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Effects of Inheritance Receipt

Jeffrey R. Brown
University of Illinois at Urbana-Champaign and NBER

Courtney C. Coile
Wellesley College and NBER

Scott J. Weisbenner
University of Illinois at Urbana-Champaign and NBER

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I. INTRODUCTION

Inheritances and *inter vivos* gifts account for a very substantial share of total household net worth in the U.S. While the exact share has been the subject of an ongoing debate in the literature, with estimates ranging from 20% to 80% of net worth, even the lower bound of the estimates suggests that transfers are quite large. For example, Brown and Weisbenner (2004) estimate the value of all transfers ever received at \$5.4 Trillion in 1998, or just under one-fifth of total household net worth, and the value of expected future transfers at \$2.9 Trillion. As not all families receive bequests, their importance for the families that do receive them is even greater than what these numbers suggest. Indeed, Brown and Weisbenner (2004) estimate that the value of past transfers accounts for half of net worth among the 22% of households who have received a transfer and that the expected value of future transfers accounts for over half of net worth for the 13% of households who expect a future transfer.

When a bequest is received, a household has several options for how to spend it. The household may increase its current and future consumption and decrease its active saving. Household members may consume some of the new wealth in the form of leisure and decrease their labor supply, either by exiting the labor force, reducing hours, or switching to a job with a lower or more uncertain income but other desirable characteristics. The household also may change its plans to leave an inheritance or make an *inter vivos* gift to family or friends.

By studying these behavioral responses to bequest receipt, we can better understand the implications of the very substantial intergenerational transfers in our society for aggregate labor supply and savings behavior and for inequality. For example, calculations of the share of household net worth due to intergenerational transfers or of the effect of transfers on inequality depend on the elasticity of labor supply with respect to bequests.

Furthermore, studying the behavioral responses to bequest receipt can potentially shed light on several important economic issues. First, although economists traditionally assume that leisure is a normal good, standard estimates of the effect of non-wage income on labor supply provide only weak support for this assumption, perhaps because non-wage income is endogenous or measured with error. An inheritance, particularly one that is unexpected, provides a wealth shock that can be used to generate a better estimate of the effect of income on the consumption of leisure. Similarly, an inheritance offers an opportunity to estimate the marginal propensity to consume out of wealth. Finally, some debates over fiscal policy in the past few decades have centered on whether households incorporate the utility of future generations into their own utility function so that all generations operate under a common intertemporal budget constraint. This theory can be tested by looking at the behavioral responses to bequest receipt, as it implies that the realization of bequests should have no effect on behavior, at least in the strictest case.

Despite the potentially important effects of inheritances on household behavior for the many families who receive them and the larger implications of these behavioral responses, most research has focused not on the effects of bequest receipt, but rather on bequest motives and the magnitude of transfer wealth. There are a few exceptions to this, notably Holtz-Eakin et. al. (1993) and Joulfaian and Wilhelm (1994), which focus primarily on the effect of bequests on labor supply, and several papers that examine the effect of bequest receipt on entrepreneurship.

In this paper, we explore the effect of bequest receipt on labor supply, expectations about making a bequest or *inter vivos* gift, and consumption. In our analysis, we use data from the Health and Retirement Study (HRS) for the 1994 to 2002 period for a group of households in their 50s and 60s. Specifically, we examine whether the receipt of a bequest between waves of

the survey (over a two-year period) affects the decision to retire during that period, the change in expectations about making a bequest or *inter vivos* gift, and the change in consumption; we also look at the effects of bequest receipt over our full sample period of eight years.

This paper makes two primary contributions to the literature on the behavioral effects of inheritance receipt. First, to the best of our knowledge this is the first study to use data on *ex-ante* bequest expectations to identify whether bequests received by the household were anticipated and to test whether the behavioral response to bequest receipt differs for expected and unexpected bequests. This distinction is potentially important in estimating wealth effects – if households adjust their behavior prior to bequest receipt when a bequest is anticipated, then an estimate that is based on both expected and unexpected bequests will provide an underestimate of the true effect of wealth shocks on behavior. Being able to distinguish between expected and unexpected bequests is also potentially helpful for identification purposes. If we are concerned that bequest receipt may be correlated with unmeasured characteristics that affect the behaviors of interest, then unexpected bequests offer a plausibly more exogenous source of variation in wealth. Second, we look at a broader range of behavioral responses to bequest receipt than the previous literature, as we look not only at labor supply and consumption but also at plans to make a bequest or *inter vivos* gift.

We have several major findings. First, we find that the receipt of a bequest is associated with an increased probability of retirement and of making a bequest or *inter vivos* gift and that the magnitude of the response is increasing in the size of the bequest for these behaviors and also for food consumption. Second, we find evidence that the response to unexpected bequests is larger than the response to expected bequests. Implications of these findings are discussed in more detail below.

II. BACKGROUND AND LITERATURE REVIEW

Inheritances and *inter vivos* gifts constitute a significant fraction of total household net worth and can be extremely important for the families who receive them, as is illustrated in Tables 1-2. These tables are based on Brown and Weisbenner (2004) and reflect calculations made using the 1998 Survey of Consumer Finances (SCF), with figures weighted to reflect totals for the U.S. population. The SCF is the preferred data set for generating population estimates of household wealth, as it is representative of the full age distribution and over-samples high-wealth individuals in order to obtain accurate information on the upper tail of the wealth distribution.

Several issues arise in aggregating past transfers into a single measure of transfer wealth, including the question of whether to treat investment returns on past transfers as part of the value of the transfer, and if so, what rate of investment return to apply. Table 1 shows the sensitivity of transfer wealth estimates to these assumptions. If investment returns are disregarded by simply adjusting past transfers for inflation, then the value of transfer wealth is equal to \$2.5 Trillion (in \$1998) or 9% of total household net worth. If investment returns are included and past transfers are estimated to grow at the long-term high-grade corporate bond rate, which is roughly equal to a 3% annual real rate of return, then the value of transfer wealth doubles to \$5.4 Trillion or 19% of net worth. In either case, inheritances are roughly three-quarters of total transfer wealth and *inter vivos* gifts are one-quarter; gifts from parents make up 70% of transfer wealth and gifts from grandparents are 15%. If a higher rate of investment return is used, the estimated value of transfer wealth increases greatly and the share of wealth attributable to inheritances and to gifts from grandparents rises because such gifts are more likely to have been received early in life.

The top half of Table 2 shows the ratio of received transfer wealth to net worth by age and net worth categories, scaling past transfers by the corporate bond rate. As noted above, received transfer wealth is equal to 19% for all households, but this average masks substantial heterogeneity. Older households are more likely to have received a transfer (33% of those age 65+ have, vs. 22% of those aged 40-64 and 14% of those under 40) and thus transfers constitute a relatively higher share of their net worth (31% for households 65+, vs. 13% for the younger age groups). The ratio of transfer wealth to net worth also falls as net worth rises, from 42% for the lowest net worth group to 16% for the highest. The second panel of the table restricts the sample to those who have received a transfer. Naturally, the ratio of transfer wealth to net worth is now higher: it is equal to 50% of net worth for the 22% of households who have received a transfer. The same patterns are visible with regards to age and net worth category.

The lower half of Table 2 displays the ratio of expected future transfer wealth to net worth. Here, the age pattern is reversed: 18% of households under 40 and 15% of households age 40 to 64 expect a future transfer, compared to only 3% of those age 65 and above, and the ratio of expected transfer wealth to net worth falls with age as well. The net worth pattern is the same, with lower net worth groups expecting future transfers to be a larger share of their net worth. As before, limiting the sample to those expecting a transfer shows that transfers are quite important for these households – on average, expected transfers are equal to 54% of net worth.

One major focus of the previous economic literature on bequests is the importance of transfers in aggregate wealth accumulation. Responding to the introduction of the life-cycle hypothesis by Modigliani & Brumberg (1954) and Ando & Modigliani (1963) and its implication that wealth arises primarily from households saving out of current income to finance retirement consumption, Kotlikoff & Summers (1981) argued that bequests play a very important role in

wealth accumulation, accounting for 80% of household net worth. Subsequent articles have offered wide-ranging estimates of the share of net worth resulting from transfers and have clarified some of the reasons for these differences, including the treatment of investment returns on past transfers or of *inter vivos* gifts including college tuition.¹

A second major branch of the bequest literature has proposed and tested numerous theories of why households make bequests. Yaari (1964) suggested that households might derive utility from the act of making a bequest, the “joy of giving” theory. Barro (1974) introduced a theory of intergenerational altruism, in which households would derive utility from their children’s consumption. Bernheim, Shleifer, and Summers (1985) proposed an exchange motive, whereby parents might use bequests to induce children to behave as desired. Abel (1985) suggested that many bequests might be unintentional if households are unable to completely spend down their assets in retirement due to uncertainty about their date of death and imperfect annuity markets. Many subsequent studies have tested these theories.²

Most relevant for our analysis is the small literature on the effects of bequest receipt on household behavior. Holtz-Eakin et. al. (1994a, 1994b) and Blanchflower and Oswald (1998) find that bequest receipt is associated with an increased probability of becoming an entrepreneur. Holtz-Eakin et. al. (1993) and Joulfaian and Wilhelm (1994) examine the effect of inheritance receipt on labor supply. Holtz-Eakin et. al. (1993) use a sample of estate tax returns from the

¹ See Modigliani (1988), Kotlikoff (1988), and Kessler and Masson (1989) for a useful exposition of some of these issues. Gale & Scholz (1994) point out the important role of *inter vivos* gifts including college tuition and conclude that *inter vivos* gifts account for at least 20% of net worth (32% if college tuition is included) and bequests a further 31%. Gale & Slemrod (2000) survey several papers based on overlapping generations model simulations, which have generated a wide range of estimates and demonstrated the importance of factors such as credit constraints. Brown and Weisbenner (2004) offer new estimates that account for the correlation between wealth and mortality and examine the distribution of bequests in the population.

² See, for example, Bernheim (1991), Wilhelm (1996), Perozek (1998), McGarry (1999) McGranahan (2000), Page (2003), and Light and McGarry (2004) for tests of these theories in the context of bequests and Cox (1987), Cox and Rank (1992), and McGarry and Schoeni (1995, 1997) for tests in the context of *inter vivos* gifts.

early 1980s matched to the income tax returns of beneficiaries before and after bequest receipt and find that people receiving large inheritances are several times more likely to leave the labor market than people receiving small inheritances. Using the Panel Survey of Income Dynamics, Joulfaian and Wilhelm (1994) find significant but small effects of inheritance receipt on hours worked for prime-age workers, inconsistent effects on transitions to retirement for older workers, and small effects on consumption.

This paper offers several contributions relative to past research. First, we make use of data on bequest expectations to test whether the labor supply and other effects of inheritance receipt depend on whether bequests are anticipated. As authors of previous studies have noted, the inability to distinguish among bequests that are expected and unexpected introduces a potential downwards bias in their estimates of wealth effects, as the adjustment to an expected bequest may have already occurred prior to bequest receipt. Moreover, if bequest receipt is correlated with unmeasured characteristics that may also affect the behaviors of interest, such as the preference for leisure or discount rate, then unexpected bequests may offer a better source of identification for wealth effects if they are less correlated with such characteristics. Second, we are the first to look at the effect of bequest receipt on plans to leave a bequest or make an *inter vivos* gift, which are potentially important pathways by which the bequest may be spent. Finally, the availability of new data for a sample of persons of near-retirement age offers us the opportunity to improve upon the inconclusive results of Joulfaian and Wilhelm (1994) as to the effect of bequests on retirement transitions and to include a richer set of covariates than either of the previous papers on bequests and labor supply.

III. DATA AND EMPIRICAL STRATEGY

The data set for the analysis is the Health and Retirement Study (HRS). The HRS began in 1992 as a survey of people who were ages 51-61 and their spouses, with re-interviews of these individuals every two years.³ We use data from waves 2 through 6 (1994-2002) in the analysis because some of the key bequest variables are not available in wave 1.⁴ The HRS provides richly detailed data on respondents' labor supply, health, and finances. For our purposes, one important feature of the HRS is that it provides a wealth of information on bequests at each wave, including whether a bequest was received since the last wave and the respondent's self-reported probability of receiving and leaving any bequests in the future. A second important feature of the HRS is that we can follow the same individuals over time, which allows us to look at how behavior changes following bequest receipt.

Our empirical strategy is straightforward: we examine whether bequest receipt is associated with a change in the outcome measures of interest. Specifically, we first estimate the following model:

$$\Delta outcome_{it} = \beta_0 + \beta_1 inhdum_{it} + \beta_2 X_{it} + \gamma_t + \varepsilon_{it} \quad (1)$$

where $\Delta outcome_{it}$ measures the change in the outcome measure for person i between the previous wave and wave t , $inhdum_{it}$ is a dummy variable equal to 1 if an inheritance was received between the previous wave and wave t , and X_{it} is a vector of demographic characteristics including exact age dummies, race/ethnicity, gender, marital status, a dummy for poor health status at the previous wave and the change in this dummy, net worth at previous wave, education level dummies, pension type dummies, industry and occupation dummies, and region dummies, and γ_t is a wave fixed effect. The outcome measures of interest include:

³ Starting in 1998, additional birth cohorts were added to the HRS; however, this analysis focuses on the original HRS sample.

⁴ The wave 6 data used in the paper is the preliminary release; all other waves are final release.

retirement since previous wave, the change in the expected probability of leaving a bequest or making an inter vivos gift, and the change in consumption.

We also estimate alternative specifications that may capture the effect of bequest receipt in a richer way. In our second specification, we replace the inherit dummy with the value of the inheritance, as we expect the magnitude of the response to increase with the size of the bequest:

$$\Delta outcome_{it} = \beta_0 + \beta_1 inhval_{it} + \beta_2 X_{it} + \gamma_t + \varepsilon_{it} \quad (2)$$

In our third specification, we decompose the value of the inheritance into its expected and unexpected components:

$$\Delta outcome_{it} = \beta_0 + \beta_1 inhval_{exp_{it}} + \beta_2 inhval_{unexp_{it}} + \beta_3 X_{it} + \gamma_t + \varepsilon_{it} \quad (3)$$

where the expected inheritance value ($inhval_{exp_{it}}$) is the lesser of the expected value of the bequest reported at the previous wave and the actual bequest received and the unexpected inheritance value ($inhval_{unexp_{it}}$) the difference between the actual inheritance value and the expected inheritance value if this difference is positive, or else it is zero.⁵ The expected inheritance value plus the unexpected inheritance value are equal to the actual inheritance value. Examining whether β_1 is equal to β_2 will allow us to test whether the responses to expected and unexpected bequests are the same.

In the final specification, we build on equation (3) by adding a variable to capture the effect of new information about bequest expectations that arrives between waves. This variable, which we refer to as the change in unrealized bequest expectations, is calculated as follows:

⁵ The expected value is the product of the answers to the following two questions: a) “And how about the chances that you will receive an inheritance within the next 10 years?” (0-100%) and b) “About how large do you expect that inheritance to be?”. Approximately 40% of people who give an expected probability of bequest receipt greater than zero are unable to provide a value; however, 80% of these respondents answer a series of questions that allow the value of the bequest to be put in one of the following brackets: \$0-\$10,000, \$10,000-\$50,000, \$50,000-\$250,000, \$250,000-\$1,000,000, or over \$1,000,000. In these cases, the midpoint of the bracket is assigned as the value, or \$2,000,000 for the very few observations in the over \$1,000,000 bracket. Those respondents who do not answer the bracket questions are dropped from the analysis, as are those who are unable to give a probability of bequest receipt.

$$chgunreal\ exp_{it} = E(inhval)_{it} - \max(0, E(inhval_{it-1}) - inhval_{it})$$

This variable is equal to zero for anyone who has no unexplained change in their bequest expectations. For example, it is zero for: a) someone who expected a bequest, received exactly the expected amount, and now reports no expected future bequest; b) someone who received a smaller than expected bequest but continues to report the difference as an expected bequest; or c) someone whose bequest has not yet been realized but continues to report the same expected bequest value. On the other hand, for someone who received a smaller than expected bequest and now reports no future expected bequest or for someone who now expects a larger bequest than at the previous wave, this variable captures the value of that new information. If people react to expected bequests before they are realized, then we would expect them to also react to changes in their bequest expectations.

The above models are estimated using a sample of “person-wave” observations from the HRS. HRS wave 1 respondents contribute one observation to the sample for each wave between waves 3 through 6, generating a potential sample of 50,608 person-wave observations.⁶ The sample exclusions are as follows: 12,426 observations are lost because the individual died, left the sample, or divorced or separated before wave 6; 4,603 observations are lost because the person did not report a probability of bequest receipt; and 1,018 observations are lost because the individual gave a positive probability of bequest receipt but could not provide a value or answer bracket questions about it. The final sample is 32,521 person-wave observations, or 17,822 for the retirement regressions, which are restricted to persons working at the previous wave.⁷

⁶ Observations from waves 1 and 2 cannot be used for the analysis because the expected bequest questions are first asked as wave 2, so the expected value of bequest at the previous wave is not available until wave 3.

⁷ The regressions using the change in the expected probability of making a bequest or *inter vivos* gift and the change in the depression index have about 5% fewer observations than the number here due to missing data for the

An alternative to looking at the effect of bequest receipt over a two-year period for a sample of person-wave observations is to look at the effect of bequest receipt during the entire sample period (1994-2002) on the change in outcomes over this period. We refer to this as the “long-difference” estimation. In this approach, each individual contributes only one observation to the sample and those individuals who leave the sample or separate from their spouse before wave 6 are excluded entirely from the analysis (while they might be able to contribute several person-year observations to the other sample). The long-difference approach matches up somewhat better with the questions about expected bequests, which ask about bequest receipt over the next ten years. The long-difference approach can potentially include longer-term responses to bequest receipt, while the original approach will focus on more immediate responses. We view the two approaches as complementary and will estimate the models using both the person-wave sample and the long-difference sample.

Summary statistics for the two samples are shown in Table 3, beginning with the dependent variables; values given in the text are for the person-wave sample except as noted. Transitions into retirement are very frequent in this population – on average, 19% of workers retire over a two-year period and 54% retire over an eight-year period. Many people plan to leave an inheritance of at least \$10,000 (69%) or even \$100,000 (40%) or to make a gift of at least \$5,000 within the next ten years (35%); the average change in these variables over time is generally quite small, with a slight decrease in the probability of making a gift and a slight increase in the probability of making a bequest. The HRS asks about food consumption at waves

dependent variable. The consumption regressions are estimated using many fewer observations due to data limitations, as described in more detail below.

1-2 and 5-6 only, so the person-wave analysis is limited to using the change in food consumption between waves 5 and 6.⁸ Average weekly food consumption is \$111 with an average drop of \$5.

About 5% of the sample receives an inheritance over a two-year period and nearly 18% receive one over an eight-year period. More information on the value of inheritances (in 2002 dollars) for those who receive them is shown on Table 4. In the person-wave sample, the mean and median values are \$72,500 and \$30,000, respectively, indicating that the distribution of inheritance values is highly skewed; indeed, one-quarter of bequest recipients receive less than \$10,000 while the top 5% receive bequests in excess of \$300,000. Table 4 also indicates that many bequests are either entirely unexpected or larger than expected. Some 40% of inheritance recipients give an expected value of bequests of zero and the average ratio of expected bequests to total bequests is 37%. The inheritance values for the long-difference sample are fairly similar.

IV. RESULTS

Effects on Retirement

The retirement regression results are shown in Table 5, first for the person-wave sample and then for the long-difference sample.⁹ In column 1, receiving a bequest is associated with a 2.5 percentage point increase in the probability of retirement over a two-year period, or 13% of the baseline retirement rate of 19%; the effect is statistically significant at the 10% level. In column 2, the bequest receipt dummy is replaced with a continuous measure of the inheritance value. Increasing the value of the inheritance by \$100,000 is found to increase the probability of retirement by 2.1 percentage points and the effect is statistically significant at the 5% level.

⁸ Food consumption is the sum of food stamps and expenditures on food eaten at home, food delivered to the home, and food eaten outside the home. Food consumption has been used by many researchers as a proxy for total consumption and has been validated as a useful proxy.

⁹ In all regressions using the person-wave sample, standard errors are clustered at the person level to correct for arbitrary forms of serial correlation in the error term for an individual across survey waves.

Column 3 decomposes the effect of a bequest into its expected and unexpected components. Interestingly, the effect of an unexpected bequest is more than twice as large as the effect of an expected bequest, 2.7 percentage points for a \$100,000 unexpected bequest vs. 1.2 percentage points for an equivalent expected bequest, and only the former is statistically significantly different from zero (at the 10% level). However, given the large standard errors we fail to reject the hypothesis that the two coefficients are equal. In column 4, we add the variable for the change in unrealized bequest expectations. Its inclusion has little effect on the expected and unexpected bequest coefficients and its own effect is small and statistically insignificant.

Results from the long-difference specifications are shown in the right half of the table and are quite similar. Receiving an inheritance is associated with a 3.6 percentage point increase in the probability of retirement; when compared to the baseline retirement probability over an eight-year period (54%), this effect is half as large as the effect in the person-wave analysis. Increasing the inheritance value by \$100,000 is found to increase the probability of retirement by 3 percentage points. As above, the estimated effect of unexpected bequests exceeds that of expected bequests (3.2 vs. 2.7 percentage points), but we cannot reject the hypothesis that the coefficients are the same. All of these coefficients are significant at the 5% level or better; the fact that the expected bequest coefficient is now significant marks a change from the person-wave analysis. As before, the change in unrealized expectations variable is highly insignificant and its inclusion has little effect. The results suggest that workers may respond more to unexpected than to expected bequests, though the findings are not conclusive on this point.

Effects on Probability of Making a Bequest or Inter Vivos Gift

Tables 6a-6c explore the effect of bequest receipt on *change* in the respondent's self-reported probability of leaving an inheritance greater than or equal to \$10,000, leaving an inheritance greater than or equal to \$100,000, or making an *inter vivos* gift of at least \$5,000 within the next ten years. The results are qualitatively similar across these three dependent variables, so we focus on the results in Table 6b (those for inheritances greater than \$100,000) in our discussion. The left half of the table refers to the change over a two-year period, the right half to the change over an eight-year period.

The first column indicates that receiving a bequest is associated with a 3 percentage point greater increase in the probability of making a bequest of at least \$100,000; this is more than double the 2% average increase in the probability of making a bequest over \$100,000 reported by respondents over a two-year period, or about 8% of the baseline 40% probability of making such a bequest. The second column indicates that the effect of increasing the value of the inheritance by \$100,000 is to raise the probability of leaving a bequest of at least \$100,000 by 1.3 percentage points.

The results from specifications 3 and 4 are similar to those in the retirement regressions. When bequests are split into the expected and unexpected portion, both have a positive effect on the probability of leaving a bequest over \$100,000, but the effect of unexpected bequests is much larger (2.1 percentage points vs. 0.4) and is significant at the 5% level, while the effect of expected bequests is not significant. A test of the equality of the two coefficients again fails to reject the null that they are equal. The effect of adding the change in unrealized bequest expectation variable is the same as in the retirement regressions. The long-difference results are nearly identical to the person-wave results.

Results using the expected probability of making a bequest of at least \$10,000 as the dependent variable are quite similar to those in Table 6b. One finding worthy of note is that the difference between the coefficients for expected and unexpected bequests is statistically significant at the 1% level in the person-wave analysis. However, the coefficients in the long-difference analysis are somewhat smaller and not significant. The coefficients in Table 6a may be smaller than those in Table 6b because most people are already planning to leave a bequest of at least \$10,000 regardless of inheritance, though this would not explain the difference between the person-wave and long-difference results on Table 6a. The magnitudes of the coefficients in Tables 6b and 6c are virtually identical, which is quite interesting given that they apply to two fairly different dependent variables, the change in the probability of making a bequest of at least \$100,000 and the change in the probability of making an *inter vivos* gift of at least \$5,000 in the next ten years, and that the baseline average change over time is positive for bequests and negative for *inter vivos* gifts.

Effects on Consumption

Table 7 displays the effect of bequest receipt on the change in weekly food expenditures. The coefficients from the person-wave sample are not statistically significant, but there are some similarities to previous results. Notably, the effect of increasing the value of the bequest by \$100,000 is to lower weekly food consumption by \$3 if the bequest is expected and to raise it by \$4 if the bequest is unexpected, and although both coefficients are not statistically different from zero, the difference between them is statistically significant. The results from the long-difference specification are somewhat stronger. Here, bequests always have a positive effect on food consumption, as expected. Increasing the value of the bequest by \$100,000 is associated

with a \$3.37 greater increase in weekly food expenditures, and the effect is significant at the 5% level. This effect is larger if the bequest is unexpected (\$4.76 vs. \$2.03) and the former coefficient is significant at the 10% level, though the difference between the two coefficients is no longer significant. The change in unrealized bequest expectations has a small and insignificant coefficient, as before.

Discussion of Results

It is interesting to compare the magnitude of our estimates to those in the previous literature. Joulfaian and Wilhelm (1994) find inconsistent effects of bequests on retirement, with bequests having a negative and significant effect on the probability of retirement in a linear specification and a positive but insignificant effect in a log specification. In a somewhat different context, Coronado and Perozek (2003) generate an estimate of the effect of wealth on retirement by looking at the effect of unexpected stock market gains. They find that receiving \$100,000 in unexpected gains led workers to retire 3 ½ months earlier than expected, though most of this was the effect of being a stockholder (3 months), with an additional \$100,000 in gains accelerating retirement by just two weeks. We find that a \$100,000 bequest increase the probability of retirement over two years by 2 to 3 percentage points, compared to a baseline retirement probability of 19%.

Joulfaian and Wilhelm (1994) look at the effect of bequests on consumption and find that a \$100,000 inheritance increases annual food consumption by \$1.80 if further bequests are not expected and by \$14.00 if they are expected. In our long-difference estimation, we find that a \$100,000 bequest is associated with a \$175 increase in annual consumption. Thus our results

seem to suggest larger and more robust effects of bequests on retirement and consumption than do these previous studies.

One of the innovations of our analysis is our ability to separately examine the effect of expected and unexpected bequests on behavior. Our results are strongly suggestive of a larger effect of unexpected bequests -- while the difference between the coefficients on expected and unexpected bequests is statistically significant in only a few cases, we consistently find that the unexpected bequest coefficient is larger than the expected bequest coefficient and that the unexpected bequest coefficient is statistically significantly different from zero, while the expected bequest coefficient is often not significant.

One explanation for the different response to expected and unexpected bequests is that people have already adjusted their behavior in response to an expected bequest and thus the realization of the bequest does not affect their behavior. If this were the case, we would also expect changes in bequest expectations to trigger changes in behavior. However, when we include this variable in our analysis, we find it to have a small and statistically insignificant effect. One reason why this may be the case is measurement error in the change in expectations variable. By construction, the change in expectations variable includes the difference between current and previous bequest expectations, so taking the difference of two noisy measures will necessarily amplify the measurement error. The standard deviation of the change in expectations variable is extremely large, lending some support to this hypothesis.

Comparison of Results to Survey Evidence

The HRS includes some survey questions that directly ask participants how they would respond to a wealth shock. These questions are part of an experimental module in waves 2-3,

and so are asked of only a subset of respondents. The premise is as follows: “Suppose you won a sweepstakes that will pay you an amount equal to your current family income every year for as long as you live.” Respondents are then asked whether they would increase their spending now, increase their savings now, give some of the money to relatives, and give some of the money to others, and if so, what percentage of the funds would be allocated to each purpose. Respondents are also asked if they would quit their job, work fewer hours, or switch to a lower-paying but more pleasant job.

The wave 2 responses to these questions indicate that a majority of respondents would do all of these things. Many respondents say they would decrease labor supply – among those who are working, 37% would quit their jobs, 34% would reduce their hours, and 12% would look for a lower paid but more pleasant job. Among all respondents, 67% say they would increase their spending, 75% would increase their savings, 78% would give some of the money to relatives, and 60% would give some of the money to others. On average, respondents say they would allocate 49% of the funds to savings, 20% to consumption, 16% to relatives, and 8% to others. Interestingly, these amounts sum to 93% of the sweepstakes value, which, when added to the amount spent on leisure through decreased labor supply, would seem to account for roughly the full value of the sweepstakes.

It is interesting to make a comparison of these answers to the behavioral responses from our analysis to see if they are roughly similar. We feel it is most appropriate to compare the effect of a sweepstakes win to the effect of an unexpected bequest, and therefore use these estimates for the long-difference sample. We first convert the flow of income described in the sweepstakes question to a stock by multiplying the family’s income by fifteen.¹⁰ This generates

¹⁰ This is the appropriate annuity conversion factor for a joint and survivor annuity for a couple who were both born in 1937, assuming a 5% nominal interest rate and cohort-specific life tables.

a median value of the sweepstakes of \$630,000; accordingly, we multiply our estimates of the effect of a \$100,000 unexpected bequest by 6.3 to approximate the value of the sweepstakes.

In general, the percent of respondents who say they would take a certain action is probably somewhat greater than the response suggested by our estimates. For example, our labor supply results indicate that the receipt of a \$630,000 inheritance raises the probability of retirement by 20.2 percentage points, which is less than the 37% of people who say they would quit their jobs. Similarly, our estimates suggest that a \$630,000 inheritance would increase the probability of making an inter vivos gift of at least \$5,000 by 14.5 percentage points and of making a bequest of at least \$100,000 by 18.7 percentage points; although the questions are not exactly equivalent, this compares to 79% (60%) who say they would spend some of the money on family (others) and median expenditures of \$54,000 (\$21,000) on these items. Also, our estimates suggest that a \$630,000 unexpected bequest would raise annual food consumption by \$1,560, which can be compared to a median increase in total spending of \$68,000.

V. CONCLUSIONS

Bequest receipt is an important phenomenon for the young elderly families in the Health and Retirement Study. Roughly 5% of HRS respondents receive a bequest over a two-year period and 18% receive one or more bequests over an eight-year period. These bequests can be quite large: the median value of bequests is \$30,000 and 5% of bequest recipients receive inheritances in excess of \$300,000.

When a household receives a bequest, it can spend it in a variety of ways – by increasing its consumption of goods and services, by reducing labor supply and thereby increasing the consumption of leisure, or by increasing transfers to family and friends via bequests or *inter*

vivos gifts. We find evidence of all three responses. Specifically, we find that the receipt of a bequest is associated with an increased probability of retirement and of making bequests and *inter vivos* gifts and that the magnitude of the response is increasing in the size of the bequests for these behavior and for consumption as well. Interestingly, our results also suggest that the response to unexpected bequests is larger than the response to expected bequests.

It is useful to consider what these findings tell us about whether individuals are forward-looking with respect to bequests when making economic decisions. The fact that unexpected bequests have a bigger effect than expected bequests is consistent with a model such as the life-cycle hypothesis where consumers are forward-looking and adjust their behavior in response to expectations prior to actual bequest receipt. This is also what is implied by the intergenerational altruism theory of bequest motives, which suggests that families operate under a common intertemporal budget constraint. However, as noted earlier, a model of forward-looking consumers would also imply that individuals respond to changes in bequest expectations, which we do not find, although this may be due in part to measurement error. Also, the fact that expected bequests do have effects on behavior, albeit smaller and less significant ones than unexpected bequests, may suggest that there are liquidity constraints that prevent consumers from fully responding to expected bequests or that consumers respond less to expected bequests because there is still uncertainty about the bequest receipt (“a bird in the hand is worth more than one in the bush”).

Our results have several implications for broader economic issues. First, our results provide support for the normality of leisure. Relative to previous estimates of the effect of wealth on retirement, our estimates suggest a somewhat larger effect of bequest receipt on retirement. The fact that we find a labor supply (retirement) response to bequests suggests that

any calculations of the effect of inheritance on inequality or role of inheritance in wealth accumulation should not assume that labor supply is inelastic. Further, the fact that we find a stronger response to unexpected than expected bequests suggests that previous estimates may have been biased downwards by an inability to distinguish between expected and unexpected bequests. Although our analysis of consumption is limited to looking at food consumption, our results would suggest a marginal propensity to consume of about 2 cents out of every dollar if food consumption was about 10% of total consumption and the responsiveness of food and total consumption to bequests was similar.

REFERENCES

- Abel, Andrew B., 1985. "Precautionary Savings and Accidental Bequests," *American Economic Review* 75, 777-791.
- Ando, A. and F. Modigliani, 1963. "The 'Life-Cycle' Hypothesis of Saving: Aggregate Implications and Test," *American Economic Review* 53, 55-84.
- Barro, Robert J., 1974. "Are Government Bonds Net Wealth?" *Journal of Political Economy* 82, 1095-1117.
- Blanchflower, David and Andrew J. Oswald, 1998. "What Makes an Entrepreneur? Evidence on Inheritance and Capital Constraints," *Journal of Labor Economics* 16: 26-60.
- Bernheim, B. Douglas, Andrei Shleifer, and Lawrence H. Summers, 1985. "The Strategic Bequest Motive," *Journal of Political Economy* 93, 1045-1076.
- Bernheim, B. Douglas, 1991. "How Strong Are Bequest Motives? Evidence Based on Estimates of the Demand for Life Insurance and Annuities," *Journal of Political Economy* 99, 899-927.
- Brown, Jeffrey R. and Scott J. Weisbenner, 2004. "Intergenerational Transfers and Savings Behavior," in Perspectives on the Economics of Aging, David A. Wise, ed. (Chicago: University of Chicago Press).
- Coronado, Julia and Maria Perozek (2003). "Wealth Effects and the Consumption of Leisure: Retirement Decisions During the Stock Market Boom of the 1990s," Board of Governors of the Federal Reserve System, Finance and Economics Discussion Series #2003-20.
- Cox, Donald, 1987. "Motives for Private Income Transfers," *Journal of Political Economy* 95, 508-546.
- Cox, Donald and Mark R. Rank, 1992. "Inter-Vivos Transfers and Intergenerational Exchange," *The Review of Economics and Statistics* 74, 305-314.
- Gale, W., and J. Scholz, 1994. "Intergenerational Transfers and the Accumulation of Wealth," *Journal of Economic Perspectives* 8, 145-160.
- Gale and Slemrod, 2000. "Rethinking the Estate and Gift Tax: Overview," in W. Gale and J. Slemrod, eds., Rethinking Estate and Gift Taxation (Washington, D.C.: Brookings Institution).
- Holtz-Eakin, Douglas, David Joulfaian, and Harvey S. Rosen, 1993. "The Carnegie Conjecture: Some Empirical Evidence," *Quarterly Journal of Economics* 108, 413-435.
- Holtz-Eakin, Douglas, David Joulfaian, and Harvey S. Rosen, 1994a. "Sticking It Out: Entrepreneurial Survival and Liquidity Constraints," *Journal of Political Economy*, 53-75.

- Holtz-Eakin, Douglas, David Joulfaian, and Harvey S. Rosen, 1994b. "Entrepreneurial Decisions and Liquidity Constraints," *RAND Journal of Economics* 25, 334-347.
- Joulfaian, David and Mark O. Wilhelm, 1994. "Inheritance and Labor Supply," *Journal of Human Resources* 29, 1205-1234.
- Kessler, D., and A. Masson, 1989. "Bequest and Wealth Accumulation: Are Some Pieces of the Puzzle Missing?," *Journal of Economic Perspectives* 3, 141-152.
- Kotlikoff, L., and L. Summers, 1981. "The Role of Intergenerational Transfers in Aggregate Capital Accumulation," *Journal of Political Economy* 89, 706-732.
- Kotlikoff, L., 1988. "Intergenerational Transfers and Savings," *Journal of Economic Perspectives* 2, 41-58.
- Light, Audrey and Kathleen McGarry, (2004, forthcoming). "Why Parents Play Favorites: Explanations for Unequal Bequests," *American Economic Review*.
- McGarry, Kathleen M. and Robert F. Schoeni, 1995. "Transfer Behavior: Measurement and the Redistribution of Resources within the Family," *Journal of Human Resources* 30: s184-226.
- McGarry, Kathleen M. and Robert F. Schoeni, 1997. "Transfer Behavior within the Family: Results from the Asset and Health Dynamics Survey," *The Journals of Gerontology* 52B: 82-92.
- McGarry, Kathleen M., 1999. "Inter Vivos Transfers and Intended Bequests," *Journal of Public Economics* 73: 321-351.
- McGranaham, Leslie, 2000. "Charity and the Bequest Motive: Evidence from Seventeenth-Century Wills," *Journal of Political Economy* 108, 1270-1291.
- Modigliani, F. and R. Brumberg, 1954. "Utility Analysis and the Consumption Function: An Interpretation of Cross-Section Data," in K. Kurihara, ed., *Post-Keynesian Economics* (New Brunswick, NJ: Rutgers University Press).
- Modigliani, F., 1988. "The Role of Intergenerational Transfers and Life Cycle Saving in the Accumulation of Wealth," *Journal of Economic Perspectives* 2, 15-40.
- Perozek, Maria G., 1998. "A Reexamination of the Strategic Bequest Motive," *Journal of Political Economy* 106, 423-445.
- Wilhelm, Mark O., 1996. "Bequest Behavior and the Effect of Heirs' Earnings: Testing the Altruistic Model of Bequests," *American Economic Review* 86, 874-892.
- Yaari, Menahem E, 1965. "Uncertain Lifetimes, Life Insurance, and the Theory of the Consumer," *Review of Economic Studies* 32, 137-150.

**Table 1: Stock of Transfer Wealth Computed from 1998 SCF
(in Billions of \$1998; weighted to reflect U.S. population)**

	Scaling factor for Past Transfers			
	Inflation	Long-Term Corporate Bond Rate	50% Corp. Bond, 50% Large Co. Stock	Large Company Stock
Total transfer wealth	2,465	5,405	17,326	29,203
Share of total wealth from:				
Inheritances	76%	78%	87%	89%
Inter vivos transfer	24%	22%	13%	11%
Share of total wealth from:				
Parents	70%	71%	49%	45%
Grandparents	15%	15%	44%	49%
Uncle/Aunt	5%	6%	3%	3%
Sibling	4%	3%	2%	1%
Friend	3%	2%	1%	1%
Total transfer wealth as a share of total net worth	9%	19%	60%	101%
Average annual real rate of return	0.0%	2.9%	6.5%	10.0%

**Table 2: Ratio of Received and Expected Transfers to Total Wealth
in the 1998 SCF, by Age and Selected Net Worth Group**

Net Worth	Received Transfer Wealth			
	Age <40	Age 40-64	Age 65+	All
	All Households			
\$0-\$75K	0.26	0.50	0.58	0.42
\$75-\$250K	0.10	0.17	0.33	0.21
\$1M+	0.13	0.10	0.30	0.16
All	0.13	0.13	0.31	0.19
	Households Who Received Transfer*			
\$0-\$75K	1.44	3.15	2.12	2.26
\$75-\$250K	0.61	0.85	0.98	0.88
\$1M+	0.47	0.25	0.60	0.37
All	0.60	0.37	0.70	0.50
<i>*Prob of Transfer Receipt (All Net Worth Groups)</i>	<i>0.14</i>	<i>0.22</i>	<i>0.33</i>	<i>0.22</i>
Net Worth	Expected Transfer Wealth			
	Age <40	Age 40-64	Age 65+	All
	All Households			
\$0-\$75K	1.10	0.33	0.07	0.57
\$75-\$250K	0.38	0.17	0.03	0.17
\$1M+	0.15	0.04	0.01	0.04
All	0.39	0.09	0.01	0.10
	Households Who Expect Transfer**			
\$0-\$75K	6.37	2.70	2.29	4.61
\$75-\$250K	1.90	1.09	1.11	1.35
\$1M+	0.37	0.18	0.15	0.20
All	1.25	0.40	0.26	0.54
<i>**Prob of Expected Transfer (All Net Worth Groups)</i>	<i>0.18</i>	<i>0.15</i>	<i>0.03</i>	<i>0.13</i>

Table 3: Summary Statistics

Variable	Person-Year Sample		Long-Difference Sample	
	Mean	Std. Dev.	Mean	Std. Dev.
Dependent Variables				
Retire Dummy	0.191	0.393	0.540	0.498
Prob Leave Bequest >=\$10K (prev wave)	0.690	0.391	0.684	0.390
Chg in Prob Leave Bequest >=\$10K	0.003	0.344	0.018	0.374
Prob Leave Bequest >=\$100K (prev wave)	0.399	0.424	0.370	0.412
Chg in Prob Leave Bequest >=\$100K	0.020	0.337	0.083	0.373
Prob Make Inter Vivos Gift >=\$5K (prev wave)	0.352	0.371	0.367	0.372
Chg in Prob Make Gift >=\$5K	-0.011	0.347	-0.035	0.384
Weekly Food Consumption (prev wave)	110.6	68.3	124.7	69.3
Chg in Weekly Food Cons	-5.2	63.9	-18.9	68.7
Inheritance Variables				
Inheritance Dummy	0.049	0.216	0.177	0.382
Inheritance Value	3,548	33,481	15,276	76,877
Inheritance Value -- Expected	1,448	20,891	6,199	50,150
Inheritance Value -- Unexpected	2,100	22,574	9,077	49,123
Change in Unrealized Bequest Expectations	-816	453,973	642	318,261
Other Covariates				
Age	61.2	5.8	61.3	5.3
Female	0.580	0.494	0.584	0.493
Non-white	0.179	0.383	0.171	0.376
Hispanic	0.083	0.275	0.076	0.265
Married	0.801	0.394	0.815	0.388
Poor Health Dummy (prev wave)	0.243	0.429	0.244	0.430
Change in Poor Health Dummy	0.018	0.382	0.059	0.411
Net Worth (prev wave)	342,747	1,134,522	308,913	609,469
Education: HS Dropout	0.237	0.425	0.226	0.418
Education: HS Graduate	0.382	0.486	0.383	0.486
Education: Some College	0.197	0.398	0.199	0.399
Education: College Graduate	0.184	0.387	0.192	0.394
Pension Type: DB	0.263	0.440	0.270	0.444
Pension Type: DC	0.220	0.415	0.229	0.420
Pension Type: Currently Receiving	0.101	0.302	0.100	0.300
Pension Type: Missing	0.023	0.150	0.016	0.126
Number of Observations	32,521		7,027	

Note: All dollar values are in \$2002.

Table 4: Distribution of Inheritance Values for People Who Received One

Variable	Mean	Percentile						
		5th	10th	25th	50th	75th	90th	95th
Person-Wave Sample								
Inheritance Value	72,468	1,521	3,460	10,239	30,000	72,789	176,268	299,846
Inheritance -- Expected	29,577	0	0	0	2,246	24,302	80,469	124,060
Inheritance -- Unexpected	42,891	0	0	654	11,840	41,573	108,634	194,090
Ratio: Expected/Total Value	0.37	0.00	0.00	0.00	0.10	0.93	1.00	1.00
Change in Expectations	-1,333	-57,658	-15,276	0	0	1,104	31,341	85,500
Number of Observations					1,592			
Long-Difference Sample								
Inheritance Value	86,289	1,521	3,460	10,000	33,214	91,461	202,720	347,112
Inheritance -- Expected	35,018	0	0	0	2,951	28,960	88,294	149,923
Inheritance -- Unexpected	51,271	0	0	1,278	13,192	49,699	132,590	247,596
Ratio: Expected/Total Value	0.36	0.00	0.00	0.00	0.13	0.81	1.00	1.00
Change in Expectations	6,262	-119,550	-49,218	-5,422	0	8,868	52,926	120,506
Number of Observations					1,244			

Table 5: Effect of Bequests on Retirement

Variable	1	2	3	4	5	6	7	8
Bequest flag	0.0251 *				0.0355 **			
	(.0129)				(.0178)			
Bequest value		0.0208 **				0.0296 **		
		(.0106)				(.0072)		
Bequest: expected			0.0119	0.0101			0.0273 **	0.0263 **
			(.0197)	(.0191)			(.0081)	(.0078)
Bequest: unexpected			0.0267 *	0.0254 *			0.0321 **	0.0303 **
			(.0146)	(.0137)			(.0135)	(.0127)
Change in expectations				-0.0015				0.0009
				(.0011)				(.0022)
Mean of dependent var	0.1914	0.1914	0.1914	0.1914	0.5403	0.5403	0.5403	0.5403
p-value of test			0.5831	0.5548			0.7698	0.7980
H ₀ : B _{exp} =B _{unexp}								
R-squared	0.0800	0.0801	0.0801	0.0802	0.1371	0.1385	0.1385	0.1386
# of obs	17,822	17,822	17,822	17,822	4,514	4,514	4,514	4,514

Note:

- 1) Bequest value variables are measured in 100,000s of \$2002.
- 2) All regressions include controls for age, gender, marital status, race, education, net worth, health status, pension type, industry, occupation, region, and wave; see text for details.
- 3) * indicates significance at the 10% level, ** indicates significance at the 5% level.

Table 6a: Effect of Bequests on Probability of Leaving a Bequest >= \$10K

Variable	Two-Year Change				Long-Difference			
	1	2	3	4	5	6	7	8
Bequest flag	0.0195 ** (.0077)				0.0078 (.0112)			
Bequest value		0.0058 * (.0031)				0.0012 (.0032)		
Bequest: expected			-0.0058 (.0040)	-0.0056 (.0037)			-0.0023 (.0042)	-0.0026 (.0040)
Bequest: unexpected			0.0162 ** (.0060)	0.0154 ** (.0056)			0.0050 (.0061)	0.0047 (.0058)
Change in expectations				0.0006 (.0005)				0.0008 (.0014)
Mean of dep var (level)	0.6900	0.6900	0.6900	0.6900	0.6840	0.6840	0.6840	0.6840
Mean of dep var (chg)	0.0028	0.0028	0.0028	0.0028	0.0177	0.0177	0.0177	0.0177
p-value of test H ₀ : B _{exp} =B _{unexp}			0.0068	0.0052			0.3805	0.3464
R-squared	0.0034	0.0033	0.0033	0.0034	0.0140	0.0139	0.0139	0.0140
# of obs	30,650	30,650	30,650	30,650	6,458	6,458	6,458	6,458

Note:

- 1) Bequest value variables are measured in 100,000s of \$2002.
- 2) All regressions include controls for age, gender, marital status, race, education, net worth, health status, pension type, industry, occupation, region, and wave; see text for details.
- 3) * indicates significance at the 10% level, ** indicates significance at the 5% level.

Table 6b: Effect of Bequests on Probability of Leaving a Bequest \geq \$100K

Variable	Two-Year Change				Long-Difference			
	1	2	3	4	5	6	7	8
Bequest flag	0.0296 ** (.0083)				0.0416 ** (.0127)			
Bequest value		0.0126 ** (.0045)				0.0110 ** (.0050)		
Bequest: expected			0.0037 (.0046)	0.0039 (.0044)			0.0038 (.0061)	0.0030 (.0060)
Bequest: unexpected			0.0205 ** (.0093)	0.0186 ** (.0090)			0.0187 ** (.0086)	0.0176 ** (.0081)
Change in expectations				0.0005 (.0005)				0.0015 (.0016)
Mean of dep var (level)	0.3993	0.3993	0.3993	0.3993	0.3704	0.3704	0.3704	0.3704
Mean of dep var (chg)	0.0200	0.0200	0.0200	0.0200	0.0834	0.0834	0.0834	0.0834
p-value of test $H_0: B_{exp}=B_{unexp}$			0.1525	0.1938			0.1956	0.1837
R-squared	0.0034	0.0032	0.0032	0.0033	0.0202	0.0189	0.0190	0.0192
# of obs	30,287	30,287	30,287	30,287	6,362	6,362	6,362	6,362

Note:

1) Bequest value variables are measured in 100,000s of \$2002.

2) All regressions include controls for age, gender, marital status, race, education, net worth, health status, pension type, industry, occupation, region, and wave; see text for details.

3) * indicates significance at the 10% level, ** indicates significance at the 5% level.

Table 6c: Effect of Bequests on Probability of Making Gift >=\$5K

Variable	Two-Year Change				Long-Difference			
	1	2	3	4	5	6	7	8
Bequest flag	0.0230 ** (.0090)				0.0401 ** (.0129)			
Bequest value		0.0126 ** (.0060)				0.0190 ** (.0048)		
Bequest: expected			0.0015 (.0081)	0.0013 (.0076)			0.0152 ** (.0060)	0.0135 ** (.0060)
Bequest: unexpected			0.0224 ** (.0101)	0.0204 ** (.0098)			0.0230 ** (.0095)	0.0225 ** (.0090)
Change in expectations				0.0007 ** (.0003)				0.0011 (.0013)
Mean of dep var (level)	0.3518	0.3518	0.3518	0.3518	0.3670	0.3670	0.3670	0.3670
Mean of dep var (chg)	-0.0105	-0.0105	-0.0105	-0.0105	-0.0349	-0.0349	-0.0349	-0.0349
p-value of test H ₀ : B _{exp} =B _{unexp}			0.1212	0.1462			0.5222	0.4470
R-squared	0.0065	0.0064	0.0065	0.0066	0.0185	0.0183	0.0184	0.0184
# of obs	30,573	30,573	30,573	30,573	6,476	6,476	6,476	6,476

Note:

- 1) Bequest value variables are measured in 100,000s of \$2002.
- 2) All regressions include controls for age, gender, marital status, race, education, net worth, health status, pension type, industry, occupation, region, and wave; see text for details.
- 3) * indicates significance at the 10% level, ** indicates significance at the 5% level.

Table 7: Effect of Bequests on Food Consumption

Variable	Two-Year Change							
	1	2	3	4	5	6	7	8
Bequest flag	-1.004 (5.362)				1.146 (2.328)			
Bequest value		0.263 (1.858)				3.370 ** (1.363)		
Bequest: expected			-3.025 (2.419)	-2.476 (2.968)			2.034 (1.281)	1.854 (1.250)
Bequest: unexpected			3.943 (2.448)	3.913 (2.462)			4.758 * (2.751)	4.763 * (2.710)
Change in expectations				0.048 (.083)				0.118 (.304)
Mean of dep var (level)	110.6	110.6	110.6	110.6	124.7	124.7	124.7	124.7
Mean of dep var (chg)	-5.2	-5.2	-5.2	-5.2	-18.9	-18.9	-18.9	-18.9
p-value of test H ₀ : B _{exp} =B _{unexp}			0.0427	0.1041			0.4131	0.3740
R-squared	0.0109	0.0109	0.0113	0.0113	0.0161	0.0174	0.0175	0.0177
# of obs	6,576	6,576	6,576	6,576	6,508	6,508	6,508	6,508

Note:

1) Bequest value variables are measured in 100,000s of \$2002.

2) All regressions include controls for age, gender, marital status, race, education, net worth, health status, pension type, industry, occupation, region, and wave; see text for details.

3) * indicates significance at the 10% level, ** indicates significance at the 5% level.