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Taxing Wealth Transfers and Its Behavioral Consequences

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INTRODUCTION

The estate tax recently became the subject of heated debate and controversy, with many legislative proposals for its repeal or scale–back. Some of the opponents of the tax argue that it "discourages work and saving" and, with its behavioral effects, may actually decrease federal tax revenues (See Feldstein (2000) for a recent example). Proponents argue that the tax acts as a backstop to the income tax and prevents its erosion. They also argue that it has little effect on the donor's labor supply or saving (Carnegie, 1892; Soros, 2000), and may even encourage savings (Shoup, 1966, p. 86; Gale and Perozek, 2000).

In contrast to all the major taxes, the estate tax has received little attention from economists. While the literature is replete with studies of the determinants of bequests and the underlying motives (McGarry, 1999a; Wilhelm, 1996), studies of the effects of taxes on such transfers are rare. Indeed, until recently, few empirical analyses of the effects of the estate tax had been undertaken. For a tax that has been around uninterruptedly for well over 80 years, this lack of interest is quite remarkable.

In fiscal year 1999, federal estate and gift tax receipts were $28 billion, roughly 1.5 percent of total government receipts. This tax was paid by fewer than 50,000 individuals. The revenue raised can easily pay for a reduction of the maximum corporate rate from 35 percent to 30 percent or a reduction of the maximum individual tax rate from 39.6 percent to 33 percent. To some degree, income taxes also reduce the size of the taxable estates and the yield of the estate tax.

All taxes are likely to have consequences for economic behavior. Both income and estate taxes, for instance, may have implications for savings and labor supply. Because of the concomitant changes in tax laws, however, it can be difficult to disentangle the effects of these two taxes. Inheritance taxes in the U.S., for instance, were introduced shortly after the enactment of income taxes (1862 and 1916). Estate tax increases were usually enacted concomitantly with income taxes increases (1917–18, 1930s, 1940s, and 1993). Reductions also followed a similar pattern (late 1920s, early 1980s, and 1997).

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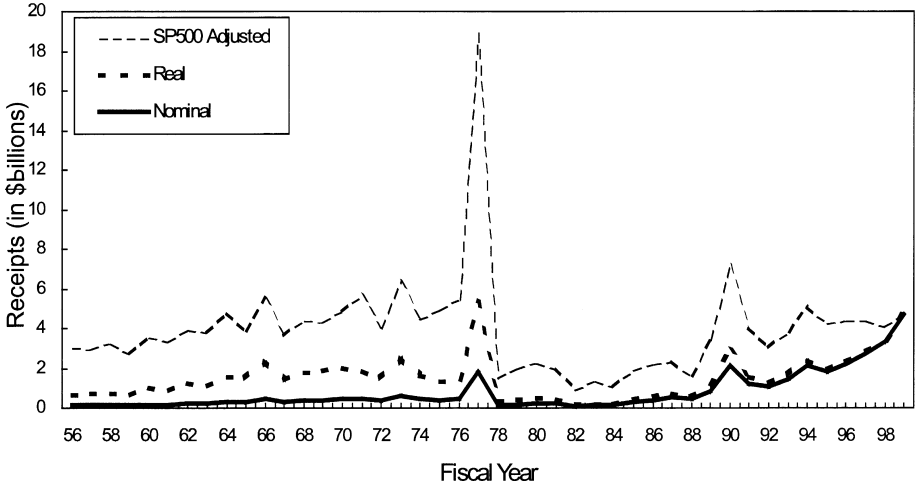
In addition, many income tax provisions interact with those of the estate tax. Given these interactions, the estate tax may amplify the effects of the income tax or offset them altogether. Under the income tax, for instance, accrued capital gains escape taxation at death as the underlying assets are passed to the heirs. In contrast, the donor's (adjusted) basis is carried over in the case of lifetime gifts. When the donee sells these assets they become subject to capital gains taxes on gains accrued by the donor. Thus, both capital gains and gift taxes act to discourage gifts, particularly of appreciated property.

Some of the behavioral response to estate taxation is readily observable. Spousal bequests by the wealthy prior to the 1980s, for instance, were set equal to half the estate, the deductible limit. With the introduction of the unlimited marital deduction, spousal bequests expanded to soak up much of the taxable estate. Similarly, in response to the higher gift tax rates expected in 1977, gifts in 1976 increased substantially. Figure 1 shows that gift tax receipts in fiscal year 1977 (calendar year 1976) were several multiples of receipts reported in prior years.[1] Indeed, such behavioral tendencies were well anticipated by Congress when it deliberately set gift tax rates below that of estate tax rates back in 1932; the intent was to accelerate revenues to Treasury in the aftermath of the Great Depression, at the expense of future estate taxes (smaller estates).

Before I discuss the behavioral response to estate taxation in this paper, I briefly describe the main features of the estate tax. These include the tax rate structure as well as the interaction between state and federal taxes. A more concise description is provided in Gale and Slemrod (2000). Next, and in order to dramatize the scope and reach of the estate tax, I present statistics on the general profile of taxpayers, by wealth, business ownership, as well as regional representation. This is followed by a review of the empirical evidence on the effects of taxes.

Figure 1. Gift Tax Receipts



[1] For earlier trends in gift tax receipts, and similar responses to changes in taxes in prior years, see Joulfaian (1998, Table 17 and Figure 3).

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THE TAX TREATMENT OF WEALTH TRANSFERS

The estate tax applies to stocks, bonds, real estate, businesses, life insurance proceeds, and pension assets, among other assets held at death. Estate expenses, outstanding debts, spousal bequests and charitable bequests are deductible in computing the taxable estate. At present, the tax is computed by applying to the taxable estate a rate schedule that ranges from 18 to 55 percent (see left panel of Table 1), with a surtax of 5 percent that applies to taxable estates between $10 million and $17 million.[2]

The tax is reduced by a number of credits in computing the final tax liability. The largest tax credit is the unified credit scheduled increase to $345,800 in 2006, an amount equivalent to an exemption of $1,000,000. The second largest credit is that for state death taxes. The credit rate ranges from 0 to 16 percent of the federal taxable estate, as shown in the right panel of Table 1, but not to exceed the tentative federal tax liability.[3] This has the effect of reducing the maximum statutory federal estate tax rate to 39 percent as shown in Table 2. The credit also reduces the federal average tax rate. In the case of a taxable estate of $1.1 million, for instance, the average tax rate is only 0.2 percent, where the net tax is $2,200, or $41,000 – $38,800. At lower levels of wealth, the federal tax is mostly transferred to the states, as depicted in Figure 2.

The estate tax provides preferential treatment to businesses. In the case of estates where the value of closely held businesses exceeds 35 percent of terminal wealth, the portion of the estate tax liability attributable to the business can be paid in installments over a period of 15 years, with no principle payable in the first 5 years. The interest rate is set at 45 percent of the applicable interest rate, which is defined as the short term applicable federal rate (AFR) plus three percentage points. At an interest rate of 8 percent, for instance, the estate is charged an interest rate of 3.6 percent only, which effectively reduces the estate tax liability for the wealthiest estates by about 30 percent, using a discount rate of 8 percent.[4] In addition to reducing the tax burden, this treatment eases liquidity constraints and makes it unnecessary for businesses to liquidate in order to pay the tax.

In addition, closely held businesses may exclude up to $750,000 of real property used in business or farming. The exclusion applies to the difference between the market value and the capitalized value of income from the property. They may as well take advantage of valuation discounts for minority interest in a property, lack of marketability, or, especially in the case of a publicly held corporation, the adverse effects on the equity value if large blocks of shares were sold to pay the estate tax.[5] These valuation discounts are on average about 30 percent.

As in the case of bequests, lifetime gifts are also subject to tax. The gift tax is integrated with the estate tax sharing a common tax rate schedule, and unified credit. The tax is computed annually by apply-

[2] For an overview of historical developments and a more detailed description of estate and gift taxes, see Joulfaian (1998). Also see Gale and Slemrod (2000).

[3] The estate tax also provides the heirs with a credit for estate taxes paid in the previous 10 years. If the heir dies within two years, his estate will receive a tax credit equal to 100 percent of the tax paid on the inheritance he had received; 80 percent for 3–4 years, 60 percent for 5–6 years, 40 percent for 7–8 years, and 20 percent for 9–10 years. This credit is especially valuable in the case of transfers to those with short life expectancies such as older generations. Such transfers by the wealthy, however, seldom take place (Joulfaian, 1994).

[4] The interest rate charged on the tax liability attributable to the first million taxable estate is set at 2 percent, which reduces the effective tax rate by 40 percent when also using a discount rate of 8 percent.

[5] Other factors, such as the death of a business founder, may also depress the value of the business entity.

TABLE 1
ESTATE TAX AND STATE DEATH TAX CREDIT RATE SCHEDULES

ESTATE TAX–Rate Schedule				STATE DEATH TAX CREDIT–Rate Schedule			
If the amount of Taxable Estate ($1,000s)		then for the tentative tax		If the Adjusted Taxable Estate* ($1,000s)		then for the maximum tax credit	
is over	but not over	enter	the amount over	is over	but not over	enter	the amount over
0	10	$0 + 18.0%	$0	0	40	$0 + 0.0%	0
10	20	1,800 + 20.0%	10	40	90	0 + 0.8%	40
20	40	3,800 + 22.0%	20	90	140	400 + 1.6%	90
40	60	8,200 + 24.0%	40	140	240	1,200 + 2.4%	140
60	80	13,000 + 26.0%	60	240	440	3,600 + 3.2%	240
80	100	18,200 + 28.0%	80	440	640	10,000 + 4.0%	440
100	150	23,800 + 30.0%	100	640	840	18,000 + 4.8%	640
150	250	38,800 + 32.0%	150	840	1,040	27,600 + 5.6%	840
250	500	70,800 + 34.0%	250	1,040	1,540	38,800 + 6.4%	1,040
500	750	155,800 + 37.0%	500	1,540	2,040	70,800 + 7.2%	1,540
750	1,000	248,300 + 39.0%	750	2,040	2,540	106,800 + 8.0%	2,040
1,000	1,250	345,800 + 41.0%	1,000	2,540	3,040	146,800 + 8.8%	2,540
1,250	1,500	448,300 + 43.0%	1,250	3,040	3,540	190,800 + 9.6%	3,040
1,500	2,000	555,800 + 45.0%	1,500	3,540	4,040	238,800 + 10.4%	3,540
2,000	2,500	780,800 + 49.0%	2,000	4,040	5,040	290,800 + 11.2%	4,040
2,500	3,000	1,025,800 + 53.0%	2,500	5,040	6,040	402,800 + 12.0%	5,040
3,000		1,290,800 + 55.0%	3,000	6,040	7,040	522,800 + 12.8%	6,040
				7,040	8,040	650,800 + 13.6%	7,040
				8,040	9,040	786,800 + 14.4%	8,040
				9,040	10,040	930,800 + 15.2%	9,040
				10,040		1,082,800 + 16.0%	10,040

*The adjusted taxable estate is equal to the taxable estate less $60,000.

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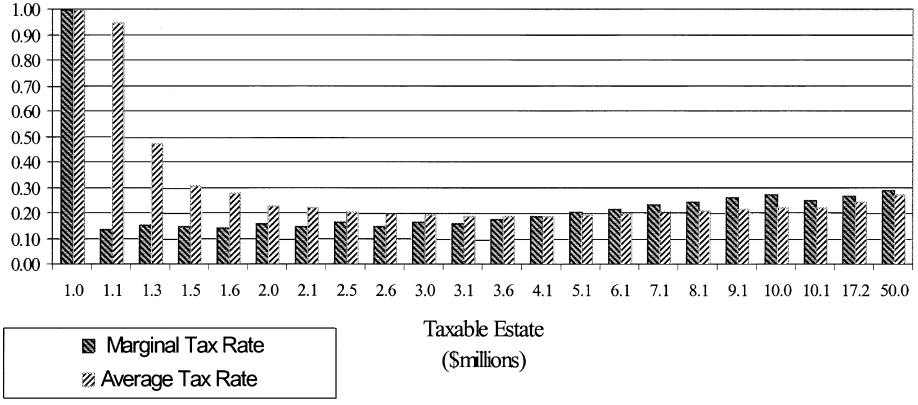
TABLE 2
FEDERAL ESTATE TAX RATES BEFORE AND AFTER THE CREDIT FOR STATE TAXES
(IN PERCENT)

Taxable Estate ($1,000s)		Marginal Tax Rate	Credit Rate	Net Tax Rate	Percent Reduction	Average Tax Rate	Average Credit Rate	Net Tax Rate	Percent Reduction
1,000*	1,100	41.0	5.6	35.4	13.7	3.7	3.5	0.2	94.6
1,100	1,250	41.0	6.4	34.6	15.6	8.2	3.9	4.3	47.2
1,250	1,500	43.0	6.4	36.6	14.9	14.0	4.3	9.7	30.7
1,500	1,600	45.0	6.4	38.6	14.2	15.9	4.4	11.5	27.8
1,600	2,000	45.0	7.2	37.8	16.0	21.8	5.0	16.8	22.9
2,000	2,100	49.0	7.2	41.8	14.7	23.0	5.1	18.0	22.1
2,100	2,500	49.0	8.0	41.0	16.3	27.2	5.6	21.6	20.4
2,500	2,600	53.0	8.0	45.0	15.1	28.2	5.6	22.5	20.0
2,600	3,000	53.0	8.8	44.2	16.6	31.5	6.1	25.4	19.3
3,000	3,100	55.0	8.8	46.2	16.0	32.3	6.2	26.1	19.1
3,100	3,600	55.0	9.6	45.4	17.5	35.4	6.6	28.8	18.7
3,600	4,100	55.0	10.4	44.6	18.9	37.8	7.1	30.7	18.8
4,100	5,100	55.0	11.2	43.8	20.4	41.2	7.9	33.3	19.2
5,100	6,100	55.0	12.0	43.0	21.8	43.4	8.6	34.9	19.7
6,100	7,100	55.0	12.8	42.2	23.3	45.1	9.2	35.9	20.3
7,100	8,100	55.0	13.6	41.4	24.7	46.3	9.7	36.6	21.0
8,100	9,100	55.0	14.4	40.6	26.2	47.3	10.2	37.0	21.6
9,100	10,000	55.0	15.2	39.8	27.6	48.0	10.7	37.3	22.3
10,000	10,100	60.0	15.2	44.8	25.3	48.1	10.7	37.3	22.3
10,100	17,184	60.0	16.0	44.0	26.7	53.0	12.9	40.1	24.3
17,184	50,000+	55.0	16.0	39.0	29.1	54.3	14.9	39.4	27.5

The net tax rate on the first $1 after $1 million taxable estate is actually zero as it is soaked up by a credit of $33,200 ($27,600 + 0.056*100,000). The average rates are computed using the upper limits.

Figure 2. State Tax Credit as Fraction of Gross Federal Estate Tax



ing the tax rate schedule to gifts cumulated over life, with a credit for previously paid gift taxes. An unlimited exemption applies to gifts for tuition and medical expenses, in addition to an annual exemption of $10,000.

A unique feature of the gift tax is that it applies on a tax exclusive basis. To illustrate the implications of this, consider an individual with tax rate of 0.5 and wealth of $300. He transfers $200 to his children and pays $100 in gift tax, for total transfers of $300; the effective tax rate is 0.33, or 100/300, and not 0.5 as under the estate where the tax liability would be $150. Also in contrast to the estate tax, it does not provide a credit for state taxes or the installment method to pay gift taxes.

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Valuation practices are particularly favorable in the treatment of lifetime transfers of businesses. Fractional transfers of business interest may be accorded minority discounts, which typically reduce the applicable gift tax by about a third. These valuation discounts are also extended to estates when a minority position is held at death.

The treatment of transfers varies under the income tax as well. In the case of bequests, accrued gains escape capital gains taxation as the donor's basis in assets is stepped up to the value at death. Thus, the heirs will not be subject to taxes on the gains accrued by the donor. In the case of the gift tax, the beneficiary retains the donor's (adjusted) basis. When the underlying asset is sold in the future, capital gains taxes will apply to past accruals.

PROFILE OF TAXPAYERS

Number of Deaths and Taxable Estate Tax Returns

By design, the reach of the estate tax is restricted to the wealthiest of estates. Of the 2.3 million individuals who died in 1995, for instance, some 78,000 left behind estates large enough to file estate tax returns. As shown in Table 3, of these, only 37,000, or 1.5 percent of all decedents, left behind taxable estates.

The estates of 2.2 million of the decedents did not file any estate tax returns as they fell below the filing threshold of $600,000 in 1995. Of the remaining 78,000 estates, more than half did not face any estate taxes by virtue of the unified credit of $192,800, which is equivalent to an exemption of $600,000, the unlimited marital deduction, and deductions for funeral and estate expenses. Of the least wealthy estates, those with gross estates between $600,000 and $1 million, 16,195 out of 41,321 filers, or less than 40 percent, were subject to tax. The average tax liability is under $50,000. In the case of the wealthiest estates, those with gross estates in excess of $50 million, 91 estate tax returns were filed; only 69 were taxable and faced an average tax liability of $25 million. The non–tax status of the most wealthy is primarily due to the unlimited marital deduction.

The above figures reflect the law in effect in 1995. Table 3 also reports the number of taxable estates if current law, fully phased–in, were to be in effect in 1995. By 2006, under current law, the unified credit is set to increase so as to exempt the first million taxable estates, and qualified businesses and farms may benefit from a deduction of $300,000. Stated in 1995 dollars, these two limits become $760,000 and $228,000, respectively. Overall, about one–third of the previously taxable estates are

TABLE 3
NUMBER OF DEATHS AND FEDERAL TAXABLE ESTATES OF DECEDENTS IN 1995

Gross Estate (1000s)		Number of Deaths	1995 Law		2006 Law	
			Taxable Estates	Estate Tax ($M)	Taxable Estates	Estate Tax ($M)
Under	$600	2,234,108	0	0	0	0
$600	$1,000	41,321	16,195	795	5,129	192
$1,000	$2,500	27,995	14,944	3,545	13,873	2,693
$2,500	$5,000	5,832	3,476	3,013	3,372	2,828
$5,000	$10,000	1,860	1,210	2,189	1,153	2,119
$10,000	$20,000	658	490	1,653	473	1,624
$20,000	$50,000	267	205	1,397	202	1,390
$50,000	Over	91	69	1,700	63	1,690
Total		2,312,132	36,588	14,294	24,264	12,535

Source: Death data is obtained from the National Center for Health Statistics. Estate tax data is computed from estate tax returns of decedents in 1995 with estate tax returns filed in 1995–7. In calculating the tax liability under 2006 law, the unified credit and the deduction for qualified farm or business assets are stated in 1995 dollars.

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no longer taxable, and the number of taxable estates drops to about 1.1 percent of all decedents.[6] Much of the reduction in the number of taxable estates takes place in the case of the least wealthy. In addition, the estate tax liability declines by some 13 percent.

Taxable Estates and Business Returns, by State

Table 3 showed that some 24,000 estates of decedents in 1995 would be taxable under current law, fully phased–in. Table 4 provides a snapshot of the geographic distribution of these estates, excluding deaths outside the U.S. The number of taxable estates, in part, reflects the number of deaths in each state. They may also reflect the distribution of wealth and age profiles. While the states of Connecticut and Oregon have the same number of deaths, for instance, the former has twice the number of taxable estates. Similarly, about 10 percent of the taxable estates are those of Florida residents, while the state accounts for 5 percent of all deaths.

Table 4 also provides a geographic distribution of taxable estates with business and farm assets. Business ownership is defined by the presence of any of closely held stock, farm, and non–corporate assets on the estate tax return. Business assets are reported on some 5,712 estates, or 0.25 percent of all decedents.[7] The presence of business assets varies from state to state, perhaps reflecting the prevalence of self–employment and farms. Less than 1 percent of the decedents in Texas, for instance, left behind taxable estates, which is well below that of New York, which levies higher estate taxes.[8] On the other hand, more businesses and farms are taxable in Texas (0.35 percent vs. 0.22 percent). Overall, and given the small number of estates subject to tax, the observed differences are perhaps not very informative.

Estate and Income Taxes

Table 3 provided a profile of decedents and their estate tax liabilities. To put these figures in perspective, it would be useful to contrast such liabilities with those encountered under the income tax. To this end, Table 5 employs a sample of estate tax returns of decedents in 1989. The sample consists of some 2,000 estate tax returns linked to income tax returns prior to the date of death.

The evidence reported in the top panel of Table 5 shows that the income tax liability in 1988 is about 7.4 percent of the estate tax in 1989. In the case of those with wealth under $1,000,000, the ratio is 34.2 percent; the average income tax is $10,670 compared to estate tax liability of $31,192. This ratio declines with wealth to a low of 3.9 percent for those with wealth in excess of $50 million; the average income tax is slightly over a million compared to an estate tax liability of $28.8 million. A number of the wealthy do not have income tax liabilities, and a larger number do not have estate tax liabilities as well. Much of the latter is explained by the marital deduction.

Income tax returns may not be strictly comparable to estate tax returns. Because of the marital deduction, the estate tax liability for married decedents might be understated because it does not reflect future estate taxes paid by the surviving

[6] This fraction is likely to rise overtime as the exemption is not indexed.

[7] Using 1995 law, the number of taxable estates with business assets is 7,674. Note that the sample size of taxable estates under TRA97 law is 5,266, of which 1,874 report business assets. While the sampling rate of 22 percent is certainly high, some caution should be used in using the geographic information, particularly in the case of the smaller states.

[8] In 1995, the maximum New York estate tax rate, net of the federal credit, was 0.05, or 0.21–0.16, compared to zero in Texas, which employs the federal tax credit as its tax.

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TABLE 4
DEATHS AND TAXABLE ESTATE TAX RETURNS, BY STATE*

State	Deaths (1000s)	Taxable Returns			
		All	Percent	Business	Percent
Alabama	42	258	0.61	56	0.13
Alaska	3	4	0.13	0	0.00
Arizona	35	277	0.79	49	0.14
Arkansas	27	134	0.50	28	0.10
California	224	3,445	1.54	681	0.30
Colorado	25	259	1.04	45	0.18
Connecticut	29	560	1.93	70	0.24
Delaware	6	99	1.65	13	0.22
District of Columbia	7	63	0.90	7	0.10
Florida	153	2,287	1.49	489	0.32
Georgia	58	490	0.84	93	0.16
Hawaii	8	127	1.59	24	0.30
Idaho	9	61	0.68	3	0.03
Illinois	108	1,358	1.26	337	0.31
Indiana	53	462	0.87	193	0.36
Iowa	28	429	1.53	198	0.71
Kansas	24	290	1.21	147	0.61
Kentucky	37	243	0.66	67	0.18
Louisiana	40	240	0.60	113	0.28
Maine	12	129	1.08	16	0.13
Maryland	42	476	1.13	107	0.25
Massachusetts	55	762	1.39	58	0.11
Michigan	84	640	0.76	184	0.22
Minnesota	38	283	0.74	60	0.16
Mississippi	27	132	0.49	26	0.10
Missouri	54	413	0.76	82	0.15
Montana	8	112	1.40	10	0.13
Nebraska	15	205	1.37	97	0.65
Nevada	13	112	0.86	38	0.29
New Hampshire	9	111	1.23	13	0.14
New Jersey	74	912	1.23	173	0.23
New Mexico	13	115	0.88	9	0.07
New York	168	1,884	1.12	368	0.22
North Carolina	65	538	0.83	154	0.24
North Dakota	6	63	1.05	63	1.05
Ohio	106	996	0.94	218	0.21
Oklahoma	33	393	1.19	140	0.42
Oregon	28	248	0.89	93	0.33
Pennsylvania	128	1,178	0.92	222	0.17
Rhode Island	10	108	1.08	5	0.05
South Carolina	34	170	0.50	61	0.18
South Dakota	7	43	0.61	15	0.21
Tennessee	51	372	0.73	110	0.22
Texas	138	1,307	0.95	478	0.35
Utah	11	61	0.55	16	0.15
Vermont	5	87	1.74	15	0.30
Virginia	53	458	0.86	83	0.16
Washington	41	426	1.04	98	0.24
West Virginia	20	139	0.70	27	0.14
Wisconsin	45	272	0.60	55	0.12
Wyoming	4	6	0.15	5	0.13
US (2006 law)	2,313	24,239	1.05	5,712	0.25
US (1995 law)	2,313	36,588	1.60	7,674	0.33

*Estate tax decedents in 1995, with returns filed during 1995–7. Taxable status determined using fully phased–in 2006 law.

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TABLE 5
ESTATE AND INCOME TAX LIABILITIES FOR A SAMPLE OF ESTATE TAX DECEDENTS IN 1989

Net Worth ($1,000s)		Observations	Taxable Returns		Average Tax Liability		Income tax/ Estate tax (%)
			Income	Estate	Income	Estate	
			Entire sample				
500	1,000	256	237	147	10,670	31,192	34.2
1,000	2,500	159	153	92	25,131	144,064	17.4
2,500	5,000	27	26	16	106,668	557,627	19.1
5,000	10,000	1,020	998	789	132,048	1,463,626	9.0
10,000	20,000	356	350	285	308,532	3,196,623	9.7
20,000	50,000	124	118	102	453,435	6,997,515	6.5
50,000	and over	48	48	37	1,116,268	28,811,062	3.9
All		1,990	1,930	1,468	182,885	2,476,114	7.4
			Sample excludes married decedents				
500	1,000	165	152	134	9,258	44,213	20.9
1,000	2,500	82	78	77	18.611	271,049	6.9
2,500	5,000	10	10	10	35,004	1,257,632	2.8
5,000	10,000	520	501	490	99,323	2,502,910	4.0
10,000	20,000	161	155	154	225,062	5,390,598	4.2
20,000	50,000	60	59	58	350,034	11,659,173	3.0
50,000	and over	20	20	19	911,828	46,598,240	2.0
All		1,018	975	942	128,217	3,775,061	3.4

Wealth and estate taxes are stated in $1989, while income taxes in $1988. Taxes reflect both federal and state liabilities.
Source: Computed from the 1989 Estate Collation file; limited to sample of returns with positive net worth.

spouse. In contrast, the income tax figures reflect the tax liability of both husband and wife. Consequently, the figures in the top panel are reproduced for those not–married, primarily widowed, and never–married singles, and reported in the bottom panel of Table 4. The qualitative results are similar, but the estate tax becomes more important. In the case of the less wealthy, for instance, the ratio of income taxes to estate taxes drops to 21 percent, and to 2 percent for the wealthiest group.

The income tax liability in the year prior to the date of death is unlikely to capture the total amount of income taxes paid over a lifetime, or, say, 50 years of the adult life of the decedent. Nevertheless, the figures reported in Table 5 highlight the importance of the estate tax and the burden it imposes on the super rich. As a "backstop" to the income tax, the estate tax is the ultimate, albeit imperfect, alternative minimum tax (AMT).

Gift Taxpayers

Gift tax returns are required to be filed when the amount transferred, other than that for tuition and medical expenses, exceeds the annual exclusion. Thus, an individual making a gift of $10,000 to his son need not file a tax return. Consequently, the majority of Americans are not subjected to the gift tax or its filing requirements.

From a population of 260 million, or some 100 million households, about 210,000 gift tax returns were filed in 1994 (see Table 6). Of these, roughly 138,000 reported $17 billion in gifts (taxable gifts) in excess of the annual exclusion. Some 75,000 of these individuals also made gifts in prior years to the tune of $28 billion. After applying the tax rate schedule and the unified credit, which exempts $600,000 in transfers, the gift tax liability was $1.8 billion.[9] The tax was paid by about 11,000 individuals, less than 6 percent of all fil-

[9] This was $4.6 billion in fiscal year 1999.

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TABLE 6
GIFT TAX RETURNS FILED IN 1994

Taxable Gifts* ($millions)		Returns Filed	Taxable Returns	Taxable Gifts* ($millions)	Returns with tax	Gift Tax ($millions)	Returns with Prior Gifts	Prior Gifts ($millions)
********	600	204,668	134,794	12,809	8,601	323	73,048	24,580
600	720**	2,117	2,117	1,296	1,104	55	328	272
720	1000	588	588	507	588	148	410	585
1000	2500	726	726	1,029	726	409	579	1,163
2500	5000	119	119	412	119	207	112	476
5000	10000	53	53	384	53	202	48	301
10000	20000	19	19	275	19	150	18	166
20000	30000	10	10	242	10	132	10	264
30000	********	7	7	364	7	200	7	149
Total		208,307	138,433	17,319	11,227	1,827	74,560	27,954

These returns primarily reflect gifts made in 1993.
*Gifts in excess of the annual exclusion, and gifts for tuition and medical expenses.
**When adjusted for inflation, $720,000 is equivalent to $1,000,000 in 2006.

ers in 1994 or 0.04 percent of the population. Despite the unified credit, 8,600 returns with taxable gifts under $600,000 reported tax liabilities of $323 million, or an average of $37,000. This is explained by gifts made in previous years, which use up the credit.

Table 7 provides a geographical breakdown of these gift tax returns. Consistent with the estate tax data, the greatest number of returns with tax liability were filed by residents of the states of California, Florida, New York, and Texas; they account for 40 percent of the returns and 54 percent of the tax liability. Overall, returns with tax represent less than one–tenth of one percent of all households, and a much smaller fraction of the population (0.04 percent).

BEHAVIORAL EFFECTS

The estate tax is likely to have implications for a number of economic activities. In this section I focus on the effects on capital gains realizations, bequest division, the choice between gifts and bequests, charitable giving, and the labor supply of the heirs. Whenever applicable, and given the interaction between taxes, the effects of the income tax are also considered. McGarry (2000) and Gale and Slemrod (2000) also provide evidence on additional behavioral effects.

Capital Gains Realizations

Under the U.S. tax system, the basis of appreciated assets is "stepped up" to the market value at death. Thus, when the heirs sell these assets, gains accrued by the decedents are never subject to the capital gains tax. Economists have long argued that the step–up in basis at death is a major source of the lock–in effect of capital gains taxes, inducing investors to hold on to assets until death to avoid taxation during life (Holt and Shelton, 1962; Stiglitz, 1983). For the wealthy, however, the benefit of the step–up may be partially offset by bequest taxes; accrued gains on assets held at death are potentially subject to the estate tax with a current maximum statutory rate of 55 percent.

There are a number of reasons for realizing capital gains. An individual, for example, may sell assets and realize capital gains to finance consumption. The amount of gains (G) that can be consumed is reduced by capital gains taxes. In other words, the individual will have to forego the tax on gains at rate τ, and is able to consume $1 - \tau$ of each dollar of gains realized, in addition to the asset basis. Alternatively, if the individual decides to continue holding the asset for bequests to heirs, estate taxes will have to be paid on the gains at tax rate e. Effectively, the heirs would receive $1 - e$ of bequeathed gains.

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TABLE 7
GIFT TAX RETURNS FILED IN 1994

State	Population in 1000s	Returns with Tax	Gift Tax ($millions)
Alabama	4,181	147	26
Alaska	598	9	2
Arizona	2,426	151	13
Arkansas	3,945	63	41
California	31,217	1,371	292
Colorado	3,564	163	16
Connecticut	3,278	234	28
Delaware	698	54	8
District of Columbia	579	85	10
Florida	13,726	1,131	237
Georgia	6,902	246	35
Hawaii	1,166	76	6
Idaho	1,100	25	3
Illinois	11,686	656	75
Indiana	5,706	204	21
Iowa	2,821	81	11
Kansas	2,535	136	8
Kentucky	3,794	89	5
Louisiana	4,290	122	6
Maine	1,240	36	11
Maryland	4,958	167	18
Massachusetts	6,018	267	42
Michigan	9,460	242	37
Minnesota	4,524	224	23
Mississippi	2,640	47	1
Missouri	5,235	203	24
Montana	841	26	6
Nebraska	1,613	46	4
Nevada	1,382	90	8
New Hampshire	1,124	52	6
New Jersey	7,859	380	36
New Mexico	1,616	56	4
New York	18,153	976	211
North Carolina	6,952	272	26
North Dakota	637	10	0
Ohio	11,061	387	39
Oklahoma	3,233	100	34
Oregon	3,035	131	33
Pennsylvania	12,030	425	86
Rhode Island	1,000	30	5
South Carolina	3,630	92	7
South Dakota	716	22	1
Tennessee	5,094	164	16
Texas	18,022	930	236
Utah	1,860	29	1
Vermont	576	15	0
Virginia	6,473	248	26
Washington	5,259	209	15
West Virginia	1,818	28	2
Wisconsin	5,044	211	21
Wyoming	470	40	5
US	257,783	11,198	1,826

Population at 1993 levels.

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Except in the case of spousal transfers, the combined state and federal maximum capital gains and estate tax rates are approximately 0.25 and 0.55, respectively. Thus, an individual holding an asset valued at $100 with a zero basis could elect to consume $75, $100*(1 – 0.25), or bequeath to heirs only $45, $100*(1 – 0.55).[10] Thus, ignoring discounting, bequests are more expensive than own consumption as long as $e > \tau$, and this should have a direct bearing on the amount of gains realized.[11]

As an alternative to consumption, an individual may realize gains in the process of trading assets and adjusting portfolios. In this case the capital gains tax, τG, is typically viewed as a transaction cost; the greater the cost, the less gains are realized. But because capital gains taxes reduce the size of the taxable estate, as in the case of deductible expenses, the true transaction cost is only $\tau G(1 - e)$ with potentially smaller effects on realizations.

Evidence reported in Auten and Joulfaian (forthcoming) suggests that estate taxes may have significant effects on the pattern of capital gains realizations. They employ the 1982 Collation data that links estate tax returns of estate tax decedents in 1982 to pre–death income tax returns. More specifically, they examine capital gains realizations before and after the enactment of changes in capital gains and estate taxes brought about by the Economic Recovery Tax Act (ERTA) in 1981. Employing the rate changes as a natural experiment, they estimate an elasticity coefficient of realizations with respect to the estate tax rate of about 0.4. This implies that in the absence of the estate tax, realizations by those potentially subject to the estate tax might decline by some 30 percent. The estimated behavioral effects are robust with respect to a number of alternative specifications (see Table 8). One noteworthy experiment is that when the analysis is limited to those under the age of 50, the estate tax effect seems to dissipate.

Spousal Bequests and Income and Estate Tax Deferrals

Capital gains taxes also extend their effects to spousal bequests. Assets transferred at death are accorded a step–up in basis under the income tax. Thus, spousal bequests avoid capital gains taxes on past accrued gains. In addition, these bequests also benefit from the unlimited marital deduction, which was ushered in by ERTA. These two provisions create incentives for individuals to bequeath much

TABLE 8
ESTIMATES OF THE EFFECTS OF THE ESTATE TAX ON CAPITAL GAINS REALIZATIONS

Specification	Coefficient	Standard Error	Elasticity
Basic	4.533	0.756	0.36
Exclude Married Individuals	2.558	0.937	0.29
Control for Borrowing	5.184	1.449	0.41
Exclude Residences	4.698	0.779	0.36
Limit to Parents	6.081	1.271	0.53
Limit to Widowed Parents	5.030	2.070	0.58
Limit to Age Under 50	1.670	3.476	0.10

The dependent variable is defined as the ratio of realizations to assets. Equations estimated using FIML (Tobit).
Source: Auten and Joulfaian, forthcoming.

[10] The maximum federal estate tax rate of 0.55 percent reflects a state tax rate of 0.16, for a net federal estate tax rate of 0.39. The maximum federal capital gains tax rate is 0.20, which becomes roughly equal to 0.25 when state taxes are accounted for.

[11] Gifts are an alternative to bequests, but they are subject to gift taxes and the gains accrued by the donor may become taxable when realized by the beneficiaries.

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of their wealth to their spouses, thereby avoiding (deferring) estate taxes. At the passing of the surviving spouse, the underlying assets get stepped up once again as they are transferred to the children.

Prior to ERTA, and especially in the case of the wealthy, spousal bequests reported on returns filed in 1977 were roughly equal to the deduction limit, or one–half the estate (IRS, 1979, p. 36). Holding this pattern of bequests constant, spousal bequests would have been about 40 percent smaller under current law. As a result of the introduction of the unlimited marital deduction, the reported spousal bequests and claimed marital deduction increased so as to absorb much of the taxable estate. Indeed, and using 1976 law, the size of the reported taxable estates in 1995 would have been well over 50 percent greater in the case of estates with wealth in excess of $2.5 million (see Table 9).

This does not truly suggest that ERTA somehow enticed the wealthy to transfer additional resources to their spouses, but rather in part reflects tax planning strategies. Indeed, much of spousal transfers take the form of QTIP spousal trusts created for the benefit of the children, used as means of deferring estate and income taxes.[12] The importance of QTIPs, particularly in the case of the wealthy, is documented in Table 9. On average, QTIPs constitute about 40 percent of the marital deduction, and peak at over 85 percent for those with terminal wealth in excess of $50 million.

Even in the absence of QTIPs, and in conjunction with the step–up in basis, the marital deduction may alter the timing of intergenerational transfers in a tax minimization strategy. The surviving spouse, having avoided estate and capital gains taxes, becomes the parent of choice to make lifetime transfers (Joulfaian, 2000c, p. 11). In effect, an individual may leave his estate to his surviving spouse free of estate taxes, who shortly afterwards gives the assets to her children. Given that the assets are stepped up and that the gift tax applies on a tax exclusive basis, taxes are minimized. In the absence

TABLE 9
TAXABLE ESTATE, MARITAL DEDUCTION, AND QTIP REPORTED ON ESTATE TAX RETURNS OF MARRIED DECEDENTS IN 1995
(AMOUNTS IN $MILLION)

Terminal Wealth* ($1,000s)		Taxable Estate (TE)**			Marital Deduction (MARD)		QTIP	
		Amount under TRA76	Amount under OBRA93	Difference (%)	Amount under OBRA93	(TE76-TE93)/ MARD (%)	Amount	Percent of MARD
600	760	3,783	3,042	–19.6	2,365	31.3	221	9.3
760	1,000	4,786	3,877	–19.0	3,685	24.7	503	13.6
1,000	2,500	10,531	7,218	–31.5	12,286	27.0	3,206	26.1
2,500	5,000	4,893	2,424	–50.5	6,597	37.4	2,432	36.9
5,000	10,000	3,241	1,337	–58.7	4,673	40.7	2,264	48.4
10,000	20,000	2,373	1,030	–56.6	3,327	40.4	1,838	55.2
20,000	50,000	2,072	897	–56.7	2,788	42.1	1,802	64.6
50,000	********	2,908	814	–72.0	4,808	43.6	4,114	85.6
Total		34,587	20,639	–40.3	40,529	34.4	16,379	40.4

*Wealth is defined as gross estate less debts and estate expenses. It is equivalent to the taxable estate before spousal and charitable bequests.
**The taxable estate is wealth less spousal and charitable bequests.
Source: Joulfaian, David, 2000b.

[12] A QTIP, or Qualified Terminable Interest Property, is property which passes from the decedent, in which the surviving spouse has a lifetime interest; she receives all the income of the trust during her life. A number of restrictions apply to the spouse's access to the property, and remaining assets pass to the children at the surviving spouse's death.

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of the estate tax, individuals may bequeath more of their wealth directly to the children.

Estate and Income Taxes and the Choice Between Lifetime Gifts and Bequests

Capital gains taxes also have implications for the timing of transfers (Adams, 1978; Kuehlwein, 1994). Given the $10,000 exclusion and because gifts are taxed on a tax exclusive basis, the current estate tax creates incentives for making lifetime gifts. These points are well explored in Poterba (2000) and McGarry (2000, 1999b). The treatment of appreciated assets, however, is a bit more complicated as the income tax accords a step–up in basis for bequests and basis carry–over for gifts. In many instances, capital gains taxes offset the benefit of having gifts taxed on a tax exclusive basis.

Joulfaian (2000c) provides more direct evidence on the effects of capital gains, estate, and gift taxes, both state and federal, on the timing of transfers. Using a sample of 2,355 estate tax returns of parents who died in 1989, the evidence reported suggests that taxes are an important consideration in choosing between gifts and bequests. Table 10 provides a basic tabulation of the attributes of the wealthy in the sample employed by Joulfaian. These show that the relative frequency of gifts rises with wealth. In addition, both the amount and the fraction of wealth transferred during life rise with wealth.

In the case of appreciated assets, and following Joulfaian (2000c), the price of gifts, relative to bequests, is defined as:

$$\frac{P_G}{P_B} = \frac{(1-e)(1+\pi)^n}{(1+\pi)^n - c\beta(1-g) - c[(1+\pi)^n - 1]} \Big/ \left(1 + g + \frac{c\beta g}{1-c\beta}\right)$$

where c, e, and g are the capital gains, estate, and gift tax rates, respectively. β is the share of accrued gains, π is the appreciation rate, and n is life expectancy. In the case of cash, this simplifies to $(1 + g)(1 - e)$. The true price is some weighted average of these two measures. When gifts are made within three years of the date of death, the gift tax itself becomes subject to the estate tax, and the denominator in the price equation is reduced by eg; gifts become far less attractive.[13]

The importance of taxes is examined using multivariate analysis. Results from such analyses are summarized in Table 11, which reports generalized Tobit, as well as FIML (standard) Tobit estimates. The first equation employs the price of gifts relative to bequests as shown above. The next two estimates exclude Florida residents as well as married individuals to check on the robustness of the estimates. The next two experiments replace the price variable with the actual gift tax and the capital gains tax rates, respectively. These highlight the importance of capital gains taxes. Indeed, repealing capital gains taxes may lead to 60–100 percent increase in gifts. On the other hand, in the absence of estate and gift taxes, gifts may decline by some 60–100 percent.[14]

The estimated effects of taxes on gifts should not come as a surprise. Figure 1 visually demonstrates how gifts are responsive to taxation. In anticipation of an increase in gift tax rates in 1977, individuals accelerated their transfers in 1976

[13] Setting the appreciation rate to zero, the price of bequests in the above equation is $1/(1 - e)$. Using an estate tax rate of 0.55, the parent will have to forego $2.22 in consumption to provide his heirs with $1. If we also set accrued gains to zero as well, the price of gifts becomes $1 + g$; at a tax rate of 0.55, it will cost the donor $1.55 to provide $1 to the donee. In general, however, the derivation of the price of gifts is more complicated. Joulfaian (2000c) provides a thorough discussion and numerical examples.

[14] These simulations assume $\beta = 0.5$; capital gains effects are larger when β is larger.

TABLE 10
PATTERN OF LIFETIME GIFTS FOR A SAMPLE OF ESTATES OF PARENTS IN 1989

Wealth* ($1000s)		Observations			Sample Mean									
			with Gifts											
		All	Number	Percent	Wealth ($1000s)	Gifts ($1000s)	Gifts/ Wealth	Gift Tax Rate	Estate Tax Rate	Gains Tax Rate	Price of Gifts**	Fraction Widowed	Age	Business Share
0	1,000	294	28	9.5	701	8	1.0	30.6	28.0	31.4	113.6	61.2	76	4.9
1,000	2,500	123	17	13.8	1,448	22	1.2	44.7	44.4	31.4	98.5	49.6	77	6.7
2,500	5,000	223	53	23.8	4,299	30	0.7	57.7	55.7	31.7	90.4	39.0	71	14.0
5,000	10,000	1,098	458	41.7	6,843	149	2.1	57.7	55.4	31.4	87.6	43.1	76	14.7
10,000	20,000	397	228	57.4	13,632	371	2.6	58.8	60.3	31.3	78.2	41.3	76	15.0
20,000	50,000	164	105	64.0	29,372	1,229	4.0	58.6	55.9	31.5	87.6	41.8	76	18.8
50,000	******	56	38	67.9	110,364	2,971	3.1	58.1	55.6	30.9	86.8	37.5	78	24.7
All		2,355	927	39.4	10,729	293	2.0	53.9	52.3	31.4	90.1	44.8	76	13.6

*Wealth is gross estate plus lifetime gifts, less debts, funeral expenses, and estate expenses.
**The price of gifts is relative to the price of bequests, as defined in the text.
Note: Gift tax rate applies on a tax exclusive basis. All tax rates reflect state and federal laws.
Source: Joulfaian, David, 2000c.

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TABLE 11
ESTIMATES OF THE DETERMINANTS OF THE SHARE OF WEALTH TRANSFERRED DURING LIFE

	Criterion	Level	Tobit
ln Relative Price of Gifts	–0.97 (0.40)	–0.20 (0.07)	–0.13 (0.04)
Exclude Florida residents	–1.00 (0.44)	–0.20 (0.09)	–0.13 (0.04)
Exclude married parents	–1.10 (0.67)	–0.24 (0.09)	–0.19 (0.07)
Gift Tax Rate	–0.75 (0.38)	–0.11 (0.06)	–0.07 (0.035)
Capital Gains Tax Rate	–5.05 (0.13)	–0.30 (0.21)	–0.40 (0.10)

Note: In the first three rows, the Criterion equation is estimated using Probit IV, and the level equation using 2SLS with selectivity corrected standard errors. Except for the bottom two equations, FIML Tobit is employed where gifts and the price are estimated simultaneously in the last column. Standard errors reported in parentheses.
Source: Joulfaian, David, 2000c.

(fiscal year 1977). A similar response was also experienced in the state of New York, which repealed its gift tax effective in 2000. In 1999, the maximum combined state and federal gift tax rate was 0.71. In 2000, this declined to 0.55. In anticipation of this change, gift tax receipts in fiscal year 2000, from transfers made in calendar year 1999, declined by 40 percent when compared to prior year receipts.

Charitable Giving

The wealthy give to charity for a variety of reasons. Regardless of these factors, the estate tax has the potential of creating incentives for giving. The estate tax, for instance, raises the cost or price of bequests to heirs. Given a tax rate e, the donor will have to forgo $1/(1 - e)$ in consumption to transfer $1 to the heirs. Using a tax rate of 0.55, the donor will have to save $2.22. In contrast, bequests to charity are free of tax. Thus, relative to transfers to heirs, the price of charitable bequests is $1 - e$, or 0.45 in the case $e = 0.55$; giving to charity is less costly.

Using data for decedents in 1995, with returns filed in 1995–7, Table 12A provides a tabulation of charitable bequests, tax prices, and wealth. We observe bequests to rise as the tax price decreases. But bequests also rise with wealth. Consequently, it is difficult to separate the effects of the tax price from those of wealth. The tax price also is likely to depend on wealth, which makes it difficult to separately identify the effects of the two variables.

To shed further light on the trend in giving, Table 12A is reproduced for each of married and not–married decedents. The latter are mostly widowed, but also include never–married singles and divorced individuals. In Table 12B, estates of married individuals with after–tax wealth between $10 million and $20 million face a tax price of charitable bequests of 0.70 compared to 0.45 for the other estates with comparable wealth reported in Table 12C.[15] While both report the same wealth levels, the latter, who face a lower tax price, contribute over 10 times the amount reported by the estates of married individuals. The same pattern is observed for every other wealth class, where the latter group faces a lower tax price and reports greater level of charitable bequests. Tables 12B and 12C strongly suggest that taxes are an important consideration in making charitable bequests. However, one may overstate the effects of taxes, as some of the spousal transfers are likely to be taxed at the death of the surviving spouse unless, of course, they are consumed in the intervening years.

[15] Wealth is defined as net worth less estate expenses and taxes, computed in the absence of charitable bequests. Charitable bequests are reduced by the tax benefits from the deduction in computing the share of wealth transferred.

TABLE 12A
CHARITABLE BEQUESTS, TAX PRICES, AND AFTER–TAX WEALTH IN 1995: ESTATE TAX POPULATION

After–Tax Wealth		Returns	Returns with Bequests	Percent of Returns with Bequests	Mean (First $) Price * 100	Mean (Last $) Price * 100	Mean Bequest ($000s)	Mean After–Tax Wealth ($000s)	Mean Ratio of Bequests to Wealth (%)
********	1,000,000	41,308	6,686	16.2	79	81	22	706	2.7
1,000,000	2,500,000	27,948	5,205	18.6	74	76	59	1,230	3.2
2,500,000	5,000,000	5,826	1,424	24.4	64	68	194	2,539	4.2
5,000,000	10,000,000	1,857	557	30.0	61	64	510	4,849	5.2
10,000,000	20,000,000	657	228	34.8	54	58	1,267	9,174	6.2
20,000,000	50,000,000	267	123	46.2	53	57	3,888	18,646	9.3
50,000,000	********	90	59	65.1	52	58	35,555	94,876	16.8
Total		77,951	14,282	18.3	75	77	124	1,371	4.9

Note: Wealth is defined as net worth less estate expenses and estate taxes computed in the absence of charitable bequests, plus excluded life insurance proceeds. The ratio of bequests to wealth is computed after reducing bequests by the tax savings from the deduction, i.e., $P_{CB}CB/W$. All means are return weighted.
Source: David Joulfaian, 2000e.

TABLE 12B
CHARITABLE BEQUESTS, TAX PRICES, AND AFTER–TAX WEALTH IN 1995: MARRIED INDIVIDUALS

After–Tax Wealth		Returns	Returns with Bequests	Percent of Returns with Bequests	Mean (First $) Price * 100	Mean (Last $) Price * 100	Mean Bequest ($000s)	Mean After–Tax Wealth ($000s)	Mean Ratio of Bequests to Wealth (%)
********	1,000,000	17,590	1,042	5.9	95	96	4	750	0.5
1,000,000	2,500,000	14,181	967	6.8	90	91	5	1,407	0.2
2,500,000	5,000,000	3,030	369	12.2	81	82	40	3,075	0.8
5,000,000	10,000,000	1,002	169	16.9	74	76	108	6,065	0.9
10,000,000	20,000,000	365	88	24.1	64	67	431	11,635	1.7
20,000,000	50,000,000	147	45	31.0	61	64	1,339	23,430	2.8
50,000,000	********	51	24	48.0	58	64	25,306	120,694	9.4
Total		36,364	2,705	7.4	91	92	55	1,714	1.6

Note: Wealth is defined as net worth less estate expenses and estate taxes computed in the absence of charitable bequests, plus excluded life insurance proceeds. The ratio of bequests to wealth is computed after reducing bequests by the tax savings from the deduction, i.e., $P_{CB}CB/W$. All means are return weighted.
Source: David Joulfaian, 2000e.

TABLE 12C
CHARITABLE BEQUESTS, TAX PRICES, AND AFTER–TAX WEALTH IN 1995: INDIVIDUALS NOT MARRIED

After–Tax Wealth		Returns	Returns with Bequests	Percent of Returns with Bequests	Mean (First $) Price * 100	Mean (Last $) Price * 100	Mean Bequest ($000s)	Mean After–Tax Wealth ($000s)	Mean Ratio of Bequests to Wealth (%)
********	1,000,000	23,718	5,644	23.8	67	70	35	673	4.5
1,000,000	2,500,000	13,767	4,238	30.8	58	61	115	1,047	7.4
2,500,000	5,000,000	2,796	1,055	37.7	47	51	360	1,959	10.1
5,000,000	10,000,000	855	388	45.4	45	50	981	3,425	14.0
10,000,000	20,000,000	292	140	48.1	41	46	2,312	6,096	16.8
20,000,000	50,000,000	120	78	64.7	44	49	6,999	12,808	23.9
50,000,000	********	39	34	87.2	45	49	48,739	61,665	35.4
Total		41,587	11,578	27.8	62	65	185	1,071	9.6

Note: Wealth is defined as net worth less estate expenses and estate taxes computed in the absence of charitable bequests, plus excluded life insurance proceeds. The ratio of bequests to wealth is computed after reducing bequests by the tax savings from the deduction, i.e., $P_{CB}CB/W$. All means are return weighted.
Source: David Joulfaian, 2000e.

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In order to gauge the effects of estate taxation on charitable bequests, and control for non–tax factors, past studies have resorted to multivariate analyses. Using data for decedents in 1992, Joulfaian (2000d) replicates a number of these studies. The study finds taxes to be an important consideration in determining transfers to charity. Some of these estimates are summarized in Table 13. The basic estimates suggest that in the absence of the estate tax, charitable bequests may decline by some 12 percent; the effects of the increase in the tax price are partially offset with an increase in wealth. A similar finding is also reported in Joulfaian (2000e) using data on 1995 decedents.[16]

The wealthiest estates not only bequeath more to charity, but they also seem to give more during life. Using data for a sample of decedents in 1989, Table 14 provides statistics on the pattern of giving in 1988, the year prior to death, and bequests at death in 1989. While some 89 percent of the individuals in the sample reported charitable contributions in the year prior to the date of death, only a third provided for charitable bequests. The relative frequency and magnitude of giving during life and at death rise with the size of the estate. About 86 percent of the least wealthy contribute during life, while only 16 percent contribute at death. In contrast 91 percent of the wealthiest, those with wealth in excess of $50 million, contribute during life, while only 59 percent provide for charitable bequests. Contributions represent 11 percent of the charitable bequests of the least wealthy, compared to 2.6 percent for the wealthiest. The wealthy seem to prefer bequests over lifetime giving. Similar findings are reported in Steuerle (1987) using estate tax returns filed in 1977, Joulfaian (1998) using estate tax returns for decedents in 1982, and, more recently, in Joulfaian (2000a) using matched panel data of income and estate tax returns for decedents in 1996–8.

Estate taxes may also affect lifetime charitable contributions. A parent may consume $1, give it to charity, or transfer it to the children. In the case of a charitable contribution of $1, a charity receives $1. Because it reduces taxable income as an itemized deduction, it costs the donor in foregone consumption only $1 less the marginal income tax rate, or 1 – 0.396 for those facing the maximum Federal marginal tax rate. In contrast, a bequest of $1 to the children costs the parent $1/(1 - e)$, where e is the estate tax rate. An individual compares the price of charitable giving to

TABLE 13
ESTIMATES OF THE PRICE AND WEALTH EFFECTS ON CHARITABLE BEQUESTS

		Price	Wealth
Basic Estimates	Coefficient	–0.2795	0.0641
	Standard Error	0.0308	0.0064
	Elasticity	–1.6982	1.1602
Set marital deduction = 0, add state taxes, exclude wealth < $5 million	Coefficient	–0.2047	0.1279
	Standard Error	0.1287	0.0136
	Elasticity	–1.8836	1.5521
Reduce marital deduction by QTIP, account for state taxes, exclude wealth < $5 million	Coefficient	–0.4141	0.1055
	Standard Error	0.0702	0.0153
	Elasticity	–2.5494	1.3948

The dependent variable is defined as the ratio of bequests to wealth, both adjusted for taxes. Equations estimated using FIML Tobit, with the dependent variable and price estimated simultaneously.
Source: David Joulfaian, 2000d.

[16] McNees (1973), Boskin (1976), Clotfelter (1985), and Joulfaian (1991) also find estate taxes to have a stimulative effect on bequests.

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TABLE 14
LIFETIME CHARITABLE CONTRIBUTIONS AND BEQUESTS

Net Worth ($1,000s)		Entire Sample	Number of Contributors	Percent Contributing	Mean Contribution	Mean Income
500	1000	147	127	0.864	2,605	66,041
1000	2500	123	104	0.846	4,789	106,203
2500	5000	117	93	0.795	16,487	431,735
5000	10000	912	815	0.894	24,942	487,957
10000	20000	317	297	0.937	58,341	1,128,555
20000	50000	111	97	0.874	100,018	1,317,135
50000	and over	46	42	0.913	703,043	4,237,957
Total		1,773	1,575	0.888	49,399	686,520

Net Worth ($1,000s)		Entire Sample	Returns with Bequests		Mean Bequests	Mean Wealth
			Number	Percent		
500	1000	147	23	0.156	23,102	760,537
1000	2500	123	21	0.171	42,138	1,492,496
2500	5000	117	30	0.256	205,419	4,180,650
5000	10000	912	326	0.357	500,834	6,756,438
10000	20000	317	130	0.410	1,067,912	13,627,861
20000	50000	111	57	0.514	3,758,063	29,588,667
50000	and over	46	27	0.587	27,526,957	109,163,174
Total		1,773	614	0.346	1,416,425	11,039,066

Net Worth ($1,000s)		Contributions/ Income	Contributions/ Wealth	Bequests/ Income	Bequests/ Wealth	Contributions/ Bequests
500	1000	0.039	0.003	0.350	0.030	0.113
1000	2500	0.045	0.003	0.397	0.028	0.114
2500	5000	0.038	0.004	0.476	0.049	0.080
5000	10000	0.051	0.004	1.026	0.074	0.050
10000	20000	0.052	0.004	0.946	0.078	0.055
20000	50000	0.076	0.003	2.853	0.127	0.027
50000	and over	0.166	0.006	6.495	0.252	0.026
Total		0.072	0.004	2.063	0.128	0.035

Source: Computed from a sample of estate tax returns of decedents in 1989 matched to income tax returns in 1988. Limited to sample of returns with positive net worth who have itemized deductions.

the price of transfers to his heirs in deciding on the size of contributions to make. Joulfaian (2000a) explores the various transfer modes and their tax ramifications.

Auten and Joulfaian (1996), using the 1982 Collation data, find that estate taxation is an important consideration in determining lifetime contributions.[17] This study estimates a positive price elasticity of 0.6 for giving with respect to the tax price of bequests. This suggests that in the absence of the estate tax, lifetime contributions might decline by as much as 12 percent. Qualitatively similar findings are reported in Joulfaian (2000a), who compares bequests to contributions ten years prior to the date of death.

Work Effort and Labor Supply

Estate taxes, as they potentially reduce the size of inheritances, may also affect the heirs' work effort and saving. Andrew Carnegie (1891/1962, p. 56) long argued that large inheritances deaden "the talents and energies of the son, and tempts him to lead a less useful life . . ." Indeed, evidence from the 1982 Collation study suggests that large inheritances speed up retirement. Tables 15A and 15B provide statistics on the labor force transitions for a sample of single and joint filers between 1982 and 1985 and the potential effect of inheritances. These tables classify individuals based on their employment sta-

[17] Also see Steuerle (1987) on the pattern of giving of the wealthy.

TABLE 15A
INHERITANCE AND LABOR FORCE TRANSITIONS OF SINGLES

Status in 1982		Inheritance under $25,000		Inheritance $25,000–$150,000		Inheritance over $150,000		All	
		Working Status in 1985							
		0	1	0	1	0	1	0	1
0	Number	35	39	61	33	74	14	170	86
	Percent	0.4730	0.5270	0.6489	0.3511	0.8409	0.1591	0.6641	0.3359
	Inheritance	9,277	6,141	74,642	68,471	426,575	368,577	214,379	89,060
	Age	37.4	25.9	38.1	28.1	49.1	32.8	42.8	27.9
1	Number	30	626	45	405	49	221	124	1252
	Percent	0.0457	0.9543	0.1000	0.9000	0.1815	0.8185	0.0901	0.9099
	Inheritance	8,661	7,718	75,682	67,939	347,957	328,636	167,060	83,846
	Age	30.9	33.7	36.8	33.5	41.3	37.8	37.2	34.4
All	Number	730		544		358		1,632	
	Inheritance	7,747		69,364		353,087		104,041	
	Age	33.4		33.9		40.4		35.1	

Note: Status equal 1 denotes that the individual is employed, and denotes not working when equal to zero.
Source: Computed from the 1982 Collation Study.

TABLE 15B
INHERITANCE AND LABOR FORCE TRANSITIONS OF JOINT FILERS

Status in 1982		Inheritance under $25,000			Inheritance $25,000–$150,000			Inheritance over $150,000			All		
		Working Status in 1985											
		0	1	2	0	1	2	0	1	2	0	1	2
0	Number	11	5	0	20	9	0	19	4	0	50	18	0
	Percent	0.6875	0.3125	0.0000	0.6897	0.3103	0.0000	0.8261	0.1739	0.0000	0.7353	0.2647	0.0000
	Inheritance	8,386	9,190	0	81,403	54,239	0	634,358	382,972	0	275,462	114,777	0
	Age	51.3	35.2	0	52.8	42.7	0	48.4	37	0	50.8	39.3	0
1	Number	10	314	139	21	367	88	23	265	58	54	946	285
	Percent	0.0216	0.6782	0.3002	0.0441	0.7710	0.1849	0.0665	0.7659	0.1676	0.0420	0.7362	0.2218
	Inheritance	10,382	7,661	7,860	88,005	71,902	72,796	391,362	363,745	310,105	202,838	132,332	89,420
	Age	51.6	41.3	39.0	52.5	42.2	38.5	49.9	45.6	41.6	51.2	42.9	39.4
2	Number	5	127	467	8	128	353	7	80	172	20	335	992
	Percent	0.0084	0.2120	0.7796	0.0164	0.2618	0.7219	0.0270	0.3089	0.6641	0.0149	0.2487	0.7365
	Inheritance	5,400	7,681	7,678	110,372	78,949	69,765	428,235	322,440	300,441	195,381	110,078	80,533
	Age	50.8	39.0	38.8	45.3	39.6	39.2	53.1	44.5	43.2	49.4	40.5	39.7
All	Number		1,078			994			628			2,700	
	Inheritance		7,726			72,811			346,232			110,422	
	Age		39.8			41.0			44.7			41.4	

Note: The status indicator refers to the number of employed taxpayers filing joint returns.
Source: Computed from the 1982 Collation Study.

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tus in the respective years and the size of inheritance received from decedents in 1982.

Table 15A shows that the single individuals who dropped out from the labor force by 1985 had received greater inheritances than those who remained employed. Of those employed in 1982, about 9 percent dropped out; they inherited an average of $167,060 compared to $83,846 for the others. A similar pattern is observed when we examine individuals in each of the three inheritance size categories. Even when comparing individuals across categories, a similar pattern emerges. Individuals in the highest category are about four times more likely to drop out of the labor force than those in the lowest inheritance group; 18.2 percent vs. 4.6 percent.

Table 15B replicates the above results for joint filers. In contrast to the singles, we may observe up to two individuals employed per tax return. The results are virtually consistent with those observed for single individuals; in each inheritance category, the labor force participation drops with the size of inheritance. Comparing filers in the largest inheritance group to those in the lowest group, and focusing on the case where both spouses are employed, the likelihood of both husband and wife dropping out of the labor force is over three folds greater, and the likelihood that one will drop out is over 1.5 times as large.

The evidence gleaned from these tables is carefully examined in Holtz–Eakin, Joulfaian, and Rosen (1993, 1994). Even for those who remain in the labor force, one may also observe a reduction in labor supply or earnings. These labor supply reductions, however, are generally small, as shown in Holtz–Eakin, Joulfaian, and Rosen (1993) and Joulfaian and Wilhelm (1994), the latter using Panel Study of Income Dynamics (PSID) data.[18]

CONCLUSION

This paper summarizes the tax treatment of both bequest and lifetime gifts, and the profile of the affected population. Next, it presents a review of some of the empirical evidence on the effects of estate, gift, and income taxes on the behavior of the wealthy. This evidence suggests that the estate tax mitigates the lock–in effect of capital gains taxes; creates incentives for lifetime gifts, particularly of cash and high basis assets; stimulates charitable giving in life and at death; leads to greater spousal bequests, and reduces the labor supply effects of inheritances.

Studies of the effects of estate taxation on economic behavior are subject to a number of limitations. As an example, we know very little about how the living discount the estate tax, a tax which may apply some decades in the future. This is especially important if we are to understand more precisely how donor saving and retirement decisions are impacted by estate taxation.

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[18] One shortcoming of the PSID data is that we do not observe many individuals leaving the labor force after the receipt of an inheritance. Perhaps this can be attributed to the fact that few individuals receive large inheritances in the sample.

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