



THE OTHER AMERICA: Inequality, Taxes, and the Very Rich

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Effective tax rates are lower than statutory rates for wealthy people because they receive much income from capital, capital income receives preferential treatment, and recognition of capital income is often voluntary. I calculate taxes paid as a percentage of wealth using linked estate-income data. Single itemizers with wealth of at least \$2 million in 2007 paid less than 3 percent of wealth in annual taxes, with the richest paying the smallest fraction. Changes enacted in the Tax Cuts and Jobs Act of 2017 favor those at the top. The estate tax remains one tool that may curb extreme wealth accumulation.

Keywords: wealth distribution, tax rates as percentage of wealth, estate tax

JEL Codes: D31, H22, H31

Wealth in the U.S. is distributed unequally (Piketty and Saez 2007; Wolff, 2012; DeBacker et al., 2013; Bricker et al., 2016; Saez and Zucman, 2016; Congressional Budget Office, 2016), causing some to call for a wealth tax (McKinnon 2012; Piketty, 2013) even as Congress has recently reduced taxes paid during life by the very rich. Others propose a complete repeal of the estate tax that, absent other provisions, would also eliminate taxes paid at death by the wealthiest among us.¹ To help inform this policy debate, I use a unique dataset to provide empirical measures of average tax rates paid across wealth categories for individuals at the top end of the wealth distribution.

My analysis uses federal estate tax returns from 2007 linked to income tax returns from 2002 to 2006.² Single persons who itemized deductions on their federal income tax Form 1040

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¹ Various proposals are outlined in <https://www.nbcnews.com/news/us-news/ultra-wealthy-americans-wealth-tax-proposals-2019-n976396> and https://www.washingtonpost.com/us-policy/2019/01/28/top-gop-senators-propose-repealing-estate-tax-which-is-expected-be-paid-by-fewer-than-americans-year/?noredirect=on&utm_term=.e81381191c02. Earlier works advocating some form of wealth tax include Thurow (1972) and Aaron and Munnell (1992). Articles have also appeared in the popular press supporting a wealth tax (Altman 2012, Gates and Collins 2004), and several Democratic contenders for the 2020 presidency propose a wealth tax. Thomas Piketty continues his call for a wealth tax. <http://piketty.blog.lemonde.fr/2016/06/14/rethinking-the-wealth-tax/>. Jones (2015) offers an evaluation of Piketty's work.

Americans seem generally reluctant to tax overall wealth. Kornhauser (1994) discusses why taxing wealth is controversial in the U.S. Currently, the main wealth-based taxes are federal and state estate taxes on wealthy decedents, state property taxes on real estate, and in some states personal property taxes. The federal estate tax began in 1916; for a brief history and information about the current system, see Joulfaian (2000), Kopczuk and Slemrod (2003), and <https://www.jct.gov/publications.html?func=startdown&id=4744>. In 1976, Congress unified the gift, estate, and generation-skipping taxes to limit the ability to circumvent estate tax by inter vivos giving and transfers that skip a generation. For discussion, see <http://www.taxpolicycenter.org/briefing-book/how-do-estate-gift-and-generation-skipping-transfer-taxes-work>.

The Tax Cuts and Jobs Act (Pub. L. 115-97) radically increased the filing threshold for the estate tax and the alternative minimum tax as well as significantly reduced corporate tax rates. The Tax Policy Center estimates that benefits from these proposals will accrue primarily to the wealthy.

https://www.taxpolicycenter.org/sites/default/files/publication/150816/2001641_distributional_analysis_of_the_conference_agreement_for_the_tax_cuts_and_jobs_act_0.pdf.

² The study is well timed for several reasons: (1) it predates several jumps in the estate-tax filing threshold, scheduled to reach \$11.4 million in 2019, (2) in one year (2010) the estate tax was eliminated for those willing to forego a step up in basis of assets and pay tax on accrued gains as an alternative, and (3) the data pertain to people who died before the Great Recession began, which likely generated short-run behavioral effects that my dataset avoids. The National Bureau of Economic Research dates the beginning of the Great Recession as December 2007. <http://www.nber.org/cycles/cyclesmain.html>.

and met the 2007 federal-estate-tax-filing wealth threshold of \$2 million paid between 1.2 and 2.5 percent of their net wealth in average annual taxes during life, with the most wealthy paying the lowest percentage.³ By comparison, the long-term real return on the assets predominantly held by these individuals – stock -- is 7 to 8 percent (Smeeding and Thompson, 2011; Ibbotson et al., 2013; Damodaran, 2015).⁴ Taxes paid during life thus fail to curtail wealth accumulation at the top.⁵ What is more, regression analysis suggests that the amount of annual taxes paid during life is inelastic with respect to net wealth.⁶

The federal estate tax is the only tax that imposes a relatively large effective rate on net wealth: I find this to be between 8 and 29 percent in 2007. Even here, the very rich (those with net wealth of at least \$50 million) paid a lower rate than decedents in every other wealth category except the least wealthy subject to the tax (those with net wealth between \$2 million and \$4 million). The Tax Cuts and Jobs Act (TCJA) relieves tax burden on the merely rich by raising the filing threshold for 2019 to \$11.4 million (then adjusting for inflation through 2025), but the estate tax remains an important backstop in curbing wealth accumulation at the very top.⁷

³ Taxes include federal income tax, state and local income tax, other taxes itemized on Schedule A of Form 1040, Social Security and Medicare tax, and imputed corporate tax. Due to lack of data, the analysis omits certain other taxes such as sales tax. Sales tax systems vary widely across states, making it difficult to assess how the burden of the sales tax is distributed across wealth categories. Because very wealthy people likely have a lower propensity to consume out of wealth, however, I suspect that adding sales tax data would reinforce my finding of regressivity at the top end of the wealth distribution.

⁴ Data provided by Robert Shiller yield a mean of the 10-year moving average of real returns to equities from 1987 to 2006 of just over 6.8 percent. <http://www.econ.yale.edu/~shiller/data.htm>. Peter Diamond cites unpublished work by Jeremy Siegel that reports average real returns to equity over the period 1946 to 1998 as 7.8 percent.

<https://economics.mit.edu/files/637>. Individuals with net estate (gross estate plus valuation discounts minus debts and mortgages) of \$2 to \$5 million held about a quarter of their assets in stock whereas those with net estate of \$50 million or more held nearly half. Bourne et al. (2017) offers more detail on portfolios.

⁵ Gene Steuerle offers a pithy explanation for how rich people can avoid taxation on his blog. <http://www.taxpolicycenter.org/taxvox/what-trumps-and-buffetts-tax-returns-say-about-how-wealthy-are-taxed>. I do not evaluate the merits of tax progressivity in this paper. Diamond and Saez (2011) make a case for progressive taxation.

⁶ This is consistent with findings about net returns to capital across wealth categories (Bourne et al. 2017).

⁷ This is now the case only for the very wealthiest. The estate tax today applies to an estimated one-tenth as many decedents as it did in 2007. <https://www.taxpolicycenter.org/briefing-book/how-many-people-pay-estate-tax>.

Further erosion of the estate tax would likely exacerbate inequality, absent other provisions such as taxing capital gains at death using a carryover basis.

The following sections offer theoretical background, describe the data more fully, present information on average tax rates across wealth categories, and report results from a regression analysis. I conclude with implications of this work.

I. THEORETICAL BACKGROUND

The annual amount of individual taxes paid can be thought of as the outcome of a complex optimization process depending on health status, number of dependents, possible bequest motives, uncertainty about the date of death, and differing statutory tax rates across different types of income. Yaari (1965) offers the seminal work on intertemporal choice in a world of uncertain lifespans; other scholars have expanded on Yaari's work, extending the theory and offering various types of empirical evidence (for example, Kotlikoff and Summers, 1981; Hurd, 1987, 1989; Kuehlwein, 1993; Dammon et al., 2001; and Kopczuk and Lupton, 2007). These works suggest that updated information about the likelihood of death – for instance, age and extraordinary medical expenses -- could affect consumption, income realization, and the amount of taxes paid during life. Larger medical bills and more numerous dependents could signify an increased need for cash on hand, which also could influence taxes paid. Bequest motives could shape savings and taxes as well.

The structure of tax rates across income groups and income types also affects annual taxes paid. One might think that higher-income and higher-wealth individuals would pay higher average tax rates for progressive statutory taxes like the federal income tax. But more income and more wealth also confer greater ability to control the type and timing of realized income. The literature on the elasticity of taxable income models utility as a positive function of

consumption and negative function of reported income (Feldstein, 1999, and Saez et al., 2012). Numerous empirical studies show that people – especially high-income people -- change the timing of income or the form in which it is received in response to changes in the tax system (for example, Feenberg and Poterba, 1993; Burman et al., 1994; Feldstein, 1995; Slemrod, 1996; Auerbach and Slemrod, 1997; Carroll and Joulfaian, 1997; Auten and Carroll, 1999; Goolsbee et al., 1999; Goolsbee, 2000; Saez, 2004). This research suggests that persons facing higher marginal tax rates have a greater incentive to seek tax-preferred income and to avoid realization if possible.

One might expect these patterns would occur across wealth classes as well as income levels. Several studies (Steuerle, 1983, 1985; Johnson and Bourne Wahl, 2004; Johnson et al., 2012; and Bourne et al., 2017) find that wealthier people actually realize lower taxable returns to capital. Effective tax rates may therefore deviate substantially from statutory rates. In particular, the progressivity of effective rates is likely much less than statutory rates suggest.⁸

II. DATA DESCRIPTION

A. General

The Statistics of Income (SOI) Division of the Internal Revenue has created a dataset that links federal estate tax returns (Form 706) filed for persons who died in 2007 to their federal income tax records (Form 1040) for the years 2002–2006. A total of 36,889 Forms 706 were filed for individuals who died in 2007 and whose total gross estates were at least \$2 million.⁹ A

⁸ Because tax structures differ significantly across states, the degree to which people can avoid tax may depend on their state of residence.

⁹ All decedents with total gross estate at least equaling the filing threshold — \$2 million in 2007 — are required to file a Form 706. These forms were filed in the years 2007–2009 for persons who died in 2007 with a total gross estate of at least \$2 million. The relatively long data-collection period is because executors have up to 15 months after the decedent’s death to file an estate tax return, with longer extensions sometimes permitted.

stratified sample of 12,296 observations contains sample weights to allow analysis of (1) the entire population of estate tax filers who died in 2007 and (2) the living population in 2007 who had wealth of at least \$2 million. The wealthiest estates are sampled at 100 percent.¹⁰ Compared to standard survey data, SOI data provide much more information at the top of the wealth distribution, making these data especially useful for analyzing taxes paid by the very rich.¹¹

Form 706 reports the gross estate left by the decedent as well as substantial information about the types of assets held, including real estate, stocks, bonds, mortgages, notes, cash, family limited partnerships, and the like. All told, persons who died in 2007 and met the estate-tax filing threshold left over \$229 billion in total gross estate. Average gross estate was \$6.21 million and median gross estate was \$3.25 million.

A better measure than gross estate of the wealth available to individuals is net estate: gross estate plus the small amount of valuation discounts permitted by the IRS to reduce estate-tax burden minus debts and mortgages.¹² Just over 60 percent of decedents who filed returns had

¹⁰ The stratification variables are date of death, size of estate, and age.

¹¹ The Survey of Consumer Finances does oversample high-wealth individuals but by design omits the Forbes 400 (the top 400 wealth holders in the United States for the given year) (Bricker et al., 2016; Kennickell, 2011). Kopczuk (2015) evaluates different methods for estimating the wealth distribution, and Vermeulen (2017) proposes a way to improve estimates of wealth at the top by combining the Survey of Consumer Finances, the European Household Finance and Consumption Survey, and Forbes-400 information.

¹² Some assets, such as ownership shares of closely held businesses and limited partnerships, do not have a readily ascertainable market value. Valuation discounts allow some estates to report a value for estate tax purposes that is lower than the likely true market value of the asset at its highest and best use. For example, assets held as a part of limited partnership shares may have a lower value if they had to be sold immediately than if they were held free and clear, due to lack of marketability. Adding back the valuation discounts better reflects the wealth of the decedent.

The IRS collects information on gross estate reported at the date of death (“tgedod”) and gross estate calculated for tax purposes (“tgetax”). These values are highly correlated, with a Pearson correlation coefficient of 0.999. Throughout the paper, I use date-of-death valuations reported on Form 706. Both tgedod and tgetax include valuation discounts, although only the discounts for tax purposes are recorded in the data set. To back out the valuation discounts from tgedod, I therefore grossed up tgedod by the fraction that tax valuation discounts represented in grossed-up tgetax. Thanks to Aaron Barnes for this useful suggestion. I also net out debts and mortgages from gross estate to be consistent with net income measures, which subtract interest deductions taken on Form 1040.

Gross estate includes the net value of life insurance, but no distinction is made between policies such as whole or universal life and term life. While I think I should count cash value of life insurance as part of wealth available during life, one might not want to count all of the term value of insurance received at death in excess of the cash value as wealth available during life. My data did not permit me to exclude this amount. Fortunately, life

a net estate of between \$2 and \$4 million; just under 1 percent had a net estate of over \$50 million.¹³ Figure 1 shows the percentage of wealth held and taxes paid by each wealth category; for instance, decedent filers with net estate greater than \$50 million held 22 percent of wealth, paid 18 percent of annual taxes during life, and paid 23 percent of taxes at death.¹⁴

FIGURE 1 ABOUT HERE

B. Itemizers

Because I wish to calculate overall tax burden, including state and local income taxes and property taxes, I focus on decedents who itemized deductions on Form 1040 in the years before their demise.¹⁵ Schedule A contains information on taxes paid other than the federal income tax. Between 92 and 98 percent (depending on wealth category) of decedents itemized in at least one year between 2002 and 2006.¹⁶ Among itemizers, 90 percent itemized deductions in at least 3 years.

C. Living Population

insurance made up less than 3 percent of the value of gross estate on average, with the proportion being smaller for larger estates.

¹³ A tiny fraction of decedents had a zero or negative net estate. For additional information on the decedent population, see Bourne et al. (2017).

¹⁴ Note that ratios are calculated so that, for example, the percentage of wealth held by decedents with wealth between \$2 million and \$4 million equals the total net estate held by people in that wealth category divided by the total amount of net estate held by decedent estate-tax filers in all wealth categories.

¹⁵ Alternatively, I could have tried to impute other taxes by assuming that non-itemizers would have had itemized deductions equal to or less than the standard deduction. Because Schedule A contains items other than state and local income taxes and property taxes, I was reluctant to try this method. Results for the entire data set (including non-itemizers) for federal income, alternative minimum, estate, and generation-skipping transfer taxes do not differ significantly from those for itemizers alone.

¹⁶ The limit on SALT deductions in TCJA is likely to reduce the percentage of itemizers, although less so for the very wealthy than the general population. <https://itep.org/a-fair-way-to-limit-tax-deductions/>.

Calculating tax rates on decedents who met the estate tax filing threshold could provide a misleading picture of taxes paid by the wealthy during life, simply because those who die are older on average than those who live. Older people have different sorts of income than younger persons — for instance, older individuals are more likely to be retired and thus receiving no wage income.¹⁷ Older people are also more likely to have planned their portfolios to reflect anticipation of death. I therefore estimate taxes paid by the living population that had at least as much wealth in 2007 as the estate-tax-filing decedents had.

One can estimate the wealth of the living population with at least \$2 million of wealth by applying a multiplier to estate-tax-return data (Atkinson and Harrison 1978; Johnson 1998; Johnson and Moore 2009; Lampman 1962; Mallet 1908). The multiplier equals a sampling weight, which is derived from SOI sample weights for decedents who filed a Form 706 and national mortality rates (by age and sex) calculated for holders of large-dollar-value annuity policies. Using these mortality rates rather than rates for the overall population acknowledges the generally longer life expectancy associated with individuals holding higher levels of wealth.¹⁸

D. Singles versus Married Couples

One drawback of using tax returns to discuss matters regarding wealth and income is that estate tax returns naturally pertain to individuals whereas income tax returns can be filed jointly by married couples. In earlier work (Bourne et al., 2017), I assumed that capital resources were equally available to each spouse but also examined other methods of allocating marital capital.

¹⁷ In years 2002 through 2006, only 15 to 20 percent of decedents aged 70 and older received wage and salary income; the range for decedents younger than age 70 was 60 to 70 percent.

¹⁸ The patterns across wealth categories for the decedent population are quite similar to those for the living, although decedents paid less in federal income, state and local, and real estate taxes in each wealth category, and less in corporate tax in all wealth categories except the top one.

This assumption can create difficulties for estimating tax rates during life for spouses who earn very different wages. It generates even greater problems for estimating tax rates at death because the marital deduction permits bequests to surviving spouses to escape estate tax.¹⁹ I therefore focus my analysis upon individuals who were not married for the entire period 2002 to 2007. These individuals constitute about 35 percent of the original sample.

E. Constant Dollars and Five-Year Averages

Given that income and tax numbers are for different years, I adjust all dollar figures to 2007 dollars using chained GDP deflators. I also average tax and income figures to smooth out short-term fluctuations.²⁰ To sum up, the following sections focus mostly upon 5-year averages of income and tax data (aside from taxes paid at death) pertaining to long-single persons who had at least \$2 million in wealth in 2007 and who itemized at least one year on their income tax returns in the five years before 2007.²¹

III. TAXES AS A PERCENTAGE OF WEALTH

A. A Note on Income, Wealth, and Taxes

¹⁹ Kopczuk and Slemrod (2003) discuss ways in which married couples can affect tax liability for the first-dying spouse by the judicious use of trusts and other types of estate planning. The patterns I find for long-single decedents are generally similar to those for the entire population of decedents. The law is even more complex today with the addition of the deceased spousal unused exclusion (DSUE) election. At the time of the first spouse's death, the remaining spouse must decide whether to allow transferability of any unused portion of the first spouse's exemption amount. This portability is intended to reduce the need to create a bypass trust. The statutory provisions underlying the portability rules were enacted as part of the Tax Relief, Unemployment Insurance Reauthorization, and Job Creation Act of 2010, and the provisions were made permanent by the American Taxpayer Relief Act of 2012.

²⁰ Yearly results do not differ markedly from the averaged results reported here. Most people itemized for multiple years but not all for the full 5-year period. Averages pertain to the itemizing years; for example, a decedent who itemized in only 4 of the years generated 4-year averages.

²¹ Bourne et al. (2017) discuss the potential issues associated with using a single observation of wealth alongside a set of income and tax figures pertaining to multiple years of observation. We conclude that, because we cannot ascertain the nature of bias and because we are primarily interested in comparisons across wealth groups (as I am in this paper as well), the thrust of our argument holds despite an inability to observe wealth in multiple years.

Legend has it that writer F. Scott Fitzgerald said, “The rich are different from us,” to which Ernest Hemingway replied, “Yes, they have more money.”²² But the very wealthy differ from the general population not just because they have more money. They also have more control over the type of income received, timing of income realization, and amount of taxes paid -- because they earn income from capital as well as labor, capital gains can accumulate tax-free if unrealized, and realized capital gains enjoy favorable tax rates. These factors also suggest that the very rich may face relatively low effective tax rates even though statutory rates increase as income increases.²³ Figure 2 shows the disparity between individuals in my dataset and the overall population: note, for example, that wages constitute nearly 70 percent of income for the population but scarcely more than 20 percent for individuals in my dataset.²⁴

FIGURE 2 ABOUT HERE

As a percentage of adjusted gross income (AGI), the average federal income tax paid increases throughout most of the AGI distribution (Figure 3). It is also greater for single itemizers with wealth of \$4-7 million than for those with less wealth, but it is relatively flat across higher wealth categories (Figure 4). Because AGI is not perfectly correlated with wealth and because people pay other taxes in addition to the federal income tax, however, a look at

²² For an account of the supposed exchange, see <http://www.nytimes.com/1988/11/13/books/l-the-rich-are-different-907188.html>.

²³ For more discussion and evidence, see Bourne et al. (2017). Having different tax rates for income and capital gains raises questions about the connection between tax rates and revenue and the degree to which people re-categorize income. Burman (1999) has a lively discussion of the effect on tax revenue of preferential rates on capital gains; he concludes that a capital gains preference almost surely reduces revenue. The short-run realization of capital gains responds to variation in tax rates, but the long-run response is minimal. What is more, a lower rate on capital gains encourages taxpayers – especially high-income taxpayers – to convert other income into capital gains. Bakija and Gentry (2016) offer evidence from a panel of state-level data.

²⁴ I report percentages of AGI despite the fact that some income elements – tax-exempt interest, for example – are not included in AGI. Official statistics are reported in this fashion, so comparisons are easily done.

overall taxes paid as a percentage of wealth arguably reveals more about long-term tax burden.²⁵

Figure 5 shows the percentages of wealth and AGI attributable to each wealth category, with the average AGI for the category listed in parentheses below the category labels.

FIGURES 3 and 4 AND 5 ABOUT HERE

B. Taxes Other Than Those Paid at Death

Figure 6 depicts average annual tax rates paid during life across wealth categories; taxes include federal income taxes, non-federal taxes itemized on Schedule A (which encompass state and local income taxes and real estate taxes), Social Security taxes, Medicare taxes, and corporate taxes. Flat payroll tax rates and the cap on taxable Social-Security wages imply regressivity for high-income people and contribute to the decline in effective tax rates (as a percentage of wealth) at the top end of the wealth distribution.²⁶ Annual taxes paid during life constitute between 1.2 and 2.5 percent of net wealth, with the richest paying the lowest rate.

FIGURE 6 ABOUT HERE

1. Federal Income Tax

The bulk of taxes paid during life for people in my dataset comes from the federal income tax, which includes taxes on realized capital gains. On average, single wealthy itemizers paid

²⁵ The overall Pearson correlation between AGI and net wealth for my dataset is 0.580, with wide differences across states.

²⁶ I assume that employees bear the full burden of payroll taxes. Empirical evidence is mixed: many economists assume that workers bear both employee and employer portions (for example, Mitrusi and Poterba, 2001, and Piketty and Saez, 2007), whereas other scholars have found that only a small part of increases in payroll taxes are borne by workers (for instance, Hamermesh, 1979).

less than 1.5 percent of their wealth annually in federal income tax. Figure 6 shows that individuals in the top wealth category paid the lowest percentage.

Total federal income taxes paid include taxes paid via the alternative minimum tax (AMT).²⁷ As Figure 7 depicts, AMT payments constitute a very small portion of total taxes paid.²⁸ Individuals in the \$7-10 million wealth category paid the highest percentage of their wealth in the AMT.

FIGURE 7 ABOUT HERE

2. State and Local Income Tax, Real Estate Tax, and Imputed Corporate Tax

Average annual state and local income taxes paid come to less than 0.4 percent of total wealth for all wealth categories. Figure 7 suggests that the very wealthy pay a rate lower than those less rich, but individuals with wealth in the \$10-50 million range pay a higher rate than those in the \$7-10 million range. A possible explanation has to do with differences across states in wealth distribution and in AGI-wealth correlation. For example, a disproportionate number of New York state residents had \$10-50 million in wealth, and New York is a high-tax state with a strong correlation between AGI and wealth for its residents.²⁹

²⁷ I include this as a separate item because it is one of the taxes targeted by TCJA. Congress enacted the AMT in 1979 in an attempt to capture tax from preferred income items that were lightly taxed by the regular income tax. Because the initial AMT was not indexed (and the regular tax was), the AMT began to apply to an increasing number of individuals. After a series of patches, the American Taxpayer Relief Act of 2012 permanently indexed the AMT. <http://www.taxpolicycenter.org/briefing-book/what-amt>. TCJA increased the exemption amount for the AMT, substantially raised the income threshold at which the exemption phases out, and changed other tax breaks (such as capping the SALT deduction) so that triggering the AMT is much less likely.

²⁸ AMT revenue constituted about 3 percent of individual income tax revenue in 2007. This figure is expected to be about 0.4 percent in 2018. <http://www.taxpolicycenter.org/briefing-book/how-much-revenue-does-amt-raise>

²⁹ California, New York, and Florida residents contribute 36 percent of the sample (by number), whereas Illinois, Texas, New Jersey, and Pennsylvania together add an additional 17 percent. Correlation between AGI and wealth is high in California (0.834) and New York (0.778), average in Florida, Illinois, and New Jersey, and, interestingly, negative in Texas (a relatively low-tax state). According to Sammartino and Francis (2016), New York and California also have among the most progressive state income tax systems.

Real estate taxes as a percentage of wealth unambiguously decline across wealth categories, as Figure 5 depicts.³⁰ The very wealthy pay only 0.022 percent of their wealth in real estate taxes each year.

Much has been written about the incidence of the corporate tax (for example, Pechman, 1985; Feldstein, 1988; Gravelle and Smetters, 2001; Auerbach, 2006; Randolph, 2006; Gravelle, 2010; and Altshuler et al., 2011), beginning with the seminal article by Arnold Harberger (1962). I adopt the current U.S. Treasury method of allocating 18 percent of the tax to labor income and 82 percent to capital income (Cronin et al. 2013), but I also report results that assume – as claimed by the current administration – labor income bears the entire burden of the corporate tax.³¹ Figure 8 shows that the effective tax rate on individuals from the corporate tax was less than 1 percent of wealth for all wealth categories, regardless of which allocation method is used. As with other taxes, the very rich paid a smaller proportion of wealth in corporate taxes than less-wealthy individuals.³²

3. Regression Analysis

³⁰ These are taxes paid on real estate that is not used in business and appear as a deduction on Schedule A of Form 1040. One reason the tax rates are declining may be due to the negative correlation between wealth and the percentage wealth held as residential housing. Decedents with \$2-5 million net estate held 12 percent of wealth as personal residence whereas those with more than \$100 million held less than 1 percent (Bourne et al., 2017). This effect may be exacerbated by the correlation of age and wealth and the presence of property tax relief for the elderly in many states. <https://itep.org/wp-content/uploads/srtaxprefpb112016.pdf>.

³¹ I obtained overall labor and capital income for the years 2002-2006 from <https://www.irs.gov/uac/soi-tax-stats-historical-table-1>, using the assumptions in Bourne et al. (2017) to allocate income from Schedules C, E, and F as well as income from IRAs and pensions and annuities. Corporate income taxes for 2002-2006 are reported at <https://www.irs.gov/uac/soi-tax-stats-historical-table-13>. I allocated 82 percent of corporate taxes to capital income and 18 percent to labor income for the overall population to obtain a measure of corporate tax paid per dollar of each type of income in each year. I then used these measures to impute corporate tax paid by the individuals in my sample according to the labor and capital income they received. Other allocation assumptions are made in the literature, for example Piketty and Saez (2007) and Nunns (2012). A recent report from the Council of Economic Advisers claims that cutting corporate tax rates will raise wages substantially, therefore suggesting that labor income bears the brunt of the corporate tax.

<https://www.whitehouse.gov/sites/whitehouse.gov/files/documents/Tax%20Reform%20and%20Wages.pdf>

³² Harris (2009) finds that, under varying assumptions about incidence, the corporate tax is generally progressive across income categories.

Figure 8 shows coefficients and robust standard errors for regressions of the natural log of average annual taxes paid during life on a set of variables including the natural log of wealth. Column 1 does not include state fixed effects; column 2 does. Figure 9 reports means and standard deviations. I interpret these results as descriptive rather than causal, particularly because net estate is not exogenous.

Perhaps most interesting are the coefficients pertaining to net estate. The loglinear form of the regression permits me to interpret the coefficients as elasticities. Taxes paid during life were inelastic with respect to wealth: a 1 percent increase in net estate corresponded to a 0.84 percent increase in taxes paid during life. Taxes paid thus increase with wealth but at a decreasing rate.

The regression reveals other patterns corresponding to possibilities discussed in the theory section. I include a dummy variable that equals 1 if the individual reported medical expenses exceeding 7.5 percent of AGI in any year between 2002 and 2006; this stands as a crude proxy for anticipation of death. But the expected sign for the coefficient on this variable is ambiguous: people with larger medical expenses might realize more income to help pay the bills, but they also receive a greater tax deduction. The sign is negative, indicating that the tax-deduction effect dominates. Males paid more in taxes, *ceteris paribus*. This result likely reflects the greater proportion of income received as wages by males; on average, males reported a third of adjusted gross income as wages whereas the figure for females was only 11 percent. Coefficients on the age variables reveal that taxes paid during life increase with age throughout the relevant range, suggesting that more income is realized the higher the expected probability of death, *ceteris paribus*. These coefficients are not significant, however.

The theory section also pointed to charitable desires, home ownership, dependency rates, and bequest motives as factors that potentially affect taxes paid. Not surprisingly, those who took larger deductions for charitable contributions also paid higher taxes, *ceteris paribus*, mainly because they realized larger amounts of capital income (Bourne et. al, 2017). Those who had a greater percentage of assets tied up in a primary residence paid more taxes during life, *ceteris paribus*. The coefficient is insignificant, but the sign may indicate that these individuals took less advantage of tax-sheltering and tax-deferring assets. Those who had others depending on them (as indicated by a trust, dependents in 2006, or the payment of gift taxes) and likely needed more cash to cover those additional costs paid more taxes during life, although the coefficient is insignificant.

FIGURES 8 AND 9 ABOUT HERE

C. Taxes Paid at Death

Figures 10 and 11 show the now-familiar inverted U-shape of tax rates, here for estate taxes and generation-skipping transfer taxes. The figures in this section pertain to the decedent population because they actually paid these taxes whereas those who continued living did not.³³

The marginal statutory estate-tax rate in 2007 ranged from 18 to 45 percent. Figure 10 indicates that the average effective rate was between 8 and 29 percent, with the richest decedents paying on average 12.9 percent of their wealth in estate tax.

FIGURES 10 ABOUT HERE

³³ As elsewhere, the pattern looks much the same regardless of whether I use the living or the decedent population.

Despite the existence of the estate and gift taxes, these alone could not stop very wealthy people from avoiding taxes by “skipping” generations as they transfer wealth. To close this potential loophole, federal law also imposes a generation-skipping transfer tax.³⁴ Compared to the proportion of wealth captured by the estate tax, the percent associated with the generation-skipping transfer tax is small – at most 0.12 percent of wealth, as Figure 11 shows.

FIGURE 11 ABOUT HERE

IV. CONCLUSIONS

Recent work on wealth inequality in the United States suggests that wealth may be becoming increasingly concentrated in the hands of a few, although the evidence is mixed (Zucman, 2019; Bricker et al., 2016; Kennickell, 2011; Kopczuk, 2015; Saez and Zucman, 2016; Wolff, 2012). Rich people, particularly the very rich, do not pay a large fraction of their wealth in taxes during life. In 2007, they did pay between 8 and 29 percent of their wealth (depending on wealth category) in taxes at death.³⁵ The TCJA curtailed the alternative minimum tax as well as significantly lowered corporate tax rates.³⁶ These changes by themselves will

³⁴ The generation-skipping transfer tax applies to gifts made to unrelated persons at least 37.5 years younger than the donor or to related persons if a generation exists between the donor and recipient. The exemption amount was \$2 million in 2007 and the statutory rate was 45 percent. The Tax Relief, Unemployment Insurance Reauthorization, and Job Creation Act of 2010 unified the estate tax, gift tax, and generation-skipping transfer tax exemptions and indexed exemptions starting in 2012. The tax raises virtually no revenue but appears to have achieved its objective (Kopczuk and Slemrod, 2003).

³⁵ The use of gifts, trusts, family limited partnerships, and other mechanisms can lower this fraction considerably, and my data suggest that the wealthiest individuals take full advantage of these techniques. More than 60 percent of single itemizing decedents reported having a trust; in the top wealth category, the figure was 90 percent. About 3 percent reported having assets in a family limited partnership, with the top wealth category reporting 10 percent.

³⁶ On the issue of reducing corporate taxes, Burman et al. (2017) find that the vast majority of corporate income is not double taxed, and Clausing (2016) defends the corporate tax in part because taxing income at the individual level is quite difficult because so much of it is exempt.

disproportionately benefit the rich and increase inequality. The TCJA also raised the estate-tax-filing threshold, which relieves even more tax burden on the merely – rather than the extremely - - wealthy. Some policymakers call for a total elimination of the estate tax which, absent other provisions such as revision of the capital gains tax, would remove the one existing policy tool we have for taxing those at the very top.

Some scholars suggest that a more comprehensive wealth tax – not just an estate tax -- could reduce inequality as well as bring in much-needed revenue. At least one model suggests that a wealth tax could increase efficiency.³⁷ But a wealth tax, if successful, could also reduce wealth accumulation and possibly discourage entrepreneurship and dampen growth.³⁸

This raises an important question: Would a wealth tax other than the estate tax succeed? Implementing a wealth tax in the U.S. could be challenging and may raise constitutional issues.³⁹ Experiments in other countries suggest that measuring annual wealth could prove difficult and evading or avoiding wealth taxes is common.⁴⁰ Zucman (2015) offers perhaps the most compelling explanation for why unilateral implementation of a wealth tax would fail to achieve its objective: people can simply move wealth elsewhere, particularly to tax havens.⁴¹ In short, our current practice of taxing very wealthy estates, however flawed, is one of the few parts of the tax system that may curb wealth concentration.⁴²

³⁷ Chen et al. (2013). Bach et al. (2014) discuss how a wealth tax could help finance public debt in Europe.

³⁸ Kopczuk and Slemrod (2001, 2003), Hanssen (2008, 2010).

³⁹ Worstall (2014), Lavoie (2014), <http://www.nationalreview.com/bench-memos/333660/constitutional-fiasco-wealth-tax-matthew-j-franck>. Plecnik (2014) proposes ways to implement a wealth tax.

⁴⁰ Lehner (2000), Glennerster (2012), and Seim (2014). Kopczuk and Slemrod (2001, 2003) note that avoidance and evasion of the estate tax are also present in this country.

⁴¹ Toder and Viard (2014, 2016) offer a potential alternative to a wealth tax: they propose taxing accrued capital gains on a mark-to-market basis at income tax rates. This would effectively tax capital income more during life.

⁴² A plausible alternative to the estate tax would be eliminating the step-up in basis at death and imposing a capital gains tax on assets held within the estate, using a carryover basis. William Gale, among others, favors this approach. <https://www.taxpolicycenter.org/taxvox/there-are-better-ways-tax-rich-wealth-tax-or-70-percent-top-rate>

Figure 1: Percentage of Wealth Held and Taxes Paid by Decedents Who Met the Estate-Tax Filing Threshold, by Wealth Category

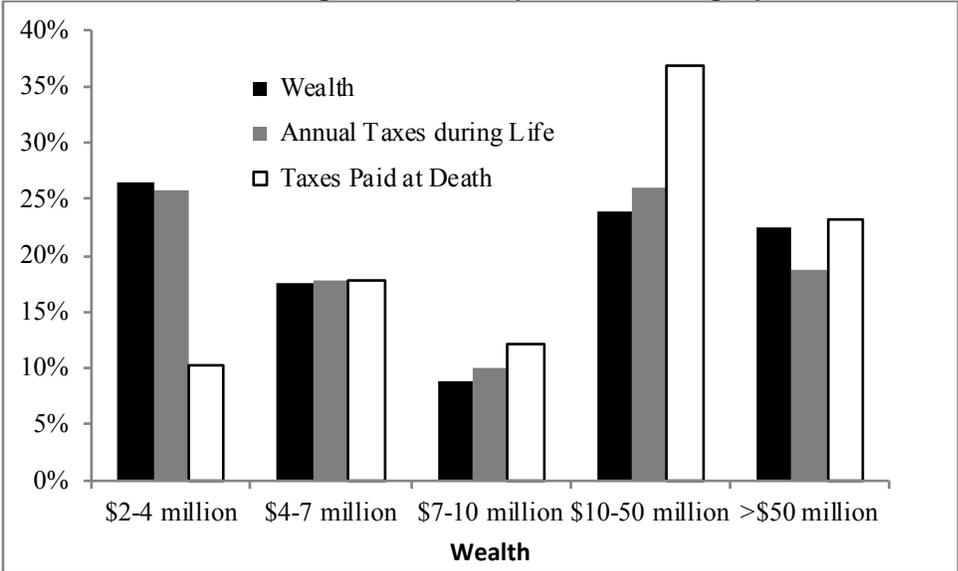
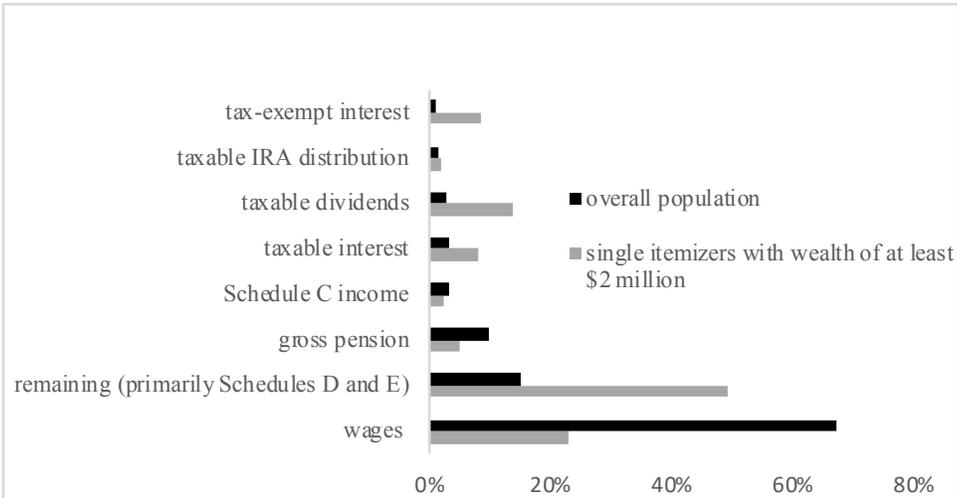


Figure 2: Income Elements as Percentages of Adjusted Gross Income (AGI), Overall Population and Single Wealthy Itemizers, 2007



Source: <https://www.irs.gov/uac/soi-tax-stats-individual-income-tax-returns-publication-1304-complete-report>. Schedule C income is income from sole proprietorships, Schedule D income includes capital gains and losses, and Schedule E income includes rents, royalties, and income for S corporations, partnerships, estates, and trusts.

Figure 3: Federal Income Tax Paid in 2007 as a Percentage of AGI, by Size of AGI (overall population)

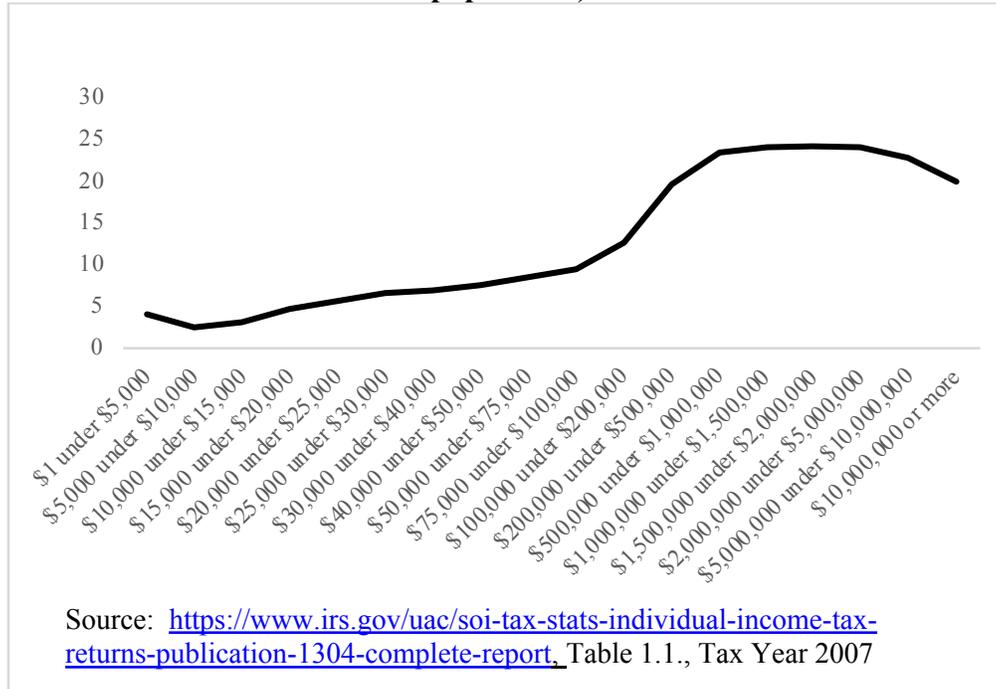


Figure 4: Federal Income Tax as a Percentage of AGI, by Wealth Category (Single Wealthy Itemizers)

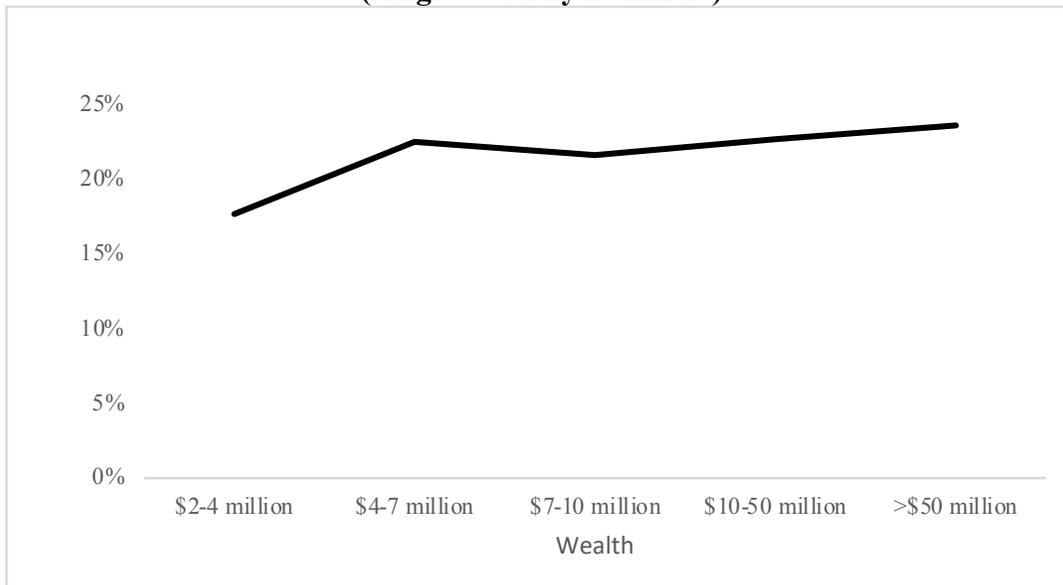


Figure 5: Percentages of Wealth and Average Annual AGI for Single Wealthy Itemizers, by Wealth Category

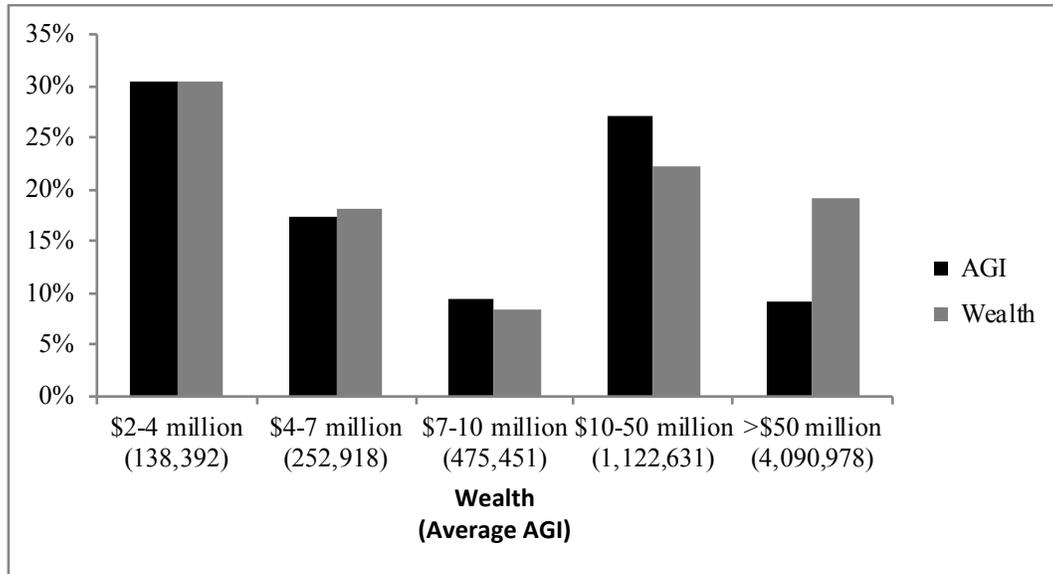


Figure 6: Annual Taxes Paid During Life and Annual Federal Income Tax as Percentages of Wealth, Single Wealthy Itemizers, by Wealth Category

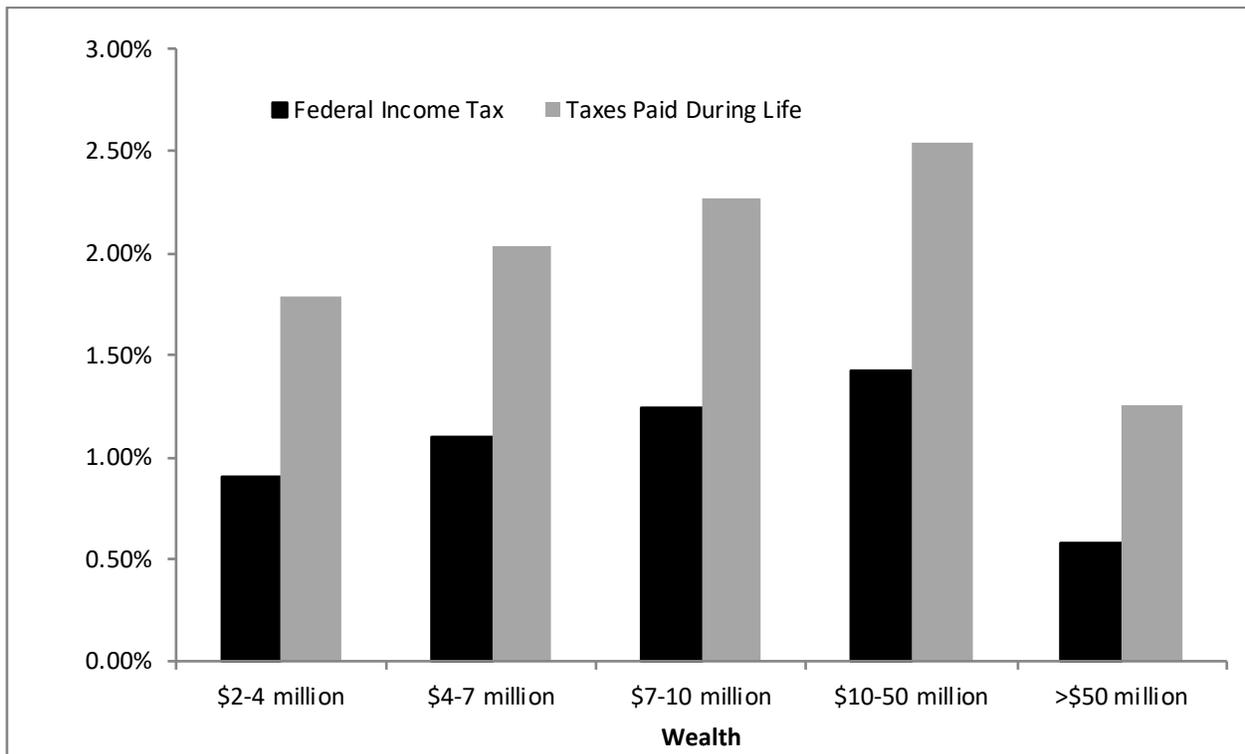


Figure 7: Annual Alternative Minimum Tax, State/Local Income Tax, Real Estate Tax, and Imputed Corporate Tax as Percentages of Wealth, Single Wealthy Itemizers, by Wealth Category

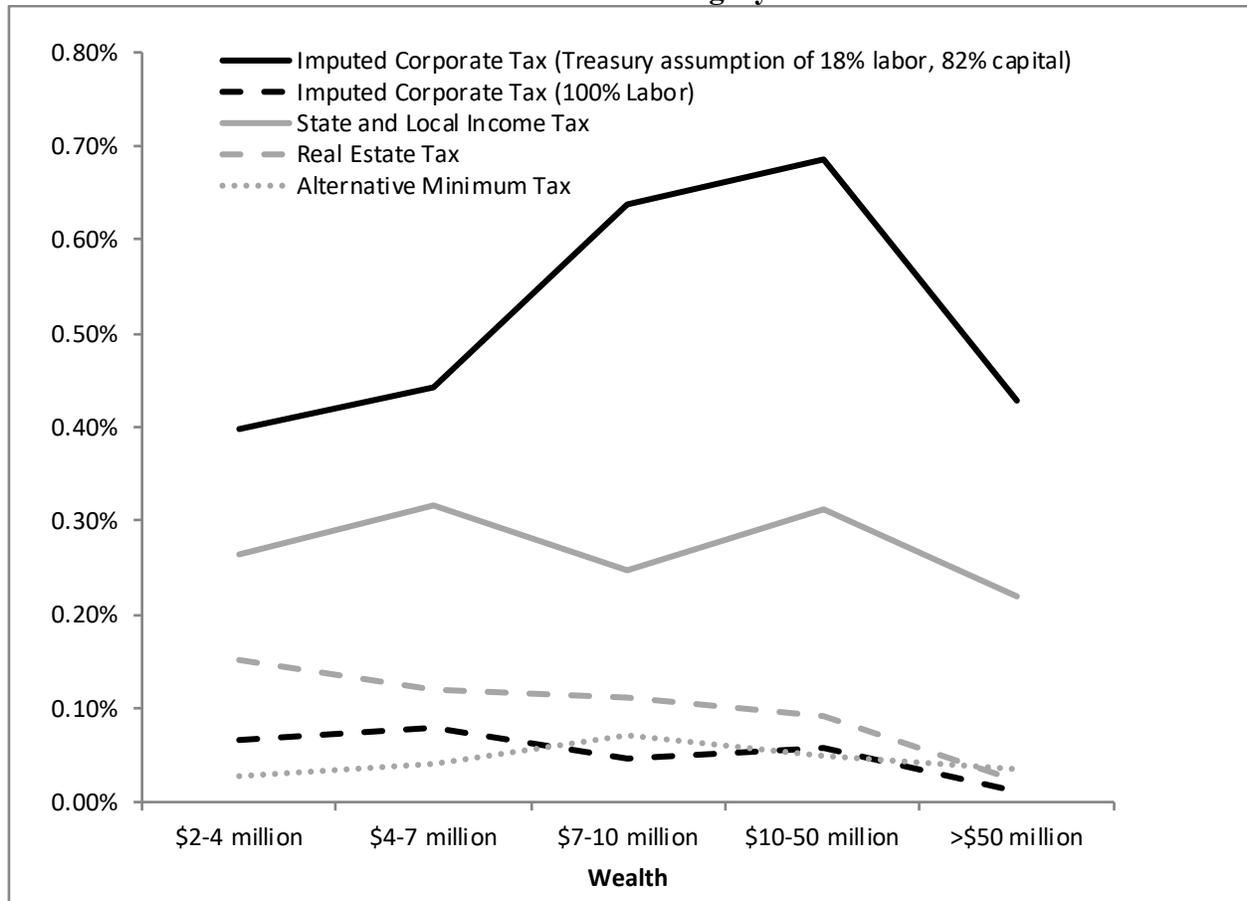


Figure 8: Regression Analysis

Dependent Variable Ln(taxes paid during life)

Variable	Coefficient	Robust S.E.	Coefficient	Robust S.E.
Intercept	-2.703***	0.667	-2.830***	0.668
Ln(wealth)	0.842***	0.045	0.847***	0.042
Age	0.010	0.013	0.007	0.013
Age squared	-0.0001	0.0001	-0.0001	0.0001
D _{medical} ^a	-0.615***	0.065	-0.598***	0.061
D _{male} ^b	0.144**	0.065	0.123**	0.059
D _{beq} ^c	0.012	0.073	0.042	0.075
Homepct ^d	0.224	0.145	0.252	0.133
Ln(charcont) ^e	0.114***	0.013	0.115***	0.012
State fixed effects	no		yes	
N	3952		3952	
Adj. R ²	0.459		0.492	

***significant at the 1 percent level

**significant at the 5 percent level

^aDummy variable =1 if individual had extraordinary medical expense (>7.5 percent AGI) in any of the 5 years between 2002 and 2006

^bDummy variable =1 if male

^cDummy variable =1 if decedent had dependents in 2006, left a trust, or had gift tax payable

^dPercent wealth held in primary residence

^eLog of average annual charitable contribution deductions in the period 2002-2006

Figure 9: Descriptive Statistics

Variable	Mean	S.D.
Ln(wealth)	15.08	8.11
age	60.03	238.42
D _{med} ^a	0.53	6.18
D _{male} ^b	0.43	6.13
D _{beq} ^c	0.51	6.18
Homepct ^d	0.15	2.96
Ln(charcont) ^e	6.57	39.29
Ln(taxes paid during life)	10.67	15.20

^aDummy variable =1 if individual had extraordinary medical expense (>7.5 percent AGI) in any of the 5 years between 2002 and 2006

^bDummy variable =1 if male

^cDummy variable =1 if individual had dependents in 2006, left a trust, or had gift tax payable

^dPercent wealth held in primary residence

^eLog of average annual charitable contribution deductions in the period 2002-2006

Figure 10: Estate Tax as a Percentage of Wealth, Single Wealthy Itemizers, by Wealth Category

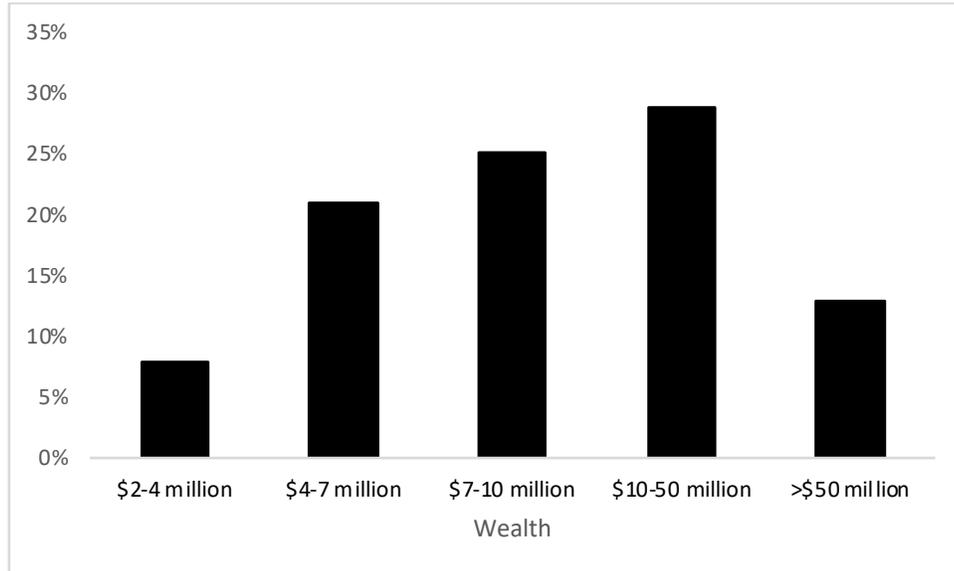
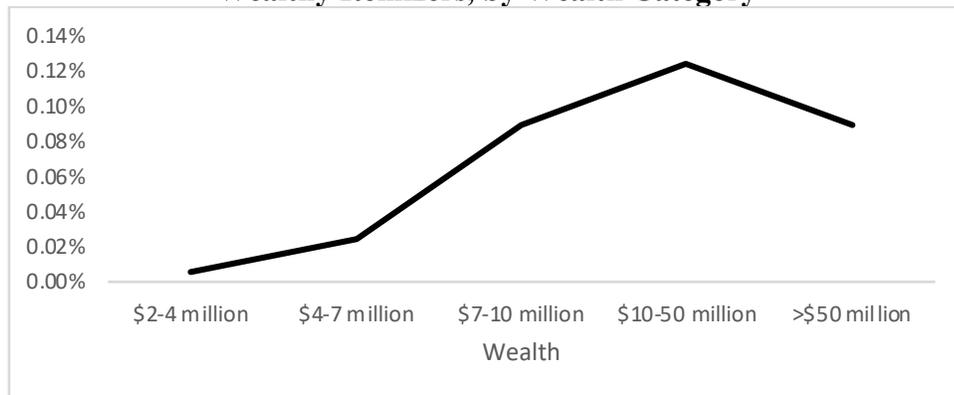


Figure 11: Generation-Skipping Transfer Tax as a Percentage of Wealth, Single Wealthy Itemizers, by Wealth Category



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