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# **The Impact of Intergenerational Transfers on the Distribution of Household Wealth: An International Comparison**

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# **The Impact of Intergenerational Transfers on the Distribution of Household Wealth: An International Comparison**

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## **Abstract**

In this paper, we analyze detailed data on intergenerational transfers in four countries (China, India, Japan, and the United States) from the “Preference Parameters Study of Osaka University,” which was conducted in these four countries during all or part of the 2003-2013 period, in order to shed light on the impact of intergenerational transfers on household wealth disparities and on possible reasons for the substantial differences in household wealth disparities among the four countries. Almost all of the evidence we present suggests that intergenerational transfers have a disequalizing impact on household wealth disparities and facilitate the transmission of household wealth disparities from generation to generation in all four countries although the magnitude of these effects varies considerably from country to country. Moreover, the evidence we present suggests that the substantial differences among the four countries in household wealth disparities are due primarily to differences in the strength of bequest motives, the extent to which affluent households are more likely to leave bequests, and the nature of bequest motives (viz., whether they are selfish or altruistic).

## Preface

This report presents the results of the research conducted under the Research Project entitled “Inequality of Education: From the Perspective of Intergenerational Transfers” during the Fiscal Year 2017. In this paper, we analyze detailed data on intergenerational transfers in four countries (China, India, Japan, and the United States) from the “Preference Parameters Study” of Osaka University, which was conducted in these four countries during all or part of the 2003-2013 period, in order to shed light on the impact of intergenerational transfers on household wealth disparities and on possible reasons for the substantial differences in household wealth disparities among the four countries. Almost all of the evidence we present suggests that intergenerational transfers have a disequalizing impact on household wealth disparities and facilitate the transmission of household wealth disparities from generation to generation in all four countries although the magnitude of these effects varies considerably from country to country. Moreover, the evidence we present suggests that the substantial differences among the four countries in household wealth disparities are due primarily to differences in the strength of bequest motives, the extent to which affluent households are more likely to leave bequests, and the nature of bequest motives (viz., whether they are selfish or altruistic).

I am grateful to the Asian Growth Research Institute (AGI) for its financial support of this research. This work was also supported by JSPS (Japan Society for the Promotion of Science) KAKENHI Grant Number 15H01950 and a grant from the MEXT Joint Usage/Research Center at the Institute of Social and Economic Research, Osaka University. Furthermore, this research uses micro data from the Preference Parameters Study of Osaka University’s Twenty-first Century COE Program ‘Behavioral Macrodynamics Based on Surveys and Experiments’ and its Global COE project ‘Human Behavior and Socioeconomic Dynamics.’ I acknowledge the program/project’s contributors Yoshiro Tsutsui, Fumio Ohtake, and Shinsuke Ikeda.

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University, for their financial support.

It is hoped that the findings of this research will help policymakers to develop policies to reduce household wealth disparities and to reduce the extent to which household wealth disparities are passed on from generation to generation.

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## **Abstract**

In this paper, we analyze detailed data on intergenerational transfers in four countries (China, India, Japan, and the United States) from the “Preference Parameters Study” of Osaka University, which was conducted in these four countries during all or part of the 2003-2013 period, in order to shed light on the impact of intergenerational transfers on household wealth disparities and on possible reasons for the substantial differences in household wealth disparities among the four countries. Almost all of the evidence we present suggests that intergenerational transfers have a disequalizing impact on household wealth disparities and facilitate the transmission of household wealth disparities from generation to generation in all four countries although the magnitude of these effects varies considerably from country to country. Moreover, the evidence we present suggests that the substantial differences among the four countries in household wealth disparities are due primarily to differences in the strength of bequest motives, the extent to which affluent households are more likely to leave bequests, and the nature of bequest motives (viz., whether they are selfish or altruistic).

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## 1. Introduction

Intergenerational wealth disparities are sizable in all countries, even more so than income disparities, and moreover, they vary greatly from country to country, as shown by Davies, et al. (2011) and Nolan, et al. (2013). For example, the Gini coefficient for household wealth ranged from 0.547 to 0.801 in the four countries considered in this paper (0.801 in the United States, 0.669 in India, 0.550 in China, and 0.547 in Japan in 2000), according to Davies, et al. (2011), whereas the Gini coefficient for income ranged only from 0.321 to 0.421 in the same countries (0.411 in the United States in 2010, 0.336 in India in 2011, 0.421 in China in 2010, and 0.321 in Japan in 2008), according to the World Bank's World Development Indicators.<sup>1</sup>

Moreover, Piketty (2014) and others have sounded alarm bells about the recent trend towards increasing disparities in household wealth, which reverses the equalizing trend during the 1930-95 period that Piketty claims was merely a temporary phenomenon (see also Davies and Shorrocks (2000) and Nolan, et al. (2013)).<sup>2,3</sup> In fact, Piketty (2014) asserts that increasing disparities in household wealth are an inevitable feature of all capitalist economies unless the government intervenes.

Household wealth arises primarily from life cycle saving (i.e., self-accumulation or saving from one's own earnings) or from transfers from others (including bequests and inter vivos transfers—hereafter referred to collectively as intergenerational transfers—from one's parents). Thus, disparities in intergenerational transfers could well have a significant impact on the magnitude of household wealth disparities and the extent to which they are passed on from generation to generation. The problem is that the direction and magnitude of the impact of intergenerational transfers on household wealth disparities are theoretically ambiguous, as discussed in detail in section 2. Thus, we cannot determine the impact of intergenerational transfers on household wealth disparities without detailed data on intergenerational transfers and on who leaves and receives them.

The purpose of this paper is to analyze detailed data on intergenerational transfers on four countries (China, India, Japan, and the United States) from the "Preference Parameters Study" of Osaka University, which was conducted in these four countries during all or part of the 2003-2013 period, in order to shed light on the impact

of intergenerational transfers on household wealth disparities and on possible reasons for the substantial differences in household wealth disparities among the four countries.

This paper makes an original contribution to the literature in the following ways. First, it sheds light not only on whether intergenerational transfers have an equalizing or disequalizing impact on household wealth disparities but also on the mechanisms through which intergenerational transfers affect household wealth disparities. Moreover, it is one of the first studies to conduct an international comparison of the impact of intergenerational transfers on household wealth disparities, allowing us to see whether differences in behavior relating to intergenerational transfers can explain differences among countries in household wealth disparities (see Nolan et al. (2013) for a similar cross-country comparison).

To summarize the main findings of this paper, almost all of the evidence we present suggests that intergenerational transfers have a disequalizing impact on household wealth disparities and facilitate the transmission of household wealth disparities from generation to generation in all four countries although the magnitude of these effects varies considerably from country to country. Moreover, the evidence we present suggests that the substantial differences among the four countries in household wealth disparities are due primarily to differences in the strength of bequest motives, the extent to which affluent households are more likely to leave bequests, and the nature of bequest motives (*viz.*, whether they are selfish or altruistic).

This paper is organized as follows. In section 2, we discuss theoretical considerations; in section 3, we discuss the relevant literature; in section 4, we describe the data source used in this paper; in section 5, we present a variety of data on intergenerational transfers for the purpose of shedding light on the impact of intergenerational transfers on household wealth disparities; in section 6, we discuss what light our results shed on the possible causes of differences among the four countries in household wealth disparities; and section 7 summarizes our findings and explores the policy implications thereof.



## 2. Theoretical Considerations

In this section, we survey the theoretical literature on the impact of intergenerational transfers on household wealth disparities relying heavily on the excellent survey of this literature by Davies and Shorrocks (2000).

The impact of intergenerational transfers on household wealth disparities depends not only on the magnitude of such transfers but also on how they are distributed within and among families. Looking first at how transfers are distributed within families, the distribution of wealth will be more equal if parents distribute their assets equally among their children than if they leave everything to the eldest son (primogeniture), as Menchik (1980) and Chu (1991) show,<sup>4</sup> and parent-to-child transfers will be even more equalizing if they are compensatory (i.e., if relatively poor children receive more than their relatively affluent siblings).

Moreover, a similar argument applies to the distribution of intergenerational transfers *among* families (households) as well. If relatively poor households are more likely to receive intergenerational transfers than relatively affluent households, such transfers will be equalizing, and conversely.

Another influence on the impact of intergenerational transfers on household wealth disparities is mating patterns (see, for example, Gokhale, et al., 2001). If mating is assortative and relatively affluent men tend to marry relatively affluent women, household wealth disparities will widen over time relative to the case of random mating, whereas if relatively affluent men tend to marry relatively poor women and conversely, household wealth disparities will narrow over time relative to the case of random mating.

Yet another influence on the impact of intergenerational transfers on household wealth disparities is fertility behavior. If fertility is differential, with affluent households tending to have fewer children than poor households (which is typically the case), it will be disequalizing because it will cause the share of parents' assets received by each child to be larger in the case of affluent parents.

A final influence on the impact of intergenerational transfers on household wealth disparities is parental preferences. If parents harbor intergenerational altruism towards their children, as proposed by Becker (1991), they will leave intergenerational

transfers to their children even if they receive no quid pro quo from their children and hence household wealth disparities will be transmitted from generation to generation. On the other hand, if parents are selfish, they will leave intergenerational transfers to their children only if they receive some sort of quid pro quo from their children such as care, attention, and financial assistance during old age (see, for example, Bernheim, Shleifer, and Summers (1985)), meaning that net transfers from parents to children will not necessarily be large or even positive, as transfers from parents to children will be partially or fully offset by transfers in the opposite direction. Thus, household wealth disparities will not necessarily be transmitted from generation to generation (also see Davies and Shorrocks (2000)).

To summarize, the direction and magnitude of the impact of intergenerational transfers on household wealth disparities are theoretically ambiguous and will depend on a host of factors including bequest division patterns, the impact of children's economic resources on the likelihood of receiving transfers, mating behavior, fertility behavior, and parental preferences. Fortunately, the data source used in this paper, to be discussed in detail in section 4, collects the information needed to shed light on the importance of many of these factors either directly or indirectly.

### **3. A Survey of the Previous Literature**

In this section, I survey the previous literature relating to the topic of this paper. A number of studies starting with the seminal study by Kotlikoff and Summers (1981) have tried to estimate the relative importance of intergenerational transfers, but they obtain very divergent results, with Kotlikoff and Summers (1981) estimating that the share of intergenerational transfers is as high as 81% of household wealth and Modigliani (1988) estimating that it is only 17 to 21%. Davies and Shorrocks (2000) survey this literature and conclude that a reasonable estimate of the share of intergenerational transfers in household wealth is about 35 to 45 %.

However, these studies do not shed light on the impact of intergenerational transfers on the *distribution* of wealth in the next generation because they do not provide any information on *who* receives intergenerational transfers. For example, if the poor

receive the bulk of intergenerational transfers, they will alleviate household wealth disparities in the next generation, whereas if the wealthy receive the bulk of intergenerational transfers, they will exacerbate household wealth disparities in the next generation.

Turning to the literature on the impact of intergenerational transfers on household wealth disparities, Niimi and Horioka (2017) conduct a survey of this literature and conclude that both theoretical and simulation studies are inconclusive for the reasons discussed in the previous section, whereas empirical studies tend to find that bequests increase absolute wealth inequality but reduce relative wealth inequality because even though less wealthy people receive smaller bequests in terms of absolute amounts, they mean relatively more to them.

In one recent study, Karagiannaki (2017) conducts an analysis of the quantitative impact of inheritances on household wealth disparities in the United Kingdom and finds that inheritances have had only a small impact on overall household wealth disparities even though they are highly unequal, largely because their magnitude relative to other sources of wealth is very small.

In another recent study, Niimi and Horioka (2017) find that, in both Japan and the United States, more affluent individuals are more likely to leave bequests and *inter vivos* transfers to their children and to invest in their children's human capital and that those who receive intergenerational transfers from their parents are more likely to leave bequests to their children. All of these results imply that intergenerational transfers have a disequalizing effect on household wealth disparities. However, Niimi and Horioka (2017) also find that the intergenerational correlation of bequest propensities is stronger among less better-off households in both Japan and the United States, which may alleviate the disequalizing effect of intergenerational transfers on household wealth disparities, at least to some extent.

Thus, the verdict is still out on whether intergenerational transfers have an equalizing or disequalizing impact on household wealth disparities and why, and the main purpose of this paper is to shed further light on these two important questions.

#### 4. The Data Source

In this section, we describe the data source used in this paper.

The data source used in this paper is the “Preference Parameters Study” (Kurashi no Konomi to Manzokudo ni tsuite no Chousa) of Osaka University, a panel survey of households that was conducted concurrently in four countries (China, India, Japan, and the United States) by the Twenty-first Century Center of Excellence Program “Behavioral Macrodynamics based on Surveys and Experiments” (2003-2008) and the Global Center of Excellence Program “Human Behavior and Socioeconomic Dynamics” (2008-2013) of Osaka University.

This survey asks extensive questions regarding the socioeconomic characteristics of the respondent, his/her spouse, his/her parents, his/her children, and the household as a whole and also collects information on various preference parameters such as those relating to altruism, risk aversion, time preference, and externalities. Moreover, it also collects extensive information on intergenerational transfers including attitudinal questions relating to bequest motives and bequest division, questions about whether or not the respondent received or expects to receive bequests and inter vivos transfers from his/her own parents and his/her spouse’s parents, etc.

The module on intergenerational transfers contains primarily of the following questions:

(1) A question about the respondent’s attitude towards leaving a bequest to their children.

The responses to this question can be used to categorize respondents into (i) those with a strong bequest motive (those planning to leave an inheritance to their children unconditionally or under certain conditions), (ii) those with a potential bequest motive (those who want to leave a bequest to their children but will not do so because they don’t have the financial capacity to do so), and (iii) those without a bequest motive (those who do not plan to make efforts to leave an inheritance to their children but will leave whatever is left over and those not planning to leave an inheritance to their children).

- (2) Two questions about the respondent's intentions about how to divide his/her bequest among his/her children, with one choice being to divide his/her bequest equally among his/her children.
  
- (3) Questions about whether or not the respondent has received a bequest of at least a certain amount from his/her own parents, whether or not the respondent has received a bequest of at least a certain amount from his/her spouse's parents, whether or not the respondent expects to receive a bequest of at least a certain amount from his/her own parents, and whether or not the respondent expects to receive a bequest of at least a certain amount from his/her spouse's parents, and the same four questions regarding inter vivos transfers as well.

Note, however, that the threshold amount in the questions concerning receipts of bequests and inter vivos transfers varies from country to country and that this needs to be taken into account when interpreting the results. The ratio of the threshold amount to per capita GDP is much higher in China and India, especially India, than in Japan and the United States, and this needs to be taken into account when interpreting the results.<sup>5</sup>

The survey we used is unique in at least two respects. First, it was conducted concurrently in four disparate countries from throughout the world using virtually the same survey instrument, enabling us to conduct an international comparison. Second, it collects extensive information on intergenerational transfers including questions not only about transfers that respondents received or expect to receive from their parents and parents-in-law but also about transfers that they plan to leave to their children. Thus, it is ideally suited to the objective of this paper.

The surveys for Japan and the United States are nationwide panel surveys, while the surveys for China and India are panel surveys for urban areas and rural areas separately (except for the rural survey for China, which is a repeated cross-section survey). All surveys for all countries survey representative samples of those aged 20-69 (except that the U.S. survey surveys those aged 18-99).<sup>6</sup>

Data from the 2012 wave were used for all four countries except that the 2010 wave was used in the case of the rural survey for China because this survey was not

conducted in 2012. Unfortunately, all of the necessary information was not collected in the 2010 rural survey for China so some of the results for China pertain only to urban areas. The sample size was 1,380 for the urban survey for China, 1,000 for the rural survey for China, 1,095 for the rural survey for India, 833 for the urban survey for India, 4,588 for the Japanese survey, and 3,653 for the U.S. survey.

In countries in which separate surveys were conducted in rural and urban areas (China and India), we calculated weighted averages of the figures for rural and urban areas using the shares of the rural and urban populations from the World Bank's World Development Indicators as weights.<sup>7</sup>

Turning to sample selection, we dropped observations for which information was not available on gender, marital status, transfer receipts, the respondent's attitude towards bequests, and the earned income of the respondent and his/her spouse. In addition, observations from respondents reporting an age of less than 18 were dropped from the U.S. survey (there were no such respondents in the case of any of the other surveys). Additional observations were dropped in some cases, as noted in the notes to the tables.

## **5. The Findings**

In this section, we present a variety of data relating to intergenerational transfers in China, India, Japan, and the United States from the "Preference Parameters Study" of Osaka University for the purpose of shedding light on the impact of intergenerational transfers on household wealth disparities in these four countries.

### **5.1 The Strength of Bequest Motives**

The survey we used collects information not only on actual bequest motives (whether or not respondents plan to leave an inheritance to their children) but also on potential bequest motives (whether or not respondents want to leave an inheritance to their children but won't because they don't have the financial capacity to do so). Table 1 shows the proportion of respondents with actual and/or potential bequest motives in the four countries in our sample, and as can be seen from this table, bequest motives are strong in

all four countries, with the proportion of respondents with an actual (actual or potential) bequest motive ranging from 32.32 to 92.29% (50.21 to 95.54%). This suggests that bequest motives are strong in all four countries and that they may have a disequalizing impact on household wealth disparities. However, the strength of bequest motives varies considerably from country to country, with the proportion of respondents with an actual bequest motive being by far the highest in India (92.29%), followed by the United States (59.10%), China (52.66%), and Japan (32.32%), and similarly, the proportion of respondents with an actual or potential bequest motive being by far the highest in India (95.54%), followed by the United States (71.63%), China (61.61%), and Japan (50.21%).

## **5.2 Bequest Division**

Table 2 shows the proportion of respondents with two or more children who plan to divide their bequests equally among their children, and as can be seen from this table, this proportion is overwhelmingly high in all four countries, ranging from 70.27 to 92.37%.<sup>8</sup> This implies that bequests will have an equalizing impact on household wealth disparities in all four countries, at least within families. However, the proportion of respondents with two or more children who plan to divide their bequests equally among their children varies considerably from country to country, being by far the highest in the United States (92.37%), also high in India (82.22%), and somewhat lower in Japan (72.68%) and China (70.27%). These findings are broadly consistent with previous studies, which invariably find an overwhelming preponderance of equal division in all countries (see, for example, Menchik (1980), Wilhelm (1996), Dunn and Phillips (1997), McGarry (1999), Horioka, et al. (2000), Horioka (2002), Light and McGarry (2004), and Horioka (2014)), and strongly suggest that bequest division patterns serve to reduce household wealth disparities, at least within families.

### 5.3 The Correlation between Earned Income and the Likelihood of Receiving Bequests

Table 3 shows the ratio of the earned income of respondents who have received and/or expect to receive intergenerational transfers of at least a certain amount from their own parents and/or their spouse's parents to that of respondents who have not received and do not expect to receive such transfers. As can be seen from this table, the earned income of respondents who have received and/or expect to receive intergenerational transfers (bequests as well as inter vivos transfers) of at least a certain amount is much higher (19.2 to 51.5% higher) than that of respondents who have not received and do not expect to receive such transfers in all four countries. This implies that relatively affluent households are more likely to receive intergenerational transfers and therefore that such transfers are disequalizing in all four countries. However, the income gap between households receiving intergenerational transfers and those not receiving such transfers varies greatly from country to country, being by far the highest in India (1.515), followed by the United States (1.354), China (1.222), and Japan (1.192).<sup>9</sup>

A related and equally important issue is the correlation between earned income (or life cycle wealth) and the *amount* of intergenerational transfers received. This issue could not be addressed in this paper because the data source used does not contain any information on the amount of bequests received, but Horioka (2009) and Hamaaki, et al. (2014) address this issue for the case of Japan using different data sources that do collect information on the amounts of intergenerational transfers received. Horioka (2009) calculates the correlation between bequests received and life cycle wealth (wealth accumulated by the individual himself or herself) for the case of Japan and finds this correlation to be negative though relatively small (-0.170), which implies that less affluent households receive larger bequests and thus that bequests are equalizing. By contrast, Hamaaki, et al. (2014) analyze the determinants of intergenerational transfers received and find that those with higher educational attainments and those with higher labor earnings receive larger intergenerational transfers, which implies that more affluent households receive larger intergenerational transfers and thus that bequests are



disequalizing. It is therefore not clear from this line of research whether intergenerational transfers are equalizing or disequalizing.

In a similar vein, the studies surveyed by Davies and Shorrocks (2000) show that there is a high intergenerational correlation of terminal wealth between parents and children in both the United Kingdom and the United States, which suggests that intergenerational transfers cause the intergenerational transmission of wealth disparities and impede intergenerational wealth mobility.

#### **5.4 Gender Differences**

Table 4 shows the proportion of respondents who have received and/or expect to receive intergenerational transfers of at least a certain amount from their own parents broken down by the gender of the respondent, and as can be seen from this table, this proportion is higher for male respondents than it is for female respondents in all four countries, with the gap ranging from 4.15 to 14.48 percentage points. It thus appears that parents discriminate against daughters with respect to intergenerational transfers in all four countries, which implies that such transfers may have a disequalizing impact on household wealth disparities, with unmarried women being the most adversely affected because there is no possibility of their receiving intergenerational transfers from their spouses' parents. However, the gender gap in the likelihood of receiving intergenerational transfers of at least a certain amount from one's parents varies greatly from country to country, being largest in Japan (14.48 percentage points), followed by China (8.05 percentage points), the United States (5.09 percentage points), and India (4.15 percentage points).<sup>10</sup>

#### **5.5 The Correlation between Bequest Receipts and Bequest Motives**

Table 5 shows the proportion of respondents planning to leave bequests broken down by whether or not respondents have received and/or expect to receive intergenerational transfers of at least a certain amount from their own parents and/or their spouse's parents, and as can be seen from this table, respondents who have received and/or expect to receive

intergenerational transfers of at least a certain amount are more likely to leave bequests in all countries except for India, with the gap ranging from 1.54 to 13.68 percentage points in all countries except for India. However, the gap varies considerably from country to country, with the gap being largest in Japan (13.68 percentage points), also high in the United States (8.96 percentage points), and relatively low in China (1.54 percentage points). By contrast, in India, respondents who have received and/or expect to receive intergenerational transfers of at least a certain amount are much less likely to leave bequests, with the gap being 9.16 percentage points. Thus, the danger of household wealth disparities being transmitted from generation to generation exists in all countries except India, with this danger being highest in Japan, somewhat lower in the United States, and only negligible in China.

## **5.6 Inter-spousal Correlations in the Likelihood of Receiving Bequests**

Table 6 shows the proportion of married respondents who have received and/or expect to receive intergenerational transfers of at least a certain amount from the respondent's spouse's parents broken down by whether or not they have received and/or expect to receive such transfers from the respondent's own parents. As can be seen from this table, married respondents are more likely to have received and/or expect to receive intergenerational transfers of at least a certain amount from their spouse's parents if they have received and/or expect to receive such transfers from their own parents, and the gap is considerable in all four countries, ranging from 15.15 to 52.73 percentage points. The fact that this gap is so large in all four countries suggests that the correlation between intergenerational transfers from the husband's parents and those from the wife's parents is high, which in turn is presumably due at least in part to the fact that mating is assortative in all four countries. It thus appears that mating patterns have a disequalizing impact on household wealth disparities. However, the aforementioned gap varies considerably from country to country, with the gap being largest in China (52.73 percentage points), also high in India (46.09 percentage points) and the United States (32.28 percentage points), and much lower but still sizable in Japan (15.15 percentage points). This suggests that mating patterns vary considerably among the four countries, but the observed patterns are

more or less what one would expect. For example, the fact that the gap is especially large in India is not surprising given the (previous) existence of the caste system and the (previous) custom of marrying within one's own caste.<sup>11</sup>

## **5.7 Parental Preferences**

Turning finally to parental preferences, Horioka (2014) uses data from the same survey as the one used in this paper to show that bequests are primarily altruistically motivated in India and the United States and primarily selfishly motivated (but with a sizable proportion of altruistically motivated households) in China and Japan, with Indians and Americans planning to leave bequests to their children even if they do not receive any quid pro quo from their children and planning to divide their bequests equally among their children and the Chinese and Japanese not planning to leave bequests to their children at all, planning to leave bequests to their children only if they receive a quid pro quo (such as care and/or financial assistance during old age) from their children, and planning to leave a larger share of their bequest to the child or children who provide a quid pro quo (see also Horioka, et al. (2000), Horioka (2002), and the papers cited in Arrondel and Masson (2006) and Horioka (2014)). This implies that bequests will be disequalizing in India and the United States because transfers from parents to children will be largely unrequited in these countries and that the impact of bequests will be neutral in China and Japan because transfers from parents to children will be largely offset by transfers in the opposite direction in these countries.

## **5.8 Summary**

In this section, we presented a variety of evidence on the impact of intergenerational transfers on household wealth disparities and found that virtually all of the evidence suggests that intergenerational transfers have a disequalizing impact on household wealth disparities in all four countries. For example, our findings that bequest motives are strong in all four countries, that more affluent households are more likely to receive intergenerational transfers in all four countries, that males are more likely to receive

intergenerational transfers than females in all four countries, that households receiving intergenerational transfers are more likely to leave bequests in all countries except India, that inter-spousal correlations in the likelihood of receiving intergenerational transfers are high in all four countries, and that parents are largely altruistically motivated, meaning that bequests are largely unrequited, in all four countries all point towards this conclusion. About the only piece of evidence that suggests that intergenerational transfers have an equalizing impact on household wealth disparities is our finding that there is a strong tendency for bequests to be evenly divided among one's children in all four countries, but this single factor alone is unlikely to be enough to offset the impact of all of the other factors combined.<sup>12</sup>

## **6. Causes of Inter-Country Differences in Household Wealth Disparities**

As we showed in section 1, household wealth disparities are highest in the United States, second highest in India, and lowest in China and Japan. The findings in the previous section shed considerable light on the possible causes of these differences in household wealth disparities, and it is to this issue that we turn in this section.

### **6.1 United States**

The fact that the United States has the largest household wealth disparities among the four countries may be due partly to the fact that bequest motives are relatively strong in the United States, the fact that the extent to which more affluent households are more likely to receive bequests is relatively high in the United States, the fact that those receiving bequests are more likely to leave bequests in the United States, the fact that inter-spousal correlations in the likelihood of receiving bequests are relatively high in the United States, and the fact that bequests are largely altruistically motivated in the United States, meaning that they are largely unrequited. There are factors that would be expected to cause household wealth disparities in the United States to be smaller than elsewhere such as the fact that the tendency to divide bequests equally among one's children is strongest in the United States and the fact that gender differences in the likelihood of receiving

intergenerational transfers are relatively small in the United States, but the impact of these factors is apparently overshadowed by the impact of the aforementioned factors.

## **6.2 India**

The fact that household wealth disparities are relatively large in India may be partly due to the fact that bequest motives are by far the strongest in India, the fact that the extent to which more affluent households are more likely to receive bequests is highest in India (but see footnote 7), the fact that inter-spousal correlations in the likelihood of receiving bequests is relatively high in India, and the fact that bequests are largely altruistically motivated in India, meaning that they are largely unrequited. There are factors that would be expected to cause household wealth disparities in India to be smaller than elsewhere such as the fact that the tendency to divide bequests equally among one's children is relatively strong in India, the fact that gender differences in the likelihood of receiving bequests is relatively small in India, and the fact that those receiving bequests are less likely to leave bequests in India, but the impact of these factors is apparently overshadowed by the impact of the aforementioned factors.

## **6.3 China**

The fact that household wealth disparities are relatively small in China may be due partly to the fact that bequest motives are relatively weak in China, the fact that the extent to which more affluent households are more likely to receive bequests is relatively low in China, the fact that those receiving bequests are not any more likely to leave bequests in China, and the fact that bequests are largely selfishly motivated in China, meaning that they are largely offset by transfers in the other direction. There are factors that would be expected to cause household wealth disparities in China to be larger than elsewhere such as the fact that the tendency to divide bequests equally among one's children is relatively weak in China, the fact that gender differences in the likelihood of receiving intergenerational transfers are relatively large in China, and the fact that the inter-spousal correlations in the likelihood of receiving intergenerational transfers is highest in China

(but see footnote 9), but the impact of these factors is apparently overshadowed by the impact of the aforementioned factors.

#### **6.4 Japan**

The fact that Japan has the smallest household wealth disparities among the four countries may be due partly to the fact that bequest motives are by far the weakest in Japan, the fact that the extent to which more affluent households are more likely to receive bequests is lowest in Japan, the fact that inter-spousal correlations in the likelihood of receiving transfers are lowest in Japan, and the fact that bequests are largely selfishly motivated in Japan, meaning that they are largely offset by transfers in the other direction. There are factors that would be expected to cause household wealth disparities in Japan to be larger than elsewhere such as the fact that the tendency to divide bequests equally among one's children is relatively weak in Japan, the fact that gender differences in the likelihood of receiving intergenerational transfers are largest in Japan, and the fact that those receiving bequests are much more likely to leave bequests in Japan, but the impact of these factors is apparently overshadowed by the impact of the aforementioned factors.

#### **7. Conclusion**

In this paper, we analyze detailed data on intergenerational transfers in four countries (China, India, Japan, and the United States) from the "Preference Parameters Study of Osaka University," which was conducted in these four countries during all or part of the 2003-2013 period, in order to shed light on the impact of intergenerational transfers on household wealth disparities and on possible reasons for the substantial differences in household wealth disparities among the four countries. Almost all of the evidence we present suggests that intergenerational transfers have a disequalizing impact on household wealth disparities and facilitate the transmission of household wealth disparities from generation to generation in all four countries although the magnitude of these effects varies considerably from country to country. Moreover, the evidence we present suggests that the substantial differences among the four countries in household wealth disparities

are due primarily to differences in the strength of bequest motives, the extent to which affluent households are more likely to leave bequests, and the nature of bequest motives (viz., whether they are selfish or altruistic).

Turning next to possible directions for further research, one possible direction is to do a similar analysis for a larger sample of countries, and another possible direction is to estimate the quantitative importance of intergenerational transfers to household wealth disparities and the quantitative importance of each channel through which intergenerational transfers affect household wealth disparities.

Turning finally to the policy implications of our findings, our findings imply that inheritance or estate taxes, wealth taxes, and other policies designed to alleviate household wealth disparities and the intergenerational transmission thereof may be desirable in all four countries but especially in the United States and India, where wealth disparities are the largest.<sup>13</sup> The substantial increase in Japan's bequest tax in January 2015 may be a step in the right direction although household wealth disparities in Japan are already relatively small. In the United States, the maximum tax rate of the federal estate tax was gradually lowered from 55% in 2001 to 45% in 2009, before being eliminated entirely in 2010, but it was reinstated in 2011 at a lower rate (35% on estates in excess of 5 million dollars) and raised permanently to a 40% rate in 2013. Our findings imply that the temporary phase-out of the U.S. estate tax in 2001-10 was not a good idea but that its reinstatement in 2011 (albeit at a lower rate) was a good idea.

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**Table 1: An International Comparison of the Strength of Bequest Motives (%)**

Country	Actual bequest motive	Potential bequest motive	Actual or potential bequest motive	Number of observations
China	52.66	8.95	61.61	2227
India	92.29	3.24	95.54	1689
Japan	32.32	17.89	50.21	3131
United States	59.10	12.53	71.63	2203

Note: The figures show the proportion of respondents with an actual and/or potential bequest motive (in percent). Respondents planning to leave an inheritance to their children no matter what and those planning to leave an inheritance to their children under certain conditions were regarded as having an actual bequest motive, while respondents who want to leave an inheritance to their children but will not do so because they don't have the financial capacity to do so were regarded as having a potential bequest motive.

Source: The author's own calculations based on data from the Preference Parameter Survey of Osaka University.

**Table 2: An International Comparison of the Prevalence of Equal Bequest Division (%)**

Country	Equal division	Number of observations
China	70.27	728
India	82.22	1569
Japan	72.68	2200
United States	92.37	1573

Note: The figures show the proportion of respondents with two or more children who plan to divide their bequest equally among their children (in percent). The denominator excludes respondents with no children, those with only one child, those not planning to leave a bequest, and those not answering the questions about bequest division.

Source: The author's own calculations based on data from the Preference Parameter Survey of Osaka University.

**Table 3: An International Comparison of the Correlation between Transfer Receipts and Earned Income (ratios)**

Country	Bequests	Inter vivos transfers	Both	Number of observations
China (Urban)	1.230	1.217	1.222	1343
India	1.524	1.471	1.515	1689
Japan	1.173	1.180	1.192	3131
U.S.A.	1.366	1.311	1.354	2203

Note: The figures show the ratio of the average earned income of respondents receiving and/or expecting to receive each type of intergenerational transfer to the average earned income of respondents not receiving and not expecting to receive that type of transfer.

Source: The author's own calculations based on data from the Preference Parameter Survey of Osaka University.

**Table 4: An International Comparison of Gender Differences in Transfer Receipts (%)**

Country	Male respondents	Female respondents	Difference	Number of observations
China (Urban)	44.84	36.80	8.05	1343
India	14.40	10.24	4.15	1689
Japan	51.94	37.46	14.48	3131
United States	28.85	23.76	5.09	2203

Note: The figures show the proportion of respondents of each gender receiving and/or expecting to receive intergenerational transfers from their own parents (in percent).

Source: The author's own calculations based on data from the Preference Parameter Survey of Osaka University.

**Table 5: An International Comparison of the Impact of Transfer Receipts on Bequest Motives (%)**

Country	Respondents receiving and/or expecting to receive transfers	Respondents not receiving and not expecting to receive transfers	Difference	Number of observations
China (Urban)	58.74	57.20	1.54	1343
India	84.78	93.94	-9.16	1689
Japan	38.78	25.10	13.68	3131
U.S.A.	65.33	56.37	8.96	2203

Note: The figures show the proportion of respondents planning to leave a bequest broken down by whether or not they have received and/or expect to receive intergenerational transfers (in percent).

Source: The author's own calculations based on data from the Preference Parameter Survey of Osaka University.

**Table 6: An International Comparison of Inter-spousal Correlations in Transfer Receipts (%)**

	Respondents receiving and/or expecting to receive transfers from their own parents	Respondents not receiving and not expecting to receive transfers from their own parents	Difference	Number of observations
China (Urban)	65.72	12.99	52.73	1085
India	47.55	1.47	46.09	1345
Japan	34.14	18.99	15.15	2462
United States	40.71	8.43	32.28	1438

Note: The figures show the proportion of respondents receiving and/or expecting to receive inter-generational transfers from their spouse's parents broken down by whether or not they have received and/or expect to receive such transfers from their own parents (in percent). The denominator excludes respondents who are divorced, widowed, never married, or cohabiting.

Source: The author's own calculations based on data from the Preference Parameter Survey of Osaka University.

## Endnotes

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<sup>1</sup> These data are taken from <http://data.worldbank.org/data-catalog/world-development-indicators> (April 14, 2015, update).

<sup>2</sup> Piketty (2014) attributes the temporary equalizing trend during the 1930-95 period to some rather unique circumstances—namely, two World Wars, the Great Depression, and a debt-fueled recession that destroyed much wealth, particularly wealth owned by the relatively affluent.

<sup>3</sup> One exception is China, where household wealth disparities have been declining in recent years as more and more households reap the benefits of economic reforms (Ward (2014)).

<sup>4</sup> Note, however, that Chu (1991) also shows that although primogeniture will widen wealth disparities *within* families (among siblings), it may narrow wealth disparities *among* families if it enhances the chances of the eldest son being able to start a new business and become financially successful.

<sup>5</sup> The threshold amount is 100,000 yuan (2.60 times per capita GDP) in China, 500,000 rupees (6.19 times per capita GDP) in India, 5 million yen (1.34 times per capita GDP) in Japan, and 50,000 dollars (0.97 times per capita GDP) in the United States. Data on per capita GDP in local currency units were taken from the World Bank's World Development Indicators at <http://data.worldbank.org/indicator/NY.GDP.MKTP.CN> on May 22, 2014.

<sup>6</sup> More details about the survey can be found at: [http://www.iser.osaka-u.ac.jp/coe/journal/eng\\_panelsummary.html](http://www.iser.osaka-u.ac.jp/coe/journal/eng_panelsummary.html)

<sup>7</sup> These data were taken from <http://data.worldbank.org/indicator/SP.URB.TOTL.IN.ZS> on May 18, 2015.

<sup>8</sup> Note, however, that there are far fewer households with two or more children in China due to the one-child policy and other population control measures and therefore that the proportion of households planning to divide their bequests equally among their children is much lower in China as a proportion of the total population.

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<sup>9</sup> It should be noted, however, that the threshold amount in the questions regarding receipts of bequests and inter vivos transfers is much higher as a ratio of per capita GDP in India than in the other three countries and that the aforementioned income gap is much higher in India partly for this reason.

<sup>10</sup> This table suggests that the proportion of respondents receiving transfers is much lower across the board in India than in the other three countries, but this may be partly because the threshold amount in the question concerning receipts of bequests and inter vivos transfers is much higher in India than in the other three countries. Conversely, this table suggests that the proportion of respondents receiving transfers is relatively high across the board in China, but this may be partly due to the fact that the average number of children is much lower in China as a result of the one-child policy and other population measures, leading to fewer competitors for transfers.

<sup>11</sup> The high inter-spousal correlation in China is somewhat surprising, but one possible explanation is that it is due not to assortative mating but to the fact that husbands as well as wives are more likely to receive transfers because the average number of children is much lower in China due to the one-child policy and other population control measures.

<sup>12</sup> However, Klevmarcken (2004) finds that intergenerational transfers reduce household wealth disparities in Sweden, in part because estates are typically split among several heirs (children). This suggests that relatively equal bequest division may indeed have a significant impact on household wealth disparities.

<sup>13</sup> Piketty (2014) makes a similar proposal, arguing that a progressive annual global wealth tax of up to 2%, combined with a progressive income tax as high as 80%, is needed to reduce household wealth disparities.

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