

Horioka, Charles Yuji

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## Why do people leave bequests? For love or self-interest?

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### **Why Do People Leave Bequests? For Love or Self-Interest?**

by

Charles Yuji Horioka

School of Economics, University of the Philippines, Diliman;  
National Bureau of Economic Research, Inc.; and  
Institute of Social and Economic Research, Osaka University

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## WHY DO PEOPLE LEAVE BEQUESTS? FOR LOVE OR SELF-INTEREST?\*

By Charles Yuji Horioka\*\*

School of Economics, University of the Philippines, Diliman;  
National Bureau of Economic Research, Inc.; and  
Institute of Social and Economic Research, Osaka University

April 25, 2014

**Abstract:** This paper presents a brief exposition of three theoretical models of household behavior and shows that these models have very different implications for bequest motives and bequest division, surveys previous empirical studies on bequest motives and bequest division, presents unique survey data on bequest motives and bequest division in four countries, shows that there are large inter-country differences in the degree of selfishness and altruism, with the Japanese and Chinese being predominantly selfish and Indians and Americans being predominantly altruistic, and argues that differences in religiosity appear to be the main cause of inter-country differences in the degree of selfishness and altruism.

*JEL* Classification Numbers: D12, D91, E21, Z12

**Key words:** Bequests; inheritances, estates; inter vivos transfers; intergenerational transfers; bequest motives; bequest division; equal division; altruism; selfishness; selfish life cycle model; altruism model; dynasty model; primogeniture; selfish exchange model; culture; religiosity; religion

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Society of Family Sociology, held at Konan University, Kobe, Japan; ESAM12: The Econometric Society Australasian Meeting, held at the Langham Hotel Melbourne, Melbourne, Australia; and seminars at the Asian Development Bank, Deakin University, the Federal Reserve Bank of San Francisco, Goethe University, Hong Kong University, Hunter College, Keio University, Melbourne University, Monash University, the National Graduate Research Institute of Policy Studies (GRIPS), the National University of Singapore, the University of Auckland, the University of Michigan, the University of the Philippines, Diliman, the University of Queensland, and the University of Tokyo for their valuable comments, to Tien Manh Vu for his superb research assistance, and to the Philippine Center for Economic Development (PCED), Ministry of Education, Culture, Sports, Science, and Technology of the Japanese Government for Grant-in-Aid for Scientific Research Category B (topic number 22330083) and Category S (topic number 20223004) and to the Global Center of Excellence (GCOE) Program on Human Behavior and Socioeconomic Dynamics of the Graduate School of Economics and the Institute of Social and Economic Research of Osaka University, all of which supported this research. This research uses micro data from the Preference Parameters Study of Osaka University's 21st Century COE Program "Behavioral Macrodynamics Based on Surveys and Experiments" and its Global COE project "Human Behavior and Socioeconomic Dynamics."

\*\*School of Economics, University of the Philippines, Diliman, Quezon City, Philippines 1101. Telephone: (63) 2-927-9686, ext. 222. Email: horioka@iser.osaka-u.ac.jp

## 1. Introduction

There are two competing assumptions concerning human behavior in economics: that individuals are selfish or that they are altruistic, the difference between the two being that selfish individuals derive no utility from the consumption or utility of others whereas altruistic individuals derive utility from the consumption or utility of their children, other family members, or others. The two assumptions have very different implications for bequest motives and bequest division, so examining individuals' bequest behavior is a promising way of shedding light on which assumption applies in the real world, and comparing bequest behavior in different countries is a promising way of shedding light on whether different assumptions apply in different countries.

In this paper, we present a brief exposition of three theoretical models of household behavior, show that the three models have very different implications for bequest motives and bequest division, conduct a survey of previous empirical studies of bequest motives and bequest division, present newly available survey evidence on bequest motives and bequest division in four countries (China, India, Japan, and the United States), consider what light the available evidence sheds on the issue of whether individuals are selfish or altruistic in each country, speculate about possible reasons for inter-country differences in the degree of selfishness and altruism, and consider the policy implications of our findings.

As we show in section 2, bequests are consistent with all three theoretical models of household behavior, and thus it is not possible to draw inferences about which theoretical model of household behavior holds in the real world unless we have information on people's motives for leaving bequests. Most previous studies try to infer people's motives from their bequest behavior because they do not have any direct information on people's bequest motives, but there are many econometric and other difficulties in making such inferences. The current paper makes a significant original contribution to this literature not only by presenting direct information on people's bequest motives and bequest division but also by presenting such information on four disparate countries (China, India, Japan, and the United States) with very different levels of economic development, cultures, etc., allowing us to see the extent to which the degree of selfishness and altruism varies from country to country.

To summarize the main findings of this paper, this paper shows that the three

theoretical models of household behavior considered here have very different implications for bequest motives and bequest division, that previous empirical studies as well as the unique survey data on bequest motives and bequest division presented in this paper suggest that there are large inter-country differences in the degree of selfishness and altruism, with the Japanese and Chinese being predominantly selfish and Indians and Americans being predominantly altruistic, and that religiosity appears to be the main cause of inter-country differences in the degree of selfishness and altruism.

The remainder of this paper is organized as follows: In section 2, we present three theoretical models of household behavior and discuss the implications of each model for bequest motives and bequest division, and in section 3, we survey previous empirical studies of bequest motives and bequest division. In section 4, we discuss the data source used in this paper, and in sections 5, 6, and 7, we present evidence from this data source on the strength of bequest motives, the nature of bequest motives, and bequest division, respectively, in China, India, Japan, and the United States. In section 8, we explore possible reasons for inter-country differences in the degree of selfishness and altruism, and finally, section 9 summarizes, concludes, and explores the policy implications of our findings.

## **2. Theoretical Models of Household Behavior**

There are many theoretical models of household behavior, and in this section, we discuss three such models and the implications of these models for bequest motives and bequest division (see Cremer, Kessler, and Pestieau (1992) and Laferrere and Wolff (2006) for more extensive expositions and Horioka, et al. (2014) for an illustrative model).<sup>1</sup>

The three theoretical models of household behavior to be considered here and the assumptions these models make about what motivates households are as follows:

- (1) The altruism model assumes that individuals harbor intergenerational altruism toward their children (see, for example, Barro (1974), Becker (1974, 1981, 1991), and Stark (1995)).

- (2) The selfish life-cycle model assumes that individuals are selfish and care only about themselves (see, for example, Modigliani and Brumberg (1954)).
- (3) The dynasty model assumes that individuals care not about themselves or their children but about the perpetuation of the family line or the family business (see, for example, Chu (1991)).<sup>2</sup>

We now explore the implications of each of these models for the strength and nature of bequest motives and for bequest division. We will use the term “bequest” throughout this paper for brevity, but the reader should bear in mind that our analysis applies to all intergenerational transfers including inter vivos transfers.<sup>3</sup>

Looking first at the altruism model, the implication of this model for bequest motives is that individuals will leave a bequest to their children even if they do not provide care and/or financial support during old age and do not carry on the family line and/or the family business, and the implication of this model for bequest division is that individuals will leave more or all of their bequest to the child who has greater needs and/or less earnings capacity (that is, bequests will be compensatory). Thus, equal division is not consistent with the simplest version of the altruism model unless all children have the same needs and the same earnings capacities (which is very, very unlikely), but if it is assumed that children derive disutility from receiving a smaller share of their parents’ inheritance than their siblings (what Stark (1998) calls “relative deprivation”), altruistic parents may choose to divide their bequests equally even if their children’s needs or earnings capacities differ (see also Bernheim and Severinov (2003)). By contrast, Wilhelm (1996) argues that it is the parents rather than the children who derive disutility from unequal division, perhaps because unequal division necessitates financial costs such as the cost of drawing up a will and/or psychic costs arising from the parents’ aversion to the inequality of bequests. In a similar vein, Laitner (1997) and Lundholm and Ohlsson (2000) attribute equal division to parents’ desire to insure post-mortem reputation, to preserve family solidarity, and to avoid conflicts among their children.

Turning next to the selfish life cycle model, the implication of this model for bequest motives is that individuals will leave no bequests to their children, leave only unintended bequests arising from lifespan uncertainty (see, for example, Davies (1981)), or leave bequests only if their children provide care/attention and/or financial support

during old age. One variant of the third case (the so-called “selfish exchange model”) is Bernheim, Shleifer, and Summers’s (1985) “strategic bequest motive,” wherein parents use the threat of disinheritance to induce their children to provide care/attention during old age, and another variant of this case is Kotlikoff and Spivak’s (1981) “implicit intra-family annuity contract,” wherein parents receive a monthly annuity from their children until death in exchange for giving their children an ex post premium in the form of a bequest.<sup>4</sup> The implication of the selfish life cycle model for bequest division is that individuals will leave more or all of their bequest to the child who provides more care/attention and/or financial support during old age. Thus, equal division is inconsistent with the selfish life cycle model unless all children provide exactly the same amount of care/attention and/or financial support (Menchik (1988) and Bernheim and Severinov (2003)).

Turning finally to the dynasty model, the implication of this model for bequest motives is that individuals will leave a bequest to their children only if they carry on the family line and/or the family business, and the implication of this model for bequest division is that individuals will leave more or all of their bequest to the child who carries on the family line and/or the family business.

Thus, each of the three theoretical models of household behavior presented above has very different implications for the strength and nature of bequest motives and for bequest division, and thus we can shed light on which theoretical model of household behavior applies in the real world by looking at empirical evidence on the nature of bequest motives and on bequest division.

### **3. A Survey of Previous Empirical Studies of Bequest Motives and Bequest Division**

There have been many empirical studies that try to determine which theoretical model of household behavior applies in the real world by analyzing data on bequests and bequest division. In this section, we survey this literature to see how much light it can shed on the issue of which theoretical model of household behavior applies in the real world. This survey is highly selective due to space limitations, due to the fact that this literature is so vast, and due to the fact that a number of excellent surveys of this literature already exist such as Arrondel and Masson (2006) and Laferrere and Wolf (2006). The survey will first consider the issue of what motivates bequests and then



the issue of bequest division.

### **3.1. A Survey of Previous Empirical Studies of Bequest Motives**

Looking first at the issue of what motivates bequests, since few household surveys ask respondents directly about their attitudes towards bequests, most previous studies have tried to infer respondents' bequest motives from the impact of bequests on the amount of care/attention that aged parents receive from their children. If bequests are altruistically motivated (and altruism is one-sided), there should not be any correlation between bequests from parents to children and care/attention from children to aged parents, whereas if bequests are motivated by selfish exchange, there should be a positive correlation between bequests from parents to children and care/attention from children to aged parents.

Looking first at studies that use U.S. data, one study of this genre is Menchik, et al. (1988), which obtains a positive correlation between the parents' intention to bequeath and the frequency of their children's telephone calls and visits, which appears to support the selfish exchange model. However, this study fails to distinguish between single-child families and multiple-child families, as done by later studies.

The reference study on the impact of bequests on the amount of attention from one's children is Bernheim, Shleifer, and Summers (1985), which finds, using data from the Longitudinal Retirement History Survey (LRHS), that bequeathable wealth has a positive and significant impact on the frequency of phone calls and visits from one's children in the case of families with two or more children, even after controlling for the parents' age, health, and employment status, but that it has a negative and insignificant impact on the frequency of phone calls and visits in the case of families of only one child and that non-bequeathable wealth does not have a significant impact on the frequency of phone calls and visits in either sample. All of these results appear to support the selfish exchange model because only bequeathable wealth should influence the behavior of children and because parents' threat of disinheritance is not credible if they have only one child.

However, Perozek (1998) replicates Bernheim, Shleifer, and Summers' (1985) test using a richer data set (the 1987 National Survey of Families and Households (NSFH)) and finds that bequeathable wealth no longer has a significant impact on attention from

one's children when additional child and family characteristics are included and/or a more comprehensive measure of attention is used.

Moreover, Altonji, Hayashi, and Kotlikoff (2000) analyze inter vivos time and money transfers from parents to children as well as those from children to parents, using data from the 1988 wave of the Panel Study of Income Dynamics (PSID), and find little evidence that parental income or wealth raises time transfers from children or that time transfers from children to parents are exchanged for money transfers from parents to children or conversely. Similarly, Ioannides and Kan (2000) analyze two-directional inter vivos transfers of time and money between parents and children and find that they are motivated by mutual altruism rather than by selfish exchange motives.

Furthermore, Horioka, et al. (2000) analyze data from the "Comparative Survey of Savings in Japan and the United States (Chochiku ni kansuru Nichibei Hikaku Chousa)," conducted in 1996 by the former Ministry of Posts and Telecommunications of the Japanese Government, and find that parent-child co-residence rates are much higher for parents with a weak bequest motive (12.02%) than they are for parents with a strong bequest motive (6.7 to 7.5%) and that parent-child co-residence rates are, if anything, lower for parents with a strong bequest motive (6.7 to 7.5%) than they are for parents with no bequest motive at all (7.7%) in the case of the United States. All of these results are inconsistent with the selfish exchange model.

Thus, the most careful studies of the impact of bequests on the amount of care/attention from children that use U.S. data find little evidence in support of the selfish exchange model, which suggests that bequests are largely altruistically motivated in the United States.<sup>5</sup> LaFerrere and Wolff (2006) conduct a more comprehensive survey and find that about two-thirds of the studies using U.S. data find support for the altruism model or reject the selfish exchange model but find that the majority of studies using French data find support for the selfish exchange model or reject the altruism model.

Turning to studies that use Japanese data, Noguchi, Uemura, and Kitou (1989) analyze data from their own survey and find that children are more likely to receive a bequest from their parents if they live with their parents, especially if they are the eldest son, and that their probability of receiving a bequest is higher, the higher is the amount of financial support they give to their parents.

Turning to studies that examine the opposite direction of causality (the impact of parental assets or bequest motives on children's behavior), Ohtake and Horioka (1994) analyze the determinants of financial support from children to parents and parent-child co-residence using data from the 1986 Comprehensive Survey of Living Conditions (Kokumin Seikatsu Kiso Chousa), conducted by the Ministry of Health, Labour and Welfare of the Japanese Government, and find that parents' financial net worth (a component of bequeathable wealth) has a positive and significant impact on the amount of financial support from children to parents (given that the child provides financial support to his or her parents) and that housing wealth (also a component of bequeathable wealth) has a positive and significant impact on the probability of parent-child co-residence but that non-bequeathable wealth does not have a significant impact on either (see also Ohtake (1991)).

Similarly, Komamura (1994) analyzes data from the Survey of Retirement Assets (Rougo no Shisan ni kansuru Chousa), conducted in 1990 by the former Management and Coordination Agency of the Japanese Government, and finds that housing wealth has a positive and significant impact on the probability of parent-child co-residence.

Moreover, the aforementioned study by Horioka, et al. (2000) finds that parent-child co-residence rates are highest for parents with a strong bequest motive (63-64%), much lower for parents with a weak bequest motive (49%), and even lower for parents with no bequest motive at all (25%) in the case of Japan.

Furthermore, Yamada (2006) analyzes the determinants of parent-child co-residence, parent-child distance, and the frequency of parent-child contact using data from the Survey on Life Planning in the Age of Long Life (Chouju Jidai no Seikatsu Sekkei), conducted in 1992 by the Japan Institute of Life Insurance, and finds that inheritance expectations have a significant impact on all three dependent variables, at least in the case of the husband's parents, and that inheritance experience has a significant impact on the second and third dependent variables in the case of all parents as well as in the case of the husband's parents.

Thus, studies of the impact of bequests on the amount of care/attention from children (or of the impact of the amount of care/attention from children on the probability of leaving a bequest) that use Japanese data find support for the selfish exchange model, which suggests that bequests are selfishly motivated in Japan, unlike in the case of the

United States.

Turning finally to attitudinal data on bequest motives, Horioka, et al. (2000) and Horioka (2002) analyze data from the aforementioned “Comparative Survey of Savings in Japan and the United States” and find that 42.53% of Americans plan to leave a bequest to their children no matter what, that 3.40% of Americans plan to leave a bequest to their children only if their children take care of them, that 51.13% of Americans do not plan to make any special efforts to leave a bequest to their children, and that 2.93% of Americans do not feel that it is necessary to leave a bequest to their children under any circumstances. Since the first way of thinking is consistent with the altruism model and the second through fourth ways of thinking are consistent with the selfish life cycle model, these results imply that 42.53% of Americans are altruistic and that 57.47% are selfish.

By contrast, Horioka, et al. (2000) and Horioka (2002) find, using data from the same survey, that 19.28% of the Japanese plan to leave a bequest to their children no matter what, that 6.39% of the Japanese plan to leave a bequest to their children only if their children take care of them, that 69.33% of the Japanese do not plan to make any special efforts to leave a bequest to their children, and that 5.00% of the Japanese do not feel that it is necessary to leave a bequest to their children under any circumstances, which implies that 19.28% of the Japanese are altruistic and that 80.72% are selfish (see Horioka (2002, 2008, and 2009) for similar data from other surveys).

Thus, the conclusion based on attitudinal data on bequest motives is consistent with the conclusion based on studies of the impact of bequests on the amount of care/attention from children, with both suggesting that Americans are much more altruistic than the Japanese.

### **3.2. A Survey of Previous Empirical Studies of Bequest Division**

Turning next to the issue of bequest division, the evidence suggests that equal division is by far the dominant practice in the United States. For example, Menchik (1980) finds that bequests are divided roughly equally among one’s children and, in particular, that males or first-born or earlier-born children do not receive larger bequests than other siblings. Similarly, Wilhelm (1996) finds that 68.6% of multi-child decedents

divided their estates exactly equally among their children, that 76.6% of multi-child decedents divided their estates so that each child received within plus or minus 2% of the average inheritance among children in the family, and that 88% of multi-child decedents divided their estates approximately equally among their children. Dunn and Phillips (1997) find that 90% of American households bequeath at least some assets to all of their children even though inter vivos transfers such as cash gifts and co-residence are made preferentially to poorer children. McGarry (1999) finds that 83% of respondents in the Asset and Health Dynamics (AHEAD) Study report that their wills treat all of their children approximately equally, while Light and McGarry (2004) find that 92.1% of respondents in the 1999 National Longitudinal Surveys (NLS) of Mature Women and Young Women who have children and who have a will say that their estate will be divided equally among their children. Finally, Horioka, et al. (2000) and Horioka (2002) analyze data from the aforementioned “Comparative Survey of Savings in Japan and the United States” and find that 84.10% of Americans with two or more children plan to divide their estates equally among their children.

By contrast, Horioka, et al. (2000) and Horioka (2002) find, using data from the same survey, that only 44.17% of Japanese with two or more children plan to divide their estates equally among their children (see Horioka (2002, 2008, and 2009) for similar data from other surveys).

Thus, the tendency to divide estates equally among one’s children is much stronger (nearly twice as strong) in the United States than it is in Japan, and moreover, at least one study (Tomes, 1981) finds that bequest division is compensatory in the U.S., with low-income children inheriting more (*ceteris paribus*) than their advantaged siblings. This suggests that Americans are much more altruistic than the Japanese, and this conclusion based on evidence on bequest division is fully consistent with our earlier conclusion based on evidence on bequest motives, which is reassuring.

#### **4. Data Source**

The data source we use in this paper is the “Preference Parameters Study of Osaka University (Kurashi no Konomi to Manzokudo ni tsuite no Anke-to Chousa),” which was conducted annually during the 2003-13 period in Japan, annually during the 2005-13 period in the United States, in 2006 and annually during the 2009-13 period in urban

China, in 2007, 2010, and 2013 in rural China, annually during the 2009-13 period in urban India, and annually during the 2012-13 period in rural India by the Global Center of Excellence (GCOE) Program on “Human Behavior and Socioeconomic Dynamics” (2003-08) of the Graduate School of Economics, the Institute of Social and Economic Research (Research Center for Behavioral Economics) of Osaka University, etc., and its predecessor, the Twenty-first Century Center of Excellence (COE) Program on “Behavior Macrodynamics Based on Surveys and Experiments” (2008-13) of the same institutions.

In this paper, we use data from the 2012 waves of the Chinese, Indian, Japanese, and United States surveys except that we used data from the 2010 survey for rural China because this survey was not conducted in 2011 or 2012.

The survey for urban China is a panel survey and surveyed a random sample of males and females who were aged 20 to 69 in 2009 and living in one of six major cities (Beijing, Chengdu, Guangzhou, Shanghai, Shenyang, and Wuhan) using the interview method.

The survey for rural China is a repeated cross-section survey and surveyed a random sample of males and females who were aged 20 to 69 and living in the rural areas of one of four provinces using the interview method.

The survey for urban India is a panel survey and surveyed a random sample of males and females who were aged 20 to 69 in 2009 and living in one of six major cities (Delhi, Mumbai, Bangalore, Chennai, Kolkata, and Hyderabad) using the interview method.

The survey for rural India is a panel survey and surveyed a random sample of males and females who were aged 20 to 69 in 2012 and living in the rural areas of one of four cities (Delhi, Mumbai, Bangalore, and Kolkata) using the interview method.

The Japanese survey is a panel survey and surveyed a nationwide random sample of males and females who were aged 20 to 69 in 2003 using the drop-off, pick-up method.

The United States survey is a panel survey and surveyed a nationwide representative sample of males and females who were aged 18 to 99 in 2005 from the TNS Panel using a mailed questionnaire.

The data from the urban and rural surveys for China were combined by weighting the observations for urban and rural areas by the proportion of the population living in urban and rural areas in 2012 (52% and 48%, respectively) and likewise in India (32% and 68%, respectively) (data on urban and rural populations were taken from the World Bank (2013)).

Finally, respondents whose reported age was not within the range noted above were dropped from the sample. This problem arose only in the case of the United States survey.

Almost identical survey instruments were used in each country, making it possible to make direct comparisons among the four countries. For more detailed information on the survey, see [http://www.iser.osaka-u.ac.jp/coe/journal/eng\\_panelsummary.html](http://www.iser.osaka-u.ac.jp/coe/journal/eng_panelsummary.html).

## **5. Evidence on the Strength of Bequest Motives**

In this section, we present evidence on the strength of bequest motives in China, India, Japan, and the United States from the Preference Parameters Study of Osaka University. As explained in the next section, this survey asks respondents about how they feel about leaving an inheritance to their child(ren) and the responses can be grouped according to the strength of their bequest motives. The response implying the strongest bequest motive is “I plan to leave an inheritance to my child(ren) no matter what” (to be referred to as an unconditional bequest motive), the responses implying the second strongest bequest motive are the three responses “I plan to leave an inheritance to my child(ren) only if they provide care (including nursing care) during old age,” “I plan to leave an inheritance to my child(ren) only if they provide financial assistance during old age” and “I plan to leave an inheritance to my child(ren) only if they carry on the family business” (to be collectively referred to as a conditional bequest motive), and the response implying the third strongest bequest motive is “I want to leave an inheritance to my child(ren) but I won't because I don't have the financial capacity to do so” (to be referred to as a potential bequest motive).

By contrast, the responses implying the weakest bequest motive are “I do not plan to leave an inheritance to my child(ren) under any circumstances because doing so may reduce their will to work” and “I do not plan to leave an inheritance to my child(ren)

under any circumstances because I want to use my wealth myself” (to be collectively referred to as no bequest motive), and the response implying the second weakest bequest motive is “I do not plan to make special efforts to leave an inheritance to my child(ren) but will leave whatever is left over” (to be referred to as a passive bequest motive).

The results are shown in Table 1, and as can be seen from this table, the proportion of respondents with an unconditional bequest motive is highest in India (68.98%), second highest in the United States (58.17%), third highest in China (34.24%), and lowest in Japan (26.67%), the proportion of respondents with an unconditional or conditional bequest motive is highest in India (87.05%), second highest in the United States (60.77%), third highest in China (56.35%), and lowest in Japan (31.44%), and similarly, the proportion of respondents with an unconditional, conditional, or potential bequest motive is highest in India (95.88%), second highest in the United States (73.18%), third highest in China (59.23%), and lowest in Japan (49.56%).

By contrast, the proportion of respondents with no bequest motive at all is highest in China (4.81%), second highest in Japan (2.48%), third highest in the United States (1.82%), and lowest in India (0.62%), the proportion of respondents with only a passive bequest motive is highest in Japan (47.96%), second highest in China (35.96%), third highest in the United States (25.00%), and lowest in India (3.50%), and the proportion of respondents with either no bequest motive at all or only a passive bequest motive is highest in Japan (50.44%), second highest in China (40.77%), third highest in the United States (26.82%), and lowest in India (4.12%).

Thus, the strength of bequest motives varies considerably from country to country, and according to virtually all criteria, bequest motives are strongest in India, second strongest in the United States, third strongest in China, and weakest in Japan. However, as explained in section 2, evidence on the strength of bequest motives does not necessarily shed light on which theoretical model of household behavior applies in the real world because positive bequests are consistent with all theoretical models of household behavior and one needs evidence on the motives for which households leave bequests in order to know which theoretical model of household behavior applies in the real world. It is to evidence on this very point to which we turn in the next section.



## 6. Evidence on the Nature of Bequest Motives

In this section, we present evidence on the nature of bequest motives in China, India, Japan, and the United States from the Preference Parameters Study of Osaka University. This survey asks respondents how they feel about leaving an inheritance to their child(ren), with the responses (grouped by the theoretical model of household behavior with which they are consistent) being as follows:

(Responses that are consistent with the altruism model)

- (1) I plan to leave an inheritance to my child(ren) no matter what.
- (2) I do not plan to leave an inheritance to my child(ren) under any circumstances because doing so may reduce their will to work.

(Responses that are consistent with the selfish life-cycle model)

- (3) I plan to leave an inheritance to my child(ren) only if they provide care (including nursing care) during old age.
- (4) I plan to leave an inheritance to my child(ren) only if they provide financial assistance during old age.
- (5) I do not plan to make special efforts to leave an inheritance to my child(ren) but will leave whatever is left over.
- (6) I do not plan to leave an inheritance to my child(ren) under any circumstances because I want to use my wealth myself.

(Responses that are consistent with the dynasty model)

- (7) I plan to leave an inheritance to my child(ren) only if they carry on the family business.

(Responses for which it is not clear with which model they are consistent)

- (8) I want to leave an inheritance to my child(ren) but I won't because I don't have the financial capacity to do so.

The results are shown in Table 2, with motives being grouped by the theoretical model of household behavior with which they are consistent and with those selecting response (8) being dropped from the sample because it is not clear with which theoretical model of household behavior this response is consistent.

As can be seen from this table, the proportion of respondents whose attitude toward bequests is consistent with the altruism model is highest in India (75.80%), second highest in the United States (66.97%), third highest in China (37.40%), and lowest in Japan (33.98%), while the proportion of respondents whose attitude toward bequests is consistent with the selfish life cycle model is highest in Japan (64.96%), second highest in China (55.10%), third highest in the United States (32.76%), and lowest in India (21.82%).

Finally, the proportion of respondents whose attitude toward bequests is consistent with the dynasty model is low (no higher than 7.50%) in all four countries but is highest in China (7.50%), followed by India (2.38%), Japan (1.06%), and the United States (0.26%).

Thus, it appears that there are considerable differences among the four countries in the nature of bequest motives, with bequest motives being primarily altruistic in India and the United States and primarily selfish in Japan and China and dynastic motives not being important in any of the four countries but more important in China than elsewhere.

Moreover, a comparison of Tables 1 and 2 shows that there is a very high correlation between the strength of bequest motives and the nature of bequest motives, with the rank ordering of the four countries being exactly the same regardless of whether they are ranked according to the strength of bequest motives or according to the proportion of respondents whose attitude toward bequests is consistent with the altruism model, with India being first, the United States second, China third, and Japan last. Conversely, the rank ordering of the four countries when they are ranked according to the strength of bequest motives is just the opposite of their rank ordering when they are ranked according to the proportion of respondents whose attitude toward bequests is consistent with the selfish life cycle model. It thus appears that altruistic individuals have strong bequest motives and that selfish individuals have weak bequest motives, as conventional wisdom would predict.

Looking in more detail at the importance of the individual responses, the dominant altruistic motive in all four countries is “I plan to leave an inheritance to my child(ren) no matter what,” and the rank ordering of the four countries with respect to the proportion of respondents selecting this response is identical to the rank ordering of the four countries with respect to the proportion of respondents whose attitude toward

bequests is consistent with the altruism model.

Similarly, the dominant selfish motive in all countries except India is “I do not plan to make special efforts to leave an inheritance to my child(ren) but will leave whatever is left over,” and the rank ordering of the four countries with respect to the proportion of respondents selecting this response is identical to the rank ordering of the four countries with respect to the proportion of respondents whose attitude toward bequests is consistent with the selfish life cycle model.

By contrast, the proportion of respondents selecting the two exchange-related selfish motives (“I plan to leave an inheritance to my child(ren) only if they provide care (including nursing care) during old age” and “I plan to leave an inheritance to my child(ren) only if they provide financial assistance during old age”) is highest in India and second highest in China) and lowest in Japan (and second lowest in the United States) even though the proportion of respondents whose attitude toward bequests is consistent with the selfish life cycle model is lowest in India and highest in Japan.

Finally, the proportion of respondents who do not plan to leave an inheritance for either altruistic or selfish reasons is small (less than 3%) in all four countries, and the proportion of respondents who plan to leave an inheritance to their child(ren) only if they carry on the family business (the only response that is consistent with the dynasty model) is also small (no higher than 7.50%) in all four countries.

Thus, except for the results for exchanged-related selfish motives, the detailed results are consistent with our earlier finding that bequest motives are primarily altruistic in India and the United States and primarily selfish in Japan and China and that dynastic motives not being important in any of the four countries but most important in China than elsewhere.

As for why exchange-related selfish motives are stronger in India and China than in Japan and the United States, it could be because mutual assistance and support and risk sharing within the family are necessarily stronger in countries where social safety nets are weaker, as suggested by Esping-Andersen (1990, 1999).

## **7. Evidence on Bequest Division**

Evidence on bequest division can shed further light on which theoretical model of household behavior applies in the real world so, in this section, we present evidence on bequest division in China, India, Japan, and the United States from the Preference Parameters Study of Osaka University. This survey asks respondents not only about how they feel about leaving inheritances to their child(ren) but also about how they plan to divide their inheritances among their children. However, since bequest division among one's children is a moot question in the case of respondents with no children or only one child, only respondents with two or more children are asked about bequest division. They are first asked whether they plan to divide their inheritances equally or unequally among their children, and those who are planning to divide their inheritances unequally are then asked how they plan to divide their inheritances among their children, with the responses (grouped by the theoretical model with which they are consistent) being as follows:

(Responses that are consistent with the altruism model)

- (1) I plan to leave more or all to the child (children) who has less earning capacity.
- (2) I plan to leave more or all to the child (children) who has greater needs.
- (3) I plan to leave more or all to the child (children) whom I like more.

(Responses that are consistent with the selfish life cycle model)

- (4) I plan to leave more or all to the child (children) who lives with me.
- (5) I plan to leave more or all to the child (children) who lives near me.
- (6) I plan to leave more or all to the child (children) who helps me with housework.
- (7) I plan to leave more or all to the child (children) who provides nursing care.
- (8) I plan to leave more or all to the child (children) who provides financial assistance.

(Responses that are consistent with the dynasty model)

- (9) I plan to leave more or all to the child (children) who carries on the family business.
- (10) I plan to leave more or all to my eldest son or daughter even if he/she does not live with me, does not live near me, does not help me with housework, does not provide nursing care, does not provide financial assistance, and does not carry on the family business.

The results are shown in Table 3, and as can be seen from this table, the proportion of respondents whose way of dividing their bequest among their children is consistent

with the altruism model is high (in excess of 70%) in all four countries but highest in the United States (97.58%), second highest in India (84.35%), third highest in Japan (80.12%), and lowest in China (78.79%).

By contrast, the proportion of respondents whose way of dividing their bequest among their children is consistent with the selfish life cycle model is highest in Japan (20.46%), second highest in China (19.28%), third highest in India (15.63%), and lowest in the United States (2.52%). Similarly, the proportion of respondents whose way of dividing their bequest among their children is consistent with the dynasty model is highest in China (7.85%), second highest in Japan (7.51%), third highest in the United States (0.84%), and lowest in India (0.48%).

Thus, the results pertaining to bequest division are broadly consistent with the results pertaining to the nature of bequest motives, with India and the United States being the most altruistic, China and Japan being the most selfish.

Looking in more detail at the importance of the individual responses, equal division is by far the most common response in all four countries, with the proportion of respondents who plan to divide their bequests equally exceeding 70% in all four countries. This proportion was highest in the United States (92.55%), second highest in India (84.17%), third highest in Japan (72.67%), and lowest in China (70.28%), and hence the rank ordering of the four countries is exactly the same as in the case of the proportion of respondents whose way of dividing their bequest among their children is consistent with the altruism model. These findings are broadly consistent with the previous studies surveyed in section 3.2.

Turning to the importance of the responses for dividing bequests unequally, most of them are of only negligible importance, with the proportion of respondents choosing any given response exceeding 10% in only three cases, all of which occur in China and Japan: 14.38% of Japanese respondents selected the response “I plan to leave more or all to the child (children) who lives with me,” while 12.82% of Japanese respondents and 11.60% of Chinese respondents selected the response “I plan to leave more or all to the child (children) who provides nursing care.” Both of these responses are consistent with the selfish life cycle model, and thus the fact that they were found to be the most prevalent in the two countries in which the selfish life cycle model are the most applicable is not at all surprising.

The three altruistic responses excluding equal division, the three selfish responses excluding the two aforementioned ones, and the two dynastic responses are not important in any country, with no more than 6.5% of responses selecting any of these responses in any of the four countries.

Thus, the results concerning bequest division plans are somewhat divergent from our earlier results concerning the strength and nature of bequest motives, with bequest division plans being much more altruistic than the nature of bequest motives in all countries and bequest division plans being more selfish in China than in Japan and more altruistic in the United States than in India, which is the opposite of the pattern observed for the nature of bequest motives. However, the discrepancy regarding the prevalence of the altruism model can be reconciled if one bears in mind that equal division is not consistent with the simplest version of the altruism model and that it is consistent with the altruism model only if it is extended to include the presence of relative deprivation or some other additional assumption, as noted in section 2, meaning that regarding equal division as being consistent with the altruism model will lead to an overestimate of the proportion of households whose way of dividing their bequest among their children is consistent with the altruism model.

Our findings pertaining to the nature of bequest motives and those pertaining to bequest division are mutually consistent in that they both indicate that the applicability of the various theoretical models of household behavior vary greatly from country to country, with Indians and Americans being much more altruistic than the Japanese and Chinese, and that the dynastic model is not very applicable in any of the four countries but more applicable in China than elsewhere. Moreover, our findings are also fully consistent with the findings of previous studies surveyed in section 3, which find that Americans are much more altruistic than the Japanese.

## **8. Possible Reasons for Inter-Country Differences in the Degree of Selfishness and Altruism**

Our results pertaining to the nature of bequest motives and bequest division in the previous two sections showed that there are substantial inter-country differences in the degree of selfishness and altruism, with Indians and Americans being much more

altruistic than the Chinese and Japanese. In this section, we explore possible reasons for these inter-country differences in the degree of selfishness and altruism. There are at least four possible reasons for these inter-country differences--(1) differences in income levels, (2) differences in social safety nets, (3) differences in culture, and (4) differences in the degree of religiosity—and I explore the validity of each of these reasons in turn.

With respect to the impact of differences in income levels (or the level of economic development), it could be that altruism and bequests are superior goods, as a result of which both the degree of altruism and bequests increase with income. Thus, if inter-country differences in income levels are an important reason for inter-country differences in the degree of altruism, Japan and the United States, which have relatively similar income levels, and China and India, which have relatively similar income levels, should show similar degrees of altruism. The fact that the degree of altruism of Indians and Americans are relatively similar despite their very different income levels, the fact that the degree of altruism of the Chinese and the Japanese are relatively similar despite their very different income levels, the fact that the degree of altruism of the Indians and the Chinese are very different despite their similar income levels, and the fact that the degree of altruism of Americans and the Japanese are very different despite their similar income levels suggest that differences in income levels are *not* the main reason for inter-country differences in the degree of altruism. By contrast, the fact that Indians and the Japanese have very different degrees of altruism as well as very different income levels and the fact that Americans and the Chinese have very different degrees of altruism as well as very different income levels suggests that differences in income levels may be a partial explanation for differences in the degree of altruism.

With respect to the impact of differences in social safety nets, if social safety nets alleviate the need for intra-family altruism and family support, countries with well-developed social safety nets should exhibit lower degrees of altruism. The fact that China has a low degree of altruism despite its underdeveloped social safety nets and the fact that the United States has a high degree of altruism despite its well-developed social safety nets suggests that differences in social safety nets are not the main reason for differences in the degree of altruism. By contrast, the fact that India has underdeveloped social safety nets as well as a high degree of altruism and the fact that Japan has well-developed social safety nets as well as a low degree of altruism

suggests that differences in social safety nets may be a partial explanation for differences in the degree of altruism.

With respect to the impact of differences in culture, if inter-country differences in culture are an important reason for inter-country differences in the degree of altruism, the degree of altruism in Asian countries (China, India, and Japan) should be similar and should differ from that of Americans. The fact that the degree of altruism of Indians and Americans are relatively similar despite their different cultures and the fact that the degree of altruism of Indians and the Chinese and Japanese are very different despite their similar cultures suggests that differences in culture are *not* the main reason for inter-country differences in the degree of altruism. By contrast, the fact that the Chinese and Japanese have similar cultures as well as similar degrees of altruism and the fact that Americans and the Chinese and Japanese have different degrees of altruism as well as different cultures suggest that culture may be a partial explanation for inter-country differences in the degree of altruism.

With respect to the impact of the degree of religiosity, if inter-country differences in the degree of religiosity are an important reason for inter-country differences in the degree of altruism, there should be a positive correlation between the degree of religiosity and the degree of altruism. The survey we used asks about respondents' degree of religiosity in all countries except for China, and the data from this survey as well as supplementary data on all four countries from Zuckerman (2005) suggest that the degree of religiosity is highest in India, second highest in the United States, third highest in China, and by far the lowest in Japan (see Table 4).<sup>6</sup> The fact that the rank ordering of these countries with respect to the degree of altruism is virtually identical to their rank ordering with respect to the degree of religiosity suggests that inter-country differences in the degree of religiosity is an important reason for inter-country differences in the degree of altruism. The importance of religiosity is confirmed by Gans, Silverstein, and Lowenstein (2009), who find that religious children are more likely to provide care to their aged parents.<sup>7</sup>

Thus, it appears that inter-country differences in the degree of religiosity may be the main cause of inter-country differences in the degree of selfishness and altruism but that inter-country differences in income levels, social safety nets, and culture are not. There are other possible reasons for inter-country differences in the degree of selfishness and altruism, such as inter-country differences in genes, the degree of



financial development, and tax systems (for example, the structure of estate taxes and the availability of tax breaks for charitable contributions), but an analysis of the importance of these factors is left as a topic for future research.

## 9. Summary, Conclusions, and Policy Implications

In this paper, we presented a brief exposition of three theoretical models of household behavior, showed that the three models have very different implications for bequest motives and bequest division, conducted a survey of previous empirical studies of bequest motives and bequest division, presented newly available survey evidence on bequest motives and bequest division in four countries (China, India, Japan, and the United States), considered what light the available evidence sheds on the issue of whether individuals are selfish or altruistic in each country, and speculated about possible reasons for inter-country differences in the degree of selfishness and altruism.

To summarize the main findings of this paper, it showed that the three theoretical models of household behavior considered here have very different implications for bequest motives and bequest division, that previous empirical studies as well as the unique survey data on bequest motives and bequest division presented in this paper suggest that there are large inter-country differences in the degree of selfishness and altruism, with the Japanese and Chinese being predominantly selfish and Indians and Americans being predominantly altruistic, and that religiosity appears to be the main cause of inter-country differences in the degree of selfishness and altruism.

Turning to the policy implications of our findings, it is well-known that the impact of government policies are dramatically different depending on whether households are selfish, altruistic, or dynastic (see Barro (1974) and Arrondel and Masson (2006)).

For example, our finding that the Japanese and Chinese are predominantly selfish implies that Ricardian equivalence will *not* hold in Japan and China and that tax cuts financed by the issuance of government bonds *will* be effective as an economic stimulus in these countries because households in these countries will not care about the higher taxes that future generations will have to pay in order to redeem the government bonds and will therefore increase their consumption spending in response to the tax cuts. By contrast, our finding that Indians and Americans are predominantly altruistic implies

that Ricardian equivalence *will* hold in India and the United States and that tax cuts financed by the issuance of government bonds will *not* be effective as an economic stimulus in these countries because households will save the entire tax cut in order to increase their bequests and compensate future generations for the higher taxes they will have to pay in order to redeem the government bonds (see Barro (1974)).

Similarly, our finding that the Japanese and Chinese are predominantly selfish implies that the introduction of a pay-as-you-go public old-age pension system will reduce household saving in Japan and China because households will not feel as much of a need to save as much on their own in preparation for retirement since they will not care about the payroll taxes that their children will have to pay to finance their pension benefits and will therefore be able to finance some of their living expenses during retirement with their public pension benefits. However, unless the offset in saving is complete, which is unlikely, the introduction of a public old-age pension system will enable the Japanese and Chinese to enjoy a higher standard of living during retirement, which is presumably the aim of such a system. By contrast, our finding that Indians and Americans are predominantly altruistic implies that the introduction of a pay-as-you-go public old-age pension system will not have any impact on household saving in India and the United States because households will bequeath all of their pension benefits to their children to compensate them for the payroll taxes they will have to pay to finance these benefits, meaning that they will have to save just as much as before to finance their living expenses during retirement. Moreover, the living standards of Indians and Americans during retirement will not be raised at all by the introduction of a public old-age pension system because all of their pension benefits will be bequeathed to their children.

Finally, our finding that the Japanese and Chinese are predominantly selfish implies that wealth inequalities are less likely to be passed on from generation to generation in Japan and China because the Japanese and Chinese will leave less bequests and because they will leave a bequest to their children only if there is a *quid pro quo* from their children such as care/attention and/or financial support during old age, meaning that bequests from parents to children will be at least partly offset by intergenerational transfers in the other direction (namely, the monetary value of care/attention and/or financial support from children to parents). By contrast, our finding that Indians and Americans are predominantly altruistic implies that wealth inequalities are more likely to be passed on from generation to generation in India and the United States because

Indians and Americans will leave more bequests and because they will leave a bequest to their children even if there is no *quid pro quo* from their children, meaning that their bequests will be less likely to be offset by intergenerational transfers in the other direction. Thus, our findings imply that there may be a greater need for estate taxes and other mechanisms for alleviating the intergenerational transmission of wealth inequalities in India and the United States than in Japan and China.<sup>8</sup>

Thus, activist government policies will be successful in achieving their objectives (for example, tax cuts financed by the issuance of government bonds will be effective in stimulating consumption and the economy as a whole and the introduction of a pay-as-you-go public old-age pension system will be effective in raising living standards during retirement) in Japan, China, and other countries with selfish denizens, whereas such policies will have no effect whatsoever in India, the United States, and other countries with altruistic denizens. By contrast, estate taxes and other policies that alleviate the intergenerational transmission of wealth inequalities will be more necessary and desirable in India, the United States, and other countries with altruistic denizens than in Japan, China, and other countries with selfish denizens.

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<b>Table 1: An International Comparison of the Strength of Bequest Motives</b>				
The proportion of respondents holding each view (%)	China	India	Japan	U.S.
I plan to leave an inheritance to my child(ren) no matter what	34.24	68.98	26.67	58.17
I plan to leave an inheritance to my child(ren) under certain conditions	22.11	18.07	4.76	2.60
Those with an actual bequest motive	56.35	87.05	31.44	60.77
I want to leave an inheritance to my child(ren) but I won't because I don't have the financial capacity to do so	2.88	8.83	18.12	12.41
Those with an actual or potential bequest motive	59.23	95.88	49.56	73.18
I do not plan to make special efforts to leave an inheritance to my child(ren) but will leave whatever is left over	35.96	3.50	47.96	25.00
I do not plan to leave an inheritance to my child(ren) under any circumstances	4.81	0.62	2.48	1.82
Those with only a passive bequest motive or no bequest motive at all	40.77	4.12	50.44	26.82
Total	100.00	100.00	100.00	100.00
Number of observations	2264	1928	4514	3464
Notes: The figures show the proportion of respondents excluding those who did not respond to this question.				
Data Source: 2012 Preference Parameter Survey of Osaka University except for rural China, for which the 2010 survey was used. The results for the urban and rural surveys for China and India were weighted by the proportions of the urban and rural populations in each country (52/48% in China and 32/68% in India).				

<b>Table 2: An International Comparison of Bequest Motives</b>				
The proportion of respondents holding each view (%)	China	India	Japan	U.S.
Altruism Model				
I plan to leave an inheritance to my child(ren) no matter what	35.25	75.66	32.58	66.41
I do not plan to leave an inheritance to my child(ren) under any circumstances because doing so may reduce their will to work	2.15	0.14	1.41	0.56
Responses consistent with the altruism model	37.40	75.80	33.98	66.97
Selfish Life Cycle Model				
I plan to leave an inheritance to my child(ren) only if they provide care (including nursing care) during old age	10.10	11.49	4.06	2.08
I plan to leave an inheritance to my child(ren) only if they provide financial assistance during old age	5.17	5.95	0.70	0.63
I do not plan to make special efforts to leave an inheritance to my child(ren) but will leave whatever is left over	37.03	3.84	58.58	28.54
I do not plan to leave an inheritance to my child(ren) under any circumstances because I want to use my wealth myself	2.80	0.54	1.62	1.52
Responses consistent with the selfish life cycle model	55.10	21.82	64.96	32.76
Dynasty Model				
I plan to leave an inheritance to my child(ren) only if they carry on the family business	7.50	2.38	1.06	0.26
Responses consistent with the dynasty model	7.50	2.38	1.06	0.26
Total	100.00	100.00	100.00	100.00
Number of observations	2071	1866	3696	3034
Notes: The figures show the proportion of respondents excluding those who did not respond to this question and those who replied that they want to leave a bequest to their child(ren) but won't because they don't have the financial capacity to do so.				
Data Source: 2012 Preference Parameter Survey of Osaka University except for rural China, for which the 2010 survey was used. The results for the urban and rural surveys for China and India were weighted by the proportions of the urban and rural populations in each country (52/48% in China and 32/68% in India).				

<b>Table 3: An International Comparison of Bequest Division</b>				
The proportion of respondents holding each view (%)	China	India	Japan	U.S.
Altruism Model				
I plan to divide my inheritance equally among my children	70.28	84.17	72.67	92.55
I plan to leave more or all to the child (children) who has less earning capacity	6.42	0.04	4.39	1.38
I plan to leave more or all to the child (children) who has greater needs	1.95	0.13	3.90	3.06
I plan to leave more or all to the child (children) whom I like more	0.90	0.00	0.75	1.43
Responses consistent with the altruism model	78.79	84.35	80.12	97.58
Selfish Life-Cycle Model				
I plan to leave more or all to the child (children) who lives with me	4.11	6.99	14.38	0.94
I plan to leave more or all to the child (children) who lives near me	1.84	4.63	4.07	0.74
I plan to leave more or all to the child (children) who helps me with housework	2.09	1.96	4.49	0.69
I plan to leave more or all to the child (children) who provides nursing care	11.60	5.63	12.82	0.54
I plan to leave more or all to the child (children) who provides financial assistance	2.56	1.25	4.85	0.59
Responses consistent with the selfish life-cycle model	19.28	15.63	20.46	2.52
Dynasty Model				
I plan to leave more or all to the child (children) who carries on the family business	4.25	0.41	5.04	0.10
I plan to leave more or all to my eldest son or daughter even if he/she does not live with me, does not live near me, does not help me with housework, does not provide nursing care, does not provide financial assistance, and does not carry on the family business	3.82	0.07	2.83	0.74
Responses consistent with the dynasty model	7.85	0.48	7.51	0.84
Total	105.92	100.46	108.08	100.94
Number of observations	733	1780	3118	2457
Notes: The figures show the proportion of respondents excluding those who did not answer the question about bequest motives, those who replied that they would not leave a bequest, and those who have zero or one child. Those who responded that they would divide their bequest unequally but did not answer the follow-up question about bequest division were assumed to have the same distribution of answers for the follow-up question as those who answered the follow-up question.				
Data Source: 2012 Preference Parameter Survey of Osaka University except for rural China, for which the 2010 survey was used. The results for the urban and rural surveys for China and India were weighted by the proportions of the urban and rural populations in each country (52/48% in China and 32/68% in India).				

<b>Table 4: An International Comparison of Religiosity</b>				
	China	India	Japan	U.S.
The degree of religiosity (on a scale of 1 to 5)	na	3.66	1.66	2.99
The number of observations		1928	4556	3559
The proportion of believers in God	86-94	94-98	35-36	91-97
Note: "na" denotes "not available."				
Data Source: First 2 rows: 2012 Preference Parameter Survey of Osaka University. The results for the urban and rural surveys for India were weighted by the proportions of the urban and rural populations (32/68%). Last row: Zuckerman (2005).				

## Endnotes

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<sup>1</sup>This survey of theoretical models is not intended to be exhaustive, and for example, it omits Carroll's (2000) "capitalist spirit model," which applies to affluent households and in which wealth enters the household's utility function directly.

<sup>2</sup>The term "dynasty model" is often used to refer to what we call the "altruism model" but we use the term in a different sense. What we call the dynasty model is also called the "primogeniture model" if it is the eldest son who carries on the family line and/or the family business (Chu (1991)).

<sup>3</sup>Note, however, that the determinants of inter vivos transfers and bequests may differ (see, for example, McGarry (1999), Arrondel and Masson (2006), and Slavik and Wiseman (2013)). Most of these studies find, for example, that inter vivos transfers are divided unequally whereas bequests are divided equally.

<sup>4</sup>Another possibility is that selfish parents who want their children to take care of them in old age will set an example by taking care of their own elderly parents in front of their children (the so-called "demonstration effect" of Stark (1995) and Cox and Stark (1996)). In this case, the *quid pro quo* for care given to one's elderly parents will not be bequests received from one's elderly parents but rather care received from one's children. Thus, in the case of the "demonstration effect," individuals will not leave a bequest to their children but will nonetheless receive care from their children.

<sup>5</sup>To cite a few examples on the other side of the ledger, Cox (1987) and Cox and Rank (1992) find that the recipient's income has a positive impact on the amount of intra-family inter vivos transfers conditional on transfers being made and interpret this as evidence that inter vivos transfers are motivated by selfish exchange motives. In a similar vein, Altonji, Hayashi, and Kotlikoff (2000) find that inter vivos transfers are weakly compensatory but far from fully compensatory.

<sup>6</sup>The survey we used asks respondents whether or not the statement "I am deeply religious" applies to him/her, with 1 indicating that it is particularly true for him/her and 5 indicating that it does not hold true at all for him/her, but we reversed the order of the responses so that a higher figure indicates a higher degree of religiosity.

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<sup>7</sup> Lehrer (2006) and Mukhopadhyay (2011) analyze the impact of religiosity on educational attainment and find that religiosity has an impact on educational attainment, with Lehrer (2006) finding that it has a positive impact and Mukhopadhyay (2011) finding that it has a negative impact.

<sup>8</sup>In fact, Horioka (2009) finds that, in Japan, the correlation between bequests received and life cycle wealth is negative, meaning that wealthier individuals leave less bequests than less wealthy individuals and that bequests actually alleviate the intergenerational transmission of wealth inequalities.