Intergenerational Transfers Between Older People and Their Migrant Children in Rural China: Strategic Investments, Strategic Returns

Merril Silverstein[1]

Zhen Cong[1]

&

Shuzhuo Li[2]

[1]Andrus Gerontology Center

University of Southern California

 Los Angeles, CA 90089-0191

[2]Population Research Institute

Xi'an Jiaotong University

Xi'an, China, 710049

Abstract

This investigation studied how older parents and their adult children in rural China strategically engaged in reciprocal transfers with each other.   We asked whether downstream investments by parents enhanced the ability of children to migrate and accumulate resources that could then be used to make upstream transfers to parents.   Data derived from 1,180 parents aged 60+ who participated in 2001 and 2003 surveys of older people in rural Anhui Province. Parents reported about time and money transfers with 4,652 adult children.   Random effects models revealed that older parents enabled their children to migrate by offering them childcare and financial support. Migrant children--particularly sons--reciprocated for their parents' earlier economic contributions by providing them with greater upstream financial transfers and farm labor. Migrants and non-migrants reciprocated child-care equally.   Results support a mutual-aid model of the rural Chinese family in which intergenerational transfers are reciprocal and multiple family needs are met.

The family serves as the primary source of old-age support for the Chinese elderly, especially in rural China where more than two thirds of the elderly depend exclusively on their children for financial support (Shi, 1993, Xu & Yuan, 1997; Yuan, 1987), and where virtually all elders in need to rely on relatives for needed instrumental assistance and personal care (Ikels, 1997; Wu, 1991; Hong and Tracy, 1999; Liang and Gu, 1989). Dependence on adult children is virtually the only option available to older adults in rural areas of China since only about 6% of the rural older population is pension eligible (McCallum, 1989), and community health and social services are rarely available in these areas (Li and Martin, 1999). Yet, older adults are also important providers of time and labor in support of the families of their adult children. This investigation examines three types of intergenerational transfers received and provided by older parents in rural China as a function of the migration status of their adult children. The manner in which these transfers are linked to each other reflects a form of reciprocity that is conditioned by migration within the context of a redistributive family system.

The duty of adult children to support their aged parents is both an institutionalized norm and a right protected by law, its basis rooted in the Confucian ideal of filial piety (Yuan, 1990; Ganschow, 1978; Davis-Friedmann, 1991; Wu, 1994). However, rapid economic change brought about by recent market reforms in China is casting doubt concerning the ability of Chinese families to function in support of their older members. As a result of the expansion of employment opportunities in urban areas going back several decades, young adults have moved in large numbers from rural and agricultural regions to pursue job opportunities in urban factories and businesses many miles from their home villages and towns (Goldstein, Zhigang & Goldstein, 1977). The effect of this mobility is to depopulate rural regions of young adults, increasing

geographic separation between adult children and their older parents (Xia, 1997).   At the same time, privatisation of farm collectives has shifted responsibility for elder care from the village collective to the family work unit, increasing the pressure on families to care for their own (Ikels 1993; Lee and Xiao (1998).

Another perspective focuses less on the deficits of the older population, and more on new roles that social change has brought the elderly.   For instance, older grandparents may serve as caregivers, and even surrogate parents, to their grandchildren who are left by job-seeking parents. As Chen, Short, and Entwisle (2000) point out, day-care in rural areas of China are scarce, thus making grandparents valuable resources when parents need to work.   Although the extent to which grandparents contribute to the childcare of their grandchildren is difficult to gauge, evidence from Taiwan and other east Asian nations show coresidence rates between grandparents and their grandchildren at about 50% (Hermalin, et. al., 1998). For instance, in Taiwan grandparents who provide child-care to their grandchildren enabled the job-related migration of their adult children, which, in turn, enabled greater remittances to be sent back to the grandparent (Sando, 1986).   Taken together this evidence suggests that childcare by grandparents -may allow adult children to seek out more promising labor markets locations.   Alternatively such care work may insure greater productivity of children in family businesses and farms, particularly in peasant families when sons and their wives went to work during the day.. However, little is known specifically about the contribution of grandparents in contemporary rural China or how those contributions fit within the context of the two-way exchanges that flow between generations in these families.

The idea that intergenerational transfers strive toward balance or symmetry is a powerful model that has been used to explain many forms of reciprocal exchanges in the fields of family

economics (Cox, 1987; Bernheim, Shleifer, and Summers, 1985), social demography (Agree et. al., 2002; Henretta, Hill, Li, Soldo, & Wolf, 1997; Silverstein et. al. 2002) and social psychology (Antonucci, 1990; Morgan, Schuster, & Butler, 1991; Whitbeck, Simons, & Conger, 1991). In societies with few public supports, mutual aid is an essential adaptation of families to optimize the satisfaction of needs through the diffusion of resources (Agree et. al., 2002; Lee, Parish, and Willis, 1994; Sun 2002; Yang 1996; Hermalin et al, 1998). In Asian families the "time-for-money" hypothesis is often advanced under the mutual aid model, where parents provide household and child-care labor to the families of their adult children, in exchange for transfers of money or food (Lee, Parish & Willis, 1994; Frankenberg, Lillard, & Willis, 2002).

Resource transfers to grandchildren in the Chinese family typically follow traditional gender patterns that reflect a strong patrilineal basis to the family. Grandchildren tend to live closer to their paternal grandparents than to their maternal grandparents in Chinese families, and tend to receive more surrogate care from the paternal side as well (Chen, Short, and Entwisle, 2000). However, Yang (1996) found that maternal, but not paternal, grandparents received greater monetary support from children when they engaged in child-care activities suggesting that care through the paternal line, though more normative, may be based less on compensatory principles.

Although out-migration of adult children has been found to impose economic an burden on sending households in rural regions of Bangladesh, Taiwan, the Philippines, and China, there is also evidence that this hardship may be at least partially ameliorated by the return flow of capital from geographically distant offspring. Financial transfers to parents in Taiwan and the Philippines were greater from children who moved from rural to urban areas, findings consistent with the remittance hypothesis (Lee, Parish & Willis, 1994; Domingo and Asis, 1995). The odds that

monetary aid is provided to older parents in China increased with greater geographic distance from children, suggesting the use of remittances, while the odds of instrumental services predictably decreased (Sun, 2002). Where adult children who migrate away from their home communities may tend to transfer money to their parents, those who remain in their village may tend to contribute their time and labor. Given that sons and daughters often migrate for different reasons, with sons more likely to seek employment and daughters moving due marriage, we expect gender patterning in the capacity of adult children to provide remittances upon migrating.

We ask the following research questions:

1. Do older adults act strategically in their downward transfers to enable the migration or return migration of adult children?

2. Does migration of children and their upward transfers stimulate downward transfers from older parents? Are their differences between sons and daughters?

3. To what degree does reciprocal exchange characterize *time-for-money* transfers between older parents and their migrant children, and *time-for-time* transfers with non-migrant children? Are their differences between sons and daughters?

Method

Sample

Data for this investigation derived from the Longitudinal Study of Older Adults in Anhui Province, China. Data were collected from a sample of adults age 60 and over living in rural townships within Chaohu, a city of 141,000 people located on the north bank of Yangtze River in the central part of Anhui Province. This region was chosen specifically for its relatively high density of older adults and high levels of out-migration of working age adults. Between 1995 and 2000, Anhui Province had the third highest rate of out-migration among all provinces in

China, and a higher than average rate of labor-related migration (Jinhong 1994).   The baseline survey was conducted in April 2001 by the Population Research Institute of Xi'an Jiaotong University, in conjunction with the University of Southern California.   A standard back-translation method was used to insure the accuracy of the translation of the questionnaire into Mandarin, and a pilot test was performed to test the adequacy of translated questions before fielding the survey.   The survey included assessments of family relations, physical health status, and psychological well-being.   The sample was identified using a stratified multistage method to randomly select 1,800 potential respondents[1].   Of these potential respondents identified, 1,698 completed the survey, yielding a response rate of 95.3%.

A follow-up survey was conducted In October 2003 with 1,368 respondents, or 79.8% of the original participants. Of those respondents who were not located, 76 had moved out of the village, and 240 died. Twenty-three former respondents were located but refused to participate, terminated their interviews, and/or were too ill to be interviewed. We choose 1,324 older people attended both wave of interviews and who had at least one living children as the working sample. After deleting those with missing values in relevant variables, we have 1,180 elderly with 4,652 corresponding children in our analyses.

Measurement

Intergenerational Transfers.   Financial transfers from children in the first wave are based on measures of the total amount that the parent received from each child during the past 12 months. Response options are the following categories based on Chinese RMB currency (100 RMB = $12US): 0= "none", 1= "less than 50", 2= "50-99", 3= "100 -199", 4= "200-499", 5= "500-999", 6= "1000-2999", 7= "3000- 4999", 8= "5000 to 9999", 9= "More than 10,000".   Financial transfers to children is operationalized as a dichotomous variable indicating whether or not such

a transfer occurred in the past 12 months.

Instrumental support received from children was measured based on support received from a specific child or his or her spouse during the past 12 months in two areas: (1) household tasks, such as cleaning the house and washing clothes, and (2) personal care tasks such as bathing and dressing. For each area, the frequency of help the child and his or her spouse provided is coded as: 0= "none", 1= "seldom", 2= "several times a month", 3= "at least once a week", 4= "every day". The values for these two areas are added to create a total value for instrumental support ranging from 0 to 16, with 0 indicating no support, and 16 indicating that both child and spouse provide instrumental and personal care every day. Instrumental support provided to children was measured based on whether support was provided to a specific child based on the coding above.

Farm labor received from each child is measured by the question: "How much help have you got from this specific child in farm labor help or family business?" The values of these variables are defined as follows: 0= "no farm labor or business, or no help", 1= "less than half", 2= "approximately half", 3= "more than half", 4= "almost all".

We measure the amount of grandchild-care provided to each child based on the questions "How often did you taken care of (this child's) minor children in the past 12 months?" The values of these variables are defined as follows: 0= "not taking care of grandchildren", 1= "seldom", 2= "about once a month", 3= "several times for a month", 4= "at least once a week", 5= "A period of a day (not the whole day)", 6= "The whole day, from morning to evening."

Migration of child.   Migration status of child was operationalized in four categories: lived in the village of the parent at T1 and T2 (non-migrant); lived in the village of the parent at T1 but not at T2 (recent migrant); did not live in the village of the parent at T1 but did at T2 (return

migrant); did not live in the village of the parent at both T1 and T2 (long-term migrant).

Characteristics of parents and children.   Parents' characteristics include age, income, health status, gender, education, marital status and occupation. We represented age in chronological years at the time of the survey. We represented income as the log of the RMB value (+1) of the total income that the respondent and spouse had received from work or pension during the past year. We measured health status as the extent of functional problems, measured as the sum of 15 items reflecting difficulty in performing personal activities of daily living (dressing or undressing, walking around the room, getting out of bed, standing up from a chair); instrumental activities of daily living (preparing meals, shopping, doing housework, taking the bus or train, managing money); and activities requiring physical strength, mobility, and flexibility (lifting a 10-kg bag of rice; climbing one flight of stairs; walking 100 m; and stooping, crouching, or kneeling). Respondents indicated the level of difficulty performing each task: 0 (no difficulty), 1 (some difficulty), or 2 (cannot do it without help). Reliability of this scale was .93. The summed scale ranged from 0 (no difficulty performing any task) to 30 (unable to perform any tasks). We coded the remaining variables as dummy variables: gender (1 = female), martial status (1 = not currently married), education (1 = some formal education), and past or current occupation (1 = agricultural work).

Children's characteristics included age, gender, education, marital status, emotional closeness with children and physical distance to parents. Age is represented as age in years at the time the survey was carried out. Gender is codes as 1= "female"; martial status (1= "currently married"); education (0= "no education", 1="primary school", 2="junior middle school", 3="senior middle school, vocational training, college, university or above").

We also control for emotional closeness between older respondents and each of their

adult children.   An additive scale was constructed from three questions asking grandparents to evaluate their relationship with each of their adult children along the following dimensions: "feeling close to child" (1= "not close"; 2= "somewhat close", 3= "very close");   "being on good terms with child" (1= "not at all", 2= "somewhat", 3= "very much"); and "child listens to your difficulties and troubles" (1="not at all", 2="sometimes, 3="most of the time".   These three items (alpha= .86) formed a scale ranging from 3-9.

Interactions.   Due to our interest in the moderating effects of migration on *time-for-money* exchange patterns, we calculate interaction terms between each downward transfer and the dummy variables denoting T1-T2 migration status.   We also examine interactions between gender and migration status.

Analytic strategy.

Our interest in exchanges between parents and individual children necessitated that a data file be created in which characteristics of grandparents are linked to characteristics of each of their adult children.   This dyadic data structure comprised non-independent units of analysis in which each grandparent is represented as many times as the number of children they have—in other words, grandparents form family clusters within which their children are nested.   In such a nested data structure, characteristics of grandparents are, by design, constant within each family cluster, but characteristics of adult children may vary within each cluster.   Such a data structure calls for a design that is able to correctly specify regression coefficients where variation may exist both between and within family clusters.   Thus, we used random effects modeling, a procedure suited to unbalanced hierarchical or nested the data, with grandparents as the grouping variable (Stata, 2001).   Formally, the random effects model in our application took the following form:

$$y_{it} = a + bx_{it} + v_i + e_{it}, \qquad\qquad (1)$$

where y_{it} represents a transfer to each of I grandparents from up to T adult children, x stands for a predictor variable and b is its effects, v_i is the grandparent-specific residual that differs between grandparents but is constant for any one grandparent, and e_{it} is the remaining residual for each observation. Note that v_i represents the average deviation of each grandparent from all grandparents. For example a grandparent who receives high levels of transfers from their adult children would consistently receive higher returns across all their children, leading to a positive v_i. From equation (1), two additional equations follow, representing the process at the level of the grandparent (between clusters) (2) and at the level of grandchildren (within clusters):

$$\bar{y}_i = a + b\bar{x}_t + v_i + \bar{e}_t, \qquad\qquad (2)$$

$$(y_{it} - \bar{y}_i) = a + b(x_{it} - \bar{x}_t) + (e_{it} - \bar{e}_t) \quad (3)$$

The estimation of b in the final random effects model is the weighted average of the estimates produced by the between and within estimators (see Stata, 1992). For variables that do not vary within clusters (i.e., fixed characteristics of grandparents such as gender) then equation (2), the between-estimator, is used. For variables that do not vary on average between clusters (i.e, the random effect v_i is not an important part of the model), then siblings do not share a propensity in their behavior based on their common family membership and the pooled estimator is sufficient.

Further, there were relatively large numbers of grandparents who do not receive transfers from their adult children, producing non-normal distributions in the dependent variables, with values clustered at the limiting value of zero. These cases were considered left-censored observations, as their values were considered to represent a qualitatively distinct position on the

quantitative scale than those whose values were above the limit. Therefore, we used random effects Tobit model (Tobin, 1958, McDonald and Moffitt 1980) that predicts two blended outcomes: the probability of making a transition from receiving no transfers to receiving some transfers, and the increase in the value or amount of transfers given that the limit value of 'no transfers' was passed. Such a Tobit model estimated within the context of a random effects procedure produces coefficients that are robust both to truncation in the distribution of transfer variables, as well as to the presence of grouping effects due the nesting of observations within common families. We used STATA V7.0 to estimate these equations.

Results

Characteristics of older parents and their children at T-1 are shown in Table 1 and Table 2, respectively. In our multivariate models, we turn first to our question regarding the predictors of child migration. The logic of the analysis follows a mover-stayer design such that recent migrants are contrasted with non-migrants, and return migrants are contrasted with long-term migrants. The first equation shown in Table 3 suggests that care for grandchildren at baseline predicts that the child will migrate out of the village when contrasted those who stay in the village. Older parents appear to enable their children to migrate by taking on the role of caretaker for their grandchildren prior to the geographic move. There is marginal evidence that older parents who provide monetary support inhibits that child's out-migration, presumably because such a child may be economically dependent on their parents. The second equation shows that children who provided greater financial transfers are more likely to be established migrants and those who provide more instrumental support to parents are more likely to be return migrants. The greater capacity of migrant children to provide financial support is very success that keeps them at a distance, while their greater engagement in providing hands-on support perhaps

necessitates a return to the parent's village.

Next we examine change in grandchild care provided to the families of their adult children. The first equation in Table 4 shows that grandparents increased their care to grandchildren when their adult children were recent migrants and return migrants. Grandparents appear to be contributing childcare when their child experiences a residential transition. In addition, we observe greater increases in grandchild care for when adult children received more instrumental support from their parents. The equations stratified by gender are also shown in Table 4. We see that the response of older parents to childcare needs of their migrant children is more acute for sons than for daughters. Even care for established migrant sons is marginally significant. Sons, to the degree they are migrating for economic reasons, are more likely than daughters to leave their children behind in the village and in need supplemental care, while daughters who leave their village for marriage reasons are more likely to have their families intact in another location.

Predictors of change in financial transfers to children are shown in Table 5. The first equation for the entire sample shows that migration effects are weak, but suggests that economic provisions increase more for recent migrants than they do for non-migrants. This finding can be interpreted as the parent funding some of the set-up costs of moving to a new location. Equations for sons and daughters separately reveal that the increase in economic support for the recent migrant is more characteristic of sons than daughters, further strengthening the interpretation of this transfer as support for labor-related migration.

The equations predicting change in the provision of instrumental support to children are shown in Table 6. Older parents provide greater reductions in instrumental support to recent and established migrant children. They provide greater increases in instrumental support to

children who provided *them* more instrumental support and farm labor at baseline, suggesting interdependence between the generations in terms of both household maintenance and the family economy. Effects by gender of child could not reasonably be estimated due to skewed distributions in the dependent variable.

In our next set of models, we predict change in receiving three types of support: farm labor, financial transfers, and instrumental support. In these models we test whether earlier transfers made by the parent elicit increasing receipts from the child. Estimates predicting change in farm labor from the child are found in Table 7. Adult children who received more financial assistance from their parents at baseline exhibited a greater increase in their contribution to farm labor than those who received less from the their parents. Contributions to farm labor decreased most precipitously among recent migrant children than they did for non-migrants. When provisions are interacted with child's migration status and gender, we find that financial support provided by the parent is rewarded with more farm labor from their children over time among all three types of migrant children. Investing in migrant children possibly comes with the expectation that "repayment" will come in the form of labor contributions to the family economy. In addition, instrumental support provided to recent migrant children is less rewarded with farm labor than such support provided to a non-migrant. No gender interactions were found.

In Table 8 we show estimates predicting change in financial transfers from adult children. Grandchild care appears to induce greater financial returns to parents. However, financial support at baseline is inversely related to return flows of capital. Established migrants increase their financial support to parents to a greater extent than non-migrants. In examining the interactions in the next model we see that financial support by parents at baseline increases these

return flows, a pattern also seen among established migrants as well.   Grandchild care

provided to return migrants inhibits the rate of financial flows from children, possibly a product

of an economically less successful migration experience.   In terms of gender interactions, we

see that daughters return less than sons for every unit increase in receipt of grandchild care.

When we stratify the equation by gender, it is clear that the previous interactions are

characteristic of sons but not daughters. That is, migrant sons are more likely than their

non-migrant counterparts to financially reciprocate for their parent's earlier financial assistance,

but not their assistance with childcare.

Finally we show estimates for predicting change in instrumental support received in Table 9.

We see that instrumental support provided by the parent at baseline is reciprocated by greater

increases in support received.   Migration of children—recent and established—predicts

reductions in instrumental support received.   Interactions of parental provisions with migration

status and gender produces no significant interactions, however, there is marginal evidence that

daughters reciprocate for earlier financial support with greater increases in instrumental support

provided to parents.   Due to sparseness in the dependent variables within sub-groups, we were

unable to stratify the equation with interactions by gender.

Discussion

We discuss our results in the framework of corporate/mutual aid strategies for families to

maximize their welfare given the costs and opportunities inherent in labor migration. Children

who are migrants receive more grandchild care, that in turn increases the opportunity to earn

higher wages in urban areas.   These resources tend to be aimed to male child, who expects take

care of elders in their old age.   We show that financial transfers provided to grandparents may

serve as compensation for their custodial care of grandchildren as part of a time-for-money

exchange that exemplifies the functional integration between generations in the rural Chinese family. But is is the financial contribution of parents that seems to increase the chances of migrant sons and enhances their capacity to return financially to their parents.

In spite of the growing literature about the importance of custodial grandparents in the developed world, the importance of grandparents has been little studied in developing nations that are undergoing rapid social and economic change. Our analyses support a model of mutually reinforcing intergenerational resource transfers in rural Chinese families that is consistent with a corporate family form of systemic adaptation. A model of exchange that reflects reciprocity as well as interdependence may best characterize intergenerational exchanges under conditions of scarcity and uneven economic growth. When exchanges simultaneously satisfy common family goals, they are perhaps better viewed as mutually determined than as purely guided by the *quid-pro-quo* of serial reciprocity. However, the exact nature of reciprocity is difficult to ascertain from patterns in our data.

The family, most notably adult children, have traditionally served as primary sources of support for the Chinese elderly, especially those living in rural China (Shi, 1993; Xu & Yuan, 1997; Yuan, 1987). What is the future of the corporate family in light of reductions in family size of the last generation? Reduced fertility related to the one-child policy has resulted in the so-called, 4-2-1 family structure of grandparents, parents, grandchildren. Such a family provides adult children and grandchildren with abundant opportunities for grandparent services, but may put excessive pressure on younger generations for providing help and money to their parents in return.

The process of economic development and modernization has cast doubt on the continued viability of traditional family arrangements for the elderly of China. Will traditional norms of

filial support for older relatives weaken as members of younger generations have access to better

paying jobs relations and adopt more "Western" attitudes toward their elder-care responsibilities)?

Will the resources of older parents become less important to a growing middle class of

self-sufficient children?   We suggest that, at least in the short-term, grandparents are important to

the economic competitiveness of the extended family.   This notion lead to the intriguing

possibility that assistance from grandparents *enables* social change by granting adult children the

opportunity to take jobs at better pay in far-flung locations, with benefits to the elderly and the

family as a whole.

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Table 1. Characteristics of older parents at T1 (N=1421).

	N	%
Gender		
Male	713	50.2
Female	708	49.8
Age		
60-64	376	26.5
65-69	356	25.1
70- 74	224	15.8
75-79	363	25.5
80+	102	7.2
Marital status		
Not married	581	40.9
Married	840	59.1
Total household size		
1	269	18.9
2	498	35.0
3	208	14.6
4+	446	31.4
Number of children		
1	52	3.7
2	116	8.2
3	269	18.9
4	392	27.6
5	319	22.4
6+	273	19.2
Education		
No formal education	1105	77.8
At least some formal education	316	22.2
Occupation		
Non-agricultural	129	9.1
Agricultural	1292	90.9

	N	%
Owns farm or business		
Does not own	639	45.0
Owns	782	55.0
Household income (in RMB)		
0	428	30.1
<500	255	17.9
500-999	223	15.7
1000-1999	240	16.9
2000+	259	18.2
Missing	16	1.1

Table 2.   Characteristics of adult children at T1 (N=4,289)

	N	%
Gender		
Male	2279	53.1
Female	2010	46.9
Age		
21-29	358	8.3
30-34	1295	30.2
35-39	1728	40.3
40+	794	18.5
Missing	116	2.7
Marital status		
Not married	768	17.9
Married	3518	82.0
Missing	3	.1
Education		
No formal education	1338	31.2
Primary school	1419	33.1
Middle school and higher	1527	35.6
Missing	5	.1
Geographic proximity of older parent		
Same household	240	5.6
Same village	1194	27.8
Same township	628	14.6
Same county	583	13.6
Same city	61	1.4
Same province	292	6.8
Outside province	1240	28.9
Missing	51	1.2
Emotional closeness with older parent		
Low (1-3)	301	7.0
Moderate (4-6)	2,249	56.6
High (7)	1463	34.1

	N	%
Missing	96	2.2
Frequency older parent cares for children of this adult child		
Not at all	2,802	65.3
Seldom	361	8.4
Once per month	50	1.2
Several times per month	120	2.8
Once per week	152	3.5
Every day, but not all day	513	12.0
Every day, all day	291	6.8

Table 3. Random effects logistic models predicting migration status of child

	Recent migrant vs. non-migrant	Return migrant vs. established migrant
Age	-0.006	0.004
Female (ref=son)	0.279	-0.136
Unmarried (ref=married)	-0.021	0.113
Edcuation	0.302	-0.123
Income	0.003	-0.026
Non-agricultural job (ref=agricultural job)	-0.459	0.356
Functional limitation	-0.014	0.000
Age	-0.084 ***	-0.005
Female (ref=son)	0.540 **	-1.100 ***
Unmarried (ref=married)	0.610	-0.762 **
Education	0.254 **	-0.020
Emotional closeness with parent	0.005	-0.016
Financial support received from child	0.023	-0.145 ***
Financial support provided to child	-0.136 +	0.042
Instrumental support received from child	-0.015	0.077
Instrumental support provided to child	-0.023	0.056
Farm labor to parent	-0.141	0.122
Grandchild care from parent	0.086 *	0.028
Constant	1.064	-0.709

Note: + p <.10; * p < .05; ** p < .010; *** p < .001.

Table 4.   Random effects Tobit models predicting T2 grandchild care provided to adult child

	Model 1: Full Sample (4582/1159) [a]	Model 2: Sons (2413/1084)	Model 3: Daughters (2151/1061) [a]
T1 grandchild care provided to child	1.329 ***	1.208 ***	1.737 ***
Age	-0.113 ***	-0.085 *	-0.216 **
Female (ref=male)	0.239	0.148	0.469
Unmarried (ref=married)	0.172	-0.014	0.910
Edcuation	0.052	0.252	-0.391
Income	-0.030	-0.054	0.037
Non-agricultural job (ref=agricultural job)	0.039	0.120	-0.440
Functional limitation	-0.059 +	-0.040	-0.116
Age if child	-0.265 ***	-0.285 ***	-0.204 **
Daughter (ref=son)	-2.844 ***		
Unmarried child (ref=married)	-1.845 **	-1.859 *	-1.630
Education of child	0.238	-0.041	0.974 *
Emotional closeness with parent	0.030	0.012	0.147
Financial support received from child (T1)	0.068	0.052	0.143
Instrumental support received from child (T1)	0.122 *	0.121 +	0.161
Farm labor received from child (T1)	0.072	0.222	-0.354
Recent migrant child (ref=non-migrant)	1.162 *	1.763 **	-1.273
Established migrant child (ref=non-migrant)	0.181	0.755 +	-1.720 +
Return migrant child (ref=non-migrant)	1.322 *	2.015 **	-1.996
Constant	11.475**	11.060 ***	10.983 *
Wald chi-square	614.35	434.30	110.80
Df	19	18	18
Rho	.0047176	.0092304	.0012107

[a]Observations/respondents.

Note: + p <.10; * p < .05; ** p < .01; *** p < .001.

Table 5. Random effects Tobit models predicting T2 financial support provided to adult child

	Model 1: Full Sample (4582/1159)[a]	Model 2: Sons (2413/1084)[a]	Model 3: Daughters (2151/1061)[a]
T1 financial help from parent	0.524 ***	0.559 ***	0.590 ***
Age	-0.061 **	-0.081 **	-0.041
Female (ref=male)	0.348	0.288	0.313
Unmarried (ref=married)	-0.991 ***	-0.649 +	-1.648 *
Edcuation	0.228	0.116	0.049
Income	0.088 *	0.111 *	0.038
Non-agricultural job (ref=agricultural job)	0.386	0.464	0.058
Functional limitation	-0.093 ***	-0.071 **	-0.118 **
Age if child	-0.051 ***	-0.042 **	-0.041 **
Daughter (ref=son)	-0.748 ***		
Unmarried child (ref=married)	-0.825 **	-1.343 **	0.031
Education of child	0.193 *	0.180 +	0.247 +
Emotional closeness with parent	0.041	0.148 *	-0.036
Financial support received from child (T1)	0.002	-0.019	-0.044
Instrumental support received from child (T1)	0.014	0.025	0.048
Farm labor help received from child (T1)	-0.104	-0.227	-0.043
Recent migrant child (ref=non-migrant)	0.448 +	0.732 *	-0.477
Established migrant child (ref=non-migrant)	0.035	0.295	-0.281
Return migrant child (ref=non-migrant)	0.149	0.397	-0.124
Constant	3.632 *	4.322 *	4.322 *
Wald chi-square	443.45	246.06	178.77
Df	19	18	15
Rho	.6530479	.6429183	.7231553

[a]Observations/respondents.

Note: + p <.10; * p < .05; ** p < .01; *** p < .001.

Table 6.   Random effects Tobit models predicting T2 instrumental support provided to adult child

	Model 1: Full Sample (4306/1136) [a]
T1 instrumental help to adult child	0.359
Age	-0.058
Female (ref=male)	1.013
Unmarried (ref=married)	2.497 +
Edcuation	0.712
Income	0.044
Non-agricultural job (ref=agricultural job)	-1.902
Functional limitation	-0.295 *
Age if child	-0.058
Daughter (ref=son)	-5.132 ***
Unmarried child (ref=married)	-1.216
Education of child	0.153
Emotional closeness with parent	-0.352
Financial support received from child (T1)	0.315
Instrumental support received from child (T1)	0.510 *
Farm labor received from child (T1)	1.206 +
Recent migrant child (ref=non-migrant)	-7.838 **
Established migrant child (ref=non-migrant)	-7.204 ***
Return migrant child (ref=non-migrant)	1.738
Constant	-12.346
Wald chi-square	57.47
Df	19
Rho	.0010084

[a]Observations/respondents.

Note: + $p < .10$; * $p < .05$; ** $p < .01$; *** $p < .001$.

Table 7. Random effects Tobit models predicting T2 farm labor received from child.

	Model 1: Full Sample (2378/601) [a]	Model 2: Full Sample (2378/601) [a]
T1 farm labor received from child	0.849 ***	1.011 ***
Age	-0.002	-0.004 ***
Female (ref=male)	-0.018	-0.049 ***
Unmarried (ref=married)	-0.002	0.010
Edcuation	-0.054 ***	-0.029 **
Income	-0.110 ***	-0.133 ***
Non-agricultural job (ref=agricultural job)	0.085 ***	0.072 ***
Functional limitation	0.003 *	0.002 ***
Age if child	-0.001	0.000
Daughter (ref=son)	0.004	-0.017 +
Unmarried child (ref=married)	0.035	0.037 *
Education of child	-0.003	-0.012 **
Emotional closeness with parent	0.001	0.002
Grandchild care provided to child (T1)	-0.002	0.003
Financial support provided to child (T1)	0.012 *	-0.016 **
Instrumental support provided to child (T1)	0.006	0.003
Recent migrant child (ref=non-migrant)	-0.045 *	0.006
Established migrant child (ref=non-migrant)	-0.022	-0.007
Return migrant child (ref=non-migrant)	-0.008	-0.015
Grandchild care provided * recent migrant		-0.004
Grandchild care provided * established migrant		-0.004
Grandchild care provided * return migrant		0.006
Financial support provided * recent migrant		0.032 **
Financial support provided * established migrant		0.034 ***
Financial support provided * return migrant		0.028 *
Instrumental support provided * recent migrant		-0.014 *
Instrumental support provided * established migrant		-0.008
Instrumental support provided * return migrant		-0.017
Grandchild care provided * female		-0.001
Financial support provided * female		-0.004
Instrumental support provided * female		0.009
Constant	0.542 ***	0.654 ***
Wald chi-square	17359.53	54688.45
Df	19	31
Rho	.9826642	.9928574

[a]Observations/respondents.

Note: + p <.10; * p < .05; ** p < .01; *** p < .001.

Table 8. Random effects Tobit models predicting T2 financial support received from adult child

	Model 1: Full Sample (4580/1159)[a]	Model 2: Full Sample (4580/1159)[a]	Model 3: Sons (2429/1083)[a]	Model 4: Daughters) (2151/1016)[a]
T1 financial support from child	0.363 ***	0.359 ***	0.372 ***	0.300 ***
Age	-0.002	-0.002	0.004	-0.009
Female (ref=male)	-0.100	-0.101	-0.094	-0.098
Unmarried (ref=married)	0.074	0.071	0.073	0.061
Edcuation	0.007	0.002	0.101	-0.057
Income	-0.023	-0.022	-0.026	-0.011
Non-agricultural job (ref=agricultural job)	0.230 +	0.230 +	0.198	0.170
Functional limitation	0.000	0.000	0.005	-0.005
Age if child	-0.003	-0.003	0.015 *	-0.013 *
Daughter (ref=son)	-0.016	0.017		
Unmarried child (ref=married)	0.138	0.143	0.047	0.218
Education of child	0.174 ***	0.179 ***	0.180 ***	0.170 ***
Emotional closeness with parent	0.145 ***	0.144 ***	0.172 ***	0.120 ***
Grandchild care provided to child (T1)	0.058 ***	0.089 **	0.130 ***	-0.011
Financial support provided to child (T1)	-0.067 *	-0.251 **	-0.286 ***	0.142
Instrumental support provided to child (T1)	0.038 +	0.057 *	0.063 +	0.035
Farm labor provided to child (T1)	0.038 +	0.057 *	0.063 +	0.035
Recent migrant child (ref=non-migrant)	-0.008	0.002	0.041	0.118
Established migrant child (ref=non-migrant)	0.245 ***	0.144 +	0.328 **	0.061
Return migrant child (ref=non-migrant)	-0.083	0.098	0.278	-0.002
Grandchild care provided * recent migrant		-0.051	-0.061	-0.023
Grandchild care provided * established migrant		0.011	-0.018	0.032
Grandchild care provided * return migrant		-0.166 **	-0.193 **	-0.217
Financial support provided * recent migrant		0.236 *	0.462 **	-0.357 +
Financial support provided * established migrant		0.216 **	0.280 **	-0.140
Financial support provided * return migrant		0.058	0.100	-0.303

Instrumental support provided * recent migrant		-0.066	-0.049	-0.189
Instrumental support provided * established migrant		-0.019	-0.013	0.048
Instrumental support provided * return migrant		0.026	0.055	0.095
Grandchild care provided * female		-0.077 *		
Financial support provided * female		0.070		
Instrumental support provided * female		0.003		
Constant	1.266 *	1.301 *	-0.108	2.490 ***
Wald chi-square	822.36	863.29	521.20	341.70
Df	19	31	27	27
Rho	.3013715	.3024109	.4189857	.3669944

[a]Observations/respondents.

Note: + p <.10; * p < .05; ** p < .01; *** p < .001.

Table 9. Random effects Tobit models predicting T2 instrumental support received from adult child.

	Model 1: Full Sample (4583/1159) [a]	Model 2: Full Sample (4580/1159) [a]
T1 instrumental support received from child	0.280 ***	0.277 ***
Age	0.092 *	0.093 *
Female (ref=male)	0.323	0.292
Unmarried (ref=married)	2.270 ***	2.292 ***
Edcuation	0.126	0.074
Income	0.061	0.062
Non-agricultural job (ref=agricultural job)	0.587	0.571
Functional limitation	0.163 ***	0.163 ***
Age if child	0.012	0.016
Daughter (ref=son)	0.955 **	0.657
Unmarried child (ref=married)	0.687	0.720
Education of child	0.183	0.181
Emotional closeness with parent	0.677 ***	0.667 ***
Grandchild care provided to child (T1)	0.215	0.285 *
Financial support provided to child (T1)	0.192	0.240
Instrumental support provided to child (T1)	0.203 *	0.160
Recent migrant child (ref=non-migrant)	-2.711 ***	-2.382 ***
Established migrant child (ref=non-migrant)	-4.643 ***	-4.376 ***
Return migrant child (ref=non-migrant)	-0.376	-0.427
Grandchild care provided * recent migrant		0.001
Grandchild care provided * established migrant		-0.239
Grandchild care provided * return migrant		0.064
Financial support provided * recent migrant		-0.814
Financial support provided * established migrant		-0.148
Financial support provided * return migrant		-0.309
Instrumental support provided * recent migrant		-0.056
Instrumental support provided * established migrant		0.175
Instrumental support provided * return migrant		0.308
Grandchild care provided * female		0.016
Financial support provided * female		0.494 +
Instrumental support provided * female		-0.020
Constant	-18.188 ***	-18.381 ***
Wald chi-square	349.08	354.00
Df	19	31
Rho	.4976106	.495786

[a]Observations/respondents.

Note: + p <.10; * p < .05; ** p < .01; *** p < .001.