The Impact of an Increase in the Prevailing State Income Tax Rate on Net-Outmigration

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Abstract

Despite the $350 billion appropriated for states in the 2021 American Rescue Plan Act, most states remain financially strapped due to fighting the coronavirus. Each state must figure out the correct balance between reducing services and raising taxes. Raising income tax rates or property tax rates on the highest income earners is likely to be the only viable choice politically. However, raising tax rates can cause taxpayers to leave for a different state and thus could be detrimental to the long-term health of the high-tax-rate state. In this light, I approximate the short-term response to higher tax rates by estimating the long-term relationship between tax rate and migration using cross-sectional data for four taxpayer cohorts. My testable hypothesis is that higher tax rates motivate a statistically higher share of the highest income cohorts to migrate to another state. Budget managers should want to know which taxpayers leave and how high is the outmigration rate. I find that for each additional one percentage point increase in a stateôs marginal income tax rate, all states experience an average increase in net-outmigration of about 140 per 100,000 high-income households regardless of their current income tax rate.

Key words: housing demand, migration, state income tax rates, state tax revenues
Economic Literature Codes: H24, H71, R23 and R21

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1. Introduction

In 2020 and 2021, fighting the coronavirus has depleted most statesô budgets. Despite the $350 billion from the federal government in the 2021 American Rescue Plan Act, each state must figure out the correct balance between reducing services and raising taxes.[1] Raising income tax rates or property tax rates on the highest income earners is likely to be the only viable choice politically, but the potential to enter a negative feedback loop in which higher tax rates cause high income earners to leave should give budget makers concern. How many taxpayers leave when income tax rates are raised?[2]

One way to shed light on this issue is to see if higher state marginal income tax rates have, in the past, caused an outmigration of high-income earners to states with lower state income tax rates. If evidence that higher state income taxes in the period from 2015 to 2017 increased state outmigration per year, then we might anticipate that higher income tax rates in 2021/2022 would exacerbate outmigration of high-income earners from states with high state and local taxes (SALT).

In this vein, several papers have looked at the impact of high-income tax rates on millionaires, star scientists and pro soccer player. Other papers have looked at the behavior of retirees. The results have been mixed. This paper focuses on middle-aged upper-income earners. I explicitly focus on non-retirees and non-millionaires, because I am trying to understand the behavior of a wider group of the working population who might be impacted ï what motivates the best and the brightest who can earn an upper middle-class income, to stay, leave, or not enter a particular market? Additionally, I am interested in both the short and long-run effects of tax law changes which I define below.

Conceptually, outmigration causes state tax revenues to decline, which leads states to cut back on essential services or further raise tax rates. This creates incentives for citizens with the highest income potential to leave for places that offer more opportunity and/or a better climate, which, in turn, reduces the economic vitality of the exited geographical area and creates a further incentive for others to leave. As a result, local governments enter a negative feedback loop of increasing taxation and outmigration.

States and counties change their income tax rate infrequently because changing tax rates is disruptive and creates winner and losers. Generally they change their tax rates and leave them

[1] State and local governments can use the funds to cover costs incurred by Dec. 31, 2024 for certain purposes, including: Providing aid to households, small businesses or nonprofits, or aid to "impacted" industries like tourism, hospitality and travel; funding government services that have been curtailed as a result of decrease in tax revenue caused by the pandemic; and making "necessary investments" in water, sewer, or broadband infrastructure. States are prohibited to use their funding to spend on pensions or to offset revenue resulting from a tax cut enacted since March 3, 2020.

[2] State generally raise tax revenues through income tax taxes and counties raise tax revenues through property tax rates. A state trying to raise revenues in 2021 and 2022 would therefore be roughly confined to using income tax rates.

static. Thus focusing only on states that have changed their tax rate recently would result in a sample with too few observations.[3]

In order to capture the short-term migration impact of higher income tax rates, I approximate the short-term response of migrants in states which have changed their tax rates, by modelling the long-term average behavior of migrants to higher tax rates using a cross-sectional panel data on 50 states. People leave a state because economic, weather, or housing conditions are preferred in another state, and because the stateôs income and property tax burdens are relatively higher than most others. Does the rate of net-outmigration also depend upon income and age? By binning and matching net-outmigration to income and property tax rates for four discrete income and age cohorts for 50 states and the District of Columbia, I am able to answer several critical questions more accurately than earlier researchers:

- I find, unambiguously, that for incomes greater than $200k, income and property tax rates are a stronger motivating factor to migrate than they are for those with household incomes less than $200k. In other words, higher state marginal income tax rates incentivizes prosperous individuals to migrate.
- Secondly, my results show that the relationship between income tax rates and net-outmigration is linear, i.e., at each higher income tax rate, the short-run increase in net-outmigration rate due to each 1 percent higher state marginal income tax rate (about 140 per 100,000 high-income households) is roughly constant. Thus, empirically, over the long-run, states with the highest marginal income tax rates would face roughly the same additional net out-migration (out-migration minus in-migration) increase as would states with lower state marginal income tax rates.
- Thirdly, I find that although some do leave, most donôt. Tax revenues remain elevated in the short-run (several years) after the tax rate increase. This creates a tension that budget managers need to understand explicitly.

The next section outlines the problems facing states with high income and property tax burdens and also looks at previous research. Section 3 explains my methodology, model and the IRS data. Section 4 shows the results. The last section gives my conclusions.

2. Background and prior research

According to the 2017 National Movers Study released by United Van Lines, Illinois moved up to the number 1 spot of states with a net outbound population (63 percent net outbound). The report also notes that many states in the Northeast continue to experience a moving deficit, with New Jersey leading the way (63 percent), and New York (61 percent) on the list of top 10 outbound states for the sixth consecutive year. Two other states in the region, Connecticut (57 percent) and

[3] IRS data on migration by age and income goes back to 2011. Over that time period, seven states have raises the tax rate on their highest tax bracket at least once. These are Connecticut (2016, 2012), Hawaii (2018), Kansas (2015, 2016), Illinois (2017), Maryland (2013), Minnesota (2013), New Jersey (2019). The IRS data on net-outmigration thus does not go back far enough to perform a time-series analysis.

Massachusetts (56 percent), can also be found on the top 10 outbound list. The exception to this trend is Vermont (68 percent inbound), which moved up one spot on the list of top inbound states to number 1. These high outmigration states tend to have higher state and local taxes.

The reasoning behind tax flight is straightforward: individuals respond to economic incentives and will choose to move to states with lower tax burdens, holding all else equal. A large outmigration of highly-skilled high-paying citizens can lead to a downward spiral in a stateôs revenues and services. Dalio (2017) argues. ñAs state and local tax rates and debts rise because there are shortfalls that canôt be narrowed, it is financially smart for high income taxpayers to escape these taxes and debt burdens by moving to lower tax and less indebted locations, so they do. As they do, property values decline, further raising the costs of staying in the high SALT location.ò Declining property values can eventually lead to mortgage defaults and a hastening of this downward spiral. Dailoôs argument is an updated version of Laffer and Mooreôs (2014) state competitiveness index and the notion that people ñvote with their feetò and that they move to low tax states. However, the historical evidence is less clear cut. Many states have successfully levied high income taxes over the past half century without observing mass outmigration.

More importantly, most states are financially strapped due to fighting the coronavirus. Each state must figure out the correct balance between reducing services and raising taxes. Raising income tax rates or property tax rates on the highest income earners is likely the only viable choice politically.

Not surprisingly, several Northeastern states have long been concerned about this issue. The states of Connecticut and New Jersey have engaged academic researchers to determine if each respective stateôs high income tax rate was causing a net outmigration of its top income earners. Thompson (2011), using annual IRS migration data from 1988 to 2006 for Connecticut, studied the impact of economic as well as social factors on migration, including measures for income taxes, sales taxes, total state and local government revenues, crime, and educational services. He finds that taxes do not play an important role in outmigration. Cohen, Lai, and Steindel (2011) perform a similar analysis for the state of New Jersey. Using the same annual IRS migration data but from 1992 to 2008, they find that variations in differential average marginal tax rates are associated with small but significant effects on net out-migration from a state. Thus, the conclusions of the two studies focusing on individual states conflict with each other.

This same mixed result applies to more formal academic studies. Cohen, Lai, and Steindel (2014) 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 millionaire taxes in California and New Jersey. Suárez Serrato and Zidar (2014) focus on corporate taxes and find moderate effects on wages, total employment, and land prices. Giroud and Rauh (2015) find a negative effect of business taxes on the number of establishments and establishment sizes. Bakija and Slemrod (2004) find a moderate effect of state personal income tax on the number of federal estate tax returns. Akcigit et al. (2015) find that the elasticities of the number of domestic and foreign inventors with respect to personal income tax rate equal 0.03 and 1 respectively.

Kleven, Landais and Saez (2013) look at the migration of professional soccer players in 14 European countries in response to individual country income tax rates. They find strong evidence of player mobility in response to lower tax rates from competing countries of this league. However, Mazerovôs (2014) survey of several academic and non-academic works concludes that there is almost no impact of tax rates on outmigration. He summarizes most of the pre-2014 literature on migrations and concludes:

- First, policymakers in most relatively high-tax states still have considerable room to increase income taxes on the affluent before they should worry about the potential effects on migration.
- Second, and more important in the current policy environment, states should not cut their income taxes with the expectation that they will thereby significantly slow ð let alone reverse ð the flow of residents leaving their state. Indeed, the opposite may well be true. Such cuts are more likely to reduce rather than enhance a stateôs attractiveness as a place to live by leading to deterioration in the quality of critical public services.

Alternatively, Moretti and Wilson (2017) find large, stable, and precisely estimated effects of personal and corporate taxes on ñstaròscientistsômigration patterns. They estimate that for star scientists, defined as scientists in the private sector as well as academia and government ï with patent counts in the top 5 percent of the distribution, a 1 percent increase in income due to a personal income tax rate cut increases net-inmigration by 0.4 percent per year.

More recently, Giroud and Rauh (2019) answer a similar question (does state tax rate impact location choice) by looking at how state tax rates impact the counts of S corporations. Firms organized as S corporations are partnerships, or sole proprietorships (so-called pass-through entities). These firms (or the owners of these firms) are directly affected by the individual tax code and other business taxes. They find that a 1 percentage point increase (decrease) in the statutory personal income tax rate corresponds to a 0.2 percentage point decrease (increase) in the number of employees belonging to pass-through firms. Although a decline in the number of employees is not the identical issue as net-outmigration, the issue are similar enough to mention their findings.

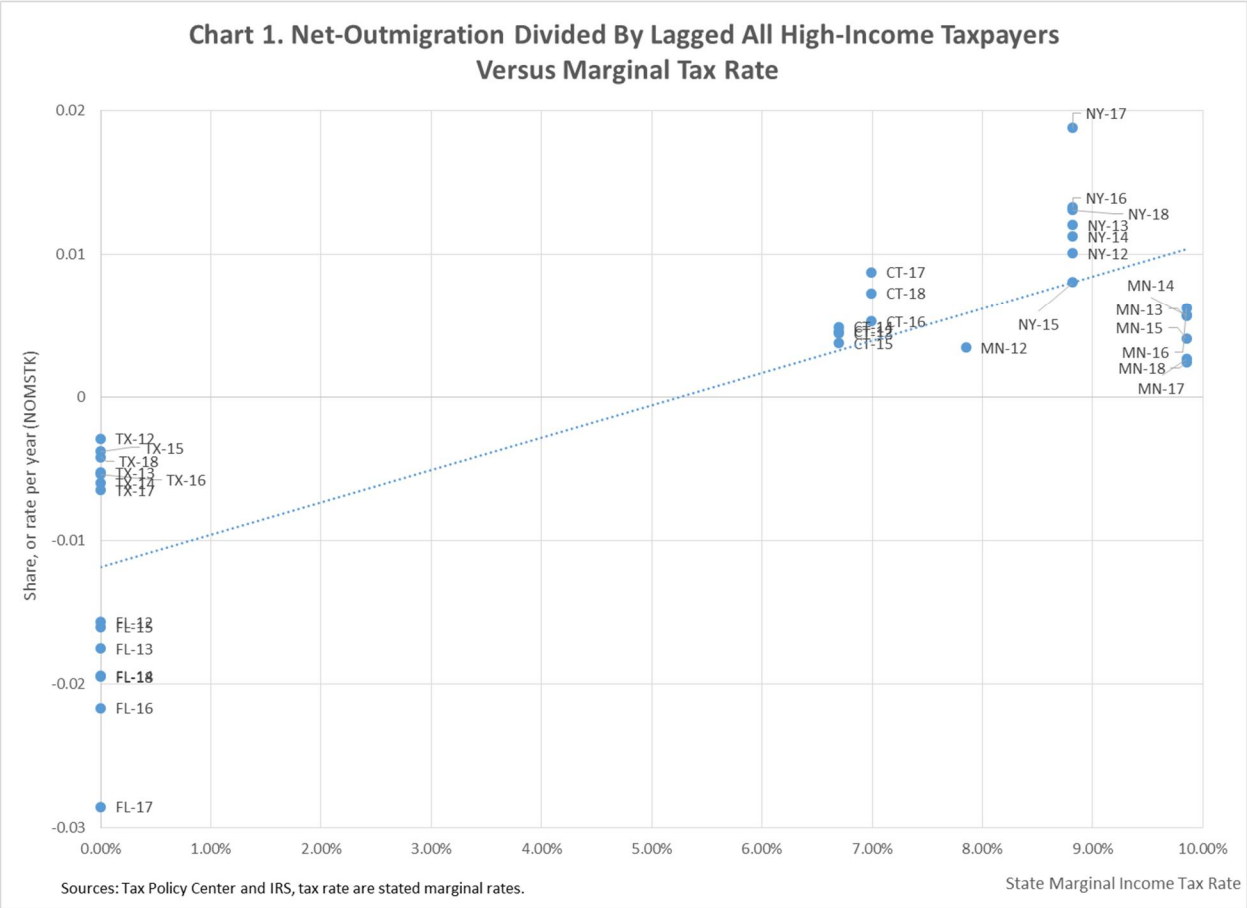
Thus, the formal and informal research, which earlier had conflicting conclusions, now suggests that state income tax rates have a statistically significant impact on migration decisions. People do vote with their feet. How strong is the impact of a 1 percent increase in the state income tax rate on net-outmigration? The results for the change per year, each year, vary from 0.03 to 0.5. My results both corroborate and complement the works by Moretti and Wilson (2017) and Giroud and Rauh (2019).

3. Methodology, model and data

3.a Methodology: Long-run changes to the stock of high-income taxpayers

State are not uniform geographies and the impact of a state raising its income tax rate may or may not last for several years. To emphasize this point, in Chart 1, using data for just five states, I graph

seven observations of net-outmigration counts relative to all high-income taxpayers in that state (NOMSTK, vertical axis) versus the stateôs marginal tax rate of their highest income brackets (horizontal axis). [4]



Where,

$$NOMSTK_{it} = NOM_{it} \ / \ STK_{it-1} \qquad (1)$$

Where NOM_{it} is outmigration from state$_i$ minus inmigration to state$_i$ in period t of the highest income taxpayers. And $STK_{i,t}$ is the stock of all high income taxpayers in the previous year. $NOMSTK_{it}$ is a share of all high-income taxpayers who leave a state in a given year t, from state$_i$. It can be thought of as flow per year, or a share per year.

In Chart 1, each stateôs time observation of $NOMSTK_{it}$ is labelled by the state abbreviation and the year. I do this for five states: TX, FL, NY, CT and MN. I see that over the time period 2012ï 2018, New York State kept its highest marginal income tax rate stable, but still the share or rate

[4] These are the stated marginal tax rates that the highest income tax bracket must respond to in each state, not the average income tax rate used in my regression.

per year of net-outmigration goes up and down. On the opposite side of Chart 1, the net-outmigration rate per year of high-income earners (observations on the vertical axis) are negative because states like Texas and Florida continuously enjoy positive net-inmigration (or negative net-outmigration). These statesô stated marginal income tax rates are zero.

In Chart 1, the slope of the line measures the change in net-outmigration relative to the size of the state for a given change in the marginal income tax rate.[5] This average change (the slope) is a measure of the long-run responsiveness of taxpayers in every state because market participant behavior has settled down to a rate of net-outmigration per year above or below the line as captured by the slope coefficient.

If Texas or Florida did raise their income tax rate by 1 percent, then over time it would be unlikely that the increase in net-outmigration per year would fall along the dotted line in Chart 1 in the first year, or even over time. These changes against time would be the short-run responses. We can see this by looking at two states (MN and CT). In Chart 1, Minnesota raised its stated income tax rate in 2012 (the observation MN-13 is to the right of MN-12 and net-outmigration jumped to a higher level. In 2015, Connecticut raised its stated marginal income tax rate. This shows up as a jump to the right (CT-15 to CT-16) as the rate of net-outmigration jumped following the tax increase.

After the first year that the income tax rate changed, NOM moved around. The world, here on the chart, is not held constant. The yearly pick up in net-outmigration for a 1 percent increase in the stated income tax rate for Minnesota was lower than the average, and then settles down below the long-run average change. Just the opposite thing happened in Connecticut in 2016 when it raised its state income tax rate by 29 bps, net-outmigration jumped to a rate faster than the empirically estimated average. NOM then remained elevated. We see from this limited sample of just two states, that after a tax increase has gone into effect, not holding everything else constant, each individual states has a short-run response. There is a time dimension to the impact of an income tax rate change. Net-outmigration initially rises, but then may (or may not) remain elevated.

Recognizing that historically NOMSTK can jump and remain elevated, or jump and then burnout, I argue that NOMSTK is a yearly flow which jumps during the year immediately following a tax rate increase and remains elevated indefinitely in the long-term. It does not burn out completely (fall below the initial rate before the tax rate was increased). Since not enough observations exist to explicitly model the short-term response of net-outmigration using a time series, I model the long-term behavior using cross-sectional data. Essentially, I estimate the slope of the line in Chart 1 holding everything else constant using six explanatory variables for 50 states and Washington, DC. Thus I am approximating the short-term response to a higher income tax rate by hopping from state to state. It is long-run in the sense that for most states the tax rate change happened long ago.

3.b Model

[5] NOMSTK is not a measure of short-term flow elasticity i.e., qNOM/Lag(NOM), but it is the same in the general sense of trying to convey the impact of a tax rate change relative to a standard value from the previous period. I follow the convention of other researchers and call it a flow of stock elasticity. It is a stock elasticities because the denominator is the stock of taxpayers from the prior year.

I define the long-run average net-outmigration changes to the stock of high-income taxpayers, for a one percentage point increase in the income tax rate (ITR), as

$$\mathring{U}_{ayit} = (\partial NOMSTK_{ayit})/\partial ITR_{yit}, \quad (2)$$

and $\partial NOMSTK_{ayit} = (NOM_{ayit} - NOM_{ayit-1})/STK_{ayit-1}$ (3)

a = 1 to 2 for ages 45 to 54, 55 to 64,
y = 1 to 2 for income cohorts \$100K to \$200k (mid), \$200k+ (high),
i = 1 to 51, and t = 2015 to 2017.

My hypothesis is that high-income taxpayers will be more responsive to higher income tax rates than those with lower incomes.

Or, $\mathring{U}_{y=mid} < \mathring{U}_{y=high}$.

In order to find the magnitude of $\mathring{U}$ for each cohort, I run four identical first-difference models. The first difference approach allows me to compensate for unidentified fixed effect confounders since I am regressing on changes to the same state. My single model for the two income groups by two age groups can be specified as Equation 4 as follows:

$$NOMSTK_{ayit} = \breve{U}_{ay} + \beta_1 ITR_{ayit} + \beta_2 PTB_{ayit} + \beta_3 STR_{ayit} + \beta_4 EMP_{it} + \beta_5 Temp_{it} + \beta_6 AFI_{it} + \mu_{ayit} \quad (4)$$

Where:

- $NOMSTK_{ayit}$ is NOM relative to the stock of high-income households in the prior period,
- ITR_{ayit} is the calculated average state and local income tax rate,
- PTB_{ayit} is the calculated average state and local property tax burden,
- STR_{ayit} is the calculated average state and local sales tax rate,
- EMP_{it} is the two-year percentage change in non-farm payroll employment,
- $Temp_{it}$ is the average yearly temperature,
- AFI_{it} is a home price affordability index.

3.c Data

My data on migration comes from two IRS databases for the years 2015-2017 for 50 states and Washington.[6] Specifically:

- NOMSTK is the count of out-migration minus in-migration by state for the respective age and income cohort calculated using the IRS gross migration database, divided by the total number of taxpayers in that income group for that state from the period prior, Here the denominator for the percentage change in Equation 2 is the stock of high-income taxpayers in the periods prior (T=t-1) and not counts of net-outmigration from the previous period. The stock variable is matched to the net-outmigration age, income cohort. The data on STK and NOM comes from the IRSôs state migration databases and are for four distinct age, income classes.

[6] The IRS databases on migration and income extends back to 2012 and includes the recently updated 2018 database. The 2018 database was drastically changed due to the 2017 Tax Cuts and Jobs Act and was not included in my regression. The inclusion of data prior to 2015 did not make sense, recognizing that market behavior changes.

- ITR is the average income tax rate. Income tax rate data come from the IRSôs report of income data bases. I derive an average state income tax rates for individuals making more than $200k and also a second income tax rate for those making $100k to $200k. In both cases, ITR is the ratio of aggregated state income taxes collected relative to aggregate taxable income for all individuals in that cohort. The IRS tax rate data is an all-in rate (tax rates on all income after deductions, and includes local income taxes paid). They are average tax rates, not reported state marginal tax rates.[7]
- PTB is the property tax burden. I use the identical methodology to calculate the property burden. This is because property tax burden and sales taxes are assessed at the state and local level. They vary considerably in how they are assessed. PTB is not the property tax rate i.e., the property tax divided by the value of the house. The data are for two different income classes. This is the first research to explicitly consider a dynamic measure of the property tax burden using actual IRS reported data and not estimates.
- STR is the average state sales tax rate by income for that class.
- EMP is the two year change in payroll employment and come from the Bureau of Labor Statistics.
- AFI is an affordability index. I use the median listed home prices from Zillow time 80 percent. This considers that the homebuyer puts 20 percent down. I assume that the homebuyer should allocate 25 percent of his income (from BLS) to the home payment. Values greater than 1.0 indicate the housing market is affordable. The affordability index is lagged one year to avoid endogeneity (lAFI).
- Temp is average high temperature for the year. Temperatures are from NOAA.

This reasoning yields six independent variables for the dependent variable which takes on different values that are aged-base and income-based. Values for my six independent variables for the 50 states and the District of Columbia are in Table 1 in the Appendix.

It can be argued that tax policy is not exogenously determined, so that ascribing a causal interpretation to the correlations between state tax changes and counts of businesses or employees could be problematic. The primary concern is that state governments might change tax policy in anticipation of changing economic conditions. I am using a cross-sectional analysis for a three-year span from 2015 to 2017. As shown in footnote 2, most of the states during the time period investigated kept their income tax rate constant.

The IRS subsets their state migration data by several income and age cohorts. I have restricted my work to two age cohorts for the $100K to $200k income bracket and two identical age cohorts for the $200k+ income bracket. I believe I am the first researchers to use this updated micro-database in this fashion. This gives me four distinct data samples.

4. Results

[7] The numerator, the total state income tax revenue collected, is for all taxpayers that itemized their deduction while the denominator is for all taxpayers in that cohort (those that itemized and those that did not). Another way to obtain income tax rates would be to use state reported marginal income tax rates on income above $200k. This approach was tried with no notable improvement in results.

4.a Estimated coefficients, by age and income cohorts

Table 1 shows the parameters for the variables that were significant in my four age-income regression model specifications on net-outmigration share per 100,000 taxpayers in the sample. Of particular interest is the state average income tax rate variable (ITR), which is significant in all four models, but whose coefficient is 40 percent higher for the cohorts with incomes greater than $200k. The stock elasticity (Ů) for the 55-64 age group with an income greater than $200k cohort = 0.14. The other variable of interest is the property tax burden (PTB). This variable is significant in all four models and has a larger impact on net-outmigration than the income tax rate on the highest income earners.

Table 1. Drivers Of Net-Outmigration By Income & Age Cohort

	$100K to $200k		$200K+	
	(45-54]	(55-64]	(45-54]	(55-64]
(Intercept)	-0.002	-0.008°	-0.019***	-0.037***
	0.003	0.004	0.004	0.007
ITR	0.069**	0.106**	0.105***	0.139**
	0.024	0.041	0.027	0.050
PTB	0.118**	0.288***	0.314*	0.853***
	0.038	0.064	0.121	0.222
EMP	-0.182***	-0.282***	-0.231***	-0.365***
	0.022	0.036	0.031	0.056
AFI	0.0001	0.0008	0.0064***	0.0101***
	0.0011	0.0018	0.002	0.003
R-squared	0.38	0.39	0.43	0.39
Number of obs.	153	153	153	153
Standard errors are below the coefficients				
Signif. codes: 0 '***' 0.001 '**' 0.01 '*' 0.05 '°' 0.1 ' ' 1				

Every group is attracted to a stronger economy, as measured in the two year payroll growth variable (the coefficients for net-outmigration are all negative). This factor has the highest impact on the migration decisions in the over $200k, 55-64 age cohort. This could indicate the correlation with omitted non-monetary variables such as younger cohorts having to move school age children, or monetary variables such as higher income households having better employer relocation benefits.

Affordability (AFI) was significant for only the high-income cohort. High-income households are likely more concentrated in states with a higher cost of living, the cost of which causes an outmigration of households to locations with lower housing costs. The weather and the sales tax rates were not significant and dropped from the model. I also see from the linear specification that our estimated coefficients can be uniformly applied to each state since they are linear across tax rates.[8]

[8] Other, non-linear specifications were tried with no significant improvement in results.

The income tax stock elasticity Ů equal to the value of β_1, is what concerns the revenue maximizing state planner. We interpret β_1 as: if a state raises its state income tax rate by 1 percent, the state experiences a 0.14 percentage increase in net-outmigration of their highest income earners, each year, forever above the NOM during the periods prior to the tax rate increase. The β_1 measure the average rate of change in net-outmigration by hopping across states. We can think of a hypothetical state with 100,000 high-income taxpayers with an initial income tax rate of zero, but with some net-outmigration to other states due to non-tax causes. As this state raises its income tax rate, each additional one percent increase in ITR leads to roughly to 140 additional high-income taxpayers that leave the state regardless of how high that stateôs income tax rates was at time t-1. It is the long-run estimate of the yearly average response to an ITR change.

My model, and others, shows a linear relationship -- each higher rate bring a constant higher rate of net-outmigration per year. The higher tax rate states do no worse than the lower tax rate states in driving households away.[9] The four β_1 coefficients from Table 1 are a measure of a yearly flow relative to stock.

4.b Comparison to earlier research

My estimates are on the low side of previous research using either IRS or non-IRS data. Cohen et al. (2011) find that a one percentage point rise in New Jerseyôs marginal average income tax rate relative to other states would be associated with an annual net outmigration of approximately 4,000 high income taxpayers. Akcigit et al. (2015) find elasticities of the number of domestic and foreign inventors with respect to personal income tax rate equal 0.03 and 1.0, respectively. Moretti and Wilson (2017) find large, stable, and precisely estimated effects of personal income taxes on ñstaròscientistsô migration patterns. They calculate a stock elasticity whereby a 1 percent increase in income due to a personal income tax rate cut (the opposite direction of my analysis) increases net-inmigration by 0.4 percent per year. This is an elasticity of 0.4.

Thus my estimate of 0.14 is only 1/3 as large as those obtained by Moretti and Wilson (2017). It could be that they are dealing with a higher income cohort than I was able to obtain. If I include the impact of the property tax burden, I get roughly similar results as these earlier papers using non IRS data: some people walk away from high income tax rate states if their after-tax incomes take a big enough hit, the more so for higher income households.

States should be rightly concerned about their stateôs income tax rate because higher income tax rates do motivate high-income taxpayers to leave. Having said that, the average count of households who left the state of Connecticut (which has a high net-outmigration rate) over my sample period was 1 percent. Thus it is true that although some households do leave, most do not, and the higher tax revenue garnered from an income tax rate increase more than compensates the state for the lost revenue from those who migrate out of the state. Connecticut raised its income tax rate in 2012 and state income tax revenue collections rose by 5 percentage. Illinois raised its state income tax rate in 2017 and income tax revenues rose by 20 percent.

[9] This result is likely skewed by California which has a high income tax rate but its net-outmigration remains subdued.

The negative impacts of a higher income tax rate cannot be seen as long as the economy grows enough to offset the loss of taxpayers. The problem with empirical estimates is that they are average point estimates and underestimate the long-term impact of an income tax rate increase for each state over time. In trying to estimate the impact on tax revenues, it is hard to keep everything else constant and it is difficult to estimate the cumulative impact over time. Additionally, the property tax burden is driving high-income earners to leave the state at an even faster rate than the income tax rate. More research needs to be done in this area.

5. Conclusions

My paper differs from earlier work by stratifying IRS data on net-outmigration and tax rates by individuals who make more than $200k and those that make between $100k and $200k. My results show that higher state marginal income tax rates hasten outmigration of middle-aged upper-income earners from that state. Stronger economies bring people in. Home prices and affordability also play a role.

Across research, empirically estimated rates of change reliably range from 0.09 to 0.40, holding everything else constant. I estimate empirical long-run rates of change for all taxpayers in the U.S. making more than $200k and between the ages of 55 to 65 to be 0.14. These taxpayers are the most vulnerable cohorts in terms of net-outmigration. My estimates are nearly identical to the magnitude of estimates from researchers using other databases on superstar individuals once I consider the impact of the property tax burden. As states confront large budget deficits due to Covid-19, states should be cautious about raising their income tax rates as high-income households do migrate to other locations. Some taxpayers vote with their feet.

Appendix Table 1						
state	Income Tax (%)	Property Tax (%)	Sales Tax (%)	2-yr Payroll	Yearly Temp	AFI
Alabama	4.06	0.86	0.03	2.1%	62.8	241
Alaska	0.21	1.53	0.10	-2.5%	26.6	165
Arizona	4.58	1.37	0.07	5.0%	60.3	184
Arkansas	6.13	0.84	0.02	2.9%	60.4	225
California	12.04	2.35	0.02	5.4%	59.4	105
Colorado	5.07	1.23	0.02	4.7%	45.1	132
Connecticut	8.98	2.68	0.00	0.5%	49.0	204
Delaware	7.12	1.47	0.00	2.1%	55.3	170
Florida	1.49	1.79	0.39	6.6%	70.7	191
Georgia	6.19	1.69	0.01	5.0%	63.5	231
Hawaii	8.41	1.14	0.03	2.9%	70.0	78
Idaho	7.32	1.34	0.02	6.2%	44.4	170
Illinois	4.52	2.63	0.02	1.9%	51.8	236
Indiana	5.49	1.16	0.00	2.5%	51.7	260
Iowa	6.62	1.79	0.01	0.9%	47.8	252
Kansas	4.52	1.54	0.08	0.4%	54.3	215
Kentucky	7.24	1.30	0.01	2.0%	55.6	227
Louisiana	3.93	1.02	0.05	-2.2%	66.4	204
Maine	7.70	2.20	0.01	1.8%	41.0	146
Maryland	9.56	2.21	0.01	2.7%	54.2	160
Massachusetts	6.54	2.32	0.00	3.1%	47.9	142
Michigan	5.04	1.85	0.01	2.8%	44.4	233
Minnesota	9.48	1.85	0.01	2.5%	41.2	202
Mississippi	4.72	1.07	0.04	1.6%	63.4	252
Missouri	6.48	1.45	0.01	3.1%	54.5	231
Montana	6.88	1.38	0.00	3.1%	42.7	138
Nebraska	6.47	1.79	0.02	1.5%	48.8	226
Nevada	1.58	0.98	0.36	6.4%	49.9	150
New Hampshire	2.13	2.66	0.01	3.2%	43.8	152
New Jersey	9.02	3.61	0.01	2.8%	52.7	152
New Mexico	4.58	1.27	0.03	0.0%	53.4	170
New York	12.30	2.60	0.01	2.9%	45.4	176
North Carolina	6.46	1.52	0.01	4.3%	59.0	206
North Dakota	2.35	0.97	0.03	-8.4%	40.4	176
Ohio	5.82	2.05	0.01	1.8%	50.7	283
Oklahoma	4.71	1.25	0.03	-1.3%	59.6	252
Oregon	9.67	2.01	0.00	5.8%	48.4	134
Pennsylvania	5.15	2.18	0.01	1.3%	48.8	245
Rhode Island	6.99	2.53	0.01	1.4%	50.1	146
South Carolina	6.02	1.27	0.01	4.8%	62.4	207
South Dakota	0.75	1.11	0.40	1.6%	45.2	185
Tennessee	0.98	1.09	0.67	4.5%	57.6	218
Texas	0.45	2.33	0.64	2.5%	64.8	186
Utah	5.74	1.13	0.02	6.7%	48.6	143
Vermont	8.14	2.99	0.00	0.8%	42.9	183
Virginia	6.53	2.09	0.01	3.4%	55.1	165
Washington	0.70	1.61	0.84	5.8%	48.3	152
Washington, DC	9.55	1.70	0.00	3.3%	54.2	113
West Virginia	7.28	0.92	0.00	-2.6%	51.8	234
Wisconsin	7.26	1.95	0.00	1.9%	43.1	226
Wyoming	1.74	0.99	0.27	-6.2%	42.0	162

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