The Motives for Bequests: Empirical Facts and Life-cycle Implications*

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Abstract

We document four novel behavioral facts on people's subjective expectations and preferences toward bequests using multiple sources of survey data that trace back as far as thirty years. (1) People overestimate the likelihood of leaving an inheritance and its size. (2) People's subjective preference toward leaving bequests is U-shaped over the life cycle. (3) Bequests are subjectively more important for wealthier individuals. (4) Bequest preferences are larger for stock owners particularly those who experience high returns during their lifetime. These facts are crucial to models of inter-temporal economic choice which have largely treated the bequest motive as an afterthought or a modeling convenience. Finally, we explore the implications of these stylized facts on wealth accumulation and portfolio choice in the context of a canonical life-cycle model with precautionary savings.

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1 Introduction

A large class of economic models study the trade-offs that individuals make across time. Such "life-cycle models" help understand patterns of consumption, savings, portfolio choice, debt decisions, and human capital allocation at different ages. These models often include ingredients of decision-making such as individuals' risk tolerance (Gomes and Michaelides, 2005), their subjective discount factor (Laibson, 1997), and subjective beliefs about survival (Heimer et al., 2019). They also tend to incorporate preferences over leaving an inheritance to subsequent generations termed a *bequest motive*.

Understanding individuals' bequest motives is crucially important in light of our aging population, the concentration of wealth in older generations (Chetty et al., 2014), and the inevitability of death. According to estimates, inheritances account for at least 25% of individuals' wealth after parental death and bequests may increase absolute wealth inequality (Charles and Hurst, 2003; Boserup et al., 2016; Fagereng et al., 2021).

However, despite countless applications of bequest motives in life-cycle models, the literature often treats the bequest motive as an afterthought. Recent papers, when they incorporate a bequest motive, often merely follow the choices made by previous literature. For instance, Bommier et al. (2020) states, "There is no consensus on the formulation of v (known as a 'warm-glow' bequest function), but the form we have chosen is the same as in Cocco et al. (2005), Inkmann et al. (2011) and Yogo (2016)." The practice of justifying choices to model bequests by citing prior research extends back to at least Love (2013), which says: "When the [bequest] motive is operational, I follow Gomes and Michaelides (2005) and set the bequest parameter b = 2.5."

One must look even further back in the literature to find a non-referential discussion of modeling the bequest motive. For instance, Gomes and Michaelides (2005) states, "The importance of the bequest motive (b) is set at 2.5 ... this parameter choice is motivated by the desire to match the wealth accumulation profiles observed in the data." Notably, even the Gomes and Michaelides (2005) method of calibrating the bequest motive is less than ideal because individuals' ex-post outcomes—their accumulated wealth—determine the parameter choice. However, in a life-cycle model, as perhaps in real life, the bequest

motive affects economic decision-making at each point in time of the life-cycle by looking ahead toward expected wealth accumulation and desired levels of giving.

Nonetheless, the bequest motive has large effects on the decisions made by the model's representative agent, and consequently, the conclusions that can be drawn from the model. Consider a simplified version of a life-cycle model where the agent chooses consumption and a portfolio allocation.[1] The agent has an uncertain income stream until retirement and accumulates wealth in order to consume post-retirement. Figure 1 compares the solution to the model when the agent has no bequest motive to the solution when the agent has a bequest "importance parameter" equal to 2.5, a common choice in the literature. The agent with the bequest motive has a noticeably different lifetime consumption profile, they accumulate $22,803 more wealth at retirement age, and an average of 9.3% lower portfolio allocation to stocks over all ages.

In this paper, our objective is to catalog a set of empirical facts about bequest motives that can be useful to the life-cycle literature and the broader literature on inter-generational wealth transfers. These stylized facts can serve as benchmarks to assess the predictions of such models and help formulate a more realistic modeling of the bequest motive. To do so, we turn to data from workhorse household surveys that have been available for as many as thirty years, namely the Survey of Consumer Finances (SCF) and the Health and Retirement Survey (HRS). These household surveys contain questions on expectations and preferences for bequests that the literature has long underutilized.

We start by studying the expectations of leaving an inheritance. We find that individuals significantly overestimate their likelihood of leaving an inheritance. Using data from the HRS, almost 60% of individual respondents expect to leave an inheritance. However, approximately 55% actually leave an inheritance that has a non-zero dollar value. We find that this overestimation occurs across the distribution of household wealth. For instance, approximately 56% of people expect to leave at least ten thousand dollars but just around 40% actually do. Even individuals who expect to leave at least $100,000 or $500,000 are less likely to actually do so. These findings suggest that individuals have imperfect foresight over their late-in-life consumption and savings behavior. As such, the represen-

[1] Appendix AI contains a detailed description of the model.

tative agent in a model with realistic bequest motives would assign a higher probability of leaving an inheritance than is actually realized.

Our next set of findings use thirty years of data from the SCF. Specifically, the SCF asks respondents how important it is to leave an inheritance. We interpret this question as similar to the bequest "importance" parameter in the warm-glow utility function frequently used in life-cycle models. Though we have no way of directly mapping the categorical question in the SCF to a specific parameter value, such as 2.5, we can describe the cross-sectional and time-series properties of subjective bequest importance.

In the SCF data, we first find that the subjective importance of leaving bequests is U-shaped over the life-cycle. Bequests are subjectively least important for people around the age of sixty. We suspect that the U-shape relates to the age and dependency of an individual's progeny. For example, a 60-year-old respondent might have a 35-year-old heir. The 35-year-old is in prime earnings years and has less need for an inheritance. Consistent with this rationale, Boar (2021) shows that parents accumulate savings to insure their children against income risk. In relation to life-cycle modeling, the bequest motive is always treated as static over the course of the life-cycle. However, our findings suggest that the importance of bequests should be time-dependent.

We also use the SCF to explore the relationship between bequest motives and stock market participation. We find that the subjective importance of leaving bequests is approximately 13% greater for stock owners than for people who do not own stocks. This relationship holds even after controlling for individuals' total net worth. Moreover, the relationship between bequest importance and stock ownership is concentrated among individuals who are at least sixty years old.

To further study the relationship between subjective bequest importance and the stock market, we estimate the effects of experienced stock market returns. We follow the approach of Malmendier and Nagel (2011) and estimate weighted regressions of the stock market returns experienced over the course of an individual's life. The regression methodology allows recent observations and those earlier in life to carry different weights in influencing current subjective bequest importance. Because the regressions control for year and age effects, the variation is based on cross-sectional differences in experienced returns and therefore offers a credible claim to identifying causal effects. Indeed, we find

that larger experienced returns increase the subjective importance of leaving bequests. Individuals place more weight on recent stock market performance. We suspect that our results are evidence that windfalls increase individuals' benevolence and their preference to contribute to subsequent generations.

The positive relationship between subjective bequest importance and the stock market is relevant in the context of modeling bequests. Life-cycle models often include a portfolio allocation to a risky asset that is parameterized using the historical risk and return properties of the market equity portfolio. Individuals who experience periods of high stock market returns could be modeled to have larger bequest motives.

Our fourth finding is on the relationship between subjective bequest importance and personal wealth. The literature often models bequests as a luxury good in order to match the distribution of late-in-life savings and overall wealth inequality (see e.g., De Nardi, 2004; Straub, 2021). In such papers, households that have a bequest motive and high lifetime incomes choose a higher saving rate, accumulate large estates, and keep a significant amount of assets even at advanced ages. These households are likely to leave large bequests upon death. While these papers rationalize their bequest modeling choice by showing that it does a good job of fitting the data, no papers verify this assumption by directly asking whether wealthy households have a larger bequest motive.

To this end, we document a positive relationship between personal wealth and subjective bequest importance. The difference is especially pronounced at the top of the wealth distribution. For instance, 70% of SCF respondents in the top decile of net worth say that bequests are important. This compares to the approximately 50% of respondents at the median decile of net worth. The positive relationship holds even after controlling for a large set of demographic and health-related control variables. These findings provide evidence that bequests indeed are a luxury good that is most valued by wealthier individuals, which is a crucial assumption made by certain life-cycle models.

Finally, we consider the implications of these stylized facts in the context of a canonical life-cycle model with precautionary savings. Specifically, we consider modifications of the bequest motive that might make the model more realistic by incorporating the empirical properties of bequest preferences that we document. We compare the results of

the model simulation to a baseline version that uses a "standard" bequest function and parameterization.

Our first attempt modifies a standard bequest functional form by allowing the strength of the bequest parameter to have a U-shape over the life cycle. In this modification, because the agent also has a strong bequest motive in their younger years and the agent is forward-looking, they accumulate significantly more wealth than in the benchmark model. The second modification adjusts the bequest motive so that it is stronger when the agent owns stocks. Surprisingly, this results in less overall wealth accumulation—the agent saves more when young and they own more stocks, and then because they are risk averse, they quickly rebalance their portfolio to have a greater allocation to the safe asset, which results in less overall wealth accumulation.

Related Literature

Several papers find that the assets of the elderly decrease slowly if at all. And, many people die with significant housing equity and liquid assets (Dynan et al., 2004; De Nardi et al., 2010). These puzzling findings on the savings behavior of the elderly have motivated researchers to incorporate a bequest motive into the life-cycle modeling paradigm. The representative agent in a strict form of the life-cycle model has perfect foresight. As such, the agent knows when they are going to die and has zero savings at the time of death. Even if the representative agent had an uncertain lifespan they would draw down their assets considerably post-retirement. The inconsistency between the model predictions and the real-world data can be addressed by incorporating a bequest motive.

Significant works propose theories of bequests to explain the amount of savings that people carry late into life. Becker suggests an altruistic motive—parents care about the well-being of their progeny. Other papers propose that parents promise bequests to influence the behavior of their beneficiaries (Bernheim et al., 1985; Cox, 1987; Groneck, 2017). However, early studies found scant evidence in support of bequest motives. Assuming that bequest motives are stronger for those with children, Hurd (1987) disputes the importance of bequest motives by showing that people with children deaccumulate wealth faster than those without children. Hurd (1989) also argues that bequest motives are eco-

nomically trivial in the context of a calibrated life-cycle model. Recent work lends support for a bequest motive, particularly among wealthier individuals (Ameriks et al., 2011; Koijen et al., 2016; Lockwood, 2018). De Nardi (2004) finds that an overlapping generations model that includes a bequest motive does a better job of matching the distribution of wealth accumulation.

Most closely related to our work, Kvaerner (2022) also notes that the literature contains insufficient insight into individuals' bequest motives. As such, Kvaerner (2022) examines the impact of unexpected health shocks on individuals' consumption and savings behavior to gauge the size of bequest motives. He uses the empirical estimates of financial adjustments caused by health shocks to estimate the strength of the bequest parameter in a canonical model. He finds that bequest motives are substantial for the wealthier portion of the population. Our paper also finds that wealthier individuals have larger subjective bequest motives. However, while Kvaerner (2022) estimates the bequest parameter by using a literature-standard functional form for the bequest motive, our study proposes several realistic features of bequest motives that future modeling efforts should take into account.

More broadly, our paper relates to current literature striving to improve the realism of the workhorse life-cycle model. Such papers often break from the rational expectations paradigm by incorporating into the model subjective beliefs as opposed to objective probabilities (see the survey by Koşar and O'Dea, 2023). For example, several papers study the effects of subjective beliefs about survival in the context of a life-cycle model (Wu et al., 2015; Groneck et al., 2016; Heimer et al., 2019; Caliendo et al., 2020; O'Dea and Sturrock, 2021). Caliendo et al. (2023) and An and Sachdeva (2022) consider subjective beliefs about retirement dates. Briggs et al. (2023) studies beliefs about non-payment risk in long-term care insurance products. Our paper builds on this strand of research by identifying a set of subjective preferences toward bequests that life-cycle models should take into account.

2 Data

2.1 The Health and Retirement Survey

Our first data set is the HRS, which is a longitudinal survey focusing on older age populations in the United States. The data provides comprehensive information on socioeconomic status, family relationships, health indicators, and labor market participation. The study began with an initial cohort in 1992, comprising individuals born in 1923 or earlier. Subsequently, four additional cohorts were included to create a representative sample of elderly individuals nationwide. Generally, the survey is conducted biennially. The HRS includes both a "core" survey and an exit interview survey. The exit interview is a follow-up survey that the HRS administers after the death of its sample respondents.

Our analysis utilizes HRS data from nine exit interview waves conducted between 2002 and 2018. We use data from the exit interview on inheritances that include five specific components: (1) primary and secondary homes, (2) liquid assets, (3) life insurance, (4) estates in trust, and (5) inter vivos transfers shortly before death. Participants are asked questions regarding the value of each component and the intended recipient of the transfer. We follow Groneck (2017) to calculate the value of inheritances. If one of the children is designated as the recipient, the corresponding value is added to the related parent's total bequest amount. When no specific bequest is left, we assign a value of zero. For cases where the exact value is not provided, we utilize questions regarding a range of amounts to calculate the mean values of bequests.

We also explore respondents' subjective expectations of leaving an inheritance, which we obtain from the core interviews. We then match these responses with the HRS exit survey data using respondents' IDs. For participants who take part in multiple survey waves, we use responses from the final wave to determine their intention of leaving inheritances. Since the last survey wave is closest to the time of death, it indicates the respondents' willingness to leave inheritances before passing away. By combining these two datasets, we can analyze the relationship between their bequest behaviors and demographic characteristics. After merging the HRS core survey data with the exit survey data using the personal ID, our data sample contains 7,750 unique individuals.

Table 1 presents the summary statistics for our sample of HRS respondents. The first two sets of variables, whether to leave an inheritance and chances of leaving an inheritance, are of primary interest to our research. In our sample, 54.45% of respondents leave an inheritance of positive value, 40.63% leave bequests above $10,000, 25.86% bequeath more than $100,000, and 8.61% leave bequests surpassing $500,000. To examine potential differences between expected and actual bequest behavior, we also classify actual bequest behaviors into four categories based on the same bequest amount (any, 10k, 100k, and 500k) and construct a set of variables about the chances of leaving an inheritance.

We obtained respondents' surveyed expectations of leaving an inheritance from the HRS core survey questionnaire. Respondents are asked about their probability of leaving bequests of various amounts (any, 10k, 100k, and 500k) to their children when they are alive on a scale from 0 to 100. On average, respondents have a 60.34% probability of leaving bequests, a 56.22% probability of leaving bequests over $10,000, a 33.82% probability of leaving bequests over $100,000, and only a 12.54% probability of bequeathing more than $100,000. Overall, as the amount rises, the proportion to leave bequests and the perceived probability of leaving bequests over $10,000, $100,000, or $500,000 to heirs declines, and the chances of leaving bequests tends to be larger than the actual share of respondents that leave inheritances of a given value.

The third and fourth sets of variables comprise the bequest value and components of bequest value, including home value, liquid asset value, insurance value, trust value, and inter vivo transfers. The average total bequest value is around $185k, with the largest components being trust value, liquid asset value, and home value, whose mean values are $92,686, $46,861, and $41,113, respectively. The table also displays the corresponding likelihood of leaving a positive-valued bequest of a given type. We find that approximately 55% of respondents leave any bequests, 26% leave home bequests, 22% leave inter vivo transfers, 16% leave liquid asset bequests, 12% leave trust bequests, and 8% leave insurance bequests.

Figure 2 displays the distribution of bequest values. The graph highlights that within the surveyed group, 46% of respondents leave no bequest. Conditional on individuals who leave bequests, approximately 20% of respondents leave bequests below $8,000. In the top 10 percentile segments, there is a substantial increase in the average value, ranging from

$800,000 to $10,000,000. These findings indicate significant variation in bequest values among respondents, reflecting notable disparities in bequest outcomes and a significant fat tail.

Additionally, we conduct separate analyses of the five components of the bequests: primary and secondary homes, liquid assets, life insurance, estates in trust, and inter vivos transfers shortly before death. Figure A3 in the Appendix presents the distributions for each component.

2.2 Survey of Consumer Finances

The second household-level dataset used in our study is the Survey of Consumer Finances (SCF). The SCF is a comprehensive survey conducted by the Board of Governors of the Federal Reserve System every three years. The SCF contains the most comprehensive accounting of household assets and liabilities for a representative sample of U.S. households. The SCF is a repeated cross-section that extends back to 1989, with the 2019 survey being the most recent vintage in our analysis.

Table 2 presents summary statistics for variables used in our study. The first set of variables includes information on the bequest. In the above, We have constructed a discrete variable, "bequest_importance", to represent how important the respondent thinks it is to leave an inheritance to their surviving heirs. This variable ranges from 1 to 5, with a lower value indicating a higher degree of importance (1 indicating very important and 5 indicating not important).[2] According to "bequest_importance", we build a dummy variable, "bequest_dummy", which is equal to 1 if "bequest_importance" answer takes the value of 1 or 2, equal to 0 if the "bequest_importance" answer is 4 or 5. Approximately 56% of respondents view bequests as of great importance, consistent with the high proportion of respondents who expect to leave bequests in the HRS data. The SCF also contains a question on respondents' intentions of leaving an inheritance. The variable "bequest_intention" captures respondents' intentions to leave an inheritance. The value is 1 when the answer to this question is yes, 3 when it is possible, and 5 when it is no. The mean value of 3.07 suggests that, on average, respondents' bequest intentions are around possible.

[2] "bequest_importance" takes the value of 3 when the respondent and spouse hold different opinions.

The second set of variables shows the demographic characteristics of respondents, such as whether the respondent has children ("children", a dummy variable that takes the value of 1 if the respondent has children and 0 otherwise), the age of the respondent ("age"), the marital status of the respondent ("marital status", a dummy variable that takes the value of 1 if the respondent has a legal spouse and 0 otherwise), self-reported health status ("health status", ranging from 1 to 4, indicating excellent, good, fair, and poor, respectively), the expected longevity ("longevity_exp"). Additionally, "smoke" and "spouse_smoke" are included, representing whether the respondent or respondent's spouse currently smokes, respectively, taking the value of 1 if yes and 5 otherwise.

The final set of variables captures the finances of the respondents. The variable "stkprt" is a binary variable, taking the value of 1 if the respondent owns stocks and 0 otherwise. The variable "networth" represents the net worth of the respondent, calculated using the debt and asset variables available in our Summary Extract Dataset.

3 Bequest Expectations

We begin our analysis by studying individuals' expectations of leaving an inheritance. Figure 3 illustrates the faction of respondents who actually leave inheritances above a certain amount and those who expect to do so. More than 50% of the surveyed respondents leave inheritances, with 40% of the respondents leaving amounts exceeding $10,000. A noteworthy portion of respondents leave relatively substantial inheritances, as over 20% of the respondents leave amounts surpassing $100,000, and close to 10% of the respondents leave inheritances exceeding $500,000. Figure 3 highlights the difference between the actual inheritances left by the surveyed respondents and their expectations of leaving inheritances while they were alive. We find persistent differences between expected and actual inheritances across the full range of dollar-value thresholds. Around 60% of the participants express their intention to leave inheritances, indicating that the majority still consider leaving inheritances to be highly important. Furthermore, over 50% of respondents express their intention to leave inheritances exceeding $10,000, which is greater than 10 percentage points larger than the fraction of respondents that leave inheritances that

size. Similarly, the proportion of respondents indicating the intention to leave $100,000 and $500,000 in the survey is around 5% higher than the corresponding actual behavior.

Confirming that the survey responses are sensible, both the actual likelihood of leaving inheritances and the respondents' expectations of doing so gradually decrease as the size of the inheritance increases. We observe persistent differences between expectations and outcomes at each dollar-value level of bequests, indicating a prevailing inclination among individuals to overestimate the likelihood of leaving behind any inheritances. This overestimation of the possibility of bequeathing assets may stem from individuals overestimating their future retirement income or underestimating their future retirement expenses. For instance, older adults may be prone to overestimating their health condition, leading to an underestimation of their future healthcare costs.[3]

Though we find that individuals consistently overestimate the likelihood of leaving an inheritance, even very large inheritances, the finding might be the result of respondents having a poor understanding of probabilities or their finances. To explore this explanation, we study these overly optimistic expectations across the educational and wealth distribution.

Interestingly, we find that both education and wealth levels correlate positively with leaving an inheritance and the propensity to overestimate the likelihood of leaving an inheritance (Figures A1 and A2). First, the overestimation is particularly pronounced for individuals with at least twelve years of schooling. Since education levels likely correlate with an understanding of probabilities, difficulty in answering probabilistic survey questions is unlikely to explain the results.[4] Second, the overestimation is confined to individuals in the top half of the wealth distribution. This finding suggests that people in the lower half of the wealth distribution, who presumably have less to bequeath, know that they are unlikely to leave an inheritance. On the other hand, people who have modest to large amounts of wealth appear to overestimate both whether they will leave an inheritance and how large it is going to be.

[3]Several papers document that the survival rate is overestimated by the elderly (e.g., Heimer et al., 2019).

[4]Relatedly, Yin and Zhang (2022) finds that an additional year of schooling has a positive effect on the probability of giving transfers in old age.

4 Bequest Preferences

In this section, we examine respondents' preferences toward leaving an inheritance. Specifically, our analysis employs thirty years of survey responses from the SCF. Most crucial for our analysis, the SCF asks respondents how important it is to leave an inheritance. Respondents are asked to answer one of four categorical values for the level of importance, from not at all important to very important. Because the responses are categorical, we have no way of mapping them to numerical values. Nonetheless, we interpret this question as similar to the bequest "importance" parameter in the warm-glow utility function frequently used in life-cycle models. For our purposes, the limitations of the question design with respect to mapping answers to theory are offset by the richness of the data, especially the very long sample period.

Figure 4 presents the distribution of respondents' views on the subjective importance of leaving an inheritance. The majority of participants believe that leaving an inheritance is at least somewhat important. Approximately 27% say that leaving an inheritance is somewhat important, 28% say that it is important. amd approximately 24% consider inheritances to be very important. Meanwhile, only 16% of respondents believe that inheritance is not important. The SCF also indicates whether individuals have a different perspective on inheritances relative to their household partners. Very few partners disagree with one another. These results indicate the significance of leaving an inheritance is widely acknowledged by the majority of individuals, which generally supports the focus on bequest motives in the context of the life-cycle financial decision-making literature.

Our findings from the SCF also segue with our findings from the HRS data. In the HRS data, we find that almost 60% of individual respondents expect to leave an inheritance, which could indicate that respondents think that it is important to leave an inheritance (we are unable to rule out the possibility that responses are influenced by motivated reasoning). Moreover, Kopczuk and Lupton (2007) uses a structural life-cycle model to find that roughly three-fourths of the elderly single population have a bequest motive, which is consistent with the survey results from the SCF that we document.

Next, we explore how the presence of heirs affects the subjective preference toward leaving bequests. The relation to heirs is important because of the well-known finding

that old-age individuals with and without progeny have similar dissaving rates, which is interpreted as evidence against the importance of bequest motives (Hurd, 1987). Moreover, the presence of heirs might bias survey responses toward stating that bequests are more important. The SCF survey responses could be affected by motivated reasoning—people perceive bequests as more important precisely because they have heirs. Or, social desirability bias might influence the survey responses—respondents are expected to believe in the importance of bequests because they have revealed their parental status to the survey-taker.

Panel B of Figure 4 presents the bequest preferences of respondents in two different groups: respondents with heirs and those without heirs. We find that even respondents without heirs believe it is important to leave an inheritance. As few as a quarter of respondents without heirs say that leaving an inheritance is not important. Nonetheless, respondents with heirs assign a larger subjective importance to bequests than respondents without an heir. Combined, these findings offer comfort in the validity of the survey responses. As we would expect, respondents without heirs have a less subjective preference toward bequests than those that do have heirs. At the same time, respondents without heirs do not completely disregard the importance of bequests, which is consistent with the empirical finding in Hurd (1987) that people without heirs behave as though they care about giving to subsequent generations.

Next, we explore the underlying determinants of subjective bequest preferences in the following analysis.

4.1 Bequest Preferences over the life-cycle

We begin by studying how bequest preferences vary over people's lifetimes. To simplify the presentation of our analysis, we transform the bequest importance variable in the SCF into a dummy variable for whether or not the respondent views bequest motives as highly important. Specifically, we set the variable $bequest_dummy$ equal to one if the respondent answers that leaving an inheritance is either important or very important, and equal to zero if their answer is either somewhat important or not important.

Moreover, in the subsequent analysis, we present results on the relationship between age and bequest preferences after controlling for other plausible determinants of bequest preferences. This choice helps mitigate the confounding effects of economic outcomes that naturally change over the life cycle, such as family formation, health status, and wealth accumulation. Then, we present the residualized version of $bequest_dummy$ after using regression analysis to control for such confounding factors.

We find that the subjective importance of bequests exhibits a U-shaped pattern over the life-cycle. Figure 5 displays average residuals of $bequest_importance$ at each age along with a quadratic line of best fit. The propensity to say that bequests are important declines by roughly 20 percentage points from the age of 18 to the age of 60. Following the age of 60, the propensity increases by approximately 10 percentage points until the maximum age in the survey (late 90s).

Moreover, we mitigate the concern that the survey responses of younger respondents capture their perception of personally receiving an inheritance as opposed to their beliefs about the importance that they leave an inheritance to subsequent generations. To do so, Figure 5 also plots respondents' stated intentions of leaving bequests. We find that intended bequests also exhibit a U-shape over the life-cycle that reaches a minimum point around the age of 60. This finding parallels respondents' subjective preference toward bequests, which suggests that the survey questions reflect personal attitudes toward their own projected estate.

Next, we further validate the U-shaped relationship by using regression analysis. The regression model is as follows:

$$\begin{aligned} bequest_dummy =& \alpha + \beta_1 \times Age + \beta_2 \times Age^2 + \beta_3 \times heirs + \beta_4 \times net_worth \\ &+ X_{demographics} + \mu_{Year} + \epsilon_{it} \end{aligned} \tag{1}$$

where $bequest_dummy$ is the main dependent variable. The independent variables of interest are age and age^2, which allow for the effect of age on bequest preferences to have a quadratic functional form. We also include the vector $X_{demographics}$ which contains controls for marital status, health status, an indicator for smoking, and respondents' subjective

longevity. Fixed effects for the year of the survey are μ_{Year}. We cluster standard errors at the age and year level.

Table 3 reports the regression results. Column (1) controls for family formation, both a categorical variable for marital status and the presence of heirs. Column (2) adds a control variable for the respondent's net worth, which we normalize so that increments of one are equal to its standard deviation. Column (3) includes controls for health-related variables. Across all specifications, we observe a positive and statistically significant coefficient on age^2. This positive coefficient provides evidence that people's preferences towards bequests exhibit a U-shaped over the life-cycle. Moreover, the coefficient estimate is similar across specifications indicating the robustness of this result.

Moreover, the U-shape is not merely an artifact of the changing demographics across waves of the SCF. Figure 6 plots the age patterns of bequest preferences after sorting respondents into birth cohorts. We find evidence of a U-shape pattern for different birth cohorts. Interestingly, we also find level differences across birth cohorts with those born in the 1950s exhibiting the lowest subjective preferences toward bequests.

4.2 The Distribution of Wealth and the Subjective Importance of Bequests

Next, we study the relationship between the subjective importance of bequests and net worth. Household net worth is just one significant factor since it may directly impact the capabilities of leaving bequests. To check bequest preferences over the wealth distribution, we first partition the net worth into ten equal segments. Consistent with the previously outlined methodology, we employ "bequest_dummy" as the response variable and incorporate "stkprt", "children", and the respondent's time of life as predictor variables. Our analysis encompasses the inclusion of pertinent confounding factors, notably "age" and "year", within the regression model. Moreover, we adopt clustered standard errors, delineating clusters based on "age" and "year", to account for potential heteroskedasticity. Following this, we substitute the initial values within the "bequest_dummy" variable with residuals derived from the regression analysis.

Continuing our analysis, we employ regression analysis where we model "bequest_dummy" against a range of categorical predictors, encompassing quantiles derived from distinct net

worth deciles, children, age categories, and year categories. Additionally, we address potential heteroskedasticity by clustering the standard errors by year. The first decile of net worth is employed as the foundational benchmark for categorical variables, thereby facilitating a comparison of coefficients across alternative categories. This methodological framework permits us to quantitatively assess the impact of net worth on the perception of bequest importance.

Figure 8 illustrates the coefficients of the regression equations for each segment, with specific values clearly indicated on the right y-axis. Additionally, we can observe the proportion of individuals within each segment who assign importance to inheritance on the left y-axis. Both regression analysis and scatter plots unveil a similar relationship between the significance of bequests and net worth. Groups with low and moderate wealth demonstrate similar attitudes towards inheritance, with over half of the individuals in both groups considering it important. However, individuals in the top 30% of wealth holders experience an exponential increase in the significance of inheritance in line with their wealth. Among the most affluent group, almost 75% of individuals acknowledge the importance of inheritance. Individuals with lower and moderate wealth tend to prioritize meeting immediate financial needs and ensuring security. While they may perceive inheritance as a means to pass on assets and support their descendants, their foremost concern lies in maintaining their current financial stability. In contrast, those within the top 30% of wealth holders have likely amassed substantial assets over time. As their wealth continues to grow, they may develop a heightened sense of responsibility to preserve and transfer this wealth to the next generations.

4.3 The Stock Market and the Subjective Importance of Bequests

The last factor that we consider is the role of stock ownership and experienced returns on people's subjective preferences over bequests. Stock ownership is important for its potential effect on household wealth accumulation and its reflection on the household's willingness to embrace risk. In Figure 7, we delve deeper into the relation between age and attitudes toward the importance of inheritance within two distinct subgroups. Participants are categorized according to their stock ownership, and the percentage of individuals

perceiving significant residuals of bequest importance is concurrently visualized for each subgroup on a shared graph. We observe a U-shaped correlation between age and the significance of bequests within both stock-owning and non-stock-owning groups.

Leveraging the curve's distribution, we perform separate linear regressions for individuals situated on the left and right arms of the U-curve, corresponding to those below and above 60 years of age, respectively. Additionally, we present 95% confidence intervals surrounding these fitted lines.

Intriguingly, our analysis unveils that respondents within the same age bracket, who possess stocks, tend to attribute relatively greater importance to bequest compared to their counterparts lacking stock holdings. This finding could potentially be attributed to their perception of stock market investments as vehicles for asset safeguarding and legacy accumulation. A discernible pattern emerges among individuals aged under 40 and those beyond 60, where a positive connection between stock ownership and an enhanced perception of inheritance importance is evident. This phenomenon is likely attributed to different life stages and financial considerations. Those under 40 may perceive stock ownership as a conduit for accumulating wealth and reinforcing future financial security. Consequently, these individuals tend to prioritize inheritance planning as an integral element within their comprehensive financial strategies. Conversely, respondents aged 60 and older might view stock ownership as a mechanism to both safeguard and augment amassed wealth, earmarked for the well-being of their successors and future generations. As retirement draws nearer, their focus intensifies on estate planning and the transmission of accumulated assets, contributing to a heightened valuation of inheritance considerations.

Interestingly, within the 40 to 60 age range, the impact of stock ownership on attitudes toward inheritance seems to lack statistical significance. One plausible explanation for this observation could stem from the notion that individuals within this age span have likely established well-defined financial frameworks and investment strategies. Such strategic arrangements could potentially mitigate the influence of stock ownership on their perspectives regarding matters of inheritance.

Besides, numerous papers indicate that early life experiences may impact future economic decisions in adulthood. Malmendier and Nagel (2011) reveal that individuals who have encountered prolonged periods of low stock market returns over their lifetimes

exhibit a reduced inclination to undertake financial risk. Furthermore, they display a decreased propensity to engage in the stock market and allocate a smaller portion of their liquid assets to stocks when they do participate. Additionally, this group demonstrates a heightened pessimism regarding future stock returns.

Next, we explore the effect of long-term return experiences on subjective bequest preferences. Considering the possibility that the memory of past returns might fade away as time progresses, and alternatively, experiences during one's youth, perhaps conveyed by parents, might be particularly formative and shape decisions later in life, we intend to consider the potential that experiences in distant past might exert a different influence compared to more recent experiences.

This flexible estimation approach encounters certain challenges. The inclusion of separate explanatory variables for each year of return experience dating back to the year of birth, for instance, would result in a considerable number of coefficients that could not be precisely estimated. Furthermore, the count of explanatory variables would differ across households based on their age. To confront these empirical challenges, we summarize experienced returns through a weighted average. We employ a parsimonious weighting specification that introduces just one additional parameter while offering flexibility to allow weights to decrease, remain constant, or increase over time. In this manner, we permit the empirical data to determine the most suitable weighting scheme for explaining households' bequest importance. Specifically, for each household i in year t, we calculate the subsequent weighted average of past asset returns:

$$A_{it}(\lambda) = \sum_{k=1}^{age_{it}-1} w_{it}(k,\lambda) R_{t-k,} \tag{2}$$

where the weight is given by

$$w_{it}(k,\lambda) = \frac{(age_{it}-k)^{\lambda}}{\sum_{k=1}^{age_{it}-1}(age_{it}-k)^{\lambda}} \tag{3}$$

depending on the age of the household head at time t (age_{it}), the number of years elapsed since the return was realized (k), and a parameter λ, which governs the shape of the weighting function. The λ is estimated from the data. If $\lambda < 0$, the weighting function exhibits a consistent increase and convexity as the time lag k approaches age_{it}, assigning a higher weight to returns closer to birth compared to more recent returns. If $\lambda = 0$, the weights remain constant, and $A_{it}(\lambda)$ represents a simple average of past returns since birth. Conversely, for $\lambda > 0$, the weights decline as the lag k increases (concave for $\lambda < 1$, linear for $\lambda = 1$, and convex for $\lambda > 1$).

To concurrently estimate the weights and individuals' sensitivity to experienced returns, we build the subsequent regression model:

$$y_{it} = \alpha + \beta A_{it}(\lambda) + \gamma' x_{it} + \epsilon_{it}. \tag{4}$$

In this model, $A_{it}(\lambda)$ denotes experienced returns, and x_{it} represents a vector of control variables, so β and λ are of our interest. The parameter β quantifies the partial effect of $A_{it}(\lambda)$ on y_{it}. This parameter indicates the magnitude by which y_{it} changes as $A_{it}(\lambda)$ varies, holding all other factors constant. With a given λ value and the household's age taken into account, the weights $w_{it}(k, \lambda)$ can be calculated as outlined in Equation 2. When these weights, $w_{it}(k, \lambda)$, are multiplied by β, the result furnishes the partial effect of a return experienced k years prior on the dependent variable for a household of that specific age. For instance, if $\lambda = 0$, all returns in the household head's history since birth carry equal weights, and their corresponding partial effects equal their weight, $1/(age_{it} - 1)$, multiplied by β.

Given that $A_{it}(\lambda)$ is a nonlinear function of the weighting parameter λ, non-linear estimation techniques are necessary. For regression models with a continuous dependent variable, we opt for values of β and λ that minimize the sum of squared residuals. Conversely, in probit models, we choose values that maximize the likelihood. To ensure the attainment of the global optimum, we initially estimate the model using a densely spaced range of λ values.[5] The estimates derived from this process, yielding the lowest sum of

[5]It is important to note that for a given value of the weighting parameter λ, the regression model is linear. (A probit model remains nonlinear due to the transformation into probabilities.)

squares (or highest likelihood), serve as an initial approximation for further numerical optimization.

To establish a connection between experienced stock market returns and the bequest importance, we model the cumulative probability of these ordinal outcomes using an ordered probit model:

$$P(y_{it} \leq j | x_{it}, A_{it}(\lambda)) = \Phi(\alpha_j - \beta A_{it}(\lambda) - \gamma' x_{it}) \quad j \in \{1, 2, ..., 4\} \tag{5}$$

where y_{it} denotes the dependent variable bequest importance, categorized into four distinct groups, $y_{it} \in 1, 2, 3, 4$, $\Phi(\cdot)$ represents the cumulative standard normal distribution function, the α_j denote the cutoff points ($\alpha_1 < \alpha_2 < \alpha_3 < \alpha_4 = \infty$), $A_{it}(\lambda)$ represents the experienced stock market return, and the vector x_{it} are a set of control variables, encompassing income controls (log income, log income squared), liquid assets controls (log liquid assets and log liquid assets squared, both interacted with year dummies to allow year-specific slopes), demographics characteristics (the number of children and its square, the percentage of liquid assets invested in defined contribution plans or IRAs, dummies for retirement, completed high school education, completed college education, marital status, race, having a defined benefit pension plan, and having a defined contribution pension plan or IRA), age dummies, and year dummies. Differing from the standard ordered probit model, $\Phi(\cdot)$ does not map a linear function of explanatory variables into the response probability P due to the nonlinearity of $A_{it}(\lambda)$ concerning the weighting parameter λ.

We estimate the model using maximum likelihood, thereby deriving estimates for β, λ, γ, and the cutoff points. As the coefficient vector β lacks direct economic interpretation, our focus centers on the disparity in fitted probabilities when we set the experienced return to its 10th and 90th percentiles, holding all other variables at their observed values within the sample. This difference is computed for each observation and then averaged across the entire sample. To facilitate the interpretation of these differences in fitted probabilities, we compare their magnitude with the unconditional frequencies representing the distribution of individuals across the four bequest importance categories. The lower part of Table 6 indicates that only 5.2% of respondents view bequest as "not important", while the largest portion, over 40%, falls within the "important" category.

The inclusion of year-specific dummy variables accounts for common shocks over time, encompassing variations in average bequest importance. The estimation of the effect of experienced stock returns is derived from differences in bequest importance across cross-sections and the fluctuation of these disparities over time, but it does not consider variations arising solely from time.

Furthermore, the incorporation of year dummies implies that, under the null hypothesis, the weights assigned to past returns do not rely on the individual's current age. This scenario would hold, for instance, if all individuals observed the same historical dataset and formed their beliefs uniformly, without disproportionately emphasizing lifetime experiences. In such an instance, the cross-sectional difference in bequest importance would not correlate with the cross-sectional difference in experienced returns, signifying that β = 0 under the null hypothesis.

The results of the ordered probit model are presented in Table 6, based on the sample spanning 1989 to 2019. Meanwhile, Table 6 also showcases the differences in fitted probabilities for experienced returns at the 10th and 90th percentiles. The standard errors, presented in parentheses, are robust to potential misspecification of the likelihood function and have been adjusted to account for multiple imputations in the SCF.

The outcomes in Column (1) of Table 6 indicate that higher experienced stock-market returns increase the likelihood of individuals considering bequests as important (specifically, very important and important), and decrease the likelihood of considering bequests as less important (specifically, somehow important and not important). Column (2) presents that the effect is further enhanced by the inclusion of liquid assets controls. Meanwhile, the economic implications of these findings are noteworthy. Shifting from the 10th percentile to the 90th percentile of experienced stock returns, as demonstrated in Column (2) of Table 6, corresponds to an average increase of 4.42 percentage points in the likelihood of belonging to the highest bequest importance category, accompanied by a corresponding decrease in the probabilities associated with lower bequest importance categories. The implied change is significant when compared to an unconditional probability of 33.4% of being categorized as "very important". Consequently, it is evident that past stock market returns exert a substantial and positive impact on bequest importance.

The estimation of the weighting parameter λ yields a value of 1.734 (standard error 0.42) in Column (2). This value implies that more recent returns carry a relatively higher weight. Simultaneously, it suggests that even returns experienced several years in the past continue to influence households' risk tolerance. While the point estimate is subject to a considerable standard error, it is important to note that weightings that escalate with the time lag ($\lambda < 0$) are rendered implausible.

For older individuals, the estimates indicate appreciable weights assigned to returns witnessed several decades ago. This observation signifies that the impact of these early experiences on risk tolerance persists over time. Evidently, the recollection of these formative experiences subsides gradually rather than swiftly.

4.4 Regression Analysis to Establish Robustness and Independence of Stylized Facts on Bequest Preferences

In the preceding sections, our analysis mostly relied on the graphical relationship between certain personal characteristics and bequest preferences. In order to quantitatively analyze the impact of different characteristics on bequest preferences, we conduct regression analyses to investigate the correlation between stock ownership, having heirs or not, net worth, and bequest preference. The model we build is as follows:

$$\begin{aligned} bequest_dummy =& \alpha + \beta_1 \times stocks + \beta_2 \times heirs + \beta_3 \times net_worth \\ &+ X_{demographics} + \mu_{Age} + \mu_{Year} + \epsilon_{it} \end{aligned} \tag{6}$$

where the coefficients β_1, β_2, β_3 are of our interests, $X_{demographics}$ represents a set of demographic controls including marital status, health status, smoke experience, and expected longevity, μ_{Age} denotes the age-fixed effects and μ_{Year} denotes the year-fixed effects. The standard errors are double clustered by age and year.

In the estimation of the coefficients of interest to us, there are two issues to be concerned with. The first is the utilization of sample weights for our dataset. The data for our analysis is extracted from the 1989–2019 SCF waves, which are designed to oversample high-income households. This oversampling strategy yields a substantial volume of observations concerning households with considerable stock holdings. While this proves

advantageous for our asset allocation analysis, it also carries the potential to introduce selection bias. To mitigate these concerns, we adopt the practice of weighting the data using SCF sample weights in our main tests. This serves to counteract the magnified representation of high-income households and simultaneously adjust for non-response bias. These weighted estimations offer a representation of the broader U.S. population. It is noteworthy that although employing weighted estimators instead of unweighted ones might be considered inefficient when the treatment effect remains uniform across distinct income strata (Deaton 1997; Cameron and Trivedi 2005), our treatment effect, past return experience, could exhibit heterogeneity. The risk of using an unweighted sample in this scenario is that the estimated average treatment effect might fail to mirror the population reality accurately. This concern precedes the efficiency loss incurred under the assumption of a (unrealistic) homogeneous treatment effect.

The second issue relates to the adjustment of standard errors due to multiple imputations. Starting in 1989, the SCF employs a multiple imputation technique to address the challenge of missing values by leveraging information available within the survey. Additionally, this technique ensures the concealment of observations that might potentially reveal the identity of respondents (see Kennickell (1998)). The dataset encompasses five complete copies, referred to as "implicates". Imputed values differ across the different replicas to accurately capture the sampling uncertainty intrinsic to the imputation process. Consequently, we adhere to the methodology outlined by Rubin (1987) to calibrate the standard errors for this uncertainty.

The regression results are reported in Table 4. As displayed in column 3, a stock owner is 2.69% more likely to view bequests as important. Individuals with heirs are 14.6% more likely to care about bequests. Additionally, higher net worth is associated with greater subjective bequest preferences. The results are in line with our expectations. Individuals who own stocks are more likely to accumulate wealth and consider intergenerational wealth transfer. Similarly, high-net-worth individuals may be more capable of leaving bequests. Therefore, those who own stocks, have heirs, and possess substantial net worth are more likely to think that leaving bequests is important, which is consistent with theories of bequests as a luxury good.

Additionally, to further test the effect of wealth on bequest preference, we regress the bequest preference on the log of net worth and net worth decile indicators respectively, controlling for marital status and three other health controls gradually as in Table 4. The regression results in Table 5 show that respondents with more net worth attach more importance to leaving bequests, demonstrating the robustness of the result that bequest matters more to the wealthy, which is consistent with the findings in Figure 8.

The data utilized in Table 4 and 5 are cross-section data extracted from the SCF. In the Appendix, we additionally use the panel data derived from the HRS to examine the relationship between demographic characteristics and bequest intentions of different amounts, and find similar results (see Table A2 in the Appendix). The model settings in the appendix closely resemble those within the main text, except that we replace the dependent variable with the bequest intentions. Specifically, the dependent variables in Panels A-D of Table A2 are bequest intention (%), bequest intention (more than 10k, %), bequest intention (more than 100k, %), bequest intention (more than 500k, %). But note that since the data for analysis in the Appendix are panel data, the heir variable is absorbed after controlling for individual fixed effects.

5 Implications for Models of the Life-cycle

5.1 A Life-Cycle with Bequest Motives

In this section, we consider the implications of our empirical results on bequest motives in the context of a canonical life-cycle model. Appendix AI presents the model setup. The key ingredients are an uncertain income path during working years, a pre-cautionary savings motive, and agents having a portfolio choice between a risky and risk-free asset. The model setup and its calibration are standard to the literature (see Table A1).

Life-cycle models often incorporate a bequest motive by assuming that the representative agent derives utility from leaving an inheritance to subsequent generations that is conveyed at the time of death. Popularized by Andreoni (1989), the bequest motive is often referred to as a 'warm-glow' utility function $B(X)$. We then choose the following

functional form for $B(X)$:

$$B(X) = b(X/b)^{(1-\rho)}/(1-\rho) \tag{7}$$

where b captures the strength of the bequest motive and ρ is the risk aversion parameter, which determines the curvature of the utility function. We set the parameter b equal to 2.5. This choice of parameter value has been passed down through the literature. The choice of $b = 2.5$ originates from (Gomes and Michaelides, 2005) which determined the parameter value by matching wealth profiles over the life-cycle.

Before discussing possible modifications to the model that incorporate the stylized facts on bequest motives, we start by illustrating how a literature-standard bequest motive affects the financial decisions of the representative agent. Figure 1 presents the paths of consumption, savings, cash-on-hand (i.e., liquid wealth), and the portfolio share of the risky asset obtained from the solution to the dynamic life-cycle model. The figure presents the behavior of the agent when she has a bequest motive where $b = 2.5$ (the solid blue line) and when she has no bequest motive $b = 0$ (the dotted red line). In the model without bequest motives, both the consumption curve and the cash-on-hand curve demonstrate a U-shape trend, illustrating that individual consumption and cash-on-hand gradually increase during their working years and decrease during retirement. Individuals exhibit a positive savings rate until a few years before retirement. Following retirement the agent dissaves but at a slower rate in each subsequent year. Similarly, the allocation towards risky assets displays a comparable pattern to savings. However, a key distinction lies in the behavior near the retirement age. Instead of a more rapid decline before retirement as observed in savings, the investment in risky assets rises sharply in the short term after retirement.

Nonetheless, the inclusion of a bequest motive markedly affects the agent's decision-making over the life-cycle. The representative agent with a bequest motive consumes less and saves more than the agent without a bequest motive. This difference begins at the start of the life-cycle. The agent with a bequest motive maintains greater levels of cash on hand than agents without bequest motives. And, the level difference increases as agents age. For example, the representative agent with bequest motives has at the age of 85 cash holdings that average \$46,478 more than they would be without a bequest motive. The difference

in average cash holdings is only $12,813 at age 45. Moreover, bequest motives cause the agent to reduce their allocation to the risky asset. The difference widens post-retirement: the agent with bequests reduces their allocation to the risky asset while the agent without bequests increases their risky asset allocation.

One noteworthy effect of bequest motives is that they affect large changes in savings rates and wealth accumulation that begin at the immediate start of the life-cycle. Because the utility of leaving a bequest is realized only in the last period of the life-cycle, and the probability of dying and leaving a bequest is low until late in life, the immediate effect on behavior suggests that the representative agent with bequests is extremely forward-looking. Though we document that bequest motives are U-shaped over the life cycle, this standard version of the model holds the importance of bequests (the parameter b) constant at all ages. Hence, the representative agent's extreme level of foresight toward leaving an inheritance might not be realistic.

5.2 Modifications to the Life-Cycle with Bequest Motives

In this section, we consider how the stylized facts that we document in Section 4 might affect the setup of the canonical model and its treatment of bequest motives. Before proceeding, we caveat the following analysis by discussing its limitations. In particular, the SCF asks respondents how important it is to leave an inheritance and allows for one of four categorical responses. As such, we are unable to map these categorical responses to a numerical value for the bequest parameter b. Consequently, the following exercise illustrates the *directional effects* of such model modifications but is not suited for studying quantitative effects.

We start by considering the stylized fact that subjective bequest importance is U-shaped over the life-cycle. To do so, we modify $B(X)$ so that b varies over the life-cycle:

$$B(X) = b_t(X/b_t)^{(1-\rho)}/(1-\rho) \tag{8}$$

where t is the age of the representative agent. Because we are unable to map the SCF responses to numerical values for b, we simply modify b_t to have a parabolic shape while preserving the mean value of 2.5. Specifically, we use the following function to calculate

a value for b at each age: **[Insert here]** This modification results in younger individuals and older individuals having a larger value for b. The value of b is lowest at age 65.

Figure A4 presents the results of the model when using the modified bequest function (b_t) compared to the results when using the standard bequest motive (b). In the modified model with U-shaped bequest preferences, the representative agent places a high value on savings for bequests even at a young age. Consequently, the agent saves more (consumes less) at the start of the life-cycle. This increased savings results in a larger accumulation of wealth at retirement, as well as a larger amount of wealth at the time of death. The agent also allocates less of her portfolio to the risky asset because she already accumulates more wealth at younger ages.

Our next modification incorporates the stylized fact that stockholders view bequests as subjectively more important and that prior asset returns result in a larger bequest motive. To integrate the relation to stock market participation, it is important to note that the representative agent almost always owns some equity even though roughly half of all individuals actually do. This poses a challenge for life-cycle models more broadly (see e.g., Gomes and Michaelides, 2005), but it is beyond the scope of our work to rectify this shortcoming of the model.

We modify the life-cycle to allow the representative agent to make separate and distinct optimization decisions over her consumption choice and her portfolio choice. In doing so, we modify the bequest parameter so that it equals $b_w = a \cdot b_c$, where b_c is the bequest parameter for the consumption choice and b_w is the bequest parameter for portfolio choice. For values of $a > 0$, the agent cares more about leaving bequests when making a portfolio decision and less when making a consumption decision. This modification can be thought of as the representative agent having separate mental accounts over consumption and portfolio choice decisions (Thaler, 1985).

When the stockholding agent has larger bequest motives, we find that the agent accumulates significantly less wealth than in the standard model (Figure A6). Counterintuitively, the agent accumulates less wealth because it increases her propensity to save at all ages. Because the agent saves a larger share of period incomes, and because the agent is risk-averse, she reduces her allocation to the risky asset. The reduction in holdings of the risky asset then results in less wealth accumulation over the life-cycle.

The final modification that we consider is the non-homothetic preference modification that has been employed in papers such as De Nardi (2004). In this modification, $B(X)$ is defined as:

$$B(X) = b(X/b)^{(1-\Sigma)}/(1-\Sigma) \tag{9}$$

where Σ is allowed to differ from ρ. This formulation has the effect of making the marginal benefit of the bequest motive decline with increased wealth by less than the decline in the marginal utility of consumption. This effectively makes leaving a bequest a luxury good.

Figure A5 shows the results of estimating the model with the modified bequest function. In separate simulations, we set Σ equal to either 4 or 2. These values are less than the standard calibration of ρ equal to 6. We find that the representative agent accumulates significantly more wealth than in the benchmark model. Moreover, wealth accumulation increases by more for smaller values of Σ. The representative agent also leaves a significantly larger inheritance at the time of death. The increase in wealth accumulation stems from a larger savings rate in the years leading to retirement, as well as a greater allocation to the risky asset. One appealing feature of the model results is that the consumption profile post-retirement is more realistic: the agent has a smaller decrease in consumption post-retirement, while also leaving a larger inheritance.

6 Conclusion

Bequest motives are crucially important to models of inter-temporal economic choice. Yet, the empirical properties of individuals' bequest preferences and expectations are largely undocumented. This paper catalogs four findings on individuals' bequest motives.

1. Individuals overestimate their likelihood of leaving bequests and their size.
2. The subjective importance of leaving bequests is U-shaped over the life-cycle.
3. Bequests are subjectively more important for wealthier individuals.
4. The subjective importance of leaving bequests is more important for stock owners and increases when individuals experience higher stock returns.

These findings are important in light of the vast literature that employs bequest motives to explain late-in-life savings rates within the context of a life-cycle model. These findings can serve as a benchmark to improve the realism of the model. To this end, we explore modifications to how bequests are modeled and their effect on individuals' financial decisions over the life-cycle.

In addition to the modeling implications, we introduce new facts on the determinants of individuals' altruism toward future generations, an area of research that is little studied. The population around the world is rapidly aging. For example, in the U.S., the share of the population at least 65 years old reached a peak at around 17% in 2020 and it projects to vastly exceed 20% in the coming decades. This aging population heightens the importance of understanding what drives inter-generational altruism because these old-age populations hold a disproportionate share of the stock of wealth. What such individuals choose to do with their accumulated wealth will shape economic outcomes for generations to come.

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Figures and Tables

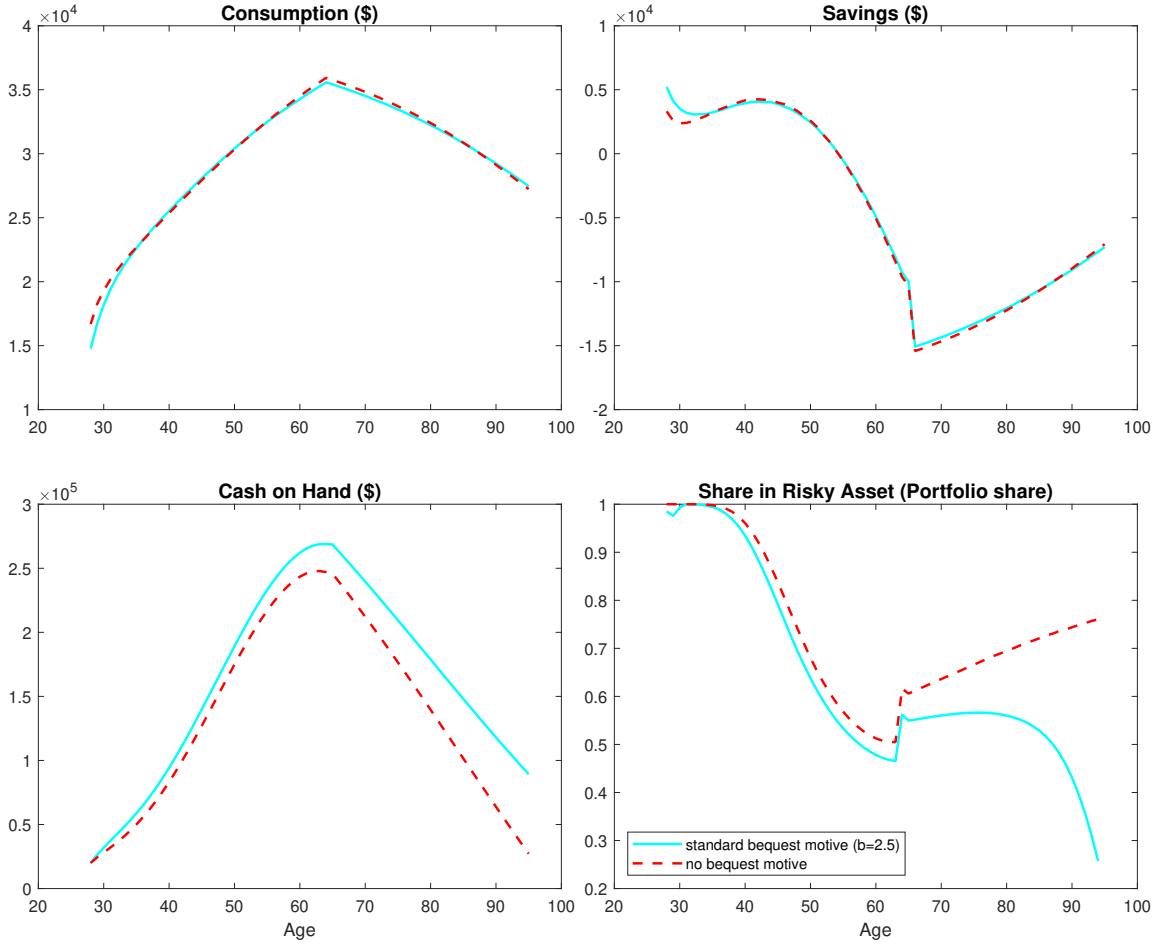


Figure 1: Life-cycle results: with standard bequest motives versus without bequest motives. This figure presents the paths of consumption, savings, cash-on-hand, and the portfolio share of the risky asset obtained from the solution to the standard dynamic life-cycle model.

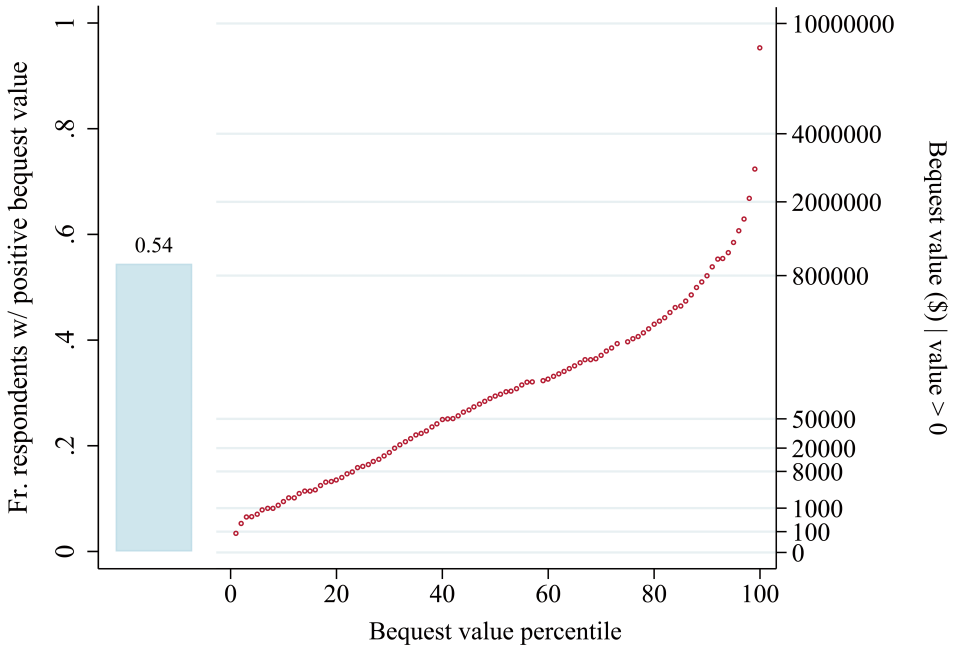


Figure 2: This figure shows the ratio of respondents with positive bequest value (y-axis on the left side) and the distribution of the bequest value (y-axis on the right side). The data of bequest value are derived from the HRS. We can find that around 54% respondents have positive bequest values, which range from about $100 to $8,000,000. The median amount of the positive bequest is approximately $70,000.

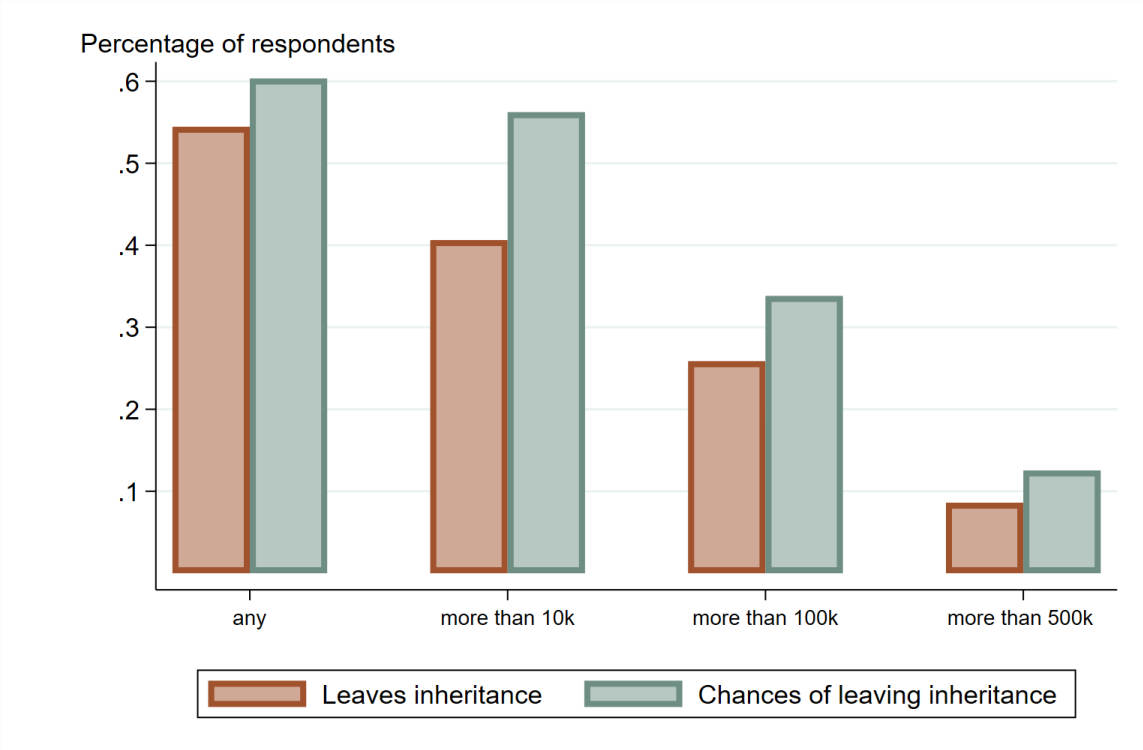
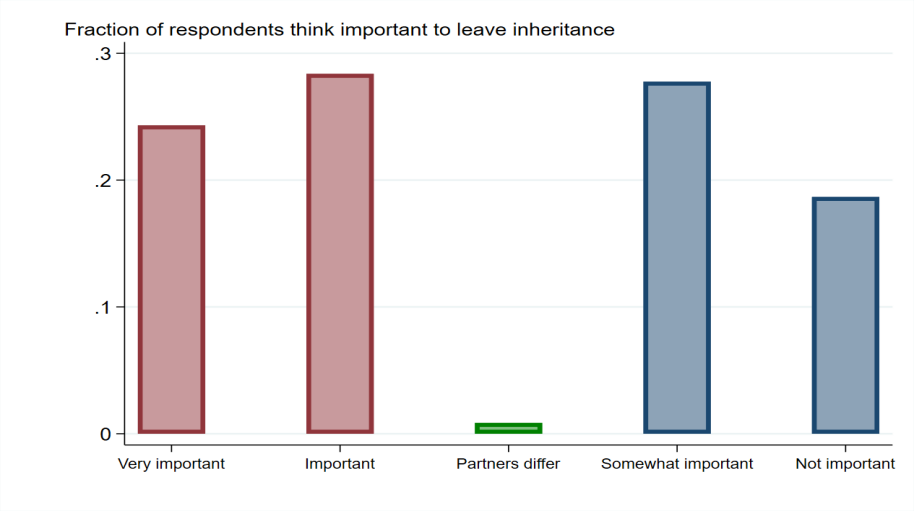
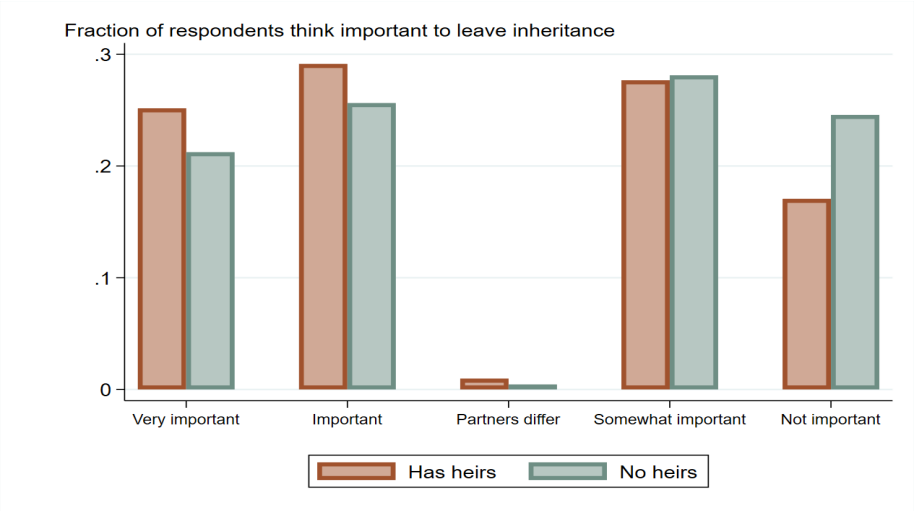


Figure 3: This figure shows the gap in the percentage of respondents between leaving inheritances and the chances of leaving one. The data utilized in this figure are sourced from the HRS. The figure indicates that the respondents' willingness to leave any bequest is usually higher than the probability of actually leaving a bequest.



(a) Fraction of respondents think important to leave inheritance



(b) Heirs and Fraction of respondents think important to leave inheritance

Figure 4: Panel (a) of the figure shows the fraction of the respondents who consider it important to leave an inheritance. We can find that more respondents think inheritance is important or somewhat important, while fewer respondents think inheritance is very important or not important. Panel (b) of the figure studies the effect of having heirs on the respondents' response to the question about whether leaving inheritances is important. We found that the respondents who have heirs are more likely to think that leaving inheritances is important. The data utilized in this figure are sourced from the SCF.

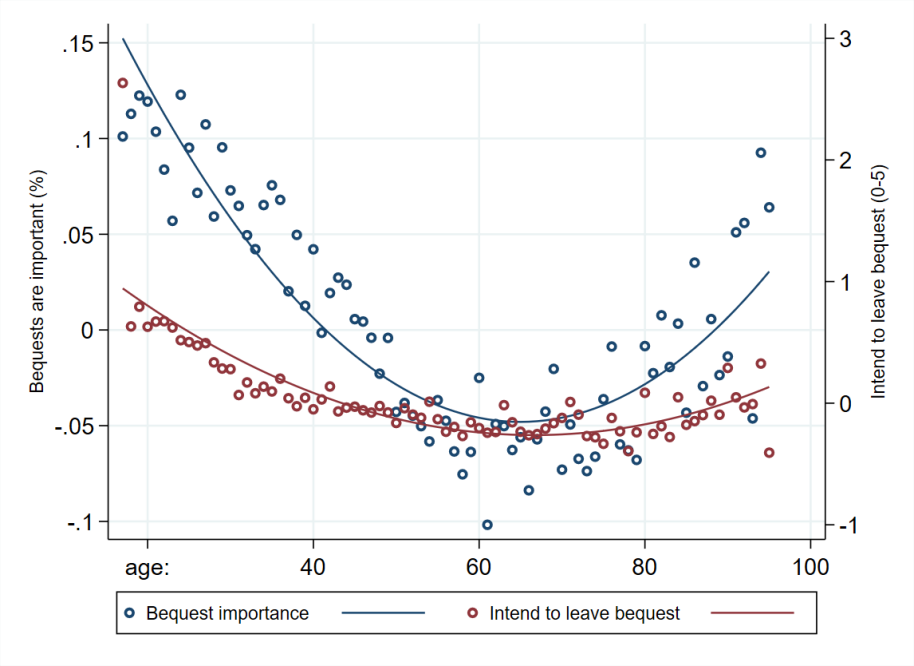


Figure 5: This figure displays the bequest importance and the intention to leave bequests. It shows the relationship between bequest preference and age (in blue) and that between bequest intention and age (in red). The data utilized in this figure are sourced from the SCF. Bequests are considered the least important when respondents are around 60 years old. Although the curve of intention to leave bequests is also U-shape as the bequest importance curve, it is relatively flatter.

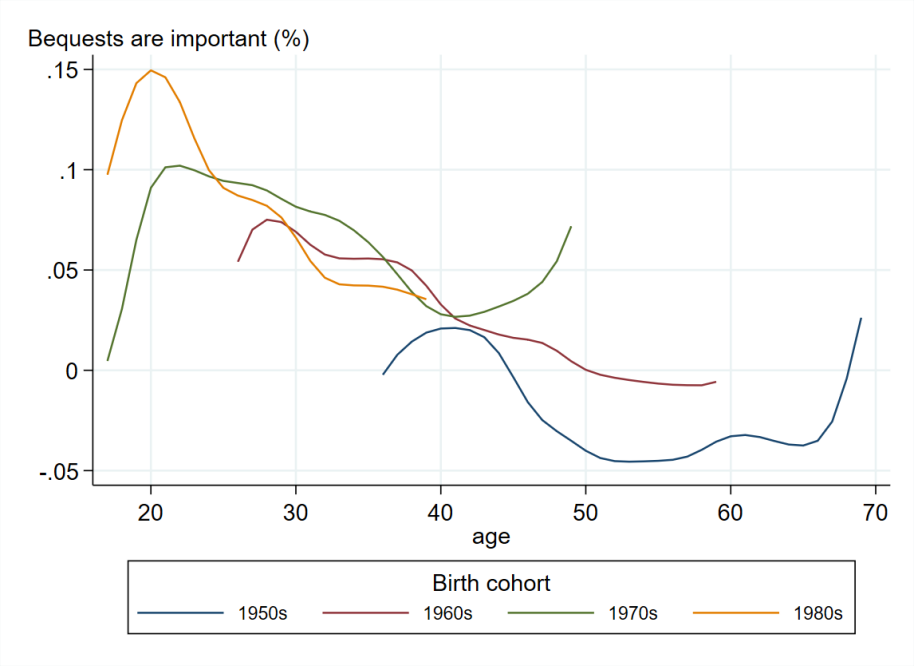


Figure 6: The figure shows different birth cohorts' preferences for the bequest. The data utilized in this figure are sourced from the SCF. Upon comparing the attitudes of individuals from different birth cohorts at the same age, we observe that more recent birth cohorts might have stronger bequest preferences.

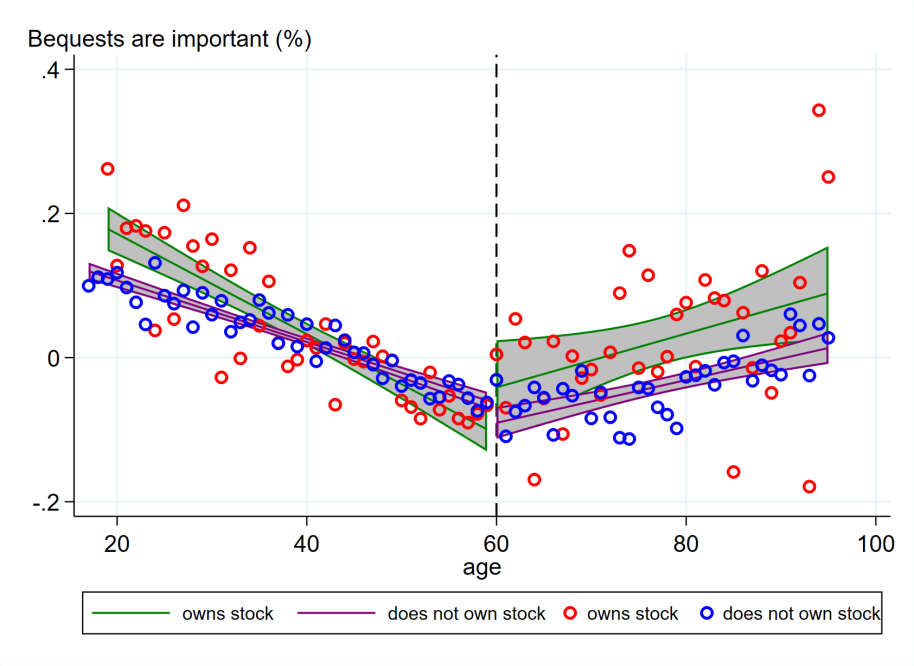


Figure 7: This figure shows the effect of owning stocks or not on bequest preferences. The data utilized in this figure are sourced from the SCF. We observe a U-shaped correlation between the significance of bequests and age within both stock-owning (in green lines and red dots) and non-stock-owning groups (in purple lines and blue dots). It indicates that stock owners tend to have larger bequest preferences.

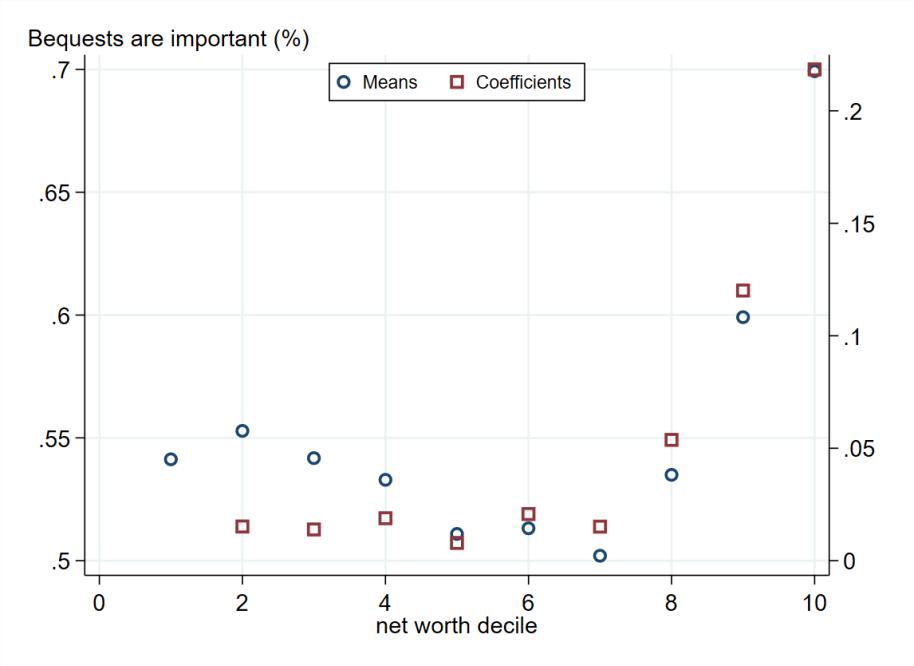


Figure 8: The figure shows means and coefficients of the net worth from saturated regression. The data utilized in this figure are sourced from the SCF. The means reflect the proportion of individuals within each segment who assign importance to inheritance (y-axis on the left side). The coefficients of the regression equations for each segment display the relationship between the significance of bequests and net worth (y-axis on the right side). This figure indicates that respondents belonging to the top wealth deciles place greater importance on the bequest.

Variable	(1) N	(2) Mean	(3) Median	(4) Std dev.
Whether to leave bequests...				
any bequests	7,750	54.45	100.00	49.81
bequests more than 10k	7,750	40.63	0.00	49.12
bequests more than 100k	7,750	25.86	0.00	43.79
bequests more than 500k	7,750	8.61	0.00	28.05
Chances of leaving bequests...				
any bequests	7,671	60.34	80.00	42.20
bequests more than 10k	7,671	56.22	75.00	43.73
bequests more than 100k	7,478	33.82	0.00	42.63
bequests more than 500k	7,403	12.54	0.00	28.94
Value of bequest and different components...				
bequest value	7,750	185,971	1,000	862,790
home value	7,750	41,113	0.00	121,914
liquid asset value	7,750	46,861	0.00	266,707
insurance value	7,750	2,768	0.00	35,531
trust value	7,750	92,686	0.00	741,182
inter vivo transfers	7,750	2,543	0.00	18,841
Bequest and components of bequest...				
1 (bequest)	7,750	0.55	1.00	0.50
1 (home)	7,750	0.26	0.00	0.44
1 (liquid)	7,750	0.16	0.00	0.36
1 (insurance)	7,750	0.08	0.00	0.26
1 (trust)	7,750	0.12	0.00	0.32
1 (inter vivo transfers)	7,750	0.22	0.00	0.41
Demographic variables...				
gender				
1(male)	7,750	0.468	0.00	0.499
race				
1(white)	7,750	0.809	1.00	0.393
1(black)	7,750	0.156	0.00	0.363
1(other)	7,750	0.035	0.00	0.183
marital status				
1(married)	7,712	0.406	0.00	0.491
1(partnered)	7,712	0.028	0.00	0.164
1(single)	7,712	0.566	1.00	0.496
health status	7,750	2.322	2.00	1.108
children	7,482	0.917	1.00	0.277
age	7,747	79.37	81.00	11.07
education year	7,740	11.77	12.00	3.30
wealth	7,750	335,058	96,000	1,072,744

Table 1: This table exhibits summary statistics for variables used in our analysis, drawn from the HRS dataset. The first set of variables is whether to leave bequests or leave bequests of more than a certain amount (precisely, 10k, 100k, and 500k), taking the value of 100 if leaves and 0 otherwise. The second set of variables, chances of leaving bequests, illustrates the perceived chances respondents have of leaving any inheritance and leaving an inheritance of more than a certain amount (precisely, 10k, 100k, and 500k), ranging from 0 to 100. The third set of variables shows the total bequest value and its components, including home value, liquid asset value, insurance value, trust value, and inter vivo transfers. In a similar way, the fourth set of variables displays the binary indicators corresponding to the third set of variables. Additionally, this table displays demographic variables, including gender, race, years of education, and total wealth amount ($).

Variable	(1) N	(2) Mean	(3) Median	(4) Std dev.
Bequest related variables...				
bequest_dummy	265,150	0.56	1.00	0.50
bequest_intention	267,765	2.773	2	1.509
Demographic variables...				
children	267,765	0.813	1.00	0.39
age	267,765	51.21	51.00	16.24
marital status				
1(married)	232,520	0.575	1	0.494
1(separated)	232,520	0.030	0	0.172
1(divorced)	232,520	0.145	0	0.352
1(widowed)	232,520	0.073	0	0.261
1(never married)	232,520	0.176	0	0.381
health status	267,765	3.064	3	0.825
longevity_exp	232,520	54.13	80	41.53
smoke	232,520	0.193	0	0.395
spouse_smoke	148,620	0.134	0	0.341
Financial variables...				
stkprt	267,765	0.274	0.00	0.45
networth	267,765	10,366,186	223,823	56,977,560

Table 2: This table exhibits summary statistics for variables used in our analysis, sourced from the SCF dataset. The first set of variables, which includes "bequest_dummy" and "bequest_intention", represents survey responses to the bequest. "bequest_dummy" is equal to 1 if "bequest_importance" answer takes the value of 1 or 2, equal to 0 if the "bequest_importance" answer is 4 or 5 ("bequest_importance" is a discrete variable to represent the importance of bequests in the respondent's perspective, ranging from 1 to 5 as the importance decreases). "bequest_intention" captures respondents' intentions to sizable bequests to heirs. The value is 1 when the answer to this question is yes, 3 when it is possible, and 5 when it is no. The second set of variables shows the demographic characteristics of respondents, such as whether the respondent has children ("children", a dummy variable that takes the value of 1 if the respondent has children and 0 otherwise), the age of the respondent ("age"), the marital status of the respondent ("marital status", a dummy variable that takes the value of 1 if the respondent has a legal spouse and 0 otherwise), self-reported health status ("health status", ranging from 1 to 4, indicating excellent, good, fair, and poor, respectively), the expected longevity ("longevity_exp"). Additionally, "smoke" and "spouse_smoke" are included, representing whether the respondent or respondent's spouse currently smokes, respectively, taking the value of 1 if yes and 5 otherwise. The third set of variables displays the financial condition of the respondents, including stock holdings ("stkprt", a binary variable taking the value of 1 if the respondent owns stocks and 0 otherwise) and net worth ("networth").

dep var: bequest important (=1)	(1)	(2)	(3)
Age^2	0.0000890***	0.0000904***	0.0000901***
	(0.00001815)	(0.00001838)	(0.0000185)
Age	-0.0127***	-0.0129***	-0.0128***
	(0.00196)	(0.00199)	(0.00203)
Has heirs (=1)	0.143***	0.143***	0.146***
	(0.00738)	(0.00741)	(0.00765)
Net worth (Z)		0.238***	0.236***
		(0.01768)	(0.01847)
marital status	x	x	x
health status			x
smoker			x
expected longevity			x
year FE	x	x	x
Observations	230447	230447	230447
R^2	0.0219	0.0229	0.0264

Table 3: This table uses data from the Survey of Consumer Finances waves 1989 through 2019. The table reports OLS regression coefficients where the dependent variable *bequest important* equals one if the respondent reports that leaving an inheritance is either important or very important, zero otherwise. The independent variables are respondent age, age square, an indicator for having family heirs, and household net worth (normalized so that one unit equals one standard deviation). The regressions sometimes control for marital status, health indicators, and respondent's subjective longevity. Standard errors corrected for multiple imputation are in parentheses. ***, **, and * denote statistical significance at the 1, 5, and 10% levels, respectively.

dep var: bequest important (=1)	(1)	(2)	(3)
Owns stocks (=1)	0.0301**	0.0245*	0.0269**
	(0.011204)	(0.011167)	(0.010186)
Has heirs (=1)	0.143***	0.143***	0.146***
	(0.00813)	(0.00815)	(0.00829)
Net worth (Z)		0.225***	0.223***
		(0.01697)	(0.01832)
marital status	x	x	x
health status			x
smoker			x
expected longevity			x
age FE	x	x	x
year FE	x	x	x
Observations	230447	230447	230447
R^2	0.0241	0.0250	0.0285

Table 4: The data utilized in this table are sourced from the Survey of Consumer Finances. The table displays the results of ordinary least squares regression, investigating the influence of stock ownership, having heirs or not, and net worth on bequest preference. The dependent variable, *bequest important*, equals one if the respondent deems leaving an inheritance important or very important, and zero if the response indicates it as somewhat important or not important. The independent variables include a binary variable for stock ownership, an indicator for family heirs, and household net worth (normalized to one standard deviation per unit). The regressions control for marital status and three other health controls gradually. Standard errors, adjusted for multiple imputations, are reported in parentheses. ***, **, and * denote statistical significance at the 1, 5, and 10% levels, respectively.

dep var: bequest important (=1)	(1)	(2)	(3)	(4)
$log(networth)$	0.0103***	0.0125***		
	(0.002217)	(0.002022)		
networth_xtile 2			0.0131	0.0125
			(0.008744)	(0.009014)
networth_xtile 3			0.0179	0.0192
			(0.013797)	(0.014109)
networth_xtile 4			0.0116	0.0162
			(0.011653)	(0.011750)
networth_xtile 5			0.0102	0.0177
			(0.010996)	(0.010822)
networth_xtile 6			0.0243	0.0345**
			(0.013204)	(0.013176)
networth_xtile 7			0.0301	0.0426*
			(0.020411)	(0.019960)
networth_xtile 8			0.0710***	0.0842***
			(0.019129)	(0.019184)
networth_xtile 9			0.1352 ***	0.1487***
			(0.018001)	(0.019486)
networth_xtile 10			0.2435 ***	0.2553***
			(0.025228)	(0.026582)
marital status	x	x	x	x
health status		x		x
smoker		x		x
expected longevity		x		x
age FE	x	x	x	x
year FE	x	x	x	x
Observations	209044	209043	230447	230447
R^2	0.0169	0.0209	0.0173	0.0210

Table 5: The data utilized in this table are cross-section data extracted from the Survey of Consumer Finances. The dependent variable *bequest important* equals one if the respondent indicates that leaving an inheritance is important or very important, and zero if their response is somewhat important or not important. The main independent variables include the logarithm of net worth and net worth decile indicators. The regressions control for marital status and three additional health-related variables (health status, smoking status, and expected longevity). The regression results in this table indicate that respondents with higher net worth place greater importance on leaving bequests, reinforcing the finding that bequests are more significant for the affluent, as consistent with Figure 8. Standard errors corrected for multiple imputation are in parentheses. ***, **, and * denote statistical significance at the 1, 5, and 10% levels, respectively.

dep var: bequest important (1-4)	(1)	(2)
Ordered Probit coefficient estimates:		
Experienced stock return coefficient β	2.950***	3.456***
	(1.12)	(1.13)
Weighting parameter λ	1.653***	1.734***
	(0.51)	(0.42)
Income controls	x	x
Liquid assets controls		x
Demographics controls	x	x
Age dummies	x	x
Year dummies	x	x
Average of fitted probability difference between 90th and 10th percentile of experienced return:		
Very important	0.0362	0.0442
[unconditional freq.= 0.334]	(0.01615)	(0.01733)
Important	0.0092	0.0111
[unconditional freq.= 0.412]	(0.00088)	(0.00059)
Somewhat important	-0.0147	-0.0179
[unconditional freq.= 0.202]	(0.00784)	(0.00860)
Not important	-0.0308	-0.0374
[unconditional freq.= 0.052]	(0.00917)	(0.00914)
Observations	40,933	40,933
Pseudo R^2	0.012	0.013

Table 6: The data utilized in this table are sourced from the Survey of Consumer Finances. This table presents the impact of stock returns on bequest importance through non-linear probit estimation and the average fitted probability difference between the 90th and 10th percentiles of experienced returns. In Column (1), the results indicate that higher experienced stock market returns elevate the likelihood of individuals regarding bequests as important (specifically, very important and important), and diminish the likelihood of considering bequests as less important (specifically, somehow important and not important). In Column (2), the effect is further amplified with the inclusion of controls for liquid assets. Standard errors corrected for multiple imputation are in parentheses. ***, **, and * denote statistical significance at the 1, 5, and 10% levels, respectively.

Online Appendix:

The Motives for Bequests: Stylized Facts and Life-cycle Implications

(intended for online publication)

AI A Life-cycle model

AI.1 Model Setup

The following life-cycle model is the same as in Heimer et al. (2019), which is based on the works of Carroll (2011) and Love (2013). In this framework, agents make decisions within discrete time, where time is denoted by $t = 0, 1, 2, 3,$
$...T_{retire}, ..., T$, with T_{retire} representing the retirement age. Agents maximize their expected discounted utility stream by determining consumption, asset allocation, and bequest allocation over discrete time periods. Recursively, this framework can be written as follows:

$$V_t^*(X_t, P_t) = \underset{C_t, \phi_t}{max}\{u(C_t) + \beta s_{t+1|t}\mathbf{E_t}[V_{t+1}^*(X_{t+1}, P_{t+1})] + ... \\ ...\beta(1 - s_{t+1|t})\mathbf{E_t}[B_{t+1}(R_{t+1}(X_t - C_t))]\} \quad \text{(A1)}$$

where C_t refers to consumption in period t, ϕ_t is the share of wealth in risky assets, P_t is permanent income, and X_t is cash on hand (wealth). The agent's bequest motive is expressed by $B_t(X_t)$, which is referred to as 'warm glow' as in Andreoni (1989). R_t denotes the gross rate of portfolio returns, which is determined by the weighted combination of the return on risky assets (R_t^r) and the return on risk-free assets (R^f), formulated as $R_t = \phi_t R_t^r + (1 - \phi_t)R^f$. The evolution of cash on hand is described by the equation $X_t = R_t(X_{t-1} - C_{t-1}) + Y_t$, where R_t, the gross rate of portfolio returns, is the weighted return of the risky and the risk-free assets, formulated as $R_t = \phi_t R_t^r + (1 - \phi_t)R^f$. We pay attention to two parameters, β, representing the time discount factor or rate of time preference, $s_{t+1|t}$, denoting the conditional survival probability for transitioning from period t to period $t + 1$, given that age t has been reached.

Drawing from Carroll (2011), the income generation process is delineated as follows: Income Y_t is a result of combining various factors. It begins with the previous period's permanent income P_{t-1} and incorporates an adjustment based on the age-earnings profile denoted by G_t. Additionally, it considers a log-normal distributed shock N_t and a transitory shock Θ_t. In this way, the evolution of income is described by the equation:

Following Carroll (2011), income Y_t is a result of combining permanent income P_t, an adjustment based on the age-earnings profile G_t, a log-normal distributed shock N_t and a transitory shock Θ_t. In this way, income evolves according to the equation:

$$Y_t = P_{t-1} G_t N_t \Theta_t \tag{A2}$$

The permanent income is captured by the relationship:

$$P_t = P_{t-1} G_t N_t \tag{A3}$$

We parameterize the utility function by selecting $u(C) = C^{1-\rho}/(1-\rho)$, and the bequest motive function by choosing $B(X) = b(X/b)^{(1-\rho)}/(1-\rho)$, where ρ denotes the curvature of the utility function. To numerically address the consumer's problem, we employ the method of endogenous grid points, as elucidated by Carroll (2011) and Love (2013), which allows us to find solutions to the consumer's optimization problem efficiently.

AI.2 Calibration

To demonstrate how bequest motives influence household choices across the life cycle, we conduct a comparative analysis of solutions derived from the dynamic life-cycle model when agents make decisions with standard bequest motives versus without bequest motives. This comparison is established by examining two different calibrations of the model's bequest motives, specifically when the bequest parameter b is set to 2.5 (with bequest motives, following Gomes and Michaelides (2005)) and when it is set to 0 (without bequest motives). Through this comparison, we aim to reveal the impact of bequest motives on individuals' financial decisions throughout their life cycle.

To establish the parameter values, we align with existing research on life-cycle behavior that attempts to match the hump shape in consumption over the life cycle (e.g., Gourinchas and Parker (2002)). Similar to this literature, we construct a life-cycle consumption series using data from the Consumer Expenditure Survey (CEX)**, with the variable TOTEXPPQ**. Our methodology, inspired by Fernández-Villaverde and Krueger (2007),

involves generating consumption profiles that eliminate the influence of business-cycle fluctuations, cohort effects, and heterogeneity in household size. Specifically, we employ data from **the years 1996 to 2003** in the CEX. To ensure consistency, we convert the expenditure series **into 2010 dollars**. Subsequently, we apply SMM to target the consumption series under the baseline of actuarial beliefs, which allows the parameters β and ρ to be unrestricted. Our estimation results reveal the coefficient of relative risk aversion ρ of 6 and a rate of time preference β of 0.98. To capture the influence of bequest motives, we set the Bequest parameter to 2.5. Additionally, we assign the risk-free rate as 2%, the excess return as 4%, **and the standard deviation of the risky asset as 18%**. A summary of our parameter selection is presented in Table A1.

Following Love (2013) and Carroll and Samwick (1997), we utilize data from the Panel Study of Income Dynamics (PSID) covering the period **1970 to 2007** to calibrate the income process for our model. While various aspects of the life cycle are influenced by factors like family composition and marital status (as discussed in Love (2010), and Hubener et al. (2016)), our baseline calibration is centered on the average U.S. individual's life-cycle income. Specifically, we focus on individuals living in a married household **without dependents**. Notably, we allow for a nonzero correlation between permanent income and excess returns while individuals are in the working phase. However, we set this correlation to zero during retirement.

Parameter	**Value**	**Parameter**	**Value**
Risk aversion (ρ)	6	Retirement age (T^R)	65
Discount factor (β)	0.98	Maximum age (T)	95
Risk-free rate (R^f)	0.02	Uncertain income in retirement?	no
Equity premium ($R^e_t - R^f$)	0.04	Bequest parameter (b)	2.5

Table A1: Parameter of standard dynamic life-cycle model: This table presents the parameters used in our standard dynamic life-cycle model. We estimate the parameters β and ρ, and set the value of other parameters according to our framework.

AII Additional Figures and Tables

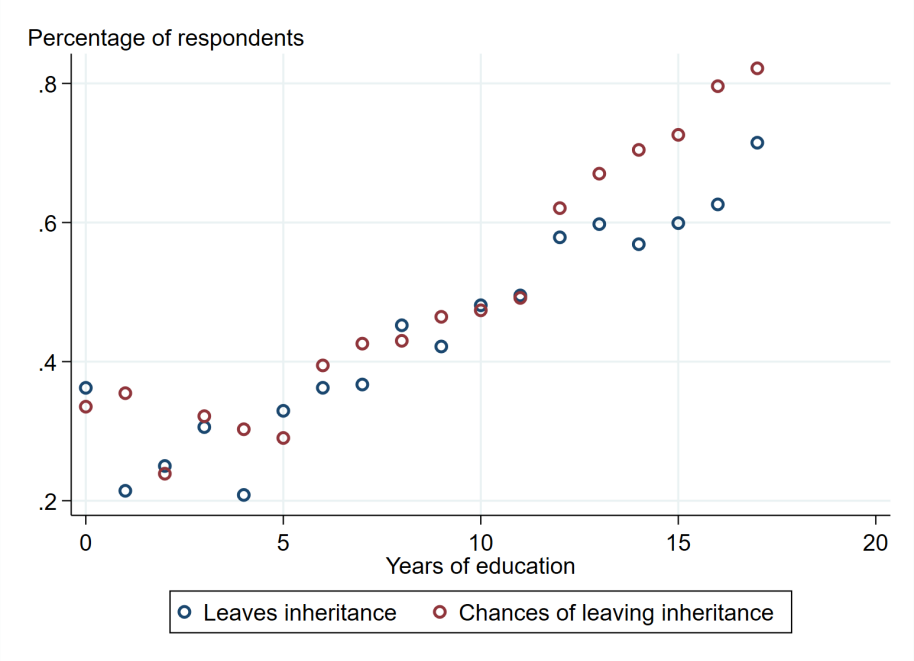


Figure A1: This figure shows the correlation between years of education and the likelihood of leaving a bequest. The data utilized in this figure are sourced from the HRS. As the number of years of education increases, both the probability of actually leaving an inheritance and the chances of leaving one increase.

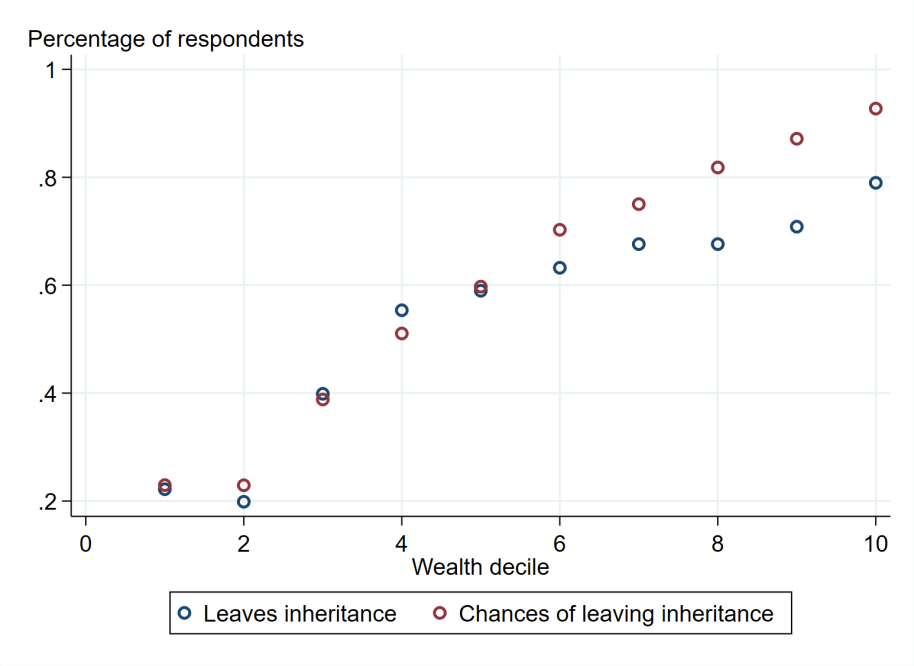


Figure A2: This figure shows the correlation between wealth and the likelihood of leaving a bequest. The data utilized in this figure are sourced from the HRS. We categorize the respondents into ten groups based on their wealth. As individuals accumulate more wealth, the likelihood of them leaving an inheritance also increases.

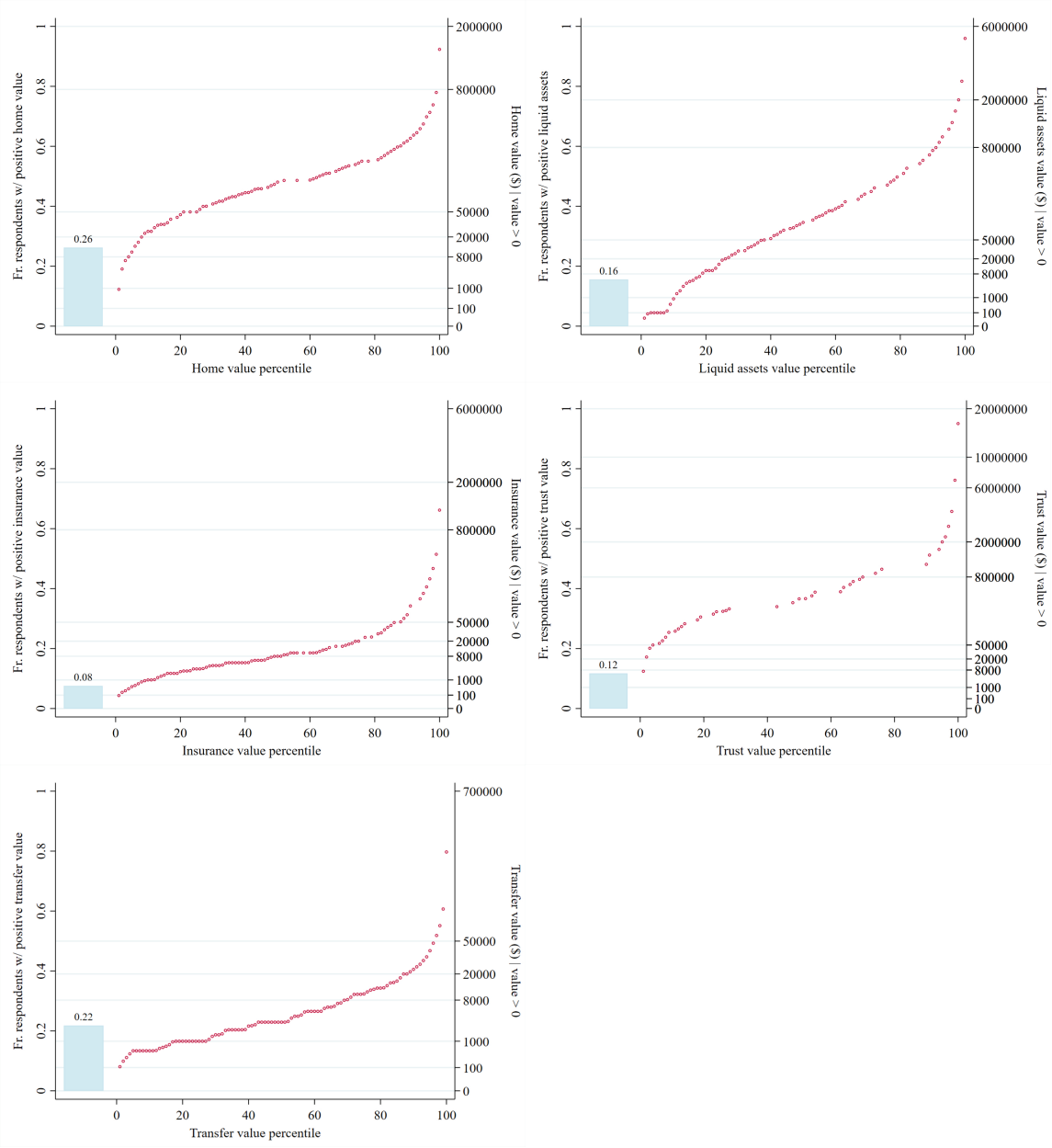


Figure A3: This figure shows the ratio of respondents with positive bequest values and the distribution of the bequest value for five components of bequests. The data utilized in this figure are sourced from the HRS.

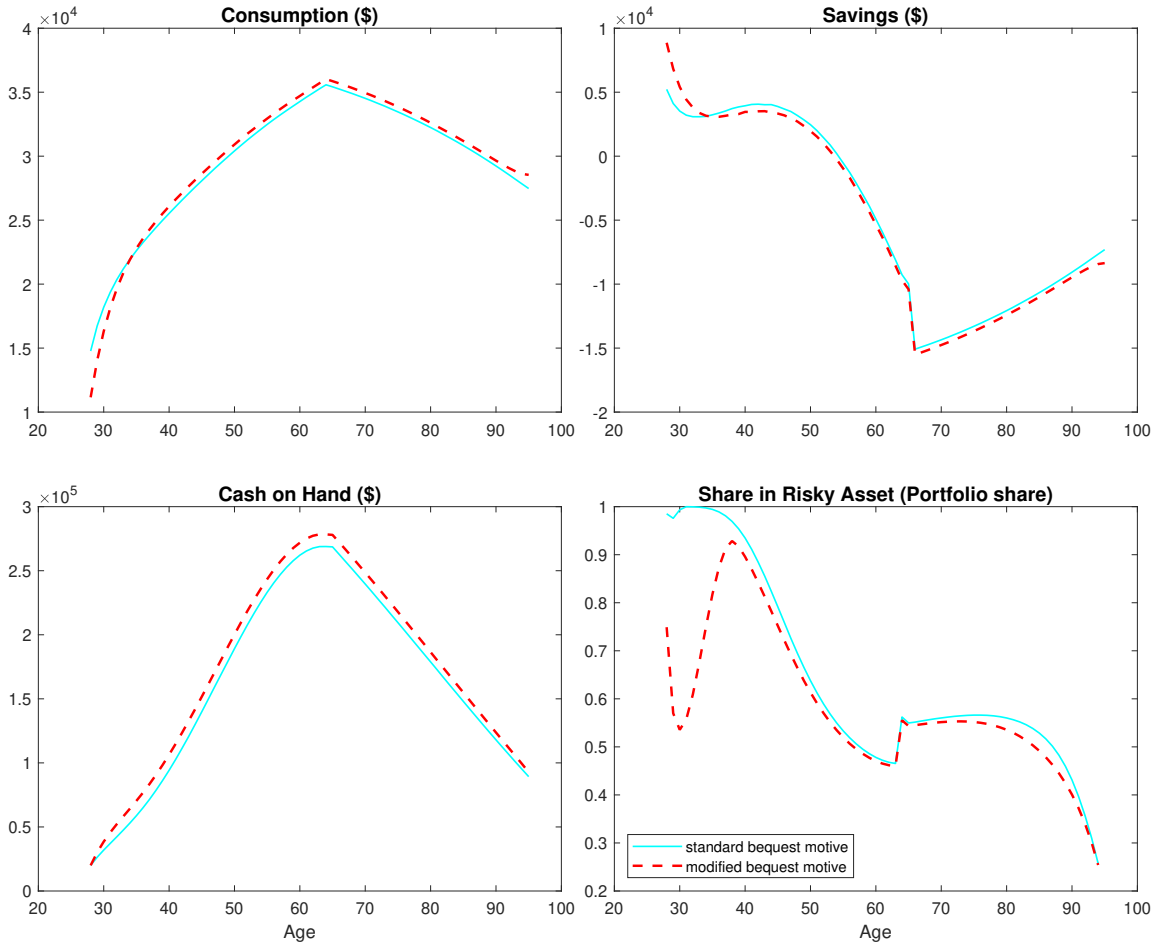


Figure A4: This figure presents the paths of consumption, savings, cash-on-hand, and the portfolio share of the risky asset obtained when bequest preferences are U-shaped over the life-cycle.

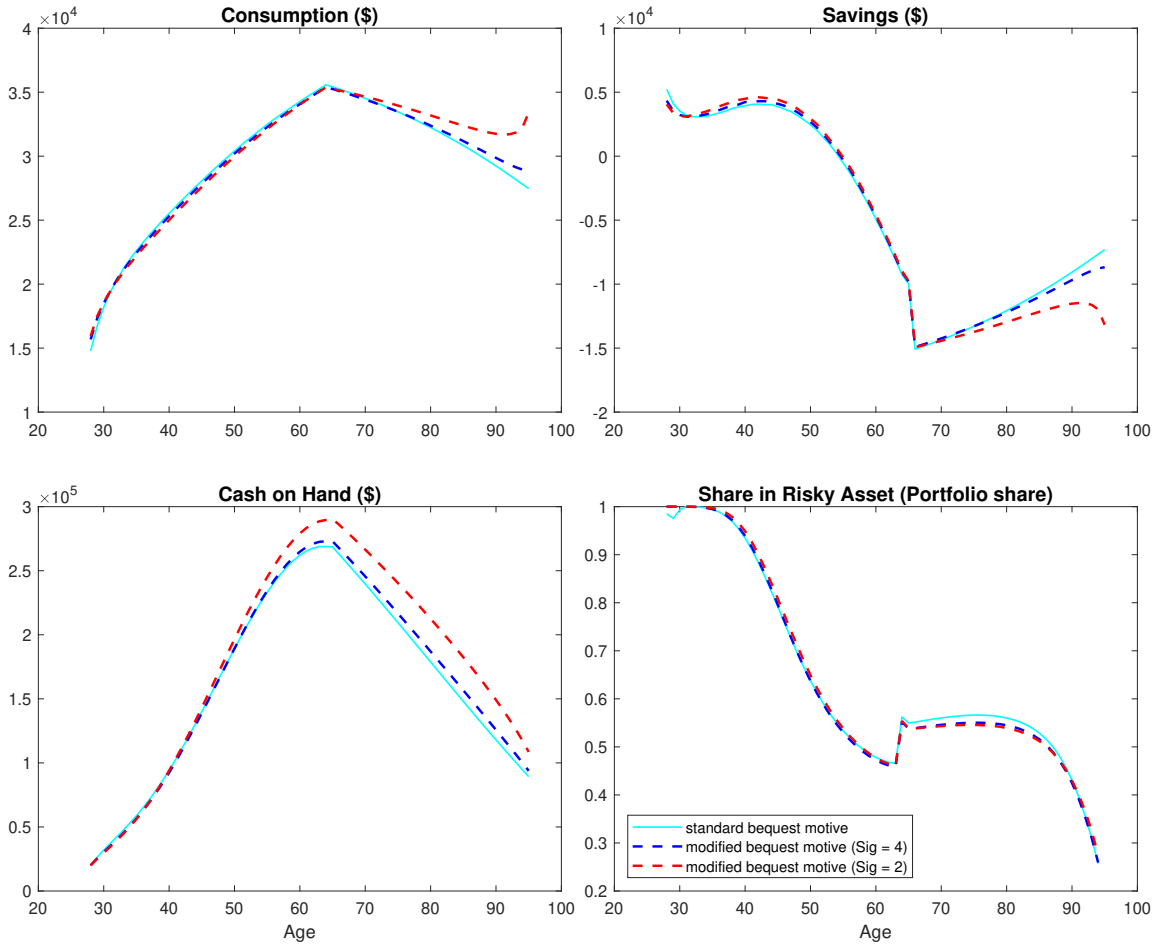


Figure A5: This figure presents the paths of consumption, savings, cash-on-hand, and the portfolio share of the risky asset obtained when bequest preferences are a luxury good.

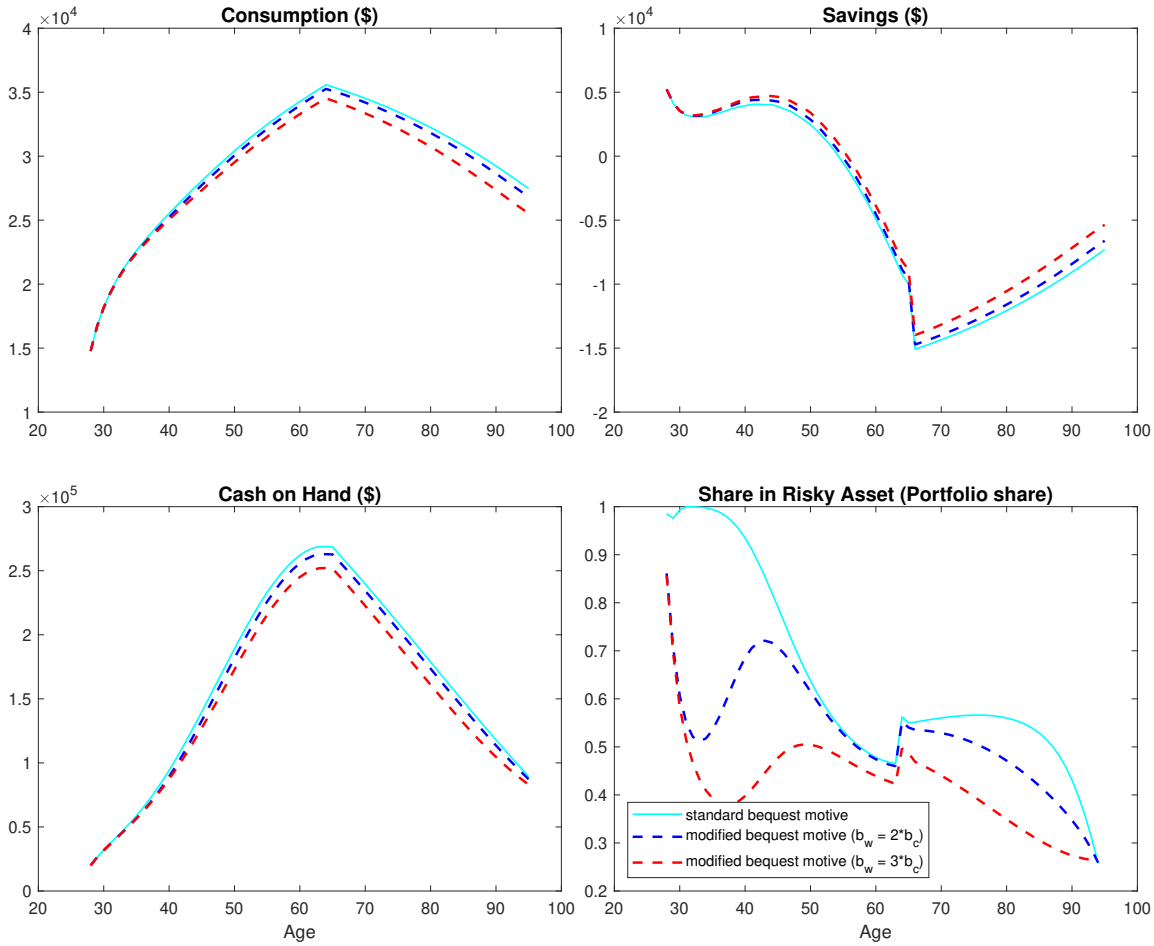


Figure A6: This figure presents the paths of consumption, savings, cash-on-hand, and the portfolio share of the risky asset obtained when stockholders have larger bequest preferences.

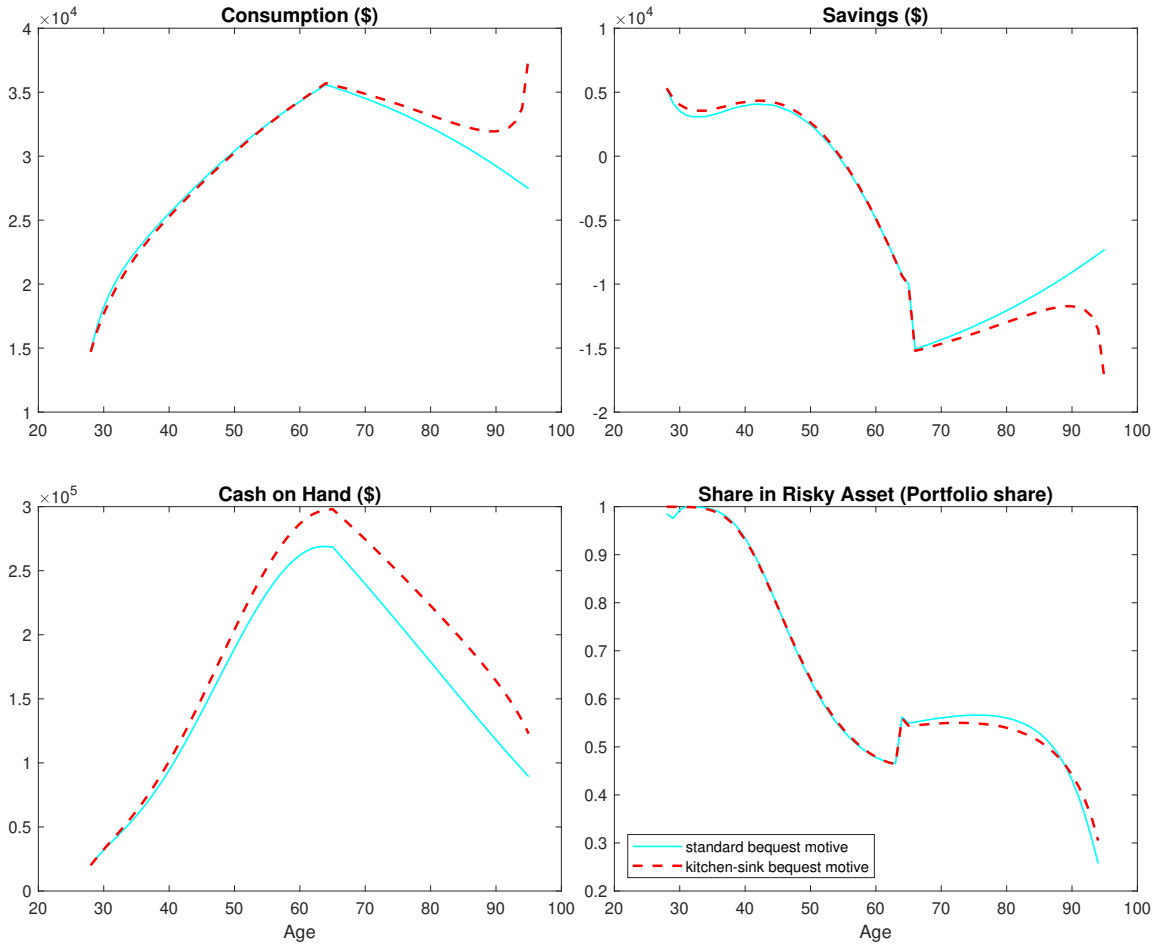


Figure A7: This figure presents the paths of consumption, savings, cash-on-hand, and the portfolio share of the risky asset obtained from the solution to the Kitchen-sink model.

Panel A

	(1)	(2)	(3)
Dep. Var =	Bequest intention (%)		
own_stock	0.99***	0.95***	0.95***
	(0.24)	(0.24)	(0.24)
networth_Z		0.31***	0.31***
		(0.07)	(0.07)
marital status	Yes	Yes	Yes
health status	No	No	Yes
smoker	No	No	Yes
Individual FE	Yes	Yes	Yes
Age FE	Yes	Yes	Yes
Year FE	Yes	Yes	Yes
Observations	75,074	75,074	74,529
R^2	0.80	0.80	0.80

Panel B

	(1)	(2)	(3)
Dep. Var =	Bequest intention (more than 10k, %)		
own_stock	1.95***	1.87***	1.87***
	(0.24)	(0.24)	(0.24)
networth_Z		0.68***	0.68***
		(0.13)	(0.13)
marital status	Yes	Yes	Yes
health status	No	No	Yes
smoker	No	No	Yes
Individual FE	Yes	Yes	Yes
Age FE	Yes	Yes	Yes
Year FE	Yes	Yes	Yes
Observations	143,479	143,479	142,563
R^2	0.67	0.67	0.67

Panel C

	(1)	(2)	(3)
Dep. Var =	Bequest intention (more than 100k, %)		
own_stock	2.83***	2.70***	2.67***
	(0.30)	(0.30)	(0.31)
networth_Z		1.12***	1.12***
		(0.21)	(0.21)
marital status	Yes	Yes	Yes
health status	No	No	Yes
smoker	No	No	Yes
Individual FE	Yes	Yes	Yes
Age FE	Yes	Yes	Yes
Year FE	Yes	Yes	Yes
Observations	141,907	141,907	141,008
R^2	0.72	0.72	0.72

Panel D

	(1)	(2)	(3)
Dep. Var =	Bequest intention (more than 500k, %)		
own_stock	1.49***	1.30***	1.26***
	(0.26)	(0.26)	(0.26)
networth_Z		1.70***	1.69***
		(0.30)	(0.30)
marital status	Yes	Yes	Yes
health status	No	No	Yes
smoker	No	No	Yes
Individual FE	Yes	Yes	Yes
Age FE	Yes	Yes	Yes
Year FE	Yes	Yes	Yes
Observations	140,902	140,902	140,021
R^2	0.70	0.70	0.70

Table A2: Robustness tests: demographic characteristics and bequest intentions of different amounts. This Table uses the HRS dataset. Panels A-D present the results of a regression analysis exploring the relationship between demographic characteristics and bequest intentions (any, more than 10k, more than 100k, more than 500k, %, respectively).