

**The Effect of the Source of Inheritance on Bequest Attitudes:
Evidence from Japan^a**

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Abstract

A better understanding of the reasons for bequests can be pivotal for the effectiveness of fiscal policy and wealth inequality management as the different bequest motives underlying bequest behavior have different implications. This study examines community-based indirect reciprocity in bequest attitudes over three generations. The theoretical model, called community-based family tradition, suggests that the source of the inheritance impacts the amount of the bequest left to one's children or one's spouse. The study empirically analyzes survey data from the 2009 wave of the Preference Parameters Study for Japan. The results suggest that with some socio-economics characteristics controlled, those who have received an inheritance from their parents are more likely to intend to bequest as much as possible to their children, while those who have received an inheritance from their spouse's parents are more likely to intend to bequest as much as possible to both their children and their spouse. Hence, the source of inheritance does affect bequest attitudes, which suggests that there is community-based indirect reciprocity in bequest attitudes. The empirical results from gender comparison suggest that the taxation on inheritance is less functional for females than for males.

Keywords: Inheritance; Bequest attitudes; Community; Family tradition; Indirect reciprocity

JEL classification D11; D12; D64

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1. Introduction

A better understanding of the reasons for bequests can be pivotal for the effectiveness of fiscal policy and wealth inequality management as the different bequest motives underlying bequest behavior have divergent implications. The reasons why individuals leave bequests have been examined extensively in the literature and the motives, which involve two generations, have been categorized largely into self-interest and altruism. However, the extant empirical results have been mixed.

Another similar research stream has focused on intended bequest behavior involving three generations, which provides a new perspective concerning “family tradition” (Cox and Stark 2005; Stark and Nicinska 2015). These studies demonstrate that intended bequest behavior is positively associated with retrospective inheritance experience, and provide evidence of indirect reciprocity in financial transfer behavior within the family.

These studies concerning family tradition examine the retrospective inheritance experience as a whole irrespective of the source of the inheritance. However, mental accounting theory suggests that the source matters, as the principle of fungibility is violated across mental accounts (Thaler 1985). Further, laboratory experiments of the one-shot dictator game confirm the salience of the source (Cherry 2001; Cherry et al. 2002). This study fills this gap in the literature by taking the inheritance source into consideration.

This study provides a theoretical model, called the community-based family tradition model, considering community-based indirect reciprocity by extending the “family tradition” model of Stark and Nicinska (2015). It then uses survey data from the 2009 wave of the Preference Parameters Study of Osaka University in Japan for empirical analysis. The study aims to examine if there is community-based indirect reciprocity in the bequest attitude (hereafter “BA”) involving three generations. Community is identified by consanguineal kinship within the family. The first community involves the respondent’s parents, the respondent, and the child(ren) (hereafter “P-R-C community”); the second community involves the respondent’s spouse’s parents, the respondent’s spouse, and the child(ren) (hereafter “SP-S-C community”). Community-based indirect reciprocity is identified through the different effects of the source of the inheritance.

The community-based family tradition model results suggest that those who have received an inheritance from their parents tend to have a higher BA toward children, while those who have received an inheritance from their spouse’s parents tend to have a higher BA toward both their children and spouse. This study contributes to the theoretical and empirical evidence by showing that the source of the inheritance has a different impact on BA toward children and spouse, which cannot be observed as well in the either altruistic or joy of giving model. This study considers

community-based indirect reciprocity in terms of BA to enhance our understanding of what motivates people to leave a bequest.

2. Theoretical Model

In the case of the pure community-based family tradition (hereafter “CBFT”), the individual’s utility U depends positively on: personal consumption $y_i + h_p + h_{sp} - b_c - b_s$, on the family tradition of bequeathing $b_c - \theta \times h_p - \gamma_c \times h_{sp}$, and $b_s - \gamma_s \times h_{sp}$; where y represents income; h represents the inheritance received; p and sp denote the source of inheritance from the individual’s parents and spouse’s parents, respectively; b represents the bequest; and c and s denote child and spouse, respectively. The higher the b to the child and/or spouse, the higher the BA is. The $\beta_c, \beta_s > 0$ measures family tradition. $0 < \gamma_s \leq 1$, $|\theta| + |\gamma_c| \neq 0$, $0 \leq \theta, \gamma_c \leq 1$, and $\gamma_c + \gamma_s \leq 1$ where θ and γ_c measure the weights assigned to the child in the P-R-C and SP-S-C communities, and γ_s measures the weight assigned to the spouse in the SP-S-C community.

Here, an individual considers choosing the amount of the bequest to the child and spouse to maximize the utility function, given as:

$$\begin{aligned} U(b_c, b_s) &= \text{Log}(y_i + h_p + h_{sp} - b_c - b_s) \\ &+ \beta_c \times \text{Log}(b_c - \theta \times h_p - \gamma_c \times h_{sp}) \\ &+ \beta_s \times \text{Log}(b_s - \gamma_s \times h_{sp}); \end{aligned}$$

then, the utility $U(b_c, b_s)$ will reach its maximum when

$$\begin{aligned} b_c^* &= \frac{y_i \beta_c}{1 + \beta_c + \beta_s} + \frac{h_p(\theta + \beta_c + \theta \beta_s)}{1 + \beta_c + \beta_s} + \frac{h_{sp}((1 + \beta_s)\gamma_c + \beta_c(1 - \gamma_s))}{1 + \beta_c + \beta_s} \\ b_s^* &= \frac{y_i \beta_s}{1 + \beta_c + \beta_s} + \frac{h_p(1 - \theta)\beta_s}{1 + \beta_c + \beta_s} + \frac{h_{sp}((1 + \beta_c)\gamma_s + \beta_s(1 - \gamma_c))}{1 + \beta_c + \beta_s} \end{aligned}$$

If the inheritance from the respondent’s parents increases by Δ , the optimal bequests to the child and spouse are $b_{c,h_p+\Delta}^*$ and $b_{s,h_p+\Delta}^*$, respectively; If inheritance from the spouse’s parents increases by Δ , the optimal bequests to the child and spouse are $b_{c,h_{sp}+\Delta}^*$ and $b_{s,h_{sp}+\Delta}^*$, respectively; the differences in the increase in the bequests with respect to the difference in the source of inheritance are

$$\left[b_{c,h_p+\Delta}^* - b_c^* \right] - \left[b_{c,h_{sp}+\Delta}^* - b_c^* \right] = \frac{(1 + \beta_s)(\theta - \gamma_c) + \beta_c \gamma_s}{1 + \beta_c + \beta_s} \Delta \quad (1)$$

$$\left[b_{s,h_p+\Delta}^* - b_s^* \right] - \left[b_{s,h_{sp}+\Delta}^* - b_s^* \right] = \frac{-\beta_s(\theta - \gamma_c) - (1 + \beta_c)\gamma_s}{1 + \beta_c + \beta_s} \Delta \quad (2)$$

Only when $\gamma_c = \theta$ and $\gamma_s = 0$ do both equations (1) and (2) equal zero, and the source of inheritance does not affect the individual’s bequests to either the child or the spouse. However, in this case, this becomes a mixed model, as a CBFT to the child and a joy of giving to the spouse,

rather than a pure CBFT model that assumes that the γ_s is larger than zero. For simplicity, this mixed type of model is not considered. Hence, in the case of the pure CBFT, the increase in the bequest to the child or the spouse varies according to the source of inheritance.

3. The Empirical Results

3.1 Data and Sample Selection

The empirical analysis uses survey data from the wave 2009 Preference Parameters Study (PPS) of Osaka University in Japan, which includes two predominant variables concerning respondents' BA toward children and spouses: "I want to leave my children as much of my inheritance as possible" (hereafter "TO_CHILD") and "I want to leave my spouse as much of my inheritance as possible" (hereafter "TO_SPOUSE").

There are 6,181 observations in the wave 2009. Excluding those who did not answer the BA question, there are 6,060 observations. Since this study focuses on the respondent's BA toward children and spouse, the sample is restricted to those who are married (those who report that "I have a spouse [husband or wife, including common-law marriage]" in the survey) and have at least one child. We then had 4,466 observations. Excluding the observations with missing values, left us with 3,634 observations overall.

3.2 Independent Variables

The predominant independent variable used in this study is "Have you received any inheritance (or transfers of wealth before death) from your parents or your spouse's parents in the past?" The variable equals 1 if the respondent has received transfers from his/her own parents (spouse's parents) and 0 if he/she has not. This question captured the source of inheritance. If the respondent has received an inheritance from his/her own parents (INH_P), the BA toward children would be expected to be positive. If the respondent has received an inheritance from the spouse's parents (INH_SP), the BA toward the spouse (and children) would be expected to be positive.

The survey also contains a question about whether the respondent expects to receive any wealth transfers, that is, "Do you expect that you will receive any inheritance (or transfers of wealth before death) from your parents or your spouse's parents in the future?" This variable is controlled in the regression separately as a dummy for expecting to receive an inheritance from parents (EXPINH_P) and from spouse's parents (EXPINH_SP). The expectation to receive wealth transfers does not increase the respondent's wealth. Thus, this seems less likely to open a new mental account for each source of expected transfers. However, considering the attribution of the fairness intention (Falk et al. 2003) and empirical results from previous literature, the signs of expected inheritance dummies are predicted as positive.

3.3 Empirical Results

This study uses the partial proportional odds model (PPO) because the Brant test shows that some variables violate the parallel regression assumption in the ordered logistic regression. Table 1 presents the estimated results of the PPO for TO_CHILD and TO_SPOUSE, with other socio-economic characteristics controlled, such as female dummy, household income, number of children in the family, faith in religion, life expectancy and its square, and educational attainment.

Table 1 PPO results for TO_CHILD and TO_SPOUSE

	TO CHILD			TO SPOUSE		
	All	Female	Male	All	Female	Male
INH_P	0.1681** (0.07)	0.2058* (0.11)	0.1905* (0.10)	0.0370 (0.08)	-0.0065 (0.12)	0.1330 (0.10)
INH_SP	0.2657*** (0.09)	0.2898*** (0.11)	0.1512 (0.15)	0.3095*** (0.09)	0.3007*** (0.12)	0.2257 ^a (0.14)
EXPINH_P	0.2175*** (0.07)	0.2429** (0.10)	0.1763* (0.10)	0.1221* (0.07)	0.2320** (0.10)	-0.0174 (0.11)
EXPINH_SP	0.0680 (0.08)	0.0966 (0.10)	0.0748 (0.12)	0.0920 (0.08)	0.1473 (0.10)	0.0684 (0.12)
Observations	3634	1891	1743	3634	1891	1743
Pseudo R ²	0.0263	0.0256	0.0300	0.0506	0.0154	0.0239

* p < 0.1, ** p < 0.05, *** p < 0.01. Standard errors in parentheses.

Note: a. the corresponding marginal effects show that males who have received INH_SP are less likely to have lower BAs TO_SPOUSE.

In the empirical analysis of the full sample and the female subsample, the positive significant effect of INH_P on TO_CHILD and positive significant effects of INH_SP on TO_CHILD and TO_SPOUSE indicate that those who have received an inheritance from their parents are more likely to intend to leave as much as possible to their children, and those who have received an inheritance from their spouse's parents are more likely to intend to leave as much as possible to both their children and their spouse.

For the male subsample, the positive significant effect of INH_P on TO_CHILD and some significant effects of INH_SP on TO_SPOUSE indicate that those who have received an inheritance from their parents are more likely to intend to leave as much as possible to their children, and those who have received an inheritance from their spouse's parents are less likely to disagree to leave as much of bequest as possible

4. Conclusion and Discussion

This study examines the community-based indirect reciprocity in BAs involving three generations. The theoretical model, called community-based family tradition, suggests that the source of inheritance has a different impact on bequeathing.

The empirical analysis uses survey data from the wave 2009 PPS of Osaka University in Japan. The results from the PPO regression suggest that with some socio-economics characteristics controlled, those who have an inheritance from their own parents are more likely to plan to leave as much bequest as possible to their children, while those who have an inheritance from their spouse's parents are more likely to plan to leave as much bequest as possible to both their children and their spouse. Hence, the source of the inheritance does affect the BA, which suggests that there is community-based, indirect reciprocity in BA.

The gender similarities and differences in BA show that females pay more attention to the weights assigned to a child or a spouse than males do. Those results suggest that females are more likely to apply fairer consideration than males, which is consistent with the results from Andreoni and Vesterlund (2001). Since Stark and Nicinska (2015) argue that family tradition may moderate the effectiveness of the inheritance tax and the empirical result from Andreoni and Vesterlund (2001) indicates that females are less price-elastic than males, the empirical results from this study suggest that the taxation on inheritance is less functional for females than for males.

The results from this study must be considered with caution. The BAs are captured by asking if the respondents agree or disagree with the statement that they will leave as much of bequest as possible to their children and their spouse. Even when the empirical results are not significant, this does not mean that the individuals will leave nothing to their children and their spouses.

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