Behavioral Responses to the Estate Tax: Inter vivos Giving

INTRODUCTION

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As the description of the estate and gift tax law presented earlier in this volume indicates, the tax burden facing large estates can be great. With marginal tax rates as high as 55 percent, individuals who value the amount left to heirs have a clear incentive to engage in behavior that reduces the tax. Fortunately, from the point of view of these individuals and their eventual heirs, there exist a large number of tax avoidance techniques that if used properly, permit significant savings.

While the potential to reduce the tax burden may be great, tax avoidance is not costless. Some methods are quite complicated and may not be well understood by potential testators. Learning about the intricacies of the tax code or employing someone who is an expert in this field will be costly in terms of time and actual expenditures. Furthermore, contemplation of death and "death taxes" is likely to be unpleasant and even simple methods of estate planning may therefore be costly in utility terms. Finally, most tax avoidance strategies require that the donor lose control of the financial assets. This too is likely to decrease well–being, particularly if wealth itself enters the utility function. Thus, while the benefits of tax avoidance may be large, the associated costs could be large as well.

Although the incentives embodied in the tax code have been well documented by researchers and professional practitioners, less well studied is the degree to which wealthy individuals respond to the incentives. If estate taxes alter the desired timing of transfers and the distribution of the estate, they add a cost beyond the revenue raised. The magnitude of this dead weight loss depends on the extent to which the behavior of the donor is affected. This paper addresses the issue. It summarizes the current work on the behavioral effects of estate taxes with the focus on transfers to family members and provides some new descriptive information about behavior.

The following section outlines the incentive effects of estate and gift taxes with primary attention paid to the incentives related to familial transfers (the incentives are typically identical for transfers to non–family recipients). The third

section presents empirical evidence of behavioral responses to the tax law with respect to inter vivos giving. The fourth section discusses how the estate tax can alter the distribution of bequests within a family and the fifth section discusses the possible consequences for heirs of eliminating the estate and gift tax. A final section concludes.

INCENTIVES FOR FAMILIAL TRANSFERS

Throughout the paper I assume that bequests are intentional and provide utility to donors (parents).[1] Intentional bequests could result from altruistic parents concerned about the welfare of their heirs, they could be part of an exchange related or strategic process (Bernheim, Shleifer, Summers, 1985), or parents could simply derive utility or a "warm glow" from giving (Andreoni, 1989). Regardless of the motivation behind the bequest these standard models predict that taxes that reduce the amount of the bequest will lower the utility of the parent.[2] Parents therefore have an incentive to consider tax avoidance strategies if they anticipate bequeathing an estate in excess of the amount covered by the unified credit ($675,000 in the year 2000).[3] In optimally choosing their behavior, they will compare the cost of implementing a tax avoidance strategy against the expected reduction in taxes. For a given level of tax savings, the lower cost methods will be preferred.

An individual can easily reduce the eventual tax paid by an estate by simply increasing their own consumption. Additional consumption reduces the wealth left at death and thereby reduces the tax bill. Gifts to charitable organizations either during life or at death are not subject to tax and can therefore also be used to reduce the size of the taxable estate. While straightforward, each of these methods decreases the amount transferred to family. In this paper I focus on strategies that both reduce the eventual estate tax and increase the amount transferred to family members.

The tax law affords individuals the opportunity to make tax free transfers of $10,000 per recipient per year. Parents can use these inter vivos gifts to transfer a portion of their eventual bequest to their children without incurring a gift tax. By taking advantage of this $10,000 annual exclusion a married couple can transfer $20,000 per year to each of their children. They may also each give $10,000 to each grandchild and child–in–law (as well as to anyone else, including non–relatives). If the annual exemption is not used it cannot be carried over to later years. It therefore provides an incentive for transfers to be made during the donor's life and to be made in lots of $10,000 over a number of years. Not only do these transfers reduce the eventual tax burden on the estate, but because transfers below the $10,000 limit need not be reported to the Internal Revenue Service they are free from administrative expenses. The primary cost of such "early bequests" is that the parent loses control over assets that they might eventually need were they to live longer than expected or encounter unexpected expenses, and in an exchange model, bargaining power might be lost by transferring resources early. In addition, if parents wish to condition the amount of the bequest on the child's lifetime income, less is known about such income when early bequests are made than if the parent waited until the end of their life.

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[1] See Hurd (1987) for a discussion of the view that bequests are accidental. If bequests are accidental, changes in the estate tax ought not to affect behavior. Accidental bequests are difficult to reconcile with observed inter vivos giving.

[2] This result does not hold in the warm glow model if parents receive utility from the value of the pre–tax estate rather than the net amount transferred.

[3] See Gale and Slemrod (2000) for a detailed discussion of the unified credit.

Despite the associated costs, inter vivos giving is a simple and inexpensive means of reducing the eventual estate and one would therefore expect many parents to make "early bequests." Furthermore, those with the largest estates face the greatest marginal tax rate, have the lowest probability of exhausting their resources, and should be the most likely to make inter vivos transfers.

Inter vivos transfers beyond the $10,000 limit are also likely to be preferable to bequests in many cases. First, if the transfer is for schooling or medical expenses there is no limit on the amount that may be given tax–free. Secondly, taxes on inter vivos gifts are calculated on the amount of the actual gift (the net transfer) while estate taxes are calculated on the total value of the estate (the gross transfer). This difference in accounting methods can lead to large differences in the tax bill depending on the timing of the taxable gift. For example, a $100,000 inter vivos gift taxed at a marginal rate of 55 percent incurs a $55,000 tax bill so the total cost to the donor of the $100,000 transfer is $155,000. If that $155,000 is instead transferred as a bequest, the tax bill is 0.55 times $155,000 or $85,250, leaving a net inheritance of $69,750, a loss of $30,275 to the recipient. A third reason for preferring taxable inter vivos transfers over bequests relates to real rates of return. By transferring an asset early, the growth in the asset's value accrues to the recipient free of estate taxes. Suppose a parent who will eventually face a marginal estate tax rate of 55 percent is choosing between transferring $100,000 to his children in the current period or transferring the money 10 years later at his death. If the $100,000 is assumed to earn a 5 percent rate of return, the asset will be worth $162,889 ten years hence and taxes will be due on the entire amount. If in-

stead the $100,000 is transferred in the current period and earns interest at the same rate of return, it will still be worth $162,889 at the end of 10 years, but no estate tax will be paid on the $62,889 increase in value. At a marginal tax rate of 0.55, this is a tax savings of almost $35,000. The "earlier the better" advantage is further heightened in that the unified credit has not been indexed for inflation, nor is it schedule to be indexed after it reaches $1 million in 2006. The real amount of the transfer is therefore greater if it is made during the respondent's life than as a bequest.

While the incentives for inter vivos giving seem relatively straightforward, the optimal timing of transfers is complicated by several other features of the law. Perhaps of greatest interest is the treatment of unrealized capital gains in a bequeathed asset. If an asset with unrealized capital gains is transferred as a bequest, its basis value is stepped–up at the time of the transfer so no taxes are ever paid on the accrued capital gain. However, if the same asset is transferred during the donor's life, there is no step–up of basis— the recipient inherits the donor's original cost basis and pays capital gains taxes on the entire increase in value when the asset is eventually sold. Thus, in contrast to the incentives for inter vivos giving outlined above, the treatment of capital gains creates an incentive for holding on to assets and transferring them as bequests. Donors who have significant unrealized capital gains would therefore be expected to transfer a greater share of their wealth through bequests than those with identical net worth but without the capital gains. Furthermore, assets which accumulate taxable gains such as stocks and property would be more likely to be bequeathed while cash would be used to finance inter vivos transfers.[4]

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[4] Poterba (forthcoming) shows that the advantages of making taxable gifts sooner rather than later are often large enough that despite the step up of basis value, it may be preferable to transfer the assets with unrealized capital gains during the donor's lifetime. Joulfaian (2000a) analyzes in detail the conditions under which inter vivos gifts are preferred to bequests.

The composition of assets also matters for reasons other than the treatment of capital gains. Bequests of family farms and closely held businesses are afforded several tax advantages relative to other types of assets. First, the unified credit for such transfers is larger, allowing a decedent to bequeath $1.3 million tax–free. In addition, rather than using a market evaluation, real property that is bequeathed as part of a family farm or business can be valued at its worth as part of an ongoing concern. Finally, the estate taxes owed on the transfer of a family farm or business may be paid over a period of 14 years at interest rates that are significantly below the market rates of interest.[5]

In addition to these aspects of the tax law, there may also be issues related to liquidity that affect the timing of transfers. Farms and business in particular may be difficult to transfer in pieces over a lifetime and may more readily lend themselves to a single transfer at death.[6] Thus both the tax code and fundamental issues of liquidity may make it attractive for a donor to bequeath farm and business assets rather than liquidating them and transferring the proceeds during his life.

OBSERVED PATTERNS OF GIVING

Given these incentives, how do parents actually behave? Are wealthy parents making large inter vivos gifts? Do they take advantage of inter vivos giving to the extent that they go beyond the $10,000 annual exclusion? Does the composition of assets play a role? In this section I draw on the findings of several previous studies and add new results based on data from the Health and Retirement Study (HRS) and the Asset and Health Dynamics Study (AHEAD) to address these questions. The HRS and AHEAD are nationally representative surveys of the non–institutional populations born in the years 1931–41 (HRS), and 1923 or earlier (AHEAD). The first in a series of biennial interviews were conducted in 1992 and 1993 when the respondents were approximately 51–61 years old, or 70 years old and older, respectively. Detailed information about the studies is available in Juster and Suzman (1995) and Soldo et. al. (1997).

Bequests

The vast majority of transfers at death go to family members and within this category bequests are made primarily to children and surviving spouses. Using 1982 returns Joulfaian (1998) calculates that about one–half of the total amount of inheritances (gross estates less taxes and deductions) were bequeathed to a spouse, 24 percent to children, and 3.2 percent to grandchildren. For widowed decedents, children would be the largest beneficiaries by far.

The prominence of children among heirs is echoed in data from the AHEAD survey. Table 1 reports information about

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[5] Other assets may also enjoy special valuations at death and therefore yield a lower tax cost. For instance, a special valuation may be used for the bequest of a large block of publicly traded stock if it is likely that the shares would suffer a decline in value if the heir were to sell them all at once. Alternatively, stock in a closely held corporation may receive a special evaluation if the market for that stock is limited, and if it would therefore be difficult to sell the shares on the open market. See Cooper (1979) for a discussion of these techniques.

[6] A common practice to allow for a gradual transfer of a family business is to transfer shares in the concern to the eventual heirs. This practice allows the donor to take advantage of the annual exclusion, but to continue to have control over the operation. Such control can be maintained if transferred shares do not have voting rights or if the donor retains a sufficiently large fraction of the outstanding shares. Transferring shares in this manner has the advantage in that they may often be valued at less than the fraction of the business they represent. The lower valuation typically stems from the lack of voting rights and/or the assumed non–marketability of the shares. Parents may also be able to borrow against the assets and use the proceeds to make transfers to children. These methods are obviously more costly than the transfer of more liquid assets.

TABLE 1
DIFFERENCES IN TRANSFER BEHAVIOR BY EXPECTED TAX STATUS

	All (n = 2631)		Taxable (n = 80)		Not Taxable (n = 2551)	
	Mean	Standard Error	Mean	Standard Error	Mean	Standard Error
Bequest:						
Has a will	0.73	0.009	0.94	0.026	0.73	0.009
Has a will and...						
names at least one child	0.83	0.009	0.91	0.033	0.82	0.009
names at least one grandchild	0.16	0.007	0.24	0.040	0.16	0.007
names a charity in will	0.06	0.004	0.19	0.03	0.05	0.004
Inter Vivos Gifts:						
Inter vivos transfers to at least one child	0.25	0.006	0.62	0.04	0.24	0.006
Inter vivos gifts to charity	0.33	0.007	0.77	0.04	0.32	0.007
Total Given	1362	132	11066	4244	1105	77

Sample is AHEAD respondents with children.
The number of observations differs across variables due to missing values.

the wills of the subset of survey respondents who have children. Seventy–three percent of parents report having a will and conditional on having a will, 83 percent name at least one child as a beneficiary. To focus on the role of estate taxes, I divide this sample into two groups based on current wealth holdings. The "taxable" group consists of single individuals with assets greater than $600,000 (the value of the unified credit in the years in which the data were collected) and married couples with assets above $1.2 million (or $600,000 per spouse). The "non–taxable" subset has less wealth. There is a noticeable difference by wealth level in the provisions of wills: Among those with assets above the taxable limit, 94 percent have a will and 91 percent name at least one child in that will. For those with less wealth, 73 percent have a will and surprisingly, just 82 percent name a child in the will. Twenty–four percent of the very wealthy explicitly name a grandchild compared to 16 percent of the less wealthy. For those who do not name a child or grandchild, it is likely that the entire estate is left to a spouse, with children receiving an inheritance only after both parents have died.

Individuals with substantial wealth have an incentive to bequeath directly to children so that each spouse takes advantage of the unified credit.[7] However, less wealthy individuals can costlessly transfer the entire estate to a spouse and then to children. Thus this difference in naming of children and grandchildren in wills is consistent with proper tax planning behavior.

Also consistent with tax planning is the large difference between the two wealth groups in the probability of naming a charity in a will. Nineteen percent of the wealthier group report that they intend to leave a charitable bequest while only 5 percent of the less wealthy do so. By deducting charitable gifts from the taxable estate, the tax law lowers the price of charitable giving relative to bequests to family members for those facing estate taxes; with the lower price there are more such transfers.

It is worth noting that the 19 percent naming charities in their wills in the AHEAD data is identical to the actual fraction found to have made charitable bequests in data from estate tax returns (Eller, 1996) and thus indicates that the re-

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[7] This strategy is discussed more fully later in the paper.

porting of the provisions of current wills is likely to be a good representation of the eventual distribution of estates.

Inter Vivos Giving

Although the complexities of the tax law and the illiquidity of some assets suggest that the optimal timing of transfers is not always obvious, one would expect that the majority of wealthy individuals would benefit from making inter vivos transfers up to the $10,000 per recipient limit, if not beyond. Furthermore, the probability of such transfers should vary by asset type and ought to be less common for individuals holding assets with substantial capital gains and for those with farms or businesses.

Overall, the prevalence of inter vivos transfers to children is relatively large. As shown in the lower panel of Table 1, 25 percent of parents in the AHEAD made a

transfer of $500 or more to at least one child in the past year.[8] Here the differences by wealth category are dramatic. Among those with taxable levels of assets, 62 percent made a transfer compared to just 24 percent of those with less wealth. This large difference in transfer patterns is consistent with tax planning behavior but is also consistent with a simple increase in the parents' ability to afford to make such transfers.

Several recent papers, McGarry (2000, forthcoming) and Poterba (2000, forthcoming) have examined in detail the relationship between the probability and amount of inter vivos transfers and the expected estate tax. Poterba (forthcoming) uses the Survey of Consumer Finances (SCF) to examine the prevalence of inter vivos giving for different levels of asset holdings. As shown in Table 2, the probability of a transfer increases with wealth. There is a sharp rise in giving as assets

TABLE 2
TRANSFER PROBABILITIES BY AGE AND WEALTH: SURVEY OF CONSUMER FINANCES

Age Category	Wealth Category			
	< 600,000	600,000–1.2 million	1.2–2.4 million	> 2.4 million
Survey of Consumer Finances:				
	Probability of Any Transfer			
55–64	13.1	18.7	27.6	39.0
	(1.6)	(6.4)	(10.1)	(10.9)
65–74	11.5	29.5	22.2	44.6
	(1.6)	(6.9)	(10.4)	(10.7)
> 74	9.4	11.9	9.2	48.8
	(1.9)	(8.1)	(17.6)	(15.7)
	Probability of Transferring $10, 000+			
55–64	1.7	5.4	8.9	24.2
	(0.6)	(2.3)	(3.4)	(4.0)
65–74	1.2	9.9	15.1	36.6
	(0.6)	(2.5)	(3.8)	(4.1)
> 74	1.4	9.6	8.7	38.3
	(0.7)	(3.0)	(6.6)	(5.9)

Source: Poberta (forthcoming)

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[8] The question asks, "In the past 12 months, did you [or your (husband/wife/partner)] give financial help or gifts of $500 or more to any child (or grandchild)?"

cross the taxable limit and again with an increase in wealth to over $2.4 million. There is little evidence of any trend in giving with respect to age. Because older individuals have less time to decumulate assets and are more likely to have considered estate planning, the lack of the relationship between transfers and the age of the household head is surprising. However, this single measure of age may be a poor proxy for life expectancy for many, and omits the life expectancy of a spouse completely. If the spouse is significantly younger, she may herself consume a large proportion of the couple's wealth after the death of her husband. Furthermore, the appropriate measure of wealth differs for couples and singles because couples can potentially transfer twice as much as singles in each year and can bequeath twice as much to their children before incurring any taxes. This difference too may obscure the underlying relationship.[9]

Despite the ease with which estate taxes can be reduced through inter vivos giving, even among the very oldest and wealthiest individuals—those with assets above $2.4 million and age 75 or older—less than one–half the population reports making such gifts. One would expect many of these individuals to pay estate taxes eventually, and therefore to pay more than they might were they to optimize inter vivos giving.

In most cases optimal giving would call for a transfer of a relatively large amount both because the potential for tax–free giving is likely to be substantially larger than $10,000 and because it is often desirable to make taxable transfers during the donor's life. The second panel of the table examines the probability of making total transfers above $10,000. The probabilities

fall substantially relative to the first panel. Even among the wealthiest the fractions giving at least $10,000 are only in the range of 25–38 percent.

The discussion in the second section predicts that transfer behavior will vary with many factors in addition to age and wealth. The probability and amount of inter vivos transfers ought to differ by the type of assets held, the individual's own health status, and number of children as well. Table 3 presents gift giving patterns by these characteristics, using observations on parents from both the HRS and AHEAD surveys. The first panel shows differences in transfer behavior in the HRS and AHEAD by wealth category. The measure of wealth used here is wealth per spouse. The first four rows report the probability for the entire sample separated by wealth category. The sample used for the remainder of the table is limited to those with potentially taxable estates, i.e. those with assets above $600,000 per spouse.

The columns of Table 3 report the probability of making any transfer, the probability of transferring $10,000 or more, the amount of the transfer conditional on its being positive, and in the final column, the probability that a transfer of $5,000 or more was made in the past ten years.[10] This last figure provides some indication of the persistence of transfer behavior over time, and perhaps the length of time over which a strategy of planned giving has been employed. Unfortunately this measure is available only for the AHEAD respondents so the sample size is smaller than that for other cells in the table.

The probability of making any transfer and the probability of transferring at least $10,000 both tend to increase with wealth

[9] One should note the significant probability of transfers for even the lowest wealth group. These figures indicate that transfers are also made for reasons other than estate planning. Such motivations may include spending down for Medicaid eligibility or to relieve liquidity constraints on the child.

[10] The question reads, "Please think about the past 10 years. Not counting any shared housing or shared food, have you [and your (husband/wife/partner)] given financial help or gifts including help with education, of $5,000 or more to any child (or grandchild)?"

TABLE 3
TRANSFER PROBABILITIES AND AMOUNTS BY VARIOUS CHARACTERISTICS
AHEAD/HRS SAMPLE
(STANDARD ERRORS IN PARENTHESES)

Characteristic	Probability Gave	Probability Gave >10,000	Amount Over Positive	Probability* Past 10 yrs
Wealth per Spouse				
< $600,000	0.3	0.04	4932	0.2
	(0.004)	(0.002)	(169)	(0.006)
$600,000–$1.2 million	0.61	0.17	8551	0.52
	(0.04)	(0.03)	(1114)	(0.07)
$1.2 million–$2.4 million	0.59	0.27	12,378	0.54
	(0.04)	(0.04)	(1535)	(0.08)
> $2.4 million	0.63	0.24	23,310	0.70
	(0.05)	(0.04)	(7674)	(0.08)
Poor Health (either spouse for couples)				
yes	0.64	0.34	14,673	0.63
	(0.09)	(0.09)	(3736)	(0.10)
no	0.61	0.21	14,010	0.57
	(0.02)	(0.02)	(2478)	(0.05)
Number of Children				
one	0.63	0.23	9095	0.57
	(0.07)	(0.06)	(1724)	(0.11)
two	0.66	0.27	14,008	0.58
	(0.04)	(0.04)	(2356)	(0.08)
three or more	0.58	0.20	15,216	0.58
	(0.03)	(0.03)	(4037)	(0.06)
At least 50% of Assets in Stock				
yes	0.54	0.20	15,117	0.42
	(0.10)	(0.09)	(4447)	(0.12)
no	0.61	0.22	14,006	0.59
	(0.02)	(0.02)	(2419)	(0.05)
Owns a Farm or Business				
yes	0.59	0.22	18,154	0.66
	(0.03)	(0.03)	(4367)	(0.07)
no	0.63	0.22	9451	0.53
	(0.03)	(0.03)	(850)	(0.05)

Sample is HRS and AHEAD respondents with children.
*Probability of giving $5,000 or more. Measured for AHEAD sample only (*n* = 137).
Complete sample size is 439.

although differences among those with taxable levels of wealth are small and non–monotonic. There is, however, a striking increase in the amount of the transfer as wealth increases above the $600,000 level. Those having per spouse wealth of more than $2.4 million transferred $23,310 on average, almost twice as much as the $12,378 transferred by those in the $1.2 million to $2.4 million category, and nearly three times as much as those with wealth between $600,000 and $1.2 million. The

final column also points to a significant rise in past transfers for the highest wealth category. Seventy percent of those in the highest wealth bracket made a transfer of $5,000 or more in the past ten years compared to 52–54 percent of those with somewhat lower levels of taxable wealth.[11]

It is not just age that ought to affect the relationship between gift giving and taxes, but health status as well, since all else constant, those in poor health likely have fewer years of life remaining over which to decumulate assets than those in good health. As shown in Table 3, the difference in the probability of making a transfer by health status is small but is in the expected direction. There is also a relatively large difference by health in the probability of making transfers of $10,000 or more; those in poor health are over 50 percent more likely to have done so than those in better health. Those in poor health are also more likely to have made a large transfer in the past 10 years. While these results are consistent with estate planning behavior, they are also consistent with exchange motivated transfers in which parents in poor health reimburse children for care or help with household chores.

There is little variation in the probability of giving by the number of children. The probabilities of making transfers are the greatest for two children families, while the total increases monotonically with the number of children.

The second section discussed how the fraction of wealth held in various types of assets might induce different behavior with respect to inter vivos transfers. In particular, substantial unrealized capital gains might cause a donor to favor bequests over inter vivos giving as might owning a farm or business. While the HRS and AHEAD data sets do not contain information on unrealized gains, one might infer that those with substantial wealth invested in stocks may have larger unrealized gains on average than those with other assets. Table 3 shows that in fact those with at least 50 percent of their assets in stock are substantially less likely to have made a transfer in the past year, 54 versus 61 percent, and are less likely to have made a transfer in the past 10 years, 42 versus 59 percent. When made, however, the transferred amounts are similar.

There are also differences between those who own a farm or business and those who do not. Owners are less likely to have made a transfer in the past year, but conditional on making a transfer they transfer approximately twice as much. These differences are consistent with the tax advantages available to bequests of these assets as well as with their illiquidity. If it is costly to parcel out pieces of a farm or business, inter vivos transfers will be made less frequently, but when made, they may be made in larger amounts. Farms and businesses may also fluctuate in value. If the value falls suddenly, a parent who has transferred a large fraction of their wealth may be left with insufficient resources to finance a desired level of consumption.

To examine more precisely which parents are making a transfer, a regression analysis is instructive. Table 4 reports the regression estimates for a probit analysis of the probability a parent (or parent–couple) makes an inter vivos transfer and tobit analysis for the amount.[12] Each re-

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[11] In comparing the probabilities of giving and of giving $10,000 or more in Tables 2 and 3 it is apparent that the HRS/AHEAD sample yields a much higher level of overall giving than the SCF. This difference is likely due in large part to the wording of the question on transfers. The HRS/AHEAD asks respondents to report "financial help or gifts" made specifically to children while the question in the SCF asks about support to anyone outside the household. By specifying "support," the SCF may not capture gifts that are not needed by the recipient. In addition, the specific prompting of transfers to children apparently elicits a greater number of transfers (McGarry and Schoeni, 1995). A replication of Table 2 for the HRS and AHEAD data sets is available in McGarry (2000).

[12] Similar regressions with slightly different specifications are reported in Poterba (forthcoming) and McGarry (forthcoming).

TABLE 4
PROBIT AND TOBIT ESTIMATES FOR THE PROBABILITY AND AMOUNT OF TRANSFER
HRS/AHEAD

	Probability		Amount	
	Coefficient	Standard Error	Coefficient	Standard Error
Wealth:				
lowest quartile	−0.892	0.047	−241	17.6
2nd quartile	−0.417	0.040	−112	12.6
3rd quartile	−0.166	0.036	−42	10.5
highest quartile (omitted)	−	−	−	−
Income:				
lowest quartile	−0.644	0.044	−181	15.4
2nd quartile	−0.372	0.039	−100	12.1
3rd quartile	−0.197	0.035	−51	10.2
highest quartile (omitted)	−	−	−	−
Taxable Estate	0.558	0.148	141	42.8
Taxable Estate × life expectancy /10	−0.084	0.038	−19.8	10.9
Life Expectancy /10	−0.036	0.016	16.0	4.51
Fraction of Wealth in Business	−0.040	0.027	−13.7	7.6
Fraction of Wealth in Farm	−0.600	0.148	−149.0	39.8
Fraction of Wealth in Stock	0.099	0.052	32.6	14.9
Fraction of Wealth in Home	−0.066	0.038	−13.5	10.3

Sample is HRS and AHEAD respondents with children. Parental characteristics included in the regressions but not shown are: married, number of children, income, race, schooling, poor health, mean children's income, and age.

gression controls for parental income, wealth, the composition of wealth, marital status, race, schooling, characteristics of the children (not all of which are shown) and an indicator of whether parental assets are above the taxable limit ($600,000 per spouse in the year to which the data pertain). Also, rather than the age of the parent, the regressions control for the combined life expectancies of the husband and wife (if married) and the interaction of this variable with the taxable estate indicator.

As one would expect, the probability of a transfer increases with both income and wealth. Furthermore, there is a sharp rise in the probability as wealth crosses the taxable threshold. This rise in the probability associated with the tax status of the eventual estate is also consistent with a non–linear wealth effect wherein the very wealthy are significantly more likely to make transfers than the less wealthy, regardless of tax considerations.

The effect of a taxable level of assets is mitigated by length of life. Those with a greater life expectancy have a longer pe-

riod of time over which to decumulate assets either through consumption or gift giving, and accordingly the probability of a transfer is lower. This result is not predicted by a simple non–linear wealth effect.

The type of wealth also matters. Holding wealth constant, additional dollars in a family farm decrease the probability of an inter vivos transfer. Business wealth also decreases the probability but the effect is small and insignificantly different from zero. The probability is also slightly lower if a greater portion of assets is tied up in a home. In contrast, transfer probabilities increase with the fraction of wealth held in stocks. This last result is in contrast to the pattern seen for stock ownership in the simple cross–tabulations in Table 3.

Poterba (forthcoming), in results not shown here, finds similar but somewhat less strong effects for wealth and the composition of wealth. In addition to asset levels, he includes an estimate of the amount of unrealized capital gains using available data on purchase prices, appreciation, and

current values of various assets from the SCF. Consistent with tax motivated transfers he finds that the larger the unrealized gains the lower the probability of making a transfer.

The second regression in Table 4 examines the natural log of the amount of the transfer in a tobit specification.[13] The effects of wealth, the indicator of a potentially taxable estate, and life expectancy are similar to those in the equation for the probability of a transfer: The amount of the transfer increases significantly with wealth and with a taxable estate, but the effect is mitigated by length of life. There are also significant differences by income quartile and the composition of the portfolio.

Changes in Tax Rates

One would expect parents to respond not just to the existence of an estate tax, but to the marginal tax rates as well. In regression analysis McGarry (2000) finds a significant positive relationship between the marginal tax rate and the probability and amount of inter vivos gifts, a relationship that is typically strongest for those with the shortest life expectancies. Her estimates show that holding wealth constant, an increase in the marginal tax rate from zero to 37 percent will increase the probability of a transfer by 21 percent while an increase to a marginal tax rate to

55 percent will increase the probability by 32 percent. Similarly large increases in the expected amount of the transfer are also predicted. While these results are suggestive of a response to changes in tax rates, in a cross sectional analysis it is not possible to separate the effect of increases in the marginal tax rate from the non–linear effects of increases in wealth.

Perhaps the most striking evidence of a response to changes in tax rates is the time series pattern of inter vivos giving described in Joulfaian (1998) and partially reproduced in Table 5. Over the past century there have been several changes in the tax rates applicable to bequests and gifts and IRS data indicate that donors significantly altered their behavior in response to these changes. The best example of this behavior is that observed in response to Tax Reform Act of 1976 (TRA76). TRA76 unified the estate and gift taxes, and in doing so substantially raised the tax on inter vivos gifts. In anticipation of this change, taxable giving in 1976 soared as donors took advantage of the last year of lower tax rates. Revenues from gift taxes for 1976 gifts, which were paid in 1977, were $4.85 billion, nearly four times greater than the 1976 receipts of $1.22 billion, and the fraction of total estate and gift tax revenues attributable to the gift tax jumped from 8 to 24 percent. After this tax related surge in giving, revenues in 1978 fell to approximately $0.4 billion, or 25

TABLE 5
ESTATE AND GIFT RECEIPTS

Year	Total Receipts (million of dollars)			Fraction of Total Due to Each Tax	
	Total	Bequests	Gifts	Bequests	Gifts
1975	14,675	13,501	1,174	0.92	0.08
1976	15,212	13,995	1,217	0.92	0.08
1977	20,204	15,355	4,849	0.76	0.24
1978	13,683	13,273	410	0.97	0.03
1979	13,021	12,630	391	0.97	0.03
1980	13,808	13,394	414	0.97	0.03

Source: Joulfaian (1998), Table 17.
Dollar figures are in millions of 1997 dollars.

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[13] Because the log of zero is not defined, zero transfers are assigned a value of zero in this empirical specification.

percent of the 1976 levels. This time series pattern provides strong evidence that inter vivos giving responds to changes in the tax rate. Although not shown in the table, changes in the gift tax at other times throughout the century were also met by concurrent changes in giving.

Extent of Inter vivos Giving

The results in the third section suggest that estate taxes do alter the transfer behavior of those most likely to incur such taxes; these individuals are more likely to make inter vivos transfers and to transfer large amounts. Furthermore, behavior varies with the expected length of life, the composition of assets, and the tax rate. Because the dead weight loss associated with a tax depends on the *degree* to which behavior is altered, it is worthwhile investigating the extent to which those potentially facing an estate tax are making "early bequests." Given the tax planning industry that has evolved in recent years and the complicated trust arrangements that have been devised, one would expect the relatively inexpensive device of tax–free inter vivos giving to be implemented to the full extent possible. Also, because strategic use of inter vivos giving points to advantages for *taxable* inter vivos transfers, observed giving may extend beyond the taxable limits.

Although there has been little research addressing this issue, the work that has been done clearly demonstrates that much less is transferred via inter vivos gifts than one would predict based on the incentives in the tax law. Estate tax return data report that only a small fraction of taxable transfers are made as inter vivos gifts. Shoup (1966) uses estate data from the 1950s to examine the relative magnitudes of inter vivos transfers and bequests. Because his data come from a period of time during which the tax on inter vivos gifts was significantly lower than that on estates, there ought to have been an even

greater incentive to make taxable transfers during one's life than there is under current law. Despite the tax advantage, Shoup finds that among decedents with estates valued at over $1 million in 1957–59, only half had made taxable inter vivos gifts at any point in their lives. Pechman (1987) uses the same data to show that inter vivos gifts amounted to only a small fraction of wealth transferred: seldom more than 20 percent of transfers regardless of the level wealth.

More recent studies have reached similar conclusions. Poterba (2000) estimates that simple tax–free inter vivos giving to children could reduce taxable wealth by 23 percent while including potential tax–free transfers to grandchildren and great–grandchild yields a reduction in taxable wealth of 33 percent. Yet despite the opportunity for sizable savings, he finds that parents report inter vivos gifts equal to only 14 percent of the potential amount, indicating that the eventual tax bill faced by these parents could be lowered substantially if early bequests were made.

As the 23 percent reduction estimated by Poterba indicates, the scope for tax–free inter vivos giving is large. Families in the HRS and AHEAD with assets above the taxable limits average three children (among those with at least one child) and 3.4 grandchildren. Including children–in–law among the possible recipients, and assuming that each spouse gives $10,000 to each potential recipient, the average potential for tax–free giving to children and their families is $147,000 per year. Limiting transfers to children only yields a yearly potential of $51,000 on average (McGarry, forthcoming).

Table 6 shows the distribution of giving relative to this potential. Only 3.1 percent of families made transfers equal to the full potential, leaving yearly unexploited gift giving of $140,000 on average. If these potential transfers are aggregated over the expected remaining lifetime of the parent(s) the potential for giv-

TABLE 6
DISTRIBUTION OF GIFTS RELATIVE TO EXEMPT AMOUNT

Sample	Percent Giving Amounts ≥ Potential*		Mean Shortfall in Giving	
	All	Positive Transfer	All	Positive Transfer
Wealth > $600,000	3.1	5.8	138,749	131,496
By Wealth Category†				
$600,000–$1.2 million	3.0	5.0	133,543	117,765
$12–$2.4 million	0.0	0.0	135,657	139,147
Greater than $2.4 million	12.1	20.0	194,300	237,095

Sample is HRS and AHEAD parents with children who have wealth > $600,000 (singles) or > 1.2 million (couples).
*Potential is equal to $10,000 per child, grandchild, and child–in–law.
†Wealth categorization is wealth per spouse.

ing is over $4 million. Even among those making a positive transfer, only 6 percent give an amount at least equal to their yearly tax–free potential, and shortfalls average well over $100,000 per year.

The remainder of Table 6 analyzes the variation in the extent of giving by wealth level. It shows that even among the wealthiest families, actual giving falls far short of the potential. Among those with over $2.4 million (per spouse) in assets, only 12 percent transfer an amount greater than or equal to their potential and the amount of the foregone opportunity is $194,300. At a 55 percent marginal tax rate the tax on the additional $194,300 in bequests is $106,865.

Table 7 analyzes the correlates of the foregone gift–giving opportunities in a regression framework. The dependent variable is the difference between the to-

TABLE 7
CORRELATES OF SHORTFALL IN POTENTIAL TAX FREE GIVING ORDINARY LEAST SQUARES REGRESSION

	Coefficient	Standard Error
Wealth per Spouse	0.0088	–0.0050
Income	–0.1512	–0.0340
Life Expectancy		
(joint for couples)	–3839	363
Married	159047	12177
Number of Children	60530	2281
Poor Health		
(either spouse or couples)	15048	15927
Number of Observations	416	
R–squared	0.7186	

Sample: HRS and AHEAD respondents with children.

tal amount the parent could have transferred to children, children–in–law and grandchildren, and the actual inter vivos transfer made (column 3 of Table 6). Surprisingly, there is not a significant relationship with wealth. Those who will likely face the highest estate taxes and can afford to give away the most have only a somewhat smaller shortfall in inter vivos giving. There is, however, a strong difference in transfer behavior by income, with higher income households "coming closer" to the potential to give.

All else constant, the potential for tax–free giving is twice as high for married households as for single households and married couples have significantly larger shortfalls. Life expectancy operates in the opposite direction as that predicted by estate planning behavior. Those with a longer life expectancy who might be in "less of a hurry" to spend down, actually have a significantly smaller shortfall. I remind the reader, however, that these results are based on sample sizes that are very small. The robustness of these results is a matter for future research.

From the figures presented in Tables 6 and 7, it is apparent that the much of the potential parents have for reducing their estates through inter vivos giving is not exploited. Shoup (1966) outlines a long list of possible reasons for the lack of inter vivos giving. These include a parent's uncertainty about her future need for the money, the power that holding wealth

confers, the unpleasantness of planning for one's death, the utility from holding wealth, the fear that large transfers may corrupt or be spent unwisely by children, ignorance of the law or the value of one's assets, and finally, as may be most appropriate these days, the belief that estate taxes may be eliminated and that inter vivos giving is therefore not needed.

It is likely that each of these factors plays a role, although no clear explanation dominates. Discussions with tax attorneys and financial planners often point to a reluctance on the part of the elderly to part with resources either because they feel vulnerable, they feel they earned their wealth and deserve to enjoy it, or because they do not want their children to have such a windfall gain. McGarry (2000) examines simple cross tabulations of differences between those who give at or above the limits and those who give less. She finds that those who gave at or above their potential were more likely to have health insurance as a supplement to Medicare and more likely to have long term care insurance. They may therefore have less of a precautionary motive to save. They were also more likely to have made transfers in the past and more likely to state that leaving an inheritance was "very important" to them. (Surprisingly, they were less likely to have a financial advisor than were those engaging in less giving.) The results for past transfers and the importance of leaving a bequest suggest that there may be differences in attitudes towards giving across the two groups.

WITHIN FAMILY DISTRIBUTION

In addition to the effect on the timing of transfers, estate and gift taxes also create incentives to alter the distribution of transfers within a family. These incentives generate both direct financial costs and costs associated with a division of assets that is other than what the donor would have chosen in the absence of taxes.

Differences across Children

There has been strong and consistent evidence that bequests are nearly always divided equally across children. Wilhelm (1996) finds that 88 percent of estates filing tax returns were divided equally across siblings. McGarry (1999) finds a similar figure with 83 percent of AHEAD parents reporting that their will divides their estates "about equally." However, contrary to these patterns, optimal use of the yearly $10,000 annual exclusion may require that these "early bequests" be made unequally across children if the children's families differ in size. For example, the family of a married son with two children of his own can receive $80,000 from his parents, while his single childless sister can receive just $20,000. The desire to treat children equally with respect to their share of an inheritance may therefore limit the extent to which parents take full advantage of inter vivos giving.

As noted above, few parents even come close to taking full advantage of the opportunities for inter vivos giving, and given the relative rarity with which transfers above $10,000 per year are made it is unlikely that many are constrained by the desire for equal treatment. McGarry finds no evidence that those facing a larger expected tax burden are more likely to make unequal inter vivos transfers to children in order to increase their rate of asset decumulation. This result is consistent with the lack of a relationship between wealth and the shortfall in inter vivos giving demonstrated in Table 7.

Inter Vivos Transfers to Grandchildren

In very wealthy families, the same assets might well be transferred through several successive generations, incurring tax liabilities at each transfer. If a parent wishes to reduce not just the tax owed on her own estate, but that of the family dy-

nasty, she may wish to make a transfer directly to grandchildren, thereby skipping a generation of tax liability. However, the tax law limits this opportunity by the presence of "generation skipping taxes." These taxes provide an extra charge on transfers of over $1 million made to grandchildren (or others of that generation). If, tax considerations aside, the donor would prefer to transfer a significant amount to her grandchildren, this generation skipping tax might alter her behavior. It is impossible to assess the extent to which desired transfers to grandchildren are not made because of the additional tax. However in is worth noting that a relatively small fraction of donors specifically name grandchildren in their wills (Table 1). The generation skipping transfer tax should not affect the probability of naming a grandchild as a beneficiary; it should only limit the amount of their inheritance. It is therefore unlikely that many are affected by the generation skipping tax. Furthermore, data from estate tax records further indicate that the generation skipping tax is borne by an extremely small fraction of estates, with fewer than 1 percent of those estates filing a tax return owing any generation skipping tax (Joulfaian, 1998).

Bequests to Surviving Spouses

Minimizing the total estate tax bill of a married couple many necessitate an allocation of bequests between children and the surviving spouse that is other than what would be chosen in the absence of estate taxes. The most straightforward estate planning technique for couples with substantial wealth is to be certain that each spouse takes advantage of the unified credit. Because the credit is allocated on an individual basis, full use of it requires that each spouse bequeath $675,000 to their non–spouse heirs (based on the unified credit for the year 2000). Thus, even if a husband who is expected to pre–decease his wife would like to leave his en-

tire estate to her, optimal tax planning would suggest otherwise. Because of this tax effect a surviving spouse may receive a smaller portion of the estate than she would otherwise. (The larger fraction of wealthy parents naming a child in their will shown in Table 3 is consistent with the wealthy being less likely to leave the entire estate to a spouse.) Conversely, suppose the husband in this example wished to leave the majority of his estate to his children. If the amount of his estate is above the taxable limit it may be preferable to pass the excess to his widow through the unlimited marital deduction with the understanding that she will bequeath it to his children at her death, taking advantage of her credit. In this case the spouse receives more than she would have had estate taxes not altered the distribution.

For those couples for whom expected estates total more than twice the unified credit (2 × $675,000 in 2000), a tax minimizing strategy would take advantage of the progressive tax rates and divide bequests across spouses so that each spouse takes full advantage of the lower tax rates early in the tax schedule. Because marginal rates increase from 37 to 55 percent, the savings resulting from this allocation can be large. This observation leads to the somewhat surprising prediction that despite the availability of an unlimited marital deduction, the estate of the first to die spouse may often pay estate taxes. Evidence from IRS data indicate that the estates of married decedents do often incur a tax bill (Eller, 1996; Eller, Erard, and Ho, 2000).

Several types of trusts have been developed to take advantage of the unlimited marital deduction and each spouse's unified credit, while at the same time ensuring that the decedent's desired distribution of his assets is eventually realized. These include Qualified Remainder Trusts, which allow for the eventual transfer of the estate of the first–to–die spouse

to his children while taking advantage of the marital deduction, and credit shelter trusts, which take advantage of the unified exemption for the first to die by transferring assets to a trust established for the eventual benefit of children, but providing for the surviving spouse during her lifetime (see Schmalbeck (2000) for a clear discussion of these alternatives). These trusts and other available instruments require the investment of time and money to establish, but are well understood and allow the potential decedent to a large extent to fulfill his wishes as to the disposal of his estate while taking full advantage of the tax–reducing strategies offered by the estate tax law.

ELIMINATION OF THE ESTATE TAX, AND HEIR'S PERSPECTIVE

There has been much debate recently about the possible elimination of the estate tax. While the discussion has centered on the potential loss in revenues to the treasury and the benefits accruing to family farms and businesses, there are likely to be other far reaching effects. In particular, as demonstrated in this paper, it is likely that parental inter vivos giving will respond to changes in estate and gift taxes. If bequests are no longer taxed, parents have no reason to make "early bequests" (although they may still make inter vivos transfers to children in response to other motivations). Because children are unlikely to be able to borrow against expected bequests, receiving the transfer later rather than sooner may be less appealing. Thus, while the total amount transferred to children may be higher if no taxes are due at death, the change in the timing might leave children less well off.

An important consequence of the estate tax is the relative difference in the price of transfers to charitable organizations and non–charitable beneficiaries. Because charitable bequests of any amount are free

from tax, the price of charitable giving is substantially less than the price of bequeathing assets to non–charitable heirs. For an estate facing a marginal tax rate of 55 percent, the price of giving one dollar to charity is simply one dollar, but the price of a one dollar transfer to a child is $2.22. One would expect that the significant discounting of charitable gifts would encourage many to donate to charity who might not otherwise do so. In fact, the few studies that have examined the effect of the estate tax on charitable giving have found a strong response (e.g., Boskin, 1976; Joulfaian, 1991). Table 3 also demonstrates a large difference in intended charitable bequests for the AHEAD population. Eliminating the estate tax would equalize the price of giving to children and giving to charity and one would predict that charitable contributions would fall. Recent work by Joulfaian (2000b) indicates that charitable bequests are significantly larger than charitable inter vivos gifts (which benefit from an income tax deduction). He finds that for those filing estate tax returns, approximately 23 percent of total gifts to charities were made during the donor's life, with the remainder transferred as a bequest. Because of the substantially greater role played by charitable bequests, the change in the estate tax could have a dramatic effect on the revenue of such organizations. The primary beneficiaries of the change in allocation would likely be the non–charitable heirs, particularly children since spousal bequests are not taxed. For those who died in 1992 and whose estates filed estate tax returns, the total left to charity was $8.4 billion, out of total bequests of over $100 billion. Thus while the *fraction* of estates going to charities is relatively small, the absolute amount is large. Furthermore, for those making such a bequest the fraction of the estate transferred to charity is large. Eller (1996) shows that among those making charitable bequests, on average close to 30 percent of the value of the estate was

donated. The elimination of the estate tax could therefore result in a substantial gain to the children (or other heirs) of previously charity–minded parents, but an equally significant loss to charitable institutions.

Changes in the net amount of inheritance would likely induce other effects on the children. Certainly an increase in lifetime wealth would be expected to have an effect on both labor supply and savings behavior. The relationship between these behaviors and the estate tax has received some attention in the literature. Joulfaian and Wilhelm (1994) find small negative effects of inheritances and expected inheritances on hours worked. One might indeed expect small effects as it is often difficult to vary hours on a job. Results from Holtz–Eakin, Joulfaian, and Rosen (1993) confirm this possibility. They find large effects of inheritances on labor force participation but much smaller effects of inheritances on earnings. Other work by the same authors (Holtz–Eakin, Joulfaian, and Rosen, 1996) finds an effect of inheritances on entrepreneurial behavior and retirement decisions.

In addition to labor market participation, changes in inheritances are likely to affect the savings behavior of the heirs. By increasing the inheritance they receive, one would expect the savings rate of heirs to decline. While the effect on heirs seems clear, Gale and Perozek (2000) show that the change in the savings behavior of the donors depends on the motivation behind the transfers. Furthermore, as they demonstrate in simulations, the response of the heirs with respect to savings could be large enough that the change in the savings behavior of the donor could be all or partially offset.[14]

From these studies one would conclude that the larger inheritances children would likely receive with the elimination of the estate tax would result in a small reduction in hours worked, some decline in labor market participation, an increase in successful entreprenureship and a likely decline in savings. However, what has been ignored in the literature is the simultaneous effect of changes in inter vivos giving. If such gifts decline dramatically or cease in response to the elimination of the estate tax, then children will potentially respond to this change as well, perhaps increasing work effort or savings during the parent's lifetime, or decreasing entrepreneurial activity if they now face binding liquidity constraints.

CONCLUSION

The estate tax is currently receiving a good deal of attention among policy makers. Much of this attention centers on the fairness of the tax and on the extent to which taxes are avoided by sophisticated individuals pursuing elaborate tax avoidance strategies (NY Times, 2000).[15] The incentive effects of the estate tax and methods of reducing the tax owed by an estate are well–known. However, we know very little about the degree to which individuals pursue these strategies and actually alter their behavior. This paper has examined one particular aspect of behavior, that of inter vivos transfers.

By transferring a portion of an eventual bequest during their lifetime, a parent can substantially reduce the tax eventually paid by an estate. Furthermore, inter vivos transfers to children provide an extremely simple method of estate planning

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[14] An accurate estimate of the overall effect of the estate tax on savings behavior would need to incorporate not just changes in the behavior of parents and children, but changes in the spending patterns of charities and government as well.

[15] A quote from a New York Times article reads, "To supporters, this estate tax planning burden falls most heavily on the least wealthy farmers and entrepreneurs and even more disproportionately on women and minorities while the richest people can easily afford the costs and avoid the tax. 'The rich continue to find loopholes and the middle class gets whacked.' "

requiring far less investment in understanding tax laws or hiring professional advisors than some strategies. In summarizing past work and drawing on new results I conclude that parents whose asset holdings are sufficiently large that they would be expected to owe estate taxes at death are indeed more likely to make inter vivos transfers to their children and transfer larger amounts. There also appears to be some variation in the probability and amount of the transfer with the expected tax rate. Surprisingly however, virtually no parents take full advantage of the opportunities for tax–free inter vivos giving and even fewer go beyond the tax–free limits as would be predicted by a tax minimization strategy. This result implies that more is paid in estate and gift taxes than need be.

Understanding the causes behind the limited use of transfers is an important next step. Doing so will help policy makers better implement any changes in the estate and gift tax laws and will shed light on the motivations behind familial transfers in general. In the meantime, it is important that the existing patterns of inter vivos giving be considered when changes in the estate tax law are discussed.

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