RETHINKING THE ESTATE AND GIFT TAX: OVERVIEW*

William G. Gale
The Brookings Institution
1775 Massachusetts Avenue, NW
Washington, DC 20036-2188
Wgale@brookings.edu

Joel B. Slemrod
Office of Tax Policy Research
University of Michigan Business School
Ann Arbor, Michigan 48109-1234
Jslemrod@umich.edu

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ABSTRACT

This paper surveys, integrates, and extends research on estate and gift taxes. The paper begins with information on features of U.S. transfer taxes, characteristics of recent estate tax returns, the evolution of transfer taxes, the role of such taxes in other countries, and theory and evidence concerning why people give intergenerational transfers. The next sections examine the incidence, equity, and efficiency of transfer taxes. Subsequent sections cover administrative issues and the effects on saving, labor supply, entrepreneurship, *inter vivos* gifts, charitable contributions, and capital gains realizations. The paper closes with a discussion of policy options and a short conclusion.

The idea of making death a taxable event infuriates many people. Winston Churchill called estate taxes an attempt to tax dead people rather than the living.[1] Steve Forbes campaigned in favor of "no taxation without respiration."[2] Equally striking remarks come from tax experts. Lawyer Edward McCaffery (1999) has equated estate taxation with grave robbery, while economist Bruce Bartlett (1997) points out that a key plank in the Communist Manifesto was the abolition of inheritance rights.

Opponents claim that the estate tax is imposed at a time—death—that is at best illogical and at worst morally repugnant. They argue that the tax impairs economic growth, destroys small businesses and family farms, encourages spendthrift behavior, generates huge compliance costs and leads to ingenious avoidance strategies. As an inefficient, inequitable, and complex levy, the "death tax" is thought to violate every norm of good tax policy.

Supporters find the criticisms to be overstated or wrong. They note that the tax is only levied on the estates of about 2 percent of Americans who die—and only on those with substantial estates. They believe that a highly progressive tax that patches loopholes, helps provide equality of opportunity, reduces the concentration of wealth, and encourages charitable giving can't be all bad.

These debates have increased in intensity and frequency in recent years, due in part to the stock market boom, the aging of the population, the budget surplus, and intensive lobbying. In 1999 and 2000, both Houses of Congress passed legislation to abolish the estate tax, but could not override Presidential vetoes. Additional legislation seems very likely in the near future.

It may seem remarkable that a tax that generated only about 1.5 percent of federal

[1] Churchill (1906).

[2] This line is contained in the Steve Forbes 2000 National Online Headquarters website, and was often uttered by Forbes on the campaign trail. It is, though, apparently not original to him. See also Anderson and Tackett (1999).

revenues in 1999 could be the subject of such heated dispute. But the estate tax is controversial precisely because it raises a number of interesting choices for policy-makers as well as intriguing issues for researchers. Besides its association with the rich and the dead—two never-ending sources of fascination—the estate tax epitomizes, in extreme form, the pervasive trade-off between equity and efficiency in the design of government policy. In addition, the tax raises issues as private as the nature of relationships between parents and their children, and as politically sensitive as the definition and implementation of equal opportunity.

In light of these factors, the Office of Tax Policy Research at the University of Michigan Business School and the Brookings Institution convened a conference on May 4-5, 2000, attended by leading economists and lawyers. The conference revolved around ten papers that addressed particular features of the U.S. estate and gift tax. This volume brings together those papers and formal comments by discussants.

The purpose of this introductory chapter is to help frame the estate tax debate, and to interpret and integrate existing research on the tax. Section I provides background on the features of the estate and gift tax, characteristics of recent estate tax returns, the evolution of transfer taxes in the U.S., and the role of such taxes in other countries.

Section II reviews existing models and evidence on why people give intergenerational transfers. Because estate and gift taxes place burdens on transfers of wealth, the impact and appropriate role of the taxes will depend in part on people's motives for transfers. There are many plausible motives for giving, and the empirical literature has not successfully distinguished among them. Uncertainty about transfer motives makes analysis of estate taxes more difficult, but also opens a number of intriguing possibilities discussed below.

Section III examines the incidence and equity of transfer taxes. Transfer taxes are highly

progressive if they are borne by transfer donors or recipients. It appears unlikely that much of the burden of the tax is passed on to other agents. The estate tax serves as a backstop to the income tax, taxing components of income—such as unrealized capital gains—that otherwise go untaxed.

Transfer taxes raise difficult issues of horizontal equity. Among donors with the same wealth, the taxes discriminate on the basis of how resources are spent, violating the notion that those with equal means should pay equal taxes. But among recipients with the same (pre-inheritance) wealth, transfer taxes reduce the inequality of inheritances and thus reduce horizontal inequity and unequal opportunity. Another issue is whether taxing at death is fair. While death may be unpleasant to contemplate, there are good administrative, equity and efficiency reasons to impose taxes at death and the asserted costs appear to be overblown. Moreover, to the extent that it really is a problem, taxation at death could be avoided by replacing the estate tax with equally progressive taxes imposed during life.

Section IV examines efficiency issues. Standard optimal tax theory shows that alternative uses of labor income should be taxed at different rates only to the extent that the goods consumed are more or less complementary to leisure, which is untaxed. Consumption and bequests represent two uses of labor income, with the estate tax taxing placing heavier taxation on bequests than on consumption. On pure efficiency grounds, this would be optimal if and only if bequests were more complementary to leisure than lifetime consumption is.

Two other factors also suggest a possible role for estate taxes in an optimal tax system. First, optimal systems trade off equity and efficiency. If the income tax cannot generate as progressive a tax burden distribution, relative to its efficiency cost, as society would prefer—because, for example, of the treatment of capital gains—there is a potential role for an estate tax.

Second, standard optimal tax theory does not incorporate motives for transfers. The efficiency effects of transfer taxes depend in sensitive and surprising ways on the motives for transfers.

Section V discusses administrative aspects of the estate tax. Estimates of taxpayers' costs of complying with the estate tax and their ability to reduce their estate tax liability—through legal or illegal means—are often overstated. To the extent that it does occur, tax avoidance may reduce the effective marginal tax rate imposed by transfer taxes.

Section VI examines the effects of transfer taxes on saving, labor supply, and entrepreneurship. From a theoretical perspective, these effects should depend on why people give transfers. There is little reliable empirical evidence that transfer taxes have substantially reduced any of these factors, although historically the level of taxable estates does vary inversely with the level of estate taxation. There are compelling reasons to believe that the supposed deleterious effects on small businesses have been dramatically overstated.

Section VII examines a variety of other behavioral responses. Transfer taxes have measurable effects on the timing and level of *inter vivos* gifts, charitable contributions, and capital gains realizations. Section VIII reviews policy options, including abolishing transfer taxes, replacing current taxes with an inheritance tax, and reforming the structure of existing transfer taxes. Section IX provides a short conclusion.

I. An Overview of Transfer Taxes[3]

A. Current Law

Federal law imposes an integrated set of taxes on estates, gifts, and generation-skipping

[3] See Joint Committee on Taxation (1998) for a summary of current law and legislative history of transfer taxes.

transfers.[4] By law, the executor of an estate must file a federal estate tax return within nine months of the death of a U.S. citizen or resident if the gross estate exceeds a threshold that in 2000 was set at $675,000.[5]

The gross estate includes all of the decedents' assets, his or her share of jointly owned assets, and life insurance proceeds from policies owned by the decedent. The gross estate also includes gifts made by the decedent in excess of an annual exemption that is currently set at $10,000 per donee per year and is indexed for inflation. The estate may also include other property over which the decedent had control, wealth transfers made during life that were either revocable or provided for less than full consideration, and qualified terminable interest property.[6]

Typically, assets are valued at fair market value. But closely-held businesses are allowed to value real property assets at their "use value" rather than their highest alternative market-oriented value. The maximum allowed reduction in value was $770,000 for estates of decedents who died in 2000, and is indexed for inflation. In addition, it is often possible to discount asset value when such assets are not readily marketable or the taxpayer's ownership does not correlate with control (see Schmalbeck, this volume). The estate is usually valued as of the date of death, but alternatively may be valued six months after the death, if the value of the gross estate and the estate tax liability decline during this period.[7]

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[4] States may also impose estate, inheritance, or gift taxes. The laws that govern how and to whom property may pass are the exclusive domain of the states. For example, many states provide a surviving spouse and minor children with some protection against disinheritance. In cases of intestacy, state laws provide a structure to guide succession.

[5] This threshold is scheduled to rise over the next several years, along with the "effective exemption" described below and in table 5.

[6] Qualified terminable interest property (QTIP) is created when the estate of the first spouse to die receives an estate tax deduction for a wealth transfer that provides the surviving spouse an income interest only and provides the remainder interest to someone else. When the second spouse dies, the QTIP is including in his/her estate.

[7] If the six month alternative valuation date is used, assets that were liquidated in the interim are valued at their sale price.

The estate tax provides unlimited deductions for transfers to a surviving spouse and contributions to charitable organizations. Deductions are also allowed for debts owed by the estate, funeral expenses, and administrative and legal fees associated with the estate. In addition, interests in certain qualified family businesses were allowed an extra deduction of up to $625,000 in 2000 for the value of the business being transferred.[8]

After determining net estate—gross estate less deductions—the statutory tax rate is applied. Statutory marginal tax rates are given in table 1. Formally, the statutory tax schedule applies a 18 percent rate to the first $10,000 of lifetime transfers, with the rate rising to 37 percent on transfers above $675,000, and rising in several stages to 55 percent on taxable transfers above $3 million.

For several reasons, however, effective tax rates differ from the statutory schedule. First, although the lowest formal tax rate is 18 percent, the lowest rate that any taxable return faces is 37 percent due to the "applicable credit amount." As of 2000, this credit amount is set at $220,550, which provides an effective exemption of the first $675,000 of transfers given during life and at death, above and beyond the $10,000 per recipient annual gift exemption and the other exclusions, deductions, and asset adjustments noted above.

Another credit is given for state inheritance and estate taxes (but not for state gift taxes). The credit rate is based on the "adjusted taxable estate," which is the federal taxable estate less $60,000, and the allowable credit ranges from zero to 16 percent of the base. Thus, the credit for state taxes can reduce the maximum effective federal statutory tax rate to 39 percent for the largest estates. Most states now levy so-called “soak-up” taxes that exactly mirror the credit limit, so that the state transfer taxes shift revenue from the federal to the state treasuries without

[8] The value of this deduction, plus the effective exemption created by the unified credit and discussed below, cannot exceed $1.3 million.

adding to the total tax burden on the estate.

Additional credits are allowed for gift taxes previously paid, and for estate taxes that were previously paid on inherited wealth.[9] Finally, a 5 percentage point surtax raises the effective marginal estate tax rate to 60 percent on taxable estate between $10 million and $17,184,000.[10]

By law, payment is due within nine months of the decedent's death, although a six-month filing extension may be obtained. However, the actual timing of the tax payment can be flexible, as the law provides for *ex post* spreading out of tax payments over 14 years for closely-held family businesses.[11]

To reduce tax avoidance under the estate tax, the federal gift tax imposes burdens on transfers between living persons that exceed the annual gift exemption noted above. Although the estate and gift taxes are said to be unified, there are some important distinctions between the taxation of gifts and estates. Gifts are taxed on a tax-exclusive basis while estates are taxed on a tax-inclusive basis. This provides a sizable tax advantage to giving gifts rather than bequests.[12]

However, there is also a tax disincentive for *inter vivos* gifts. When an appreciated asset

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[9] The latter is phased out over ten years, in two-year intervals, from the date the wealth was inherited, and is intended to reduce the extent of (double) taxation of recently inherited wealth.

[10] The surtax phases out the "benefit" of having lower marginal estate tax rates on the first $10 million in taxable estate. Prior to 1998, the surtax applied to estates of even higher value and took back the benefit of the unified credit as well. Due to a drafting error in the 1997 tax act, this part of the surtax was removed and has not been reinstated.

[11] Moreover, in the presence of a well-functioning market for life insurance, a one-time estate tax liability at an uncertain future date can be transformed into a series of annual premium payments. In this context, it is interesting to note that the original estate tax law passed in 1916 contained a provision allowing for prepayment of estate tax liability with a 5 percent discount per year. This provision was eliminated by the Revenue Act of 1918.

[12] Formally, if the marginal estate tax rate is e, the effective marginal gift tax is e/(1+e). For example, suppose the applicable estate tax rate is 50 percent and consider the implications of a giving a gift or a bequest that costs the donor $15,000, including taxes. If the funds are given as an *inter vivos* transfer, the recipient would receive $10,000 and the donor would pay gift tax of $5,000 (50 percent of $10,000). If the funds are given as a bequest, the recipient would receive only $7,500, and the estate would owe $7,500 in taxes (50 percent of $15,000). Thus, in this example, the estate tax is 50 percent of the gross-of-tax bequest; the gift tax is 50 percent of the net-of-tax gift but only 33 percent of gross-of-tax gift by the donor.

is transferred as part of an estate, the asset's basis is "stepped up" (i.e., made equal to) to the market value at the time of death, thus exempting from future income taxation the appreciation during the decedent's lifetime. In contrast, if the asset is given *inter vivos*, the donor's cost basis (often, but not always, the original purchase price) is "carried over" as the asset's basis. In this case, if the recipient sells the asset, capital gains that accrued before the gift was made would be taxed under the income tax.

Federal law also imposes a tax on generation-skipping transfers (GSTs). Under the estate and gift tax, a family that transferred resources over more than one generation (for example, from grandparent to grandchild) at a time could in principle reduce the number of times the wealth was subject to tax over a given period, and could greatly reduce its transfer tax liabilities. To close this avoidance mechanism, generation-skipping transfers in excess of $1 million per donor generate a separate tax, at rates up to 55 percent, above and beyond any applicable estate and gift tax. The GST tax raises virtually no gross revenue, but does appear to successfully close the loophole noted above (see Schmalbeck, this volume).

B. Characteristics of Estate Tax Returns, 1998

Evidence on the gross estate, deductions, and tax payments from estate tax returns filed in 1998 can help shed light on several issues. Table 2 provides information on estate tax returns and gross estate. Roughly 98,000 returns were filed in 1998. The number of returns in 1998 amounted to 4.3 percent of the number of adult (age 20 or higher) deaths in the United States in 1997 (Hoyert, Kochanek and Murphy 1999). Total gross estate among 1998 returns equaled $173 billion, less than 0.5 percent of privately held net worth (Federal Reserve Board, 2000).

The size distribution of gross estates is highly skewed. The 89 percent of returns with

gross estate below $2.5 million accounted for 53 percent of total gross estates. The 4.1 percent of estates valued in excess of $5 million accounted for 32 percent of gross estate value. Taxable returns--i.e., returns that paid positive taxes--accounted for 49 percent of all returns and 59 percent of total gross estates.

Table 3 reports on the composition of gross assets in estates. Personal residence and other real estate accounts for about 19 percent of gross estates, stocks (other than closely held), bonds and cash account for 61 percent, and small businesses (closely held stock, limited partnerships, and other non-corporate business assets) account for 8 percent. Farm assets account for one-half of one percent of all gross assets in taxable estates. This figure excludes farm real estate, which accounted for 2.6 percent of gross estates.[13]

The composition of estates varies by estate size. Among estates with gross assets below $1.0 million, small business assets account for 2.2 percent of gross estate, stocks account for 21 percent, and cash accounts for 19 percent. Among estates in excess of $20 million, closely-held businesses account for 21 percent, stocks account for 43 percent, and cash accounts for under 5 percent of gross estate. The composition of estates does not vary markedly between taxable and non-taxable estates (not shown).

Table 4 provides information on estate tax deductions. Deductions account for 41 percent of gross estate on average, but this ratio varies dramatically with estate size. For estates with gross assets below $1 million, deductions accounted for 25 percent of gross estate. For estates above $20 million, deductions were 56 percent of gross estate.

The composition of deductions also changes with estate size. Bequests to surviving spouses account for between 60 and 75 percent of all deductions in each estate size category. In

[13] We thank Barry Johnson for providing this information.

contrast, charitable contributions represent 11 percent of deductions for estates below $1 million, but rise to 27 percent of deductions for estates above $20 million.

Because differences in deductions relative to gross assets are the main reason why some estates are taxable and some are not, it is not surprising that deduction patterns vary by taxable status. Among taxable returns, overall deductions, spousal deductions and charitable contributions all rise as a share of estate as estate size rises. For nontaxable returns, deductions are much higher as a proportion of estate size, and in particular bequests to a surviving spouse are substantial. Eller, Johnson and Mikow (this volume) provide extensive additional data on features of decedents and asset and deduction patterns in estate tax returns.

C. Projections

Under current law, the unified credit is scheduled to rise in stages to $345,800 in 2006, raising the effective exemption to $1 million per person (table 5). Despite the increase in the effective exemption, the Joint Committee on Taxation (JCT, 1999) forecasts that the proportion of adult deaths resulting in taxable estates will be about the same in 2008 as in 1999.

Table 5 also provides information on transfer tax revenues. In 1999, federal transfer taxes collected about $28 billion in revenue. Both the JCT (1999) and the Congressional Budget Office (CBO, 2000b) project that estate and gift tax revenues will rise over the next decade. The increase is due to a number of factors. The aging of the population will raise the number of deaths; the stock market boom has increased wealth; the expansion of the spousal deduction in 1981 deferred estate tax revenues; and the tightening of the generation skipping transfer tax in TRA 1986 may cause additional increases. According to the CBO (2000a), over the next 10 years estate and gift taxes are projected to raise nearly $400 billion, with annual revenue of

nearly $50 billion by 2010. Notably, neither JCT nor CBO forecasts that revenues will rise relative to GDP.

D. History

Taxes on the transfer of wealth were levied in Egypt as far back as the 7th century B.C.[14] In the year 6 A.D., the emperor Augustus introduced to Rome the *vicesima hereditatum*, which taxed away one-twentieth of inheritances, but exempted heirs in the direct line of descent. During the Middle Ages in Europe there were various levies owed at death to the feudal lord and to the Church, and by the end of the seventeenth century the established national monarchies in England, France, Spain, and Portugal all had inheritances taxes of one form or another.

In the U.S., the first federal tax on wealth transfers dates back to 1797 when, faced with the expenses of dealing with French attacks on American shipping, the Congress imposed a stamp duty on receipts for legacies and probates for wills. The tax was eliminated in 1802. An inheritance tax was instituted in 1862, during the Civil War, and was repealed in 1870. In 1894, Congress passed and the President signed into law an income tax that included all property acquired by gift or inheritance. This tax, however, was declared unconstitutional by the Supreme Court, on the grounds that it inappropriately discriminated among residents of different states. In 1898, to help finance the Spanish-American War, the federal government imposed its first estate tax, which was subsequently repealed in 1902.

The 16th Amendment to the Constitution was ratified by the States in 1913 and eliminated the constitutional barriers noted above. The precursor to the modern U.S. income tax became law in 1913, and the estate tax followed soon thereafter, in 1916. Like its precursors, the

[14] This paragraph is based on West (1893) and Shultz (1926).

modern estate tax originated in a time of war preparation, if not war itself. Unlike its predecessors, the tax survived the war's aftermath. At least in part, both its introduction and survival were due to the movement of the late 19th century and early 20th century to reduce the reliance of federal revenue on customs and excise taxes, viewed by many to be regressive, with more progressive tax methods.

In 1916, the new estate tax exempted the first $50,000 of wealth transfers and featured rates ranging from 1 percent on the first $50,000 of taxable transfers to 10 percent of transferred assets over $5 million. Rates, brackets, and the tax base have changed many times since then.

In an effort to stem tax avoidance, the first gift tax was imposed in 1924, but was then repealed in 1926. In 1932, the gift tax was reintroduced at rates equal to three-quarters of the estate tax rate. Cumulative lifetime gifts below $5,000 were exempt from transfer taxes. In 1942, the exemption for lifetime gifts was raised to $30,000, and an annual gift exclusion of $3,000 was added.

In 1942, Congress attempted to equalize the treatment of spousal bequests across community property and non-community property states. This proved to be very complex. In 1948, the law was revised to provide the donor spouse with a 50 percent deduction for property transferred to the other spouse. Life insurance paid to the estate was added to the tax base in 1954, and a 10-year payment period for small businesses was introduced in 1958. There was then little legislative action on transfer taxes until 1976.

The Tax Reform Act of 1976 was a watershed event for transfer taxes, and significantly altered the structure of the tax by reducing rates, raising exemptions, closing loopholes, and allowing adjustments for some special circumstances. The act provided a single, "unified" rate structure for lifetime gifts and transfers at death; raised the effective exemption, in the form of a

unified credit, to $175,625 of otherwise taxable transfers; reduced the top rate to 70 percent; created a 100 percent deduction for the first $250,000 of assets given to a surviving spouse; made all gifts given in the three years prior to death includible in gross estate; allowed closely held business to be valued at “use value” provided certain conditions were met; extended the payment period for estate taxes on closely held businesses to 14 years, with only interest payments for the first four years; and imposed a tax on generation-skipping transfers.[15]

The Economic Recovery and Tax Act of 1981 significantly cut the rates and the base of the estate tax. In addition, it greatly expanded the effective exemption provided by the unified credit to $600,000 and introduced an unlimited deduction for spousal transfers, including cases where the recipient spouse did not have control of the disposition of the asset after his or her death, but did have an income interest in the property while alive. The annual gift tax exemption was raised to $10,000.

The Tax Reform Act of 1986 made further changes, including tightening the generation-skipping transfer tax. The top transfer tax rate fell to 50 percent at the end of 1992, but the Omnibus Budget Reconciliation Act of 1993 restored the 55 percent top rate retroactively to January 1, 1993. The Taxpayer Relief Act of 1997 enacted a series of increases in the effective exemption provided by the applicable credit amount from $625,000 in 1998 to $1 million in 2006 (table 5). The 1997 act also instituted new exclusions for qualified family businesses and for land subject to conservation easements.

[15] Interestingly, the Act also changed the income tax treatment of capital gains at death. Before 1976 (and currently), unrealized capital gains on assets that were bequeathed at death were never taxed under the income tax; the tax basis faced by the heirs was "stepped up" to equal the asset value as of the date of valuation for estate tax purposes. The 1976 act changed this provision to incorporate "carryover" basis for capital assets. Under this provision, heirs who receive an asset with unrealized capital gains would retain the decedent's tax basis. Thus, if and when the asset was subsequently sold, the heir would have to pay taxes on all capital gains the asset had accrued. The carryover basis rule never went into effect, however. Implementation of the provision was first delayed and then, in 1980, was retroactively repealed, and the step-up basis rule was reinstated.

Even this short history shows that many of the issues that are prevalent today have existed for decades. Concerns about high rates, avoidance through gifts, liquidity problems of small businesses, etc., have played a central role in the evolution of the nation's transfer tax system.

The broad impacts of previous legislation can be summarized in a few figures. Figure 1 shows the marginal estate tax rates that have applied to the top wealth level, and to 40 and 100 times per capita net worth. Rates were relatively low by current standards through the 1920s. In 1931 the top rate stood at 20 percent, while the marginal rate at 100 times average wealth was just 3 percent. The rate schedule started to increase sharply in 1932, reaching a top rate of 70 percent in 1936 and 77 percent in 1941. The rate at 100 times average wealth rose as well, reaching 20 percent in 1936 and 32 percent by 1941. From 1941 to 1976 the rate schedule remained fixed, which meant that inflation and real wealth increases raised the effective marginal tax rates at given relative wealth levels. In 1977 the top tax rate began a gradual decline to today's 55 percent rate, but the rate that applies to 40 or 100 times average wealth is considerably higher now than in the past.

The real value of the effective exemption has also changed dramatically over time (figure 2). The real exemption fell sharply in the early 1930s, at the same time that the rates rose. After an increase in the nominal exemption from $40,000 to $60,000 in 1942, the real value steadily eroded as the exemption remained at $60,000 until 1976. The real exemption rose fivefold between 1976 and 1987, and then steadily eroded until 1997.

Figure 2 also shows the ratio of taxable estate tax returns to adult deaths. Not surprisingly, this ratio rose from the early 1940s to 1976, as the real exemption declined. At its

apparent peak in 1976,[16] taxable estates accounted for 7.65 percent of adult deaths. By 1998, only one-fourth as many deaths resulted in estate tax payments.

The rate structure, exemption level and tax base affect the revenue yield of the tax, shown in figure 3. Estate and gift taxes raised nearly 10 percent of federal revenue in 1936 and more than five percent of revenues in certain other years in the 1930s. Since World War II, however, the tax has comprised less than 4 percent of revenues in any year, and has generally raised between one and two percent of federal revenues. Of course, it was during the second world war that the individual income tax changed from a "class" tax to a "mass" tax and federal revenues vastly expanded, never to return to their pre-war levels. Transfer tax revenues have stayed well below one-half of one percent of GDP since World War II.

The reduction in estate tax revenues in the late 1970s and early 1980s reflects the lowered rates and the expanded unified credit enacted in the tax acts of 1976 and 1981. The introduction of the unlimited marital deduction, which took effect in 1982, probably reduced collections at that point, but also likely raised future estate tax collections upon the death of surviving spouses. This may be part of the explanation for the increased revenues beginning in the late 1980s.

Figure 3 also shows gift tax collections, in the era when it was a separate tax and in the post-1976 era when gift and estate taxes have been "unified." As Joulfaian (1998) notes, the history of gift tax revenues reveals the importance of anticipated changes in taxes. The huge increase in fiscal 1977 gift tax receipts undoubtedly reflects gifts made in anticipation of higher future gift tax rates brought about by the Tax Reform Act of 1976. Joulfaian argues that the strong growth in gift tax receipts in the late 1980s may reflect the deferral of gifts in the early

[16] Because data on the number of taxable estate tax returns is not available for many years in the 1970s, it is conceivable but unlikely that the ratio was higher in another year.

1980s, as estate tax rates declined gradually from 70 percent to 50 percent.[17]

E. Other countries

The U.S. is not alone in taxing wealth transfers. Almost all of the Organization of Economic Co-operation and Development (OECD) member countries impose some type of wealth transfer tax. Australia phased out its estate tax starting in 1977. The Canadian federal capital transfer tax was abolished in 1972 as part of a federal tax reform that included the introduction of a capital gains tax that applied to bequests and gifts (except to spouses).[18] New Zealand abolished estate taxes for people who died after 1992. Of the 21 industrialized countries that levy a wealth transfer tax, 17 levy an inheritance tax, and 2 (Switzerland and Italy) levy taxes which have some features of both an inheritance tax and estate tax. Only the United Kingdom and the United States levy "pure" estate taxes.[19]

It is difficult to compare such taxes across countries because of different exemptions, rate structures, valuation techniques and other factors. Nevertheless, one common measure focuses on the share of revenues raised by transfer taxes. In 1997, the U.S. raised about 1.12 percent of revenues from transfer taxes (table 6). This figure is well above the OECD average of 0.44 percent, and exceeds the transfer tax share of revenues in all OECD countries other than Korea and Japan. Transfer taxes were 0.33 percent of gross domestic product (GDP) in the US. Only France and Japan exceeded that figure.

[17] Anticipated increases in gift tax rates are also plausibly part of the explanation for the relatively high collections in fiscal years 1935, 1936, and 1942.

[18] At the time of abolition of the federal death taxes, almost all the provinces (in Canada) and the states (in Australia) had estate and gift taxes. In both countries, the abolition of federal wealth transfer taxes was followed by abolition of the sub-federal taxes.

[19] In Switzerland, transfer taxes are imposed at sub-federal levels. The 17 industrialized countries with inheritance taxes are: Austria, Belgium, Denmark, Finland, France, Germany, Greece, Iceland, Ireland, Japan, Luxembourg, Netherlands, Norway, Portugal, Spain, Sweden, and Turkey. Many U.S. states also levy inheritance taxes.

However, one-time taxes on wealth transfers may be closely related to recurrent taxes on net wealth. Wealth taxes exist in 14 of the countries listed in table 6. Notably, Korea. Japan and the U.S.—the three countries with the highest share of revenues due to transfer taxes—do not have wealth taxes. The average OECD country raises 1.05 percent of revenues from wealth and transfer taxes combined, slightly less than the U.S. (1.12 percent).

II. Motives for Intergenerational Transfers

Because estate and gift taxes place burdens on wealth transfers, their effects should depend on why people give transfers.[20] Previous research has considered several different motives, but does not reach a consensus about the relative importance of each.

In the accidental bequest model, people face uncertain life spans and accumulate assets to save for retirement. They do not plan or desire to give bequests, but they do not annuitize their wealth either, as would occur in a simple life-cycle model, because of imperfect or missing annuity markets or because they are also saving for precautionary reasons against, say, uncertain future health expenses. Under these assumptions, people will generally have positive asset holdings when they die, even though they do not derive positive utility from bequests.

Accidental bequests may account for a large fraction of aggregate wealth (Abel 1985) and can help to explain puzzling wealth accumulation patterns of the elderly (Davies 1981, Hurd 1987). But substantial evidence from patterns of *inter vivos* giving, life insurance purchases, and annuity choices indicates that some portion of transfers are intended (Bernheim 1991, Gale and Scholz 1994, Kotlikoff 1989, Laitner and Juster 1996, McGarry 1997, Page 1997). The existence of estate planning and tax avoidance techniques further suggests that not all bequests

[20] To be precise, the behavioral and efficiency effects of transfer taxes will vary across transfer motives to the extent that alternative motives correspond to different utility functions for donors and recipients.

are accidental.

In the pure altruism model (Barro 1974, Becker 1974), parents care about their own consumption and the utility of their children. Parents make transfers and leave bequests until the marginal cost in terms of their own foregone consumption is equal to the marginal benefit to the parents of the increase in their children's consumption. Bequests are given differentially across children to compensate for differences in endowments or outcomes. Variations of altruism with and without a mechanism that allows a parent to commit to a given transfer level are examined in Bruce and Waldman (1990, 1991), Lindbeck and Weibull (1988), and Perozek (1996).

Tomes (1981, 1988) and Becker and Tomes (1979, 1986) provide support for the altruistic model. But other research has rejected three sharp empirical implications of altruism. First, Altonji, Hayashi and Kotlikoff (1992) show that the division of consumption within the family is not independent of the division of income, contrary to the predictions of an altruism model with operative transfers. Second, several studies find that, among families where parents make transfers to children, a one-dollar increase in parents' resources coupled with a one-dollar reduction in children's resources does not raise transfers by a dollar, although it should under altruism (Altonji, Hayashi, and Kotlikoff 1997, Cox 1987, and McGarry and Schoeni 1995).[21] Third, under altruism, siblings with lower incomes should receive larger inheritances than siblings with higher incomes, but empirically they typically do not (Menchik 1980, 1988, and Wilhelm 1996). The last rejection is striking because equal division of estates among children appears to be the norm. Bernheim and Severinov (2000) show that this norm can arise if parental altruism is combined with the assumptions that bequests are observable, that a child derives

[21] Although, see McGarry (2000), who considers a model of altruism where parents and children interact for several time periods and concludes that this test is mis-specified.

utility from her perception of parental affection towards her relative to her siblings, and that bequests are viewed as signals of parental affection.

A variety of "exchange" models posit that bequests or transfers are the payment for some good or service provided by children. In the strategic bequest model (Bernheim, Shleifer and Summers 1985), parents care about their own consumption, their children's utility, and services obtained from children. These services may represent standard market goods or services (lawn mowing, for example) or more personal items, such as visits, attention, or children's choices regarding marriage, childbearing, education, career, and location of residence. Parents pay for services with bequests, rather than *inter vivos* transfers. By delaying payment, parents can control children's actions for a longer period, and extract the entire consumer surplus out of the exchange relationship. In Cox (1987), parents buy services from their children via *inter vivos* gifts, and the exchange may be mutually beneficial. Empirical tests of exchange models have generated mixed results (Bernheim, Shleifer and Summers 1985, Cox 1987, and Perozek 1998).

Andreoni (1989) argues that people obtain utility from the act of giving itself. Another specification simply adds the after-tax bequest to the donor's utility function (Blinder 1976, Carroll 2000). Each of these approaches may be considered structural, where the household derives utility directly from the after-tax bequest, or reduced-form, consistent with different structural motivations for transfers. No formal tests have been implemented.

Each motive listed above is plausible and draws support from at least some research, but each motive that has been tested has also been rejected. This suggests that households may be influenced by several motives, or that the importance of each may vary across households.[22]

[22] Differences in empirical outcomes may also be due in part to data limitations and the difficulty of distinguishing rejection of the underlying behavioral model from rejection of the maintained assumptions needed to generate testable hypotheses.

It is worth emphasizing that analysis of the estate tax requires evidence on the motives of the very wealthiest households. But there is even less known about the very wealthy than about the moderately wealthy or middle-class households that are the mainstay of most empirical work on transfers, and the richest households may well have different motives for, and patterns of, giving and wealth accumulation. Recent work has only begun to examine the behavior of the very wealthy in detail. See, for example, the papers in Slemrod (2000).

III. Incidence and Equity

Transfer taxes raise a number of controversial issues relating to incidence and equity. In this section, we examine the incidence of the tax, a variety of horizontal equity issues, and issues raised by taxation at the time of death.

A. Incidence

The estate itself bears the statutory burden of paying estate taxes. The economic incidence--which must be traced to individuals--depends on the base, the rate structure, the enforcement regime, and any behavioral responses the tax induces. These responses, in turn, will depend on the motivation for transfers and other factors. Because it is unclear what proportion of transfer taxes are borne by donors, recipients or others, we consider each possibility.

Examining the incidence of a tax also requires addressing the prior question of how to classify individuals or families in order to construct a distributional table. For the estate tax, a natural ordering unit is estate size. Other taxes, however, are typically distributed by annual

income. We pursue both approaches below, though neither approach is without problems.[23]

1. Assigning the Burden to Donors If it is borne by decedents, the estate tax is extraordinarily progressive. Because of the effective exemption, about 96 percent of decedents do not even file an estate tax return in a typical year. Among those that file, the deductions noted above remove half from any estate tax liability. Thus, only about 2 percent of decedents have taxable estates.[24]

Among returns with positive tax liabilities in 1998, 84 percent had wealth between $600,000 and $2.5 million; these accounted for just 27.5 percent of transfer tax revenues (table 8). About 10 percent of taxable returns had estates between $2.5 million and $5 million and accounted for 19 percent of tax payments. The 6 percent of taxable returns with wealth above $5 million paid 53 percent of all transfer taxes.

Table 9 shows that the average estate tax return in 1998 had gross estate worth $1,776,000, paid federal estate taxes of about $208,000 and total transfer taxes, including gift taxes and state taxes, of about $274,000. This corresponds to an average federal estate tax rate of 12 percent and an average overall transfer tax rate of 15 percent.

Average transfer tax rates rise with estate size. Among all returns below $1 million, the average rate is just 4 percent. This figure rises to 26 percent for estates above $10 million. Among taxable estates, the average transfer tax rate is 8 percent for estates below $1 million,

[23] Ideally, data would match estate tax returns to lifetime income measures. No such income measure currently exists, although Joulfaian (this volume) uses a data set that matches decedents' estate tax returns with the previous 10 years' worth of income tax returns. Joulfaian (1994) uses data from a Treasury collation study that links estate tax returns to the income tax return in the last full year the decedent was alive. But income in the last year of life, when people are typically elderly and retired, and often are ill, may not be a very meaningful indication of the taxpayer's lifetime affluence.

[24] For example, Hoyert, Kochanek and Murphy (1999) report 2,258,366 deaths of persons aged 20 and older in 1997. The number of taxable returns in 1998 was 47,843 (table 2), equal to 2.1 percent of 1997 adult deaths.

rising to between 33 and 35 percent for estates above $5 million.[25]

Assuming it is borne by decedents, the estate tax is much more progressive than the income tax. The Office of Tax Analysis (OTA) of the Department of the Treasury has undertaken distributional analysis based on annual income and assuming that estate and gift taxes are borne by decedents (Cronin 1999). Expected estate tax payments for each family are calculated by imputing family wealth, calculating estate tax liabilities as a function of wealth and marital status, and applying a mortality probability based on age.[26] The resulting distribution of estate taxes is shown in Table 10, along with Treasury estimates of individual income tax burdens. Estate tax burdens are highly skewed toward high-income individuals. More than 99 percent of the burden falls on the top quintile, 96 percent on the top decile, 91 percent on the top 5 percent and 64 percent on the top 1 percent of the income distribution. The estate tax is clearly more progressive than the income tax, under the OTA assumptions. To the extent that income in the last year of life understates true lifetime income, the Treasury methodology will understate the true progressivity of estate taxes.[27]

Feenberg, Mitrusi, and Poterba (1997) provide an alternative estimate, based on public-use income tax return files supplemented with data on non-filers. They allocate the burden of estate and gift taxes to units with someone over the age of 65 in proportion to each unit's share

[25] The slight decline in average tax rate to 33 percent for estates above $20 million compared to 35 percent for estates between $5 million and $20 million is due to higher deductions relative to estate size for spousal and charitable bequests among estates in the largest estate size category.

[26] To impute wealth, OTA capitalizes a measure of capital income using a 7 percent rate of return. Capital income includes interest, imputed accrued capital gains, real earnings on IRAs, Keoghs, pensions and life insurance, rental income including imputed rental income from owner-occupied housing, and the capital component of sole proprietor, partnership, and subchapter S corporation income. To calculate estate tax liability, OTA assumes that when the first spouse in a couple dies, no estate tax is incurred. OTA also assigns average charitable deductions by estate size.

[27] Although the JCT does not currently estimate estate and gift tax burdens, JCT (1993) describes a methodology used in the past, in which the burden of (changes in) the estate tax was assigned to the decedent based upon the decedent's income in the year preceding the year of death. The gift tax was not distributed. JCT does not report a distribution of the current existing estate tax that is comparable to Table 4.

of capital income in excess of $30,000.[28] Thus, they assume that the tax is borne by decedents and provide no special adjustments for a surviving spouse. Table 11 shows the resulting distribution of imputed estate and income tax liability by income class for 1991. Because taxpayers with annual income over $200,000 comprise about 1 percent of the total population, it is straightforward to compare the results with those of OTA. Feenberg et al calculate that this group bears 58 percent of estate taxes, slightly below the 64 percent estimate provided by OTA.

2. Assigning the Burden to Recipients Assigning the burden to recipients of inheritances (or those that would have been recipients had taxes been lower) may seem to be a polar alternative to the assumption that donors bear the burden. In practice, however, the implications for progressivity appear to be similar, because the recipients of large inheritances tend to have very high income and (non-inheritance) wealth themselves.

Joulfaian (1998) examines data on households that received inheritances from estates of 1982 decedents that were subject to estate tax. Among these recipient households, the average adjusted gross income (AGI) was $47,433 in 1981. Recipients of inheritances from estates valued between $2.5 million and $10 million had average AGI of $123,000. For estates in excess of $10 million, recipients' AGI averaged $271,000. These results suggest that recipients are quite well off. By comparison, mean family income was $25,838 in 1981, and average money income in the top 5 percent of the distribution was $74,482 (U.S. Census, 2000a, 2000b).

Thus, while there may be significant controversy over whether donors or recipients bear the burden of estate taxes, the controversy does not matter very much for purposes of understanding the progressivity of the tax with respect to current income (and, we conjecture, lifetime income). Both donors and recipients are quite well off.

[28] Capital income is defined as the sum of dividends, taxable and tax-exempt interest, (realized) capital gains, trust income from trusts, partnerships, Subchapter S corporations, rents and royalties.

3. General Equilibrium Considerations None of the estimates discussed above allow for general equilibrium effects. These effects will in turn depend on how people who give and receive bequests adjust their labor supply and saving, a topic addressed in more detail in subsequent sections. Nevertheless, it is worth noting that if the tax reduces personal saving and that reduces (domestic) capital accumulation, the resulting long-term reduction in wages could reduce to some degree the progressivity of the tax.

Along these lines, Stiglitz (1978) shows that, if the estate tax reduces saving, it can have perverse effects on the distribution of income. Specifically, the reduction in saving reduces the capital stock, which raises the return on capital and reduces wages. In the long run, an increase in the estate tax could raise the share of income accruing to capital.

Laitner (this volume) develops an intergenerational simulation model that incorporates altruistic transfer motives and shows that removing the estate tax in his framework would raise saving, as Stiglitz assumes. But Laitner also finds that removing the estate tax would increase the concentration of wealth, especially among the top 1 percent of wealth-holders. These results imply that the tax is progressive, even taking into account general equilibrium considerations.

B. Progressivity: Further Discussion

Progressivity has long been a principal justification for the estate tax (see Graetz 1983, for example). The large increase in the concentration of before-tax income and wealth over the last two decades arguably makes the case for progressive taxes even more compelling (Slemrod and Bakija 1999). Our analysis above suggests that transfer taxes in the U.S. are highly progressive, but raises some additional issues.

First, one might reasonably ask why the desired degree of progressivity couldn't be

achieved solely through the income tax. The answer usually given is that the capacity of the income tax to impose progressive burdens is limited by several factors, most notably the preferential treatment of capital gains. Capital gains are taxed at a lower rate than other capital income, and are taxed only when the underlying assets are sold as opposed to when the gains accrue. Most important, gains are excused from income taxation at death.

Capital gains generally are concentrated among high-income and high-wealth households. Poterba and Weisbenner (this volume, table 8) find that 37 percent of all estate value among estates above $500,000 is due to unrealized capital gains. Thus, the return to a substantial proportion of wealth is never taxed under the income tax. Unrealized gains are particularly heavily concentrated in the largest estates. Poterba and Weisbenner estimate that, among estates valued at over $10 million, 56 percent of estate value was in the form of unrealized capital gains. Thus, the role of the estate tax as a "backstop" to the income tax is closely related to the progressivity of the estate tax.

To the extent that the estate tax is meant to capture tax on previously accrued but unrealized capital gains, the tax should apply only to unrealized capital gains and should be capped at the highest capital gains tax rate. Needless to say, that is not how the estate tax is designed. But if there are other reasons not to impose all of the desired progressivity through the income tax, the estate tax may well exceed the capital gains tax rate and apply to a broader measure of wealth than unrealized gains.[29]

Second, it is often claimed by both opponents and supporters of the tax (see McCaffery 1994 and Graetz 1983) that the estate tax has failed to reduce the concentration of wealth. It is

[29] To the extent that a taxpayer has evaded income tax obligations, the estate tax can serve a second backstop role by collecting taxes at the time of death.

true that the concentration of wealth is not obviously lower in the era of high estate taxes than it was before. But many factors affect the concentration of wealth. In addition, a tax that in a typical year raises revenue equal to just 0.3 percent of GDP and 0.1 percent of household net worth is unlikely to make a serious dent in overall wealth inequality, even if the tax is progressive.[30]

C. Horizontal Equity

While progressivity issues focus on the treatment of those with higher income or wealth relative to those with less, horizontal equity focuses on how "equals"—different households with the same income or wealth—are treated relative to each other. The estate tax raises many controversial issues along these lines.

For example, among families of the same (considerable) means, the estate tax will not burden those that spend every penny on themselves, or give their wealth to charity. But the tax will burden families that pass their good fortune to their children. From the perspective of the donor, this violates principles of horizontal equity (McCaffery 1994). However, from the perspective of the next generation, inheritance provides an advantage to some rather than others. Supporters of estate taxes claim the advantages created by unequal inheritance are unearned and unfair. These two perspectives appear to create an irreconcilable difference in views on whether taxes on transfers are horizontally equitable.

A second line of debate concerns parental versus societal rights regarding inheritance. Opponents of the tax argue that parents should have unlimited rights to pass along wealth to their

[30] A related argument is that policy should be concerned not with the concentration of wealth but rather the concentration of consumption or well-being. If the estate tax encourages people to spend money while they are alive, it exacerbates inequality in living standards (McCaffery 1994), but not necessarily in utility (Kaplow this volume).

children. They note that other forms of transfers—investing in human capital, providing social contacts and networks, bringing children into a family business, giving gifts of up to $10,000 per year, etc.—are tax-free and question why transfers at death should be treated differently. Supporters of the tax agree that large transfers can already be made tax-free and conclude that the ability to provide adequately—indeed, generously—for one's offspring is not hampered by transfer taxes. But they see a need to level the playing field—or at least to limit the tilt—among the recipients of inheritances, for equity reasons. Stelzer (1997) also notes that placing limits on the use of personal property is a natural, continuing and appropriate role for society to play. Others have argued that inheritance is a civic right, not a natural right, so government has not only the discretion but the duty to regulate such activity (see Erreygers and Vandevelde 1997.)

A third set of horizontal equity issues relates to the treatment of married versus single taxpayers. Bequests to surviving spouses are not only deductible from taxable estate, they also enjoy the benefits of "basis step-up" for assets with capital gains. This provides an added benefit to a married couple with a given amount of wealth relative to two single people with the same amount of wealth as the married couple. This marriage bonus has to our knowledge never been measured, but could potentially run in the millions of dollars for some wealthy families.

All of these fairness issues hinge to a significant extent on value judgments, fairness being always and everywhere "in the eye of the beholder." As a result, it is quite difficult to resolve these issues analytically, and even more difficult to do so in a political arena.

D. Taxing at Death

Compounding the grief of the family of the deceased with a *tax*, of all things, seems a bit heartless, to be sure. It is this queasiness that opponents play on by labeling the estate and gift

tax system the "*death tax.*" As evocative as it is, this label is misleading.

Death is neither necessary nor sufficient to trigger transfer taxes. It is unnecessary because transfers between living persons can trigger gift taxes. It is insufficient because 98 percent of people who die pay no estate tax. In addition, although death may trigger a tax liability, payment can be made at different times. Estate tax liabilities can be effectively pre-paid, via life insurance purchases tied to the expected tax liability. And in the case of qualified family businesses, the tax can be paid over a 14-year period.

But while contemplation of death is not pleasurable, that does not make taxing at death inappropriate or ineffective. Indeed, death may prove to be a convenient time to impose taxes in several ways. First, the probate process may reveal information about lifetime economic well-being that is difficult to obtain in the course of enforcement of the income tax, but is nevertheless relevant to societal notions of who should pay taxes. Second, taxes imposed at death may have smaller disincentive effects on lifetime labor supply and saving than taxes that raise the same revenue (in present value terms) but are imposed during life.[31] Third, if society does wish to tax lifetime transfers between adult households, it is difficult to see any time other than death at which to assess the total transfers made.

Much of the public griping about taxation at death, however, is simply a smokescreen designed to hide opposition to a progressive tax. If taxation at death were really a problem, the logical solution would be to design equally progressive taxes imposed during life that would substitute for the estate tax.

[31] This view has been expressed by J.R. McCulloch (1848), John Stuart Mill (1994), Richard Musgrave (1959), Joseph Pechman (1983), A. C. Pigou (1960) and others.

IV. Efficiency

A tax has an efficiency cost to the extent that it causes people and firms to make choices different than those they would have made in the absence of the tax, holding real income constant and ignoring externalities. From this perspective, a uniform tax on (or at) death is a highly efficient lump-sum tax, given the inevitability of death.[32] The estate and gift tax, however, is not a tax on death *per se*, but on wealth transferred (other than to spouses or charities) during life and at death. Thus, the relevant behavioral responses concern the accumulation of wealth, to whom that wealth is transferred, and the avoidance measures taken.

A. Optimal Taxation

Optimal tax theory indicates that, on pure efficiency grounds, taxes should distinguish among the different uses of labor income only to the extent that the uses are more or less complementary to leisure, which is not taxable. Taxing complements to leisure at a higher rate than other goods reduces the inefficiency created by the inability to tax leisure.

A labor income tax, or a consumption tax, distorts the choice between leisure and all consumption, but not among the uses of income, including bequests. In contrast, an estate tax distorts the choice between lifetime consumption and bequests, and between leisure and bequests. If lifetime consumption and bequests are equally complementary with respect to leisure, then both of these uses of labor income should be taxed equally in an efficient system, and there should be no special tax on bequests (Kaplow this volume). If bequests were more (less) complementary to leisure than consumption is, there would be a case on pure efficiency

[32] The timing of death may be somewhat sensitive to financial considerations. Kopczuk and Slemrod (2000) investigate the timing of deaths around major changes in the estate tax and find some evidence that the date of (reported) death is prolonged into the period after a tax reduction.

grounds to tax transfers more (less) heavily than consumption. To our knowledge, no evidence exists on this issue.

This strong theoretical conclusion, however, may be tempered by several factors. In this section, we discuss the implications of trade-offs between equity and efficiency, imperfect annuity markets, and transfer motives. The implications of tax avoidance for efficiency are discussed in the following section.

B. Trade-offs between equity and efficiency

An optimal tax system balances efficiency and equity. The inclusion of equity considerations alone would not necessarily change the conclusions above. That is, if bequests and consumption were equally complementary to leisure, the most efficient way to impose progressivity would be to make the labor income (or consumption) tax progressive, rather than to create a separate tax on bequests (Kaplow this volume).

However, if for structural reasons the income tax cannot generate as progressive a tax burden distribution, relative to its efficiency cost, as society would prefer, then there is a potential role for the estate tax. As Slemrod and Yitzhaki (2001) address, the optimality conditions that balance equity and efficiency require equating each tax's marginal efficiency cost adjusted for its contribution to progressivity. In this context, the marginal efficiency cost is simply measured as the ratio of the marginal revenue collected in the absence of behavioral responses to the marginal revenue collected in the presence of whatever behavioral responses occur, plus a correction for administrative and compliance costs. This implies that, because the estate tax can be more progressive than other taxes, it could still be part of an optimal tax system even if its marginal efficiency cost were somewhat higher than other taxes. The efficiency cost

cannot, however, be ignored. For example, if even low estate tax rates raised no net revenue—perhaps because they induced avoidance activity that reduced the revenue from the estate tax and the income tax, as suggested by Bernheim (1987)—the marginal efficiency cost would be infinite and, even allowing for its progressivity, the estate tax would not be a part of the optimal tax system.

C. Imperfect Annuity Markets

In general, the efficiency effects of taxation depend on the pre-existing structure of markets. In particular, a common assumption in analyses of social security and other fiscal policies is that markets for private annuities are incomplete, due in part to adverse selection or moral hazard (see Brown and Warshawsky 2001). Kopczuk (2000) shows that an estate tax that finances income tax reductions provides a sort of annuity for taxpayers. With imperfect markets, this coupling of policies can raise utility. He estimates that the insurance effect reduces the marginal cost of funds for the estate tax by as much as 30 percent and that the resulting marginal cost of funds is within the range of estimates found for the income tax.

D. The Role of Transfer Motives

Standard optimal tax theory does not in general incorporate transfer motives. The efficiency implications of taxes on intergenerational transfers depend in crucial and surprising ways on why people give transfers and bequeath wealth.

As noted above, one explanation for bequests is that they are unintended, in the sense that people die before they expect to and thus do not manage to consume all of their wealth. If this were the only reason for bequests, an estate tax would have no effect on the donor's behavior

because it changes the relative price of something—the bequest—to which the donor attributes no value. Thus, the tax creates no excess burden, as would be true under a lump-sum tax. But, unlike a lump-sum tax, the estate tax in this case does not make the donor worse off. This makes such a tax look like a "utility machine," as it produces revenue for the government without hurting the donor. Of course, the potential inheritors would be worse off because of the tax.

Alternatively, bequests may be payment for services provided by potential heirs. In this case, the estate tax is simply an excise tax on purchases of services by the donor from the recipient. If bequests are simply payments for services provided (as in Cox 1987), the standard commodity tax argument applies, so that a relevant consideration is the price elasticity of the parents' demand for such services. If the elasticity is very low—as could be the case if there are no good substitutes for the child's love and attention—then the optimal tax rate would be higher than otherwise. If bequests are strategically manipulated by donors to alter children's behavior (as in Bernheim, Shleifer, and Summers 1985), the efficiency effects may be more complex, but have not been thoroughly worked out.

In pure altruism models (Barro 1974, Becker 1974), transfers create a sort of externality. Suppose a parent cares about her own utility and her child's utility, but not about the size of the transfer per se, while the child cares only about his own utility. In equilibrium, the parent chooses transfers by trading off (a) the reduction in her own utility from reduced consumption and (b) the increase in her utility from the child's increased consumption. In contrast, a planner maximizing a social welfare function that summed the utilities of all individuals would consider the same two effects *plus* the effect of the transfer on the child's utility. In general, the child's marginal utility from the transfer will be positive. As a result, in equilibrium too few transfers will be provided, leading to an efficiency argument for a *subsidy*, rather than a tax, on transfers

to children.[33]

These findings, however, are sensitive to alternative modeling assumptions. Combining parental altruism with opportunistic behavior on the part of children gives rise to a "Samaritan's Dilemma": if the parent is altruistic toward the child, and the child knows that, the child has incentives to behave in ways that are counter to the parent's overall interest (Bruce and Waldman 1990). For example, the child would have incentives to overconsume when young in order to elicit a larger bequest from the parent. In this case, by making it more difficult for the parent to transfer resources to the child, the estate tax reduces the extent of overconsumption by the child, and thus may have welfare-*improving* properties (Gale and Perozek this volume).

Another motive for bequests may be that people enjoy the act of giving per se (Andreoni 1989, Kaplow this volume), independent of the utility level achieved by the child. Suppose now that the parent cares about her own utility and the amount she bequeaths, whereas the child cares only about his own consumption. Again, in equilibrium, the parent will make transfers until the loss in her utility from the reduction in her consumption equals the gain in her utility from the higher bequest. But a social planner would include those two effects plus the effects of the increased bequest on the child's utility. As before, given the utility functions, this leads to an under-provision of the transfer and an optimal subsidy.

The analysis above shows that the efficiency effects of transfer taxes depend crucially on the operative transfer motive. But caution is warranted in interpreting some of the results. For example, the joy-of-giving model has a particularly unappealing feature from a welfare perspective. Because the donor's utility depends on consumption as well as gifts given, a social

[33] This analysis assumes that there are no labor supply effects of giving or receiving transfers. If larger transfers cause recipients to reduce their labor supply, then the case for a subsidy is weakened (Kaplow this volume). See also Bernheim (1989).

welfare function that sums up the value of the donor's and recipient's utility functions would under some circumstances favor a policy that lowers the consumption of both generations, if a greater amount of the lower level of consumption is financed by wealth transfers. The positive utility the donor derives from the increased transfers could offset reductions in each person's utility caused by reductions in their own consumption.

This problem does not arise in the pure altruism or Samaritan's Dilemma models discussed above because each person's utility in those models is a function only of the parent's and child's consumption. Thus, in those models a reduction in everyone's consumption would never be favored by a social welfare function that added up each person's utility (as long as each person's utility entered the other person's utility function in a non-negative manner).

These considerations suggest that simple descriptions of optimal policy toward transfers are difficult to establish. If it could be determined that motives varied systematically across different types of donors or across different types of gifts, this information would be useful in designing optimal transfer tax policy (see Kaplow, this volume). In the absence of such data, however, the multiplicity of possible transfer motives, the inability of the empirical literature to distinguish very clearly between the motives, and the significant differences in optimal taxation under different motives imply that conclusions about the optimal taxation of transfers must be reached very cautiously.

V. Administrative Issues

Administrative issues are central to the analysis of estate taxes. Critics argue that the tax spawns a host of avoidance schemes that waste resources, create horizontal inequities, and erode the potential revenue yield. In that vein, Cooper (1979) labeled the estate tax a "voluntary" tax.

Bernheim (1987) argued that the revenue yield of the estate tax, net of the avoidance schemes it induced, was approximately zero. Although many of the avoidance schemes that Cooper and Bernheim discussed have been closed off or otherwise mitigated by subsequent legislation, others remain (see Schmalbeck this volume). In this section, we examine the costs of complying with and administering the tax, and the extent and implications of transfer tax avoidance and evasion.

A. Compliance and Administrative Costs

The cost of collecting the estate tax has two components. *Compliance costs* are borne directly by taxpayers as time or money spent on tax advice and implementation of tax planning devices, and by claimants to the estate in complying with the estate tax itself. *Administrative costs* are borne directly by the IRS, in operating, monitoring, and enforcing the system.

Estimates of the compliance cost of the estate tax vary enormously, partly because the methodologies are suspect. Munnell (1988) is cited as claiming that "the costs of complying with the estate tax laws are roughly the same magnitude as the revenue raised" (Joint Economic Committee 1998). But Munnell actually wrote that compliance costs "may well approach the revenue yield." Even this more modest conclusion, however, is based on a number of rough calculations and more or less informed guesses, rather than hard evidence.

Munnell noted that, at the time, the American Bar Association reported that 16,000 lawyers cited trust, probate, and estate law as their area of concentration. Valuing their time at $150,000 per year on average and assuming they spend half time on estate taxes yields $1.2 billion in avoidance costs, compared to estate tax revenues of $7.7 billion in 1987. To get from $1.2 billion to close to $7.7 billion, Munnell refers to "accountants eager to gain an increasing

share of the estate planning market," financial planners and insurance agents who devote a considerable amount of their energies to minimizing estate taxes, and the efforts of the individuals themselves, and concludes that the avoidance costs "must amount to billions of dollars annually." It is also worth noting that Munnell's estimates are now out-of-date and that estate tax revenues have risen dramatically during the intervening period. Thus, even if compliance costs at that point were almost equal to revenues, they may not be today.

Davenport and Soled (1999) estimate tax planning costs by surveying tax professionals about average charges for typical estate planning in six different estate size classes and applying these estimates to the number of returns filed in 1996. This yields estimated costs for planning of $290 million. Using fairly *ad hoc* but not implausible adjustments for such factors as the number of nontaxable decedents that do tax planning and tax planning that has to be repeated when tax laws change, they estimate planning costs of $1.047 billion in 1999. They add $628 million for estate administration costs, based on taking one-half of the total lawyers' fees and other costs reported on estate tax returns, and reducing that number by 45 percent to reflect the tax deductibility of the costs. (Note that the last reduction is inappropriate for measuring the social, rather than private, costs of the activity.) The sum of their estimates for planning and estate administration comes to $1.675 billion in 1999, or about 6.4 percent of expected receipts. They allocate another 0.6 percent of revenues for the administrative costs of IRS estate tax activities, for an estimated total cost of collection of 7.0 percent of revenues.

The Davenport-Soled (DS) estimate is more recent and more detailed than Munnell's. Although both estimates require some arbitrary assumptions, it is difficult to see how the basic DS methodology could be re-done with an alternative set of reasonable assumptions to yield an estimate that avoidance costs are anywhere close to 100 percent of revenues.

The estimates above are based on suppliers of estate tax avoidance techniques. Another approach would be to survey the demanders of the service, the wealth owners. This approach has been employed with some success for the U.S. individual income tax (Slemrod and Sorum 1984, Blumenthal and Slemrod 1992), and the corporation income tax (Blumenthal and Slemrod 1996). As a point of comparison, based on such studies, Slemrod (1996) concludes that collection costs for the U.S. individual and corporate income tax is about 10 percent of the revenue collected.

Unfortunately, no reliable and comprehensive survey research has been carried out for the estate tax. What does exist applies only to businesses, and may be considered suspect. Astrachan and Aronoff (1995) surveyed businesses in the distribution, sale, and service of construction, mining, and forestry equipment industry, and separately surveyed businesses owned by African-Americans. Each of these are very special and small subsamples of the estate tax population, and the methodology employed is worrisome on a number of dimensions. For example, the authors include as a cost of avoidance the amount spent on insurance premiums to provide liquidity for paying the estate tax. This expense is properly thought of as pre-paying the tax liability, and to consider it as a cost in addition to the tax liability itself is surely inappropriate double counting.

Astrachan and Tutterow (1996) survey 983 family businesses in a variety of industries and find that family business owners have average expenditures of over $33,000 on accountants, attorneys, and financial planners working on estate planning issues; family members averaged about 167 hours spent on estate planning issues over the previous six years (the time frame for the dollar expenditures is not made clear). However, these estimates include life insurance fees that represent prepayment of estate tax liabilities. In addition, an unknown fraction of the costs

is due to estate planning, *inter alia* about intergenerational succession of the business, that is unrelated to taxation. Repetti (2000), while corroborating in surveys of estate tax attorneys the broad magnitude of the Astrachan and Tutterow results, argues that a significant portion of these costs would be incurred even in the absence of estate taxes.

In sum, there is some evidence on the costs of estate planning for small businesses, but the estimates are marked by conceptual problems and disagreement about the fraction of costs due to the estate and gift tax as opposed to non-tax factors or other taxes. For the broader population, there is no informative evidence from surveys of wealth owners.

B. Extent of Avoidance and Evasion

Estimating the extent of (legal) avoidance and (illegal) evasion is difficult. Wolff (1994) and Poterba (2000) attempt to do so by comparing tax revenues and the distribution of estates reported on tax forms and similar statistics calculated from a procedure that estimates these items using data on individuals' mortality probability and wealth measured in the Survey of Consumer Finances. Because of a number of methodological differences, they reach vastly different conclusions, with Wolff arguing that the estate tax captures only about 25 percent of the potential tax base, and Poterba concluding that it catches nearly all of it. Eller, Erard, and Ho (this volume) point out that any such exercise is highly sensitive to a few essentially arbitrary assumptions about the allocation of deductions and credits, the differential mortality of married and unmarried individuals, and the first spouse in a couple to die.

Audit coverage of estate tax returns is relatively high. According to Eller and Johnson (1999), in 1992 19 percent of estate tax returns filed (not all of which were taxable) were audited. The audit rate rose with the size of the gross estate, with 11 percent of estates below $1

million being audited, rising to over 48 percent for estates over $5 million. By concentrating on the largest estates, the audits covered returns with 63 percent of the reported tax liability.

Eller, Erard and Ho (this volume) show that sixty percent of audited estates in 1992 resulted in an additional positive assessment, 20 percent resulted in no change in tax liability, and 20 percent resulted in a reduced tax bill. Extrapolating from the results of a sample of those estate tax returns that were audited, Erard (1998) estimated overall evasion to be 13 percent of the potential tax base, which is slightly lower than the estimated tax gap for the income tax.

C. Implications of Avoidance and Evasion

Conclusions regarding avoidance and evasion have important implications for the equity, efficiency, revenue yield, and reform of transfer taxes.

1. Equity Some opponents of the estate tax assert that avoidance and evasion renders the tax regressive, at least among the highly wealthy that are subject to the tax. For example, in commenting on 1997 estate tax returns, the Joint Economic Committee (1998, p. 31) writes:

> "One way to measure vertical equity is to compare the average tax rates for different income or asset levels. Based on this criterion, the estate tax does not exhibit vertical equity. According to IRS data, the average estate tax rate for the largest estates (gross estate over $20 million) is actually *lower* than the average tax rate for estates in the $2.5 million to $5 million range." (Italics in original)

It is true that in 1997, the ratio of net estate tax to gross estate was lower for estates above $20 million (11.8 percent) than for estates between $2.5 million and $5 million (15.0 percent). But this apparent anomaly in the face of graduated tax rates occurs for simple reasons that are certainly not related to evasion or to any sophisticated tax planning schemes. The wealthier group had higher charitable deductions, 28.4 percent of gross estate versus 5.7 percent, and higher credits for gift taxes and for state death taxes, 5.6 percent of gross estate versus 3.3

percent (Johnson and Mikow 1999). Moreover, the pattern that arose in the 1997 returns did not arise in 1998. Estate taxes in 1998 were 16 percent of gross estate for estates between $2.5 million and $5 million, and 17 percent for estates above $20 million. For all transfer taxes, the average tax rates of 20 percent and 26 percent, respectively (table 7). These figures thus provide no evidence that evasion or sophisticated avoidance strategies undermine the progressivity of the estate tax.

2. Efficiency Administrative and compliance costs have two effects on efficiency. First, they should be added to the standard costs of distorted behavior in determining the overall welfare effects. A second issue is the extent to which avoidance and evasion opportunities reduce the effective marginal tax rate imposed by the estate tax and thus mitigate any disincentive effects the tax would otherwise cause. For example, it is sometimes claimed that transfer taxes are both easy to avoid and a serious deterrent to wealth accumulation. At first glance, these arguments sound inconsistent: if they were so easy to avoid, why would the taxes hurt wealth accumulation? As Slemrod (2001) shows, however, these two claims need not be logically inconsistent. Whether they are depends on the pricing structure of the avoidance technology.

Schmalbeck (this volume) suggests that, for all but the largest estates, the avoidance technology often features a fixed fee for an avoidance device (for example, a trust) that reduces the effective tax rate on an unlimited amount of wealth that is passed through the device. This reduces the effective marginal tax rate (on wealth above the level that makes the fixed cost of using this device worthwhile), and therefore reduces the effective progressivity of the estate tax. For the largest estates, Schmalbeck notes that there is often an hourly fee for advice and planning. If the fee is not related to the size of the tax saving, the same conclusion applies.

Schmalbeck's findings imply that avoidance opportunities typically do reduce the effective marginal tax rate at high wealth levels, and therefore do reduce the deterrence to wealth accumulation below what the statutory rate structure suggests.

Just as there is heterogeneity in bequest motives, there are also differences in the extent to which people pursue tax avoidance opportunities. There are undoubtedly people who maximize the after-tax bequest. But many others do not pursue even the most basic tax planning strategies. Poterba (1998) documents that most wealthy people do not take advantage of the annual $10,000 per donor, per recipient exemption for *inter vivos* gifts.

Moreover, just as alternative transfer motives have different implications for the efficiency of transfer taxes, the different reasons why people may choose not to avoid transfer taxes may have important efficiency implications as well. There are several plausible explanations for at least part of the lack of giving, including precautionary motives among donors. To the extent that infrequent giving is due to people finding it uncomfortable to contemplate their own demise, the efficiency costs are not as large as they might otherwise be.

3. Revenue Avoidance of any tax, by definition, reduces revenue. But the effect of estate tax avoidance on revenue is of particular interest because many of the easiest and most popular methods of reducing estate tax liability—*inter vivos* gifts, charitable contributions during life, etc.—also end up reducing overall income tax liabilities of the donor and recipient (Bernheim 1987). Thus, the net effect of estate tax avoidance on revenues is the net revenue earned by the estate tax *less* any avoidance of income taxes induced by the existence of the transfer tax system. Bernheim's (1987) calculations suggest that the loss in income tax revenue from estate tax avoidance in the 1980s was plausibly of the same order of magnitude as estate tax revenues. (See McCaffery 1994 for a critique of these findings.) There are, to our knowledge,

no reliable, recent estimates of the extent of income tax avoidance engendered by the existence of the estate tax.

4. Reform Even if avoidance and evasion of the estate tax is large, the appropriate direction for reform may still be in question. For example, tightening loopholes could reduce avoidance and evasion, while at the same time raising the revenue yield. Thus, the extent of avoidance and evasion, and the accompanying compliance costs, are important inputs into reform decisions, but do not dictate the nature of reform by themselves.

VI. Effects on Saving, Labor Supply, and Entrepreneurship

Critics argue that the estate tax significantly reduces the saving, labor supply, and entrepreneurship that are essential to economic prosperity. In this section, we review evidence on these issues.

A. Saving

There is a strong presumption that estate taxes should influence saving. The implied marginal tax rates on the return to saving from the estate and income tax can be very high (Poterba 2000, Gale 2000). Nevertheless, there are few formal models of estate taxes and saving. Kotlikoff and Summers (1981) estimate that a one dollar decline in gross transfers reduces the capital stock by about 70 cents, but they do not estimate how transfer taxes affect gross transfer levels. Caballe (1995) develops an altruistic model with endogenous growth, human capital, and bequests and finds that estate taxes reduce the capital stock. This model, however, focuses only on the special case where taxes on estates and on capital income have identical effects.

Laitner (this volume) provides the most sophisticated model of estate taxes to date, embedding them in an overlapping generations simulation model with altruistic bequest motives. He finds that removing estate taxes would have a small positive effect on the long-term ratio of capital to labor. It is sometimes claimed that the growth effects of removing the estate tax would raise revenue more than sufficiently to offset the revenue loss from abolishing the estate tax. Laitner, however, finds that other tax rates have to increase to maintain revenue neutrality.

Gale and Perozek (this volume) show that the impact of transfer taxes on saving, like the efficiency effects, will depend critically on why people give transfers. If bequests are unintentional, estate taxes will not affect saving by the donor, but they will reduce the net-of-tax inheritance received by the recipient and thereby raise the recipient's saving. If bequests are payment for services provided by children, the impact of taxes depends on the elasticity of parents' demand for services. If demand is inelastic, higher taxes will raise total parental expenditure on services, and thereby raise their saving. If bequests are motivated by altruism, the effects are ambiguous, but simulations suggest that the effect will be positive or non-negative under many circumstances.

Like previous theoretical work, empirical studies of the impact of estate taxes on saving are also limited in number. Kopczuk and Slemrod (this volume) use estate tax return data from 1916 to 1996 to explore links between changes in the estate tax rate structure and reported estates. These links reflect the impact of the tax on both wealth accumulation and avoidance behavior. They find that an aggregate measure of reported estates is generally negatively associated with summary measures of the level of estate taxation, holding constant other influences. In pooled cross-sectional analyses that makes use of individual decedent information, however, the relationship between the concurrent tax rate and the reported estate is

fragile and sensitive to the set of variables used to capture exogenous tax rate variation. The negative effect of taxes appears to be stronger for those who die at a more advanced age and with a will, both of which are consistent with the theory of how estate taxes affect altruistic individuals. Perhaps of most interest, the tax rate that prevailed at age 45, or ten years before death, is more clearly (negatively) associated with reported estates than the tax rate prevailing in the year of death. This suggests that future research should concentrate on developing lifetime measures of the effective tax rates.[34]

Other empirical work has focused on saving by the recipient of the inheritance. Weil (1994) shows that the past or anticipated receipt of an inheritance raises a household's consumption by between four and ten percent, after controlling for income, age, education and other factors. Given the magnitude of typical household saving rates, Weil's results suggest that reduced inheritances due to estate taxes would substantially raise the donee's saving out of earned income.

Holtz-Eakin, Joulfaian, and Rosen (1994a, 1994b) show that receipt of a large inheritance raises the likelihood that a household starts a business and raises the probability of the recipient's existing business surviving and expanding. Thus, to the extent that inheritances relieve liquidity constraints associated with investment, reduced inheritances due to estate taxes could reduce investment among recipients.

B. Labor Supply

As noted above, the estate tax can be considered a tax on one use of labor income, and so reduces the real wage. The numerous studies of how taxes affect labor supply, which generally

[34] Fiekowsky (1966) and Chapman, Hariharan, and Southwick (1996) also examine issues relating to the estate tax and saving.

find that the aggregate substitution effect is rather small, are therefore relevant.[35] However, with one exception no one has attempted to directly measure the impact of estate taxes on the labor supply of potential donors. Holtz-Eakin (1999), using data from two national surveys, shows that, in raw cross-tabulations, individuals aged 50 and older that face higher estate tax rates work less. This could be a reflection of the estate tax reducing labor supply, or—in our view more likely—may simply reflect the fact that leisure is a normal good and households that face higher estate tax rates have higher wealth.

There has been more fruitful work on the impact of inheritances, and by implication the effect of any change in inheritances caused by the estate tax, on aspects of labor supply. Holtz-Eakin, Joulfaian, and Rosen (1993) show that receipt of an inheritance of $350,000 reduces labor force participation rates by 12 percentage points for singles and reduces the likelihood of married couples having two workers by 14 percentage points. Holtz-Eakin, Joulfaian, and Rosen (1993) and Joulfaian and Wilhelm (1994) find small reductions in the labor supply of inheritors who remain in the labor force.

C. Closely-Held Businesses and Farms

The impact of the estate tax on family-held businesses and farms has taken on a hugely disproportionate role in public policy debates. This role has been fueled by anecdotal evidence on the adverse effect of the tax on particular families or businesses.

Holtz-Eakin (1999) provides supporting evidence. Using a survey of about 400 business owners in New York state, he concludes from regression analysis that businesses in which the owner would be subject to the estate tax if he or she died immediately had significantly less

[35] This literature is surveyed in Macurdy (1992).

employment growth over the previous five years than other firms. However, the regressions do not control for the age of the owner. One might suspect that older owners were more likely to be wealthy, and thus more likely to be subject to estate taxes upon death, but less likely to push for aggressive growth than younger owners. Moreover, the data are based on responses to a mail survey and so may not be very representative.

Other survey evidence should be viewed as highly suspect, in part because it is based on people's stated intentions rather than their actions. Astrachan and Tutterow (1996) report that in a survey of 983 family-owned businesses, more than 60 percent reported that paying estate taxes will limit business growth, 13 percent said it would make growth impossible, more than 60 percent said paying would threaten business survival, 8 percent said it would make survival impossible, and 33 percent said that paying estate taxes will require selling all or part of the business. Estate taxes were also thought to affect current business behavior: 36 percent said the tax shortens the time owners wait for an investment to pay off, and 68 percent said it reduces the acceptable risk associated with investment. Finally, 60 percent of respondents said that if estate taxes were eliminated, they would immediately hire more workers and revenues would grow at least 5 percent faster than otherwise anticipated.

Several important caveats apply to these figures. First, somewhat contradictorily, 45 percent of respondents said they had no knowledge of their likely estate tax liability. Second, the effects appear to be hugely out of proportion with the actual impact of estate taxes. The vast majority of family businesses undoubtedly do not ever face estate tax because they fail well before the death of the owner or because their value is well below the estate tax exemption. Harl (1995), for example, reports that 95 percent of farms could have passed to heirs with no estate tax liability under the rules in place in 1995.

Third, insuring the life of a business owner is good business practice, even without an estate tax, but is especially good practice for owners of closely-held business who want the business to remain in family hands after their own death. Thus, if business owners were especially concerned about their ability to pass on the business to their descendants, they might be expected to be particularly heavily insured. This does not appear to be the case, though. Holtz-Eakin, Phillips and Rosen (1999) show that small business owners do hold somewhat more life insurance than others with the same wealth. But they also find that the insurance purchases of business owners are less responsive to estate tax considerations than are the purchases of other households. This suggests either that business owners do not anticipate problems—given their current life insurance holdings and other assets—in passing the business along to their descendants, do not consider giving the business to their descendants a high priority, or are planning poorly.

Nor does it appear that many business owners would have difficulties paying estate taxes without liquidating the business. Holtz-Eakin et al find that 58 percent of business owners could pay estate tax liabilities out of insurance, liquid assets, stocks and bonds alone, without having to use any non-liquid assets or the business itself to pay estate taxes. On average, business owners can cover over 80 percent of their projected estate tax liability without affecting the business. These estimate surely understate the true percentage of businesses that can pass to recipients without fear of being broken up by the estate tax, because the authors do not allow for any reduced valuation of businesses, or any other estate tax planning or avoidance, which would reduce estimated estate taxes, and they omit life insurance held in trusts, non-financial assets, and balances in 401(k)s or other pension accounts, each of which would raise available resources with which to pay estate taxes. Thus, the vast majority of closely-held businesses do not appear

to face imminent demise due to estate tax considerations.

Beyond the heartrending anecdotes and questionable surveys, however, there is little in the way of logic or evidence that suggests that the impact of estate taxes on family farms and businesses is a major concern. We offer several reasons for this conclusion.

First, family farms and businesses already receive special treatment under the estate tax. Taxpayers are entitled to calculate the taxable value of the real estate used in a farm or closely-held business on the basis of their current-use value, rather than market value. As noted above, this can reduce the value of the taxable gross estate by up to $770,000 for decedents who died in 2000.[36] In addition, because such assets do not trade in liquid markets, there is often substantial discretion (and hence substantial discounts) used in determining value. Furthermore, legislation enacted in 1997 permits a special deduction for family-owned farms and businesses when they constitute at least 50 percent of an estate and in which heirs materially participate.

Taken together, these effects can be sizable. Consider a couple with a business worth $3.9 million. Suppose the value for estate tax purposes can be reduced by one-third using the valuation techniques noted above; Schmalbeck (this volume) suggests that this would not be an unexpected outcome. The remaining value, $2.6 million, would not be taxable, given the business deduction and the unified credit. The entire business could pass to heirs in a tax-free manner. Thus, the various deductions, exemptions, and valuation procedures already in place provide a very high effective floor under which family businesses can pass tax-free.

Empirical evidence also suggests that valuation discounts, or other avoidance measures, are substantial. Poterba and Weisbenner (this volume, table 8) apply mortality probabilities to household wealth data in the 1998 SCF and project that about 49 percent of the wealth in estates

[36] The special use value of real estate is obtained by capitalizing the income expected from the property in its current use.

above $10 million were due to active businesses and farms. In contrast, the corresponding figure in actual estate tax returns, reported in table 3 above, is between 13 percent and 22 percent. This suggests that businesses are able to evade or avoid the estate tax quite successfully.

In addition, any estate tax liability that is due to family farms and businesses can be paid in installments over a 14-year period, with only interest charged for the first four years. The applicable interest rate is 2 percent on estate tax liability stemming from the first $1 million of taxable assets with higher, but still below-market, rates on larger amounts. This not only provides reduces the cash flow needs for the business, it significantly reduces the present value of estate tax liabilities.

Second, a significant portion of the value of the family-owned businesses consists of unrealized capital gains. Kennickell and Wilcox (1992) peg the figure at two-thirds using the 1989 SCF. Evidence in Poterba and Weisbenner (this volume) suggests that the figure was 80 percent in 1998.[37] This income has never been taxed under the income tax and would never be taxed at all if exempted from the estate tax.

Third, small businesses already receive numerous income tax subsidies—for investment, for example. Fourth, there is an issue of horizontal equity: why, between two families with the same size estate, should the one whose assets are in business form have a smaller tax liability? The answer is presumably that in some sense the family owning the business is less well off, or has assets that are less diversified or less liquid than those of the other family. If so, the same tax represents a larger burden to the business-owning family. Nevertheless, the current adjustments in the estate tax for small businesses already address these concerns, as noted above.

[37] Poterba and Weisbenner (this volume, table 8) show that total estate in their sample was $118 billion, of which 7.2 percent ($8.5 billion) consisted of active businesses and farms. At the same time, total unrealized capital gains in estates were $42.8 billion, of which 15.9 percent ($6.8 billion) was due to active businesses and farms. Thus, unrealized gains in active businesses and farms were 80 percent of the total value of active businesses and farms.

The analysis above suggests that claims for additional special treatment on behalf of family businesses and farms should be treated with great skepticism. In practice, the claims made by opponents of the tax actually go well beyond special treatment; many argue that the problems of family businesses and farms are sufficient to merit the abolition of the estate tax. This seems extreme, though.

Farms and other small businesses represent a small fraction of estate tax liabilities. Farm assets were reported on 6 percent of taxable returns filed in 1998; farm real estate was reported on 12 percent. Together, these items constituted just 1.7 percent of taxable estate value. About 8.7 percent of taxable returns in 1998 listed closely held stock, which accounted for 6.6 percent of taxable estate value. Limited partnerships and "other noncorporate business assets" accounted for an additional 2.6 percent of taxable estate. Thus, using a very expansive definition, farms and small businesses account for at most 11 percent of assets in taxable estates (IRS 2000a).[38] Clearly, the vast majority of estate taxes are paid by people who own neither farms nor small businesses, and the effects on farms and small businesses provide no justification for abolishing the estate tax.[39]

Serious empirical analysis of the role of the estate tax in the demise of family-run businesses would be enlightening. With that information in hand, one could estimate the

[38] Holdings of farms and businesses are particularly low among the smallest taxable estates. Among taxable estates worth less than $1 million, only 1.0 percent of taxable estate value was due to small businesses. For those between $1 million and $2.5 million, small businesses account for only 2.6 percent of taxable estate value. But among the largest estates—those in excess of $20 million—closely-held businesses account for 32 percent of taxable estate.

[39] To put these figures in perspective, consider the following exercise. First, note that any estate with less than half of its wealth in farm or business assets could pay estate tax liability out of the rest of the estate without hurting the business. Second, in 1998, about 3 percent of taxable estates had more than half of gross assets in farm and small businesses (Committee on Ways and Means, 2000). Suppose the federal government had given each such estate $1 million in cash—surely a sufficient amount, given all of the other inducements for businesses, to allow any well-run, profitable small business to pay the 2 percent interest costs for 5 years and probably for longer than that. The total cost, $1.4 billion, would have comprised only 6 percent of transfer tax revenue in 1998 (Office of Management and Budget 2000).

efficiency cost of "breaking up" small businesses. This should start with the presumption that the tax system should be neutral with respect to whether a family member continues to run the business, but could also incorporate the role of life insurance, business and estate planning in the absence of estate taxes, market imperfections due to credit constraints, and the incentives that other aspects of the tax system (e.g., basis step-up on appreciated assets) have on the outcome.

VII. Effects on Gift-Giving, Charity, and Capital Gains Realizations

Besides its alleged impact on the factors that generate economic growth, transfer taxes can influence a wide variety of other forms of behavior. This section reviews recent evidence on how the taxes affect inter-personal gifts during life, charitable gifts during life and at death, and the timing of capital gains realizations.

A. Inter Vivos Giving[40]

Although federal estate and gift taxes are said to be "unified," gifts and bequests are taxed differently, as noted above. The estate tax is based on the gross-of-tax estate, while the gift tax is imposed on the net-of-tax gift. An appreciated asset given as a bequest benefits from "basis step-up;" the same asset, given as an *inter vivos* gift, does not.[41]

Although these two features work in opposite directions in favoring gifts versus bequests, several other features of the transfer tax system favor gifts. First, the annual gift exemption of $10,000 per donor per recipient has a "use-it-or-lose-it" feature. Gifts that fall under the exemption level add to the total amount of lifetime giving that can be done tax-free. Second,

[40] McGarry (2000) provides a thorough and thoughtful review of the literature on the determinants of inter vivos giving.

[41] Note that this implies that, for a given amount of total transfers, households should give high-basis assets as *inter vivos* gifts and low-basis assets as bequests.

making transfers earlier rather than later exempts not only the transfer itself from tax, but also all future growth of the asset. Thus, for example, people who wish to maximize the value of gifts should use up their entire effective exemption in *inter vivos* gifts rather than waiting until they die to transfer resources. Third, the two factors directly above would favor gifts over bequests even if the estate tax rate structure were flat. The fact that estate tax rates are graduated accentuates these incentives further, by providing extra incentives to minimize the size of taxable lifetime transfers (for further discussion, see McCaffery 1994 and Poterba 1998).

1. Level of Giving Despite these incentives, large (reported) gifts are small relative to bequests. Gifts in excess of the annual exemption must be reported on estate tax returns. Among 1998 returns, taxable gifts comprise only about 4 percent of total taxable estate, and less than 6 percent in each estate size category. Only about 18 percent of taxable estates report taxable gifts, including a majority of taxable estates above $5 million. Interestingly, 7 percent of all non-taxable returns, and 33 percent of such returns above $5 million, report (previously) taxable gifts (IRS 2000a).

Tax data showing small gifts may simply reflect evasion. Gale and Scholz (1994) use data from the 1983 and 1986 Surveys of Consumer Finances and find that large transfers are relatively rare—less than 10 percent of households gave $3,000 or more to other households in the three-year period. Nevertheless, they find that overall *inter vivos* transfers are substantial, amounting to between 67 percent and 75 percent of annual bequest flows. McGarry (1997), using data from the Health and Retirement Study, and Poterba (1998), using data from the 1995 Survey of Consumer Finances, confirm that large *inter vivos* transfers are relatively rare, even among households whose wealth exceeds the estate tax filing threshold, but do not estimate aggregate transfer flows.

2. Timing of Transfers The choice of *inter vivos* gifts versus bequests is one example of the timing of gifts, and there is significant evidence that the timing of gifts is sensitive to estate tax rates. McGarry (1999) shows that, in a regression that controls for wealth and other factors, whether a family would be subject to the estate tax has a large positive impact on its *inter vivos* giving. A simulation based on these results indicates that elimination of estate taxes would reduce *inter vivos* transfers by about 30 percent. Poterba (1998) finds, in a cross-sectional regression, that transfers are positively associated with wealth, consistent with the view that higher estate tax rates encourage transfers. Bernheim, Lemke, and Scholz (2000) use several cross-sections from the Surveys of Consumer Finances and find that households in wealth groups whose estate tax rates fell after the 1997 tax changes provided fewer *inter vivos* transfers in 1998 than in earlier years.

Feinstein and Ho (this volume) provide new evidence on estate tax avoidance by examining how health status interacts with wealth to affect *inter vivos* giving. They show that wealthy households in poor health—that is, with a higher probability of dying soon—are more likely to make transfers than wealthy households in good health.

Another example of the timing of transfers is whether the bequests of a married couple are made upon the first death or upon the death of the surviving spouse. Two aspects of the tax system affect this choice. First, there is an unlimited deduction for spousal bequests. Second, the graduated estate tax gives rise to an incentive to split the total non-spousal bequest between the two estates. If it were known with certainty that the two spouses would die at the same time, the tax-minimizing strategy would split non-deductible bequests exactly in two. Otherwise there is an offsetting incentive, due to the time value of money, to have the estate of the first spouse that dies be somewhat smaller (see Schmalbeck, this volume).

Bernheim (1987) tests the sensitivity to estate tax provisions of the timing of transfers to one's ultimate heirs by comparing estate tax return data from 1977 and 1983. Most of the former data are for estates treated under 1976 law, before the changes in the Tax Reform Act of 1976, and most of the latter data concern returns taxed under Economic Recovery Tax Act of 1981, which removed the limitations on marital deductions. He finds that, among estates with approximately similar minimum value, in 1977 married individuals left 48 cents out of every dollar to their spouses, but by 1983 this figure had increased to 59 cents. This change could be due to the introduction of the unlimited marital deduction. He also finds that the fraction of married individuals who claimed deductions for spousal bequests rose from 90 percent to 95 percent. This decline is not likely to be due to the increase in tax-free spousal bequests, but is consistent with the lower estate tax rates in 1983 reducing the penalties associated with transferring wealth first to one's spouse, and then, upon the spouse's death, to one's children.

3. The Intra-Family Division of Wealth To the extent that transfer taxes alter the relative magnitudes of *inter vivos* gifts and bequests, they may also affect the intra-family division of wealth. Studies of probate records (Menchik 1980, 1988), existing wills (Dunn and Phillips, 1997), and estate tax returns (Wilhelm, 1996) show that estates are divided approximately equally among children most of the time. Whether *inter vivos* gifts are also usually equal is more controversial. Cox (1987) and Cox and Rank (1992) found evidence that parents give *more* to better-off children, the reverse of what the basic altruistic model would suggest. However, subsequent research (Altonji, Hayashi, and Kotlikoff, 1997; McGarry and Schoeni, 1995, 1997; McGarry, 1997) suggests the opposite: that less well-off children benefit disproportionately from *inter vivos* transfers.

McGarry (1999) notes that making full use of the $10,000 per donor per donee gift

exemption may require people to give unequal amounts to the families of their children, depending on the size of the children's family. In cross-section regressions, she finds that transfers are given differentially across children, but that there is little evidence that the deviations from equal division are motivated by tax planning.[42]

B. Charitable Contributions

Econometric analysis of the impact of the estate tax on charitable giving faces a difficult problem in distinguishing the impact of the marginal estate tax rate –which varies as a function of estate size--from the impact of variations in wealth. This problem also arises in examining the impact of income taxes on charitable contributions, of course. One solution is to assume that other components of income or wealth are fixed, and calculate the marginal tax rate that applies at zero contributions. This “first-dollar" tax rate is sometimes used as an instrumental variable for the “last-dollar" tax rate that is presumed to determine the relative prices on the margin.

Although the complicated nature of the decision problem is often recognized, empirical work on charitable bequests has generally specified giving simply as a function of estate size, the price of charitable bequests relative to bequests to children, and other standard socioeconomic determinants of giving. Most studies (e.g., Clotfelter 1985, McNees 1973, Boskin 1976, Joulfaian 1991, Auten and Joulfaian 1996, Joulfaian 2000, Joulfaian this volume) calculate the marginal estate tax rate as a “first-dollar" rate.

Another important econometric issue is the treatment of spousal bequests, which are currently fully deductible. Almost all previous work assumes that spousal deductions are

[42] Page (1997) makes use of the variation in effective state estate and inheritance taxes to investigate the impact of taxes on inter vivos gifts. But of the 384 households in his sample, only 14 had wealth over $600,000, so this study likely may not reveal much about the behavior of people who are subject to the federal estate tax.

unchanged when charitable contributions change. This does not appear to us to be a credible assumption, but it is difficult to know what the appropriate assumption ought to be.

Auten and Joulfaian (1996) use a data set that matches the estate tax returns of 1982 decedents to both their 1981 federal income tax return and the 1981 returns of their heirs. They find that charitable contributions at death are sensitive to tax rates during life and at death. Joulfaian (this volume) matches estate tax returns filed between 1996 and 1998 with the decedents' income tax returns for 1987 through 1996. He finds that the relative composition of giving during life and at death changes markedly with wealth, with the extremely wealthy giving a much greater share of their contributions at death. These estimates also document that giving at death is sensitive to the marginal tax rates applied in the estate tax.

Thus, most studies find that the deduction in the estate tax for charitable contributions generates a significant increase in contributions at death. The estate tax may well encourage giving during life as well. Indeed, this is precisely one of the avoidance techniques that Bernheim (1987) emphasizes could reduce both estate and income tax revenues.

These effects may be especially large among the wealthiest households, who also face the highest estate tax rates and typically face the highest income tax rates as well. For example, in 1998, among taxable estates with gross estate over $20 million that made charitable contributions, the average contribution was $13.2 million (IRS 2000a).

Opponents of the estate tax counter with two claims. First, they note that the effects of the estate tax deduction for charitable giving are small relative to the overall funds raised by the non-profit sector. Estate tax returns filed in 1998 provided charitable bequests of $11 billion (IRS 2000a). In contrast, total revenue of the non-profit sector in 1996 was $704 billion (IRS 2000b), of which $137 billion came from contributions, gifts, and grants. Note, however, that a

sizable portion of the income of the non-profit sector may reflect the earnings of endowments, which may represent prior charitable contributions.

Second, opponents argue that eliminating the estate tax would raise wealth among the wealthiest families, which would in itself increase charitable bequests. This claim, of course, is inconsistent with the view that the estate tax does not effectively reduce the concentration of wealth. In addition, if wealth did rise among the wealthiest families, but the price of charitable bequests rose by 122 percent, it is not obvious that charitable bequests would rise.[43]

C. Capital Gains Realizations

Because assets whose value consists in part of unrealized capital gains receive basis step-up at death, the estate tax may interact with incentives to give *inter vivos* gifts and to realize capital gains. Auten and Joulfaian (1998) examine the impact of the Economic Recovery Tax Act of 1981, which reduced capital gains tax rates and reduced estate tax rates. Using a sample of matched income and estate records, their results suggest that lower estate tax rates reduce lifetime capital gains realizations, thus increasing the lock-in effect associated with basis step-up. Poterba (1998) shows that, controlling for net worth, households with larger amounts of unrealized capital gains are less likely to make inter vivos gifts. This suggests that the gain from basis step-up is an important consideration in choosing both the level of gifts and which assets to give away.

[43] The 122 percent increase is calculated from the ratio of (a) the price of a one dollar charitable bequest with no estate tax ($1) and (b) the price of a one dollar charitable bequest with a 55 percent estate tax rate ($0.45).

VIII. Proposals for change[44]

The policy debate on transfer taxes is remarkable not only for the variety of proposals that have been made in recent years, but also for the extent to which proposals often cut across the lines that traditionally demarcate such discussions. Naturally, some liberals applaud the tax and some conservatives detest it, all for the usual reasons. But certain liberals acknowledge that the transfer tax system is flawed. Some propose strengthening the system to increase progressivity (Aaron and Munnell 1992), while others claim that abolition would reduce inequality in consumption (McCaffery 1994). On the other side, the case in favor of near-confiscatory taxes on bequests is made most forcefully by Stelzer (1997), who describes himself as a libertarian, and who sees large inheritances as affirmative action for the children of the wealthy.

The most radical reform would be to abolish the tax. This removes the existing problems, but may create serious additional issues. It would eliminate what is by far the most progressive tax instrument in the federal tax arsenal, just after an extended period over which the distributions of income and wealth have become far more skewed. It could hurt non-profit organizations. It may not even raise saving, labor supply or growth, as its advocates hope, and would probably reduce state revenues as well.[45] Finally, abolition would expose a gaping loophole with regard to capital gains in the income tax. and would open up other possibilities for tax avoidance, and resulting revenue loss, under the income tax (see Blattmachr and Gans 2001, and Buckley 2001 for preliminary discussions).

Elimination, or scaling back, of the estate tax could be coupled with the extension of the

[44] Gravelle and Maguire (2000) provide a comprehensive and informative discussion of policy options.

[45] In fiscal year 1997, state governments raised $5.91 billion from inheritance and estate taxes (Rafool 1999). By comparison, federal estate tax returns filed in 1997 reported state tax credits of $4.33 billion.

capital gains tax to the gains accrued but unrealized at death. This proposal, however, would raise only about a quarter of the revenue of the estate tax, and would be much less progressive (Poterba and Weisbenner this volume). CBO (2000b) reports that this option would raise $78 billion between 2001 and 2010, compared to $386 billion from the estate tax (table 5). In addition, this alternative would have many of the complexities of the estate tax, so it is neither an attractive or likely option by itself.

The bill passed in Congress in 2000 tied elimination of the estate tax to another significant change in the taxation of capital gains, under which heirs would assume the decedent's basis for capital gains purposes—"carryover basis." Exemptions would apply to transfers below $1.3 million and to interspousal transfers of $3 million. Linking the two changes is designed to address the concern that the appreciated value of some assets might escape all taxes if the income tax featured basis step-up and there were no estate tax. However, this proposal would raise even less revenue than taxing gains at death. According to the CBO (2000b), instituting carryover basis with no exemption level would raise about $48 billion over the next 10 years, or about 12 percent as much revenue as the existing estate tax (table 5). However, at the generous exemption levels stipulated in the bills described above, the actual revenue would be significantly smaller. Another problem is that allowing basis to be carried over would be substantially more complicated, in part because records would have to be kept for an even longer period of time (and across generations). A similar item was passed in the late 1970s but was repealed before it ever came into effect partly because of anticipated implementation problems.

Burman (1997) and Soled (2001) propose other ways to alter the current treatment of capital gains and estates. Burman would allow deductions in the estate tax for the tax basis of

capital assets. This would reduce the lock-in effect associated with the current tax treatment of capital gains. Soled proposes that the decedent (while alive) be given the option of electing carryover basis at death for any asset. If the decedent elects that an asset be taxed on a carryover basis, the estate would receive a credit equal to the value of the capital gains tax rate times the unrealized gain on the asset at the time the asset is valued for estate tax purposes.

All of the proposals above that modify the treatment of capital gains could make some aspects of estate and portfolio planning even more difficult and cumbersome than current law. Even the proposal to abolish the estate tax with no other changes may not prove as simple as it first appears, since prudent investors would be well-advised under those circumstances to plan for the possibility that the estate tax might be reinstated.

Another direction for reform would be to replace taxes on estates and gifts given with taxes on gifts and inheritances received, as is the practice in several U.S. states and many foreign countries. Under a progressive inheritance tax (but not under an estate tax), spreading a given bequest among more legatees reduces the total tax burden and thus encourages the splitting of estates. In addition, a unified tax system would tax all sources or all uses of income. Currently, the income tax burdens sources and the estate tax falls on a particular use of resources. In contrast, the income tax combined with a tax on inheritances and gifts received would cover all major sources of income over the lifetime. In addition, placing the statutory burden of the tax on recipients rather than the donor may reduce some of the moral outrage generated by estate taxes.

Perhaps the most plausible reform would be to follow the strategy invoked for income taxes in the Tax Reform Act of 1986: raise the exemption level, close loopholes, and cut rates. Raising the exemption would reduce the number of people paying the tax while still taxing the "truly wealthy" and chipping away at the concentration of wealth. It would also help smaller

family-owned businesses, but without the horizontal equity problems that are involved in giving preferential treatment to business assets. Closing loopholes by treating different assets in a more similar fashion would reduce sheltering opportunities, and thus make the tax simpler and fairer; Gravelle and Maguire (2000) and Schmalbeck (this volume) discuss numerous options in this regard, including ways to crack down on aggressive valuations. Modestly reducing rates would reduce the incentive to shelter or change behavior in the first place. In addition to these changes, indexing the effective exemption and the tax brackets for inflation would automatically keep the tax burden at any particular real wealth level constant over time.

IX. Conclusion

The appropriate role and effects of transfer taxes are still open questions. Any conclusion about the appropriate taxation of intergenerational transfers must take into account transfer motives, the political and technical limitations on other tax instruments, the limited knowledge about such taxes that is currently available, and other factors.

In a real world filled with practical difficulties, political compromises, and economic uncertainties, it may take a variety of taxes to meet social goals, and the estate tax may well play a small but important role in the government's portfolio of tax instruments. It adds to progressivity in a way that the income tax cannot easily do, because of capital gains issues, and that society may choose not to do via income taxes, because taxing at death may have smaller costs than taxing during life. The supposed negatives of the estate tax—its effects on saving, compliance costs, and small businesses—lack definitive supporting evidence and in some cases appear to be grossly overstated. And there are some presumed benefits from increased charitable contributions and improved equality of opportunity.

Nevertheless, it is equally clear that there is a problem. A tax with high rates and numerous avoidance opportunities is ripe for change. Even given the goals and constraints noted above, many people feel that transfer taxes could be better structured. Many others feel that having no transfer taxes would be preferred to the existing situation.

Economic analysis cannot fully resolve these issues. What it can do is clarify the various trade-offs involved in tax policy decisions, illuminate which value judgments—about which economics has no say—are involved, and identify the crucial conceptual and empirical issues. Compared to many tax questions, the tradeoffs that affect estate taxes are more difficult to analyze, because they involve more than one generation. The value judgments are more difficult, because they involve life-and-death issues about which people feel strongly. And empirical analysis is more difficult, because the data are more elusive and the relevant behaviors span at least a lifetime.

The studies in this volume address all of these issues—they rethink the estate and gift tax in a rigorous way. It is our hope and expectation that the papers will provide a solid base of knowledge to inform future policy discussions and a springboard to encourage continuing analysis of transfer tax issues.

References

Aaron, Henry J. and Alicia H. Munnell. 1992. Reassessing the Role for Wealth Transfer Taxes. National Tax Journal. 45(2): 119-143.

Abel, Andrew B. 1985. Precautionary Saving and Accidental Bequests. American Economic Review 75(4): 777-91.

Altonji, Joseph G., Fumio Hayashi, and Laurence J. Kotlikoff. 1992. Is the Extended Family Altruistically Linked? Direct Tests Using Micro Data. American Economic Review 82(5): 1177-98.

Altonji, Joseph G., Fumio Hayashi, and Laurence J. Kotlikoff. 1997. Parental Altruism and Inter Vivos Transfers: Theory and Evidence. Journal of Political Economy 105(6): 1121-66.

Anderson, Lisa and Michael Tackett. 1999. "5 GOP Contenders Try Hard to Be No. 2." Chicago Tribune Oct. 29: 1.

Andreoni, James. 1989. Giving with Impure Altruism: Applications to Charity and Ricardian Equivalence. Journal of Political Economy 97(6): 1447-58.

Astrachan, Joseph H., and Craig E. Aronoff. 1995. A Report on the Impact of the Federal Estate Tax: A Study of Two Industry Groups. Unpublished paper. Kennesaw State College, Family Enterprise Center.

Astrachan, Joseph H., and Roger Tutterow. 1996. The Effect of Estate Taxes on Family Business: Survey Results. Family Business Review 9(3): 303-14.

Auten, Gerald and David Joulfaian. 1996. Charitable Contributions and Intergenerational Transfers. Journal of Public Economics 59(1): 55-68.

Auten, Gerald and David Joulfaian. 1998. Bequest Taxes and Capital Gains Realizations. Mimeo., US Department of the Treasury.

Barro, Robert. 1974. Are Government Bonds Net Wealth? Journal of Political Economy 82: 1095-117.

Bartlett, Bruce. 1997. The End of the Estate Tax? Tax Notes. (7 July): 105-110.

Becker, Gary S. 1974. A Theory of Social Interactions. Journal of Political Economy 82:1063-93.

Becker, Gary S. and Nigel Tomes. 1979. An Equilibrium Theory of the Distribution of Income and Intergenerational Mobility. Journal of Political Economy 87(6): 1153-89.

Becker, Gary S. and Nigel Tomes. 1986. Human Capital and the Rise and Fall of Families. Journal of Labor Economics 4(3, part 2): S1-S39.

Bernheim, B. Douglas. 1987. Does the Estate Tax Raise Revenue? In Tax Policy and the Economy, edited by Laurence H. Summers, 1:113-138.

Bernheim, B. Douglas. 1989. A Neoclassical Perspective on Budget Deficits. Journal of Economic Perspectives 3(2): 55-72.

Bernheim, B. Douglas. 1991. How Strong Are Bequest Motives: Evidence Based on Estimates of the Demand for Life Insurance. Journal of Political Economy 99(5): 899-927.

Bernheim, B. Douglas, Robert Lemke, and John Karl Scholz. 2000. Estate Tax Changes and Inter Vivos Transfers. Mimeo. October 8.

Bernheim, B. Douglas, Andrei Shleifer, and Lawrence H. Summers. 1985. The Strategic Bequest Motive. Journal of Political Economy 93(6): 1045-76.

Bernheim, B. Douglas, and Sergei Severinov. 1998. Bequests as Signals: An Explanation for the Equal Division Puzzle, Unigeniture, and Ricardian Non-Equivalence. Mimeo. November 4.

Blattmachr, Jonathan G. and Mitchell M. Gans. 2001. Wealth Transfer Tax Repeal: Some Thoughts on Policy and Planning. Tax Notes. (15 January): 393-9.

Blinder, Alan S. 1976. Intergenerational Transfers and Life Cycle Consumpton. American Economic Association 66(2): 87-93.

Blumenthal, Marsha and Joel Slemrod. 1992. The Compliance Cost of the U.S. Individual Income Tax: A Second Look After Tax Reform. National Tax Journal 45(2): 185-202.

Blumenthal, Marsha and Joel Slemrod. 1996. The Income Tax Compliance Cost of Big Business. Public Finance Quarterly 24(4): 411-38.

Boskin, Michael. 1976. Estate Taxation and Charitable Bequests. Journal of Public Economics 5(1-2): 27-56.

Brown, Jeffrey R. and Mark J. Warshawsky. 2001. Longevity-Insured Retirement Distributions from Pension Plans: Market and Regulatory Issues. NBER working paper no. 8064.

Bruce, Neil and Michael Waldman. 1990. The Rotten-Kid Theorem Meets the Samaritan's Dilemma. Quarterly Journal of Economics 105(1): 155-65.

Bruce, Neil and Michael Waldman. 1991. Transfers in Kind: Why They Can Be Efficient and Non-Paternalistic. American Economic Review 81(5): 1345-51.

Buckley, John. 2001. Transfer Tax Repeal Proposals: Implications for the Income Tax. Tax Notes. (22 January): 539-41.

Burman, Leonard E. 1997. Estate Taxes and the Angel of Death Loophole. Tax Notes. (4 August): 675-8.

Caballe, Jordi. 1995. Endogenous Growth, Human Capital, and Bequests in a Life-Cycle Model. Oxford Economic Papers 47(1): 156-181.

Carroll, Christopher D. 2000. Why Do the Rich Save So Much? In Joel B. Slemrod, ed., Does Atlas Shrug? The Economic Consequences of Taxing the Rich. Russell Sage Foundation and Harvard University Press.

Chapman, Kenneth, Govind Hariharan, and Lawrence Southwick, Jr. 1996. Estate Taxes and Asset Accumulation. Family Business Review 9(3): 253-68.

Churchill, Winston S. 1906. Lord Randolph Churchill. London: Macmillan.

Clotfelter, Charles T. 1985. Federal Tax Policy and Charitable Giving. Chicago: University of Chicago Press.

Committee on Ways and Means. 2000. Background on the Estate and Gift Tax.

Congressional Budget Office. 2000a. The Budget and Economic Outlook: An Update. Washington, DC: Congressional Budget Office, July.

Congressional Budget Office. 2000b. Budget Options. Washington, DC: Congressional Budget Office, March.

Cooper, George. 1979. A Voluntary Tax? New Perspectives on Sophisticated Estate Tax Avoidance Washington, D.C.: Brookings.

Cox, Donald. 1987. Motives for Private Income Transfers. Journal of Political Economy 95(3): 508-46.

Cox, Donald and Mark R. Rank. 1992. Inter-Vivos Transfers and Intergenerational Exchange. Review of Economics and Statistics 74(2): 305-14.

Cronin, Julie-Ann. 1999. U.S. Treasury Distributional Analysis Methodology. Office of Tax Analysis Working Paper 85.

Davenport, Charles and Jay A. Soled. 1999. Enlivening the Death-Tax Death-Talk. Tax Notes, July 26 84(4) special report: 591-630.

Davies, James B. 1981. Uncertain Lifetime, Consumption, and Dissaving in Retirement. Journal of Political Economy 89(3): 561-77.

Dunn, Thomas A. and John W. Phillips. 1997. The Timing and Division of Parental Transfers to Children. Economics Letters 54(2): 135-7.

Eller, Martha Britton, Brian Erard, and Chih-Chin Ho. This volume. The Magnitude and Determinants of Federal Estate Tax Noncompliance.

Eller, Martha Britton and Barry W. Johnson. 1999. Using a Sample of Federal Estate Tax Returns to Examine the Effects of Audit Revaluation on Pre-Audit Estimates.

Eller, Martha Britton, Barry W. Johnson, and Jakob M. Mikow. This volume. Elements of Federal Estate Taxation.

Erard, Brian. 1998. Estate Tax Underreporting Gap Study: A Report Prepared for the Internal Revenue Service Economic Analysis and Modeling Group. (Order No. TIRNO-98-P-00406), Internal Revenue Service.

Erreygers, Guido and Toon Vandevelde, eds. 1997. Is Inheritance Legitimate? Ethical and Economic Aspects of Wealth Transfers. Berlin: Springer-Vorlag.

Federal Reserve Board of Governors. 2000. Flow of Funds Accounts of the United States: Annual Flows and Outstandings: 1991-1999.

Feenberg, Daniel R., Andrew W. Mitrusi, and James M. Poterba. 1997. Distributional Effects of Adopting a National Retail Sales Tax. In James M. Poterba, ed. Tax Policy and the Economy Cambridge, MA, MIT Press. 11:49-89.

Feinstein, Jonathan and Chih-Chin Ho. This volume. Elderly Asset Management and Health: An Empirical Analysis.

Fiekowsky, Seymour. 1966. The Effect on Saving of the United States Estate and Gift Tax. In Federal Estate and Gift Taxes. Washington, D.C.: Brookings.

Gale, William G. 2000. Commentary on Chapter 10: The Estate Tax and After-Tax Investment Returns, James Poterba. In Joel B. Slemrod, ed., Does Atlas Shrug? The Economic Consequences of Taxing the Rich. Russell Sage Foundation and Harvard University Press.

Gale, William G. and Maria Perozek. This volume. Do Estate Taxes Reduce Saving?

Gale, William G. and John Karl Scholz. 1994. Intergenerational Transfers and the Accumulation of Wealth. Journal of Economic Perspectives 8(4): 145-60.

Graetz, Michael J. 1983. To Praise the Estate Tax, Not to Bury It. Yale Law Journal 93(2): 259-86.

Gravelle, Jane G. and Steven Maguire. 2000. Estate and Gift Taxes: Economic Issues. Tax Notes July 24: 551-569.

Harl, Neil E. 1995. Does Farm and Ranch Property Need a Federal Estate and Gift Tax Rate? Tax Notes 68(7): 875-7. August 14.

Holtz-Eakin, Douglas. 1999. The Death Tax: Investments, Employment, and Entrepreneurs. Tax Notes 84(5): 782-92. August 2.

Holtz-Eakin, Douglas, David Joulfaian, and Harvey S. Rosen. 1993. The Carnegie Conjecture: Some Empirical Evidence. Quarterly Journal of Economics 108: 413-35.

Holtz-Eakin, Douglas, David Joulfaian, and Harvey S. Rosen. 1994a. Sticking it Out: Entrepreneurial Survival and Liquidity Constraints. Journal of Political Economy 102(1): 53-75.

Holtz-Eakin, Douglas, David Joulfaian and Harvey S. Rosen. 1994b. Entrepreneurial Decisions and Liquidity Constraints. RAND Journal of Economics 25(2): 334-47.

Holtz-Eakin, Douglas, John W. Phillips and Harvey S. Rosen. 1999. Estate Taxes, Life Insurance, and Small Business. NBER Working Paper no. 7360.

Hoyert, Donna L., Kenneth D. Kochanek, and Sherry L. Murphy. 1999. "Deaths: Final Data for 1997." National Vital Statistics Report 47(19): 1-105.

Hurd, Michael D. 1987. Savings of the Elderly and Desired Bequests. American Economic Review 77(3): 298-312.

Internal Revenue Service. 1999. Instructions for Form 706 (Revised July 31 1999) United States Estate (and Generation-Skipping Transfer) Tax Return. Washington, DC.

Internal Revenue Service. 2000a. Estate Tax Returns Filed in 1998: Gross Estate by Type of Property, Deductions, Taxable Estate, Estate Tax and Tax Credits, by Size of Gross Estate. Statistics of Income.

Internal Revenue Service. 2000b. Nonprofit Charitable Organizations, 1996. Statistics of Income Bulletin Winter 1999-2000: 107-114.

Johnson, Barry W., and Jacob M. Mikow. 1999. Federal Estate Tax Returns, 1995-1997. SOI Bulletin Summer 1999 19(1): 69-129.

Joint Committee on Taxation. 1993. Methodology and Issues in Measuring Changes in the Distribution of Tax Burdens. June 14.

Joint Committee on Taxation. 1998. Present Law and Background Relating to Estate and Gift Taxes. Testimony before the House Committee on Ways and Means, January 28.

Joint Committee on Taxation. 1999. Present Law and Background on Federal Tax Provisions Relating to Retirement Savings Incentives, Health and Long-Term Care, and Estate and Gift Taxes. June 15.

Joint Economic Committee. 1998. The Economics of the Estate Tax. (December).

Joulfaian, David. 1991. Charitable Bequests and Estate Taxes. National Tax Journal 44(2): 169-80.

Joulfaian, David. 1994. The Distribution and Division of Bequests in the U.S.: Evidence from the Collation Study. OTA Paper 71, U.S. Department of the Treasury.

Joulfaian, David. 1998. The Federal Estate and Gift Tax: Description, Profile of Taxpayers, and Economic Consequences. Office of Tax Analysis Paper 80 (December).

Joulfaian, David. This volume. Charitable Giving in Life and Death.

Joulfaian, David and Mark O. Wilhelm. 1994. Inheritance and Labor Supply. Journal of Human Resources 29(4): 1205-34.

Kaplow, Louis. This volume. A Framework for Assessing Estate and Gift Taxation.

Kennickell, Arthur, and David Wilcox. 1992. The Value and Distribution of Unrealized Capital Gains: Evidence from the 1989 Survey of Consumer Finances. Mimeo: Federal Reserve Board.

Kopczuk, Wojciech. 2000. The Trick is to Live: Estate Taxes as Annuities for the Rich. Mimeo: University of Michigan, Ann Arbor.

Kopczuk, Wojciech and Joel Slemrod. 2000. Dying to Save Taxes: Evidence from Estate Tax Returns on the Death Elasticity. Mimeo: University of Michigan.

Kopczuk, Wojciech and Joel Slemrod. This volume. The Impact of the Estate Tax on Wealth Accumulation and Avoidance Behavior of Donors.

Kotlikoff, Laurence J. 1989. Estimating the Wealth Elasticity of Bequests from a Sample of Potential Decedents. In: What Determines Savings? Laurence J. Kotlikoff. Cambridge, Mass.: MIT Press.

Kotlikoff, Laurence J. and Lawrence H. Summers. 1981. The Role of Intergenerational Transfers in Capital Accumulation. Journal of Political Economy 89(4): 706-32.

Laitner, John. This volume. Simulating the Effects on Inequality and Wealth Accumulation of Eliminating the Federal Gift and Estate Tax.

Laitner, John and F. Thomas Juster. 1996. New Evidence on Altruism: A Study of TIAA-CREF Retirees. American Economic Review 86(4): 893-908.

Lindbeck, Assar and Jorgen W. Weibull. 1988. Altruism and Time Consistency: The Economics of Fait Accompli. Journal of Political Economy 96(6): 1165-83.

Macurdy, Thomas. 1992. Work Disincentive Effects of Taxes: A Reexamination of Some Evidence. American Economic Review. 82(2): 243-9.

McCaffery, Edward J. 1994. The Uneasy Case for Wealth Transfer Taxation. Yale Law Journal 104: 283-365.

McCaffery, Edward J. 1999. Grave Robbers: The Moral Case Against the Death Tax. Tax Notes. 85(11) special report: 1429-43.

McCulloch, John Ramsay. 1848. A Treatise on the Succession to Property Vacant by Death: Including Inquiries into the Influence of Primogeniture, Entails, Compulsory Partition, Foundations, etc. Over the Public Interests. London: Longman, Brown, Green, and Longmans.

McGarry, Kathleen. 1997. Inter Vivos Transfers and Intended Bequests. NBER Working Paper 6345. December.

McGarry, Kathleen. 1999. Inter Vivos Transfers or Bequests? Estate Taxes and the Timing of Parental Giving. Mimeo., September.

McGarry, Kathleen. 2000. Behavioral Responses to the Estate and Gift Tax: *Inter vivos* Giving. National Tax Journal 53(4): 913-931.

McGarry, Kathleen. 2000. Testing Parental Altruism: Implications of a Dynamic Model. Working Paper 7593. Cambridge, Mass.: National Bureau of Economic Research. (March).

McGarry, Kathleen and Robert F. Schoeni. 1995. Transfer Behavior: Measurement, and the Redistribution of Resources Within the Family. Journal of Human Resources 30//supp: s184-s226.

McGarry, Kathleen and Robert F. Schoeni. 1997. Transfer Behavior Within the Family: Results from the Asset and Health Dynamics Survey. Journal of Gerontology 52B special edition: 82-92.

McNees, Stephen. 1973. Deductibility of Charitable Bequests. National Tax Journal 26(1): 79-98.

Menchik, Paul L. 1980. Primogeniture, Equal Sharing, and the U.S. Distribution of Wealth. Quarterly Journal of Economics. 94(2): 299-316.

Menchik, Paul L. 1988. Unequal Estate Division: Is It Altruism, Reverse Bequests, or Simply Noise?" In Modeling the Accumulation and Distribution of Wealth, edited by Denis Kessler and Andre Masson. Oxford: Clarendon Press.

Mill, John Stuart. 1994. Principles of Political Economy and Chapters on Socialism. Jonathan Riley, ed. Oxford: Oxford University Press.

Munnell, Alicia H. 1988. Wealth Transfer Taxation: The Relative Role for Estate and Income Taxes. New England Economic Review. Nov./Dec.: 3-28.

Musgrave, Richard A. 1959. The Theory of Public Finance: A Study in Public Economy. New York: McGraw Hill.

Office of Management and Budget. 2000. Budget of the United States Government.

Organization for Economic Co-Operation and Development. 1999. Revenue Statistics 1965-1998. Paris: OECD Publications.

Page, Benjamin R. 1997. Bequest Taxes, Inter Vivos Gifts, and the Bequest Motive. Congressional Budget Office Mimeo. September.

Pechman, Joseph A. 1983. Federal Tax Policy. Washington, D.C.: Brookings.

Perozek, Maria G. 1996. The Implications of a Dynamic Model of Altruistic Intergenerational Transfers. Wisconsin.

Perozek, Maria G. 1998. A Re-examination of the Strategic Bequest Motive. Journal of Political Economy. 106(2): 423-45.

Pigou, A.C. 1960. A Study in Public Finance. London: MacMillan and Co. Third Revised Edition.

Poterba, James. 1998. Estate and Gift Taxes and Incentives for Inter Vivos Giving in the United States. NBER working paper no. 6842, December.

Poterba, James. 2000. The Estate Tax and After-Tax Investment Returns. In Joel B. Slemrod, ed., Does Atlas Shrug? The Economic Consequences of Taxing the Rich. Russell Sage Foundation and Harvard University Press.

Poterba, James and Scott Weisbenner. This volume. The Distributional Burden of Taxing Estates and Unrealized Capital Gains at the Time of Death.

Rafool, Mandy. 1999. State Death Taxes. National Conference of State Legislatures. www.ncsl.org/programs/fiscal/deathtax.htm

Repetti, James R. 2000. The Case for the Estate and Gift tax. Tax Notes. March 13: 1493-1510.

Schmalbeck, Richard. This volume. Avoiding Federal Wealth Transfer Taxes.

Shultz, William J. 1926. The Taxation of Inheritance. Boston: Houghton Mifflin.

Slemrod, Joel. 1996. Which is the Simplest Tax System of Them All? In: Henry Aaron and William Gale, eds. The Economics of Fundamental Tax Reform. Washington, D.C.: Brookings.

Slemrod, Joel (editor). 2000. Does Atlas Shrug? The Economic Consequences of Taxing the Rich. New York and Cambridge: Russell Sage Foundation and Harvard University Press.

Slemrod, Joel. 2001. A General Model of the Behavioral Response to Taxation. International Tax and Public Finance: forthcoming.

Slemrod, Joel and Jon Bakija. 1999. Does Growing Inequality Reduce Tax Progressivity? Should It? Office of Tax Policy Research Working Paper No. 99-3.

Slemrod, Joel and Nikki Sorum. 1984. The Compliance Cost of the U.S. Individual Income Tax System. National Tax Journal 37(4): 461-74.

Slemrod, Joel and Shlomo Yitzhaki. 2001. Integrating Expenditure and Tax Decisions: The Marginal Cost of Funds and the Marginal Benefit of Projects. National Tax Journal: forthcoming.

Soled, Jay A. 2001. Carryover Basis Election at Death. Tax Notes January 1: 99-105.

Stelzer, Irwin M. 1997. Inherit Only the Wind. The Weekly Standard March 26:27-9.

Stiglitz, Joseph. 1978. Notes on Estate Taxes, Redistribution, and the Concept of Balanced Growth Path Incidence. Journal of Political Economy 86(2): S137-S150.

Tomes, Nigel. 1981. The Family, Inheritance, and the Intergenerational Transmission of Inequality. Journal of Political Economy. 89(5): 928-958.

Tomes, Nigel. 1988. Inheritance and Inequality within the Family: Equal Division among Unequals, or Do the Poor Get More? In Denis Kessler and Andre Masson, Eds., Modeling the Accumulation and Distribution of Wealth. Oxford: Oxford University Press.

U.S. Census Bureau. 2000a. March Current Population Survey. "Table F-3: Mean Income Received by Each Fifth and Top 5 Percent of Families (All Races): 1966 to 1999." October 30. <http://www.census.gov/hhes/income/histinc/f03.html>.

U.S. Census Bureau. 2000b. March Current Population Survey. "Table F-6: Regions—Families (All Races) by Median and Mean Income: 1953 to 1999." October 30. <http://www.census.gov/hhes/income/histinc/f06.html>.

Weil, David N. 1994. The Saving of the Elderly in Micro and Macro Data. Quarterly Journal of Economics 109(1): 55-81.

West, Max. 1893. The Inheritance Tax. New York: Columbia University Studies in History, Economics, and Public Law.

Wilhelm, Mark O. 1996. Bequest Behavior and the Effect of Heirs' Earnings: Testing the Altruistic Model of Bequests. American Economic Review 86(4): 874-92.

Wolff, Edward N. 1994. Trends in Household Wealth in the United States: 1962-1983 and 1983-1989. Review of Income and Wealth 40(2): 143-74.

Table 1

Federal Unified Estate and Gift Tax Rates, 2000

Taxable Estate and Gifts ($ thousands)	Statutory Marginal Tax Rate (percent)
$0-10,000	18
$10,000-20,000	20
$20,000-40,000	22
$40,000-60,000	24
$60,000-80,000	26
$80,000-100,000	28
$100,000-150,000	30
$150,000-250,000	32
$250,000-500,000	34
$500,000-750,000	37
$750,000-1,000,000	39
$1,000,000-1,250,000	41
$1,250,000-1,500,000	43
$1,500,000-2,000,000	45
$2,000,000-2,500,000	49
$2,500,000-3,000,000	53
Over $3,000,000	55

Source: Internal Revenue Service (1999).

Table 2

Number of Estate Tax Returns and Gross Estate, 1998

	Gross Estate Size ($ Millions)						
	All	0.6 - 1.0	1.0 - 2.5	2.5 –5.0	5.0-10.0	10.0 - 20.0	Over 20.0
All Returns							
Number of Returns	97,868	49,705	36,419	7,689	2,665	944	446
Gross Estate ($ thousands)	173,817,135	38,335,193	53,419,415	26,340,377	18,138,696	12,991,370	24,592,085
Taxable Returns							
Number of Returns	47,483	20,106	19,846	4,633	1,836	688	374
Gross Estate ($ thousands)	103,020,298	16,340,412	29,144,527	16,022,285	12,600,670	9,515,756	19,396,648
Nontaxable Returns							
Number of Returns	50,385	29,600	16,572	3,057	828	256	72
Gross Estate ($ thousands)	70,796,838	21,994,781	24,274,889	10,318,091	5,538,026	3,475,613	5,195,437

Source: Internal Revenue Service (2000a).

Table 3

Composition of Gross Estates Among All Estates, 1998

	By Size of Gross Estate ($ millions)						
Asset Category	All	0.6-1.0	1.0-2.5	2.5-5.0	5.0-10.0	10.0-20.0	Over 20.0
Personal Residence	7.2	11.7	8.7	6.4	5.0	3.4	1.7
Real Estate and Real Estate Partnerships	11.4	13.0	12.0	10.7	11.5	9.8	9.0
Closely Held Stock	5.9	1.6	2.8	5.2	7.1	9.3	17.8
Limited Partnerships	1.3	0.3	0.7	1.6	1.9	2.7	2.4
Other Noncorporate Businesses	0.7	0.3	0.5	1.0	0.8	1.2	1.2
Other Stock	30.9	20.8	27.8	32.2	35.5	42.0	42.7
State and Local Bonds	10.6	8.4	10.5	12.6	14.6	11.8	8.3
Other Bonds, Bond Funds, Mortgages, and Notes	7.4	8.9	7.6	6.8	6.1	6.6	6.5
Unclassifiable Mutual Funds	0.8	1.4	1.1	0.7	0.6	0.3	0.2
Cash and Cash Management Accounts	11.0	18.6	11.9	8.7	7.0	6.5	4.7
Insurance	3.3	4.2	4.7	3.3	2.4	1.1	0.5
Farm Assets	0.5	0.6	0.6	0.4	0.4	0.3	0.2
Annuities	6.9	8.5	9.5	8.1	5.1	2.9	1.2
Art	0.4	0.0	0.1	0.3	0.4	0.5	1.7
Other Assets	2.0	1.9	1.9	2.2	1.9	1.7	2.0
Total*	100.0	100.0	100.0	100.0	100.0	100.0	100.0

*Columns do not total 100 due to rounding.
Source: Internal Revenue Service (2000a).

Table 4

Estate Tax Deductions as Percentage of Gross Estate, 1998

	Gross Estate Size ($ Millions)						
	All	0.6 - 1.0	1.0 - 2.5	2.5 –5.0	5.0-10.0	10.0 - 20.0	Over 20.0
All Returns							
Bequests for Surviving Spouses	28.4	16.4	27.9	34.1	34.4	35.3	34.2
Charity	6.2	2.8	3.8	5.3	7.4	9.9	15.2
Other	6.1	5.6	6.3	6.1	6.1	6.7	6.3
Total Deductions	40.8	24.8	38.0	45.5	48.0	51.8	55.5
Taxable Returns							
Bequests for Surviving Spouses	10.4	0.5	3.2	9.4	14.5	19.8	23.1
Charity	5.4	0.5	1.8	3.0	7.3	9.0	14.1
Other	6.2	5.0	6.5	6.5	6.2	6.4	6.5
Total Deductions	22.0	6.0	11.5	18.9	28.1	35.2	43.7
Nontaxable Returns							
Bequests for Surviving Spouses	54.7	28.2	57.6	72.5	79.7	77.8	75.7
Charity	7.4	4.6	6.2	8.9	7.6	12.3	19.1
Other	5.9	6.0	5.9	5.4	5.9	7.5	5.4
Total Deductions	68.0	38.8	69.7	86.9	93.3	97.3	99.5

Source: Internal Revenue Service (2000a).

Table 5

JCT and CBO Projections of Taxable Estates and Receipts from Estate, Gift and Generation-Skipping Transfer Taxes, 1999-2010

			JCT				CBO	
Year	Unified Credit	Exemption Value of Unified Credit	Number of Taxable Estates	Percent of Deaths	Receipts ($ billions)	Receipts as Percent of GDP	Receipts ($ billions)	Receipts as Percent of GDP
1999	211,300	650,000	49,200	1.96	27.7	0.30	28	0.31
2000	220,550	675,000	51,700	2.03	28.8	0.29	30	0.31
2001	220,550	675,000	54,200	2.10	29.8	0.29	32	0.31
2002	229,800	700,000	57,000	2.17	30.8	0.28	33	0.31
2003	229,800	700,000	59,800	2.25	32.7	0.29	35	0.31
2004	287,300	850,000	62,800	2.33	33.8	0.28	36	0.30
2005	326,300	950,000	54,600	1.99	34.4	0.28	37	0.30
2006	345,800	1,000,000	50,400	1.82	35.7	0.27	38	0.29
2007	345,800	1,000,000	52,600	1.87	37.7	0.28	40	0.30
2008	345,800	1,000,000	56,200	1.97	39.7	0.28	42	0.30
2009	345,800	1,000,000	n/a	n/a	n/a	n/a	45	0.30
2010	345,800	1,000,000	n/a	n/a	n/a	n/a	48	0.31
2001-2005	n/a	n/a	n/a	n/a	161.5	0.28	173	0.3
2001-2010	n/a	n/a	n/a	n/a	n/a	n/a	386	0.3

Note: n/a= not available

Source: Joint Committee on Taxation (1999), Congressional Budget Office (2000a and 2000b), and authors' calculations.

Table 6

Transfer and Recurrent Wealth Taxes in OECD Countries, 1997

	Revenue from Transfer Taxes		Revenue from Transfer and Recurrent Wealth Taxes	
Country	Percent of GDP	Percent of Revenue	Percent of GDP	Percent of Revenue
All OECD*	0.16	0.44	0.40	1.05
Australia	0.00	0.00	0.00	0.00
Austria	0.05	0.11	0.06	0.14
Belgium	0.34	0.75	0.37	0.80
Canada	0.00	0.00	0.40	1.09
Czech Republic	0.03	0.07	0.03	0.07
Denmark	0.19	0.39	0.19	0.39
Finland	0.23	0.50	0.28	0.60
France	0.49	1.08	0.74	1.64
Germany	0.11	0.30	0.34	0.91
Greece	0.27	0.79	0.27	0.79
Hungary	0.04	0.11	0.04	0.11
Iceland	0.09	0.28	0.79	2.46
Ireland	0.17	0.52	0.17	0.52
Italy	0.07	0.16	0.41	0.93
Japan	0.48	1.66	0.48	1.66
Korea	0.26	1.20	0.26	1.20
Luxembourg	0.16	0.33	2.60	5.60
Mexico	0.00	0.00	0.00	0.00
Netherlands	0.28	0.67	0.51	1.22
New Zealand	0.00	0.01	0.00	0.01
Norway	0.10	0.22	0.70	1.63
Poland	0.02	0.05	0.02	0.05
Portugal	0.08	0.23	0.08	0.23
Spain	0.19	0.57	0.35	1.03
Sweden	0.10	0.19	0.40	0.77
Switzerland	0.30	0.88	1.67	4.93
Turkey	0.01	0.04	0.01	0.04
United Kingdom	0.20	0.56	0.20	0.56
United States	0.33	1.12	0.33	1.12

*Arithmatic mean of percentages for countries in OECD.

Source: OECD (1999).

Table 7

Allocation of Returns, Gross Estate, and Tax Payments by Estate Size among Taxable Returns , 1998

		Percent of Total by Size of Gross Estate ($ millions)					
	Total ($ millions)	0.6-1.0	1-2.5	2.5-5	5-10	10-20	Over 20
All Taxable Returns	47,483	42.3	41.8	9.8	3.9	1.4	0.8
Total Gross Estate Among Taxable Returns ($ '000s)	103,020,298	15.9	28.3	15.6	12.2	9.2	18.9
Total Estate Taxes Paid ($ '000s)	20,349,840	4.5	23.8	20.6	17.0	12.4	21.7
Total Transfer Taxes Paid ($ '000s)	26,695,286	5.0	22.5	19.3	16.4	12.6	24.3

Source: Internal Revenue Service (2000a).

Table 8

Average Estate Size, Tax Payments and Tax Rates by Estate Size Category, 1998

	Size of Gross Estate						
	All	0.6-1.0	1.0-2.5	2.5-5.0	5.0-10.0	10.0-20.0	Over 20.0
All Returns							
Average Estate Size*	1,776	771	1,467	3,426	6,806	13,762	55,139
Average Estate Tax Paid*	208	19	133	545	1,300	2,665	9,896
Average Total Transfer Taxes Paid*	274	28	165	670	1,645	3,563	14,565
Average Estate Tax Rate	0.12	0.02	0.09	0.16	0.19	0.19	0.17
Average Transfer Tax Rate	0.15	0.04	0.11	0.20	0.24	0.26	0.26
Taxable Returns							
Average Estate Size*	2,170	813	1,469	3,458	6,863	13,831	51,863
Average Estate Tax Paid*	429	46	244	904	1,887	3,656	11,801
Average Total Transfer Taxes Paid*	562	66	302	1,109	2,383	4,885	17,347
Average Estate Tax Rate	0.20	0.06	0.17	0.26	0.27	0.26	0.23
Average Transfer Tax Rate	0.26	0.08	0.21	0.32	0.35	0.35	0.33

* in thousands of dollars
Source: Internal Revenue Service (2000a).

Table 9

Estimated Distribution of Income and Estate Taxes, 1999

Income Quintile or Percentile	As a Percent of Income: Estate and Gift Taxes	As a Percent of Income: Individual Income Tax	Allocation of Total Tax Burden: Estate and Gift Taxes	Allocation of Total Tax Burden: Individual Income Tax
Lowest	0.0	-2.4	0.0	-0.6
Second	0.0	0.8	0.0	0.5
Third	0.0	5.6	0.0	6.9
Fourth	0.0	7.8	0.8	16.3
Highest	0.5	13.7	99.2	76.6
Top 10%	0.7	15.4	96.2	61.3
Top 5%	0.9	16.9	91.0	49.1
Top 1%	1.3	20.2	64.2	29.5
All	0.3	10.1	100.0	100.0

Source: Cronin (1999).

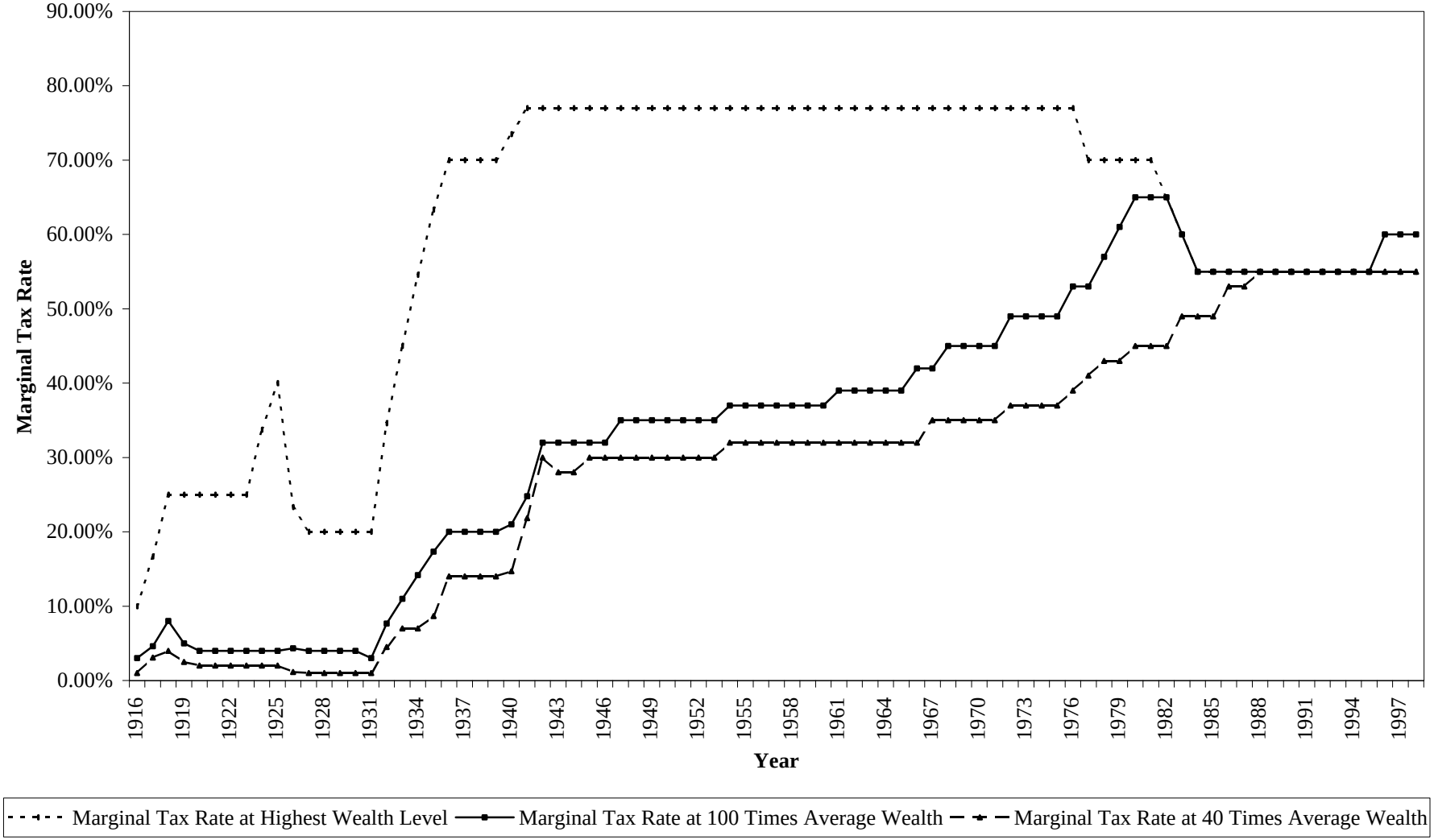
Table 10

Estimated Distribution of Estate and Gift, and Income Taxes, 1991

	As a Percent of Income		Allocation of Tax Burden	
Income Level ($ thousands)	Estate and Gift Taxes	Individual Income Tax	Estate and Gift Taxes	Individual Income Tax
0-10	0.0	-1.3	0.0	-0.3
10-20	0.0	2.4	0.0	2.0
20-30	0.0	5.9	0.0	6.0
30-40	0.0	7.9	0.9	8.1
40-50	0.0	8.7	0.9	8.9
50-75	0.1	9.9	7.3	19.6
75-100	0.2	12.1	8.2	12.6
100-200	0.5	15.1	21.8	16.4
200+	1.2	22.2	58.2	26.8
200-500	---	---	19.1	---
500-1000	---	---	10.0	---
1000+	---	---	29.1	---
All	0.3	10.7	100.0	100.0

Source: Feenberg, Mitrusi, and Poterba (1997), tables 8 and 10, and authors' calculations.

Figure 1
Marginal Federal Estate Tax Rates at Various Wealth Levels

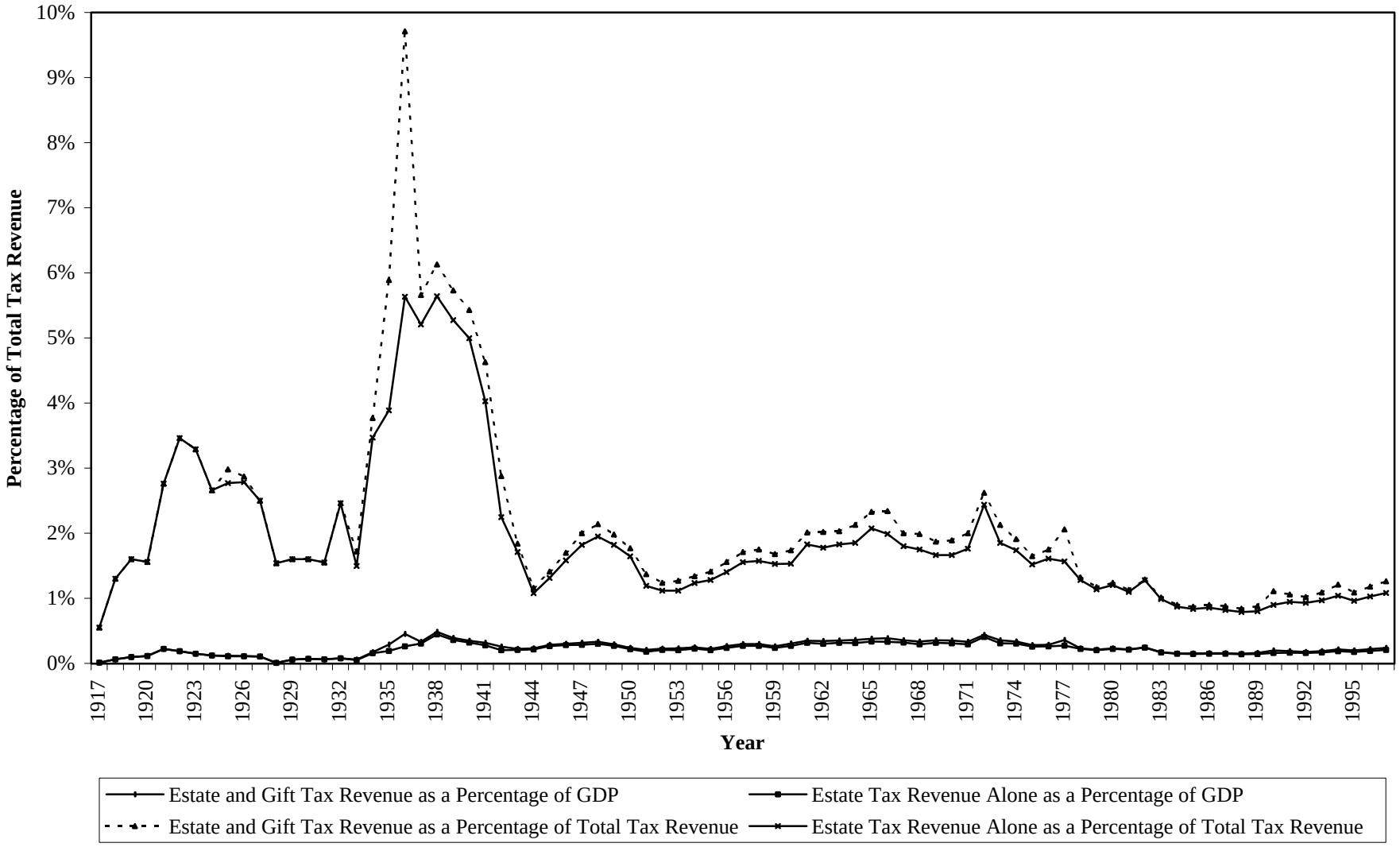


Source: Authors' calculations.

Figure 2
Estate Tax Exemption Level (1997 dollars) and Taxable Estate Tax Returns as a Percentage of Adult Deaths

Source: Slemrod and Bakija (1999) and authors' calculations.

Figure 3
Federal Estate and Gift Tax Revenue as a Percentage of Total Tax Revenue and GDP, 1917-1997



Source: Joulfaian (1998), Slemrod and Bakija (1999) and authors' calculations.