The Impact of Demographic Change on Intergenerational Transfers via Bequests[*]

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BACKGROUND

Transfers in the form of bequests have important implications for the intergenerational transmission of inequality. Demographic change has relevant consequences for the timing and size of bequests. For example, longer life implies that people receive bequests when they are older. Conversely, increasing generational length reduces the average age at which people are given bequests.

OBJECTIVE

We analyze the consequences of demographic change in the United States for the timing over the life course when individuals receive an inheritance and for the size of bequests.

METHODS

We evaluate trends in life expectancy at the mean age at childbearing as a proxy for timing at receipt of bequests. We complement formal demographic analysis with

empirical estimates from the Panel Study of Income Dynamics (PSID) inheritance data for 1987-2010.

RESULTS

We find that the long-term trend of increasing age at receipt of bequests and of increasing size of per-capita bequests received might have stalled, mainly because of changes in the timing of fertility. In the long term, the upward trend in age at which people receive bequests may resume as the expected linear gains in life expectancy would more than counteract recent increases in the mean age at childbearing.

CONCLUSIONS

We showed that demographic change affects the size of bequests and the timing over the life course when people receive them. As the need for economic resources varies over the life cycle, changes in the timing at receipt of bequests may have a differential impact on wealth inequality and affect patterns of multigenerational transfers of resources.

1. INTRODUCTION

Intergenerational transfers in the form of bequests play an important role in the multigenerational transfer of wealth and income disparity. As such, it is necessary to grasp the patterns of the transmission of wealth across generations. Two important pieces, the size of inheritances and the timing at which they are received, help us to understand who will benefit most from bequests and to what degree. Examining demographic change in both fertility and life expectancy provides

relevant insights into both the timing and size of bequests over time. Longer life implies that people will receive bequests when they are older while increasing generational length suggests a reduction in the average age at which people are given bequests.

There are a number of factors that influence the giving and receiving of bequests as well as their significance in wealth accumulation and income disparity. Economic theory identifies and debates three motivating forces behind intergenerational monetary transfers: altruistic, strategic, and accidental (Hurd and Smith 2002). Demographic theory emphasizes the role of population age structure (Lee and Mason 2011, Sánchez-Romero, Ogawa, and Matsukura 2013). Bequests are also affected, in opposite directions, by factors such as increases in household wealth and shocks related to medical expenses (Hurd and Smith 2001).

Between 1989 and 2007, bequests accounted for approximately 40 percent of the wealth accumulated over the lifetime of the 30 percent of households who could expect an inheritance. At any given cross section during this time period, around 21 percent of households in the United States had received a bequest. While this percentage increases among wealthier households, inheritances may account for a larger proportion of the wealth of those in lower income brackets, suggesting that bequests may play an equalizing role in wealth inequality (Wolff 2002; Wolff and Gittelman 2011).

In this paper, we examine patterns of bequests from a demographic perspective. We use the methods of formal demography, and survey data from the Panel Study of Income Dynamics (PSID), to evaluate trends in the United States. Our results indicate that a long-term trend of increasing size of bequests and age at receiving inheritance might have stalled and may reverse in the near future. In the long term, the upward trend in the age at which people receive bequests is expected to resume.

2. DEMOGRAPHIC FORCES SHAPING TRENDS IN TRANSFERS VIA BEQUESTS

Two main demographic forces affect the age at which individuals, on average, receive bequests. Improvements in mortality, which can be summarized in terms of increases in life expectancy, tend to raise the age at which people experience the death of their parents, all else being constant. Conversely, fertility postponement increases the length of generations. All else being constant, later fertility means that parents of children of a given age tend be older over time. Thus, increases in the mean age at childbearing tend to reduce the age at parental death. When we consider increases in life expectancy and fertility postponement together, the net effect is ambiguous and depends on the relative strength of each of the two demographic drivers.

In order to understand the evolution of the average age at which people receive bequests, we use the tools of the formal demography of kinship (Goodman, Keyfitz, and Pullum 1974; Keyfitz and Caswell 2005). In particular, we consider the classic stable-population approximation for the probability that a girl of age a has a living mother:

$$M_1(a) = \frac{l(\mu+a)}{l(\mu)} \qquad\qquad (1)$$

In equation 1, we use the same notation as the one in Keyfitz and Caswell (2005). The subscript 1 in $M_1(a)$ refers to generations. In this case, the expression refers to the probability of having a living mother (one generation before the child). If the subscript were equal to 2, then the expression would refer to the probability of having a living grandmother (two generations before the child), etc. μ is the mean age at childbearing and $l(x)$ is the survival probability to age x. $l(\mu+a)$ is the probability that the mother will survive a years past the mean age at childbearing. Conditional on child survival, $M_1(a)$ can be thought of as a survival probability in a life table: it has to be equal to 1 when a is equal to zero (the mother is alive when she gives birth) and goes monotonically to zero. Therefore, the mean age at mother's death, conditional on child survival, is the area under the $M_1(a)$ curve. In other words, it is the life expectancy at the mean age at childbearing.

We used estimates and projections of life expectancy and mean age at childbearing from the United Nations World Population Prospects, the 2012 Revision, to evaluate trends in life expectancy at the mean age at childbearing in the United States.
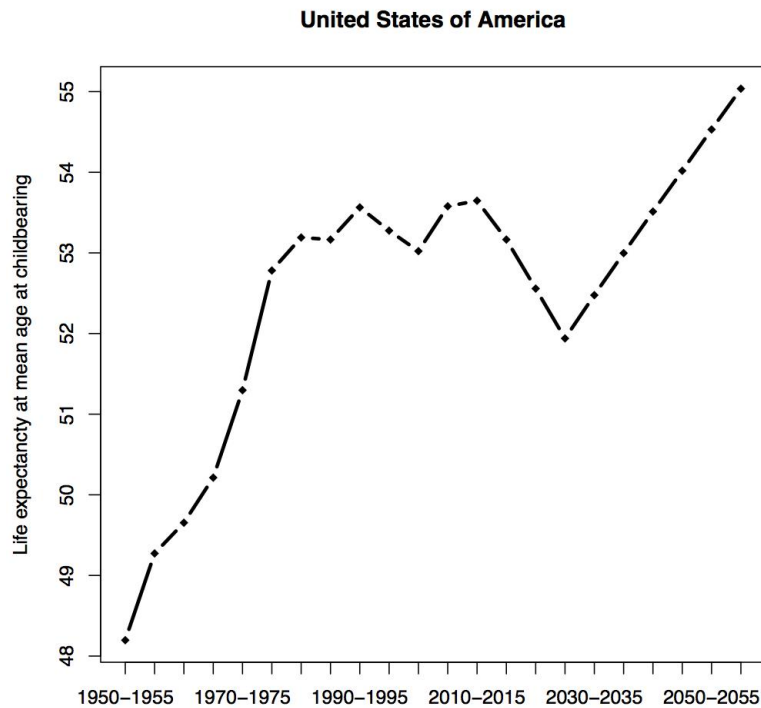
United States of America

Figure 1: Estimates and projections of life expectancy at mean age at childbearing for the U.S.A. Source: own elaborations on data from the United Nations World Population Prospects, the 2012 Revision.

Figure 1 shows that e_μ, the life expectancy at the mean age at childbearing, increased rapidly between the 1950s and the early 1990s. During that period, the mean age at childbearing in the U.S. fluctuated in the range between 26 and 26.5 years. At the same time, life expectancy for women between 25 and 30 years old increased by more than 5 years, driving the upward trend for life expectancy at the mean age at

childbearing. After the early 1990s, life expectancy continued to increase linearly and the trend is expected to persist in the next few decades. The mean age at childbearing, which is currently between 28 and 29 years, is expected to rise even further, up to age 32, according to UN projections. The rapid increase in generational length more than counteracted improvements in life expectancy. Thus, the trend of increasing life expectancy at the mean age at childbearing has come to a halt and is expected to reverse in the near future. The UN Population Division projects that the mean age at childbearing will not exceed 32 years in the future. Therefore, after the mean age at childbearing will stabilize, continued linear gains in longevity will increase life expectancy at the mean age at childbearing again.

The total fertility rate, which can be thought of as a proxy for family size, affects the amount of economic resources that individuals inherit. Large families imply that several people share inheritances, making the size that each individual receives relatively smaller. Reductions in fertility, when considered independently of other factors, would result in a relative increase in the size of inheritances. As fertility has decreased from about 3 children per woman in the 1950s to the current level of about 2 children per woman, we would expect that demographic change has had a positive impact on per-capita size of bequests received.

3. EMPIRICAL EVIDENCE FROM THE PANEL STUDY OF INCOME DYNAMICS

In order to estimate changes in the age at which bequests are received as well as their size, we use data from the Panel Study of Income Dynamics (PSID 2013). The PSID is a longitudinal study of individuals and families in the United States. Data collection began in 1968 with a nationally representative sample of 18,000 participants representing 5,000 families. They and their descendants have continued to be interviewed annually and biennially since this time.

The initial 1968 sample was comprised of an equal probability sample of households from the Survey Research Center 1960 sample and a sample of low-income families selected in 1967 by the Bureau of the Census for the Office of Economic Opportunity's Survey of Economic Opportunity (SEO). In 1997, the total number of PSID households reached 10,000. Due to budget constraints, approximately two-thirds of the SEO sample was dropped. As such, weights were developed in 1968 to account for inconsistencies in the selection of the original sample and later adjusted for sample reduction and attrition. In this study, individual longitudinal weights are applied to each respondent for each respective year. Zero weights are assigned to three classes of participants: adult participants who joined the PSID by way of marriage or co-residency, children of non-sample adults who are unrelated to participants of the original sample, and members of the 1990 PSID Latino sample (Gouskova et al. 2008).

The PSID provides data on inheritances for the period between 1988-2011 (biennially between 1997 and 2011). Heads of household were asked to report the amount of any bequests received by members of their household during the previous year. As such, our estimates are calculated using inheritance data reported by heads of household for the period between1987 and 2010. The subsample of heads of household who received bequests between 1987 and 2010 is 253. Our sample includes 192 men and 57 women. The head of household is assumed to be the recipient of the bequest as inheritance data were provided by the head on behalf of the entire household. As such, we estimate trends in mean age at bequest receipt by subtracting one year from the household head's age to account for the one year lapse in the inheritance reporting period. Bequest values are adjusted for inflation based upon the 2010 Consumer Price Index.

3.1 RECENT TRENDS IN AGE OF BEQUEST RECIPIENTS

Figure 2 displays the mean age at which heads of household report receiving bequests, by gender and over time. The size of each data point is proportional to the relative number of observations available. 95% confidence intervals are included for female- and male-headed household estimates. We observe a general increase in the mean age at which bequests were received between 1987 and 2006 and a slight decrease in average age in 2008-2010. This pattern holds for both male- and female-headed households and we see minimal gender difference in age at bequest receipt. The average age at which female heads of household report receiving bequests is

slightly younger than for male heads of household at all years, except in 2004-2006 when mean age peaks for female-headed households at 46.5 years and for male-headed households at 44.7.
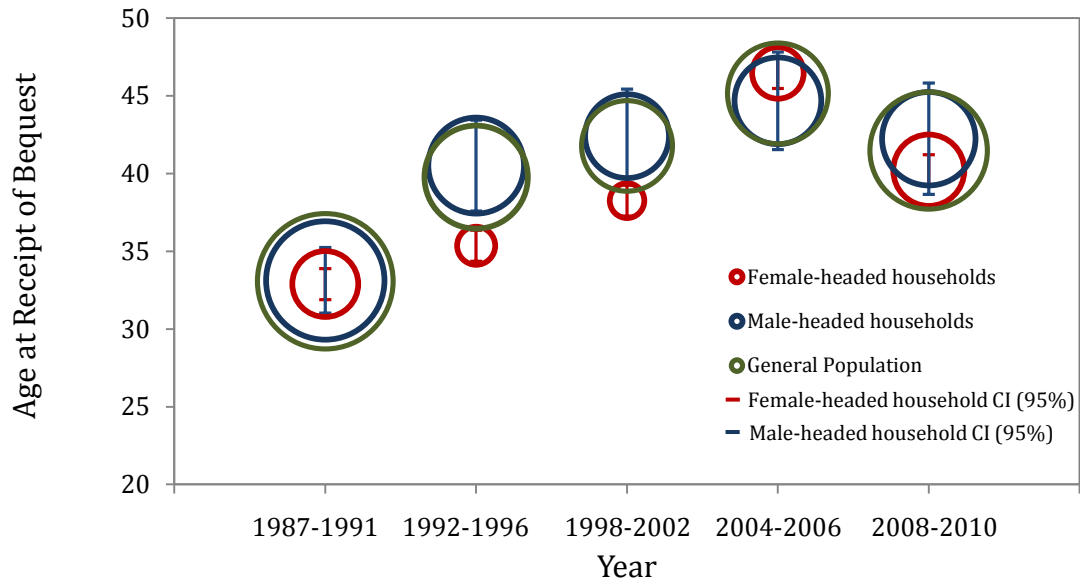
Note: General population (N=253); Female-headed households (N=61); Male-headed households (N=192)

Figure 2: Mean age at receipt of bequests by year and gender (N=253). Note: Size of data points is proportional to the percentage of heads of household who report receiving bequests. Source: own elaborations on PSID data.

The empirical evidence from the Panel Study of Income Dynamics mirrors the expected trends that we predicted using formal demographic tools. The sample size is relatively small and the confidence intervals are fairly wide. Therefore, results should be interpreted with caution. However, we showed some evidence that over the past decade increases in the mean age at childbearing may have more than

counteracted improvements in life expectancy, thus reversing the trends of

increasing age at receipt of bequests.

3.2 RECENT TRENDS IN SIZE OF BEQUESTS

In figure 3, we show the mean size of bequests received, by gender and over time.

The results are displayed for the years 1987 through 2010. The data show a general

increase in the size of per-capita bequests received between 1987 and 2006,

aligning with a decrease in the total fertility rate in the United States. Between 2008

and 2010, however, we see a slight decrease in bequest size, suggesting a potential

reversal in this trend. It is important to note that many economic factors, including

saving rates and patterns of wealth accumulation influence the size of bequests.

Therefore, the interpretation of the importance of demographic factors for the size

of bequests is not as straightforward as the one for the age at which people receive

bequests.

In terms of gender, male-headed households closely follow the trajectory of the

general population whereas female-headed households do not display a discernible

pattern in the size of bequests received over time. The mean bequest amount starts

at similar levels for both males ($16,969.47) and females ($19,793.30) in 1987-

1991 with female-headed households receiving slightly larger bequests than their

male counterparts. After 1991, the gender disparity in size of bequests received

widens in favor of male-headed households. While both groups peak in 2004-2006,

the average bequest size received by male-headed households is nearly 2.5 times greater than that received by female-headed households.
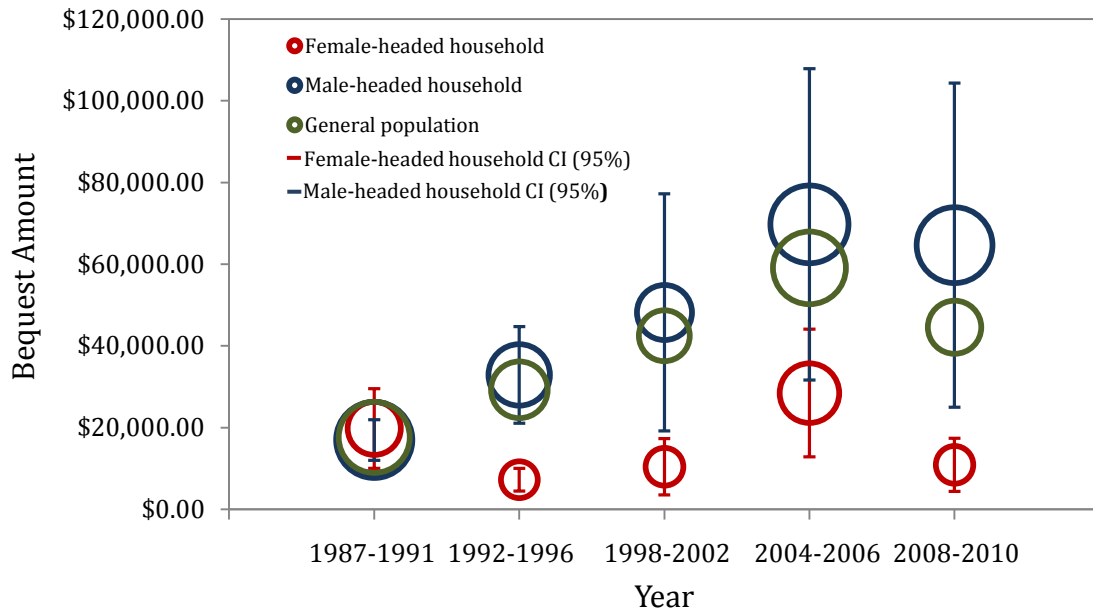
Note: General population (N=253); Female-headed households (N=61); Male-headed households (N=192)

Figure 3: Mean size of bequests by year and gender (N=253). Note: Size of data points is proportional to the percentage of heads of household who report receiving bequests. Results are expressed in constant-dollar values for 2010. Source: own elaborations of PSID data.

4. CONCLUSIONS

Using formal demographic methods and data from the Panel Study of Income Dynamics, this paper explores how changes in fertility, life expectancy, and mean age at childbearing relate to the size of bequests in the United States and the profile of their recipients. Our findings suggest that the long-term trend of increasing age at

receipt of bequests has stalled. The age at which people receive bequests has been increasing as a result of improvements in life expectancy during a period of relatively stable mean age at childbearing. However, fertility postponement has more than counteracted recent gains in life expectancy.

The size of per-capita bequests received has been increasing. One possibility is that this trend reflects less diffusion of funds among siblings and relatively higher proportions of people who reach ages characterized by higher risk of death. Our analysis suggests that there may have been a recent change in this trend, with both the size of inheritances and the age at receiving bequests declining. Whether this is a temporary fluctuation or the onset of a new trajectory will be an important topic of future analyses with larger samples and complementary methods. In the longer term, other factors, such as increased life expectancy at mean age at childbearing and, potentially, increased concentration of wealth in those age groups that are close to death, may potentially generate relative increases in the size of bequests and in the age at receiving bequests. Long-term trends will depend on a number of economic factors, such as growth, savings rates and wealth accumulation. In this article, we showed how a simple demographic model offers relevant insights and predictive power regarding trends in intergenerational transfers in the form of bequests. More complex models that include interactions of demographic factors and economic variables may provide additional information and include several future scenarios (see, for instance, Sánchez-Romero, Ogawa, and Matsukura 2013).

We believe that the analysis that we presented contributes to improving our understanding of some of the mechanisms behind multigenerational transmission of inequality. In particular, we hypothesize that, as people receive bequests later and later in their life course, the wealth that they receive may become less and less relevant for themselves, but increasingly important for their children, who are at a stage of their life cycle that may require a relatively large amount of economic resources. In other words, grandchildren at childbearing age may potentially be the ones who indirectly benefit the most from bequests. We did not test this hypothesis empirically, but future work may address it explicitly.

For this article, we focused on the United States and we considered trends in averages. Similar methods, data, and analyses could be used to gain insights on the implications of global demographic trends in a comparative perspective. We expect future research to analyze trends for a large number of countries. We also believe that the evaluation of population heterogeneity for multigenerational transfers of resources is an important aspect that will need further investigation. We looked into differences in patterns for male-headed and female-headed households. Additional important elements of heterogeneity potentially include measures of wealth, educational attainment and proxies for socio-economic status.

In our article, we showed descriptive statistics and proposed a simple model to understand some of the demographic mechanisms behind observed trends. Our work is intended to stimulate further analyses of the relationships between

bequests and demographic change. First, more data could be analyzed to evaluate the robustness of our empirical findings. For instance, relevant information could be extracted from the Health and Retirement Survey for the US, and from the Generations and Gender Survey for other countries. Second, the theoretical model could be extended to include the possibility of repeated inheritance events over the life course, differential mortality by sex and transfers to spouses and step kin. We believe that the combination of empirical data and demographic microsimulation may offer important insights on the complex dynamics of demographic change and patterns of transfers in the form of bequests.

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