

## The Evidence on Millionaire Migration and Taxes

*By Kurt Wise and Noah Berger*

Economists consistently find that a well-educated workforce and a high-quality transportation system are among the bedrock elements upon which a prosperous state economy is built. Providing everyone with access to the education and training they need to reach their full potential boosts the productivity of individual workers and strengthens the overall economy. A well-functioning transportation system likewise strengthens the economy, allowing goods and people to move quickly and reliably to the places they need to be. (For a more detailed discussion of the impacts of state investments in education and transportation, see MassBudget's report on [these issues](#).)

While the economic importance of high-quality transportation infrastructure and public education are widely recognized, some fear that raising taxes to fund such investments could lead to high-income taxpayers leaving the state – particularly if tax increases are focused heavily on these high-income households. Fortunately, because there is wide variation in tax rates among the 50 states, economists have ample data with which to study this question. The most thorough studies have found consistently that tax rates influence the residence decisions of only a very small share of such households. Instead, high-income people – like other people – overwhelmingly choose where to live based on work and business opportunities, family and social connections, and the draw of an agreeable climate.<sup>1</sup> The vast majority do not make their residence decision based on state tax rates. In this policy brief we examine the evidence on the likely migration effects of raising income taxes on high-income households – those with taxable annual income above \$1 million – and the impacts on net state revenue.

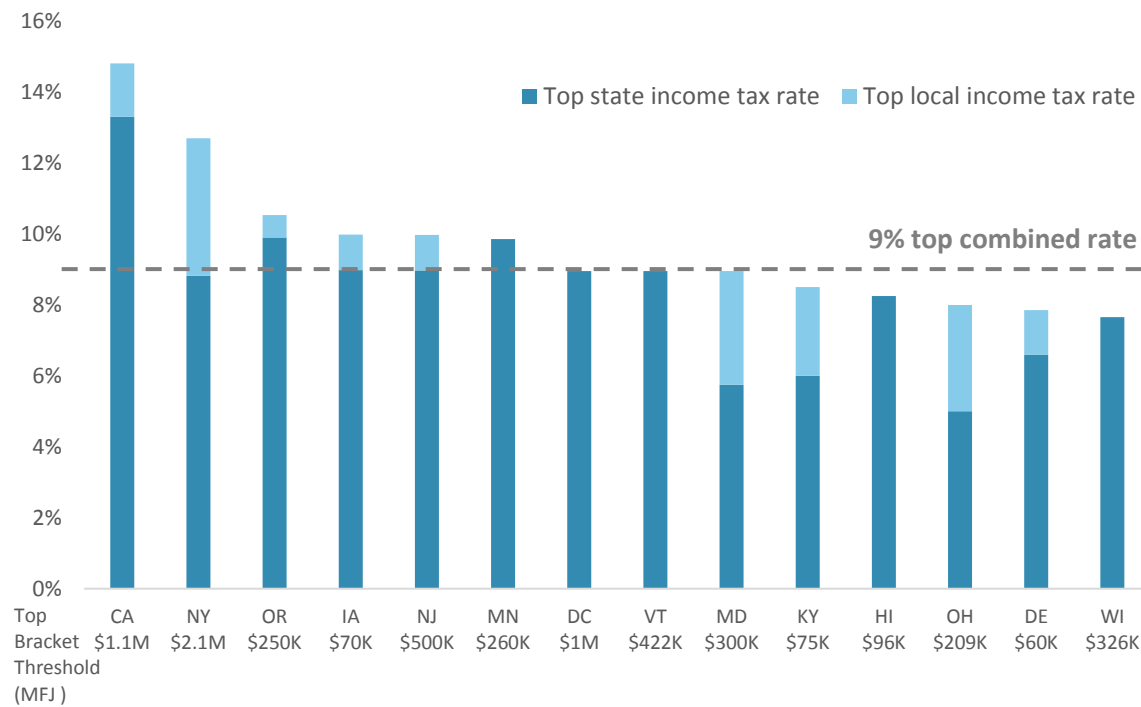
### High Income States Often Have Relatively High Top Income Tax Rates

Applying significantly higher income tax rates to very high incomes is not an uncommon practice in states throughout the U.S. Currently, in eight states (as well as in D.C.) the top tax rate applied to high incomes approaches or exceeds 9 percent (see Chart 1 below). In several additional states, top rates approach or exceed 8 percent. In several cases, these top rates include both state-level income taxes and income taxes assessed at the local level. (In a number of states, various local governmental entities – such as counties, cities, school districts, regional transportation districts, etc. – are permitted to levy a local income tax.) While income tax rates in these states are higher for the highest income residents, high income residents in these states, as in all states, still pay a smaller share of their income in taxes than do other taxpayers. That is because low and middle income people pay a larger share of their income in sales and property taxes than do higher income people.<sup>2</sup>

Local taxes on high incomes often are levied precisely in those places where the highest income households tend to cluster, such as New York City in New York State, San Francisco in California, and Montgomery County in Maryland.<sup>3</sup> Notably, the relatively high combined state and local income taxes levied in these areas have not hollowed out the high-income populations – far from it. Instead, many of these locations remain sought after residential zip codes that retain their existing high-income households. Indeed, three of the states with the highest top tax rates – California, New York, and New Jersey – together account for only slightly more than a fifth of all US households, but are home to just under a third of all millionaire-income households.<sup>4</sup>

**Chart 1: States with Top Tax Rates Approaching or Exceeding 9 Percent**

Top personal income tax rates (state + local, 2016) for states where top combined rate exceeds 7.5 percent



### Why Do Millionaires Remain, at High Concentrations, in High Tax Locations?

There are many factors that influence people’s decisions about where to live, work, and raise a family. Important factors include work opportunities; earning potential; housing costs; proximity to family and other important social networks; climate; recreational amenities and more. Analysis of broad patterns of migration for differing income groups reveals that high-income households have a lower annual state-to-state migration rate than does the U.S. population as a whole: on average, 2.4 percent of millionaires (some 12,000 households) move to a different state each year, while the annual migration rate for the overall population is 2.9 percent.<sup>5</sup> Why might this be so?

Looking at a number of specific demographic characteristics, Professors Cristobal Young and Charles Varner (Stanford University) along with co-authors Ithai Lurie and Richard Prisinzano (financial economists at the U.S. Treasury Department), describe each characteristic's relationship to rates of migration, both for the overall population and for millionaires. Being married greatly reduces the likelihood that a household will move, and millionaires are married at a much higher rate than the overall population (90 percent vs. 58 percent).<sup>6</sup> Having children at home likewise reduces migration rates significantly, and millionaires are more likely to be among this group (50 percent of millionaires vs. 40 percent of the population as a whole).<sup>7</sup> Business ownership also significantly reduces the likelihood for migration and millionaires have much higher rates of ownership than the population as a whole (23 percent vs. 4 percent).<sup>8</sup> Looking at these demographic characteristics alone then, it is not surprising that millionaires tend to be less mobile, on average, than households in lower income groups.<sup>9</sup>

Beyond the obvious constraints on mobility imposed by these basic demographic factors, researchers Young and Varner offer a number of hypothesis as to why high-income households are relatively immobile. One possibility they suggest in their most recent, 2016 study is that while mobility is often associated with the American ideal of "freedom" – and thus is viewed as a privilege – in practice, it is the ability to remain rooted in one's chosen location that has become a luxury enjoyed disproportionately today by high-income households.<sup>10</sup>

Another hypothesis Young and Varner put forward is that of the "embedded elite." Young and Varner suggest that, to an important degree, the financial success enjoyed by millionaires derives from and depends on remaining connected to the social and professional networks in which they have achieved their success.<sup>11</sup> For many of these highly networked people, to move is to put at risk the millionaire incomes they enjoy. Or as Young and Varner phrase it, "(M)illionaires are not searching for economic opportunity – they have found it."<sup>12</sup> Having found it, the vast majority choose to remain right where they are.

### **Broad Consensus among Best Studies: Few Millionaires Move Due to Taxes**

The question of whether high-income households move in response to high top tax rates is one that has been investigated in numerous well-designed studies, drawing on a wealth of excellent tax, income, and place-of-residence data. These studies mostly have reached a very similar conclusion: while some small number of high-income households are responsive to taxes, the vast majority are not.

In a review of the best-designed studies of the last three decades, nationally recognized tax expert Michael Mazerov concludes that, "taken as a whole, the research strongly refutes the claim that state and local taxes have a significant impact on migration."<sup>13</sup> After searching for all credibly-designed, relevant studies – regardless of what their results might show – Mazerov identified seven studies that have been published in peer-reviewed economic journals since 2000. Mazerov notes that six of these "conclude that state taxes were not a major driver of interstate moves."<sup>14</sup> (The seventh study produced ambiguous results, concluding both that

people are attracted to lower income tax and property tax levels, but also to higher per-pupil spending on primary and secondary education – which necessarily depends on adequate tax collections.<sup>15</sup>) These studies examined a variety of different geographies, as well as different income and demographic groups. Together, they deliver a robust and consistent set of results with a simple conclusion: state tax rates have only a minimal impact on interstate migration. Results from these studies include the following:<sup>16</sup>

- Mark, McGuire and Papke (2000) – A study of residence decisions in the Washington D.C metro area (which spans several tax districts) concludes that taxes are not an important influence on where people choose to live.
- Coomes and Hoyt (2008) – A study of interstate movers moving to metro areas that span a state line concludes that in most cases only a small number of such movers are influenced by tax differentials in deciding where to live in the metro area.
- Leigh (2008) – A study of the effects of progressive state taxation on employer pay for high-skilled workers also examines the effects of state taxes on migration and concludes that such effects are insubstantial on either the composition or volume of migration.
- Guis (2011) – A study examining the effects of differences in state tax rates on the migration patterns of people between ages 19 and 43 concludes that taxes have a statistically significant, though overall small impact.
- Young and Varner (2011) – A study focused on the impact on millionaire migration in response to New Jersey’s 2.6 percentage point increase in the tax rate applied to income over \$500,000 finds that the change has statistically significant though negligible effects on migration, while generating large net state revenue gains.
- Conway (2001) – A study focused on the effects of state and local spending and taxes on the interstate migration patterns of elderly persons concludes that these factors appear to have some influence on which states become *destinations* for the elderly, but are not a significant factor driving elderly people out of the states in which they live.

In addition to these seven, peer-reviewed, published studies, Mazerov identifies another eight, unpublished but carefully designed studies conducted since 2000. Of these, six found that state income taxes had limited to no effect on migration (a seventh found “small” rather than “very small” effects).<sup>17</sup> As with the published studies, these working papers investigated a range of geographies, taxing mechanisms, and income and demographic groups, providing us with multiple perspectives on the same basic question.<sup>18</sup> Again, the consensus conclusion of these studies, broadly stated, is that state tax levels have a very limited influence on the residence decisions of affected taxpayers.

Since the release of Mazerov’s 2014 literature review, one study found that tax rates appeared to have an effect on migration patterns of certain scientists unless the public goods paid for

with the new revenue outweighed the effects of the taxes. While these authors doubt that the spending financed with higher taxes generally would provide a major benefit to scientists, they write that “where the value of the new public services is equal to the tax increase, the disincentive effect disappears.”<sup>19</sup> The authors also acknowledge that state tax levels are only one of many factors affecting where top scientists choose to live. As the authors explain, “Indeed, we find a limited cross-sectional relationship between state taxes and number of star scientists in a state as the effect is swamped by all the other differences across states. California, for example, has relatively high taxes throughout our sample period, but it is also attractive to scientists because the historical presence of innovation clusters like Silicon Valley and the San Diego biotech cluster.”<sup>20</sup>

## **New Study Confirms Millionaires’ Very Limited Response to State Tax Levels**

Building on this significant body of existing research, in 2016, Professors Young and Varner released a comprehensive new study on the effects of state income tax rates on millionaire migration (from which the descriptive demographic analysis above is drawn). This 2016 study analyzes thirteen years of IRS data (1999-2011) for the entire U.S., allowing the researchers to track the residence changes over that period of all U.S. households that reported \$1 million or more in annual income during any of the thirteen years.<sup>21</sup> Using sophisticated statistical techniques, Young and Varner demonstrate that state income tax rates have only a very limited impact on the residence decisions of millionaire households: though a very small number of millionaire households respond to higher state income taxes – either by moving to a lower tax state or by avoiding a move to a higher tax state – such millionaire tax flight occurs “only at the margins of statistical and socioeconomic significance.”<sup>22</sup> Young and Varner estimate that only 2.2 percent of all interstate moves by millionaires have a tax-reduction motivation, a small share of the already small share (2.4 percent) of all millionaires who move, on average, in any given year.<sup>23</sup>

Having demonstrated that millionaires, overwhelmingly, are unwilling to make, out-of-state moves in response to higher state income tax rates, Young and Varner then examine millionaires’ willingness to make shorter, county-to-county and even intra-city moves. The researchers identify a subset of some 880 neighboring county pairs that a) span a state line that creates a state income tax rate differential, and b) “span a plausible commuting zone, where the population centers are no more than 40 miles apart.”<sup>24</sup> Their analysis shows no propensity for millionaires to cluster on the low-tax side of these cross-state commuting zones.<sup>25</sup>

Similarly, the researchers identify 50 U.S. metropolitan areas that span a state line which creates a tax differential from one side of the city to the other. Again, analysis reveals that millionaires do not cluster on the lower tax side of these cities.<sup>26</sup> Finally, the researchers examine the response not merely to different existing tax rates in these cross-border county pairs and metropolitan areas, but the response when the tax differential increases due to changes in the respective state tax rates. Again, as the researchers summarize, “these policy shifts did not lead to observable changes in millionaire population.”<sup>27</sup> In short, not only are

millionaires unwilling, overwhelmingly, to move from one state to another to avoid higher taxes, apparently they likewise are unwilling even to move across town in order to do so.

## Young and Varner's 2016 Study: Specific Estimates

Apart from the more general findings outlined above, Young and Varner also were able to generate specific estimates regarding the impact of state income tax levels on the migration rates of millionaire households. Young and Varner's analysis of IRS data indicate that for each one percentage point increase in the share of millionaire income collected in taxes (also called the "effective tax rate"), there is a corresponding one-quarter of one (0.25) percentage point reduction in the average state's millionaire population (see Technical Notes for more detail).<sup>28</sup> In other words, on average, when the share of their income paid in state income taxes rises by one percentage point, 99.75 percent of a state's millionaires will remain in place. (For a detailed discussion of marginal vs. effective tax rates and their relative impact on millionaire tax migration, see the Technical Notes at the end of this paper.)

It is important to note here that, for a variety of reasons – including the effects of graduated income tax brackets, state-level credits and deductions, and the tax savings resulting from the ability to deduct state income taxes in calculating federal income tax (the so-called "federal offset") – increases in a state's top tax rate produce substantially *smaller* increases in the *effective* tax rate paid by high-income households. As a result, a one percentage point increase in the top marginal tax rate can be expected to produce a millionaire migration response well below the 0.25 percentage point estimate cited above.

For example, for a millionaire with \$2 million of annual taxable income, who is faced with a one percentage point increase in her state's tax rate applied to income above \$1 million (say, an increase from an 8 percent to a 9 percent rate), the actual share of her total income collected in taxes (i.e., her effective tax rate) would increase by only half of one percentage point (say, from 5 percent to about 5.5 percent). This is because, for this millionaire, only half of her income would be taxed at the higher rate (for a more detail explanation, including the further effects of the "federal offset", see the Technical Notes). Using Young and Varner's migration response estimate, this one percentage point increase in the marginal tax rate on high-incomes (from 8 percent to 9 percent) thus would produce an accompanying decline in the state's millionaire population of less than one-eighth of one percent.<sup>29</sup> In other words, about 99.9 percent of millionaires would remain unresponsive to such a rate increase. Given the highly muted response among millionaires to state tax increases, it is not surprising that Young and Varner described the effects of such tax increases as occurring "at the margins of statistical and socioeconomic significance."<sup>30</sup>

## A Tax on Incomes over \$1 Million Would Produce Little Migration from MA

In Massachusetts, a ballot initiative process is underway which, if successful, would create a new tax bracket for taxable income above \$1 million, a threshold that would rise annually with inflation. Proponents of this change have dubbed it the [Fair Share Amendment](#). Income in this

new bracket would be taxed at a rate 4.0 percentage points higher than income below the threshold. If the amendment is approved, the new law would go into effect in January of 2019, by which time the current, uniform state tax rate applied to personal income likely will have dropped to 5.0 percent, meaning that taxable income above \$1 million would be taxed at a rate of 9.0 percent.<sup>31</sup>

In addition to their nationwide estimates, in their 2016 study Young and Varner produced state-specific estimates of tax-induced millionaire migration. For Massachusetts, they estimate a decline of one-third of one percent of the state's millionaire population for each one percentage point increase in the share of income that millionaires pay in taxes (i.e., an increase in their "effective tax rate"). Under the Fair Share Amendment, the average Massachusetts millionaire (which the Massachusetts Department of Revenue estimates will report about \$3.4 million in annual taxable income in 2019,<sup>32</sup> when the amendment would go into effect if approved) would see an increase of 1.9 percentage points in the share of their income paid in taxes. (The four percentage point increase in the top rate (from 5 percent to 9 percent) would apply only to the \$2.4 million of income above the \$1 million threshold. This rate increase would translate into an additional \$96,000 in annual income tax owed. Due to a federal tax deduction for state and local taxes paid, known as the "federal offset", the net increase actually is only about 68 percent of this total, or \$65,300, an amount equal to 1.9 percent of the total \$3.4 million average millionaire income. For a detailed review of how this estimate is produced, see the Technical Note at the end of this report.)

This level of average increase in the effective tax rate would result in a reduction of about two-thirds of one percent (0.63 percent) in the population of Massachusetts filers earning over \$1 million annually.<sup>33</sup> Phrased another way, Young and Varner's analysis indicates that, were the Fair Share Amendment to be approved, some 99.4 percent of the Massachusetts millionaire population would continue to reside in Massachusetts and pay the higher tax amounts.

It is worth noting here that Young and Varner's analysis also shows that "super-elite" millionaires (those with more than \$10 million in annual income) are no more likely to depart in response to tax increases than are other millionaires.<sup>34</sup> While a very small share of millionaires indeed can be expected to depart, these leavers would not be primarily the households with the highest incomes, but instead would be roughly representative of the actual, overall distribution of millionaire households in Massachusetts.

## **A Tax on Income over \$1 Million Would Raise Substantial New Net Revenue**

Not surprisingly, with such a small impact on the total Massachusetts millionaire population, Young and Varner estimate a similarly small accompanying reduction in the amount of new revenue that a tax on incomes over a million dollars would generate. Their analysis indicates that for each one percentage point increase in the share of millionaire household income paid in taxes (their "effective tax rate"), the Commonwealth would be deprived of some \$8.2 million in direct annual tax revenue due to loss of population earning over \$1 million annually.<sup>35</sup> As regards the Fair Share Amendment, with its roughly 1.9 percentage point

increase in the average millionaire's effective tax rate, this suggests that the resulting 0.6 percent decline in millionaire population would produce a loss of about \$16 million in direct annual income tax revenue to the Commonwealth.<sup>36</sup>

In addition to lost income taxes, a reduction in the millionaire population likely would result in the loss of some sales and property tax revenue as well. On average, Massachusetts households with over \$1 million in annual income pay about two percent of their income in sales and property taxes.<sup>37</sup> Again drawing on DOR's estimates for 2019, this suggests that a 0.6 percent reduction in Massachusetts' millionaire population could result in the loss of another \$8 million in annual sales and property taxes in 2019.<sup>38</sup> Assuming all these different revenues indeed would be lost, cities, towns and the Commonwealth together would lose a combined total of some \$24 million in revenue from departing millionaires.

These direct impacts, however, are not *net* effects – the increased taxes paid by the 99.4 percent of millionaires who remain in-state would result in a large increase in net annual tax revenue to the Commonwealth. The Massachusetts Department of Revenue (DOR) has estimated that the Fair Share Amendment would generate between \$1.6 billion and \$2.2 billion in new annual tax revenue (depending largely on state and national economic conditions), with a mid-point estimate of \$1.9 billion. This estimate does not take into account the potential revenue impact of departing millionaires, though it is clear that any such direct losses would be very small in comparison to the expected revenue gains. Adjusting the DOR estimate accordingly, the Commonwealth can anticipate a net gain of some \$1.88 billion in annual revenue were the Fair Share Amendment to be approved, or about 99 percent of DOR's estimated revenue gain.

## Conclusion

The idea that millionaires and other high-income taxpayers are especially sensitive to state tax rates – moving in large numbers from high tax to low tax jurisdictions – is a myth. Extensive empirical evidence and numerous sophisticated statistical studies clearly show that only a small share of high-income households move in response to higher tax rates. As a result, “millionaires taxes” predictably deliver the overwhelming majority – some 99 percent – of their expected net, new revenue.

## Technical Notes

The main body of this paper touches upon a number of technical issues about which some readers may want more information. In the sections below, we provide readers with greater detail on select topics.

### *I. Marginal vs. Effective Tax Rates (and the Impact of the “Federal Offset”)*

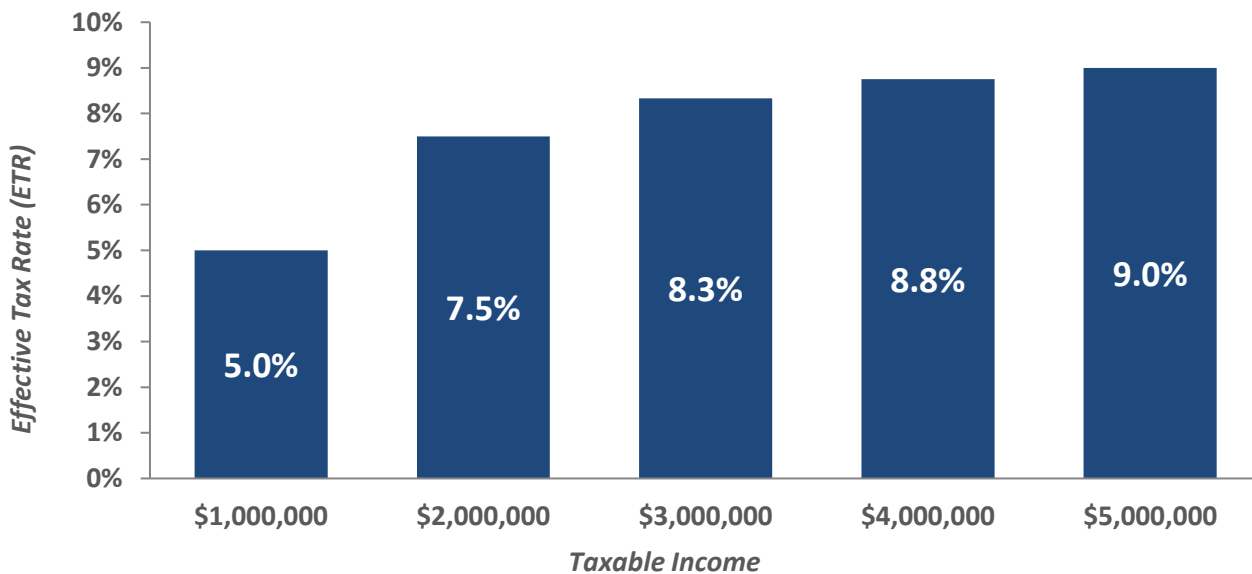
A tax filer's top “marginal” tax rate is not the same thing as her “effective” tax rate. For many households, their effective tax rate is well below their top marginal rate.



While marginal tax rates show the top rate applied to income in each tax bracket, they rarely correspond directly to the overall share of income actually paid in taxes by a filer. Marginal rates do not take into account the impact on overall tax rates of lower rates applied to income in lower tax brackets nor the effects of various credits and deductions. This, instead, is what the effective tax rate reveals: the real share of a taxpayer’s income actually paid in taxes.

Imagine a very simple state tax system, one where all taxable income of \$1 million or less is taxed at 5 percent and all income over \$1 million is taxed at 10 percent. For a filer with one-million-and-one dollars (\$1,000,001) of taxable income, their top marginal rate would be 10 percent. But this top rate would apply only to a single dollar of their income; all the rest of this filer’s taxable income would be taxed at the lower, 5 percent rate. The filer thus would pay \$50,000 of tax or 5 percent of their total income. Accordingly, the effective tax rate for this filer would be 5 percent, a rate only half that of their top marginal rate. For a filer with \$2 million of taxable income, the top marginal rate also would be 10 percent, while the effective tax rate would be 7.5 percent. (This filer would pay \$50,000 of tax on the first million of taxable income and \$100,000 of tax on the second million for a total tax of \$150,000. This total tax amount equals 7.5 percent of the filer’s \$2 million income.) The chart below shows the effective tax rates of filers with various levels of taxable income (under the tax system presented above).

**Chart 2: Effective Tax Rates Are Lower than Top Marginal Rates for High-Income Filers**



Note: Effective tax rates are shown for a two-rate income tax with the first \$1 million in taxable income taxed at 5 percent and all additional income taxed at 10 percent

Another factor – the “federal offset” – reduces still further the effective tax rates that these very high income filers would experience under the state tax system outlined above. The federal offset results from a provision of the federal tax code that allows filers to deduct their state and local income taxes from the income on which they pay federal income tax. This results in a reduction in the amount of income taxable at the federal level – and thus a

reduction in the amount of federal income taxes such filers must pay. The Massachusetts Department of Revenue has estimated that high income Massachusetts filers, on average, pay federal taxes at a combined top marginal rate of about 32 percent (taking into account both tax rates applied to wage and salary income, as well as taxes paid on capital gains and other forms of investment income).<sup>39</sup> This means that federal deductibility offsets roughly a third of the cost of state and local income taxes for most high income filers. Put another way, the federal government reimburses high income filers (through reduced federal tax liability) for about one third (32 percent) of their state and local income tax costs.

How does the federal offset impact effective tax rates with regards to the state tax system presented above? Taking the federal offset into account, the effective state income tax rates of high-income filers would be lower than those presented in Chart 2, above. Indeed, even with the 10 percent top marginal rate in place, for many high-income filers the share of their total income collected in state income tax after accounting for the offset would be lower than the 5 percent marginal rate that would apply to taxable income below the million dollar threshold. Even for filers with annual taxable income of \$5 million, the effective tax rate would be only a bit above 6 percent, taking the federal offset into account.

**Chart 3: Federal Offset Reduces Effective Tax Rates for High-Income Taxpayers**



Note: Effective tax rates are shown for a two-rate income tax with the first \$1 million in taxable income taxed at 5 percent and all additional income taxed at 10 percent

This fact--that higher marginal tax rates often do not translate into similarly high effective tax rates -- helps explain the notable lack of willingness on the part of many millionaire households to relocate in order to avoid state "millionaires taxes." In other words, interstate differences in the amount of state income taxes that millionaires actually pay are not as large

as a superficial comparison of top marginal income tax rates might suggest. As discussed in detail in the body of this paper, recent studies have explored the empirical data on the effects of such taxes on the residency decisions of high-income households and have concluded that the effects are very limited.

## II. *Young & Varner: Migration Estimates and Implied Impacts for Massachusetts*

Looking at a dozen years of nationwide IRS data to gauge the changes in state and local millionaire population totals in response to changes in millionaires' effective tax rates, Professors Young and Varner produced state specific estimates. For Massachusetts, Young and Varner estimate that each 1 percentage point increase in the effective tax rate of the average millionaire would produce a net loss of about one-third of one percent of all Massachusetts millionaires or about 64 millionaires. This net loss includes both "leavers" (those who choose to leave Massachusetts) and "shunners" (those who choose not to move to Massachusetts).

Applying this general estimate to the specifics of the Fair Share Amendment, we can generate a more specific millionaire loss estimate. The average taxable income of Massachusetts millionaires at the time the Fair Share Amendment would go into effect if approved (2019) has been estimated by the Massachusetts Department of Revenue at \$3.4 million.<sup>40</sup> The Fair Share Amendment would apply a 4 percentage point increase in the tax rate on taxable income over \$1 million. For the average millionaire this means an increase of \$96,000 ( $\$2.4 \text{ million} \times 0.04 = \$96,000$ ). This figure, however, does not take into account the effect of a federal deduction known as the "federal offset." The federal offset allows filers who itemize their return (the vast majority of high-income filers do so) to deduct state and local income taxes from their federally taxable income. The Massachusetts Department of Revenue has estimated that for most millionaire filers this federal deduction would reduce the net cost of their state income taxes by about 32 percent.<sup>41</sup>

Factoring this element into the calculation (as must be done to use Young and Varner's estimates correctly), the \$96,000 tax increase becomes a net increase of about \$65,300 ( $\$96,000 \times 0.68 = \$65,300$ ). This in turn translates into a 1.9 percentage point increase in the average millionaire's effective tax rate ( $\$65,300 / \$3,400,000 = 1.9 \text{ percentage points}$ ). Returning to Young and Varner's estimate, we see that, with a 1.9 percentage point increase in the effective tax rate of the average millionaire, the Fair Share Amendment would produce a net decline of about two-thirds of one percent in the millionaire population in Massachusetts ( $1.9 \text{ PP} \times 0.33 \text{ percent of millionaires for each 1 PP increase in effective tax rate} = 0.63 \text{ percent of millionaires}$ ). In other words, with the Fair Share Amendment in place, we should expect that some 99.4 percent of the state's millionaire population would remain in-state and pay the higher taxes associated with the tax rate increase.

## III. *Young & Varner: Methodology*

Cristobal Young & Charles Varner's 2016 study on the impacts of higher state income tax rates on very high-income filers, "Millionaire Migration and the Taxation of the Elite: Evidence from Administrative Data" (American Sociological Review, June 2016), provides a thorough-going

analysis of the best possible, nationwide data. Using Internal Revenue Service (IRS) data for the entire U.S. for the years 1999-2011, the Stanford University professors and their U.S. Treasury Department co-authors (financial economists Ithai Lurie and Richard Prisinzano) are able to track changes in residence location over the full thirteen-year period, by state and county, of every filer with over \$1 million in taxable income in any one of the thirteen years studied. The researchers match this income and residence data with data on state and county income tax rates throughout the same period. They also control for variables other than tax rates that might influence residence decisions, including climate, housing costs, and state economic strength. Building these controls into their statistical model, the researchers are able to examine the residence effects of each of these variables, as well as isolate the effects of tax rates on residency, independent of these other variables. In short, applying a carefully designed statistical model to thirteen years of IRS panel-data, the researchers are able to provide fine-grained, statistically robust, empirically-based conclusions regarding the effects of taxation on the residence decisions of U.S. millionaires.

With this data and approach, Young and Varner are able to examine and draw conclusions about a wide range of important questions, including the degree to which millionaires cluster in lower tax locations and whether or not they move to lower tax destinations in response to tax increases. The IRS data also allow the researchers to describe accurately many of the overall demographic and income characteristics of U.S. millionaires, based on each filer's specifics, including age, marital status, whether they have children, sources of income, year-to-year fluctuations in income, and more. This information helps the researchers better understand which factors are influencing millionaires' residence decisions and the relative importance of each. It also allows the researchers to see which groups of millionaires are most and least responsive to tax rates and how responsive each of these groups is. As noted above, the study design allows the researchers to estimate both the number of "movers" (those who move away) and the number of "shunners" (those who choose not to move into an area) one can expect to see in response to specific levels of tax increase. The researchers also are able to produce estimates of the net revenue impact, by state, associated with a one percentage point increase in the effective tax rate of the average millionaire.

#### *IV. Young & Varner: Nationwide Average Migration Effect*

The overarching conclusion of the Young and Varner study is that while higher effective tax rates do produce a small amount of tax migration by high-income households, these effects are occurring "only at the margins of statistical and socioeconomic significance."<sup>42</sup> Nationwide, on average, for every 1 percentage point increase in millionaires' effective state tax rate, just 23 millionaire filers either move from (or opt not to move to) a state due to tax motivations (out of an average, per state total of some 9,200 such filers). This translates into a nationwide average tax migration loss per 1 percentage point increase in effective state tax rate of one quarter of one percent of millionaire filers (23 movers & shunners/9164 millionaire filers = 0.0025 or 0.25 percent). While a larger number – though still a small share – of millionaires shift residency from one state to another each year (as do a similar share of non-millionaire

taxpayers), Young and Varner’s analysis reveals that, “(l)ittle more than 2 percent of elite migration appears to have an income tax motivation.”<sup>43</sup>

<sup>1</sup> Center on Budget and Policy Priorities, Michael Mazerov, “State Taxes Have Negligible Impact on Americans’ Interstate Moves”, May 2014, pgs. 5 and 19: <http://www.cbpp.org/sites/default/files/atoms/files/5-8-14sfp.pdf>

<sup>2</sup> Institute on Taxation and Economic Policy, *Who Pays? 5<sup>th</sup> Edition*, see Executive Summary: <http://www.itep.org/whopays/>

<sup>3</sup> New World Health, *World Cities: The Wealthiest Cities in The World*, October 2016:

<http://nebula.wsimg.com/5b2eccceaa7737c12f33b6e2b149b7fb?AccessKeyId=70E2D0A589B97BD675FB&disposition=0&alloworigin=1>

Wealth-X, *American Ultra Wealth Ranking 2014-2015*, pgs. 3 and 8: <http://www.wealthx.com/wp-content/uploads/2015/03/American-Ultra-Wealth-Ranking-2014-2015.pdf>

Tax Foundation, *Local Income Tax Rates by Jurisdiction, 2011*: <https://taxfoundation.org/local-income-tax-rates-jurisdiction-2011/>

<sup>4</sup> Internal Revenue Service, *Statistics on Income 2014* (see “Total File, All States”): <https://www.irs.gov/uac/soi-tax-stats-historic-table-2>

Shares of total US millionaire households vs. total US households (2014) for these three states are as follows: CA: 16.1 percent of all millionaires vs. 11.8 percent of all US households; NY: 11.6 percent vs. 6.5 percent; NJ: 4.4 percent vs. 3.0 percent

By contrast, the pattern for Texas and Florida – two large, economically vibrant states that do not levy state income taxes – is quite different. In each case, the share of total U.S. millionaires exceeds the share of total U.S. households, so millionaires also are clustering in these states (TX: 9.5 percent vs. 8.1 percent; FL: 7.3 percent vs. 6.4 percent). But the gap between the two shares is much smaller in TX and FL than in CA, NY and NJ. Millionaires are disproportionately clustering in especially high-tax locations.

<sup>5</sup> Young and Varner, *Millionaire Migration and Taxation of the Elite: Evidence from Administrative Data*, American Sociological Review, June 2016, Vol. 81(3), pg. 427

<sup>6</sup> Young and Varner, *Millionaire Migration and Taxation of the Elite: Evidence from Administrative Data*, American Sociological Review, June 2016, Vol. 81(3), Table 1, pg. 428

<sup>7</sup> Young and Varner, *Millionaire Migration and Taxation of the Elite: Evidence from Administrative Data*, American Sociological Review, June 2016, Vol. 81(3), Table 1, pg. 428

<sup>8</sup> Young and Varner, *Millionaire Migration and Taxation of the Elite: Evidence from Administrative Data*, American Sociological Review, June 2016, Vol. 81(3), Table 1, pg. 428

<sup>9</sup> The one demographic characteristic that pushes millionaires in the opposite direction (toward greater mobility) is age: overall, people below age 65 are much more likely to move than are those over age 65. While more millionaires are below age 65 than in the population as a whole, the differential rates of migration for millionaires by age group are far less pronounced (a rate of 2.2 percent for those over age 65 vs. 2.5 percent for those under age 65)

Young and Varner, *Millionaire Migration and Taxation of the Elite: Evidence from Administrative Data*, American Sociological Review, June 2016, Vol. 81(3), Table 1, pg. 428

<sup>10</sup> Young and Varner, *Millionaire Migration and Taxation of the Elite: Evidence from Administrative Data*, American Sociological Review, June 2016, Vol. 81(3), pgs. 440-441

<sup>11</sup> Young and Varner, *Millionaire Migration and Taxation of the Elite: Evidence from Administrative Data*, American Sociological Review, June 2016, Vol. 81(3), pgs. 440-441

<sup>12</sup> Young and Varner, *Millionaire Migration and Taxation of the Elite: Evidence from Administrative Data*, American Sociological Review, June 2016, Vol. 81(3), pg. 440

<sup>13</sup> Center on Budget and Policy Priorities, Michael Mazerov, “State Taxes Have Negligible Impact on Americans’ Interstate Moves”, May 2014, pg. 25: <http://www.cbpp.org/sites/default/files/atoms/files/5-8-14sfp.pdf>

<sup>14</sup> Center on Budget and Policy Priorities, Michael Mazerov, “State Taxes Have Negligible Impact on Americans’ Interstate Moves”, May 2014, pg. 26: <http://www.cbpp.org/sites/default/files/atoms/files/5-8-14sfp.pdf>

- <sup>15</sup> Center on Budget and Policy Priorities, Michael Mazerov, “State Taxes Have Negligible Impact on Americans’ Interstate Moves”, May 2014, pg. 26: <http://www.cbpp.org/sites/default/files/atoms/files/5-8-14sfp.pdf>
- <sup>16</sup> All summaries drawn from Mazerov’s review of the recent relevant literature. Center on Budget and Policy Priorities, Michael Mazerov, “State Taxes Have Negligible Impact on Americans’ Interstate Moves”, May 2014, Appendix 2, pgs. 30-33: <http://www.cbpp.org/sites/default/files/atoms/files/5-8-14sfp.pdf>
- <sup>17</sup> Center on Budget and Policy Priorities, Michael Mazerov, “State Taxes Have Negligible Impact on Americans’ Interstate Moves”, May 2014, pg. 26: <http://www.cbpp.org/sites/default/files/atoms/files/5-8-14sfp.pdf>  
The remaining two studies found a meaningful association between state income taxes and interstate migration, though one of these two studies – by Cohen, Lai and Steindel (CLS) – was critiqued by Young and Varner, who assert that CLS’s results largely confirm earlier studies showing only very small tax-induced migration effects. See Young and Varner, *Is Millionaire Tax Migration Small Of Very Small? A Response to Cohen, Lai, and Steindel*, Public Finance Review, June 2014: <http://journals.sagepub.com/doi/abs/10.1177/1091142114537896>
- <sup>18</sup> Center on Budget and Policy Priorities, Michael Mazerov, “State Taxes Have Negligible Impact on Americans’ Interstate Moves”, May 2014, pgs.34-35: <http://www.cbpp.org/sites/default/files/atoms/files/5-8-14sfp.pdf>
- <sup>19</sup> Moretti and Wilson, *The Effect of State Taxes on the Geographical Location of Top Earners: Evidence from Star Scientists*, February 2016, pg. 17: <http://www.frbsf.org/economic-research/publications/working-papers/wp2015-06.pdf>
- <sup>20</sup> Moretti and Wilson, *The Effect of State Taxes on the Geographical Location of Top Earners: Evidence from Star Scientists*, February 2016, pg. 3: <http://www.frbsf.org/economic-research/publications/working-papers/wp2015-06.pdf>
- <sup>21</sup> Young and Varner, *Millionaire Migration and Taxation of the Elite: Evidence from Administrative Data*, American Sociological Review, June 2016, Vol. 81(3), pg. 426
- <sup>22</sup> Young and Varner, *Millionaire Migration and Taxation of the Elite: Evidence from Administrative Data*, American Sociological Review, June 2016, Vol. 81(3), see abstract
- <sup>23</sup> Young and Varner, *Millionaire Migration and Taxation of the Elite: Evidence from Administrative Data*, American Sociological Review, June 2016, Vol. 81(3), pg. 435 and Table 1, pg. 428.
- <sup>24</sup> Young and Varner, *Millionaire Migration and Taxation of the Elite: Evidence from Administrative Data*, American Sociological Review, June 2016, Vol. 81(3), pg. 438 (Total number of cross-state county pairs is 1,172 (see page 436),  $1,172 \times 0.75 = 879$  pairs in the subset.)
- <sup>25</sup> Young and Varner, *Millionaire Migration and Taxation of the Elite: Evidence from Administrative Data*, American Sociological Review, June 2016, Vol. 81(3), pg. 438
- <sup>26</sup> Young and Varner, *Millionaire Migration and Taxation of the Elite: Evidence from Administrative Data*, American Sociological Review, June 2016, Vol. 81(3), pg. 438-439
- <sup>27</sup> Young and Varner, *Millionaire Migration and Taxation of the Elite: Evidence from Administrative Data*, American Sociological Review, June 2016, Vol. 81(3), pg. 439
- <sup>28</sup> Young and Varner, *Millionaire Migration and Taxation of the Elite: Evidence from Administrative Data*, American Sociological Review, June 2016, Vol. 81(3), Appendix, Table S3 (23 movers/9,164 millionaires = 0.25 percent)
- <sup>29</sup> If a one percentage point increase in the effective tax rate would cause a quarter of one percent (0.25 PP) decline in the millionaire population, then a half-a-percent increase in the effective tax rate would cause an eighth of one percent (0.125 PP) decline.
- <sup>30</sup> Young and Varner, *Millionaire Migration and Taxation of the Elite: Evidence from Administrative Data*, American Sociological Review, June 2016, Vol. 81(3), see abstract
- <sup>31</sup> Currently in Massachusetts, all taxable income is subject to a single, flat tax rate of 5.10 percent, a rate very likely to drop to 5.0 percent in the next few years in response to an “[automatic rate cut trigger](#).”)
- <sup>32</sup> Massachusetts Department of Revenue, Analysis of Fair Share Amendment, provided to MassBudget upon request
- <sup>33</sup>  $(1.9 \text{ percentage point increase in effective tax rate}) \times (0.33 \text{ percentage point reduction in millionaire population for each 1 percentage point increase in effective tax rate}) = 0.63 \text{ percentage point reduction in millionaire population}$
- <sup>34</sup> Young and Varner, *Millionaire Migration and Taxation of the Elite: Evidence from Administrative Data*, American Sociological Review, June 2016, Vol. 81(3), pg. 433 (See statistically insignificant “Tax Migration Coefficient” for these households among “Economic Status” groups.)

<sup>35</sup> Young and Varner, *Millionaire Migration and Taxation of the Elite: Evidence from Administrative Data*, American Sociological Review, June 2016, Vol. 81(3), Appendix

<sup>36</sup> 1.9 percentage points x \$8.2 million for each percentage point = \$15.6 million

<sup>37</sup> Institute on Taxation and Economic Policy, *Who Pays? 5<sup>th</sup> Edition*, Massachusetts factsheet:

<http://www.itep.org/whopays/states/massachusetts.php>

On average, for the Top 1% of filers, Income Tax = 4.2 percent of household income; Sales Tax = 0.5 percent of household income; and Property Tax = 1.4 percent of household income

<sup>38</sup> DOR estimates that millionaires will generate a total of \$66.756 billion in 2019.

\$66.756 x 0.02 (average share of income paid in sales and property taxes) = \$1.335 billion

\$1.335 billion x 0.006 (reduction in millionaire population) = \$8.0 million loss in sales and property taxes

<sup>39</sup> Massachusetts Department of Revenue, detailed analysis of Fair Share Amendment, provided to MassBudget upon request. See DOR's "Highlights" summary:

[http://massbudget.org/reports/pdf/DOR\\_RUMProposalAnalysis.pdf](http://massbudget.org/reports/pdf/DOR_RUMProposalAnalysis.pdf)

<sup>40</sup> Massachusetts Department of Revenue, detailed analysis of Fair Share Amendment, provided to MassBudget upon request.

<sup>41</sup> Massachusetts Department of Revenue, Analysis of Fair Share Amendment, provided to MassBudget upon request. See DOR's "Highlights" summary:

[http://massbudget.org/reports/pdf/DOR\\_RUMProposalAnalysis.pdf](http://massbudget.org/reports/pdf/DOR_RUMProposalAnalysis.pdf)

<sup>42</sup> Cristobal Young & Charles Varner, *Millionaire Migration and the Taxation of the Elite: Evidence from Administrative Data*, American Sociological Review, June 2016, Vol. 81(3), Abstract and pg. 439

<sup>43</sup> Cristobal Young & Charles Varner, *Millionaire Migration and the Taxation of the Elite: Evidence from Administrative Data*, American Sociological Review, June 2016, Vol. 81(3), Abstract and pg. 435