5.96)***	0.021 (5.98)***
(b-2) Communist Party membership	0.133 (6.38)***	0.132 (6.33)***
<i>Family characteristics</i>		
(c-1) Per capita contracted farmland	0.010 (1.77)*	0.010 (1.85)*
(c-2) Household size	-0.316 (10.36)***	-0.308 (10.24)***
Household size squared	0.019 (6.00)***	0.019 (5.86)***
(c-3) Age of head of household	0.045 (2.70)***	
Age of head of household (squared)	-0.0005 (2.54)**	
(c-4) Head of household belonging to the early-reform cohort		0.046 (2.35)**
<i>Interaction terms of family human capital and birth cohort</i>		
Landlord/rich peasant × Early-reform cohort		-0.131 (2.00)**
Middle peasant × Early-reform cohort		-0.038 (0.96)
Nonagricultural family business × Early-reform cohort		0.054 (0.99)
Regional dummies (County)	YES	YES
Constant	9.167 (23.08)**	10.236 (93.29)***
Number of observations	6660	6660
Adjusted R-squared	0.486	0.487

Note: Absolute values of t-statistics in parenthesis. *** denotes statistical significance at the 1% level, ** at the 5% level, * at the 10% level.

TABLE 7. ASSOCIATION BETWEEN PARENT'S FAMILY BUSINESS EXPERIENCE AND CURRENT MALE HEADS OF HOUSEHOLD'S FAMILY INCOME STRUCTURE

Family income structure	Whether parents had experience of nonagricultural family business before collectivization		
	Having	Not having	Total
% Proportion of families whose income from nonagricultural family business is higher than agricultural income			
Early-reform cohort	14.1 (290)	10.5 (2728)	10.8 (3018) <i>P</i> = 0.057
Late-reform cohort	15.4 (297)	16.5 (3345)	15.5 (3642) <i>P</i> = 0.615
% Proportion of families whose nonagricultural wage income is higher than agricultural income			
Early-reform cohort	48.3	37.5	38.5 <i>P</i> = 0.000
Late-reform cohort	45.8	36.4	37.2 <i>P</i> = 0.001

Notes: (1) Number of observations (households) in parenthesis.

(2) *P* denotes the significance level of the chi-square test of independence between parent's family business experience and offspring's family income structure

experiences, Table 7 reports the association between male heads of household's occupational structure and parent's experience of nonagricultural family business by birth cohorts. This table shows that, regarding to the early-reform cohort, families whose parents had nonagricultural family business experience were more likely depending on nonagricultural family business in 2002. This implies that the direct transmission of occupational experiences was important in the late Maoist era and the early phase of economic reform when physical and psychological barriers for entry into nonagricultural family business were high. However, the statistically significant association between parents' family business experience and current family income structure diminishes for the late-reform cohort. Table 7 also suggests that parents' family business experience is also significantly associated with nonagricultural wage-oriented family income structure. It would appear that parental experience of nonagricultural family business influences offspring's general attitude towards nonagricultural activities through cultural interaction with role model adults, rather than the direct transmission of specific occupational skills.

Second, Table 6 also illustrates that after controlling parental education, political status, and occupational experience, family class origin still exerts a statistically significant influence on current family wealth. The offspring of landlord/rich and middle peasant backgrounds are likely to have greater family wealth than poor and lower-middle peasant families. Equation 1 of the table reports that the families of landlord/rich peasant origin and middle peasant origin have, other things being equal, approximately 6 per cent higher per capita family wealth than former poor and lower-middle peasant families. The premium for middle peasant origin is almost the same as landlord/rich peasant origin. These class background premiums for family wealth are considerable when compared with the premium for individual human capital of male heads of household: approximately 13 per cent for Communist Party membership and 2 per

cent for an additional year of schooling.

Positive and statistically significant effects of landlord/rich peasant and middle peasant origin reinforce our inference that family class origin can be regarded as another substantive measure for the level of family human capital. With the premise that well-off families before the revolution had richer stocks of family human capital, this suggests that although radical institutional change after 1949 thoroughly destroyed the physical capital stocks of well-off families, invisible family human capital was preserved throughout the Maoist era. This again began to play an important role after the revival of the family as the basic unit of economic activity. Since we have already controlled for nonagricultural family business experience, the significant influence of family class origin implies that it represents an opportunity-oriented attitude towards economic activities and a general motivation for socioeconomic advancement. In other words, other individual, family, and regional conditions being equal, families with landlord/rich peasant and middle peasant origins are more likely to be entrepreneurial in a broader sense.

3. Cohort Lags in the Influence of Family Human Capital

Using equation 2 in Table 6, which includes interaction terms of the family human capital variables with heads of household's birth cohort (early-reform cohort dummy); we have found a contrasting cohort difference in the effects of family background. The interaction term of landlord/rich peasant origin and the early-reform cohort dummy is negative and statistically significant, implying that the positive main effect of landlord/rich peasant origin becomes smaller through its negative interaction effect with the early-reform cohort. In the late-reform cohort, per capita family wealth of families of landlord/rich peasant origin is, other things being equal, 12.3 per cent higher than poor and lower-middle peasant families. In the early-reform cohort, this substantial gap is cancelled out by the large negative interaction effect with the early-reform cohort (13.1 per cent). Concerning families of middle peasant origin, the interaction term with the early-reform cohort dummy is negative, but not statistically significant, suggesting that there is no significant cohort difference in the positive effect of middle class origin on family wealth.

We can better understand the cohort lag in the effect of family class origin between landlord/rich peasant families and middle peasant families with the following explanations. The first is the intrafamily social capital hypothesis. This hypothesis argues that the effectiveness of the intergenerational transmission of human capital depends on the level of parent (grandparent)-child interactions when children are in their adolescence and early adulthood (Coleman 1988; Meier 1999). The sociopolitical environment when offspring (in this case, current male heads of household) were in their adolescence and early adulthood varies considerably across the two historical cohorts. Those who belong to the early-reform cohort spent most of their adolescence during the 1960s and 1970s, and their sense of values is presumed to be strongly affected by the political atmosphere at the time. It would be reasonable to assume that the intergenerational transmission of family human capital was likely disrupted in families of landlord/rich peasant origin because their children would be reluctant to obediently listen to parents or grandparents labeled as persons of 'bad class'.

The negative and significant interaction effect of landlord/rich peasant origin and early-reform cohort is considered to reflect the interrupted transmission of family human capital. In

contrast to the preceding cohort, since the majority of heads of household with landlord/rich peasant origin who belong to the late-reform cohort spent their adolescence and early adulthood following the relaxation of political tensions in the mid-1970s, a relatively smooth transmission of family human capital within families of landlord/rich peasant origin is assumed. The positive main effect of landlord/rich peasant origin in equation 2 of Table 6 is supposed to reflect the resumption of the transmission of family human capital in the late-reform cohort.

The second explanation is that, due to class-based social discrimination, landlord/rich family members of the early-reform cohort faced obstacles in choosing lucrative job opportunities. If this is the case, landlord/rich family members could not exploit their human capital, even when there was a transmission of family human capital. In contrast to landlord/rich peasant families, the sociopolitical status of families of middle peasant origin was stable throughout the Maoist era. The significant positive main effect and insignificant interaction effect with birth cohort for middle peasant origin implies that there had been a relatively smooth transmission of family human capital in middle peasant families, who are considered to have relatively rich family human capital stock compared with poor and lower-middle peasant families.

Unfortunately, since detailed life history data for sample households is not available, we cannot directly test the relevance of these explanations. Here we present indirect evidence that suggests that the socioeconomic attainments of landlord/rich peasant family members who belong to the early-reform cohort were subject to political limitations. First, as already shown in Table 5, there is a statistically significant negative association between landlord/rich peasant status and Communist Party membership for male heads of household belonging to the early-reform cohort. Second, male heads of household of landlord/rich peasant origin who belong to the early-reform cohort tend to be employed for longer hours in agricultural activities. This tendency is shown in Table 8 that reports the determinants of labour allocation. The dependent variable is the number of working days of male heads of household allocated to agricultural activities (including forestry, livestock- and aqua-cultivating) in 2002. Explanatory variables include family background and individual attributes of male heads of household. Equation 1 of Table 8 illustrates that regarding to the early-reform cohort, male heads of household of landlord/rich peasant origin are employed for longer hours in agricultural activities. Concerning the late-reform cohort, no significant correlation is found between family class origin and employment structure (equation 2 of the table). This cohort difference can be understood as the aftereffect of an entry barrier for landlord/rich peasant family members of the early-reform cohort to access nonagricultural employment opportunities.⁸

⁸ Though not reported in the table, we have also confirmed that there is no statistically significant association between family class origin and income structure for 2002 of families belonging to the late-reform cohort. The proportion of families where nonagricultural wage income exceeds agricultural income in 2002 are 33.2 per cent for landlord/rich peasant families, 36.0 per cent for middle peasant families, and 37.8 per cent for poor and lower-middle peasant families respectively (the significance level of the chi-square test of independence between family class origin and income structure is 0.330). Similarly, proportions of families where earnings from nonagricultural family business is higher than agricultural income are 15.8 per cent for landlord/rich peasant families, 17.7 per cent for middle peasant families, and 14.9 per cent for poor and lower-middle peasant families respectively (the significance level of the chi-square test is 0.212).

TABLE 8. FAMILY CLASS ORIGIN AND NUMBER OF WORKING DAYS FOR AGRICULTURAL ACTIVITIES, 2002 (OLS estimation)

<i>Dependent variable:</i> Number of working days of male heads of household allocated to agricultural activities in 2002 (including forestry, livestock- and aqua-cultivating)		
<i>Explanatory variables</i>	Equation 1 The early-reform cohort	Equation 2 The late-reform cohort
<i>Family background</i>		
(a-1) Parents' experience of nonagricultural family business before collectivization	-15.633 (3.30)***	-3.471 (0.74)
(a-2) Landlord/rich peasant origin	14.281 (2.51)**	2.404 (0.43)
Middle peasant origin	3.048 (0.87)	-0.114 (0.03)
<i>Characteristics of male heads of household</i>		
Years of education of male heads of household	-1.190 (2.01)**	-3.243 (5.44)***
Communist Party membership of male heads of household	-8.431 (2.47)**	-5.134 (1.43)
Per capita contracted farmland	6.044 (5.01)***	5.890 (7.25)***
Household size	12.714 (2.97)***	12.002 (1.78)*
Household size squared	-0.966 (2.15)**	-0.865 (1.23)
Regional dummies (County)	YES	YES
Constant	-8.960 (0.52)	6.927 (0.34)
Number of observations	3018	3642
Adjusted R-squared	0.358	0.335

Note: Absolute values of t-statistics in parenthesis. *** denotes statistical significance at the 1% level, ** at the 5% level, * at the 10% level.

4. Level of Economic Development and Family Human Capital

In contrast with family class origin, we have found no significant interaction effect between parental nonagricultural family business experience and heads of household's birth cohort (equation 2 of Table 6). It would be interesting to examine yet another interaction effect: that is, to what degree does the influence of the family background variables vary by the level of regional economic development. To investigate, Table 9 introduces GDP per capita at the county level and its interaction terms with the family human capital variables.⁹ The other controls are the same as Table 6.

Table 9 reports a negative and statistically significant interaction term of nonagricultural family business experience and per capita county GDP, showing that the positive effect of

⁹ County GDP is compiled from Caizhengbu Guokusi and Caizhengbu Yusuansi (2002).

TABLE 9. FAMILY WEALTH FUNCTION WITH INTERACTION TERMS OF REGIONAL INCOME AND FAMILY HUMAN CAPITAL, 2002 (OLS estimation)

<i>Dependent variable</i> : Log of per capita family wealth, 2002	
<i>Explanatory variables</i>	
<i>Family human capital</i>	
(a-1) Experience of nonagricultural family business before collectivization	0.189 (3.93)***
(a-2) Landlord/rich peasant origin	0.123 (1.99)**
Middle peasant origin	0.077 (2.21)**
(a-3) Father's years of schooling	-0.001 (0.23)
(a-4) Father's Party membership	0.002 (0.08)
<i>Regional income and its interaction terms with family human capital</i>	
Experience of nonagricultural family business × GDP per capita at the county level	-0.015 (3.03)***
Landlord/rich peasant × GDP per capita at the county level	-0.010 (1.09)
Middle peasant × GDP per capita at the county level	-0.006 (1.33)
GDP per capita at the county level	0.074 (29.60)***
<i>Human capital of male heads of household</i>	YES
<i>Family characteristics</i>	YES
Number of observations	6660
Adjusted R-squared	0.387

Notes: (1) Variables in equation (1) in Table 6 are included in the estimation but not reported. Absolute values of t-statistics in parenthesis.

(2) Per capita GDP at the county level for 2001 (in thousands of yuan) compiled from Caizhengbu Guokusi and Caizhengbu Yusuansi (2002).

(3) *** denotes statistical significance at the 1% level, ** at the 5% level, * at the 10%

family business experience on family wealth decreases along with the overall level of regional economic development. This suggests that the experience or memory of nonagricultural activities transmitted from the pre-collectivization era appears to play the role of a stepping board for nonagricultural activities when the overall level of economic development is low.

In contrast to nonagricultural family business experience, the interaction terms of family class origin with per capita county GDP are insignificant. Although the signs are both negative showing a weak tendency for a decreasing influence on family wealth, the implication is that the effect of family class origin on offspring's family wealth is affected less by the level of regional economic development. In this sense, family class origin is a rather robust factors of family human capital that affects current family wealth.

IV. Conclusion

We have considered the intergenerational effects of family human capital on offspring's economic status in rural China. In summary, the estimation results suggest that family background, including parental occupational experience and family class origin, rather than parental education or political status, have a significant influence on offspring's family wealth. This finding indicates the strength and robustness of the rural family as the cultural entity.

By emphasizing the strength of the rural family, however, we do not intend to suggest that Chinese rural society displays a low level of fluidity. Conversely, as discussed in the previous literature, rural society in the pre-Revolutionary era was rather instable and fluid. For example, according to his field survey in Xunwu County (Jiangxi Province) in 1930, Mao Zedong vividly illustrated that the majority of landlords in that region were 'small' landlords and that two-thirds were 'new rich' (*xinfahuzi*), whereas the remaining third were 'downfallen families' (*poluohu*) who had fallen from 'old big' landlords (Mao 1982/1941).¹⁰ According to Mao, the 'new rich', while originally ordinary peasants or petty merchants, were entrepreneurial families who had become rich through hard work. "Accumulating wealth is their principal motivation and working hard from early in the morning till late in the evening is their lifestyle" (Mao 1982/1941, 129). Family class origin can reflect such dynamic small entrepreneurship rather than a static stratified culture in pre-Revolutionary rural China.

It is noteworthy that recent studies on income mobility in post reform rural China also found high social fluidity. For example, using an intra-generational income mobility matrix between 1989-1997 based on the China Health and Nutrition Survey (CHNS), Wang (2005)¹¹ argued that the overall level of family income mobility was higher in rural areas than in urban areas and that the relatively wealthy rural families were likely to experience downward mobility during the late 1980s and the 1990s.¹² Therefore, our finding is that social fluidity in the pre-Revolutionary era interrupted by the socialist transformation surfaced again following economic reform. Those who inherited an opportunity-oriented family culture shaped in their parents' generation were more likely to take an advantage of the earlier stages of market transition. However, if the high-income mobility in rural area continues, the influence of family characteristics inherited from the period before collectivization may diminish in the next generation. We emphasize the robustness of the family here as a cultural entity that accumulates and preserves family human capital against radical institutional transformations and politico-economic/ideological interventions by the state.

One possible criticism of our discussion is that it does not include the role of lineage

¹⁰ Mao reported the share of each class in overall rural population of Xunwu County as follows: 'big and middle' landlord is one per cent; 'small' landlord, three per cent; rich peasant, four per cent; middle peasant, 18 per cent, poor peasant, 70 per cent; worker three per cent; other poor population one per cent (Mao 1941/1982, 105).

¹¹ The China Health and Nutrition Survey is an ongoing household panel survey conducted by the Carolina Population Center at the University of North Carolina at Chapel Hill, the National Institute of Nutrition and Food Safety, and the Chinese Center for Disease Control and Prevention (<http://www.cpc.unc.edu/projects/china>).

¹² Regarding urban China, previous work has revealed that household income mobility in the former half of the 1990s was higher than the US and other developed economies (Khor and Pencavel 2006) but the level of mobility apparently decreased in the latter half of the 1990s (Yin, Li, and Deng 2006). According to Wang (2005), the level of income mobility in rural areas remained high in the late 1990s.

(*zongzu*) networks. Unfortunately, due to data limitations, we could not investigate the influence of lineage networks on offspring's economic status. However, a recent study by Campbell and Lee argues that while some lineage groups were successful at transmitting prominent status over generations, the influence of successful senior kin members was generally too weak to guarantee success for junior kin members (Campbell and Lee 2003). Although further discussion of the role of kinship relations in socioeconomic mobility is left for future work, if Campbell and Lee's argument is generally relevant to rural China then our conclusion would not be seriously affected by the omission of lineage networks.

In a more general setting, our study has some implications for comparative economic transition. It would be interesting to compare our findings with Szelényi's 'interrupted embourgeoisement' account of rural Hungary (Szelényi 1988). Szelényi, by utilizing extensive household survey data from rural Hungary at the beginning of the 1980s, compared economic outcomes between families of differential class origin. He found that the 'peasant entrepreneurs' who took advantage of the opening up of the market after the 1970s appeared to be the descendants of families who had been relatively well-off and entrepreneurial before the socialist transformation. According to Szelényi, the old rural bourgeoisie and middle classes could exploit the new market opportunities of the socialist mixed economy starting in the 1970s, not only by transmitting their family human capital through family education, but also by utilizing the educational system under the socialist regime.¹³ In rural China where thorough collectivization and radical political campaigns were undertaken, there were very few opportunities for formerly well-off families to preserve their family resources in the educational system (see Table 5 and our previous paper, Sato and Li 2008). Our investigation suggests that, in post-revolutionary rural China, the family human capital of formerly landlord/rich peasant families was mainly transmitted through within-family cultural interactions. In this sense, rural China differs considerably from the experience in rural Hungary. However, our findings and Szelényi's account share the view that in rural areas of transition economies, family human capital inherited from the pre-Revolutionary era matters in determining offspring's economic outcomes in the earlier stages of market transition.

¹³ In rural Hungary, many 'kulak' descendants who entered their adult lives after the mid-1950s could get into middle school and become highly qualified technicians (Szelényi 1988, 171-179).

APPENDIX: DESCRIPTIVE STATISTICS OF VARIABLES IN THE FAMILY WEALTH FUNCTION

	(1) Total of both cohorts	(2) Early-reform cohort	(3) Late-reform cohort
Per capita family wealth, 2002 (yuan)	10324.38 (12333.72)	10681.43 (12717.12)	10028.51 (12000.45)
Log of per capita family wealth, 2002	8.852 (0.870)	8.890 (0.864)	8.820 (0.875)
Age of head of household	46.354 (6.765)	52.675 (3.289)	41.117 (3.765)
Landlord/rich peasant origin	0.060 (0.237)	0.065 (0.247)	0.055 (0.229)
Middle peasant origin	0.197 (0.398)	0.210 (0.408)	0.187 (0.390)
Father's years of schooling	3.959 (1.793)	3.774 (1.574)	4.113 (1.942)
Father's Party membership	0.112 (0.316)	0.073 (0.261)	0.145 (0.352)
Parents' experience of nonagricultural family business before collectivization	0.088 (0.284)	0.096 (0.295)	0.082 (0.274)
Years of education completed	7.299 (2.484)	6.630 (2.554)	7.853 (2.280)
Communist Party membership	0.184 (0.387)	0.213 (0.410)	0.159 (0.366)
Per capita farmland (mu)	1.447 (1.891)	1.428 (1.686)	1.463 (2.046)
Household size	4.227 (1.240)	4.214 (1.454)	4.238 (1.030)
Age of heads of household	46.354 (6.765)	52.675 (3.289)	41.117 (3.765)
Head of household belonging to the early-reform cohort	0.453 (0.498)		
GDP per capita at the county level (thousand yuan)	6.284 (5.015)		
Number of observations	6660	3018	3642

Note: This table reports the mean and standard deviation of each of the variables used in the family wealth function. Standard deviations are in parenthesis.

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