BEYOND ANDREW CARNEGIE: USING A LINKED SAMPLE OF FEDERAL INCOME AND ESTATE TAX RETURNS TO EXAMINE THE EFFECTS OF BEQUESTS ON BENEFICIARY BEHAVIOR

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The accumulation of wealth in America and the ways in which that wealth is transferred at death are sources of research and debate. In both 1988 and 1989, more than one-third of the 400 wealthiest Americans listed their primary source of wealth as inheritance, according to the widely reported annual studies of the wealthy by *Forbes* magazine. However, attention is often focused on who the wealthy are and how their wealth is taxed at death, with little regard to intergenerational transfers and their effects on beneficiaries.

The purpose of this paper is to shed light on transfers of wealth from affluent parents to their children at death and the ways by which those children are affected. To accomplish this research, estate tax data have been linked with income tax data to determine the effect that bequests have on child beneficiaries and their labor force participation, both before and after the bequest. In addition, the final section of this paper will include a comparison of the results in this paper to similar work presented in 1993.

Background

Since the wealthy are in a position to determine who will receive vast sums of money, attention is frequently, and rightly, paid to their philosophies or giving and its effects. Andrew Carnegie, one of the most well known American industrialists and philanthropists, addressed this topic in an essay published in 1891. He felt that "the parent who leaves his son enormous wealth generally deadens the talents and energies of the son, and tempts him to lead a less useful and less worthy life than he otherwise would…" (Carnegie, 1891/1962). In his book *The Gospel of Wealth*, Carnegie also stated that giving more to charity than to children was important for two reasons. First, it insured that children of the wealthy would use and develop their talents in the labor force. Second, in giving large amounts to entities other than their own children, Carnegie felt that the wealthy could produce "an ideal state in which the surplus wealth of the few will become, in the best sense, the property of many" (Carnegie, 1891/1962).

Carnegie was not alone in his convictions. A 1986 *Fortune* magazine article profiled many wealthy Americans and their thoughts on giving to children (Kirkland, 1986). Of the 30 multimillionaires surveyed by *Fortune*, six said that their children would be better off with minimal inheritances, and almost half planned to split their wealth equally between charitable organizations and heirs. Many wealthy individuals, including Warren Buffet, Gordon Moore, and Ross Perot, were in favor of both restricted inheritances to children and more wealth passed to charities.

Subsequent work has validated Carnegie's early hypothesis about the effects of parental bequests on children. One such paper by Holtz-Eakin, Joulfaian, and Rosen (1993) stated that there seemed to be an inverse relationship between the size of bequest and the labor force participation of the person receiving the bequest. If proven, this hypothesis could have great implications for tax policy regarding intergenerational transfers of wealth.

As research in this paper probes the issue of bequests and their effects, it is important to keep in mind possible intangible transfers from parent to child that are frequently hard to measure and could, in many cases, influence various factors. One type of possible transfer is "human wealth" (Brittain, 1973). Human wealth is derived from favorable educational and environmental opportunities, as well as "connections" due to family background and marriage. For example, wealthy parents who are successful at creating and maintaining businesses, managing financial assets, and fostering professional contacts are often in better positions to model ways of accumulating and managing wealth for their children.

Return Information

The research in this paper draws on information collected from two Federal tax returns. The Federal estate tax return, Form 706, is filed for estates of decedents whose total asset values meet or exceed the filing requirement in effect for the year of death. The executors of qualifying estates are required to file the Form 706 nine months after the decedents' date of death; however, a six-month extension approved by the IRS is common. These returns contain data about the decedent's wealth, as well as their beneficiaries and bequests. Next, the Federal individual income tax return, Form 1040, is filed annually for personal income received during a calendar year. These returns furnish filer information such as marital status, number of children, and source of income.

Data Description

The data in this paper are estimates based on a stratified random sample of Federal estate tax returns filed for the estates of decedents who died in 1988 and 1989 with gross estates of at least $600,000. Returns were chosen before audit examination and on a flow basis using a stratified random probability sampling method (Bernoulli sampling). Sample rates were preset based on a desired sample size and an estimate of the population. In the design there were three stratification variables: year of death, age at death, and size of gross estate. Design-based weights were computed for this sample by using the sample rates.

The next step in the formation of the data set was making the 1989 Collation Study[1]. The Collation Study is a sub-sample of the 1988 and 1989 estate tax data. The stratifiers for this collation study included size of gross estate and age. Also included in the study were estate tax decedents for whom the last four digits of their Social Security Number (SSN) corresponded to the one percent Social Security Administration Continuous Work History Sample. A total of 4,071 decedents were included in the Collation Study sample. As reported by these decedents, 21,699 beneficiaries received bequests of at least $5,000[2].

Once the beneficiaries of these sub-sampled estates were identified, they were linked, by SSN, to individual income tax data, for returns filed in two periods. The first period was the decedent's year of death, either 1988 or 1989, and the second period was three years after the decedent's year of death, either 1991 or 1992. Beneficiary income data for 1988 and 1989 came from the Internal Revenue Service (IRS) Returns Transaction File (RTF). These data were collected during the course of normal IRS processing for revenue purposes, and thus, only data necessary for tax administration purposes were collected. Income data for 1991 and 1992 were provided by the Statistics of Income Division (SOI) of the IRS; these data were collected for statistical purposes, such as estimating revenue and evaluating proposed tax law changes, making them more detailed than their RTF counterparts.

Form 1040 data for both periods were available for only 34.8 percent of all beneficiaries in the Collation Study sample. There are a number of possible reasons for this low linkage rate. First, some beneficiaries may have been children, too young to file a tax return. Second, to link the 1040 tax returns the beneficiary's Social Security Number was used, but not all estate tax returns listed SSN's for each beneficiary, especially for those beneficiaries who were not close relatives. Third, if a beneficiary did not receive a bequest outright, but rather through a trust, the executor may have listed the Entity Identification Number (EIN) assigned to the trust instead of the SSN. Careful examination of the linked and unlinked files revealed that linkage failure rates differed by relationship of the beneficiary to the decedent, size of the bequest, and age of the decedent.

In constructing the weights for the linked 1040 files, a base weight was first calculated from the original estimates of the estate tax decedent populations in 1988 and 1989. The second step was to use post-stratification to adjust the base weights for non-response or linkage failure. Since some of the beneficiaries may have been young and would not have filed an income tax return, it would not have been appropriate to include them in the population for calculating this adjustment. However, beneficiary age was not available for non-linked returns. Therefore, hotdeck imputation was used to assign ages to these beneficiaries (Hinkins and Scheuren, 1986). The non-response adjustments were then made to the base weights for the linked beneficiaries using data for beneficiaries age 15 and older, within cells based on the following characteristics: relationship to the decedent, bequest size, and age of decedent.

After final selection, decedent information was combined with beneficiary information to form a single record. The unweighted total of such records equaled 1,477. Estimates presented in this work reflect all bequests to children of this target population.

Beneficiaries

In order to isolate the children of wealthy decedents and to see their labor force participation, only beneficiaries from the 1989 Estate Collation Study that met the following criteria were used in this paper: (1) beneficiaries must have been children of the decedent, either by birth or adoption; (2) beneficiaries must have filed an individual income tax return in the year of their parent's death and three years after the year of death with at least one exemption in both years; (3) beneficiaries must have been 19-58 years old in the year of their parent's death; (4) the filing status of beneficiaries for income reporting purposes must not have changed between the year of their parent's death and three years after the year of death; (5) beneficiaries must not have been a beneficiary of multiple estates.

Using these five criteria and the two aforementioned time periods, the year of the decedent's death (period one: 1988 or 1989) and three years after the decedent's date of death (period two: 1991 or 1992), characteristics of the 62,205 beneficiaries who met the selection criteria were examined. First, there were more males in this selection of child beneficiaries than females, 58.8 percent to 41.2 percent. Moreover, more of the selected beneficiaries were single, 52.1 percent, while 47.9 percent were married. Since the majority of beneficiaries were single in both periods, it was not unexpected that 53 percent of returns included a single

income while 48 percent included dual incomes. The marital status of the beneficiaries was inferred by using the filing status recorded from each beneficiary's income tax return[3]. For instance, if a beneficiary on his or her return, marked married, filing jointly, or married but filing separately, they were listed as married for this study. If the beneficiary marked single, head of household, or widower, they were considered single for this study.

Working with period one (1988 or 1989), Figure 1 shows the total adjusted gross income or AGI for the beneficiaries who met the stated selection criteria. Adjusted gross income is the annual income of a person including income losses and or gains, as well as adjustments for retirement plan payments, alimony payments, and certain payments associated with being self-employed. Overall, as the AGI category increased, the number of beneficiaries decreased. The lowest AGI category, under $50,000, included 56.8 percent of the beneficiaries compared to the highest AGI category, $400,000 and above included only 2.2 percent of beneficiaries.

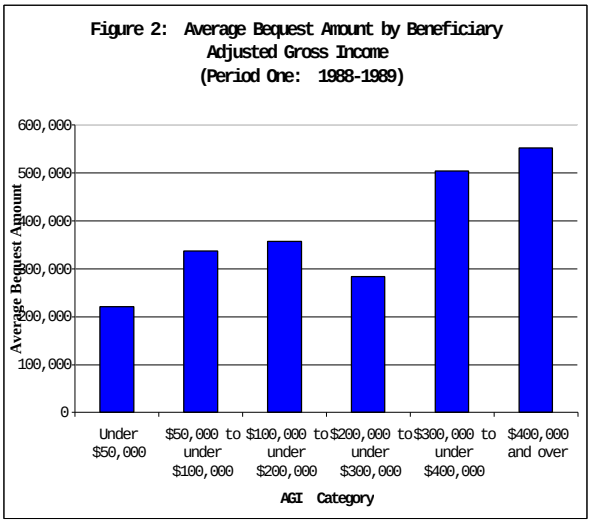
Figure 1: Adjusted Gross Income for Period One

AGI category	Number	Total AGI
Under $50,000	35,334	346,972,256
$50,000 to under $100,000	12,687	881,484,824
$100,000 to under $200,000	8,661	1,152,889,162
$200,000 to under $400,000	4,133	1,121,116,857
$400,000 and above	1,390	2,347,981,770
Total	62,205	5,850,444,869

It is also interesting to compare the beneficiaries' AGI with the size of the bequest received. The total AGI for these beneficiaries was almost $5.9 billion in period one (1988 or 1989) while the total amount bequeathed was almost $17.4 billion. Therefore, the total amount bequeathed was about three times the AGI of the beneficiaries. In addition, the average bequest amount increases as the AGI category increases (see Figure 2). For instance, the average bequest amount rises from the lowest value of just more than $200,000 for the under $50,000 AGI category, to the highest value of almost three times this amount, $550,000, for the $400,000 and over AGI category.

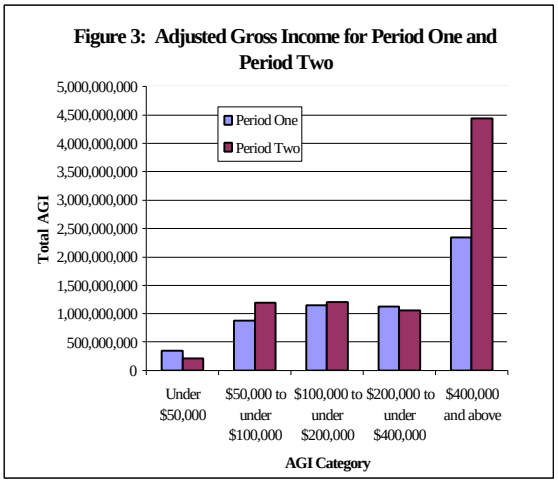
Effects of Bequests

To see how beneficiaries were affected by their bequests, analyzing changes in their AGI is necessary. Here, AGI in period one is compared to AGI three years after the decedent's death (period two). Comparing period one AGI and period two AGI, beneficiaries in the highest AGI category experienced an increase of about $2.1 billion between the periods



(see Figure 3). The second highest change between the two periods was for beneficiaries who had an AGI between $50,000 to under $100,000. This group of beneficiaries experienced approximately $300 million change in AGI.

The next characteristic examined in determining the effects of receiving a bequest was the beneficiaries' labor force participation. Building on the



strengths of these data and using a simple test design, entries on individual income tax returns for beneficiaries that directly reflected active participation in the labor force were identified. For this study, five separate entries on the individual income tax return were selected to infer labor force participation. To be classified as in the labor force, beneficiaries must have had an amount reported for at least one of these five income categories: (1) wages, salaries, and tips; (2) self-employment tax from Schedule SE; (3) non-passive partnership income from Schedule E; (4) gross receipts and other income from a sole proprietorship from

Schedule C; or (5) gross farming income from Schedule F. Labor force participation was determined for each beneficiary for both periods regardless of filing status, as long as the number of incomes reported did not change between periods. It is important to note that since these data were limited to information that was required on an individual income tax return, several items of interest could not be addressed. For instance, wage rate, number of hours worked, position held, and identity of workers (for joint returns) were not discernible[4].

Overall, a majority of all beneficiaries who were selected from the 1989 Collation Study were in the labor force during both periods. For period one, almost 92 percent of all beneficiaries were in the labor force. For period two, this percent decreased slightly to just under 86 percent. Again, beneficiary age was confined to 19-58 years, the primary working age for most adults.

When classified by beneficiary characteristics, the majority of beneficiaries who were selected from the 1989 Collation Study were in the labor force during both periods (see Figure 4). By sex, 91.9 percent of male beneficiaries were in the labor force during both periods, one and two, compared to 74.4 percent of female beneficiaries who were in the labor force during both periods. However, the percentage of female beneficiaries who exited the labor force by period two, 11.9 percent, was more than three times the percentage of male beneficiaries who left the labor force by period two, 3.8 percent. Similar in some aspects to the comparison of male and female beneficiaries, 96.1 percent of beneficiaries who filed dual income returns were in the labor force during both periods, while only 74.4 percent of those beneficiaries who filed a single income return were in the labor force during both periods. In addition, of those who exited the labor force by period two within this group of single or dual income filers, the percentage of beneficiaries who filed a single income return was over seven times the percentage of beneficiaries who filed dual income returns.

Figure 4: Labor Force Participation, by Period

Beneficiary group	Period			
	Period one: No Period two: No	Period one: No Period two: Yes	Period one: Yes Period two: No	Period one: Yes Period two: Yes
Males	2.8	1.5	3.8	91.9
Females	13.2	0.5	11.9	74.4
Single Income	12.5	1	12.1	74.3
Dual Income	1	1.2	1.7	96.1

In order to provide a context for evaluating the data in this paper, the results from an earlier study of labor force participation were examined. The previous paper used 1982 Collation Study data to examine 1982 decedents and beneficiary labor force participation over two periods[5]. Period one was 1982 and period two was 1985. The main difference between the 1982 collation data and the 1989 collation data was the filing threshold amounts, $300,000 in 1982 and $600,000 in 1989. Both research identified beneficiaries from data reported on estate tax returns, restricted the research to beneficiaries who were between 19-58 years at the time of the decedent's death, and inferred labor force participation using individual income tax return data. In all, 4,332 observations were used in the paper that examined the 1982 Collation Study, and beneficiaries were not limited to children. However, these observations were not weighted, nor were they adjusted for non-response.

In order to compare trends between the 1982 and 1989 Collation Study data, the following two common criteria were established: (1) only single income returns were included, and (2) to be considered in the labor force, a reported amount for wages and salaries or sole proprietorship income was required[6]. In addition, beneficiaries of both studies were arranged into two groups according to the size of their bequests, $200,000 or less or more than $200,000, in constant 1989 dollars[7].

The two sets of boxes in Figures 5 and 6 represent the 1982 and 1989 Study beneficiaries and their labor force participation for period one and period two. The percent shown in each cell represents a beneficiary's period two work status given their period one work status. The percentages are read horizontally.

As a whole, beneficiaries whose bequest was $200,000 or less tended to stay in the labor force in period two if they were in the labor force in period one, and vice versa (see Figure 5). For instance, 57.1 percent of 1982 Study beneficiaries and 98.2 percent of 1989 Study beneficiaries started out and remained out of the work force during both periods. In contrast, for beneficiaries at this bequest level who were in the labor force in period one, 93.6 percent of 1982 Study beneficiaries and 82.5 percent of 1989 Study beneficiaries stayed in the labor force in period two. Of the remaining beneficiaries who were in the labor force during period one, 6.4 percent of 1982 Study beneficiaries and 17.5 percent of 1989 Study beneficiaries exited the labor force by period two.

Figure 5: Labor Force Participation Comparison, $200,000 or Less Bequest Level

1982 Study Beneficiaries

Period One (1982)	Period Two (1985): No	Period Two (1985): Yes	
No	**57.1**	**42.9**	=100%
Yes	**6.4**	**93.6**	=100%

1989 Study Beneficiaries

Period One (1988-89)	Period Two (1991-92): No	Period Two (1991-92): Yes	
No	**98.2**	**1.8**	=100%
Yes	**17.5**	**82.5**	=100%

Next, for beneficiaries whose bequest level was $200,000 or more, there were three notable items (see Figure 6). First, like the beneficiaries who received smaller bequests, labor force participation did not change after receiving a bequest for the majority of these beneficiaries. Second, the difference between the percentage of 1982 and 1989 Study beneficiaries in each labor force cell at the more than $200,000 bequest level was not as large compared to the difference between these groups at the lower bequest level. And third, for 1982 Study beneficiaries, the percentage who exited the labor force by period two after being in the labor force in period one was higher at this bequest level than at the $200,000 or less bequest level. However, for 1989 Study beneficiaries, the percentage who exited the labor force by period two after being in the labor force in period one was lower at this bequest level than at the $200,000 or less bequest level.

Figure 6 Labor Force Participation Comparison, More than $200,000 Bequest Level

1982 Study Beneficiaries

Period One (1982)	Period Two (1985) No	Period Two (1985) Yes	
No	**84.1**	**15.9**	=100%
Yes	**18.1**	**81.9**	=100%
	No	Yes	

1989 Study Beneficiaries

Period One (1988-89)	Period Two (1991-92) No	Period Two (1991-92) Yes	
No	**88.3**	**11.7**	=100%
Yes	**13.7**	**86.3**	=100%
	No	Yes	

Although additional study of beneficiaries at all bequest levels is needed, to gain a complete picture of behavior, particular interest is often expressed concerning beneficiaries who receive large bequests. With this in mind, beneficiaries who were selected from the 1989 Collation Study and who were bequeathed in excess of $1 million were examined. Unlike most of the beneficiaries discussed above, a majority, 66.7 percent, of those beneficiaries who were not in the labor force in period one entered the labor force in period two (see Figure 7). Only 33.3 percent of those beneficiaries who were not in the labor force in period one remained out of the labor force in period two. In contrast, of those beneficiaries who were in the labor force in period one, a majority, 88.8 percent, stayed in the labor force during both periods. Therefore, only 11.2 percent of beneficiaries who were in the labor force in period one exited before period two.

Conclusion

The unique data set used in this work has allowed some insight into the effects of bequests on labor force participation for a select group of beneficiaries. The results presented in this paper point to three conclusions. First, a majority of the beneficiaries examined were in the labor force during both periods. Second, beneficiaries who started in the labor force tended to stay in the labor force, and beneficiaries who started out of the labor force tended to stay out of the labor force, regardless of bequest size. Finally, the results presented in this paper do not seem to support earlier findings, which concluded that labor force participation decreased as the bequest level increased.

Figure 7: Labor Force Participation Comparison, Greater Than $1 million Bequest Level

Period One (1988-89)	Period Two (1991-92) No	Period Two (1991-92) Yes	
No	**33.3**	**66.7**	=100%
Yes	**11.2**	**88.8**	=100%
	No	Yes	

While these findings may run contrary to expectations, it is important to remember that this research focused on a narrow group of beneficiaries whose parents' estates were required to file an estate tax return. In addition, it is important to consider that many factors may play a role in beneficiary labor force participation. For example, some beneficiaries may be aware of an inheritance and its relative size well in advance of its receipt and, therefore, adjust labor habits accordingly before the death of the donor. Moreover, some beneficiaries may have received gifts during the life of their donor that far exceeded the magnitude of testamentary bequests, thus reducing the effect of such bequests on labor habits. In addition, the size of a bequest may not provide enough wealth for a beneficiary to exit the labor force, given other factors, such as desired standards of living or responsibilities, including dependents. Finally, basic parental and societal norms and values may promote labor force participation in some capacity regardless of wealth.

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[1] The Estate Collation Study, as well as the sampling and weighting of Federal estate tax returns, is conducted by the Statistics of Income division (SOI) of the Internal Revenue Service (IRS).

[2] Existing tax law, as well as law in effect in 1988 and 1989, does not require the estate to report information for beneficiaries receiving bequests of less than $5,000.

[3] It was possible for a beneficiary to change his or her marital status between period one and period two. Since the number of incomes included on a return was the more important variable, marital status was allowed to vary for each period, if the number of incomes reported remained the same.

[4] While single income returns provide a clear picture of beneficiary labor participation, this was not true for dual income returns. Since identifying the number of workers or the transition of workers for dual income returns was not possible, beneficiaries may have left the labor force but still would have been coded as in the labor force if their spouse continued working.

[5] The 1982 and 1989 Estate Collation Studies share common data goals and data collection procedures. Both studies were conducted by SOI.

[6] Not all beneficiaries from the 1982 and 1989 Estate Collation Studies were used in this comparison. As stated before, each body of work selected beneficiaries from collation studies based on already-stated criteria.

[7] Constant dollar factors were calculated using the Gross Domestic Product Chain-Type Prince Index. The source for this index was the *Economic Report of the President 1998*, Table B-3.