Back from the Grave: Revenue and Distributional Effects of Reforming the Federal Estate Tax

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The estate tax is the most progressive component of the federal tax code. In 2000, even before substantial cuts were enacted, it only applied to the wealthiest two percent of decedents. Advocates argue that the tax is also an important backstop to a loophole-ridden income tax and that it encourages charitable contributions. Critics have attacked the levy, which they call the "death tax," as complex, unfair, and a deterrent to saving and investment. Under the Economic Growth and Tax Relief Reconciliation Act of 2001 (EGTRRA), the estate tax has been phasing out and will disappear entirely in 2010 before rising from the dead the following year in its pre-EGTRRA form. Congress has resisted repeated attempts to repeal the estate tax permanently, but the specter of a gruesome one year "death tax holiday" in 2010 guarantees that Congress will act before then.

Both 2008 presidential candidates would scale back—but not eliminate—the estate tax which, under current law, will generate about $490 billion through 2018. Senator McCain proposes to apply the 15 percent capital gains tax rate to estates worth more than $5 million; Senator Obama proposes a 45 percent tax on estates worth more than $3.5 million, the parameters currently scheduled to apply in 2009. Obama's plan would preserve about 60 percent of current-law estate tax revenue while McCain's plan would slice revenues by about four-fifths compared with current law. Beyond the candidates' plans, Congress has considered other options. Legislative proposals range from complete repeal of the tax to less sweeping changes that would provide larger exemptions for family-owned farms and small businesses—two politically sensitive groups—or allow couples to split a joint exemption.

Measuring the distribution of estate taxes requires an assumption about who actually bears the economic burden of the tax. Different assumptions about why people leave estates to their heirs yield different conclusions about the incidence of the estate tax. We follow convention by assuming that the tax falls entirely on decedents. We apply that assumption in a model of the estate tax calibrated to match actual tax collections reported by the Internal Revenue Service. Our model allows us to examine both the revenue and distributional effects of the current tax and a range of proposed changes.

After reviewing the current wealth transfer tax rules and the changes introduced in 2001, we offer an overview of our modeling methodology. We then use the model to estimate the number of estate tax filers, taxable returns, and the distribution of burden under current law. Finally, we investigate the revenue and distributional effects of several proposals to reform the estate tax, including those put forth by the presidential candidates.

1. Federal Wealth Transfer Tax Law

The federal government has taxed estates since 1916, shortly after Congress enacted the modern income tax.[1] Since 1976, federal law has imposed a linked set of wealth transfer taxes on estates, gifts and generation-skipping transfers (GSTs).[2] The executor of an estate must file a federal

[1] For a more detailed summary of current law, see JCT (2007). For an explanation of the rules in effect before 2001 and a description of available estate tax data, see Johnson, Mikow, and Eller (2001).

[2] Congress designed the generation skipping transfer (GST) tax to close a loophole. Without a GST tax, a family could avoid one or two layers of estate tax by making gifts or bequests directly to a grandchild or great-grandchild, rather than making the bequest

estate tax return within nine months of a person's death if the gross estate exceeds an exempt amount—$2 million in 2008. Generally, the gross estate includes all of the decedent's assets, his or her share of jointly owned assets, life insurance proceeds from policies owned by the decedent, and some gifts and gift tax paid within 3 years of death. Through careful tax planning, however, the valuation of assets can often be discounted for purposes of the estate tax, so the effective exemption far exceeds the statutory amount for many estates (Schmalbeck 2002).

Effective Exemption and Tax Rate Schedule

Under current law, a unified credit effectively exempts a certain amount of transfers by gift during life and bequests at death. Before 2004, the estate and gift taxes were fully unified with the same effective exemption and the same graduated rate schedule. For 2004 through 2009, Congress increased the effective exemption for the estate tax above that for the gift tax but allowed the same graduated rate structure to continue to apply to both. The effective exemption amount for the GST tax is the same as that for the estate tax and GSTs in excess of the exemption are taxed at the top statutory estate tax rate.

EGTRRA gradually reduced wealth transfer taxes between 2002 and 2009, raising the effective exemption and lowering tax rates (table 1). In 2002, EGTRRA increased the effective exemption amount for estate and gift tax purposes to $1 million and cut the top tax rate to 50 percent (table 1). The act subsequently raised the estate tax exemption to $1.5 million in 2004 and to $2 million in 2006 but left the gift tax exemption unchanged at $1 million. The act also lowered the maximum tax rate on both estates and gifts by 1 percentage point a year until it reached 45 percent in 2007. EGTRRA will increase the estate tax effective exemption to $3.5 million in 2009 before completely eliminating the estate and generation skipping transfer taxes for 2010. The act retains the gift tax in 2010 with an effective exemption of $1 million and a 35 percent rate, equal to the top statutory individual income tax rate. The following year, EGTRRA expires and the estate, gift, and GST taxes all revert to their pre-EGTRRA levels: a $1 million exemption[3], graduated tax rates of 41 to 55 percent on lifetime gifts and bequests at death, and a 55 percent GST rate. In addition, a surtax of 5 percent on the value of estates between $10 million and $17.184 million will effectively eliminate the benefit of the graduated rate structure for larger estates.

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to the child first, who would later bequeath the remainder to the grandchild. To close this avoidance mechanism, generation-skipping transfers in excess of an exemption amount are taxed at a rate equal to the top estate tax rate in effect at the time of the transfer. The GST tax exemption equals the effective exemption amount for the estate tax. The GST tax raises virtually no revenue directly because it discourages generation-skipping transfers so effectively, but it prevents revenue losses by closing what would otherwise be an easily exploitable loophole in transfer taxation.

[3] The Taxpayer Relief Act of 1997 increased the effective exemption in stages from $600,000 in 1997 to $1 million in 2006 and subsequent years. If EGTRRA expires in 2011 as scheduled, the exemption will revert to the $1 million level specified by the 1997 act.

Table 1
Wealth Transfer Tax Exemptions and Rates Under EGTRRA, 2001-2011

Calendar Year	Estate and GST Tax Transfer Exemption [a]	Highest Statutory Estate and Gift Tax Rates (Percent) [b]
2001	$675,000	55
2002	$1 million	50
2003	$1 million	49
2004	$1.5 million	48
2005	$1.5 million	47
2006	$2 million	46
2007	$2 million	45
2008	$2 million	45
2009	$ 3.5 million	45
2010	N/A (taxes repealed)	35 [c]
2011 [d]	$1 million	55

Source: Internal Revenue Code of 1986.
a. The lifetime gift tax exemption is $675,000 in 2001, and $1 million thereafter.
b. In 2001 and 2011 (and thereafter), estates between $10 million and $17.184 million are subject to a 5-percent surtax that eliminates the benefit of the graduated rate structure. The GST tax rate equals the highest statutory estate tax rate.
c. Gift tax only. The estate and GST taxes are repealed.
d. EGTRRA sunsets at the end of 2010.

Deductions and Exclusions

The estate tax allows unlimited deductions for bequests to a surviving spouse and for charitable donations. Special rules generally deny the marital deduction for property transferred to a surviving spouse who is not a U.S. citizen. Estates may also deduct outstanding debts of the decedent, funeral expenses, and accounting and legal fees from the value of gross estate. Estates may also exclude up to 40 percent of the value of any land subject to a qualified conservation easement, up to a maximum of $500,000.

In addition to the lifetime gift exemption of $1 million, annual gifts up to a maximum of $12,000 (indexed for inflation in $1,000 increments) per recipient are excluded from gift tax. As with bequests, individuals are permitted unlimited gifts to a spouse during life.

State Death Tax Credit and Deduction

Before 2005, estates could claim a credit for estate, inheritance, or other succession taxes paid to states. The "state death tax" credit equaled a graduated percentage of the adjusted gross estate, with a top rate of 16 percent. Before EGTRRA, all states imposed state estate or inheritance

taxes that were at least equal to the maximum value of the state death tax credit (McNichol, Lav, and Llobrera 2003). EGTRRA gradually reduced the state death tax credit between 2002 and 2004 and replaced the credit in 2005 with a deduction for state estate, inheritance or other succession taxes actually paid. Because many states defined their wealth transfer taxes as equal to the federal credit, repeal of the credit effectively eliminated many states' estate and inheritance taxes. Some states chose to retain wealth transfer taxes by "decoupling" from the federal tax; others retained their taxes because they were never tied to the federal credit. Currently, 22 states and the District of Columbia continue to levy some form of estate or inheritance tax (McNichol 2007). The scheduled sunset of EGTRRA after 2010 will eliminate the deduction and resurrect the federal credit for state death taxes.

Special Provisions for Family-Owned Farms and Businesses

Family-owned farms and closely held businesses benefit from a number of special estate tax provisions.[4] First, farmers and small business owners may value their real estate at its current-use value, rather than its fair market value.[5] The maximum reduction in value for such property is $960,000 in 2008 (indexed for inflation). The estate must satisfy certain requirements to qualify for special use valuation: farm or closely-held business assets must make up at least 50 percent of the decedent's gross estate; the decedent or his family must have used the property for farming or another qualified use in the recent past; and the heir(s) must agree to keep the property in a qualified use for 10 years after the decedent's death. According to Durst, Monke, and Maxwell (2002), special use valuation can reduce value of the real property portion of farm estates by 40 to 70 percent of market value.

Second, the executor of an estate in which closely-held business assets comprise at least 35 percent of the gross estate, may elect to pay the estate tax liability in installments over 15 years at preferential interest rates. Only interest payments are due for the first five years, followed by up to 10 annual installments of both principal and interest. EGTRRA relaxed and expanded the definition of a closely-held business but, like the other elements of EGTRRA, these provisions are set to expire at the end of 2010.

Finally, before 2004, farms and closely-held businesses were eligible for a qualified family owned business interest (QFOBI) deduction of up to $675,000. Together, the QFOBI deduction and the amount exempted by the unified credit could exclude no more than $1.3 million of gross estate. Thus, in 2003—when the estate tax exemption was $1 million—the cap on the exclusion limited the effective maximum value of the QFOBI deduction to $300,000. To take the deduction, heirs had to agree to keep the farm or small business going for at least 10 years following the decedent's death. Since EGTRRA increased the estate tax exemption to $1.5 million in 2004, it made the QFOBI deduction irrelevant. After EGTRRA sunsets at the end of 2010, the QFOBI deduction will return, again constrained to a maximum value of $300,000.

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[4] See Durst, Monke, and Maxwell (2002) for a detailed summary of rules that affect farmers (most of which also apply to family owned businesses).

[5] The special use valuation is a gross-up of the rental value of the property in its current use—the 5-year average market rent divided by the Federal Land Bank interest rate on new loans.

Treatment of Capital Gains

Although not part of the estate tax, the capital gains tax plays a critical role in estate planning. Through 2009, capital gains on appreciated assets are not subject to income tax at death and when heirs sell an inherited asset, they pay income tax only on gains accrued since they inherited the asset. This loophole (called "step-up in basis") gives people a strong incentive to convert income from taxable forms into capital gains and to hold capital gains assets until death because any unrealized gains in the estate face no income tax. They are, however, subject to the estate tax and that somewhat dampens the incentive to hold assets until death. Furthermore, because the estate tax applies to gains, it acts as a backstop to the income tax by preventing at least some capital gains from escaping tax entirely.

EGTRRA included an alternative approach to limiting the capital gains loophole, but only for one year. The act repealed step-up in basis for inherited assets for estates of people dying in 2010 and imposed carryover basis in its place. Each inherited asset will carry with it a basis equal to the decedent's basis or, if lower, the asset's fair market value at the time of the decedent's death. Estate executors may, however, allocate an additional $1.3 million in basis on bequeathed assets plus another $3 million for assets transferred to a spouse. Thus, with careful planning, a couple will be able to eliminate tax liability on $5.6 million in capital gains ($1.3 million for each spouse plus $3 million when the first spouse dies). The carryover basis regime applies only to assets bequeathed in 2010 since EGTRRA's sunset at the end of that year will bring back the step-up in basis for inherited assets.

International Comparison

Nearly all OECD countries levy some form of wealth transfer tax[6] but the United Kingdom is the only member country other than the United States that levies a "pure" estate tax. The others have an inheritance tax or a combination of inheritance and estate taxes.[7] Because of the estate tax's numerous deductions, including those for spousal transfers and charitable contributions, and the large effective exemption, the U.S. tends to have a larger zero-rate tax bracket than other developed nations (JCT 2007). But U.S. marginal tax rates on transfers are generally higher than those in the other OECD countries.[8] Overall, U.S. federal estate and gift taxes raised $24.8 billion in 2005—about 0.9 percent of total federal tax revenues and one quarter of one percent of Gross Domestic Product (OMB 2008, tables 2.1 and 2.5 and JCT 2007). As a percent of total tax revenue, U.S. estate and gift tax revenue was lower than in France (1.2 percent) and Japan (1.1 percent) but higher than in the U.K. (0.7 percent) and Germany (0.5 percent) (JCT 2007).

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[6] Australia and Canada are notable exceptions. Canada, however, taxes unrealized capital gains at death through the deemed disposition provisions of the individual income tax. See JCT (2007) for more details.

[7] Rather than taxing the estate of the decedent, an inheritance tax directly taxes the recipients of bequests in one of two ways. An inclusion tax includes bequests in the recipient's taxable income for individual income tax purposes; an accessions tax levies a separate tax on the recipient's gifts and bequests. See Batchelder (2007) for more details.

[8] As the JCT points out, direct comparisons are difficult because in countries with inheritance taxes, the marginal rates depend on the pattern of gifts and bequests.

2. Measuring the Distribution of the Estate Tax Burden

Several factors complicate the task of estimating the distribution of the estate tax burden. First, the incidence of the tax is unclear. In theory, the burden of the estate tax could fall narrowly on the owner of the estate, on his or her heirs, or some combination of the two. Alternatively, through its effect on saving, the estate tax could be borne in part by all capital or all labor, but there is scant evidence to support such an effect. Gale and Perozek (2001) point out that the tax is unlikely to affect the saving of individuals for whom bequests are basically accidental—simply a consequence of failing to exhaust one's assets during lifetime. Even among those who plan to leave bequests, the theoretical effect on saving is ambiguous because taxing savings creates conflicting incentives. In the presence of an estate tax, some people may choose to save more in order to leave an after-tax bequest of a certain size (the income effect), whereas others would save less because the tax lowers the return to saving (the substitution effect). Moreover, research suggests that heirs work and save less if they expect to receive a larger bequest, so the overall effect on work and saving is highly uncertain.[9] Researchers typically assume the estate tax is borne by decedents because there is little evidence of incidence on capital or labor, and data limitations make it difficult to measure the effect on heirs.[10]

The second problem involves data limitations: publicly available estate tax data exist only in aggregate form and lack information about the income of decedents before they died. As a result, researchers must typically determine estate tax liability through indirect inferences using data on wealth.

Other Estate Tax Models

The U.S. Treasury Department (Cronin 1999) and Poterba and Weisbenner (2001) have published methodologies for estimating the distribution of estate tax burdens by income.[11] The Treasury Department uses its large microsimulation model of the individual income tax to calculate expected estate tax liability based on estimated wealth. The model assumes that estate size is proportional to a broad measure of capital income, including taxable and tax-exempt interest, accrued capital gains, earnings on retirement accounts and life insurance, rental income including the imputed rental value of owner-occupied housing, and the capital component of sole proprietor, partnership and subchapter S corporation income.[12] Treasury estimates the estate tax that each household in the model would owe if members died in the current year and then multiplies that estimate by the probability of death to calculate expected estate tax liability. Because the model assumes that married decedents bequeath all of their estates to their surviving spouse tax-free, only unmarried individuals pay any estate tax.

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[9] Burman and Gale (2001) discuss this, and other economic issues surrounding the estate tax, in more depth.
[10] Although Batchelder (2007) argues that the tax is most likely to be borne by heirs and presents estimates of the distributional effects under that assumption.
[11] Citizens for Tax Justice (2001) also published estimates of the distribution of estate tax liability, but they have not documented their methodology.
[12] Treasury grosses up these income flows assuming a 7 percent rate of return. Treasury ceased estimating the distribution of estate taxes in 2001 and thus has not updated this estimate.

Poterba and Weisbenner (2001) develop a somewhat more sophisticated model of estate tax based on data from the Federal Reserve Board's 1998 Survey of Consumer Finances (SCF). The SCF is a stratified sample of more than 4,000 households with rich data on assets and liabilities. Poterba and Weisbenner use the SCF data to estimate gross estate for each person on the file assuming that he or she were to die in 1998. Because the SCF excludes the wealthiest 400 people from its database (to protect confidentiality), Poterba and Weisbenner estimate the wealth for the missing people based on the Forbes 400 list. They then make adjustments to account for valuation discounts and spousal deductions, impute an average amount of deductions and credits to each person based on the SOI's published averages for each gross estate size, and estimate taxable estate and estate tax. Finally, they calculate expected estate tax liability by multiplying the estimates for each person by the mortality probability for a person of that age.[13]

Overview of the Tax Policy Center Model

Our approach shares elements of both methods. The Tax Policy Center (TPC) has developed a large microsimulation model of the federal tax system that is similar to Treasury's but uses the public-use version of Treasury's underlying database of individual income tax return data. We adapt that model to calculate both income and estate tax liabilities to ensure comparability and to allow us to simulate policies that affect both taxes. Because the income tax data contain no direct information about wealth holding, we rely on information from the Survey of Consumer Finances to develop richer and more detailed imputations of assets and liabilities than those employed by Treasury.

Our model follows Poterba and Weisbenner in using SCF wealth data but rather than using those data directly, we add the wealth information to our income tax file. Specifically, we impute asset items and liabilities to each record in the income-tax file based on regressions of those wealth components against explanatory variables that exist on both the SCF and SOI datasets. To mitigate the problem of the SCF's small sample size —it contains fewer than 5,000 observations—we pool data from the 2001 and 2004 surveys. In addition to roughly doubling the sample size, combining data from the two years smoothes out some of the temporal variation in asset values. We then calibrate the imputed number of individuals owning each type of asset (and liability) and their aggregate values to match SCF totals, augmented by the net worth of the Forbes 400. We further adjust the imputed distribution of each asset and liability by income class to more closely resemble those reported in the SCF. We assign values for most deductions and credits based on averages calculated on the SOI estate tax data. Our estate tax calculator then determines estate tax liability for each record in the database, based on the values for gross estate, deductions, and credits and the relevant estate tax rates and brackets. Finally we calculate each record's expected value of gross estate and net estate tax liability by multiplying by appropriate mortality rates. We employ a linear programming algorithm to reweight the records to ensure that our baseline estimates of the distribution and aggregate values for gross estate and its components match the most recent published estate tax data from SOI. Appendix A describes our modeling methodology in more detail.

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[13] The Joint Committee on Taxation also has an estate and gift tax model. JCT(2005) briefly describes their model which consists of an estate tax calculator applied to a sample of actual estate tax returns.

3. Distribution of Estate Tax Liability

We project that estates of people dying in 2008 will file just over 35,000 estate tax returns (table 2).[14] Of these, fewer than half—about 15,500—will owe any estate tax. This represents about 0.6 percent of all decedents, therefore only the wealthiest 1 in 160 individuals who die in 2008 will owe estate tax.[15] Estate tax liability will total $23 billion, an average of approximately $1.5 million per taxable return.[16]

The estate tax is highly progressive: in 2008, tax units in the top economic income quintile will pay virtually all of the tax. Economic income is a broad measure of income that includes economic returns to capital regardless of whether they are realized or not.[17] Households in the top five percent will pay 97 percent of the tax and those in the top one percent will pay 81 percent. Close to half of all estate tax liability will be paid by the richest 1 in 1,000 households.

Table 2

Current-Law Distribution of Estate Tax By Economic Income Percentile, 2008

Economic Income Class[a]	Tax Units (thousands)	Estate Tax Returns				Estate Tax		Estate Tax/Income (Percent)[b]
		All (thousands)	Percent of Total	Taxable (thousands)	Percent of Total	Amount ($ millions)	Percent of Total	
Lowest Quintile	32,981	0.0	0.0	0.0	0.0	1	0.0	0.0
Second Quintile	30,644	0.0	0.0	0.0	0.0	1	0.0	0.0
Middle Quintile	28,862	0.0	0.1	0.0	0.0	1	0.0	0.0
Fourth Quintile	27,623	0.1	0.3	0.0	0.2	10	0.0	0.0
Top Quintile	27,676	34.8	99.2	15.5	99.6	22,969	99.7	0.5
All	148,478	35.1	100.0	15.5	100.0	23,035	100.0	0.3
Addendum								
80-90	13,942	0.7	2.0	0.3	1.8	48	0.2	0.0
90-95	7,005	3.5	9.9	2.2	14.5	514	2.2	0.1
95-99	5,423	19.0	54.1	7.4	48.0	3,727	16.2	0.3
Top 1 Percent	1,306	11.7	33.3	5.5	35.3	18,680	81.1	1.1
Top 0.1 Percent	134	1.4	4.1	0.9	5.6	10,725	46.6	1.5

Source: Urban-Brookings Tax Policy Center Microsimulation Model (version 0308-6).

Notes : Data are for the calendar year.

a. Tax units with negative income are excluded from the lowest income class but are included in the totals. Includes both filing and nonfiling units. Tax units that are dependents of other taxpayers are excluded from the analysis. Economic income has been adjusted for family size by dividing by the square root of the number of members of the tax unit.

b. Estate tax liability as a percentage of economic income.

Not surprisingly, when classified by the narrower measure of cash income, the estate tax remains highly progressive but less so than the distribution by economic income. This is because the estate tax is a tax on wealth, and therefore attributing lower incomes to people with a large

[14] All estimates are based on CBO's economic forecast of January 2008. Since then, asset values have fallen. Incorporating the lower value of assets into our projections would reduce the amount of projected revenue from the estate tax and would likely reduce the cost of all reform proposals, at least in the short run.

[15] We base our estimate of the number of deaths in 2008 on population projections from the U.S. Bureau of the Census (http://www.census.gov/population/www/projections/usinterimproj/) and death rates for 2006 from the CDC's National Vital Statistics Report (http://www.cdc.gov/nchs/data/nvsr/nvsr56/nvsr56_16.pdf).

[16] These estimates do not include the gift tax.

[17] Appendix B defines our income measures and explains our methodology for calculating them.

amount of wealth—which using cash income can do—makes the estate tax appear less progressive.

Table 3

Current-Law Distribution of Estate Tax By Cash Income Percentile, 2008

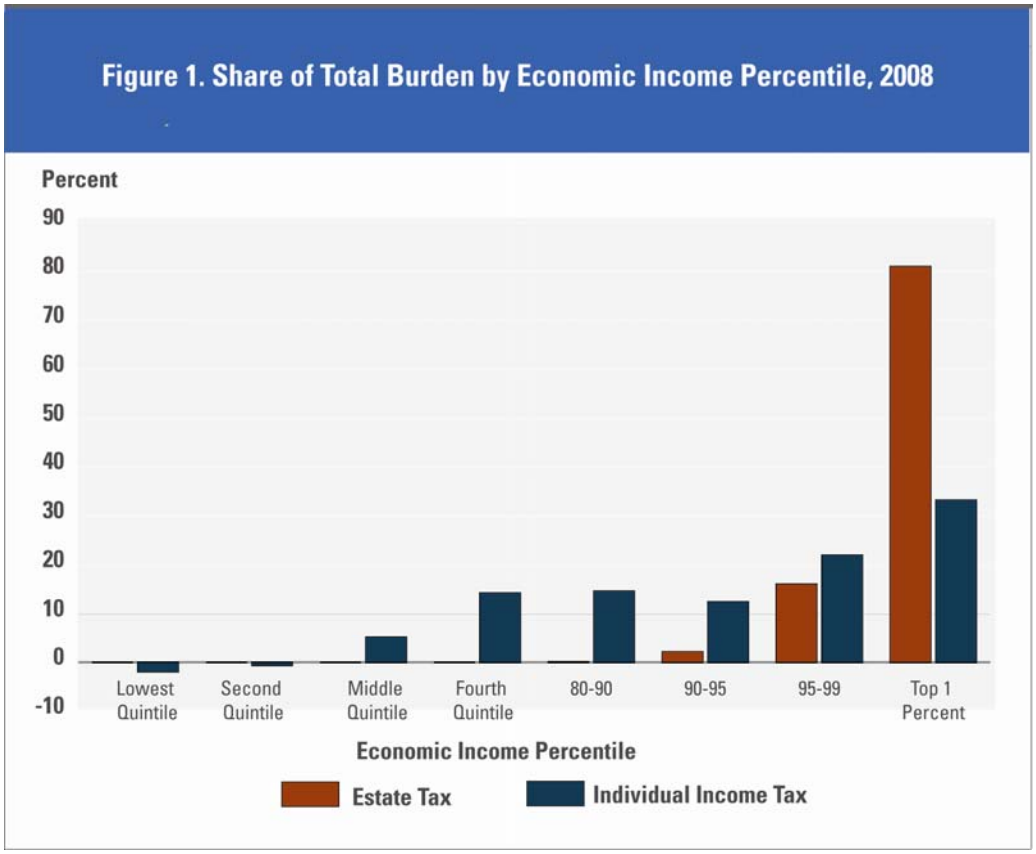
Cash Income Class	Tax Units (thousands)	Estate Tax Returns				Estate Tax		Estate Tax/Income (Percent)
		All (thousands)	Percent of Total	Taxable (thousands)	Percent of Total	Amount ($ millions)	Percent of Total	
Lowest Quintile	38,734	0.1	0.3	0.0	0.1	3	0.0	0.0
Second Quintile	32,515	0.6	1.7	0.4	2.9	140	0.6	0.0
Middle Quintile	29,739	3.3	9.3	1.2	8.0	318	1.4	0.0
Fourth Quintile	24,836	4.4	12.4	2.8	18.3	1,041	4.5	0.0
Top Quintile	21,974	26.4	75.4	10.9	70.3	21,413	93.0	0.4
All	148,478	35.1	100.0	15.5	100.0	23,035	100.0	0.2
Addendum								
80-90	11,083	3.8	10.8	1.7	10.6	861	3.7	0.1
90-95	5,366	3.0	8.7	1.5	9.4	787	3.4	0.1
95-99	4,406	12.0	34.4	4.9	31.3	5,783	25.1	0.4
Top 1 Percent	1,119	7.6	21.6	3.0	19.1	13,982	60.7	0.7
Top 0.1 Percent	113	1.1	3.1	0.5	3.5	7,698	33.4	0.8

Source: Urban-Brookings Tax Policy Center Microsimulation Model (version 0308-6).
See notes to table 2.

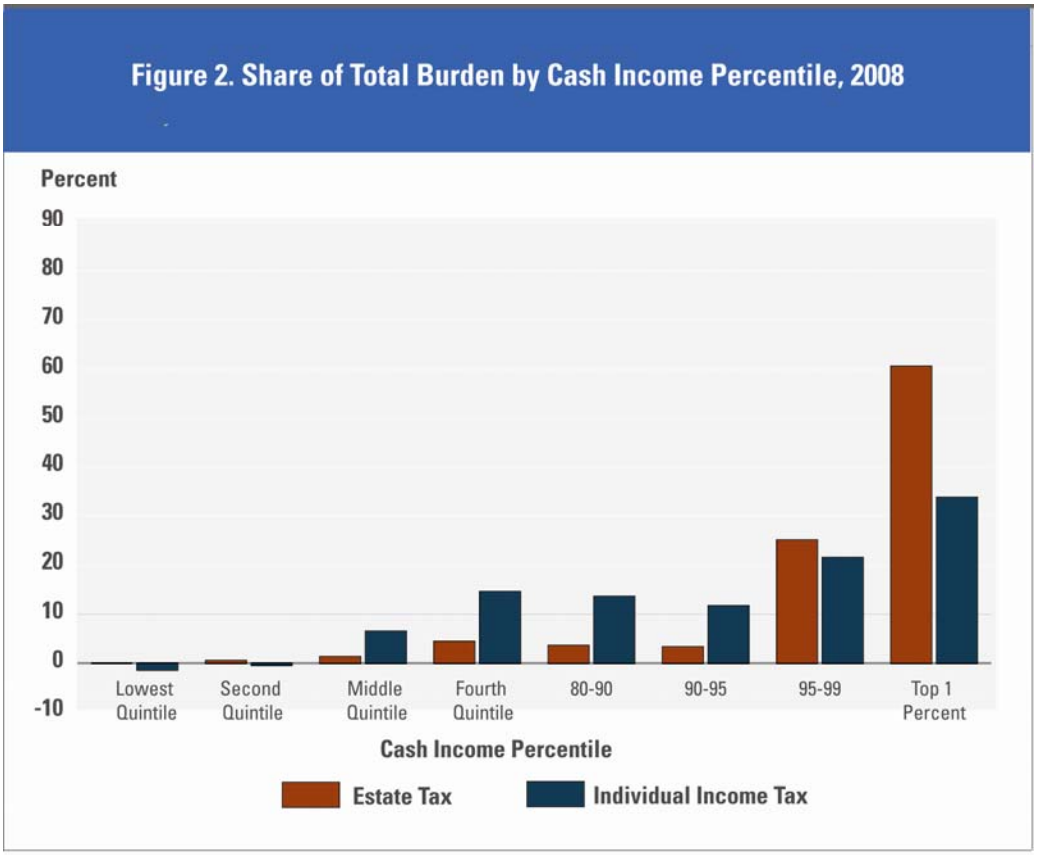
With cash income as the classifier, the top quintile will pay about 93 percent of estate tax liability, the top 5 percent will pay about 86 percent, and the top one percent will pay 61 percent (table 3). About one-third of all estate tax liability will be paid by the richest 1 in 1,000 households as measured by cash income.

The estate tax is significantly more progressive than the individual income tax. The top economic income quintile will pay 83 percent of income tax in 2008 compared with almost 100 percent of the estate tax (figure 1).[18] The top 1 percent of households will pay less than one-quarter of individual income taxes but more than four-fifths of the estate tax.

[18] Because of the one-time nature of the economic stimulus rebates, we have not included them in the distribution of the individual income tax in 2008.



Classifying tax units by cash income rather than economic income has little effect on the distribution of the income tax. The top cash income quintile will pay 81 percent of the individual income tax in 2008 (figure 2). By comparison, the top cash income quintile will pay about 93 percent of the estate tax.



We estimate that 56 percent of the 35,000 estate tax returns that will be filed for 2008 decedents will owe no estate tax (table 4). The approximately 700 tax returns owing $5 million or more will pay half of all estate tax liability and the 4,300 returns with estate tax over $1 million will pay more than four-fifths of the tax.

Table 4
Current-Law Distribution of Estate Tax By Amount of Estate Tax Paid, 2008

Net Estate Tax ($ thousands)	All Estate Tax Returns			
	Number (thousands)	Percent of Total	Tax ($millions)	Percent of Total
0	19.5	55.7	0.0	0.0
Less than 100	2.0	5.8	119.9	0.5
100-500	6.5	18.6	1,788.5	7.8
500-1,000	2.6	7.4	1,893.7	8.2
1,000-2,000	1.9	5.5	2,657.4	11.5
2,000-5,000	1.7	4.7	5,026.8	21.8
More than 5,000	0.7	2.1	11,549.1	50.1
All	35.1	100.0	23,035.3	100.0

Source: Urban-Brookings Tax Policy Center Microsimulation Model (version 0308-6).
Notes : Data are for the calendar year.

Marital Status. Because of the unlimited deduction for spousal bequests, the distribution of the estate tax is more skewed for married decedents: almost 87 percent of the 17,000 married decedents who will file estate tax returns will pay no tax (table 5). In contrast, nearly three-quarters of the 18,000 single decedents who will file a return will owe estate tax in 2008.

Table 5
Current-Law Distribution of Estate Tax By Amount of Estate Tax Paid and Marital Status, 2008

Net Estate Tax ($ thousands)	Married Estate Tax Returns				Unmarried Estate Tax Returns			
	Number (thousands)	Percent of Total	Tax ($millions)	Percent of Total	Number (thousands)	Percent of Total	Tax ($millions)	Percent of Total
0	14.7	86.6	0.0	0.0	4.8	26.6	0.0	0.0
Less than 100	0.3	2.0	15.9	0.4	1.7	9.4	104.0	0.5
100-500	0.8	4.9	232.4	6.4	5.7	31.6	1,556.1	8.0
500-1,000	0.5	2.7	329.2	9.0	2.1	11.9	1,564.5	8.1
1,000-2,000	0.3	1.6	379.6	10.4	1.7	9.3	2,277.8	11.7
2,000-5,000	0.2	1.4	722.7	19.8	1.4	7.9	4,304.1	22.2
More than 5,000	0.1	0.8	1,963.8	53.9	0.6	3.3	9,585.3	49.4
All	17.0	100.0	3,643.5	100.0	18.1	100.0	19,391.8	100.0

Source: Urban-Brookings Tax Policy Center Microsimulation Model (version 0308-6).
Notes : Data are for the calendar year.

Small Businesses and Family-Owned Farms. A key issue in the policy debate is the effect of the estate tax on estates containing small businesses and family-owned farms. Some critics of the estate tax claim that heirs of such estates must sell the business or farm in order to pay the tax. But relatively few such estates owe any estate tax. If we define those estates as ones in which farm and business assets total less than $5 million and make up at least half of gross estate, only 2,000 will have to file estate tax returns in 2008 and nearly three-quarters (73 percent) of those

will have no estate tax liability (table 6).[19] About 550 small farm and business estates will owe any estate tax liability and more than three-quarters of those will owe less than $500,000.

Table 6

Current-Law Distribution of Estate Tax By Amount of Estate Tax Paid, Farm and Business Returns, 2008

Net Estate Tax ($ thousands)	Farms and Businesses Under $5 Million[a]				All Farms and Businesses[b]				Returns with Any Farm or Business			
	Number	Percent of Total	Tax ($ millions)	Percent of Total	Number	Percent of Total	Tax ($ millions)	Percent of Total	Number	Percent of Total	Tax ($ millions)	Percent of Total
0	1,490	73.0	0.0	0.0	1,730	70.0	0.0	0.0	9,760	60.0	0.0	0.0
Less than 100	150	7.4	6.2	2.8	150	6.1	6.3	0.3	1,030	6.3	66.0	0.4
100-500	280	13.7	70.2	31.7	290	11.7	72.5	3.4	2,010	12.4	569.2	3.9
500-1,000	60	2.9	38.1	17.2	70	2.8	45.5	2.1	1,090	6.7	822.9	5.6
1,000-2,000	20	1.0	32.1	14.5	60	2.4	87.0	4.1	830	5.1	1,132.2	7.7
2,000-5,000	40	2.0	74.9	33.8	90	3.6	244.9	11.6	990	6.1	2,959.7	20.0
More than 5,000	0	0.0	0.0	0.0	90	3.6	1,662.2	78.5	540	3.3	9,215.8	62.4
All	2,040	100.0	221.4	100.0	2,470	100.0	2,118.5	100.0	16,260	100.0	14,765.8	100.0

Source: Urban-Brookings Tax Policy Center Microsimulation Model (version 0308-6).

Notes : Data are for the calendar year. Number of returns has been rounded to the nearest ten.

a. Estate tax returns where farm and business assets represent at least half of gross estate and these assets are no more than $5 million.

b. Estate tax returns where farm and business assets represent at least half of gross estate.

c. All estate tax returns reporting any farm or business assets.

Among all estates with at least half of their assets from farms or businesses, about 2,500 will need to file estate tax returns, but 70 percent of them will owe no tax, and an additional 6 percent will owe less than $100,000. Only 600 estates with farm or business assets will owe more than $100,000 in estate tax. The 90 largest estates—those with more than $5 million in estate tax liability—will pay nearly 80 percent of the tax assessed on estates with farm or business assets.

Many more estates—about 16,000—report some farm or business assets, even if those assets account for only a small fraction of wealth. Collectively those estates will pay about $15 billion in tax—seven times as much as the tax paid by estates with a majority of farm and business assets. Their returns resemble those of other estate taxpayers, because most of their wealth comes from other sources.

Effects of EGTRRA. Even without the passage of EGTRRA, the number of estate tax returns would have declined slightly through 2006 because the 1997 tax act scheduled an increase in the effective exemption to $1 million in annual steps over that period (table 7). After 2006, the number of estate tax returns and total estate tax liability would have increased as estate values increased due to inflation and real growth. By 2018, total estate tax liability would be almost three times its nominal 2004 value.

[19] We will refer to estates in which farm and business assets constitute at least half of gross estate and those assets are worth no more than $5 million as "small farm and business estates."

Table 7

Aggregate Projections: Estate Tax Returns and Liability, 2004-18[1]

	Calendar Year														
	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
Pre-EGTRRA Law															
Number of Returns (thousands)	99.5	95.8	95.6	98.7	105.9	112.9	119.4	124.6	130.6	139.4	147.6	155.2	164.9	172.6	187.8
Number of Taxable Returns (thousands)	43.6	43.7	42.5	42.7	49.1	54.0	57.1	61.0	64.0	67.1	71.7	76.6	79.6	83.2	90.8
Estate Tax Liability ($billions)	26.4	28.1	29.3	29.6	32.4	35.3	38.3	41.4	44.8	49.0	53.3	57.5	62.1	66.6	73.9
Current Law															
Number of Returns (thousands)	39.0	47.9	30.3	32.7	35.1	15.4	0.0	124.6	130.6	139.4	147.6	155.2	164.9	172.6	187.8
Number of Taxable Returns (thousands)	18.6	22.9	14.3	14.7	15.5	6.2	0.0	61.0	64.0	67.1	71.7	76.6	79.6	83.2	90.8
Estate Tax Liability ($billions)	21.5	24.5	21.5	21.2	23.0	17.9	0.0	41.4	44.8	49.0	53.3	57.5	62.1	66.6	73.9
Change Due to EGTRRA[a]															
Number of Returns (thousands)	-60.5	-47.9	-65.3	-66.0	-70.9	-97.5	-119.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Number of Taxable Returns (thousands)	-25.0	-20.7	-28.2	-28.0	-33.6	-47.8	-57.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Estate Tax Liability ($billions)	-4.9	-3.6	-7.8	-8.5	-9.4	-17.4	-38.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Source: Urban-Brookings Tax Policy Center Microsimulation Model (version 0308-6)

Notes: Data are for calendar years.

a. Change in estate tax liability is a static estimate that does not include behavioral response. Change does not include the effects of the gift tax or income tax.

EGTRRA slashed both the number of estate tax returns and their tax liability. In 2008, we estimate that there will be nearly 71,000 fewer estate tax returns than would have been filed without EGTRRA and about 70 percent fewer taxable returns. Estate tax liability will fall by $9.4 billion, or about 30 percent. In 2005, estate tax liability increases because of the elimination of the state death tax credit, but the higher exemption threshold cuts the estate tax in 2006. Tax liability creeps back up through 2008, but is cut sharply in 2009 when the exempt amount increases from $2 million to $3.5 million. In 2010, the estate tax will be eliminated, cutting liability by $38 billion. Beginning in 2011, the number of estate tax returns and tax liability will return to their pre-EGTRRA levels after the sunset takes effect and 61,000 taxable estates will pay $41 billion in taxes.[20]

The estate tax changes enacted by EGTRRA, and the subsequent expiration of those changes after 2010, will also have distributional impacts. In 2009, when the exemption amount rises from $2 million to $3.5 million, the estate tax will be even more concentrated among extremely wealthy individuals than in 2008. Almost 94 percent of the tax will be paid by the top 1 percent in terms of economic income, and over 60 percent by the top 0.1 percent (table 8). In 2011, after EGTRRA expires, the burden of the estate tax moves down the income distribution somewhat. Although the tax will remain highly progressive—93 percent of it will be paid by the top 10 percent—the top 0.1 percent will pay a comparatively modest 30 percent of the tax or about half of their share in 2009.

[20] Note that this calculation ignores the gift tax, which has averaged about 16 percent of estate tax liability, and which would be retained under EGTRRA. It also ignores any income tax offsets. EGTRRA would enact carryover basis for capital gains in 2010, which in principle could generate additional income tax revenue in later years. However, some legal experts doubt the workability of the new regime and suspect that eliminating the estate tax would result in a sharp reduction in capital gains realizations (and thus tax revenues) as individuals hold more assets until death to avoid tax altogether. In that case, the revenue loss from the income tax would exacerbate the budget pressure created by eliminating the estate tax. Official revenue estimates from the Joint Committee on Taxation include such behavioral responses.

Table 8

Current-Law Distribution of Estate Tax By Economic Income Percentile, 2009, 2011

Year	Economic Income Class							
	Fourth Quintile	Top Quintile	80-90	90-95	95-99	Top 1 Percent	Top 0.1 Percent	All
2009								
Estate Tax Returns (thousands)	0.0	15.3	0.0	0.2	5.3	9.8	1.4	15.4
Taxable Returns (thousands)	0.0	6.2	0.0	0.1	2.1	3.9	0.8	6.2
Percent of Total	0.0	99.7	0.0	1.7	34.5	63.5	13.2	100.0
Estate Tax ($millions)	2	17,871	0	12	1,072	16,786	10,817	17,920
Percent of Total	0.0	99.7	0.0	0.1	6.0	93.7	60.4	100.0
2011								
Estate Tax Returns (thousands)	10.6	112.4	30.1	27.5	41.8	13.0	1.5	124.6
Taxable Returns (thousands)	4.5	56.0	15.6	13.1	20.6	6.7	1.0	61.0
Percent of Total	7.4	91.8	25.7	21.4	33.7	11.0	1.7	100.0
Estate Tax ($millions)	443	40,825	2,165	3,652	10,715	24,294	12,373	41,388
Percent of Total	1.1	98.6	5.2	8.8	25.9	58.7	29.9	100.0

Source: Urban-Brookings Tax Policy Center Microsimulation Model (version 0308-6).
See notes to table 2.

In 2009, about 64 percent of the estate tax will be paid by the 700 estates (that represent 0.03 percent of all decedents and 4.5 percent of the total number of estate tax filers) with over $5 million in estate tax liability (table 9). In 2011, about 1,000 estates will owe $5 million or more, but they will account for only 35 percent of the total tax paid. In 2011, about one third of estate tax liability will be paid by decedents owing $1 million or less, compared with only 7 percent in 2009.

Table 9

Current-Law Distribution of Estate Tax By Amount of Estate Tax Paid, 2009, 2011

Net Estate Tax (thousands of 2008 dollars)	2009				2011			
	Number (thousands)	Percent of Total	Amount ($millions)	Percent of Total	Number (thousands)	Percent of Total	Amount ($millions)	Percent of Total
0	9.2	59.7	0.0	0.0	63.6	51.0	0.0	0.0
Less than 100	0.6	3.6	27.6	0.2	18.6	14.9	922.2	2.2
100-500	1.8	11.6	564.9	3.2	27.5	22.1	6,732.4	16.3
500-1,000	0.9	5.9	662.5	3.7	7.7	6.2	5,919.9	14.3
1,000-2,000	1.2	8.1	1,844.7	10.3	4.0	3.2	6,090.5	14.7
2,000-5,000	1.0	6.6	3,305.2	18.4	2.2	1.7	7,242.1	17.5
More than 5,000	0.7	4.5	11,515.4	64.3	1.0	0.8	14,480.9	35.0
All	15.4	100.0	17,920.3	100.0	124.6	100.0	41,388.0	100.0

Source: Urban-Brookings Tax Policy Center Microsimulation Model (version 0308-6).
Notes : Data are for calendar year.

The scheduled changes in the estate tax will also affect small farms and businesses. We estimate that, in 2009, about 90 percent of the 700 small farm and business estates that will have to file estate tax returns will not owe any estate tax (table 10). Of the nearly 80 such estates that will owe the tax, half will have liability below $1 million. In 2011, after the expiration of

EGTRRA, 35 percent of the 9,060 small farm and business estates that will have to file a return will be taxable and almost 90 percent of them will owe less than $500,000.

Table 10
Current-Law Distribution of Estate Tax By Amount of Estate Tax Paid, Small Farm and Business Returns, Selected Years

Net Estate Tax (thousands of 2008 dollars)	2009				2011			
	Number	Percent of Total	Amount ($millions)	Percent of Total	Number	Percent of Total	Amount ($millions)	Percent of Total
0	621	89.1	0.0	0.0	5,884	64.9	0.0	0.0
Less than 100	8	1.1	0.3	0.4	1,288	14.2	0.1	*
100-500	14	2.0	4.3	5.7	1,461	16.1	372.4	42.9
500-1,000	15	2.2	12.6	16.6	320	3.5	242.6	28.0
1,000-2,000	37	5.3	58.4	77.2	70	0.8	93.8	10.8
2,000-5,000	0	0.0	0.1	0.1	39	0.4	107.6	12.4
More than 5,000	0	0.0	0.0	0.0	0	0.0	0.0	0.0
All	697	100.0	75.7	100.0	9,062	100.0	867.3	100.0

Source: Urban-Brookings Tax Policy Center Microsimulation Model (version 0308-6).
* Less than 0.05 percent.
Notes : Small farm and business returns are those in which farm and business assets represent at least half of gross estate and these assets are no more than $5 million. Data are for the calendar year. Number of returns has been rounded to the nearest ten.

4. Estate Tax Reform Options

Congress could reform the estate tax in many ways. Presidential candidates John McCain and Barack Obama have both proposed retaining the estate tax but raising the exemption and lowering the rate relative to the values scheduled after 2010. Other members of Congress have introduced legislation that would follow that course or repeal the tax entirely. We next analyze the revenue and distributional implications of the McCain and Obama plans as well as several prominent bills that have been recently introduced in Congress. Table 11 outlines the main element of each plan we consider.

Table 11
Summary of Reform Options

Proposal	Effective Exemption	Rate(s)	State Death Taxes	Surtax	Other
Obama Proposal	$3.5 million	45%	Deduction	Repealed	
McCain Proposal	$5 million	15%	Deduction	Repealed	
Carper, Voinovich, Leahy [S.3284]	$3.5 million (indexed for inflation after 2010)	45%	Deduction	Repealed	
Kyl Proposal	$5 million	20%: $5m - $25m 30%: above $25m	Deduction	Repealed	
Pomeroy [H.R.4242]	$3.5 million	47%	Deduction	5 percent on estates between $10m and $46m	
McDermott [H.R.6499]	$2 million (indexed for inflation after 2009)	45%: $2m - $5m 50%: $5m - $10m 55%: above $10m	Credit	Repealed	Estate tax brackets indexed for inflation after 2009
Salazar [S.1994]	Same as current law	Same as current law	Same as current law	Same as current law	Adjusted value of qualified farmland is excluded from taxable estate.

Current Law Baseline

Under current law, EGTRRA will sunset at the end of 2010 and the estate tax will return to its pre-EGTRRA level in 2011 with a $1 million exemption and a 55 percent top tax rate, along with the state death tax credit and the 5 percent surtax. We project that, if Congress does not act, 124,600 estates will have to file returns for 2011 (table 12). Almost half of these—61,000—will be taxable with estate tax liability totaling $41.4 billion. Because the effective exemption amount is not indexed for inflation and because real wealth will grow, the number of estates required to file returns will grow rapidly over the next decade. By 2018, almost 190,000 estates will have to file returns and about 91,000 estates will owe some tax. Total estate tax liability that year will total $74 billion.

Table 12
Estate Tax Returns and Liability Under Current Law and Various Reform Proposals, 2008-2018

	Calendar Year											2008-18
	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	Total
Current Law												
Number of Returns (thousands)	35.1	15.4	0.0	124.6	130.6	139.4	147.6	155.2	164.9	172.6	187.8	
Number of Taxable Returns (thousands)	15.5	6.2	0.0	61.0	64.0	67.1	71.7	76.6	79.6	83.2	90.8	
Estate Tax Liability ($billions)	23.0	17.9	0.0	41.4	44.8	49.0	53.3	57.5	62.1	66.6	73.9	489.5
Obama Proposal												
Number of Returns (thousands)	35.1	15.4	16.2	17.4	19.2	21.2	23.2	25.2	27.6	29.0	32.4	
Number of Taxable Returns (thousands)	15.5	6.2	6.8	7.2	7.6	8.5	9.3	10.6	11.7	12.5	13.8	
Estate Tax Liability ($billions)	23.0	17.9	19.4	21.1	22.9	25.0	27.3	29.7	32.1	34.9	38.5	291.8
McCain Proposal												
Number of Returns (thousands)	35.1	15.4	9.5	10.2	11.1	12.2	13.0	14.0	15.0	16.0	17.5	
Number of Taxable Returns (thousands)	15.5	6.2	3.4	3.6	4.1	4.5	4.9	5.2	5.6	6.2	6.7	
Estate Tax Liability ($billions)	23.0	17.9	4.5	4.9	5.3	5.9	6.4	7.0	7.5	8.2	9.1	99.7
Carper, Voinovich, Leahy Proposal												
Number of Returns (thousands)	35.1	15.4	16.2	16.9	17.5	18.4	19.7	20.7	21.6	22.5	24.1	
Number of Taxable Returns (thousands)	15.5	6.2	6.8	7	7.2	7.5	7.8	8.3	8.6	8.9	9.7	
Estate Tax Liability ($billions)	23.0	17.9	19.4	20.8	22.4	24.2	26.1	27.9	30.4	32.0	34.8	278.9
Kyl Proposal												
Number of Returns (thousands)	35.1	15.4	9.5	10.2	11.1	12.2	13.0	14.0	15.0	16.0	17.5	
Number of Taxable Returns (thousands)	15.5	6.2	3.5	3.7	4.2	4.7	5.1	5.4	5.7	6.3	6.9	
Estate Tax Liability ($billions)	23.0	17.9	8.2	8.9	9.7	10.7	11.7	12.7	13.8	15.0	16.5	148.3
Pomeroy Proposal												
Number of Returns (thousands)	17.9	15.4	16.2	17.4	19.2	21.2	23.2	25.2	27.6	29.0	32.4	
Number of Taxable Returns (thousands)	7.2	6.2	6.8	7.2	7.6	8.5	9.3	10.6	11.7	12.5	13.9	
Estate Tax Liability ($billions)	19.5	19.5	21.0	22.9	24.9	27.2	29.7	32.2	34.8	37.8	41.8	311.2
McDermott Proposal												
Number of Returns (thousands)	35.1	38.2	40.5	42.5	44.8	47.9	50.3	51.2	54.8	56.3	60.4	
Number of Taxable Returns (thousands)	15.5	15.0	15.0	15.5	15.9	16.8	17.6	18.1	19.2	19.2	20.7	
Estate Tax Liability ($billions)	23.0	20.5	21.9	23.4	25.2	27.0	29.0	31.0	33.0	35.2	38.4	307.6
Salazar Proposal												
Number of Returns (thousands)	35.1	15.4	0.0	124.6	130.6	139.4	147.6	155.2	164.9	172.6	187.8	
Number of Taxable Returns (thousands)	15.2	6.2	0.0	59.0	61.8	65.0	69.2	73.9	76.9	80.5	87.8	
Estate Tax Liability ($billions)	22.9	17.8	0.0	40.8	44.1	48.3	52.5	56.5	61.0	65.4	72.6	481.8
ADDENDUM												
Projected Number of Deaths (thousands)	2,537	2,561	2,586	2,611	2,636	2,662	2,688	2,715	2,743	2,772	2,802	

Sources: Urban-Brookings Tax Policy Center Microsimulation Model (version 0308-6), Table 1. Projections of the Population and Components of Change for the United States: 2010 to 2050 (NP2008-T1) from Population Division, U.S. Census Bureau, and authors' calculations.
Notes: Data are for calendar years. See table 11 for a description of the proposals. Change in estate tax liability from the current law baseline does not include any behavioral response.

The estate tax will remain highly progressive under current law in 2011, although it will be markedly less so than in 2009, when the effective exemption will be $3.5 million and top rate only 45 percent. We estimate that only 1 percent of all estate tax filers will have gross estates valued at more than $20 million, but those 1,300 estates will account for 22 percent of total gross value of all estates filing estate tax returns and will pay 32 percent of all estate tax (table 13). The 87 percent of estate tax filers with gross estates valued at less than $3.5 million will pay less than 30 percent of total estate tax.

Table 13

Current-Law Distribution of Gross Estate and Net Estate Tax By Size of Gross Estate, 2011

Size of Gross Estate (millions of 2008 dollars)	Returns		Gross Estate			Net Estate Tax			Average Tax Rate[a]
	Number	Percent of Total	Amount ($millions)	Average ($ thousands)	Percent of Total	Amount ($millions)	Average ($ thousands)	Percent of Total	
ALL RETURNS									
Less than 1.0	7,790	6.3	8,039	1,032	2.1	11	1	0.0	0.1
1.0 - 2.0	75,520	60.6	112,893	1,495	30.1	4,445	59	10.7	3.9
2.0 - 3.5	25,390	20.4	69,548	2,739	18.5	7,423	292	17.9	10.7
3.5 - 5.0	6,590	5.3	29,181	4,428	7.8	4,213	639	10.2	14.4
5.0 - 10.0	5,930	4.8	43,563	7,346	11.6	6,774	1,142	16.4	15.6
10.0 - 20.0	2,100	1.7	30,258	14,409	8.1	5,301	2,524	12.8	17.5
More than 20.0	1,260	1.0	81,452	64,645	21.7	13,220	10,492	31.9	16.2
All	124,580	100.0	374,933	3,010	100.0	41,388	332	100.0	11.0
TAXABLE RETURNS									
Less than 1.0	200	0.3	207	1,036	0.1	11	53	0.0	5.1
1.0 - 2.0	35,660	58.5	55,422	1,554	24.5	4,445	125	10.7	8.0
2.0 - 3.5	15,470	25.4	42,181	2,727	18.7	7,423	480	17.9	17.6
3.5 - 5.0	3,940	6.5	17,475	4,435	7.7	4,213	1,069	10.2	24.1
5.0 - 10.0	3,360	5.5	25,058	7,458	11.1	6,774	2,016	16.4	27.0
10.0 - 20.0	1,390	2.3	20,167	14,508	8.9	5,301	3,814	12.8	26.3
More than 20.0	970	1.6	65,260	67,278	28.9	13,220	13,629	31.9	20.3
All	60,980	100.0	225,770	3,702	100.0	41,388	679	100.0	18.3

Source: Urban-Brookings Tax Policy Center Microsimulation Model (version 0308-6).

Notes: Data are for the calendar year. Numbers of returns have been rounded to the nearest multiple of ten. For decedents dying in 2011, the effective exemption is $1 million and the top estate tax rate is 55 percent.

a. Average net estate tax liability as a percentage of average gross estate.

Despite the top statutory estate tax rate of 55 percent, the average tax rate—net estate tax liability as a percentage of gross estate—will be only 18.3 percent for taxable estates. Because of the $1 million exemption, the unlimited deductions for spousal bequests and charitable contributions, and the state death tax credit, those in the $20 million and over gross estate class will pay an average rate of just 20 percent, far below the top statutory rate. The effective tax rate for smaller estates will actually be higher: 27 percent for estates valued between $5 million and $10 million. Those smaller estates do not benefit as much from the state death tax credit and have proportionately smaller charitable donations and spousal bequests. Under current law in 2011, about 3,500 small farm and business estates will have some estate tax liability, representing about 37 percent of the 9,400 that will have to file a return.[21]

Complete Repeal

The Bush Administration's Budget for Fiscal Year 2009 again proposed to permanently repeal the estate tax. The Joint Committee on Taxation (JCT) estimates that complete repeal would cost $670 billion through 2018 (table 14). JCT's official revenue estimate includes the impact on gift tax revenue as well as the effect of estate tax repeal on individual income tax receipts. These

[21] A small farm or business is defined as an estate tax return with farm and business assets that represent at least half of the gross estate and total no more than $5 million.

effects are large: our static estimate of permanent repeal through the 2018 fiscal year is just $375 billion.

Table 14
Estate Tax Repeal and Reform Proposals: Revenue Effect, 2009-2018

	Fiscal Year										2009-18
	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	Total
Permanent Repeal [a]	-1.4	-2.3	-30.5	-69.4	-77.0	-84.2	-90.7	-97.4	-104.9	-112.0	-669.8
Obama Proposal	0.0	-0.1	-0.8	-33.7	-37.3	-40.8	-44.0	-47.3	-50.9	-54.4	-309.4
McCain Proposal	0.0	-0.6	-20.4	-61.0	-67.7	-74.0	-79.8	-85.7	-92.2	-98.5	-579.9
Carper, Voinovich, Leahy Proposal	0.0	-0.1	-0.8	-35.4	-39.2	-42.9	-46.2	-49.6	-53.4	-57.1	-324.9
Kyl Proposal	0.0	-0.6	-16.7	-54.1	-60.0	-65.6	-70.7	-76.0	-81.8	-87.3	-512.7
Pomeroy Proposal	-6.1	1.4	0.8	-30.6	-34.0	-37.1	-40.0	-43.0	-46.3	-49.4	-284.3
McDermott Proposal	0.0	2.4	1.7	-31.6	-35.1	-38.4	-41.4	-44.4	-47.8	-51.1	-285.8

Sources: Urban-Brookings Tax Policy Center Microsimulation Model (version 0308-6); CBO Budget Options 2007; Joint Committee on Taxation (JCS-1-08).
Notes: Data are for fiscal years. Baseline is current law. See table 11 for a description of the proposals.
a. JCT estimate.

Presidential Candidates' Proposals

Both presidential candidates oppose complete repeal of the estate tax but neither would allow it to return to its pre-EGTRRA state. Senator Obama would fix the tax at its 2009 level while Senator McCain would set a larger exemption and a lower tax rate.

Obama Plan. Senator Obama has proposed to permanently extend 2009 estate tax law. Beginning in 2010, the exemption would be $3.5 million and the estate tax rate would be 45 percent. He would permanently repeal the 5-percent surtax and the credit for estate taxes paid to states. The deduction for state-level estate and inheritance taxes paid would be made permanent. We assume that, as under current law, the Obama plan would not index the effective exemption for inflation.

Obama's proposal would drastically decrease the number of estate tax filers and total estate tax liability relative to current law. In 2011, there would be 17,400 estate tax returns, roughly 15 percent of the current law figure (table 14). The 7,200 taxable returns would have a tax liability of $21 billion, a little over half of that under current law. Partly because the Obama proposal does not index the effective exemption for inflation, the number of estate tax filers would grow to 32,400 by 2018, with just under 14,000 of them taxable. Over the 2008-18 budget window, the Obama proposal would generate $292 billion in estate tax liability, about 60 percent of the $490 billion projected under current law (table 12).

Table 15

Distribution of Gross Estate and Net Estate Tax By Size of Gross Estate Under Senator Obama's Proposal, 2011

Size of Gross Estate (millions of 2008 dollars)	Returns		Gross Estate			Net Estate Tax			Average Tax Rate[a]
	Number	Percent of Total	Amount ($millions)	Average ($ thousands)	Percent of Total	Amount ($millions)	Average ($ thousands)	Percent of Total	
ALL RETURNS									
Less than 1.0	0	0.0	0	0	0.0	0	0	0.0	0.0
1.0 - 2.0	0	0.0	0	0	0.0	0	0	0.0	0.0
2.0 - 3.5	1,520	8.7	5,514	3,628	2.9	18	12	0.1	0.3
3.5 - 5.0	6,590	37.9	29,181	4,428	15.4	682	103	3.2	2.3
5.0 - 10.0	5,930	34.1	43,563	7,346	22.9	3,386	571	16.1	7.8
10.0 - 20.0	2,100	12.1	30,258	14,409	15.9	3,906	1,860	18.6	12.9
More than 20.0	1,260	7.2	81,452	64,645	42.9	13,059	10,364	62.0	16.0
All	17,400	100.0	189,968	10,918	100.0	21,052	1,210	100.0	11.1
TAXABLE RETURNS									
Less than 1.0	0	0.0	0	0	0.0	0	0	0.0	0.0
1.0 - 2.0	0	0.0	0	0	0.0	0	0	0.0	0.0
2.0 - 3.5	150	2.1	553	3,688	0.5	18	120	0.1	3.2
3.5 - 5.0	2,050	28.5	9,154	4,465	8.4	682	333	3.2	7.4
5.0 - 10.0	2,900	40.3	22,093	7,618	20.4	3,386	1,168	16.1	15.3
10.0 - 20.0	1,280	17.8	18,569	14,507	17.1	3,906	3,052	18.6	21.0
More than 20.0	810	11.3	58,083	71,708	53.6	13,059	16,123	62.0	22.5
All	7,200	100.0	108,453	15,063	100.0	21,052	2,924	100.0	19.4

Source: Urban-Brookings Tax Policy Center Microsimulation Model (version 0308-6).

Notes: Data are for the calendar year. Numbers of returns have been rounded to the nearest multiple of ten. For decedents dying in 2011, the effective exemption is $3.5 million and the estate tax rate is 45 percent.

a. Average net estate tax liability as a percentage of average gross estate.

Senator Obama's proposal would result in an average estate tax rate of 19.4 percent in 2011 (table 15). The largest estates—those valued at more than $20 million—would pay an average rate of 22.5 percent, half of the statutory rate. Smaller estates worth less than $5 million would pay an average rate of just over 7 percent. Only 140 small farm and business estates would owe any estate tax, just 4 percent of the 3,500 such estates under current law (figure 3).

We estimate that Senator Obama's plan would cost $309 billion over the 2009-18 budget window (table 14 and figure 4).[22] His proposal would cost $54 billion annually by 2018.

[22] We base our revenue estimates on JCT's official estimate for complete repeal, estimates for several options presented in CBO's Budget Options (2007), and the static results generated by our estate tax model. We attempt to provide estimates that are comparable to how JCT would score these proposals. Our estimates are rough, however, because we do not know the specific assumptions that JCT would make about behavioral changes and the resulting impact on the individual income tax or the gift tax.

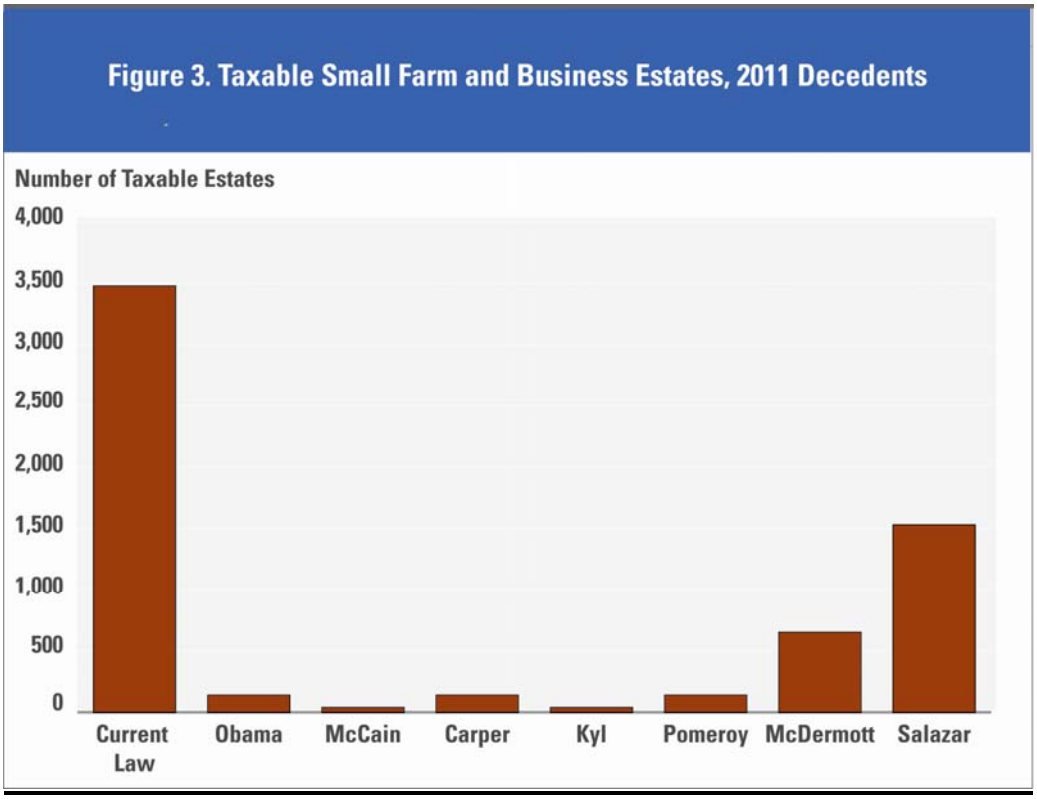


Figure 3. Taxable Small Farm and Business Estates, 2011 Decedents
Number of Taxable Estates
4,000
3,500
3,000
2,500
2,000
1,500
1,000
500
0
Current Law
Obama
McCain
Carper
Kyl
Pomeroy
McDermott
Salazar

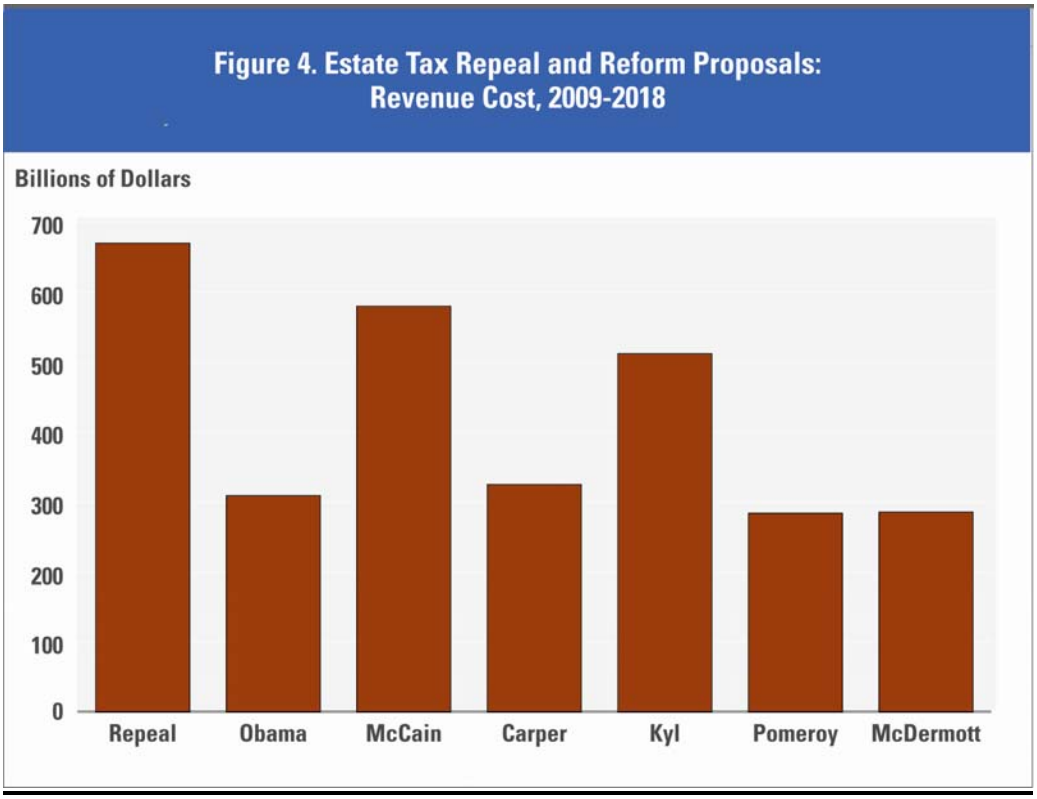


Figure 4. Estate Tax Repeal and Reform Proposals: Revenue Cost, 2009-2018
Billions of Dollars
700
600
500
400
300
200
100
0
Repeal
Obama
McCain
Carper
Kyl
Pomeroy
McDermott

McCain Plan. Senator McCain's proposal would dramatically cut the estate tax by permanently raising the estate tax exemption to $5 million and cutting the rate to 15 percent beginning in 2010. He would also make the deduction for state taxes paid permanent, and repeal the surtax. Our analysis assumes that the McCain plan does not index the exemption for inflation. In 2011, only 3,600 returns would owe any tax, about half the number under Obama's proposal (table 12). The high exemption and low rate would reduce estate tax liability almost 90 percent to $4.9 billion. Again, the lack of indexation would cause the number of estate tax filers to grow over time, reaching 17,500 by 2018, about 6,700 of whom would owe estate tax. Through 2018, the McCain plan would generate $100 billion in estate tax liability, 80 percent less than under current law.

Table 16

Distribution of Gross Estate and Net Estate Tax By Size of Gross Estate Under Senator McCain's Proposal, 2011

Size of Gross Estate (millions of 2008 dollars)	Returns		Gross Estate			Net Estate Tax			Average Tax Rate[a]
	Number	Percent of Total	Amount ($millions)	Average ($ thousands)	Percent of Total	Amount ($millions)	Average ($ thousands)	Percent of Total	
ALL RETURNS									
Less than 1.0	0	0.0	0	0	0.0	0	0	0.0	0.0
1.0 - 2.0	0	0.0	0	0	0.0	0	0	0.0	0.0
2.0 - 3.5	0	0.0	0	0	0.0	0	0	0.0	0.0
3.5 - 5.0	960	9.4	4,949	5,155	3.1	5	5	0.1	0.1
5.0 - 10.0	5,930	57.9	43,563	7,346	27.2	523	88	10.7	1.2
10.0 - 20.0	2,100	20.5	30,258	14,409	18.9	807	384	16.5	2.7
More than 20.0	1,260	12.3	81,452	64,645	50.8	3,547	2,815	72.7	4.4
All	10,250	100.0	160,223	15,631	100.0	4,882	476	100.0	3.0
TAXABLE RETURNS									
Less than 1.0	0	0.0	0	0	0.0	0	0	0.0	0.0
1.0 - 2.0	0	0.0	0	0	0.0	0	0	0.0	0.0
2.0 - 3.5	0	0.0	0	0	0.0	0	0	0.0	0.0
3.5 - 5.0	40	1.1	222	5,539	0.3	5	114	0.1	2.1
5.0 - 10.0	1,740	48.2	14,156	8,135	16.6	523	301	10.7	3.7
10.0 - 20.0	1,050	29.1	15,379	14,647	18.0	807	769	16.5	5.3
More than 20.0	780	21.6	55,659	71,358	65.2	3,547	4,548	72.7	6.4
All	3,610	100.0	85,415	23,661	100.0	4,882	1,352	100.0	5.7

Source: Urban-Brookings Tax Policy Center Microsimulation Model (version 0308-6).

Notes : Data are for the calendar year. Numbers of returns have been rounded to the nearest multiple of ten. For decedents dying in 2011, the effective exemption is $5 million and the estate tax rate is 15 percent.

a. Average net estate tax liability as a percentage of average gross estate.

In 2011, about half of taxable returns would have gross estates valued at more than $10 million and nearly three quarters of the tax would be paid by estates valued at more than $20 million (table 16). Average tax rates would be very low: just 5 percent for estates worth between $10 million and $20 million and 6 percent for those worth $20 million or more. Only 40 small farm and business estates would have any estate tax liability under the proposal.[23]

[23] We classify estates by their value in 2008 dollars and thus some small farms and businesses that show up as worth less than $5 million can owe the estate tax, despite the $5 million exemption (which is in 2011 dollars).

Senator McCain's plan would cost almost as much as full repeal of the estate tax. The McCain plan would result in $580 billion in lost revenue through 2018 compared with $670 for full repeal. By 2018, the McCain plan would have an annual cost of almost $100 billion.

Congressional Proposals

Some members of Congress continue to call for full repeal of the estate tax; others have introduced legislation that would scale back the estate tax from its pre-EGTRRA level but, like the presidential candidates' plans, would stop short of full repeal.

Carper Plan. Senator Carper (D-DE) has introduced legislation (S. 3284) that is almost identical to Senator Obama's estate tax proposal. It calls for permanent extension of 2009 estate tax law, but it would also index the $3.5 million exemption for inflation after 2009.[24] Indexing the exemption would reduce the number of estate tax filers by more than 8,000 by 2018—or about 25 percent—relative to Senator Obama's proposal. We estimate that under S.3284, 16,900 returns would be filed for 2011 decedents with 7,000 estates owing estate tax totaling $20.8 billion. Through 2018, the estate tax would generate $278.9 billion, about $13 billion less than Senator Obama's proposal (which would not index the exemption) and about 57 percent of the $490 billion that will be generated under current law.

Table 17

Distribution of Gross Estate and Net Estate Tax By Size of Gross Estate Under Carper Proposal, 2011

Size of Gross Estate (millions of 2008 dollars)	Returns		Gross Estate			Net Estate Tax			Average Tax Rate[a]
	Number	Percent of Total	Amount ($millions)	Average ($ thousands)	Percent of Total	Amount ($millions)	Average ($ thousands)	Percent of Total	
ALL RETURNS									
Less than 1.0	0	0.0	0	0	0.0	0	0	0.0	0.0
1.0 - 2.0	0	0.0	0	0	0.0	0	0	0.0	0.0
2.0 - 3.5	1,030	6.1	3,783	3,673	2.0	8	8	0.0	0.2
3.5 - 5.0	6,590	39.0	29,181	4,428	15.5	619	94	3.0	2.1
5.0 - 10.0	5,930	35.1	43,563	7,346	23.1	3,295	556	15.8	7.6
10.0 - 20.0	2,100	12.4	30,258	14,409	16.1	3,866	1,841	18.6	12.8
More than 20.0	1,260	7.5	81,452	64,645	43.3	13,034	10,344	62.6	16.0
All	16,910	100.0	188,237	11,132	100.0	20,822	1,231	100.0	11.1
TAXABLE RETURNS									
Less than 1.0	0	0.0	0	0	0.0	0	0	0.0	0.0
1.0 - 2.0	0	0.0	0	0	0.0	0	0	0.0	0.0
2.0 - 3.5	50	0.7	185	3,709	0.2	8	165	0.0	4.5
3.5 - 5.0	1,990	28.4	8,927	4,486	8.3	619	311	3.0	6.9
5.0 - 10.0	2,880	41.1	21,915	7,610	20.4	3,295	1,144	15.8	15.0
10.0 - 20.0	1,280	18.3	18,540	14,484	17.2	3,866	3,020	18.6	20.9
More than 20.0	810	11.6	57,986	71,588	53.9	13,034	16,091	62.6	22.5
All	7,010	100.0	107,554	15,343	100.0	20,822	2,970	100.0	19.4

Source: Urban-Brookings Tax Policy Center Microsimulation Model (version 0308-6).

Notes : Data are for the calendar year. Numbers of returns have been rounded to the nearest multiple of ten. For decedents dying in 2011, the effective exemption is $3.57 million (indexed for inflation) and the maximum estate tax rate is 45 percent.

a. Average net estate tax liability as a percentage of average gross estate.

[24] As with the Obama proposal, Carper's plan would permanently repeal the state death tax credit, inheritance taxes, and the 5-percent surtax and would provide for a deduction for state estate tax paid.

In 2011, nearly 63 percent of estate tax would be paid by estates valued at more than $20 million (table 17). The average tax rate would be 19 percent for all estates, but would be less than 7 percent for estates valued at less than $5 million. We estimate that only 140 small farm and business estates would have positive estate tax liability in 2011.

The ten-year revenue cost of the Carper proposal would be $325 billion, about $16 billion more than Senator Obama's proposal because Carper's plan would index the effective exemption for inflation; Obama's would not. By the end of the budget window, the annual cost of the plan would be about $57 billion.

Kyl Plan. Senator Jon Kyl (R-AZ) has introduced several estate tax proposals in recent years. His latest plan, introduced as an amendment to the Senate's budget resolution in 2008, would increase the estate tax exemption to $5 million. The estate tax rate on taxable estate between $5 million and $25 million would be 20 percent and the rate on taxable estate above $25 million would be 30 percent. We estimate that under Senator Kyl's proposal, 10,200 returns would be filed for 2011 decedents with 3,700 estates owing estate tax totaling $8.9 billion. Through 2018, the estate tax would generate $148.3 billion, about 30 percent of the $490 billion that will be generated under current law.

Table 18
Distribution of Gross Estate and Net Estate Tax By Size of Gross Estate Under Kyl Proposal, 2011

Size of Gross Estate (millions of 2008 dollars)	Returns		Gross Estate			Net Estate Tax			Average Tax Rate[a]
	Number	Percent of Total	Amount ($millions)	Average ($ thousands)	Percent of Total	Amount ($millions)	Average ($ thousands)	Percent of Total	
ALL RETURNS									
Less than 1.0	0	0.0	0	0	0.0	0	0	0.0	0.0
1.0 - 2.0	0	0.0	0	0	0.0	0	0	0.0	0.0
2.0 - 3.5	0	0.0	0	0	0.0	0	0	0.0	0.0
3.5 - 5.0	960	9.4	4,949	5,155	3.1	6	6	0.1	0.1
5.0 - 10.0	5,930	57.9	43,563	7,346	27.2	707	119	7.9	1.6
10.0 - 20.0	2,100	20.5	30,258	14,409	18.9	1,177	560	13.2	3.9
More than 20.0	1,260	12.3	81,452	64,645	50.8	7,026	5,576	78.8	8.6
All	10,250	100.0	160,223	15,631	100.0	8,916	870	100.0	5.6
TAXABLE RETURNS									
Less than 1.0	0	0.0	0	0	0.0	0	0	0.0	0.0
1.0 - 2.0	0	0.0	0	0	0.0	0	0	0.0	0.0
2.0 - 3.5	0	0.0	0	0	0.0	0	0	0.0	0.0
3.5 - 5.0	40	1.1	222	5,539	0.3	6	152	0.1	2.7
5.0 - 10.0	1,770	47.5	14,401	8,136	16.5	707	399	7.9	4.9
10.0 - 20.0	1,120	30.0	16,438	14,677	18.9	1,177	1,051	13.2	7.2
More than 20.0	790	21.2	56,056	70,957	64.3	7,026	8,894	78.8	12.5
All	3,730	100.0	87,116	23,356	100.0	8,916	2,390	100.0	10.2

Source: Urban-Brookings Tax Policy Center Microsimulation Model (version 0308-6).
Notes : Data are for the calendar year. Numbers of returns have been rounded to the nearest multiple of ten. For decedents dying in 2011, the effective exemption is $5 million and the maximum estate tax rate is 30 percent.
a. Average net estate tax liability as a percentage of average gross estate.

In 2011, nearly four-fifths of total estate tax would be paid by estates valued at more than $20 million (table 18). The average tax rate for all estates would be 10 percent. Estates valued at more than $20 million would face an average tax rate of 12.5 percent, well under half the top

statutory rate of 30 percent. We estimate that only 40 small farm and business estates would have positive estate tax liability in 2011.

Through 2018, Senator Kyl's plan would cost about three-quarters as much as permanent repeal, or $513 billion. By the end of the budget window, the annual cost of the Kyl proposal would be $87 billion.

Pomeroy Plan. In the House, Representative Pomeroy (D-ND), has proposed an alternative (H.R.4242) with an exemption of $3.5 million and a rate of 47 percent.[25] The proposal would not index the exemption for inflation but would make the state tax deduction permanent. The 5 percent surtax would return and be applied to estates valued between $10 million and $46,084 million; that would effectively eliminate the benefits of graduated rates and the exemption for the wealthiest estates. Under Representative Pomeroy's proposal, 17,400 estates would file tax returns for people dying in 2011; 7,200 taxable returns would owe $22.9 billion in estate tax liability. The proposal's higher tax rate and lack of inflation indexation would generate about $32 billion more estate tax liability than the Carper proposal over the 2009-2018 period. Total estate tax liability over that time period would be $311 billion, 36 percent less than under current law.

Table 19

Distribution of Gross Estate and Net Estate Tax By Size of Gross Estate Under Pomeroy Proposal, 2011

Size of Gross Estate (millions of 2008 dollars)	Returns		Gross Estate			Net Estate Tax			Average Tax Rate[a]
	Number	Percent of Total	Amount ($millions)	Average ($ thousands)	Percent of Total	Amount ($millions)	Average ($ thousands)	Percent of Total	
ALL RETURNS									
Less than 1.0	0	0.0	0	0	0.0	0	0	0.0	0.0
1.0 - 2.0	0	0.0	0	0	0.0	0	0	0.0	0.0
2.0 - 3.5	1,520	8.7	5,514	3,628	2.9	19	12	0.1	0.3
3.5 - 5.0	6,590	37.9	29,181	4,428	15.4	713	108	3.1	2.4
5.0 - 10.0	5,930	34.1	43,563	7,346	22.9	3,547	598	15.5	8.1
10.0 - 20.0	2,100	12.1	30,258	14,409	15.9	4,236	2,017	18.5	14.0
More than 20.0	1,260	7.2	81,452	64,645	42.9	14,340	11,381	62.7	17.6
All	17,400	100.0	189,968	10,918	100.0	22,855	1,313	100.0	12.0
TAXABLE RETURNS									
Less than 1.0	0	0.0	0	0	0.0	0	0	0.0	0.0
1.0 - 2.0	0	0.0	0	0	0.0	0	0	0.0	0.0
2.0 - 3.5	150	2.1	553	3,688	0.5	19	125	0.1	3.4
3.5 - 5.0	2,060	28.5	9,190	4,461	8.5	713	346	3.1	7.8
5.0 - 10.0	2,930	40.5	22,221	7,584	20.4	3,547	1,211	15.5	16.0
10.0 - 20.0	1,280	17.7	18,570	14,508	17.1	4,236	3,309	18.5	22.8
More than 20.0	810	11.2	58,157	71,799	53.5	14,340	17,703	62.7	24.7
All	7,230	100.0	108,691	15,033	100.0	22,855	3,161	100.0	21.0

Source: Urban-Brookings Tax Policy Center Microsimulation Model (version 0308-6).

Notes : Data are for the calendar year. Numbers of returns have been rounded to the nearest multiple of ten. For decedents dying in 2011, the effective exemption is $3.5 million and the maximum estate tax rate is 47 percent.

a. Average net estate tax liability as a percentage of average gross estate.

[25] The exemption would be $3 million for decedents dying in 2007 and 2008 and would increase to $3.5 million starting in 2009.

Under the Pomeroy proposal, estates valued at more than $20 million would pay about 63 percent of the tax and face an average tax rate of about 25 percent in 2011 (table 19). Overall, the average tax rate for all taxable estates would be 21 percent. We estimate that only 140 small farm and business estates would pay estate tax in 2011.

The ten-year price tag of the Pomeroy proposal would be $284 billion, the lowest of any of the broad-based reforms we consider here. The annual cost of the plan would be just less than $50 billion by 2018.

McDermott Plan. Representative McDermott (D-WA) has introduced a proposal (H.R. 6499) to make permanent the $2 million exemption in place for 2008. The plan would also impose graduated rates on taxable estates of 45 percent on the first $5 million, 50 percent on the next $5 million, and 55 percent on value above $10 million. The proposal would index both the exemption and the graduated rate brackets for inflation after 2009, restore the state death tax credit, and repeal the surtax. In 2011, we estimate that 42,500 estates would need to file an estate tax return and 15,500 of them would have estate tax liability totaling $23.4 billion. The numbers of both returns and taxable returns would be significantly higher than under the other proposals due to the lower exemption level. Through the end of the budget window in 2018, the McDermott proposal would generate $308 billion in estate tax liability, roughly the same as the Pomeroy proposal and nearly 40 percent less than under current law.

The resulting distribution of estate tax paid would be slightly less progressive than the other proposals with estates valued over $20 million only paying 52 percent of the estate tax in 2011 (table 19). The average tax rate for all taxable estates would be 16.8 percent, less than a third of the top statutory rate of 55 percent. Among the reforms this one would tax the largest number of small farm and business estates—650 in 2011—but that still represents only 20 percent of the number that would be taxable under current law.

Table 20

Distribution of Gross Estate and Net Estate Tax By Size of Gross Estate Under McDermott Proposal, 2011

Size of Gross Estate (millions of 2008 dollars)	Returns		Gross Estate			Net Estate Tax			Average Tax Rate[a]
	Number	Percent of Total	Amount ($millions)	Average ($ thousands)	Percent of Total	Amount ($millions)	Average ($ thousands)	Percent of Total	
ALL RETURNS									
Less than 1.0	0	0.0	0	0	0.0	0	0	0.0	0.0
1.0 - 2.0	1,200	2.8	2,530	2,109	1.0	1	1	0.0	0.0
2.0 - 3.5	25,390	59.8	69,548	2,739	27.1	1,324	52	5.6	1.9
3.5 - 5.0	6,590	15.5	29,181	4,428	11.4	1,854	281	7.9	6.4
5.0 - 10.0	5,930	14.0	43,563	7,346	17.0	4,210	710	18.0	9.7
10.0 - 20.0	2,100	4.9	30,258	14,409	11.8	3,934	1,874	16.8	13.0
More than 20.0	1,260	3.0	81,452	64,645	31.8	12,115	9,615	51.7	14.9
All	42,460	100.0	256,532	6,042	100.0	23,438	552	100.0	9.1
TAXABLE RETURNS									
Less than 1.0	0	0.0	0	0	0.0	0	0	0.0	0.0
1.0 - 2.0	20	0.1	34	1,721	0.0	1	43	0.0	2.5
2.0 - 3.5	6,270	40.5	18,539	2,957	13.3	1,324	211	5.6	7.1
3.5 - 5.0	3,750	24.2	16,622	4,433	11.9	1,854	494	7.9	11.2
5.0 - 10.0	3,300	21.3	24,666	7,474	17.6	4,210	1,276	18.0	17.1
10.0 - 20.0	1,290	8.3	18,717	14,509	13.4	3,934	3,050	16.8	21.0
More than 20.0	860	5.5	61,327	71,311	43.8	12,115	14,087	51.7	19.8
All	15,500	100.0	139,905	9,026	100.0	23,438	1,512	100.0	16.8

Source: Urban-Brookings Tax Policy Center Microsimulation Model (version 0308-6).

Notes : Data are for the calendar year. Numbers of returns have been rounded to the nearest multiple of ten. For decedents dying in 20011, the effective exemption is $2.09 million and the maximum estate tax rate is 55 percent.

a. Average net estate tax liability as a percentage of average gross estate.

The McDermott proposal's cost of $285 billion would be roughly the same as the cost of the Pomeroy proposal over the 2009-18 budget window. By 2018, McDermott's plan would cost about $51 billion annually.

Salazar Plan. Senator Salazar (D-CO) has proposed a more limited estate tax proposal targeted specifically to farms (S. 1994). Under Salazar's proposal, estates would be allowed to exclude the value of qualified farmland from gross estate. Estates would qualify for this exclusion if farmland made up at least 50 percent of the adjusted value of the gross estate or if farming provided more than half of the decedent's gross income in at least 3 of the 5 previous years. In an attempt to limit tax avoidance strategies, the Salazar proposal requires that the decedent and his or her heirs must also meet certain requirements regarding the use of the land in the years before and after the decedent's death (discussed below). Assuming that wealthy people do not purchase farms to avoid estate tax, the exclusion would only slightly reduce the number of taxable returns to 61,800 in 2011. Through 2018, the Salazar proposal would reduce estate tax liability by only $8 billion or roughly 1.5 percent. It would have negligible effects on the distribution of estate tax liability (Table 21) and, before considering behavioral response, could reduce the number of taxable small farm and business estates from about 3,500 to 1,500, assuming all eligible estates take advantage of the provision.

Table 21

Distribution of Gross Estate and Net Estate Tax By Size of Gross Estate Under Salazar Proposal, 2011

Size of Gross Estate (millions of 2008 dollars)	Returns		Gross Estate			Net Estate Tax			Average Tax Rate[a]
	Number	Percent of Total	Amount ($millions)	Average ($ thousands)	Percent of Total	Amount ($millions)	Average ($ thousands)	Percent of Total	
ALL RETURNS									
Less than 1.0	7,790	6.3	8,039	1,032	2.1	11	1	0.0	0.1
1.0 - 2.0	75,520	60.6	112,893	1,495	30.1	4,270	57	10.5	3.8
2.0 - 3.5	25,390	20.4	69,548	2,739	18.5	7,280	287	17.9	10.5
3.5 - 5.0	6,590	5.3	29,181	4,428	7.8	4,073	618	10.0	14.0
5.0 - 10.0	5,930	4.8	43,563	7,346	11.6	6,752	1,139	16.6	15.5
10.0 - 20.0	2,100	1.7	30,258	14,409	8.1	5,242	2,496	12.9	17.3
More than 20.0	1,260	1.0	81,452	64,645	21.7	13,142	10,430	32.2	16.1
All	124,580	100.0	374,933	3,010	100.0	40,770	327	100.0	10.9
TAXABLE RETURNS									
Less than 1.0	200	0.3	207	1,036	0.1	11	53	0.0	5.1
1.0 - 2.0	34,230	58.0	53,246	1,556	24.1	4,270	125	10.5	8.0
2.0 - 3.5	15,110	25.6	41,243	2,730	18.7	7,280	482	17.9	17.7
3.5 - 5.0	3,780	6.4	16,731	4,426	7.6	4,073	1,077	10.0	24.3
5.0 - 10.0	3,340	5.7	24,938	7,467	11.3	6,752	2,022	16.6	27.1
10.0 - 20.0	1,380	2.3	19,957	14,462	9.0	5,242	3,799	12.9	26.3
More than 20.0	960	1.6	64,786	67,485	29.3	13,142	13,690	32.2	20.3
All	58,990	100.0	221,108	3,748	100.0	40,770	691	100.0	18.4

Source: Urban-Brookings Tax Policy Center Microsimulation Model (version 0308-6).

Notes : Data are for the calendar year. Numbers of returns have been rounded to the nearest multiple of ten. For decedents dying in 2011, the effective exemption is $1 million and the top estate tax rate is 55 percent. Qualified farmland would be excluded from gross estate.

a. Average net estate tax liability as a percentage of average gross estate.

An unlimited exemption for farm assets could create a giant loophole from the estate tax and spur costly and inefficient behavioral responses. Wealthy individuals who expect to pay the estate tax could convert assets into qualifying farms before they died. Ironically, it could endanger many existing small farms, as wealthy people would bid up the price of such properties to claim their tax benefits. (How much of Iowa could Bill Gates buy with his fortune?) These purely tax-motivated purchases could represent a serious efficiency loss to society. For example, it is unlikely that a billionaire's heirs holding tens of thousands of acres of farmland for tax purposes would manage the resources as effectively as the professional farmers they would displace (and, because of the tax benefits, the heirs would not have to be efficient to make the investment pay off after tax). And how committed would the heirs be to continuing to farm the land (rather than develop it) after the required holding period expires?

An unlimited exemption for farm assets would be very costly because the wealthiest people would have a strong incentive to convert most of their assets into qualifying farms, and thus skirt the estate tax. People with smaller taxable estates may decide the costs of such estate tax planning are not worth the rewards and would continue to pay the tax, but an unlimited farm exemption would make the estate tax essentially voluntary for the very wealthy.

The Salazar proposal attempts to limit these opportunities for tax avoidance by requiring the decedent or his family to operate the farm for at least five of the eight years prior to the decedent's death. After the decedent's death, a recapture tax would apply if heirs, at any time before their death, disposed of the farmland or ceased to operate the land as a farm. It is unclear

how effective these requirements would be. As we noted above, an across-the-board increase in the estate tax exclusion would effectively exempt almost all small farms and businesses without opening the door for counterproductive estate tax shelters.

5. Conclusions

The estate tax is the most progressive component of the federal tax code. In 2000, even before substantial cuts were enacted, it only applied to the wealthiest two percent of decedents. In 2008, we estimate that just 15,500 estates will owe the tax, representing only 0.6 percent of all decedents. In 2009—when the exemption rises to $3.5 million—the number of taxable estates will fall to 6,200. Virtually all of the estate tax is paid by individuals in the top quintile of the economic income distribution. More than four-fifths is paid by the top 1 percent and close to half is paid by the richest 1 in 1,000 individuals.

To avoid the grotesque tax planning incentives that would be created by a one-year estate tax holiday in 2010, legislation must enacted by the end of 2009. Both 2008 presidential candidates would scale back (compared with 2011 law), but not eliminate, the estate tax. Senator McCain proposes to apply the 15 percent capital gains tax rate to estates worth more than $5 million starting in 2010; Senator Obama proposes a 45 percent tax on estates worth more than $3.5 million, the parameters currently scheduled to apply in 2009. Obama's plan would drastically decrease the number of estate tax filers. In 2011, 17,400 estates would be filed under his proposal, roughly 15 percent of the 125,000 under current law. The 7,200 taxable returns would pay about $21 billion in estate tax, a little over half of that under current law. We estimate that the Obama plan would cost more than $300 billion over 10 years, compared with the $670 billion price tag for permanent repeal. Under Senator McCain's plan, only 3,600 estates would pay the tax in 2011, half the number under Obama's plan. The high exemption and low rate would reduce estate tax liability almost 90 percent to $4.9 billion. McCain's plan would cost $580 billion through 2018, which is about 87 percent of the cost of permanent repeal.

Beyond the candidates' plans, Congress has considered full repeal along with other options that stop short of repeal. Legislative proposals range from a $500 billion plan from Senator Kyl to raise the exemption to $5 million and reduce the top rate to 30 percent, to more targeted changes such as the Salazar proposal that would provide larger exemptions for family-owned farms—a politically sensitive group.

It seems clear that Congress will neither allow the estate tax to expire in 2010 nor return to its pre-EGTRRA form in 2011. The eventual reform will likely target the estate tax even more sharply to the very largest estates. Under either presidential candidate's plan, revenues would be reduced significantly. The estate tax will continue to serve as a backstop to the income tax, bolstering progressivity and limiting the incentives for tax sheltering, but it will be more porous than the pre-EGTRRA estate tax. Also, the tax incentives for working and saving would, for better or worse, be diminished but not eliminated under the revised tax.

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Appendix A: Description of the TPC Estate Tax Model

The TPC estate tax model consists of four components: (1) an enhanced tax model database containing imputations of various categories of assets and liabilities, based primarily on data from the Federal Reserve Board's Survey of Consumer Finances (SCF); (2) an estate tax calculator that determines the values of gross estate, deductions, credits, and estate tax liability for each record in the expanded tax model database under tax law specified by the user; (3) an algorithm for aligning the baseline estate tax variables to aggregates published by the Statistics of Income Division (SOI) of the Internal Revenue Service; and (4) a procedure for aging the imputed values of wealth in order to have a representative sample for each year through the end of the ten-year budget window.

1. Wealth Imputations and Alignment with SCF

We impute wealth items to the tax model database using pooled date from the 2001 and 2004 Surveys of Consumer Finances. The combined SCF sample contains wealth, income, and demographic data for 8,961 households—4,442 from 2001 and 4,519 from 2004. The SCF survey is a stratified sample that oversamples high-income families and is widely regarded as the best source of national data on wealth holdings. By design, it attempts to represent the entire population excluding the extremely wealthy individuals in the Forbes 400.

A. Estimation of Asset and Liability Equations

We estimate two equations for each asset and liability category. The first equation estimates the determinants of whether households own a positive amount of the asset. The second equation, conditional on owning the asset, explains the determinants of the amount held. We use probit maximum likelihood to estimate the probability of owning each asset. For each of the m observations in our data set, we assume that we observe a positive amount of the asset if and only if

(A1) $X_1 * \beta_1 + \varepsilon_1 > 0,$

where X_1 is a 1 x n vector of observations on n explanatory variables, β_1 is an n x 1 vector of coefficients and ε_1 is assumed to be a standard normal random variable.

Conditional on owning a particular asset, we estimate the amount owned as a function of a similar set of explanatory variables. For any given asset or liability, *w*, using only the p observations reporting a non-zero value, we estimate an OLS equation of the form

(A2) $\ln(w) = X_2 * \beta_2 + \varepsilon_2,$

where X_2 is a 1 x k vector of observations on k explanatory variables, β_2 is a k x 1 vector of coefficients and ε_2 is assumed to be normal with mean 0 and variance σ^2. Note that $p \leq m$ since we use only the non-zero observations in the OLS estimation.

This procedure is similar to the Heckman two-step estimator, but without the Mills ratio correction in the second stage. Not including the Mills ratio may lead to biased coefficient estimates in the second stage, but that is not particularly problematic here because our interest is not in the point estimates. Our primary goal is to produce the best fit, conditional on the explanatory variables.[26]

Appendix Table 1
Imputed Asset and Liability Categories

Assets
Cash
Tax-exempt bonds
Taxable bonds
Stock
Retirement assets
Face value of whole and term life insurance
Cash value of whole life insurance
Other financial assets
Vehicles
Personal residences
Other real estate excluding farm
Farm assets including real estate
Actively managed business assets (e.g., a family-owned business)
Passively owned business assets (e.g., partnership shares)
Other nonfinancial assets
Liabilities
Mortgage and home equity line of credit
Real estate debt
Farm debt
Credit card balances
All other debt

Appendix table 1 lists the 20 categories of assets and liabilities that we imputed. Appendix table 2 lists the explanatory variables that we used in the probits and OLS regressions. We designed the list of variables to be an exhaustive set of relevant variables that exist on both the SCF and the tax model dataset. These variables include number of dependents, age of the household head (included as 10-year bracket dummies), positive values of various sources of income including wages and salaries, capital gains, interest, dividends, and business or farm income, transfer payments such as unemployment compensation and welfare, and dummy

[26] Also, as a practical matter, in most cases there is little basis for excluding any of the right-hand side variables in either the first or second stages. In consequence, identification of a coefficient on the Mills ratio would rely solely on the nonlinearity of the Mills ratio function and the accuracy of the assumption of normally distributed errors terms—an assumption that would be of highly questionable validity for a finite sample.

variables for whether the household itemizes deductions on its tax return and whether it files federal tax schedules C, E, or F.[27] We also include dummy variables for zero values of all income items and dummies for negative values of capital gains, income from a business or farm, and rental income reported on Schedule E.[28] To allow the relation between the wealth components and the explanatory variables to differ by marital status, we run separate probits and OLS regressions for married couples and unmarried individuals.[29]

Appendix Table 2
Explanatory Variables for Probits and OLS Regressions

1	Number of dependents
2	Age of head (10-year bracket dummies)
3	Wages and salaries
4	Income from a farm or business
5	Tax-exempt interest income
6	Taxable interest income
7	Rental income from Schedule E
8	Pension income
9	Taxable dividends
10	Realized Capital Gains
11	Child Support
12	Welfare
13	Other Income
14	Separate dummies for zero values of (3) - (13)
15	Separate dummies for negative values of (4), (7), and (10)
16	Interaction term for capital gains and the negative dummy
17	Dummy for whether or not individual itemizes deductions
18	Separate dummies for filing Schedule C, E, or F

Notes : Income items are defined as the natural logarithm of the absolute value of the item plus 1.

For certain asset and liability categories with a limited number of observations such as real estate debt, farm assets, and farm debt, we drop some of the explanatory variables because of exact multicollinearity. In addition, in the case of farm assets and liabilities, we pool the married and unmarried individuals in order to increase sample size.

[27] In the SCF, wealth is measured for the current year (e.g., 2004) and income from the prior year. Thus we inflate the income amounts using the change in the Consumer Price Index for all urban consumers.
[28] For the first time, the 2004 SCF suppressed any actual negative values for business or farm income and rental income reported on Schedule E and replaced them with a simple indicator variable for negative amounts.
[29] The SCF is a household-based survey that records only total income and wealth items for all individuals in the "primary economic unit" (PEU); it does not attribute shares of those amounts to individuals within the PEU. This slightly complicates cases in which PEUs consist of two unmarried individuals living together (with or without other financially interdependent members of the PEU). These individuals show up as two single returns in the income tax file but as just one unit in the SCF. We assume that an unmarried couple living together with shared finances behaves like a married couple and thus include them in the married category when running the regressions. The results do not change significantly if these individuals are dropped from the analysis.

It is not appropriate to run OLS regressions or probits on the entire SCF dataset because of the survey's approach to missing variables. The SCF imputes missing values for many variables. To reflect the variance introduced by that process, the SCF database includes five "replicates" of the responses from each individual household. Missing values are drawn randomly for each replicate from the estimated probability distribution of the imputed value and thus differ across replicates; actual values are simply repeated. We therefore run five separate probits and OLS regressions—one on each sample replicate—and then average the resulting coefficient estimates.[30]

B. Imputing Values on the Tax Model Database and Calibrating to the SCF

We impute values for the assets and liabilities in appendix table 1 based on the estimated coefficients from the probits and OLS regressions. We then calibrate the results to match the aggregate totals for the number of households and dollar amounts of each asset and liability category in the SCF. We make a further adjustment to ensure that for each asset and liability, the distribution of the dollar amounts by income quintile in the tax model database matches the distribution in the SCF.

The imputation proceeds in two steps. Using the coefficients from the probit equation (β_1) and values of the explanatory variables in the tax model database, we calculate $X_1*\beta$. We then calculate the threshold probability

(A3) $z = F^{-1}(X_1*\beta_1)$,

where F is the cumulative standard normal distribution function. We then draw a uniform random number, p, between 0 and 1 and indicate ownership of the asset or liability in question if $z < p$.[31] For each asset and liability, we next adjust the constant term in the probit equation—and thus the threshold probability—so that the number of individuals in the tax model imputed to have a positive amount of the item more closely matches the number in the 2004 SCF.[32] We employ separate adjustment factors for married and unmarried records in this calibration process.

The second step of the procedure imputes quantities held for all tax units with $z < p$. We use the estimated coefficients from the OLS regression—the β_2's—along with the values of the

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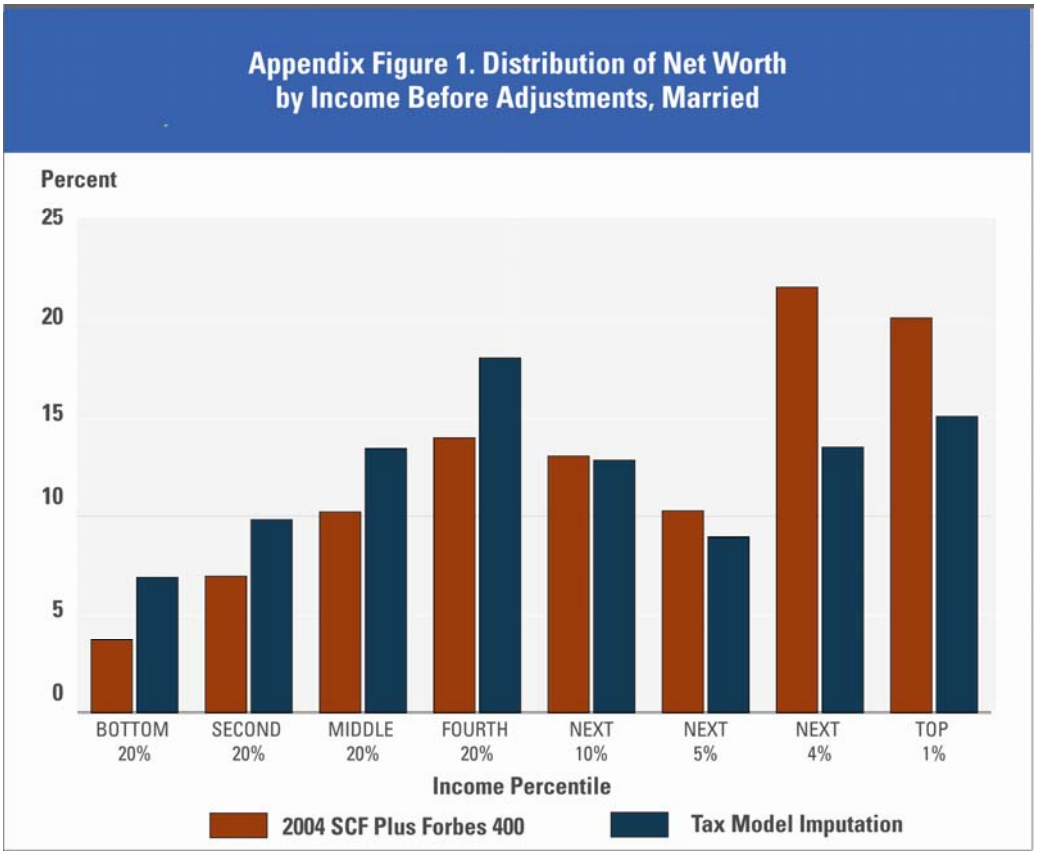
[30] We also correct the standard errors using the procedure supplied by the Federal Reserve Board, but it is not a particularly important adjustment given that we are not interested in hypothesis testing or constructing confidence intervals for the parameters.

[31] There are three assets for which we do not follow this method, primarily to ensure consistency with the rest of the tax model. We assign a positive value of tax-exempt bonds to any record that reports tax-exempt interest income. In addition, we assign farm assets to any record that files either a schedule F (farm income) or Form 4835 (farm rental income and expenses). For records that itemize deductions, we assign housing assets to anyone that reports a deduction for real estate taxes. For non-itemizers, we assign housing assets to any record that is identified as a homeowner according to the CPS information attached to the record during the statistical matching process that produces the tax model database. We make two further restrictions: we restrict real estate debt to records that receive a positive value of real estate assets and we restrict farm debt to records that are assigned a positive value of farm assets.

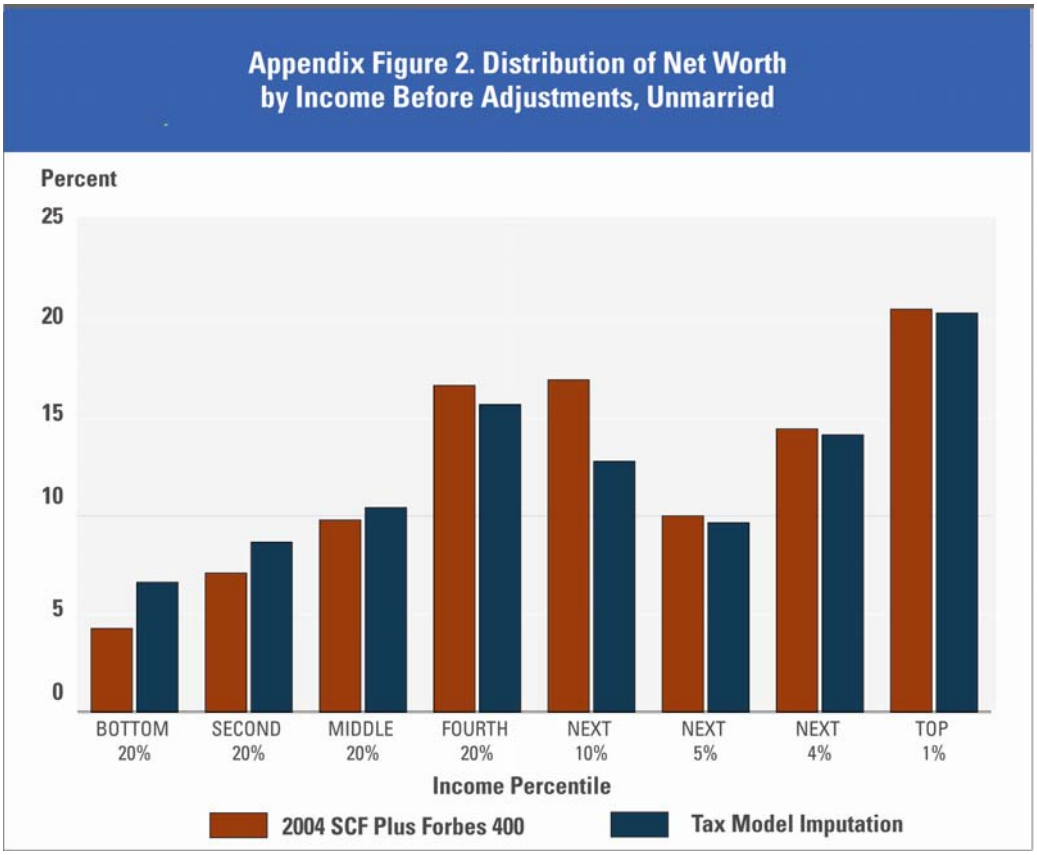
[32] Again, the tax model groups individuals into tax units; the SCF groups individuals into primary economic units (PEU). As described above, there are more tax units than PEUs. Therefore, we do not calibrate the number of tax units reporting any particular asset or liability to the absolute number of PEUs claiming that item but rather make adjustments allowing for the higher number of tax units.

explanatory variables in the tax model database to calculate the fitted values, $X_2*\beta_2$. We then calculate the expected value for the item, w. In the limit, $E[w] = \exp(X_2*\beta_2+\sigma^2/2)$, where σ is the estimated standard error from the OLS regression. In finite samples, however, $\exp(X_2*\beta_2+\sigma^2/2)$ can be a biased estimator, and the biases can be large if the errors are in fact not normal. We follow Duan (1983) and use a robust empirical "smearing adjustment" to match the sample means of our predicted values with the desired sample means. The adjustment basically amounts to multiplying $\exp(X_2*\beta_2)$ by a constant chosen to align the sample means. Again, as with the probability adjustments, we employ separate factors by marital status in order to hit the sample means for both married and unmarried individuals.



As mentioned previously, the SCF is designed to exclude the wealthy individuals in the Forbes 400. We, however, want the resulting tax model database to be representative of the entire population. We therefore adjust the target aggregates—and thus the target sample means—for each wealth item from the SCF to include the holdings of the Forbes 400. According to Forbes, the net worth of the richest 400 individuals in 2004—the base year of our data—was $1 trillion. We simplify by assuming that the composition of assets and liabilities in that $1 trillion of net worth is the same as the composition for the rest of the population and add appropriate amounts based on those composition shares to the SCF aggregates when calculating the sample means for each asset and liability.

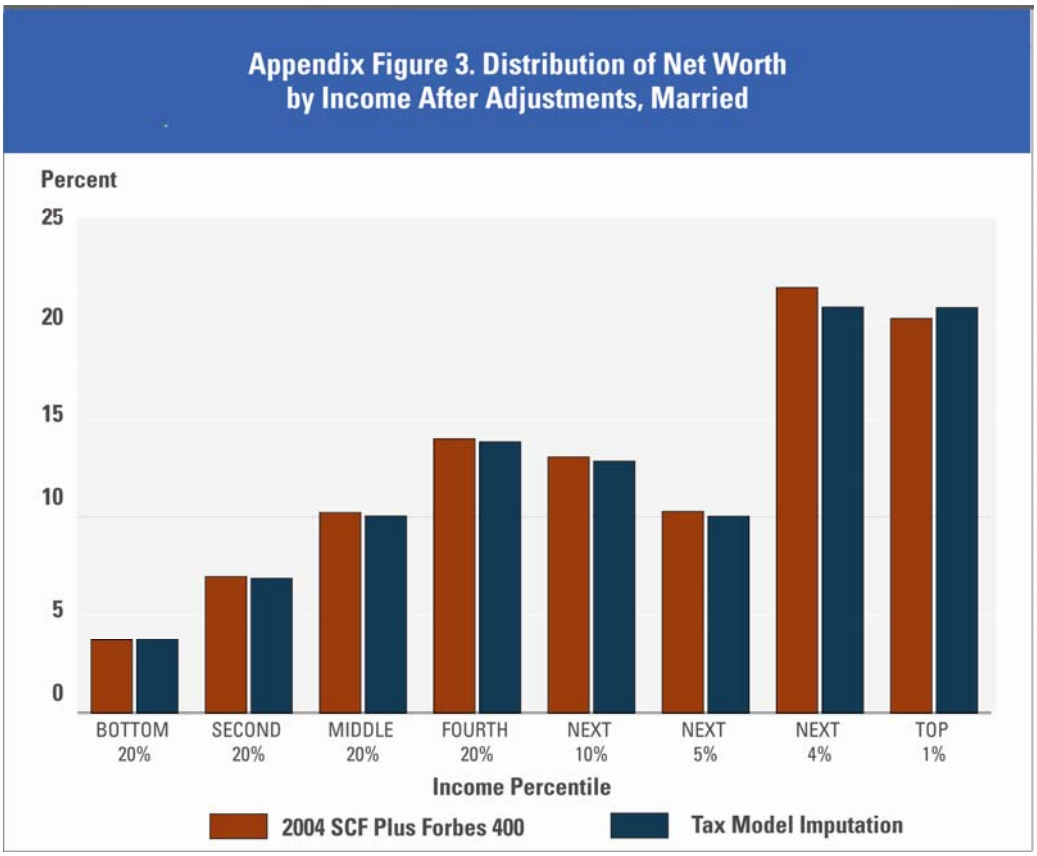
Appendix figures 1 and 2 show the imputed distribution of net worth in the tax model database compared with the distribution on the 2004 SCF (augmented by the net worth of the Forbes 400 which we assign to the top 1 percent).



For married couples, we overestimate net worth for those in the bottom 80 percent of the population and underestimate net worth for those at the top. For unmarried individuals, we overestimate for the bottom three quintiles but are very close for those at the top of the income distribution. As a direct consequence of the empirical smearing adjustment, aggregate imputed net worth matches the total in the SCF almost exactly. The remaining difference arises because we calibrate our totals for farm assets and debt to data produced by the Economic Research Service of the USDA, based on their Agricultural Resource Management Survey, rather than use the SCF totals.[33] Note also that we include the face value of term and whole life insurance as assets in our tabulation because those are the relevant values for estate tax purposes. In its published estimates of net worth using SCF data, the Federal Reserve treats only the cash value of whole life insurance as an asset.[34]

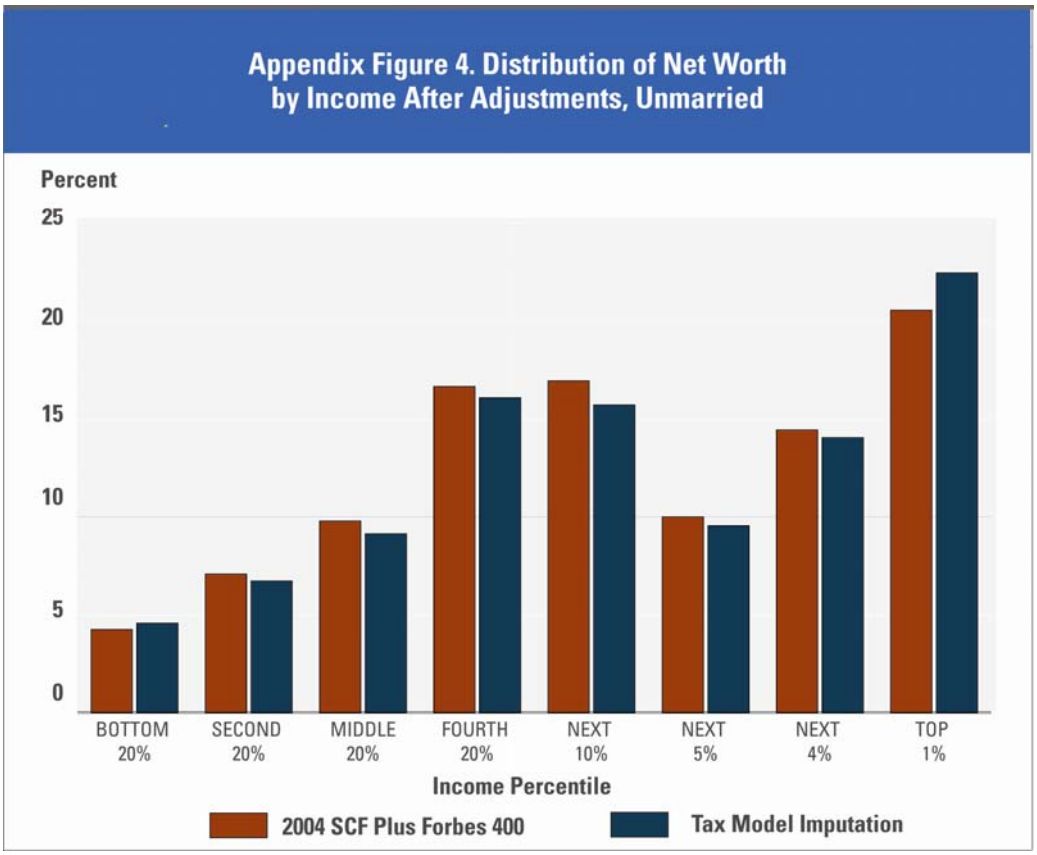
[33] The data can be found at http://www.ers.usda.gov/data/farmincome/finfidmu.htm.
[34] We also estimate the presence and amount of the cash value of whole life insurance for the records on the tax model database and use the estimate in our calculation of economic income. As with the other imputed variables, we adjust our cash value estimates to match the aggregate and distribution as reported in the SCF.

In order to match the distribution of the individual assets and liabilities in the augmented SCF data, we next adjust each of the individual assets and liabilities by fixed percentages within all the percentile categories.[35] We perform the adjustment separately for married and unmarried individuals so that our imputed distributions match the SCF for both groups of individuals.



Appendix figures 3 and 4 compare the distribution of imputed net worth in the tax model database after these adjustments with the distribution in the augmented SCF.

[35] We do not adjust the distribution for those with negative incomes because of the small number of records with negative income in the SCF. In addition, because of the extremely small number of respondents reporting farm assets in the SCF and the fact that we calibrate the total value of farm assets and debt to USDA data rather than the SCF, we do not adjust the distributions for farm assets or farm debt.



2. Calculate Gross Estate and Compare to IRS Data

We next need to calculate each record's gross estate in the event of death using the imputed values of wealth in the tax model database. For single individuals we simply add up the imputed asset values. For married couples, we assume an equal split of assets between each spouse. Thus, in the case in which only one of the two spouses dies, we include 50 percent of the couple's assets in the decedent's estate.[36] For each record representing a married couple, we then calculate gross estate twice to account for two possible outcomes: (1) one spouse dies leaving half of the couple's assets as an estate; and (2) both spouses die leaving the total value of all assets as an estate.

We then need to calculate the number of estates that must file and the aggregate value of gross estate and its components that will be reported on those estate tax returns. That means we need to determine the likelihood of death for each individual in our tax model database. Following Poterba and Weisbenner (2001), we assume probability of death follows the annuitant mortality tables, which are appropriate to higher-income individuals, who also tend to be healthier than average.[37] Although this assumption generates probabilities of death that are too

[36] Poterba and Weisbenner (2001) make the same assumption.
[37] We use the 1996 U.S. Annuity Basic Tables for males and females available on the website of the Society of Actuaries (http://www.soa.org). Since gender is not available on the tax model database, we create a mortality table for all individuals by

high for lower-income individuals, those individuals are unlikely to have large enough estates to owe tax anyway and thus the assumption will not adversely impact our results.

For married couples, we must account for the possibility that either one of the spouses dies and the small probability that both spouses die. We assume independence of the mortality rates for husband and wife so that the probability that both spouses die is simply the product of the separate mortality rates for each spouse or

(A4) p(both die) = p(husband dies) * p(wife dies).

The probability that either one of the two spouses die (but not both) is given by

(A5) p(one dies) = p(husband dies)*[1-p(wife dies)] + [1-p(husband dies)]*p(wife dies).

As above, we assume the probability that each spouse dies is a function only of that spouse's age. We then weight by the appropriate probability of death and sum over all records to obtain the expected number of estate tax filers and expected gross estate and its components.

The public-use file of tax return information on which our model is based does not contain any information on the specific ages of the individual, his or her spouse or dependents.[38] We obtain the ages in the tax model database through a constrained statistical match with the March supplement of the Current Population Survey (CPS). To further refine the ages for the estate tax portion of the model, we use data obtained from the Statistics of Income (SOI) division of the IRS. SOI provided us with a tabulation of the number of returns by adjusted gross income and age of the primary taxpayer (from under 30 up through 95 and over). We then use an algorithm to adjust the ages on the tax model database records to match the distribution of age by income in the SOI data. Within each income category, the algorithm retains the ordinal ranking of the ages from the CPS match, but replaces the specific ages as necessary to match the actual distribution reported by the IRS.[39]

In the next step, we calibrate our initial results to estate tax data from the SOI division of the IRS.[40] Our estimates are for 2004 decedents, which we then calibrate to data for estates filing in 2005 and 2006. Based on historical patterns, about 70 to 75 percent of returns filed in 2005, and about 20 to 25 percent of returns filed in 2006, would be for 2004 decedents since estates have at least 9 months from the date of death to file an estate tax return (Johnson, Mikow, and Eller, 2003). Thus we construct target values for 2004 decedents using weighted averages of the 2005 and 2006 filing-year data. One additional complication is that the filing threshold for 2004 decedents is $1.5 million. Thus our SOI data does not contain information on estates below that level. But in order to model pre-EGTRRA law (and current law after 2010), we need information

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weighting the mortality rates of males and females at each age by the proportion of the population of that age that is male and female as reported by the Bureau of the Census.

[38] For returns claiming the standard deduction, we can infer the number of individuals aged 65 or over based on whether they claim the additional standard deduction available for the elderly. But that still does not provide us with the exact ages of the individual(s) filing the return.

[39] Since the IRS data are only for households that file an individual income tax return, we do not adjust the ages of non-filers in our database. Non-filers are low-income households with little accumulated wealth and so this is unlikely to impact our results.

[40] We thank Barry Johnson, Brian Raub, and Martha Gangi for providing us with detailed estate tax data, broken down by marital status.

on estates valued under $1.5 million. We use data on estates below $1.5 million from returns filed in 2001 (primarily decedents dying in 1999 and 2000 when the estate tax exemption was $675,000) to develop targets for our 2004 decedents. Specifically, we assume the number of estates, and the total amount of gross estate, in the $675,000 to $1 million and $1 million to $1.5 million gross estate categories, would be the same percentage of the number and amount for estates greater than $1.5 million in 2004 as in 2001.

Appendix Table 3

Number of Estate Tax Filers: Tax Model Before Adjustments vs. Targets Based on SOI Data, 2004

Gross Estate ($ thousands)	All Estate Tax Returns			Married Estate Tax Returns			Unmarried Estate Tax Returns		
	Tax Model	SOI Targets	Difference (Percent)	Tax Model	SOI Targets	Difference (Percent)	Tax Model	SOI Targets	Difference (Percent)
675-1,000	80,776	52,826	52.9	51,875	17,073	203.9	28,901	35,754	-19.2
1,000-1,500	60,086	32,497	84.9	35,455	13,167	169.3	24,631	19,330	27.4
1,500-2,000	26,027	13,863	87.7	15,781	5,931	166.1	10,246	7,932	29.2
2,000-3,500	30,532	14,616	108.9	17,757	7,137	148.8	12,775	7,479	70.8
3,500-5,000	10,383	4,384	136.9	6,029	2,245	168.6	4,354	2,139	103.6
5,000-10,000	10,493	4,043	159.6	7,787	2,026	284.4	2,706	2,017	34.2
10,000-20,000	4,426	1,347	228.5	3,060	691	342.7	1,366	656	108.2
More than 20,000	1,509	753	100.3	1,219	419	191.1	290	335	-13.3
All	224,233	124,328	80.4	138,963	48,687	185.4	85,270	75,641	12.7

Source: Urban-Brookings Tax Policy Center Microsimulation Model (version 0308-6).

Appendix tables 3 and 4 compare the distribution of estate tax filers and gross estate generated by our model for 2004 decedents with the targets based on SOI data for returns filed in 2001, 2005, and 2006. There are significant discrepancies, particularly for married couples. Overall, we generate more than two and half times as many estate tax returns filed by married couples; the overestimate is distributed across all gross estate classes but is more pronounced for estates valued at $10 million and up.

Appendix Table 4

Gross Estate ($ thousands): Tax Model Before Adjustments vs. Targets Based on SOI Data, 2004

Gross Estate ($ thousands)	All Estate Tax Returns			Married Estate Tax Returns			Unmarried Estate Tax Returns		
	Tax Model	SOI Targets	Difference (Percent)	Tax Model	SOI Targets	Difference (Percent)	Tax Model	SOI Targets	Difference (Percent)
675-1,000	66,193,184	44,875,053	47.5	42,604,322	15,467,516	175.4	23,588,862	29,407,536	-19.8
1,000-1,500	73,036,604	40,897,221	78.6	43,041,262	17,607,178	144.5	29,995,342	23,290,044	28.8
1,500-2,000	44,491,833	23,877,233	86.3	27,004,545	10,269,600	163.0	17,487,288	13,607,633	28.5
2,000-3,500	78,879,232	37,559,014	110.0	45,787,172	18,353,584	149.5	33,092,059	19,205,430	72.3
3,500-5,000	43,326,665	18,134,281	138.9	25,061,062	9,310,572	169.2	18,265,602	8,823,709	107.0
5,000-10,000	72,306,736	27,490,260	163.0	53,457,162	13,724,750	289.5	18,849,575	13,765,511	36.9
10,000-20,000	58,703,067	18,464,135	217.9	41,332,686	9,539,341	333.3	17,370,381	8,924,794	94.6
More than 20,000	75,754,947	48,534,919	56.1	60,619,523	25,785,209	135.1	15,135,425	22,749,710	-33.5
All	512,692,267	259,832,115	97.3	338,907,733	120,057,748	182.3	173,784,533	139,774,367	24.3

Source: Urban-Brookings Tax Policy Center Microsimulation Model (version 0308-6).

Discrepancies exist within asset classes as well. Our imputations based on the SCF do not match well with the targets based on SOI data for several asset classes including personal residences, life insurance, and retirement assets.

A. Personal residences

Our SCF-based imputations show many more personal residences than actually appear on estate tax returns. For example, we predict that a value for personal residences will be reported on 81 percent of estate tax returns filed for single decedents and on 93 percent of returns filed for married decedents. The target values based on actual data are 50 percent for singles and 70 percent for married individuals. The discrepancy could reflect planning—an elderly individual could sell their home to one or more of their children while continuing to live in it until death. In that case, the home should not be considered owned by the SCF survey respondent, but he might either be confused or unwilling to acknowledge that he no longer owns the home. A more serious issue is that older people near death are more likely to move into a senior community, assisted living facility, or nursing home, but the SCF contains no data on individuals in nursing homes. Unfortunately, we have no way of directly identifying persons in our database who are especially close to death.

B. Life insurance

We also predict too many returns reporting life insurance. Our model estimates that 56 percent of single returns and 85 percent of married returns would report life insurance; the actual values are 41 and 60 percent. We also overestimate the average amount of life insurance reported on estate tax returns by about 57 percent for single individuals and 36 percent for married persons. Insurance may actually be owned by children or others, with the donor paying the premiums (free from gift tax if the premium is no greater than $12,000 per year, indexed for inflation). This is a common method of both avoiding estate tax and assisting heirs with liquidity problems that might arise at death (Schmalbeck 2001). Companies or other entities may also own some insurance policies, particularly in the case of top executives.

C. Retirement Assets

Our imputations also result in far too many estate tax returns reporting retirement assets. We estimate that virtually all estate tax returns should show a positive value for retirement assets: 97 percent for singles; and 99 percent for married decedents. The actual values are 48 and 68 percent. We tend to underestimate the average amount of retirement assets reported on estate tax returns, by 26 percent for single individuals and 40 percent for married decedents. One possible explanation is that decedents with relatively small accumulations of retirement assets use up those assets to pay medical expenses in the final months of life.

3. Two-Stage Adjustment Process

In order to match the targets based on SOI data for the number of estate tax filers and the distribution of gross estate, we next employ a two-stage adjustment process. This process is similar to the method we use annually to align the individual income tax component of our model with published values and projections for demographics and income sources.

In the first stage of the adjustment process, we correct for overestimates of the percent of returns reporting each type of asset and for over- or underestimates of the average amount reported for

each asset type among those returns reporting the asset. First, for each combination of size of gross estate, marital status, and type of asset, we compare the percentage of returns reporting the asset predicted by our model to the actual percentage published by SOI. If our estimate is too high, we randomly zero out the value for the asset on some records in the tax model database that had previously been determined to have a positive value. For example, if we overestimate by 25 percent the percentage of married returns in the $5 million to $10 million gross estate class who report tax-exempt bonds, we randomly reset to zero the value of such bonds for 25 percent of the married records in that gross estate class.[41]

After aligning the number of returns reporting each asset, we adjust the amounts reported for those records left with a positive value of the asset to hit more accurately the average amount held for each item. We again perform the adjustment separately by gross estate class and marital status. For example, if our predicted average amount of retirement assets for unmarried returns with gross estate over $20 million is 30 percent greater than the target value, we reduce the amount of retirement assets for all such records by 30 percent.[42] If our predicted values were 30 percent below the target values, we would similarly inflate our imputations.

In the second stage of the adjustment process we use a linear programming algorithm to adjust the weights on the records. This allows us to hit exactly our targeted distribution of the number of estate tax filers, as well as the amount of gross estate reported, by size of gross estate. We also target the distribution of the number of filers reporting business and farm assets—and the amount of those assets reported—by size of gross estate.

4. Deductions from Gross Estate and Calculation of Taxable Estate

To calculate taxable estate, we impute the value of deductions from gross estate for each record. For most deductions, including charitable contributions, state death taxes, funeral expenses, executor's commissions, and attorney and accountant fees, we use SOI data from returns filed in 2004 on the percentage of returns claiming the deduction and the average size of the deduction as a percent of gross estate, broken down by size of gross estate.[43] For each deduction, we draw a uniform random number between 0 and 1, z, and compare it to the percentage of estates in the record's gross estate category that report that specific deduction, p. If $z < p$, we proceed to assign a positive value of the deduction to that record. We calculate the amount of the deduction as the record's gross estate multiplied by the average deduction as a percentage of gross estate in the SOI data for that gross estate category.

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[41] This does not allow us to hit the targets exactly. The complicating factor is that the classifier for our distribution targets—gross estate—depends on the asset amounts we are changing. In this example, some of the records for which we re-assign a value of $0 in tax-exempt bonds then no longer have between $5 million and $10 million in gross estate.

[42] Again, this procedure is complicated by the fact that the classifier is gross estate, which changes as we perform the adjustments.

[43] In the case of the deduction for state death taxes, we use data from returns filed in 2006 since estates of 2005 decedents were the first allowed to claim the deduction.

A. Deduction for Bequests to a Spouse

Married decedents are allowed an unlimited deduction for bequests to their spouses, and most returns take full advantage of the deduction and thus have no estate tax liability. About ten percent of married returns, however, pay at least some estate tax.[44] We model the marital deduction using SOI data for returns filed in 2004. For each married record, we draw a uniform random number between 0 and 1 and compare it with the fraction of married returns that are nontaxable within the record's gross estate class. If the random draw is less than that fraction we assign the record a 100-percent marital deduction to eliminate its estate tax liability. If the random draw is greater than that fraction, we assign the record a marital deduction equal to the average marital deduction as a percentage of gross estate for taxable returns in its gross estate class.

B. Qualified Family Owned Business Interest Deduction (QFOBI)

The QFOBI deduction was effectively eliminated after 2003 when the amount excluded by the unified credit rose to $1.5 million.[45] Since we want to model QFOBI for pre-EGTRRA law, for current law after 2010, and for proposals in which QFOBI is reinstated and expanded, we need to impute a value for QFOBI to each record in our database.

Estates in which farm and business assets account for at least half the value of gross estate are potentially eligible for the QFOBI deduction after 2010. Not all eligible estates take the deduction, in part because of the requirement for heirs to keep the farm or business operating for ten additional years. In a previous version of the estate tax model, we estimated participation rates for QFOBI by comparing the number of potentially eligible estates with the actual number of estates taking the deduction according to data supplied by SOI. To implement QFOBI in the current model, we continue to use those earlier estimates of participation rates to randomly assign the deduction to qualifying records within each gross estate class. The participation rates we use range from 25 percent for estates valued at less than $1.5 million to 45 percent for estates valued between $3.5 and $5 million. We assume that records chosen to take the QFOBI deduction report the maximum possible amount to which they are entitled.

5. Calculate Credits Against the Estate Tax and Other Adjustments

Once we calculate taxable estate for each record, we add adjusted taxable gifts to arrive at adjusted taxable estate. We impute adjusted taxable gifts to records in the same way that we assign deductions. We draw a uniform random number z between 0 and 1 and compare it to the percentage p of estates in the record's gross estate category that report adjusted taxable gifts. If $z < p$, we assign a positive value. We calculate the amount of gifts reported as the record's gross estate multiplied by the average amount reported as a percentage of gross estate in the SOI data for that gross estate category. Next we apply the estate tax rate and bracket structure to adjusted taxable estate to calculate tentative estate tax liability. Implementing the unified credit is a simple matter of subtracting the fixed credit from tentative estate tax liability. We then subtract

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[44] Based on SOI tabulations for returns filed in 2004, 2005, and 2006.
[45] The total amount excluded by the unified credit and QFOBI may not exceed $1.3 million.

gift tax paid—imputed in the same way as adjusted taxable gifts—and the remaining positive balance, if any, is net estate tax.

Under pre-EGTRRA law, estates could claim a credit against state estate and inheritance taxes. The amount of this "state death tax credit" was calculated as a percentage of gross estate using a formula with a top rate of 16 percent. As noted, all states in 2001 assessed an estate tax at least as large as the state death tax credit. We therefore assume that every decedent claims the maximum state death tax credit for years in which it applies. EGTRRA gradually phased out the credit between 2002 and 2004 and replaced it in 2005 with a deduction for state estate taxes actually paid.[46] For simulations in which the deduction is in place, we impute a value for it to individual records in the same manner as we impute values for deductions and adjusted taxable gifts as described above.[47]

We do not model other rarely used credits and adjustments such as the credit for foreign death taxes, credits for tax on prior transfers and pre-1977 gift taxes, and generation-skipping transfer taxes. Those other credits totaled just $165 million in 2004 and only about 1 percent of estate tax returns claimed them.[48]

6. Extrapolation of Wealth Estimates for Later Years

Our imputation technique produces values for assets and liabilities held by individuals in the 2004 calendar year. In order to estimate the revenue and distributional implications of various estate tax reform options, we need to project values for the components of net worth through the end of the budget window (currently 2018).

For 2005 and 2006, we use data from the Flow of Funds to grow the imputed values of assets and liabilities on each record. For farm assets and farm debt, we use projections from the U.S. Department of Agriculture that go through 2008. After 2006 (after 2008 for farms), we assume that the real growth rate of each asset equals the average real growth rate for all assets over the twenty-year period from 1985 to 2004, based on Flow of Funds data. We then add an expected inflation rate of 2.2 percent, the long-term inflation assumption in CBO (2008) to obtain the predicted nominal growth rate.

We assume that all of the adjustment factors that we use to align the 2004 wealth data with the targets for 2004 estate tax data are time invariant. Thus we continue to use the same factors to adjust the value of each asset for estate tax purposes in all future years.

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[46] For 2002, the state death tax credit equaled 75-percent of its pre-EGTRRA value; for 2003, it was 50 percent; and for 2004, 25 percent.
[47] We use data on returns filed in 2006 that claim the deduction
[48] See SOI data at http://www.irs.gov/pub/irs-soi/04es01fyx.xls.

Appendix B: Economic Income Measure

From its initial development, TPC's tax model has measured income using data from tax returns augmented with information from the Current Population Survey. The wealth imputations that were necessary for the estate tax module also allow us to calculate a broader measure of income—which we call economic income—that better reflects economic status or ability to pay.

Economic income equals the sum of wages and salaries, other returns to labor, returns to capital, and other income. We measure returns to labor as a percentage of business income, farm income, rental income, farm rental income, partnership income and income from small business corporation. We calculate returns to capital as the nominal risk-free rate of return—assumed to be 6 percent—times imputed net worth.[49] Other income includes royalty income, social security benefits, unemployment compensation, supplemental security income (SSI), alimony received, Temporary Assistance to Needy Families (TANF), worker's compensation, veteran's benefits, disability benefits, child support, energy assistance, and the cash value of food stamps, and school lunches. Finally, we include the employer's share of payroll taxes and imputed corporate income tax liability in order to put the measure on a pretax basis.[50] We follow the Congressional Budget Office (CBO) methodology in adjusting economic income for family size by dividing total income by the square root of the number of members of the tax unit.[51] This implies that a family of four with earnings of $100,000 has the same ability to pay as a single person earning $50,000.

We prefer this income measure to AGI for several reasons. AGI is highly volatile because important components—capital gains and business income and losses—can vary wildly from year to year. The broader measure reduces the problem that a wealthy individual can appear to have low or even negative income because of a big loss. The broader income measure is also more closely related to permanent income and addresses some of the criticisms of distributional analysis raised by the President's Council of Economic Advisers in its 2003 Economic Report of the President and by Penner (2003).

Our economic income measure is similar to Treasury's family economic income (FEI), which economists widely recognize as a better measure of income than AGI, but which critics of distributional analysis have deliberately mischaracterized. In part to counter such unwarranted criticism, we also use a narrower income measure that we call cash income. Our measure of cash income equals the sum of wages and salaries, employee contributions to tax-deferred retirement savings plans, business income or loss, farm income or loss, Schedule E income, interest income,

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[49] The net worth measure used in our income classifier differs slightly from that used for estate tax purposes. Specifically, economic income includes only the cash value of whole life insurance whereas the relevant measure of life insurance for estate tax purposes is the face value of both whole life and term life insurance.

[50] Following CBO, we assume that the burden of the employer's share of payroll taxes falls on the worker. That is, without the tax we assume the worker would earn wages that were higher by the amount of the tax. Therefore adding the employer's share of payroll taxes to income puts it on a pre-payroll tax basis. Similarly, we follow CBO and assume that the burden of the corporate income tax falls on the recipients of capital income (interest, dividends, capital gains, and rents). If it were not for the tax, the income from those sources would be higher by the amount of the corporate tax. Thus we add each household's share of corporate tax to income in order to put it on a pre-corporate tax basis.

[51] See CBO (2001) for a description and rationale for their methodology.

taxable dividends, realized net capital gains, social security benefits, unemployment compensation, energy assistance, TANF, worker's compensation, veteran's benefits, SSI, child support, disability benefits, taxable IRA distributions, total pension income, alimony received, and other cash income including foreign-source earned income. As with economic income, cash income also includes imputed corporate income tax liability and the employer's share of payroll taxes in order to put it on a pretax basis. We produce separate distribution tables for the estate tax that classify tax units by both our broad measure of economic income and this narrower measure of cash income.