# Taxing Billionaires: Estate Taxes and the Geographical Location of the Forbes 400

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**PRELIMINARY AND INCOMPLETE**

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# 1 Extended Summary

There has been much debate in recent years on the costs and benefits of subnational governments imposing high tax rates on their richest residents, especially in light of the potential for tax flight. In this paper, we study the effect of state-level estate and inheritance (EI) taxes on the geographical location of the Forbes 400 richest Americans and its implication for tax policy. We use a change in federal tax law to identify the tax sensitivity of the ultra-wealthy's locational choices. Before 2004, there was no cross-state variation in effective EI tax rates on billionaire's estates due to a federal credit. This credit was eliminated in 2004, resulting in substantial variation between states with and without EI taxes. We find the number of Forbes 400 individuals in EI states fell after 2004 compared to non-EI states. We use our estimates to quantify the costs and benefits of adopting EI on each state's tax revenues.

State level EI taxes in the U.S. have been around since the late 19th century. However, from 1924 through 2004, the federal government provided a credit against state estate and inheritance tax liabilities up to a limit. This limit was determined by a progressive credit rate schedule. The credit rate schedule prevailing from 1954 to 2001 is shown in Appendix Table 1 (based on Table 1 of Bakija and Slemrod [2004]). The top marginal credit rate of 16% applied to all estate values above $10,040,000. Thus, for estates far above this value – and note that the minimum wealth in the Forbes 400 in 2001 was $830 million – both the marginal and average credit rate was 16%.

During the era of the federal credit, states potentially had two types of taxes on estates and inheritances. First, nearly every state took advantage of the federal credit and enacted statutes that imposed so-called "pick-up" taxes that specified tax liabilities exactly up to the federal credit limit (as a function of estate value). In effect, the federal government picked up the tab for taxpayers facing these state pick-up taxes. Thus, these state pick-up taxes effected no variation across states in EI tax liability and should have no effect on locational decisions of wealthy households. Second, some states imposed stand-alone EI taxes separate from the pick-up taxes. Estate taxpayers owed the higher of the two tax liabilities. These state EI taxes had progressive rate schedules, with the top marginal tax rate never exceeding 16% and applying to estate values near or below $10 million (as of 2001). Thus, for estate values far above $10 million, the average tax rate for any state EI tax was never above 16%. The fact that, for very high value estates such as those of the Forbes 400, the federal average credit rate always equaled or exceeded the state EI average tax rate meant that the combined federal and state EI average tax rate for the ultra-wealthy was independent of their state of residence.

This situation changed radically with the 2001 Economic Growth Tax Relief and Reconciliation Act (EGTRRA). The EGTRRA phased out the credit over 2002 to 2004 and eliminated it completely in 2005. In the post-EGTRRA world, ultra-wealthy individuals' potential combined estate tax liability became highly dependent on their domicile state.[1]

We begin the empirical analysis by validating the Forbes 400 data. While these data may contain some measurement error, reported state of residence and reported wealth appear generally accurate. Prior research has found that individual net worth reported by Forbes is consistent with IRS confidential tax return data. To probe the quality of the Forbes 400 location data, we conduct an audit using obituaries of deceased Forbes 400 individuals and find that the state of residence listed by Forbes matches the state listed in obituaries in the vast majority of cases.

More importantly, for each death we estimate the effect on EI tax revenues of the state of residence (according to the obituary). We find no pre-trends in the years leading up to a death, and a sharp and economically large increase in EI tax revenues in the 3 years after the death. We estimate that, on average, a Forbes billionaire death results in an increase in state EI revenues of $165 million, an amount that is consistent with IRS estimates of EI tax liability for this group of taxpayers.

Having validated the Forbes data, we then turn to the core of our empirical analysis, namely the sensitivity of the ultra-wealthy's locational choice to EI taxes. The 2001 tax reform allows for identification of the effect of EI taxes on the location of Forbes billionaires. We first use a double-difference estimator to estimate the differential effect of having an EI tax up to versus after 2001 on the number of Forbes 400 individuals in a state, allowing for state and year fixed effects.

We find that before 2001, there is a slight *positive* correlation between EI status and the number of Forbes 400 individuals in the state, after conditioning on state fixed effects. After

[1]Estate taxes are owed to single domicile state, which is the state determined to be the primary residence of the decedent. According to Bakija and Slemrod [2004], "[s]tates consider a long list of both quantitative and qualitative indicators in order to determine the location of primary domicile. Relevant criteria include physical location in the state for more than six months of the year, how many years the taxpayer had lived in the state, strength of ties to the local community, and where the taxpayer was registered to vote and maintained bank accounts, among many other factors. Disputes sometimes arise over which state can claim the decedent as a resident for state tax purposes. Most states subscribe to an interstate agreement that provides for third-party arbitration in such situations." Location of death is irrelevant for tax purposes. E&I taxes on intangible property (e.g., financial assets) are owed to a single domicile state. Taxes on tangible property (e.g., real estate) apportioned to states according to property value. In practice not all wealth is taxed. First, assets inherited by a spouse are not taxed until the spouse death. Second, charitable bequests are not taxed. Third, there is of course some tax avoidance and possibly evasion. Some assets are difficult to appraise. For example: art and the value of privately-held companies. Assets in trusts are taxed if decedent is trustee, that is if she controls where assets are invested and who are the beneficiaries. In practice, the average taxable share of Forbes 400 estates is found by the IRS to be 52% (Raub et al. [2010]), taking into account spousal survival.

2001, the opposite becomes true: the number of Forbes 400 individuals in EI states becomes significantly lower (see Table 4, column 2). On average, EI states lose a little under 3 Forbes 400 individuals relative to non-EI states. Given the pre-2001 average baseline Forbes 400 population in EI states, which is near 8, the implied semi-elasticity is roughly -0.35.

Our preferred specification is based on a triple-difference estimator exploiting the notion that a billionaire's sensitivity to the EI tax should increase as they age. In terms of identification, the main advantage of triple-differenced models over the difference-in-difference models is that the former allow us to control for the interaction of EI-state X post-2001. Thus, threats to validity stemming from the correlation between unobserved differences across states in the determinants of Forbes' 400 geographical locations and EI status after 2001 are accounted for. We find that the number of "old" (over 65) Forbes billionaires in EI states relative to the number of younger Forbes billionaires in EI states drops after 2001 (see Table 5).

Similarly, we look at whether the probability of living in an EI state is differently related to age after 2001. We find that the number of Forbes 400 individuals who live in EI states is uncorrelated with age from 1982 to 2001), but falls sharply with age from 2001 onward (see Figure 6 and Table 6).[2] We can also estimate this age gradient for each year of our sample to see how quickly this negative age gradient emerged after the 2001 reform. As shown in Figure 5, the negative age gradient by year is imprecisely estimated but appears to show a gradual emergence over the first several years after the reform.

Overall, we conclude that billionaires' geographical location is sensitive to state EI taxes. The 2001 EGTRRA Federal Reform introduced large differences in billionaires' EI tax burdens among states where there had been none. These ultra-wealthy individuals appear to have responded by some combination of increasingly moving out of states that retained or adopted EI taxes (to non-EI states) and decreasingly moving out of states that repealed EI taxes. One first-order implication of this tax-induced mobility is a large reduction in the aggregate tax base subject to state EI taxation. We estimate that tax-induced mobility resulted in 23.1 fewer billionaires and $90.7 billion less in Forbes 400 wealth exposed to state EI taxes.

States face a trade off in terms of tax revenues. On the one hand, adoption of the EI tax implies a one-time estate tax revenue gain upon the death of a billionaire in the state. On the other hand, our estimates indicate that the adoption of an EI tax lowers the number of billionaires residing in the state. In terms of state tax revenue, the main cost is the foregone

[2]As a falsification test, we show that this negative age gradient from 2005 onward does not hold for the probability of living in a high income tax state. In other words, the negative age gradient for choosing an EI state is not due to any positive correlation across state between having an EI tax and having a high personal income tax rate.

income tax revenues over the remaining lifetime of each billionaire who leaves the state due to the EI tax (as well as any potential new billionaires that might have moved to the state in the absence of an EI tax). The cost of foregone income tax revenues is, of course, higher the higher is the state's top (average) income tax rate. We use our estimates of the elasticity of billionaires geographical location with respect to the EI tax to compare the magnitude of the costs and the benefits for different states.[3]

We estimate that the cost-benefit ratio for each state based on data on expected life expectancies by age and the number and wealth of billionaires by age in each state (see Table 8). We find a ratio 0.70 for the average state, indicating that the the additional revenues from an EI tax exceed the loss of revenues from foregone income taxes. Put differently, despite a high elasticity of billionaires to state EI taxes, EI revenue benefits exceed personal income tax revenue costs. The ratio varies across states as a function of the state income tax rate. In California, the cost-benefit ratio is 2.37, indicating that if California adopted the EI tax, the state would lose revenues among billionaires by a significant margin. (Currently, California does not have an EI tax.) By contrast, in Texas or Washington state the ratio is 0, since there is no income tax. The adoption of EI in these states increases tax revenues unambiguously. We estimate that 28 states (out of 32) that currently do not have EI taxes would experience revenue gains if they adopted EI taxes.

Our paper is not the first to study the geographic sensitivity of individuals to subnational estate taxes. Bakija and Slemrod [2004] also look at state EI taxes, but they focus on the years before 2004 and on taxpayers with wealth far below that of the Forbes 400, finding mixed results on tax-induced mobility.[4] Our paper also relates growing body of work on the sensitivity of high income individuals locational choices to local and state taxes. Most of the literature has focused on personal income taxes. Moretti and Wilson [2017] and Akcigit et al. [2016] find evidence that top patenters, which have very high income, are quite sensitive to

[3]This is not the usual Laffer-curve style trade off that the literature typically focuses on, where states with high tax rates are compared to states with low tax rates. There is little empirical variation in EI tax rates—with virtually all states at either zero or 16%. While states are free to set different rates, in practice they generally have stuck with 16%, which is a historical carryover from the 16% maximum rate in the federal credit that existed until 2005. Thus, in our calculations we compare tax revenues in the case where a state adopts a 16% EI tax with tax revenues in the case where a state does not adopt an EI tax.

[4]They build an EI tax calculator to simulate the combined federal and state EI average tax rate (taking account of the federal credit rate schedule) by state and year, through 1998, for different wealth classes. They then investigate the extent to which cross-state variation in these combined ATRs affected the number of federal estate tax returns by state, finding a significant negative effect. Our study complements that of Bakija and Slemrod. The largest wealth class considered in Bakija and Slemrod is estates over $5 million. Our sample of the Forbes 400, with net worths near or above $1 billion, will comprise just a sliver of that wealth class. More importantly, while combined federal and state EI ATRs varied across states even prior to 2005 due to state differences in exemption levels and marginal rate schedules, the pre-2005 federal credit effectively offset any cross-state ATR differences for estates far above $10 million.

state income taxes in their location and migration choices. On the other hand, Young et al. [2016] find limited sensitivity among "millionaires."[5] Brülhart and Parchet [2014] look at the effect of bequest tax differences across Swiss cantons over a 36-year period and, in contrast to our findings, estimate that high-income retirees are relatively inelastic with respect to tax rates. It is possible that the ultra-wealthy (i.e., Forbes 400) are more sensitive to taxes than the "merely rich," or that wealthy individuals are less mobile within Switzerland than within the U.S..

[5]One potential explanation for this discrepancy in results is that the richest taxpayers have access to offshore tax shelters or other income tax avoidance strategies not available to the general high-income population. Cohen et al. [2011] find mixed evidence of tax-induced migration of the general population. Young and Varner [2011] and Varner and Young [2012] find no evidence of tax-induced migration in the case of millionaires taxes in California and New Jersey. Suárez Serrato and Zidar [2016] focus on corporate taxes and find moderate effects on wages, total employment, and land prices. Giroud and Rauh [2019] find an effect of business taxes on the number of establishments and establishment size. There is also a small related literature on taxes and international mobility. Akcigit et al. [2016] find modest elasticities of the number of domestic and foreign inventors with respect to the personal income tax rate. Kleven et al. [2013a] focus on European soccer players, while Kleven et al. [2013b] study a specific tax change in Denmark. Both find substantial tax elasticities.

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Table 1: Summary Statistics

Panel A. Individual-by-Year Observations. 1982 – 2017

| | Mean | Median | Standard Deviation | Minimum | Maximum |
|---|---|---|---|---|---|
| Age | 64.31 | 65.00 | 13.11 | 23.00 | 96.00 |
| Net Worth (billions, 2017 dollars) | 3.02 | 1.60 | 5.73 | 0.19 | 125.06 |
| Observations | 13432 | | | | |

Panel B. Distribution of Net Worth – 2017

| | 1st | 10th | 25th | 50th | 75th | 90th | 99th |
|---|---|---|---|---|---|---|---|
| Net Worth (Billions, 2017 Dollars) | 2.0 | 2.2 | 2.7 | 3.7 | 5.5 | 12.0 | 71.0 |

Panel C. State-by-Year Observations. 1982 – 2017

| | Mean | Median | Standard Deviation | Minimum | Maximum |
|---|---|---|---|---|---|
| Population of Forbes 400 | 7.68 | 3.00 | 15.07 | 0.00 | 98.00 |
| Net Worth (billions 2017 dollars) | 22.63 | 5.86 | 53.36 | 0.00 | 617.80 |
| Estate & Inheritance Tax Indicator | 0.42 | 0.00 | 0.49 | 0.00 | 1.00 |
| Top Personal Income Tax Rate | 4.86 | 5.40 | 2.96 | 0.00 | 14.10 |
| Observations | 1750 | | | | |

Table 2: Forbes 400 by State, 2017

| State | Forbes Population in 2017 | Mean Wealth in 2017 (mil$) | 1982-2017 Change Forbes Population |
|---|---|---|---|
| Alabama | 0 | | 0 |
| Alaska | 0 | | 0 |
| Arizona | 5 | 2780 | 4 |
| Arkansas | 5 | 16800 | 3 |
| California | 92 | 6715 | 37 |
| Colorado | 5 | 8540 | 0 |
| Connecticut | 7 | 6743 | 3 |
| Delaware | 0 | | -14 |
| Florida | 35 | 4229 | 14 |
| Georgia | 9 | 4767 | 1 |
| Hawaii | 1 | 9600 | 0 |
| Idaho | 1 | 2700 | -2 |
| Illinois | 14 | 3443 | -2 |
| Indiana | 3 | 4300 | 1 |
| Iowa | 1 | 3900 | 1 |
| Kansas | 2 | 25800 | 0 |
| Kentucky | 1 | 2700 | -1 |
| Louisiana | 1 | 2800 | 0 |
| Maine | 0 | | -1 |
| Maryland | 7 | 3371 | 3 |
| Massachusetts | 8 | 5988 | 0 |
| Michigan | 6 | 4417 | -1 |
| Minnesota | 3 | 3500 | -5 |
| Mississippi | 0 | | 0 |
| Missouri | 5 | 5700 | 2 |
| Montana | 3 | 4700 | 3 |
| Nebraska | 2 | 41100 | 1 |
| Nevada | 8 | 7475 | 5 |
| New Hampshire | 0 | | -1 |
| New Jersey | 6 | 5083 | 0 |
| New Mexico | 0 | | -1 |
| New York | 71 | 6256 | -10 |
| North Carolina | 3 | 5800 | 3 |
| North Dakota | 0 | | 0 |
| Ohio | 3 | 3467 | -7 |
| Oklahoma | 5 | 6860 | -2 |
| Oregon | 1 | 25200 | -2 |
| Pennsylvania | 5 | 3500 | -12 |
| Rhode Island | 0 | | -1 |
| South Carolina | 1 | 3500 | 0 |
| South Dakota | 1 | 2200 | 1 |
| Tennessee | 8 | 3813 | 5 |
| Texas | 34 | 5600 | -30 |
| Utah | 0 | | 0 |
| Vermont | 0 | | -2 |
| Virginia | 4 | 8775 | -2 |
| Washington | 10 | 24590 | 9 |
| West Virginia | 0 | | -1 |
| Wisconsin | 9 | 5122 | 8 |
| Wyoming | 4 | 11700 | 3 |
| Average | 8 | 7988 | 0 |

Table 3: Forbes 400 by Consolidated Metro Area (Top 40), 2017

| City Name | Forbes Population in 2017 | Mean Wealth in 2017 (mil$) | 1982-2017 Change Forbes Population |
|---|---|---|---|
| Atlanta-Sandy Springs-Gainesville, GA-AL | 9 | 4767 | 2 |
| Austin-Round Rock-Marble Falls, TX | 4 | 8025 | 4 |
| Boston-Worcester-Manchester, MA-RI-NH | 8 | 5988 | -2 |
| Charlotte-Gastonia-Salisbury, NC-SC | 1 | 4000 | 1 |
| Chicago-Naperville-Michigan City, IL-IN-WI | 14 | 3443 | -2 |
| Columbia, MO | 2 | 6800 | 2 |
| Dallas-Fort Worth, TX | 18 | 5950 | -9 |
| Denver-Aurora-Boulder, CO | 4 | 9900 | -1 |
| Detroit-Warren-Flint, MI | 3 | 4400 | -1 |
| Fayetteville-Springdale-Rogers, AR-MO | 4 | 20375 | 3 |
| Houston-Baytown-Huntsville, TX | 11 | 4464 | -10 |
| Indianapolis-Anderson-Columbus, IN | 2 | 2700 | 0 |
| Jackson, WY | 4 | 11700 | 4 |
| Kalamazoo-Portage, MI | 2 | 3950 | 0 |
| Knoxville-Sevierville-La Follette, TN | 2 | 3050 | 2 |
| Las Vegas-Paradise-Pahrump, NV | 7 | 7471 | 4 |
| Los Angeles-Long Beach-Riverside, CA | 31 | 4806 | 3 |
| Miami-Fort Lauderdale-Pompano Beach, FL | 25 | 4416 | 13 |
| Milwaukee-Racine-Waukesha, WI | 4 | 3800 | 3 |
| Minneapolis-St. Paul-St. Cloud, MN-WI | 2 | 4100 | -5 |
| Naples-Marco Island, FL | 3 | 5033 | 2 |
| Nashville-Davidson–Murfreesboro–Columbia, TN | 4 | 4275 | 3 |
| New York-Newark-Bridgeport, NY-NJ-CT-PA | 80 | 6368 | -9 |
| Oklahoma City-Shawnee, OK | 3 | 7867 | -2 |
| Omaha-Council Bluffs-Fremont, NE-IA | 2 | 41100 | 1 |
| Philadelphia-Camden-Vineland, PA-NJ-DE-MD | 5 | 3500 | -16 |
| Phoenix-Mesa-Glendale, AZ | 5 | 2780 | 5 |
| Portland-Vancouver-Hillsboro, OR-WA | 2 | 14450 | 0 |
| Raleigh-Durham-Cary, NC | 2 | 6700 | 2 |
| Reno-Sparks-Fernley, NV | 1 | 7500 | 1 |
| Rochester-Batavia-Seneca Falls, NY | 2 | 2850 | 2 |
| San Diego-Carlsbad-San Marcos, CA | 2 | 3750 | -2 |
| San Jose-San Francisco-Oakland, CA | 54 | 8154 | 37 |
| Santa Barbara-Santa Maria-Goleta, CA | 2 | 4250 | 2 |
| Seattle-Tacoma-Olympia, WA | 8 | 29775 | 7 |
| St. Louis-St. Charles-Farmington, MO-IL | 2 | 5450 | 1 |
| Tampa-St. Petersburg-Clearwater, FL | 4 | 2375 | 3 |
| Tulsa-Bartlesville, OK | 2 | 5350 | 0 |
| Washington-Baltimore-Northern Virginia, DC-MD-VA-WV | 10 | 5490 | 4 |
| Average | 9 | 7465 | 1 |

Table 4: Difference-in-Difference
Dependent Variable: Population of Forbes 400

| | (1) | (2) | (3) | (4) | (5) IV (2001 EI) | (6) Reduced-Form | (7) Stock p.c. | (8) Poisson | (9) Wealth | (10) Wealth Shr | (11) Exclude Inher. Tax | (12) Drop NY |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| EI-State X post-2001 | -2.889*** | -2.881*** | -2.153*** | -2.361*** | -2.265*** | | -0.456* | -0.312** | -16.18*** | -0.527*** | -1.903*** | -2.147*** |
| | (0.704) | (0.720) | (0.598) | (0.764) | (0.822) | | (0.250) | (0.140) | (3.631) | (0.0807) | (0.548) | (0.647) |
| EI-State | -1.463*** | -1.477*** | 1.276*** | 1.274*** | 1.331*** | 0.139 | 0.300*** | 0.160* | 11.72** | 0.420* | 1.154** | 1.008*** |
| | (0.319) | (0.360) | (0.470) | (0.432) | (0.238) | (0.504) | (0.0958) | (0.0950) | (4.832) | (0.234) | (0.528) | (0.361) |
| post-2001 | 0.857*** | | | | | | | | | | | |
| | (0.275) | | | | | | | | | | | |
| PIT X post-2001 | | | | -0.000169 | | | | | | | | |
| | | | | (0.000933) | | | | | | | | |
| PIT | | | | 0.00389*** | | | | | | | | |
| | | | | (0.000944) | | | | | | | | |
| EI-State-2001 X post-2001 | | | | | | -1.240*** | | | | | | |
| | | | | | | (0.351) | | | | | | |
| Observations | 1750 | 1750 | 1750 | 1750 | 1750 | 1750 | 1750 | 1715 | 1750 | 1750 | 1750 | 1715 |
| Semi-elasticity | -.54 | -.538 | -.402 | -.441 | -.423 | -.232 | -.455 | . | -1.114 | -.461 | 0 | 0 |
| State Fixed Effects | No | No | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes |
| Year Fixed Effects | No | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes |

Driscoll-Kraay (with 10-year bandwidth) standard errors in parentheses.

* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

Table 5: Triple-Difference
Dependent Variable: Population of Forbes 400

| | (1) | (2) | (3) | (4) | (5) | (6) |
|---|---|---|---|---|---|---|
| | | | Stock p.c. | Drop Age $\leq$ 40 | Exclude Inher. Tax | Drop NY |
| EI-state X post-2001 X old | 1.068*** | -0.604** | -0.265 | -0.625** | -0.721** | -0.609 |
| | (0.197) | (0.305) | (0.196) | (0.298) | (0.343) | (0.399) |
| EI-state X old | -0.625 | 0.139 | 0.161 | -0.0541 | 0.256 | 0.291 |
| | (0.424) | (0.216) | (0.161) | (0.207) | (0.211) | (0.254) |
| EI-State X post-2001 | -1.979*** | -1.139** | -0.0954 | -0.752*** | -0.616*** | -0.769*** |
| | (0.342) | (0.447) | (0.0731) | (0.253) | (0.238) | (0.238) |
| EI-State | -0.419 | -0.808*** | 0.0697 | 0.678*** | 0.461* | 0.358* |
| | (0.276) | (0.276) | (0.0856) | (0.246) | (0.265) | (0.215) |
| old | 0.190 | -0.574** | -0.0123 | -0.176 | -0.627** | -0.585** |
| | (0.408) | (0.287) | (0.0663) | (0.270) | (0.288) | (0.292) |
| post-2001 | 0.428*** | | | | | |
| | (0.137) | | | | | |
| old X post-2001 | | 1.672*** | 0.243*** | 1.540*** | 1.725*** | 1.383*** |
| | | (0.333) | (0.0868) | (0.330) | (0.346) | (0.340) |
| Observations | 3500 | 3500 | 3500 | 3500 | 3500 | 3430 |
| Semi-elasticity | .343 | -.194 | -.496 | -.247 | -.231 | -.195 |
| Year Fixed Effects | No | Yes | Yes | Yes | Yes | Yes |

Driscoll-Kraay (with 10-year bandwidth) standard errors in parentheses. Note state fixed effects are absorbed by old-young differencing.

* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

Table 6: Linear Probability Model

Probability of Living in EI Tax State

| | (1) | (2) | (3) | (4) | (5) |
|---|---|---|---|---|---|
| | 1982-2001 | 2002-2017 | 1982-2017 | 1982-2017 | High MTR |
| Age | 0.000688 | -0.00146 | 0.000688 | 0.000372 | 0.0000501 |
| | (0.00133) | (0.00133) | (0.00133) | (0.000617) | (0.000257) |
| Age X post-2001 | | | -0.00214 | -0.00234** | -0.000628 |
| | | | (0.00182) | (0.00110) | (0.000552) |
| Observations | 7386 | 5525 | 12911 | 12911 | 12910 |
| Year Fixed Effects | Yes | Yes | Yes | Yes | Yes |
| State Fixed Effects | No | No | No | Yes | Yes |

Standard errors (in parentheses) two-way clustered by individual and by state.

* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

Table 7: Effect of Tax Induced Mobility on State Aggregate Tax Base

| | 2004 Level in EI-States | 2004-2017 Change Due to Mobility |
|---|---|---|
| | (1) | (2) |
| Number of Billionaires | 64 | -23.1 |
| Total Wealth (Billions) | 251.4 | -90.7 |

Notes: Column (2) is based on the estimated semi-elasticity from column 3 of Table 4. Dollars figures are in 2017 Dollars.

Table 8: Cost-Benefit Calculations By State, as of 2017
Baseline

## Panel A. EI Adopters

| State | Forbes Population | Forbes Wealth (mil$) | PIT Rate | Cost/Benefit | EPV Net Revenues from Adopting (mil$) |
|---|---|---|---|---|---|
| Connecticut | 7 | 47200 | 6.99 | 1.37 | -105 |
| Delaware | 0 | 0 | 6.80 | | 0 |
| Hawaii | 1 | 9600 | 11.20 | 2.20 | -48 |
| Illinois | 14 | 48200 | 4.35 | 0.85 | 82 |
| Maryland | 7 | 23600 | 5.83 | 1.14 | -41 |
| Oregon | 1 | 25200 | 9.99 | 1.96 | -39 |
| Pennsylvania | 5 | 17500 | 3.07 | 0.60 | 80 |
| Rhode Island | 0 | 0 | 5.99 | | 0 |
| Vermont | 0 | 0 | 8.80 | | 0 |
| Washington | 10 | 245900 | 0.00 | 0.00 | 404 |
| Average | 5 | 41720 | 6.30 | 1.16 | 33 |

## Panel B. EI Non-Adopters

| State | Forbes Population | Forbes Wealth (mil$) | PIT Rate | Cost/Benefit | EPV Net Revenues from Adopting (mil$) |
|---|---|---|---|---|---|
| Alabama | 0 | 0 | 3.42 | | 0 |
| Alaska | 0 | 0 | 0.00 | | 0 |
| Arizona | 5 | 13900 | 4.47 | 0.88 | 25 |
| Arkansas | 5 | 84000 | 5.33 | 1.05 | -9 |
| California | 92 | 617800 | 14.10 | 2.77 | -6567 |
| Colorado | 5 | 42700 | 4.77 | 0.94 | 13 |
| Florida | 35 | 148000 | 0.00 | 0.00 | 1413 |
| Georgia | 9 | 42900 | 6.18 | 1.21 | -78 |
| Idaho | 1 | 2700 | 7.49 | 1.47 | -19 |
| Indiana | 3 | 12900 | 3.23 | 0.63 | 44 |
| Iowa | 1 | 3900 | 6.38 | 1.25 | -10 |
| Kansas | 2 | 51600 | 5.28 | 1.04 | -3 |
| Kentucky | 1 | 2700 | 6.18 | 1.21 | -9 |
| Louisiana | 1 | 2800 | 4.17 | 0.82 | 7 |
| Maine | 0 | 0 | 7.15 | | 0 |
| Massachusetts | 8 | 47900 | 5.10 | 1.00 | -0 |
| Michigan | 6 | 26500 | 4.25 | 0.83 | 40 |
| Minnesota | 3 | 10500 | 10.15 | 1.99 | -120 |
| Mississippi | 0 | 0 | 5.07 | | 0 |
| Missouri | 5 | 28500 | 6.08 | 1.19 | -39 |
| Montana | 3 | 14100 | 6.11 | 1.20 | -24 |
| Nebraska | 2 | 82200 | 7.71 | 1.51 | -41 |
| Nevada | 8 | 59800 | 0.00 | 0.00 | 323 |
| New Hampshire | 0 | 0 | 0.00 | | 0 |
| New Jersey | 6 | 30500 | 8.97 | 1.76 | -184 |
| New Mexico | 0 | 0 | 3.83 | | 0 |
| New York | 71 | 444200 | 6.89 | 1.35 | -1011 |
| North Carolina | 3 | 17400 | 5.50 | 1.08 | -10 |
| North Dakota | 0 | 0 | 2.34 | | 0 |
| Ohio | 3 | 10400 | 5.00 | 0.98 | 2 |
| Oklahoma | 5 | 34300 | 2.59 | 0.51 | 99 |
| South Carolina | 1 | 3500 | 5.55 | 1.09 | -4 |
| South Dakota | 1 | 2200 | 0.00 | 0.00 | 40 |
| Tennessee | 8 | 30500 | 0.00 | 0.00 | 323 |
| Texas | 34 | 190400 | 0.00 | 0.00 | 1372 |
| Utah | 0 | 0 | 5.00 | | 0 |
| Virginia | 4 | 35100 | 5.83 | 1.14 | -23 |
| West Virginia | 0 | 0 | 6.50 | | 0 |
| Wisconsin | 9 | 46100 | 6.51 | 1.28 | -101 |
| Wyoming | 4 | 46800 | 0.00 | 0.00 | 161 |
| Average | 9 | 54670 | 4.68 | 0.97 | -110 |

Table 9: Cost-Benefit Calculations By State, as of 2017
Allowing for Age and Wealth Heterogeneity

Panel A. EI Adopters

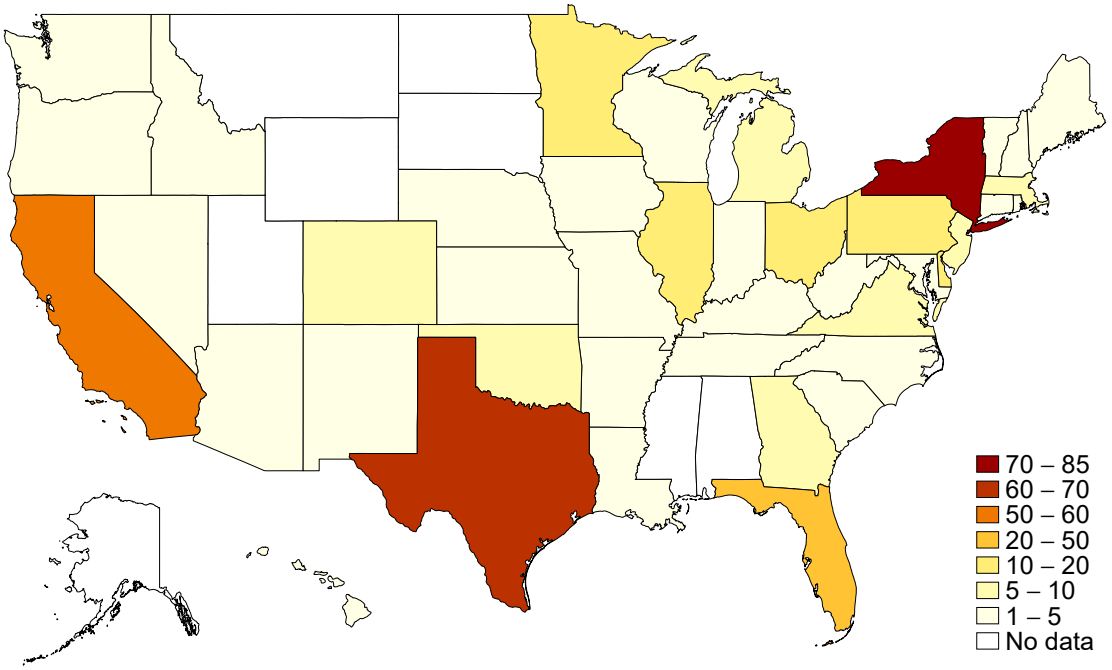
| State | Forbes Population | Forbes Wealth (mil$) | PIT Rate | Cost/Benefit | EPV Net Revenues from Adopting (mil$) |
|---|---|---|---|---|---|
| Connecticut | 7 | 47200 | 6.99 | 1.07 | -63 |
| Delaware | 0 | 0 | 6.80 | | 0 |
| Hawaii | 1 | 9600 | 11.20 | 2.25 | -120 |
| Illinois | 14 | 48200 | 4.35 | 0.70 | 217 |
| Maryland | 7 | 23600 | 5.83 | 0.75 | 122 |
| Oregon | 1 | 25200 | 9.99 | 1.11 | -56 |
| Pennsylvania | 5 | 17500 | 3.07 | 0.51 | 114 |
| Rhode Island | 0 | 0 | 5.99 | | 0 |
| Vermont | 0 | 0 | 8.80 | | 0 |
| Washington | 10 | 245900 | 0.00 | 0.00 | 3430 |
| Average | 5 | 41720 | 6.30 | 0.91 | 364 |

Panel B. EI Non-Adopters

| State | Forbes Population | Forbes Wealth (mil$) | PIT Rate | Cost/Benefit | EPV Net Revenues from Adopting (mil$) |
|---|---|---|---|---|---|
| Alabama | 0 | 0 | 3.42 | | 0 |
| Alaska | 0 | 0 | 0.00 | | 0 |
| Arizona | 5 | 13900 | 4.47 | 0.72 | 80 |
| Arkansas | 5 | 84000 | 5.33 | 0.82 | 224 |
| California | 92 | 617800 | 14.10 | 2.37 | -26890 |
| Colorado | 5 | 42700 | 4.77 | 0.64 | 255 |
| Florida | 35 | 148000 | 0.00 | 0.00 | 4227 |
| Georgia | 9 | 42900 | 6.18 | 0.83 | 123 |
| Idaho | 1 | 2700 | 7.49 | 1.23 | -9 |
| Indiana | 3 | 12900 | 3.23 | 0.49 | 92 |
| Iowa | 1 | 3900 | 6.38 | 0.85 | 10 |
| Kansas | 2 | 51600 | 5.28 | 0.54 | 488 |
| Kentucky | 1 | 2700 | 6.18 | 0.57 | 26 |
| Louisiana | 1 | 2800 | 4.17 | 0.26 | 54 |
| Maine | 0 | 0 | 7.15 | | 0 |
| Massachusetts | 8 | 47900 | 5.10 | 0.70 | 221 |
| Michigan | 6 | 26500 | 4.25 | 0.45 | 279 |
| Minnesota | 3 | 10500 | 10.15 | 0.88 | 28 |
| Mississippi | 0 | 0 | 5.07 | | 0 |
| Missouri | 5 | 28500 | 6.08 | 0.89 | 66 |
| Montana | 3 | 14100 | 6.11 | 0.77 | 56 |
| Nebraska | 2 | 82200 | 7.71 | 0.58 | 838 |
| Nevada | 8 | 59800 | 0.00 | 0.00 | 1179 |
| New Hampshire | 0 | 0 | 0.00 | | 0 |
| New Jersey | 6 | 30500 | 8.97 | 1.16 | -96 |
| New Mexico | 0 | 0 | 3.83 | | 0 |
| New York | 71 | 444200 | 6.89 | 0.90 | 1820 |
| North Carolina | 3 | 17400 | 5.50 | 0.71 | 89 |
| North Dakota | 0 | 0 | 2.34 | | 0 |
| Ohio | 3 | 10400 | 5.00 | 0.62 | 71 |
| Oklahoma | 5 | 34300 | 2.59 | 0.35 | 383 |
| South Carolina | 1 | 3500 | 5.55 | 0.87 | 6 |
| South Dakota | 1 | 2200 | 0.00 | 0.00 | 46 |
| Tennessee | 8 | 30500 | 0.00 | 0.00 | 501 |
| Texas | 34 | 190400 | 0.00 | 0.00 | 4081 |
| Utah | 0 | 0 | 5.00 | | 0 |
| Virginia | 4 | 35100 | 5.83 | 0.77 | 141 |
| West Virginia | 0 | 0 | 6.50 | | 0 |
| Wisconsin | 9 | 46100 | 6.51 | 0.87 | 103 |
| Wyoming | 4 | 46800 | 0.00 | 0.00 | 720 |
| Average | 9 | 54670 | 4.68 | 0.64 | -270 |

Figure 1: Population of Forbes 400 by State

Panel A. 1982




Panel B. 2017

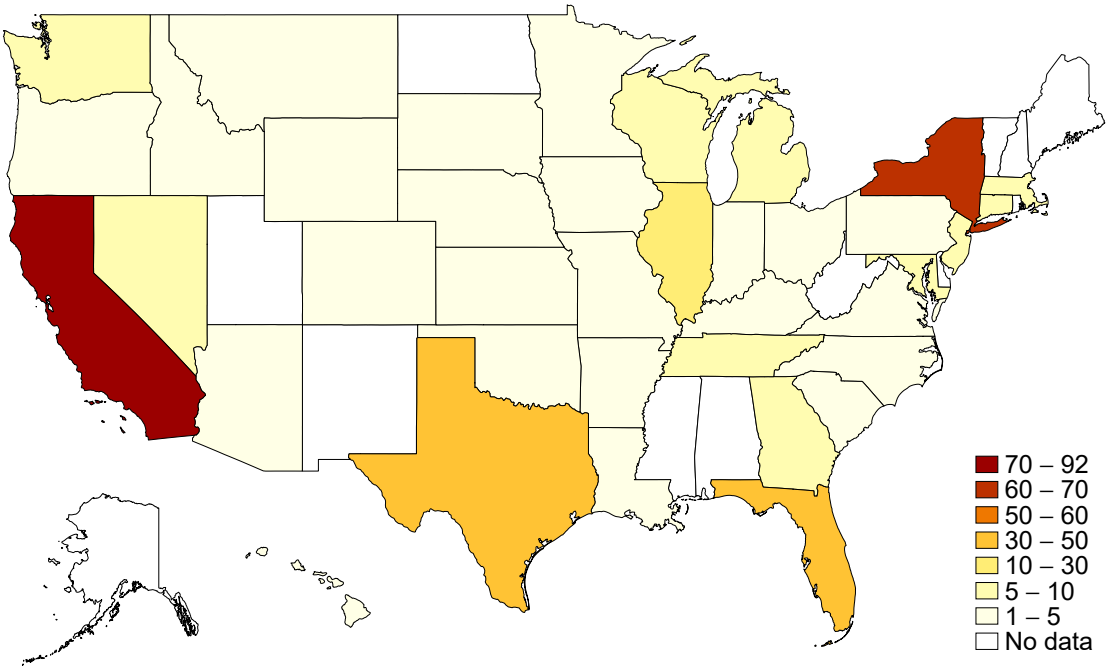
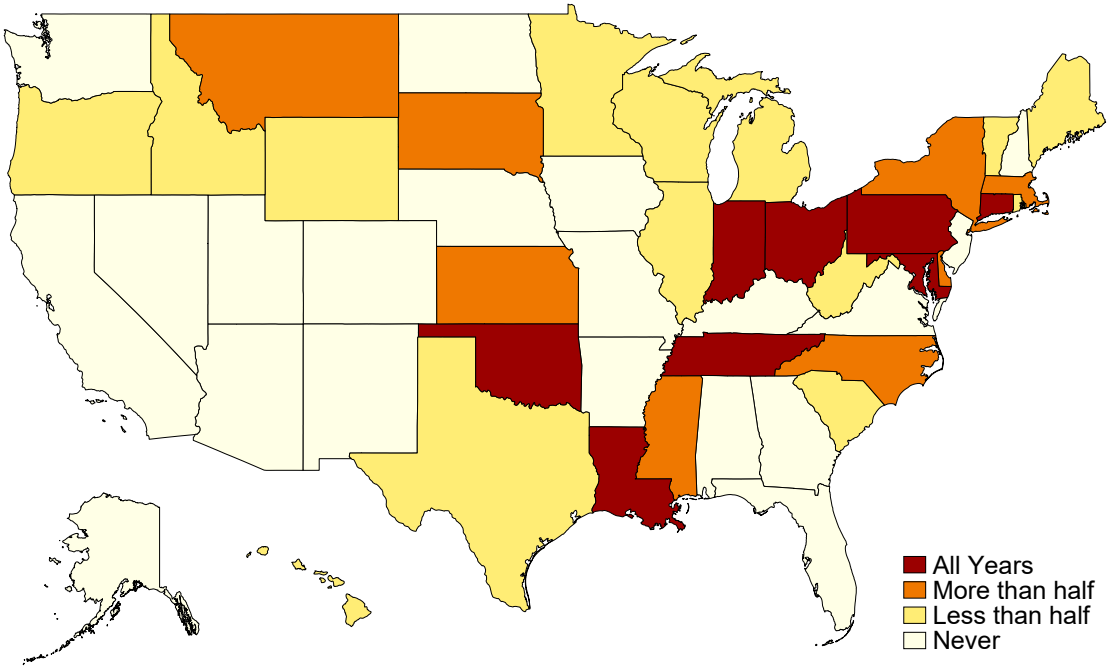
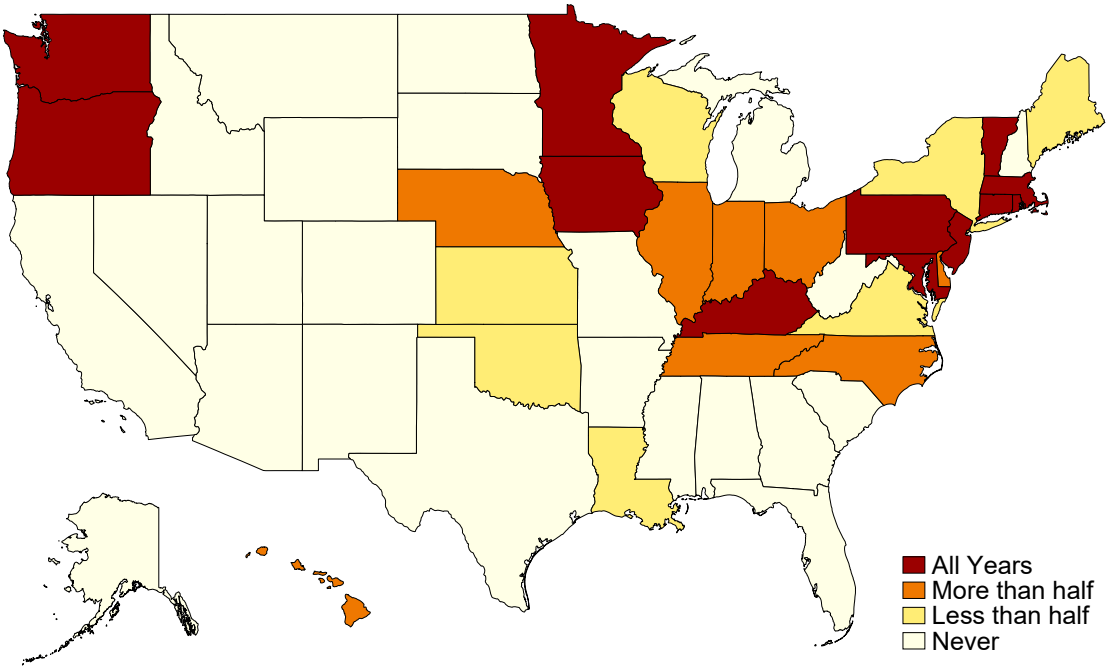


Figure 2: Percentage of Years with E&I Tax by State

Panel A. 1982-2004*



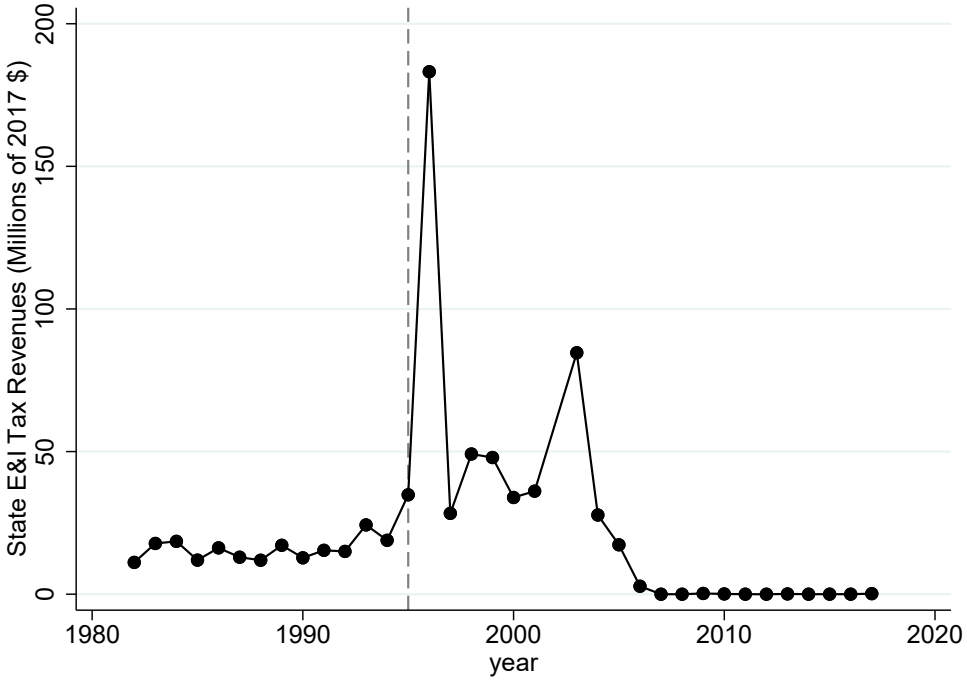

Panel B. 2005-2017




*Excluding "pick-up" taxes. See text for details.

Figure 3: Impact of Billionaire Death on State E&I Tax Revenues
Two Case Studies

Bud Walton of Arkansas, Died in 1995




Edward Gaylord of Oklahoma, Died in 2003

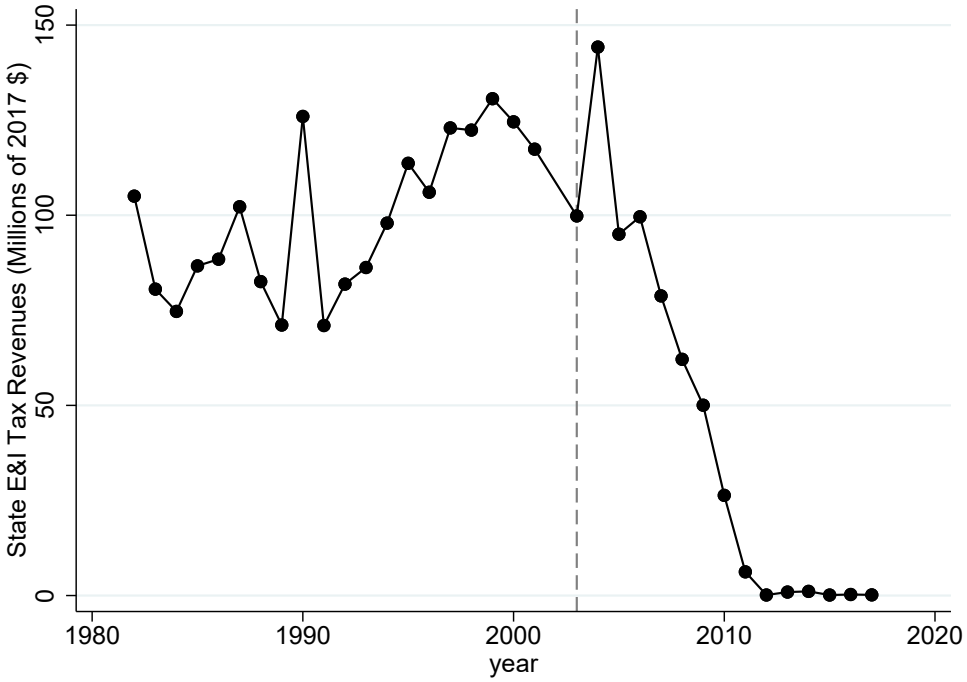
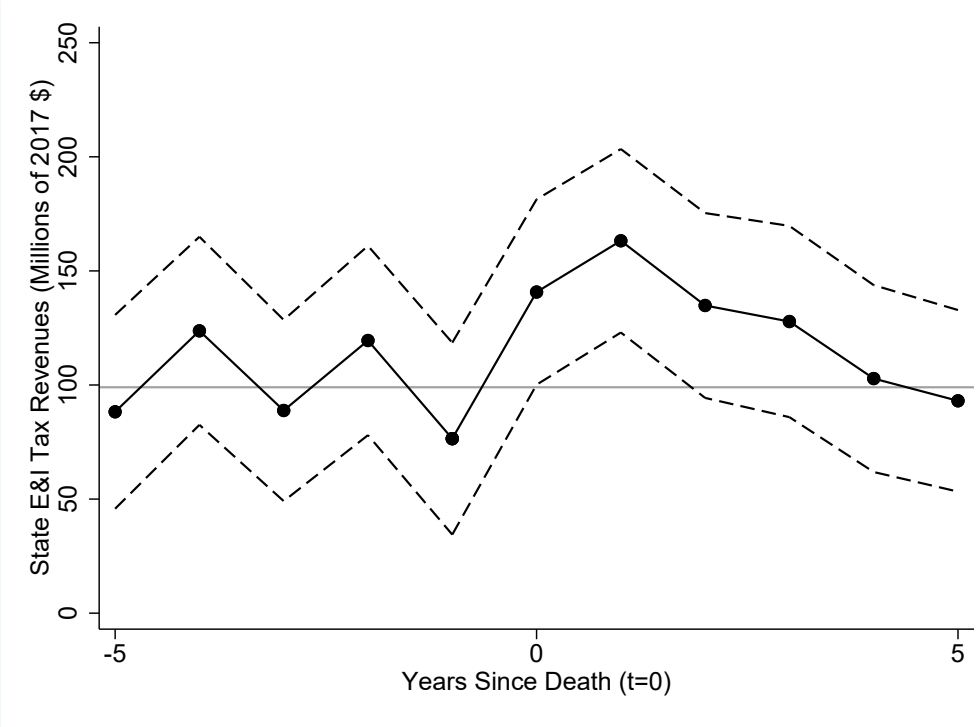


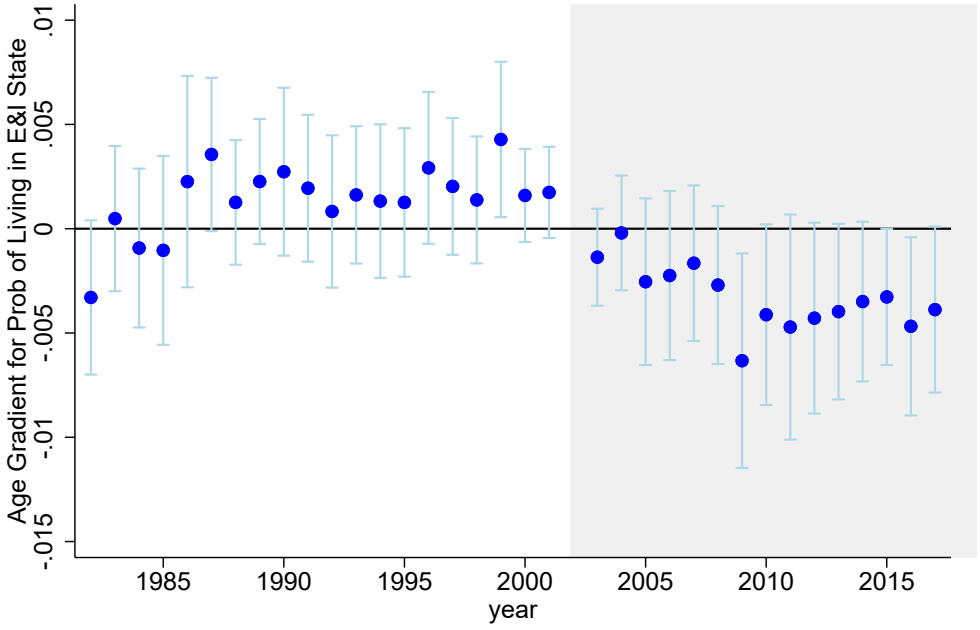
Figure 4: Impact of Billionaire Death on State E&I Tax Revenues
Event Study




Notes: Horizontal line equals average coefficient over pre-death periods (-5 to -1). Dashed lines indicate 90% confidence interval.

Figure 5: Estimated Age Gradient for Probability of Living in E&I State

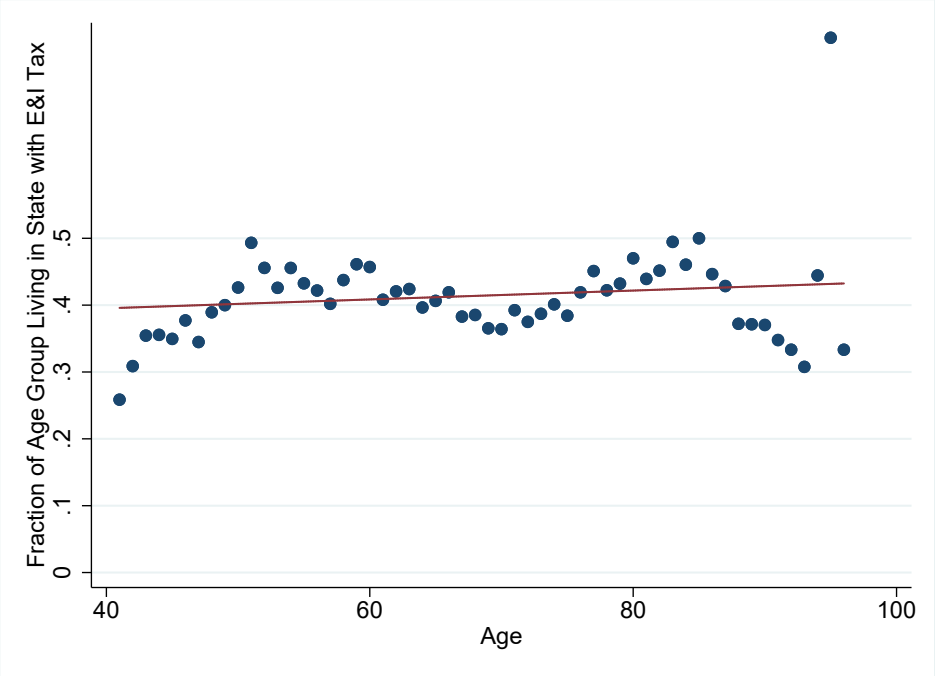
Year-by-Year Regressions



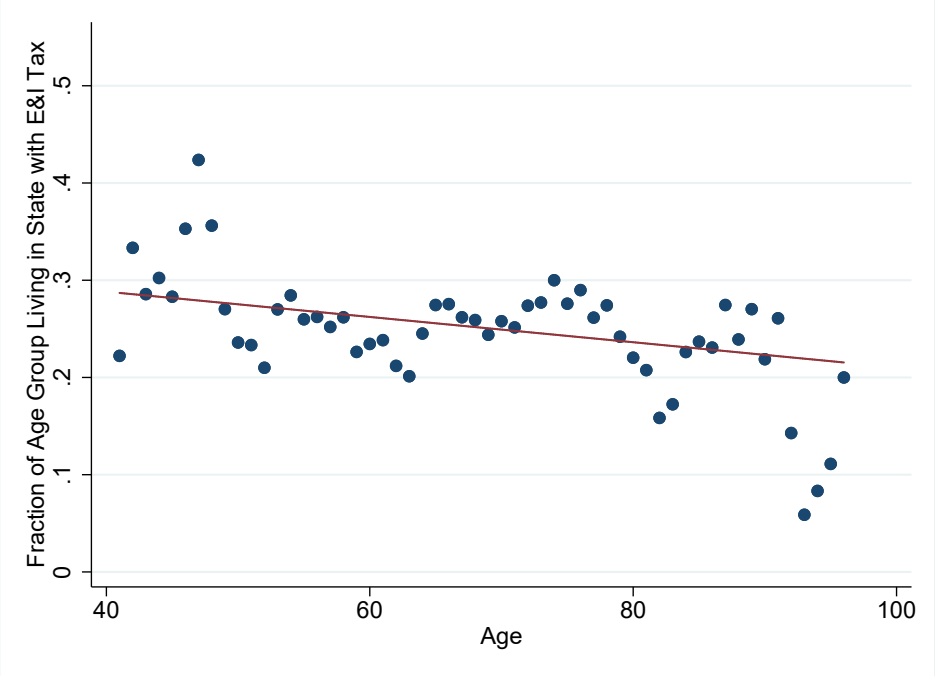

Brackets indicate 90% confidence intervals (clustered on state-year). Regressions include all individuals over 39 years old.

Figure 6: Probability of living in E&I State By Age

Panel A. 1982-2001



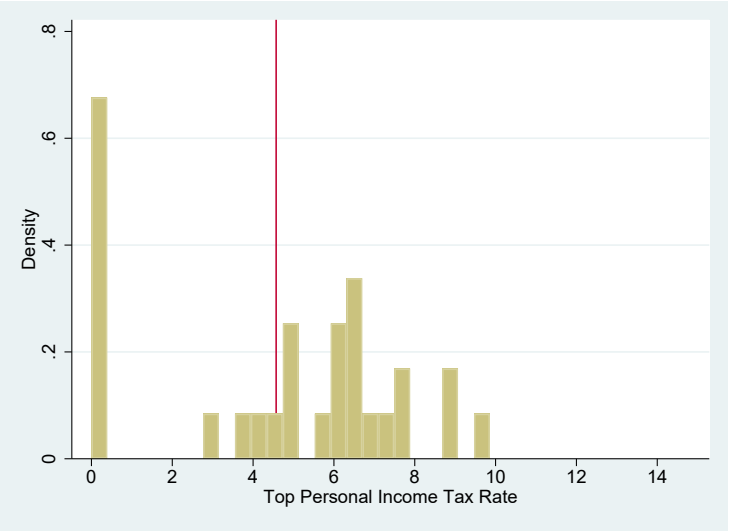

Panel B. 2002-2017



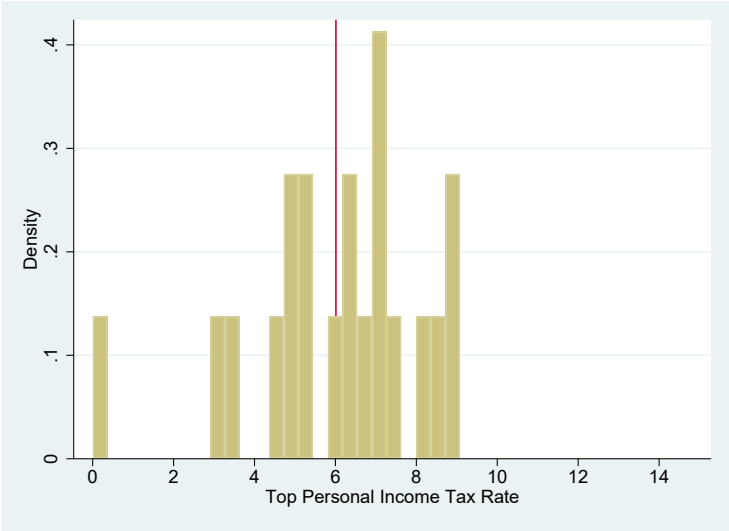

Notes: Age Groups below 40 are excluded. Individuals above 95 are pooled and displayed at Age 96.

Figure 7: Distribution of Top Personal Income Tax Rates by State EI Tax Status

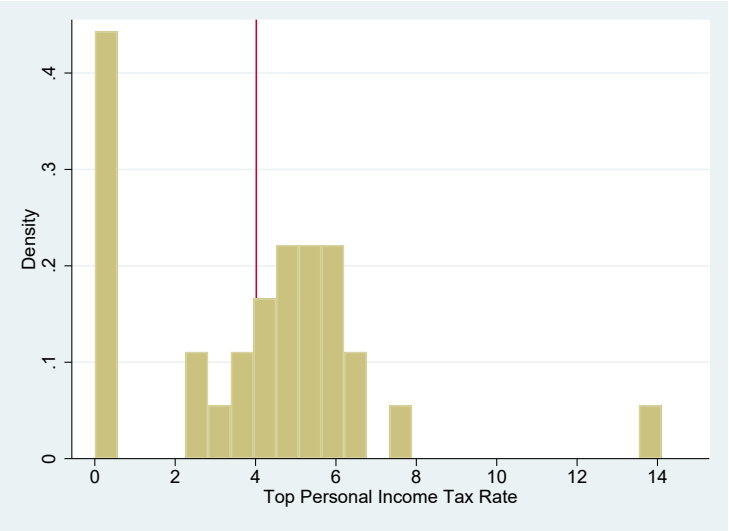
(a) 2004, Non-EI States



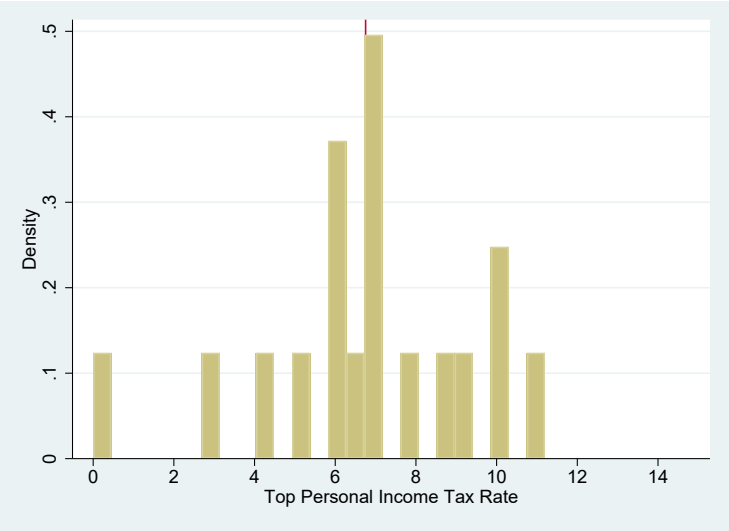

(b) 2004, EI States




(c) 2017, Non-EI States




(d) 2017, EI States




Note: red lines indicate means.

Table A1:
Maximum Federal Credit Schedule for State E&I Taxes
1954-2001

| Taxable Estate ($) | Base Amount of Credit ($) | Credit Rate on Excess (%) |
|---|---|---|
| 100,000 | 0 | 0.8 |
| 150,000 | 400 | 1.6 |
| 200,000 | 1,200 | 2.4 |
| 300,000 | 3,600 | 3.2 |
| 500,000 | 10,000 | 4.0 |
| 700,000 | 18,000 | 4.8 |
| 900,000 | 27,600 | 5.6 |
| 1,100,000 | 38,800 | 6.4 |
| 1,600,000 | 70,800 | 7.2 |
| 2,100,000 | 106,800 | 8.0 |
| 2,600,000 | 146,800 | 8.8 |
| 3,100,000 | 190,800 | 9.6 |
| 3,600,000 | 238,800 | 10.4 |
| 4,100,000 | 290,800 | 11.2 |
| 5,100,000 | 402,800 | 12.0 |
| 6,100,000 | 522,800 | 12.8 |
| 7,100,000 | 650,800 | 13.6 |
| 8,100,000 | 786,800 | 14.4 |
| 9,100,000 | 930,800 | 15.2 |
| 10,100,000 | 1,082,800 | 16.0 |

Source: Bakija and Slemrod [2004], Table 1

Table A2: State of Deaths and State of Residence Reported by Forbes

| Name | Death Year | Death State | Obituary Res. State | Forbes Res. State | Notes |
|---|---|---|---|---|---|
| Liliore Green Rains | 1985 | CA | CA | CA | |
| Mary Belin Du Pont Faulkner | 1985 | MA | MA | MA | |
| Abram Nicholas Pritzker | 1986 | IL | | IL | |
| David Whitmire Hearst | 1986 | CA | CA | CA | |
| Gordon Barton Mclendon | 1986 | TX | TX | TX | |
| Howard Vollum | 1986 | OR | OR | OR | |
| Arnold Bernhard | 1987 | NY | NY/CT | CT | |
| Burton Green Bettingen | 1987 | CA | CA | CA | |
| Henry Ford II | 1987 | MI | MI | FL | |
| Henry John Heinz II | 1987 | FL | PA | PA | Died at winter home. |
| Paul Kalmanovitz | 1987 | CA | CA | CA | |
| Ruth Chandler Von Platen | 1987 | CA | CA | CA | |
| Sol Goldman | 1987 | NY | NY | NY | |
| John Wilmer Galbreath | 1988 | OH | OH | OH | |
| Lawrence Arthur Wien | 1988 | CT | CT/NY/FL | NY | |
| Pierre Samuel Du Pont | 1988 | DE | DE | DE | |
| Henry Crown | 1990 | IL | IL | IL | |
| Mark Goodson | 1992 | NY | NY | NY | |
| Edward John Debartolo | 1994 | OH | OH | OH | |
| Milton Jack Petrie | 1994 | NY | NY | NY | |
| Albert B Alkek | 1995 | TX | TX | TX | |
| Alpheus Lee Ellis | 1995 | FL | FL | FL | |

| | | | | | |
|---|---|---|---|---|---|
| Erskine Bronson Ingram | 1995 | TN | TN | TN | |
| James Lawrence Walton | 1995 | AR | FL | AR | Died on fishing trip. |
| John Jeffry Louis | 1995 | IL | IL | IL | |
| Joseph R Coulter | 1995 | FL | FL | FL | |
| Walter A Haas | 1995 | CA | CA | CA | |
| Bob John Magness | 1996 | CO | VA | | UVA hospital. |
| Daniel James Terra | 1996 | WA | IL/WA/France | IL | |
| David Packard | 1996 | CA | CA | CA | |
| Louis Larrick Ward | 1996 | MO | MO | MO | |
| Claude Bernard Pennington | 1997 | LA | LA | LA | |
| Herbert Allen | 1997 | NY | NY | NY | |
| Jack Kent Cooke | 1997 | DC | DC | VA | |
| Roberto Crispulo Goizueta | 1997 | GA | GA | GA | |
| Betsey Cushing Roosevelt Whitney | 1998 | NY | NY | NY | |
| Dwight Lyman Stuart | 1998 | CA | CA | CA | |
| John William Berry | 1998 | OH | OH | OH | |
| William Michael Cafaro | 1998 | OH | OH | OH | |
| Curtis Leroy Carlson | 1999 | MN | MN | MN | |
| Forrest Edward Mars Sr | 1999 | FL | FL | NV | |
| Henry Earl Singleton | 1999 | CA | CA | CA | |
| Jay Arthur Pritzker | 1999 | IL | IL | IL | |
| Leon Hess | 1999 | NY | NY | NJ | |
| Paul Mellon | 1999 | VA | VA | VA | |
| Ruth Ray Hunt | 1999 | TX | TX | TX | |
| Ted Arison | 1999 | Tel Aviv | Tel Aviv | FL | |
| Bill Daniels | 2000 | CA | CA | CO | Died in hospital. |

| | | | | | |
|---|---|---|---|---|---|
| Marshall Naify | 2000 | CA | CA | CA | |
| Randolph Apperson Hearst | 2000 | NY | NY | NY | |
| Edmund Wattis Littlefield | 2001 | CA | CA | CA | |
| Larry Fisher | 2001 | FL | FL/ NY | NY | |
| Malcom Purcell Mclean | 2001 | NY | NY | NY | |
| Michel Fribourg | 2001 | NY | NY | NY | |
| Reese Mcintosh Rowling | 2001 | TX | TX | TX | |
| William Redington Hewlett | 2001 | CA | CA | CA | |
| Alfred Lerner | 2002 | OH | OH | OH | |
| Kathryn Mccurry Albertson | 2002 | ID | ID | ID | |
| Millicent V Boudjakdji | 2002 | LA | LA | CA | |
| Robert Henry Dedman | 2002 | TX | TX | TX | |
| Victor Posner | 2002 | FL | FL | FL | |
| Walter Hubert Annenberg | 2002 | PA | PA/CA | PA | |
| Edward Lewis Gaylord | 2003 | OK | OK | OK | |
| Joan Beverly Kroc | 2003 | CA | CA | CA | |
| Laurence Alan Tisch | 2003 | NY | NY | NY | |
| Samuel Jayson LeFrak | 2003 | NY | NY | NY | |
| Charles B Benenson | 2004 | FL | NY | NY | Died suddenly. |
| Jay Van Andel | 2004 | MI | MI | MI | |
| Laurance Spelman Rockefeller | 2004 | NY | NY | NY | |
| Marvin Harold Davis | 2004 | CA | CA | CA | |
| Samuel Curtis Johnson | 2004 | WI | WI | WI | |
| Susan Thompson Buffett | 2004 | CA | WY | CA | Died on vacation. |
| Franklin Parsons Perdue | 2005 | MD | MD | MD | |
| Jackson Thomas Stephens | 2005 | AR | AR | AR | |

| | | | | | |
|---|---|---|---|---|---|
| Peter E Haas | 2005 | CA | CA | CA | |
| Preston Robert Tisch | 2005 | NY | NY | NY | |
| James R Cargill | 2006 | MN | MN | MN | |
| Lamar Hunt | 2006 | TX | TX | TX | |
| Margaret Anne Cargill | 2006 | CA | CA | CA | |
| Raymond J Noorda | 2006 | UT | UT | UT | |
| Robert Edward Rich | 2006 | FL | FL | FL | |
| Barbara Cox Anthony | 2007 | HI | GA/HI | HI | |
| Helen Walton | 2007 | AR | AR | AR | |
| James Martin Moran | 2007 | FL | FL | FL | |
| Margaret Hunt Hill | 2007 | TX | TX | TX | |
| James LeVoy Sorenson | 2008 | UT | UT | UT | |
| John Hugh Macmillan | 2008 | FL | FL | FL | |
| John Richard Simplot | 2008 | ID | ID | ID | |
| Carl Ray Pohlad | 2009 | MN | MN | MN | |
| Frank Batten | 2009 | VA | VA | VA | |
| Melvin Simon | 2009 | IN | IN | IN | |
| Samuel J Heyman | 2009 | NY | NY, FL, CN | NY | Died after surgery. |
| Trammell Crow | 2009 | TX | TX | TX | |
| William Morse Davidson | 2009 | MI | MI | MI | |
| Dolph Briscoe | 2010 | TX | TX | TX | |
| John Werner Kluge | 2010 | VA | VA | FL | |
| Paul Milstein | 2010 | NY | NY | NY | |
| Richard N Goldman | 2010 | CA | CA | CA | |
| Cargill Macmillan | 2011 | CA | CA | CA | |
| Carl Henry Lindner | 2011 | OH | OH | OH | |

| | | | | | |
|---|---|---|---|---|---|
| Jack N Mandel | 2011 | OH | OH | OH | |
| Jean Ellen Du Pont Sheehan | 2011 | DE | DE | FL | |
| John Charles Haas | 2011 | PA | PA | PA | |
| John Edward Anderson | 2011 | CA | CA | CA | |
| Malcolm Green Chace | 2011 | MA | MA | RI | |
| Robert Alan Pritzker | 2011 | IL | IL | IL | |
| William Alfred Cook | 2011 | IN | IN | IN | |
| Albert Lee Ueltschi | 2012 | FL | FL | FL | |
| Donald J Schneider | 2012 | WI | WI | WI | |
| Barbara Piasecka Johnson | 2013 | Poland | Italy, Poland, Monaco | NJ | |
| Edgar Miles Bronfman | 2013 | NY | NY | NY | |
| Harold Clark Simmons | 2013 | TX | TX | TX | |
| Leonard Samuel Skaggs | 2013 | UT | UT | UT | |
| Robert Earl Holding | 2013 | UT | | ID | Res. state unclear. |
| James Edwards Stowers | 2014 | MO | MO | MO | |
| Malcolm Glazer | 2014 | FL | FL | FL | |
| Nelson Bunker Hunt | 2014 | TX | TX | TX | |
| Patrick Joseph Mcgovern | 2014 | NH | CA | NH | |
| Kirk Kerkorian | 2015 | CA | CA | CA | |
| Michael Birck | 2015 | IL | IL | IL | |
| Ralph J Roberts | 2015 | PA | PA | PA | |
| Forrest Edward Mars Jr | 2016 | WY | WA | WY | |
| Jack Crawford Taylor | 2016 | MO | MO | MO | |
| Joseph C Mandel | 2016 | FL | OH | OH | Died at winter home. |
| Leandro Rizzuto | 2017 | FL | FL | WY | |
| Michael Ilitch | 2017 | MI | MI | MI | |

| | | | | |
|---|---|---|---|---|
| Samuel Irving Newhouse | 2017 | NY | NY | NY |
| Charles B Wang | 2018 | NY | NY | NY |

## Table A3: Robustness to Restricted Samples

### Panel A. Difference-in-Difference

| | (1) Top 100 | (2) Top200 | (3) Top300 | (4) 10+ Obs |
|---|---|---|---|---|
| EI-State X post-2001 | -0.557*** | -1.339*** | -2.008*** | -2.214*** |
| | (0.145) | (0.279) | (0.384) | (0.609) |
| EI-State | 0.0851 | 0.597** | 1.089*** | 1.076** |
| | (0.199) | (0.304) | (0.406) | (0.457) |
| Observations | 1575 | 1610 | 1680 | 1575 |
| Semi-elasticity | -.473 | -.484 | -.533 | -.538 |
| State Fixed Effects | Yes | Yes | Yes | Yes |
| Year Fixed Effects | Yes | Yes | Yes | Yes |

Driscoll-Kraay (with 10-year bandwidth) standard errors in parentheses.
* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

### Panel B. Triple-Difference

| | (1) Top 100 | (2) Top200 | (3) Top300 | (4) 10+ Obs |
|---|---|---|---|---|
| EI-state X post-2001 X old | -0.746*** | -0.681** | -0.891*** | -1.112** |
| | (0.182) | (0.275) | (0.334) | (0.486) |
| EI-state X old | 0.251*** | 0.226** | 0.347** | 0.334** |
| | (0.0946) | (0.114) | (0.152) | (0.143) |
| EI-State X post-2001 | 0.0945 | -0.329** | -0.558*** | -0.551* |
| | (0.0771) | (0.129) | (0.152) | (0.288) |
| old X post-2001 | 0.970*** | 1.213*** | 1.621*** | 2.243*** |
| | (0.148) | (0.276) | (0.336) | (0.602) |
| EI-State | -0.0829 | 0.186 | 0.371** | 0.371* |
| | (0.0757) | (0.128) | (0.185) | (0.200) |
| old | -0.242*** | -0.365*** | -0.521*** | -0.458* |
| | (0.0807) | (0.115) | (0.190) | (0.274) |
| Observations | 3150 | 3220 | 3360 | 3150 |
| Semi-elasticity | -.975 | -.445 | -.41 | -.44 |
| State Fixed Effects | Yes | Yes | Yes | Yes |
| Year Fixed Effects | Yes | Yes | Yes | Yes |

Driscoll-Kraay (with 10-year bandwidth) standard errors in parentheses. Note state fixed effects are absorbed by old-young differencing.
* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

Table A4: Cost-Benefit Calculations By State, as of 2004
Baseline

## Panel A. EI Adopters

| State | Forbes Population | Forbes Wealth (mil$) | PIT Rate | Cost/Benefit | EPV Net Revenues from Adopting (mil$) |
|---|---|---|---|---|---|
| Connecticut | 6 | 11030 | 5.00 | 0.98 | 4 |
| Indiana | 3 | 7656 | 3.40 | 0.67 | 40 |
| Louisiana | 1 | 1557 | 4.53 | 0.89 | 4 |
| Maryland | 4 | 5645 | 4.82 | 0.95 | 9 |
| North Carolina | 5 | 11730 | 8.50 | 1.67 | -135 |
| Ohio | 7 | 14923 | 7.50 | 1.47 | -134 |
| Oklahoma | 2 | 6748 | 7.22 | 1.42 | -34 |
| Oregon | 2 | 10718 | 9.08 | 1.78 | -63 |
| Pennsylvania | 11 | 17336 | 3.07 | 0.60 | 176 |
| Rhode Island | 1 | 1233 | 7.05 | 1.38 | -16 |
| Tennessee | 4 | 7864 | 0.00 | 0.00 | 161 |
| Vermont | 0 | 0 | 6.85 | | 0 |
| Average | 4 | 8037 | 5.59 | 1.07 | 1 |

## Panel B. EI Non-Adopters

| State | Forbes Population | Forbes Wealth (mil$) | PIT Rate | Cost/Benefit | EPV Net Revenues from Adopting (mil$) |
|---|---|---|---|---|---|
| Alabama | 1 | 1557 | 3.76 | 0.74 | 11 |
| Alaska | 0 | 0 | 0.00 | | 0 |
| Arizona | 5 | 8305 | 4.94 | 0.97 | 6 |
| Arkansas | 7 | 98132 | 6.32 | 1.24 | -68 |
| California | 97 | 242123 | 9.86 | 1.94 | -3665 |
| Colorado | 9 | 26601 | 4.77 | 0.94 | 23 |
| Delaware | 0 | 0 | 6.13 | | 0 |
| Florida | 21 | 54013 | 0.00 | 0.00 | 848 |
| Georgia | 4 | 20113 | 6.18 | 1.21 | -34 |
| Hawaii | 1 | 14663 | 7.39 | 1.45 | -18 |
| Idaho | 1 | 2985 | 7.88 | 1.55 | -22 |
| Illinois | 20 | 44281 | 3.00 | 0.59 | 332 |
| Iowa | 0 | 0 | 6.96 | | 0 |
| Kansas | 5 | 15377 | 6.49 | 1.27 | -55 |
| Kentucky | 0 | 0 | 6.18 | | 0 |
| Maine | 0 | 0 | 8.75 | | 0 |
| Massachusetts | 10 | 43444 | 5.30 | 1.04 | -16 |
| Michigan | 13 | 26647 | 3.95 | 0.78 | 118 |
| Minnesota | 11 | 20892 | 8.09 | 1.59 | -261 |
| Mississippi | 0 | 0 | 5.07 | | 0 |
| Missouri | 6 | 15798 | 6.07 | 1.19 | -46 |
| Montana | 2 | 4282 | 8.81 | 1.73 | -59 |
| Nebraska | 3 | 56706 | 7.01 | 1.38 | -46 |
| Nevada | 4 | 20502 | 0.00 | 0.00 | 161 |
| New Hampshire | 1 | 2595 | 0.00 | 0.00 | 40 |
| New Jersey | 5 | 26796 | 8.97 | 1.76 | -154 |
| New Mexico | 0 | 0 | 6.32 | | 0 |
| New York | 49 | 140169 | 7.74 | 1.52 | -1028 |
| North Dakota | 0 | 0 | 4.62 | | 0 |
| South Carolina | 1 | 973 | 5.55 | 1.09 | -4 |
| South Dakota | 1 | 973 | 0.00 | 0.00 | 40 |
| Texas | 34 | 110843 | 0.00 | 0.00 | 1372 |
| Utah | 3 | 9473 | 6.51 | 1.28 | -34 |
| Virginia | 5 | 30656 | 5.82 | 1.14 | -29 |
| Washington | 10 | 119069 | 0.00 | 0.00 | 404 |
| West Virginia | 0 | 0 | 6.50 | | 0 |
| Wisconsin | 9 | 19107 | 5.40 | 1.06 | -22 |
| Wyoming | 1 | 1168 | 0.00 | 0.00 | 40 |
| Average | 9 | 31006 | 5.01 | 0.95 | -57 |

Table A5: Cost-Benefit Calculations By State, as of 2004
Allowing for Age and Wealth Heterogeneity

Panel A. EI Adopters

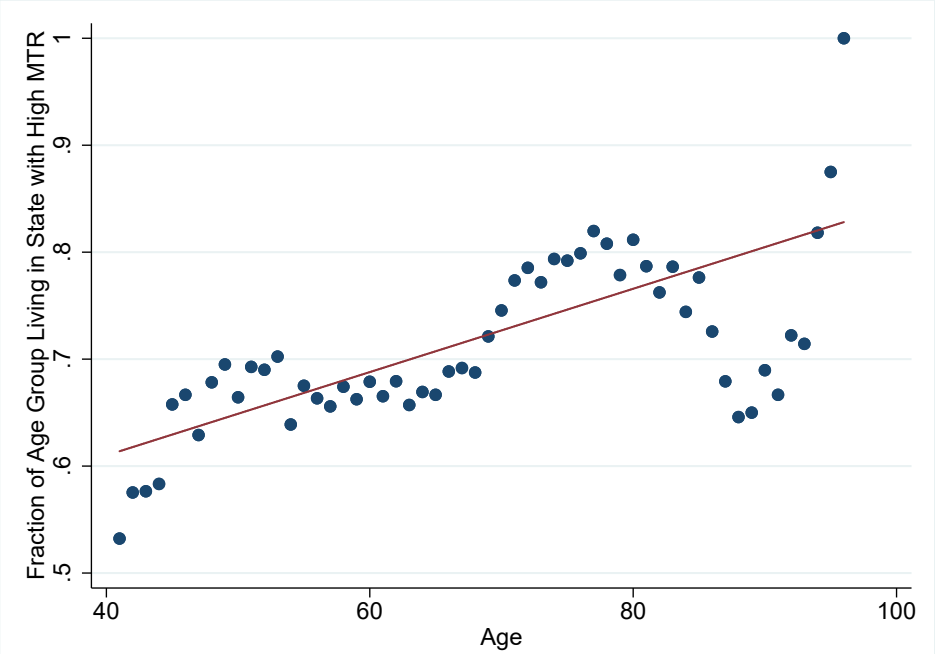
| State | Forbes Population | Forbes Wealth (mil$) | PIT Rate | Cost/Benefit | EPV Net Revenues from Adopting (mil$) |
|---|---|---|---|---|---|
| Connecticut | 6 | 11030 | 5.00 | 0.99 | 1 |
| Indiana | 3 | 7656 | 3.40 | 0.46 | 70 |
| Louisiana | 1 | 1557 | 4.53 | 0.73 | 6 |
| Maryland | 4 | 5645 | 4.82 | 0.81 | 22 |
| North Carolina | 5 | 11730 | 8.50 | 1.32 | -54 |
| Ohio | 7 | 14923 | 7.50 | 1.15 | -32 |
| Oklahoma | 2 | 6748 | 7.22 | 1.13 | -13 |
| Oregon | 2 | 10718 | 9.08 | 1.46 | -70 |
| Pennsylvania | 11 | 17336 | 3.07 | 0.38 | 205 |
| Rhode Island | 1 | 1233 | 7.05 | 1.21 | -4 |
| Tennessee | 4 | 7864 | 0.00 | 0.00 | 116 |
| Vermont | 0 | 0 | 6.85 | | 0 |
| Average | 4 | 8037 | 5.59 | 0.88 | 21 |

Panel B. EI Non-Adopters

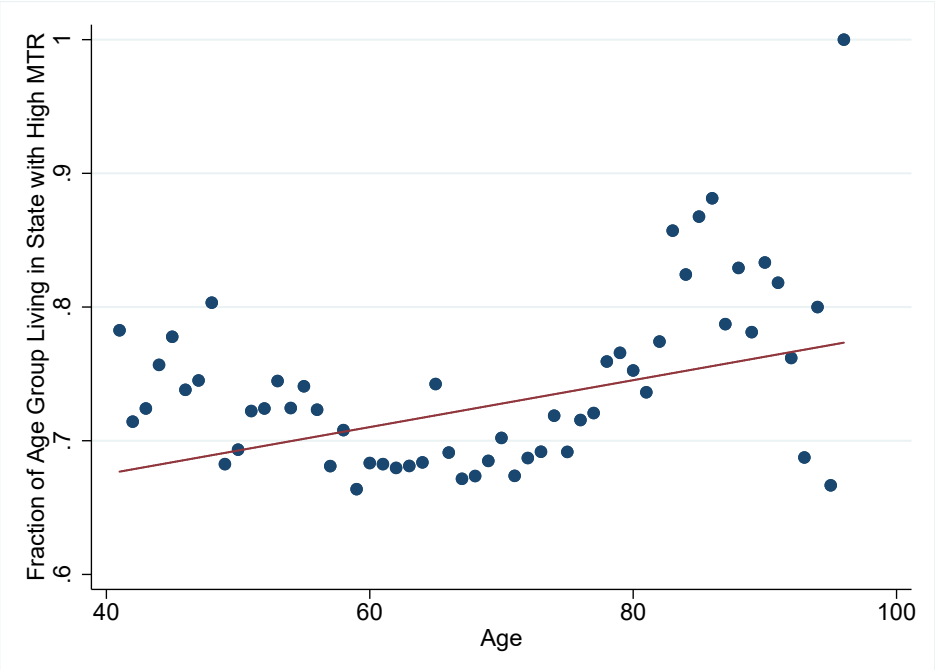
| State | Forbes Population | Forbes Wealth (mil$) | PIT Rate | Cost/Benefit | EPV Net Revenues from Adopting (mil$) |
|---|---|---|---|---|---|
| Alabama | 1 | 1557 | 3.76 | 0.40 | 19 |
| Alaska | 0 | 0 | 0.00 | | 0 |
| Arizona | 5 | 8305 | 4.94 | 0.78 | 24 |
| Arkansas | 7 | 98132 | 6.32 | 0.92 | 151 |
| California | 97 | 242123 | 9.86 | 1.48 | -5432 |
| Colorado | 9 | 26601 | 4.77 | 0.83 | 55 |
| Delaware | 0 | 0 | 6.13 | | 0 |
| Florida | 21 | 54013 | 0.00 | 0.00 | 1067 |
| Georgia | 4 | 20113 | 6.18 | 0.62 | 158 |
| Hawaii | 1 | 14663 | 7.39 | 0.78 | 66 |
| Idaho | 1 | 2985 | 7.88 | 0.40 | 53 |
| Illinois | 20 | 44281 | 3.00 | 0.50 | 396 |
| Iowa | 0 | 0 | 6.96 | | 0 |
| Kansas | 5 | 15377 | 6.49 | 1.04 | -14 |
| Kentucky | 0 | 0 | 6.18 | | 0 |
| Maine | 0 | 0 | 8.75 | | 0 |
| Massachusetts | 10 | 43444 | 5.30 | 0.90 | 79 |
| Michigan | 13 | 26647 | 3.95 | 0.50 | 273 |
| Minnesota | 11 | 20892 | 8.09 | 1.03 | -10 |
| Mississippi | 0 | 0 | 5.07 | | 0 |
| Missouri | 6 | 15798 | 6.07 | 0.90 | 24 |
| Montana | 2 | 4282 | 8.81 | 1.62 | -32 |
| Nebraska | 3 | 56706 | 7.01 | 1.03 | -29 |
| Nevada | 4 | 20502 | 0.00 | 0.00 | 179 |
| New Hampshire | 1 | 2595 | 0.00 | 0.00 | 37 |
| New Jersey | 5 | 26796 | 8.97 | 1.31 | -129 |
| New Mexico | 0 | 0 | 6.32 | | 0 |
| New York | 49 | 140169 | 7.74 | 1.14 | -645 |
| North Dakota | 0 | 0 | 4.62 | | 0 |
| South Carolina | 1 | 973 | 5.55 | 0.41 | 14 |
| South Dakota | 1 | 973 | 0.00 | 0.00 | 10 |
| Texas | 34 | 110843 | 0.00 | 0.00 | 2021 |
| Utah | 3 | 9473 | 6.51 | 0.75 | 44 |
| Virginia | 5 | 30656 | 5.82 | 0.96 | 20 |
| Washington | 10 | 119069 | 0.00 | 0.00 | 1780 |
| West Virginia | 0 | 0 | 6.50 | | 0 |
| Wisconsin | 9 | 19107 | 5.40 | 0.93 | 16 |
| Wyoming | 1 | 1168 | 0.00 | 0.00 | 17 |
| Average | 9 | 31006 | 5.01 | 0.66 | 6 |

Figure A1: Probability of living in High Income Tax State By Age

Panel A. 1982-2004




Panel B. 2005-2017




Notes: Age Groups below 40 are excluded. Individuals above 95 are pooled and displayed at Age 96.