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ISSUE BRIEF

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State-to-State Taxpayer Migration: Evidence from the IRS

This Issue Brief studies Vermont's state-to-state in and out taxpayer migratory flows alongside the flows of other states using a dataset from the Internal Revenue Service (IRS). By comparing Vermont to other states, particularly in New England, policymakers may be able to identify trends that are specific to Vermont and determine whether policies can be put into place to reverse or facilitate these trends.

This brief covers the five-year period from 2011 to 2016. Over the period, this dataset, which has limitations described on page 2 and throughout this report, shows 43,696 U.S. taxpayers migrated to Vermont and 47,708 left, for a net loss of 4,012 taxpayers (see footnote).¹ The main findings are as follows:

1) Vermont draws 50% of its total in-migrants and nearly 50% of its out-migrants from its three neighboring states and Florida.

- New York (6,907 taxpayers), New Hampshire (6,053), and Massachusetts (5,579) are significant sources of in-migration for Vermont. Surprisingly, Florida (3,161) is the fourth greatest source of in-migration (Table 1).
- New Hampshire (6,317), New York (5,752), Massachusetts (5,246), and Florida (4,930) are Vermont's primary out-migration destinations. Unlike origins of in-migrants, the top 10 destinations of Vermont taxpayers are less concentrated in the Northeast, with California, North Carolina, Colorado, and Texas drawing 6,893 taxpayers from Vermont (14% of total out-migration) (Table 2).

2) On net, Vermont gains taxpayers from New York, Connecticut, New Jersey, and Massachusetts. It loses the most taxpayers to select states in the Sun Belt, Colorado, and states on the West Coast.

- Vermont gained 1,483 taxpayers, on net, from New England states and New York, driven by gains from New York (1,155 taxpayers), Connecticut (700), and Massachusetts (333). Additionally, Vermont drew in taxpayers from New Jersey (534) and Pennsylvania (228) (Figure 2).
- On net, Florida, by a wide margin, drew in the most Vermont taxpayers (1,769 taxpayers). Other states in the Sun Belt such as North Carolina, South Carolina, Georgia, Texas, and Arizona drew an additional 1,915 Vermont taxpayers (Table 9). However, as a percentage of total tax returns, Vermont's loss to these states is below average compared to other New England states (Table 10).
- Vermont lost 1,505 taxpayers on net to Colorado, California, Washington, and Oregon. As a percentage of returns, Vermont's losses to Washington, Oregon, and Colorado are nearly double the average of other New England States (Table 11).

3) This data shows only a weak linkage between differences in state tax burdens and net migration for the population as whole.

- Net migratory flows between states appear to be only weakly associated with differences in state tax burdens. For example, although most of Vermont's net loss in taxpayers is to states with lower tax burdens, states with lower overall tax burdens than Vermont, such as New Hampshire and Maine, lose more taxpayers to Florida as a percentage of tax returns.
- This conclusion appears to agree with the bulk of academic literature on migration and tax burdens.
- Different populations such as higher-income or older taxpayers may be more sensitive to differences in tax burden. However, this dataset does not allow for an analysis of individual subsets of the taxpayer population.

¹ This number is slightly below the 4,167 in JFO's previous Issue Brief on taxpayer migration. This number does not include migrants from foreign countries and may also be due to issues matching migrant returns to destinations.

I. IRS State-to-State Migration Database

This analysis relies on public data released by the IRS.² This data includes two datasets on state migration: one covering state migration by age and income groups and another covering state-to-state migratory flows. This Issue Brief makes use of the second dataset.³

The dataset tracks migration of taxpayers using address changes on their Federal personal income tax returns. For example, if a taxpayer reported a Vermont address on their Federal return in 2015 but then reported a New York address on their 2016 return, this dataset records that taxpayer as having moved out of Vermont from 2015 to 2016. The dataset aggregates all address changes for every state. It contains only individuals who filed a tax return and follows them over two-year periods. This analysis includes five two-year periods for returns filed in the years 2011 through 2016.

The years for the dataset are based upon when the taxpayer files their tax return, which is usually between January and April 15 of a given year.⁴ For example, for any taxpayers that moved in the 2015 to 2016 period, it would indicate that their address was in one state during the January to April 2015 period (whenever they filed their return) and a different address during the January to April 2016 period.

This analysis largely focuses on the movement of taxpayers, not aggregate taxable income flows.

While the dataset does include information about the flow of aggregate income across states, this measure of income flows is based upon the income of taxpayers in the year of the move which contains several interpretational difficulties. These difficulties are discussed in the Appendix of JFO's previous Issue Brief on taxpayer migration (see footnote).

This dataset solely contains information about taxpayer migration across states. It does not give any information about the types of taxpayers (age, income) that move. For instance, this dataset informs about the number of taxpayers who moved from Vermont to New York in any given year. It does not, however, give any information on whether those taxpayers were young or old or high-income or low-income.

It is important to add that migration during the period 2011 to 2016 was influenced significantly by the aftermath of the Great Recession. In particular, home values had dropped notably during the Great Recession and remained largely stagnant, causing many households to postpone plans to change jobs or move to a new state. Through 2016, the final year examined in this brief, no state in New England had yet fully recovered from the fall in real estate prices.⁵ **Data for a more recent period less influenced by the Great Recession or a full real estate cycle (2003 to 2016) could show different outcomes than those in this brief. Furthermore, demographic trends in Vermont could exacerbate or rapidly change the findings of this brief within a few years.** Cross referencing this data with U.S. Census Bureau data on migration shows that the 2011 to 2016 study period could have been an especially slow period for Vermont migration (Figure 1).

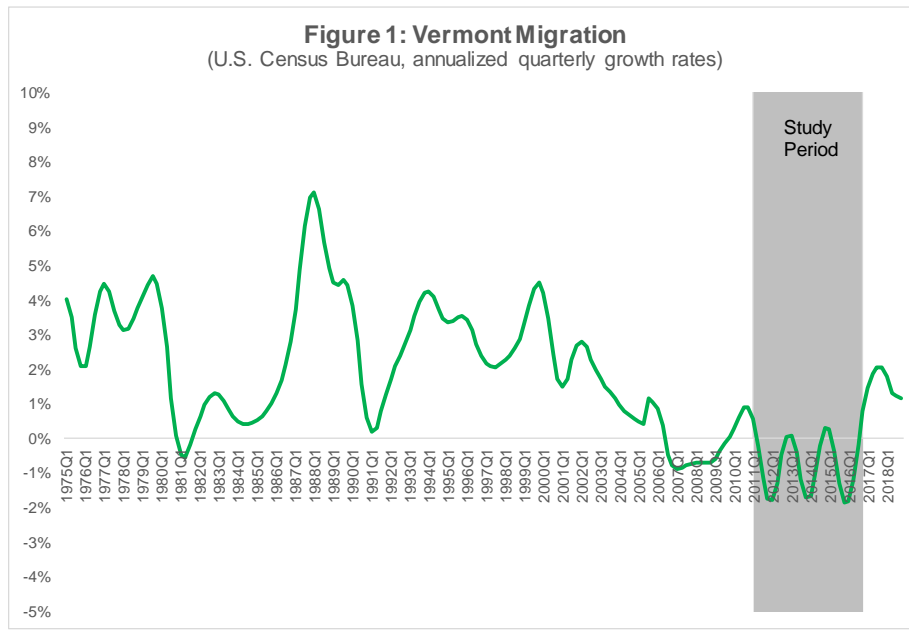
² U.S. Population Migration Data. Internal Revenue Service, Tax Statistics. <https://www.irs.gov/statistics/soi-tax-stats-migration-data>.

³ See JFO's Issue Brief "Taxpayer Migration by Age and Income: Evidence from the IRS" released August 2019 for findings on the first database. <https://ljfo.vermont.gov/assets/Publications/Issue-Briefs/3bed2c98d0/Age-and-Income-Issue-Brief-Final.pdf>

⁴ Some tax filers file an extension which allows them to file their tax return later in the year.

⁵ July 2016 Consensus Revenue Forecast, page 21.

https://ljfo.vermont.gov/assets/docs/state_forecasts/c751359237/2016-07-July-Forecast.pdf



Tax changes as part of the Tax Cuts and Jobs Act (TCJA) of 2017, namely the limitation of the state and local tax deduction, may also have migratory impacts in the near term that are not covered in this brief.

II. Major Findings

A) Vermont draws 50% of its total in-migrants and nearly 50% of its out-migrants from its three neighboring states and Florida.

From 2011 to 2016, 43,696 U.S. taxpayers migrated to Vermont and 47,708 left, for a net loss of 4,012 taxpayers. **While this is a net outflow from Vermont's taxpayer base, it does not mean the state has seen declining numbers of tax returns, as individuals who enter the labor force or take new jobs are continually added.**

With respect to in-migrants, Vermont draws mainly from states in the Northeast. The top three origins are New York, New Hampshire, and Massachusetts, which account for 42% of total in-migrants. Florida is Vermont's fourth most important source of in-migrants, while California is sixth (Table 1).

Like in-migration, New Hampshire, New York, Massachusetts, and Florida occupy the top states for out-migrants. However, the destinations for Vermont's out-migrants are more geographically diverse. Only five of the top ten destinations are in the Northeast. Florida, which accounts for 7% of in-migration, accounts for 10% of out-migration. California, North Carolina, Texas, and Colorado are also important destinations for Vermont migrants, combining for 14% of total out-migration (Table 2).

| | Total In-Migrants | Percent of Total In-Migration |
|---------------|--------------------------|--------------------------------------|
| New York | 6,907 | 16% |
| New Hampshire | 6,053 | 14% |
| Massachusetts | 5,579 | 13% |
| Florida | 3,161 | 7% |
| Connecticut | 2,294 | 5% |
| California | 1,897 | 4% |
| Pennsylvania | 1,432 | 3% |
| New Jersey | 1,375 | 3% |
| Maine | 1,227 | 3% |
| Virginia | 1,065 | 2% |
| Others | 12,706 | 29% |
| Total | 43,696 | 100% |

| | Total Out-Migrants | Percent of Total Out-Migration |
|----------------|---------------------------|---------------------------------------|
| New Hampshire | 6,317 | 13% |
| New York | 5,752 | 12% |
| Massachusetts | 5,246 | 11% |
| Florida | 4,930 | 10% |
| California | 2,344 | 5% |
| North Carolina | 1,858 | 4% |
| Maine | 1,663 | 3% |
| Connecticut | 1,594 | 3% |
| Colorado | 1,430 | 3% |
| Texas | 1,261 | 3% |
| Others | 15,313 | 32% |
| Total | 47,708 | 100% |

Vermont's relatively geographically diverse migration profile is similar to that of Maine and Massachusetts, with the three states sharing roughly the same top 10 origin and destination states, in different orders. The top 10 origin and destination states also account for roughly 70% of total in-and out-migration for Vermont, Maine, and Massachusetts. Conversely, New Hampshire relies heavily on Massachusetts for its in-migration, and the top 10 states account for roughly 75% of total migration (Table 4).

| New Hampshire | | | Maine | | | Massachusetts | | |
|----------------------|---------------------|----------------------|----------------|---------------------|----------------------|----------------------|---------------------|----------------------|
| | In-Migration | Out-Migration | | In-Migration | Out-Migration | | In-Migration | Out-Migration |
| Massachusetts | 36.1% | 27.9% | Massachusetts | 16.4% | 12.1% | New York | 13.0% | 10.5% |
| Maine | 8.3% | 9.2% | New Hampshire | 13.9% | 12.8% | Florida | 10.3% | 13.0% |
| Florida | 7.8% | 11.8% | Florida | 10.7% | 15.8% | New Hampshire | 9.1% | 10.7% |
| Vermont | 6.0% | 5.9% | New York | 7.2% | 5.3% | Connecticut | 7.6% | 5.4% |
| New York | 5.6% | 4.5% | Connecticut | 4.7% | 2.8% | California | 7.4% | 9.7% |
| Connecticut | 3.4% | 2.3% | California | 4.5% | 4.8% | Rhode Island | 6.9% | 5.8% |
| California | 3.4% | 4.4% | Texas | 3.3% | 4.1% | New Jersey | 4.2% | 2.8% |
| Texas | 2.5% | 3.5% | Pennsylvania | 3.3% | 2.6% | Pennsylvania | 3.8% | 2.9% |
| Pennsylvania | 2.0% | 1.8% | Virginia | 3.2% | 3.1% | Texas | 3.6% | 4.4% |
| Virginia | 2.0% | 2.2% | North Carolina | 2.8% | 3.7% | Virginia | 2.8% | 2.7% |
| Others | 22.7% | 26.4% | Others | 30.2% | 32.9% | Others | 31.5% | 32.3% |

Over the past five years, the origins of Vermont's in-migrants have shifted. An increasing share of in-migrants are coming from Northeast states, largely at the expense of Southern and Midwestern states (Table 5). The destinations of Vermont's out-migrants stayed relatively constant over the five-year period (Table 6).

| | 2011-2012 | 2012-2013 | 2013-2014 | 2014-2015 | 2015-2016 |
|------------------|------------------|------------------|------------------|------------------|------------------|
| Northeast | 56.5% | 56.9% | 58.5% | 60.5% | 60.0% |
| Midwest | 7.1% | 7.1% | 6.4% | 6.3% | 6.5% |
| South | 23.2% | 22.6% | 21.9% | 20.7% | 19.9% |
| West | 13.2% | 13.4% | 13.3% | 12.5% | 13.6% |

Note: Geographic regions are defined by U.S. Census Bureau

| | 2011-2012 | 2012-2013 | 2013-2014 | 2014-2015 | 2015-2016 |
|------------------|------------------|------------------|------------------|------------------|------------------|
| Northeast | 48.6% | 49.3% | 48.5% | 49.1% | 48.5% |
| Midwest | 7.3% | 6.8% | 7.0% | 5.3% | 6.0% |
| South | 28.5% | 27.5% | 27.7% | 28.1% | 29.2% |
| West | 15.7% | 16.4% | 16.8% | 17.5% | 16.3% |

Note: Geographic regions are defined by U.S. Census Bureau

Another measure of population migration is the number of exemptions that move from one state to another. An exemption is defined as a taxpayer, their spouse, or any dependents. For example, if a taxpayer was married and had two children and moved to New York, this dataset would record four individuals as moving to New

York, as opposed to only one tax return/taxpayer. This does not necessarily mean all exemptions reside in Vermont. For example, a taxpayer in Vermont might include a child in college as a dependent on their return even though the child may be attending college out-of-state.

Over the five-year period, a total of 69,573 exemptions have moved to Vermont while 75,427 have left for a net loss of 5,824 exemptions. The top ten origin and destination states for exemptions are largely the same as they are for tax returns. However, for out-migration of exemptions, Florida and Virginia are greater sources of out-migration (Tables 7 and 8).

Examining the exemptions per return for the origin and destination states reveals some interesting patterns. Generally, a higher number for exemptions per return would indicate larger families moving to or from Vermont. Table 7 shows that in-migrants to Vermont from the Northeast tend to bring smaller families, while in-migrants from elsewhere tend to be larger. For out-migrants (Table 8), the data are more mixed. New Hampshire, North Carolina, Texas, and Florida tend to draw larger families from Vermont, while out-migrants to Massachusetts, California, and Connecticut draw smaller families.

| | Total In-Migrants | Percent of Total In-Migration | Exemptions per return |
|---------------|-------------------|-------------------------------|-----------------------|
| New York | 10,566 | 15% | 1.53 |
| New Hampshire | 9,764 | 14% | 1.61 |
| Massachusetts | 8,407 | 12% | 1.51 |
| Florida | 4,968 | 7% | 1.57 |
| Connecticut | 3,565 | 5% | 1.55 |
| California | 2,892 | 4% | 1.52 |
| Pennsylvania | 2,276 | 3% | 1.59 |
| New Jersey | 2,231 | 3% | 1.62 |
| Maine | 1,949 | 3% | 1.59 |
| Virginia | 1,921 | 3% | 1.80 |
| Others | 21,034 | 30% | 1.66 |
| Total | 69,573 | 100% | 1.59 |

| | Total Out-Migrants | Percent of Total Out-Migration | Exemptions per return |
|----------------|--------------------|--------------------------------|-----------------------|
| New Hampshire | 10,273 | 14% | 1.63 |
| New York | 8,778 | 12% | 1.53 |
| Florida | 8,277 | 11% | 1.68 |
| Massachusetts | 7,407 | 10% | 1.41 |
| California | 3,286 | 4% | 1.40 |
| North Carolina | 3,278 | 4% | 1.76 |
| Maine | 2,643 | 4% | 1.59 |
| Connecticut | 2,438 | 3% | 1.53 |
| Texas | 2,201 | 3% | 1.75 |
| Virginia | 2,189 | 3% | 1.74 |
| Others | 24,657 | 33% | 1.59 |
| Total | 75,427 | 100% | 1.58 |

B) On net, Vermont gains taxpayers from New York, Connecticut, New Jersey, and Massachusetts. It loses the most taxpayers to select states in the Sun Belt, Colorado, and states on the West Coast.

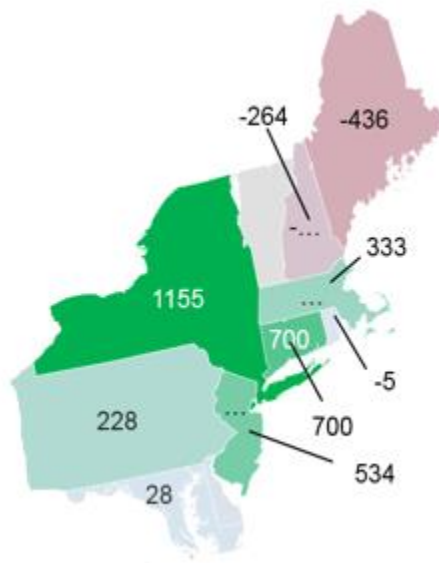
On net, Vermont has lost 4,012 taxpayers to U.S. migration over the five-year period. Vermont has seen a positive net inflow of taxpayers from six states and a net outflow from 44 states. Table 9 lists the top states for Vermont net in-and out-migration.

| Table 9: Origins and Destinations of Vermont's Top Net Migration States | | | |
|---|-------|-------------------|--------|
| Net In-Migration | | Net Out-Migration | |
| New York | 1,155 | Florida | -1,769 |
| Connecticut | 700 | North Carolina | -796 |
| New Jersey | 534 | Colorado | -503 |
| Massachusetts | 333 | California | -447 |
| Pennsylvania | 228 | South Carolina | -445 |
| Maryland | 28 | Maine | -436 |
| Arkansas | 12 | New Hampshire | -264 |
| | | Oregon | -253 |
| | | Texas | -253 |

In general, Vermont receives net in-migrants from its southern New England neighbors. Vermont draws the most net taxpayers from New York (1,155 taxpayers), followed by Connecticut (700), New Jersey (534), and Massachusetts (333). Vermont has also netted taxpayers from Pennsylvania (228) and Maryland (28) over the five-year period.

Those Northeast gains were partially offset by losses to New Hampshire (-264) and Maine (-436) and, to a lesser extent, Rhode Island (-5). Figure 2 shows Vermont's net migration position in the Northeast.

Figure 2: Vermont Net-Migration for the Northeast (Cumulative, 2011 to 2016)

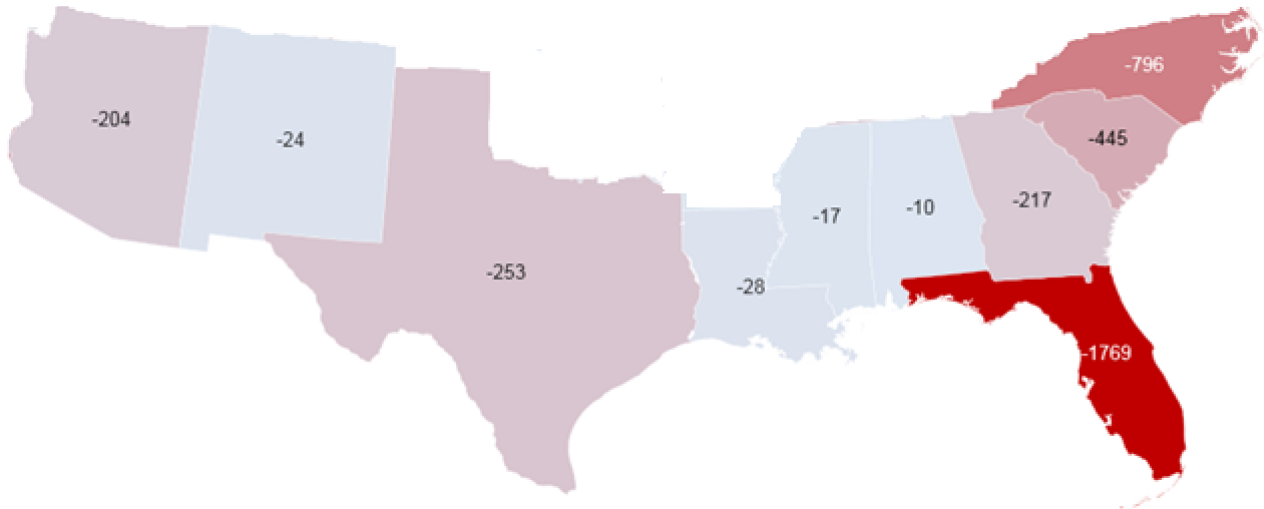


With respect to net out-migration, Vermont's net migration position is negative with 44 states. With 25 of these 44 states, Vermont's net position is a loss of 50 taxpayers or fewer and is largely concentrated over large

swathes of the Midwest. The vast majority of net out-migration of taxpayers occurs in three geographic areas: select states in the Sun Belt, the West Coast and Colorado.

Six states in the Sun Belt⁶ (North Carolina, South Carolina, Georgia, Florida, Texas, and Arizona) account for a net loss of 3,684 Vermont migrant taxpayers (Figure 3).

Figure 3: Vermont Net-Migration to Assorted Sun Belt States (Cumulative, 2011 to 2016)



Migration to these Sun Belt states is not a Vermont-specific trend. Every New England state has seen significant net out-migration to these states, and half to a worse degree than Vermont. Table 8 compares states' net out-migration to these six states as a percentage of their total taxpayers⁷. Vermont has seen net out-migration equivalent to 1.38% of its total taxpayers. This is less than average for all New England states and Pennsylvania.

| | Vermont | New Hampshire | Maine | New York | Connecticut | Rhode Island | Pennsylvania |
|----------------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|
| Arizona | -0.08% | -0.05% | -0.05% | -0.06% | -0.09% | -0.05% | -0.06% |
| Florida | -0.66% | -0.72% | -0.69% | -0.82% | -1.22% | -1.02% | -0.54% |
| Georgia | -0.08% | -0.04% | -0.06% | -0.15% | -0.17% | -0.10% | -0.08% |
| North Carolina | -0.30% | -0.23% | -0.12% | -0.30% | -0.36% | -0.17% | -0.17% |
| South Carolina | -0.17% | -0.15% | -0.10% | -0.12% | -0.24% | -0.10% | -0.13% |
| Texas | -0.10% | -0.18% | -0.11% | -0.27% | -0.26% | -0.20% | -0.19% |
| Total Sunbelt | -1.38% | -1.37% | -1.13% | -1.73% | -2.32% | -1.65% | -1.17% |

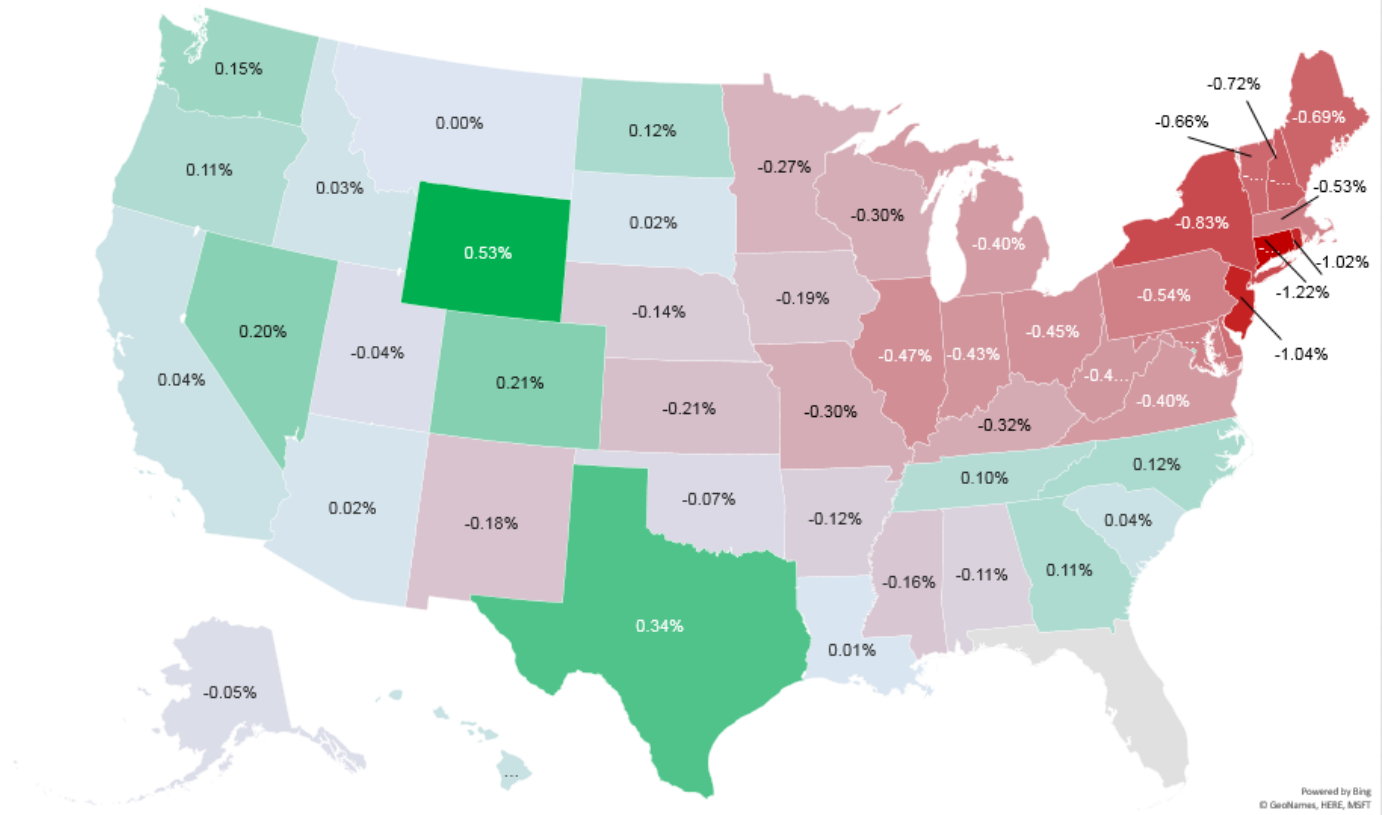
Vermont, on net, loses taxpayers most to Florida: 1,769 taxpayers, double the next highest destination state. This is certainly not a Vermont-specific trend. 30 other states had a negative net out-migration position with Florida. For 20 of these states, Florida was the number one destination for net out-migration. This said, Florida tends to draw taxpayers from Northeast states at a greater rate. Looking at other New England states, as a

⁶ Defined generally as North Carolina, South Carolina, Georgia, Florida, Alabama, Arkansas, Mississippi, Louisiana, Texas, Arizona, and New Mexico.

⁷ The methodology for this calculation is as follows. For each year, net migration is divided by the total number of returns for that year. This is done for all five years in the dataset. All years are then summed to get a percentage over the five-year period.

percentage of total tax returns, Vermont’s net out-migration to Florida is the lowest of any New England state except Massachusetts.⁸

Figure 4: State Net Migration Positions with Florida
(as a percentage of total tax returns, cumulative 2011 to 2016)



The second region to which Vermont loses taxpayers is the West Coast. Between California, Oregon, and Washington, Vermont saw net out-migration of 1,002 taxpayers. While losing taxpayers to states in the Sun Belt was not a Vermont-specific trend, Vermont’s taxpayer loss to the Pacific Northwest is unique amongst other New England states. Vermont loses taxpayers to Oregon and Washington at more than double the rate of other New England states as a percentage of total taxpayers (Table 11).

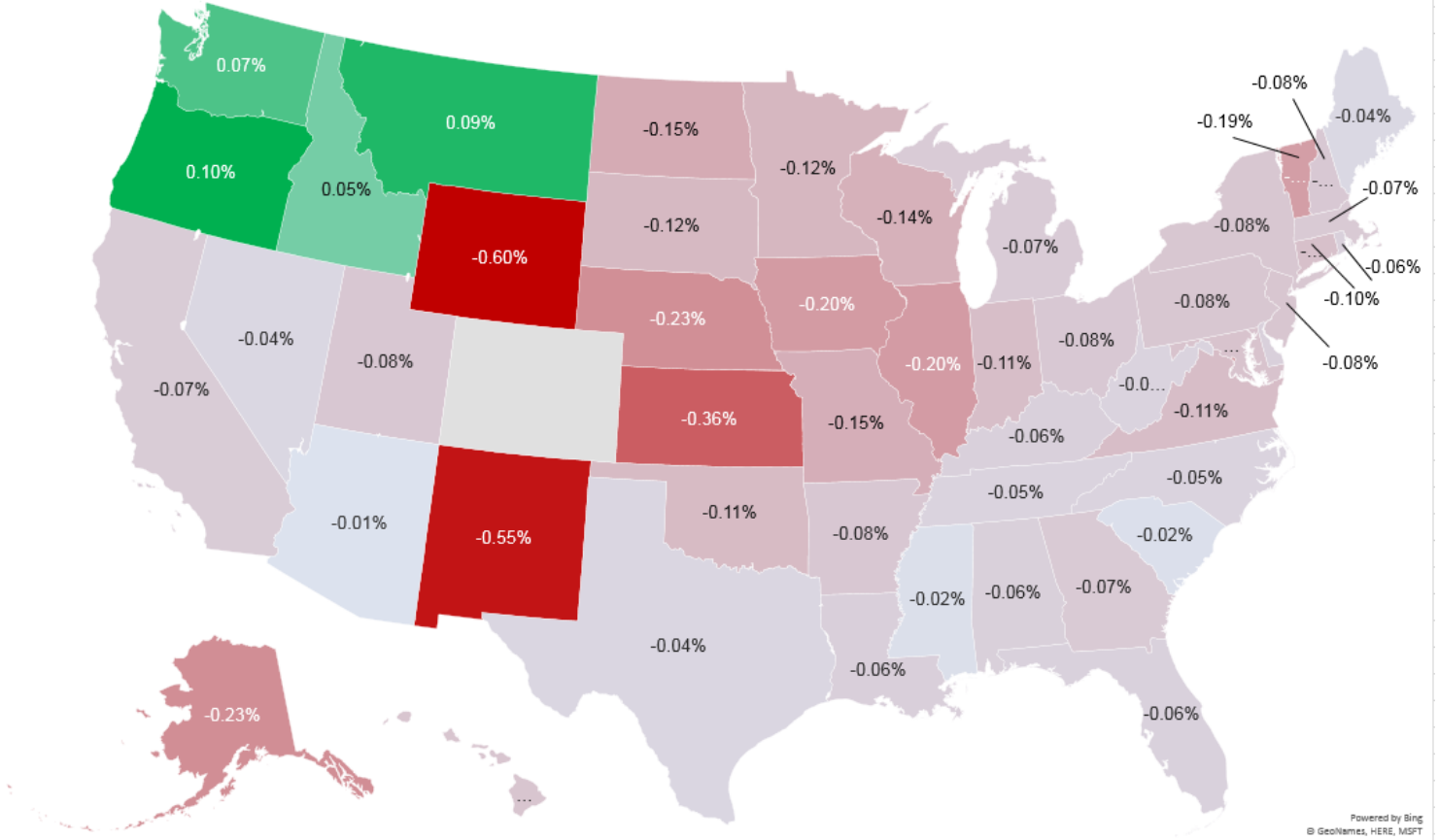
| Table 11: Net Migration to the West Coast and Colorado from Select States (as a percentage of total returns, cumulative 2011 to 2016) | | | | | | | |
|--|---------------|---------------|---------------|---------------|---------------|---------------|---------------|
| | Vermont | New Hampshire | Maine | New York | Connecticut | Rhode Island | Pennsylvania |
| California | -0.17% | -0.18% | -0.04% | -0.32% | -0.33% | -0.21% | -0.18% |
| Oregon | -0.09% | -0.05% | -0.03% | -0.03% | -0.03% | -0.04% | -0.03% |
| Washington | -0.11% | -0.07% | -0.04% | -0.05% | -0.08% | -0.04% | -0.05% |
| Colorado | -0.19% | -0.08% | -0.04% | -0.08% | -0.10% | -0.06% | -0.08% |
| Total West Coast | -0.57% | -0.37% | -0.15% | -0.48% | -0.54% | -0.35% | -0.34% |

Finally, Vermont’s net out-migration position with Colorado is striking relative to its regional peers. Overall, Colorado has seen significant net in-migration. It has gained 92,393 taxpayers over the five-year period, which is, as a percentage of returns, the strongest net in-migration position in the country. Vermonters appear to have an affinity for Colorado. On net, 503 taxpayers left Vermont for Colorado, equal to 0.038% of Vermont tax

⁸ There is some evidence in this database that New England (and many other states) out-migrants to Florida have higher incomes than the in-migrants, notwithstanding the issues with using measures of AGI in this database.

returns per year (0.19% cumulatively over the five-year period). As a percentage of returns, this is nearly double the rate of the next New England state (Connecticut), and almost three times the New England average of 0.014% of returns per year (0.07% cumulatively) (Figure 5).

Figure 5: State Net Migration Positions with Colorado
(as a percentage of total tax returns, cumulative 2011 to 2016)



C) This data shows a very weak linkage between differences in state tax burdens and net migration.

U.S. taxpayers are free to move from one state to another with limited barriers put in place by individual state governments. In theory, one potential reason to move from one state to another is large differences between state tax burdens. Higher tax burdens raise the cost of living in one state so a taxpayer may choose to move to a state with a lower tax burden. This theory is hotly debated in Vermont⁹ and across the country¹⁰.

Taxpayers may move for any number of reasons. Much of the academic literature on migration has tended to find that other variables, namely distance, housing costs, weather, and overall economic conditions are more significant drivers of migration than differentials in tax burdens.

Because this dataset shows state to state migration, JFO can analyze whether there is some association between migration and tax burdens. **This Issue Brief does not attempt to establish a causal link between these two variables.**

For this study, two measures of tax burden are used¹¹: State and Local Tax Burden Rankings for FY 2012 from the Tax Foundation¹² and the Institute for Taxation and Economic Policy’s (ITEP) “Who Pays?” Study for FY 2015.¹³ Details on these two measures and their differences can be found in the Appendix.

At first glance, it appears as though the top states for Vermont net out-migration tend to have lower overall tax burdens. With the exceptions of California and Oregon, Vermont tended to lose taxpayers to states with lower overall tax burdens (Table 12).

| | Net Taxpayer Out-Migration | Tax Burdens | | Difference in Tax Burdens with Vermont (Negative = Vermont has higher tax burden) | |
|----------------|----------------------------|----------------|-----------------|---|-----------------|
| | | Tax Foundation | ITEP Middle 20% | Tax Foundation | ITEP Middle 20% |
| Florida | -1,769 | 8.9% | 8.5% | -1.4% | -2.0% |
| North Carolina | -796 | 9.8% | 9.2% | -0.5% | -1.3% |
| Colorado | -503 | 8.9% | 8.1% | -1.4% | -2.4% |
| California | -447 | 10.9% | 8.2% | 0.6% | -2.3% |
| South Carolina | -445 | 8.4% | 7.6% | -1.9% | -2.9% |
| Maine | -436 | 10.2% | 9.4% | -0.1% | -1.2% |
| Washington | -302 | 9.3% | 10.1% | -1.0% | -0.4% |
| New Hampshire | -264 | 7.9% | 6.6% | -2.4% | -3.9% |
| Oregon | -253 | 10.3% | 7.6% | 0.0% | -2.9% |
| Texas | -253 | 7.6% | 8.7% | -2.7% | -1.8% |
| Vermont | ... | 10.3% | 10.5% | ... | ... |

⁹ Pelletier, John. “Is Vermont exporting maple syrup and wealthy taxpayers?” Vermont Business Magazine. 28 March 2019. <https://vermontbiz.com/news/2019/march/28/pelletier-vermont-exporting-maple-syrup-and-wealthy-taxpayers>

¹⁰ “Americans Are Migrating In Drove To Low-Tax States.” Investors Business Daily. 20 April 2018. <https://www.investors.com/politics/editorials/state-taxes-american-migrating-to-low-tax-states/>

¹¹ In this brief, tax burden is defined generally as a measure of the total amount of tax liability as a percentage of total income. In most studies of tax burden, tax liability is the sum of total property, personal income, and consumption taxes (sales tax, motor vehicle taxes, tobacco taxes). Indirect taxes on the individual, such as corporate income or insurance premium taxes, are generally not considered as part of the individual tax burden.

¹² <https://taxfoundation.org/publications/state-local-tax-burden-rankings/>

¹³ <https://itep.org/whopays/>

Furthermore, Vermont net in-migration tended to come from states with higher overall tax burdens than Vermont (Table 13), although the relationship is not as strong as for the net out-migration states in Table 10.

| Table 13: Vermont Net In-Migration and Differences in Tax Burden | | | | | |
|--|----------------------------|----------------|-----------------|--|-----------------|
| | | Tax Burdens | | (Negative = Vermont has higher tax burden) | |
| | Net Taxpayer Out-Migration | Tax Foundation | ITEP Middle 20% | Tax Foundation | ITEP Middle 20% |
| New York | 1,155 | 12.7% | 12.0% | 2.4% | 1.5% |
| Connecticut | 700 | 12.6% | 10.7% | 2.3% | 0.2% |
| New Jersey | 534 | 12.2% | 9.1% | 1.9% | -1.4% |
| Massachusetts | 333 | 10.3% | 9.3% | 0.0% | -1.2% |
| Pennsylvania | 228 | 10.2% | 10.3% | -0.1% | -0.2% |
| Vermont | ... | 10.3% | 10.5% | ... | ... |

However, only focusing on Vermont’s migration does not definitively establish a meaningful relationship between differences in tax burdens and state migration. If there were a relationship, unless Vermonters have a specific displeasure of taxes, a relationship would need to exist for all states. In other words, out-migrants from high tax-burden states would need to consistently be moving to low tax-burden states. **After analyzing the data from this dataset, this relationship appears to be very weak.**

Because the IRS database has migration information for all states, JFO can analyze if such a consistent pattern exists. To do this, JFO took the following steps:

1. *Create state-to-state migratory pairs:* An example of a pair would be Vermont-Florida or Vermont-Massachusetts. This allows JFO to analyze net migration between the home state (called State A) and the destination state (State B). Each state has 50 state pairs (all states plus D.C.), for a total of 2,550 pairs in the dataset.
2. *Classify all net migration as a percentage of total returns:* To compare across states, all absolute net migration between two states in a pair was converted to a percentage of returns for State A.
3. *Calculate net migration between state pairs:* If State A saw net out-migration of taxpayers to State B, the relationship would be negative and vice versa if State A saw net in-migration from State B.
4. *Calculate the difference in tax burdens between state pairs:* This was done by subtracting the total tax burden of State B from State A. If the relationship was positive, it meant State A had a higher overall tax burden than State B.

To examine whether there was a consistent correlation between net migration and differences in tax burdens for all 2,500 state pairs in the dataset, JFO plotted all state pairs graphically and performed a basic linear regression.¹⁴

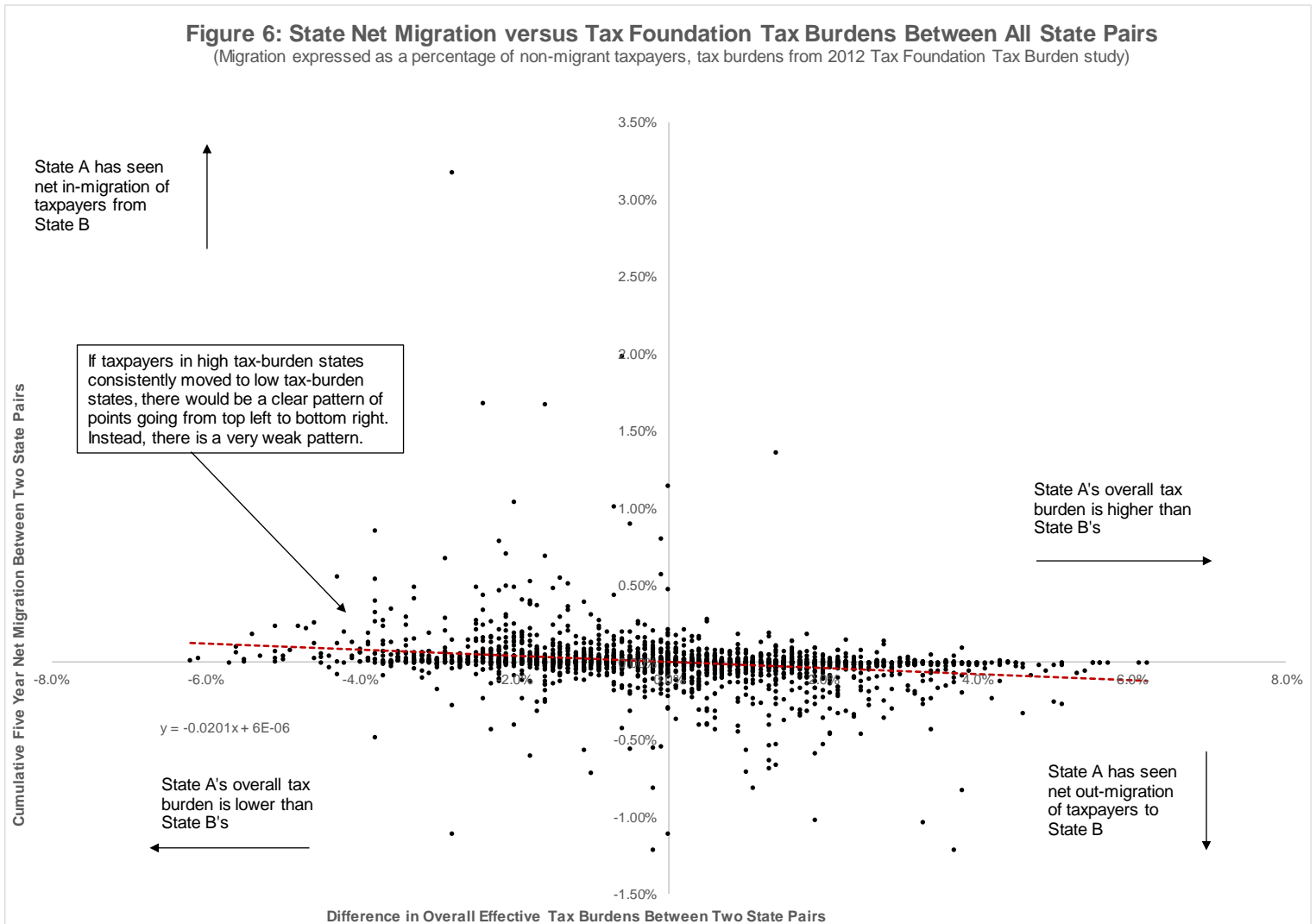
Figures 6 and 7 are scatter plots showing each state pair in the dataset. Along the y-axis is the difference in migration between state pairs. If the pairing was positive, it meant that State A saw net in-migration from State B. Along the x-axis is the difference in tax burdens. If the relationship was positive, then State A had a higher tax burden than State B. Figure 6 uses tax burdens from the Tax Foundation, and Figure 7 uses tax burdens from ITEP.

If higher tax burdens caused greater net out-migration to low tax-burden states, one would expect to see a clear pattern of points going from top left to bottom right of Figures 6 and 7. The results from the analysis show only a very modest relationship: the data suggest that a 1 percentage point greater tax

¹⁴ Net-migration as the dependent variable and differences in tax burden as the independent variable.

burden¹⁵ is associated with net out-migration of between 0.011 and 0.02 percentage points.¹⁶ Again, these numbers should not be interpreted as causal relationships between migration and tax burdens. Rather, they are evidence that if there is an association between these variables, it is likely a very weak one.

Figure 6: State Net Migration versus Tax Foundation Tax Burdens Between All State Pairs
 (Migration expressed as a percentage of non-migrant taxpayers, tax burdens from 2012 Tax Foundation Tax Burden study)

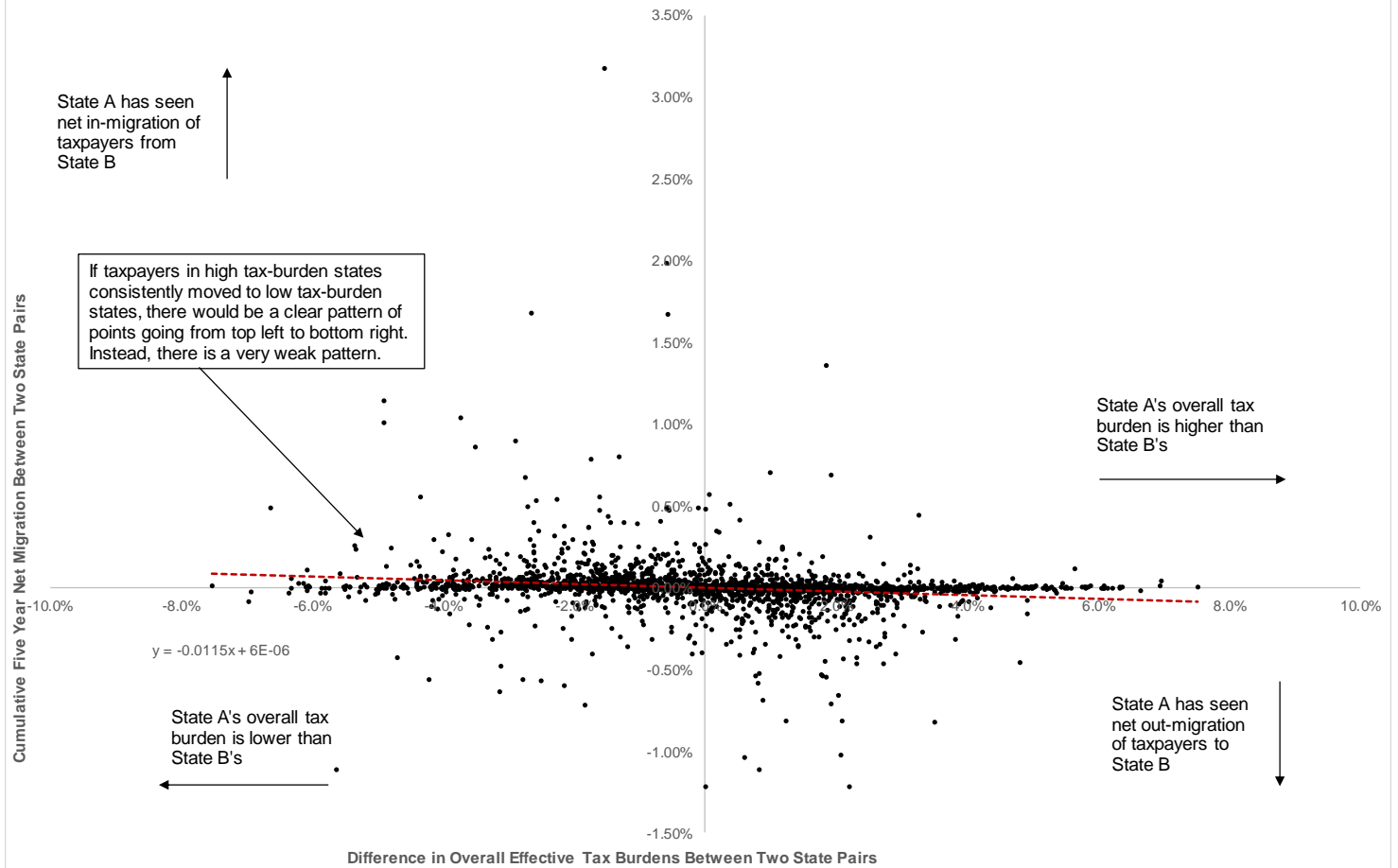


¹⁵ For reference, a 1% difference in tax burdens between states is significant: nearly one full standard deviation.

¹⁶ Both results are statistically significant at the 5% level. Statistics can be found in the Appendix.

Figure 7: State Net Migration versus ITEP Tax Burdens Between All State Pairs

(Migration expressed as a percentage of non-migrant taxpayers, tax burdens from 2015 ITEP Who Pays Study for the Middle 20% of taxpayers)



While this data does not show much of a relationship between migration and tax burdens, there is one main caveat around these results. Namely, this data does not provide the ability to examine the relationship between migration and tax burdens by income or age groups. It is possible that higher-or lower-income taxpayers would be more sensitive to differences in tax burdens.

Notwithstanding this caveat, this analysis seems to agree with the preponderance of more rigorous academic studies on state tax differentials and migration (Table 14):

| Table 14: Summary of Academic Literature on Taxpayer Migration and Tax Burden Differentials | |
|--|--|
| Paper | Summary and Main Conclusions |
| Rauh and Shyu (2019) | -Examined tax migration in California after a 2012 increase on high-income filers -Found that 3 percentage point increase in tax rate decreased filings in the highest brackets by 0.8% and reduced the potential revenue increase by 45.2%. |
| Young, Varner, Lurie, and Prisinzano (2016) | -Examined migration decisions by millionaire taxpayers using IRS data -Found very limited impact of differences in income tax rates on millionaire migration. -Millionaires are less likely to move because of ties to local areas, such as a business or family |
| Cohen, Lai, and Steindel (2012) | -Used the IRS database in this brief to examine taxpayer migration from 1992-2009 -Found income tax differentials led to greater out-migration, but the effect diminished significantly as the distance between states increased |
| Dodds (2012) | -Examined whether a large tax cut in Montana led to greater retention of high-income taxpayers -Found that the opposite occurred: high income taxpayers out-migrated at a faster rate after the tax cut |
| Conway and Houtenville (2012) | -Studied whether state income tax breaks affected interstate migration of elderly taxpayers -Found no consistent effect of state income tax breaks for elderly taxpayers on elderly state migration |
| Young and Varner (2011) | -Examined movement of high-income taxpayers in New Jersey after the state created a new income tax bracket for high income earners -Found the effect of the new tax bracket was negligible and new revenue from the tax bracket more than offset any migration of migrant taxpayers' income |
| Guis (2011) | -Studied the impact of interstate differences in income taxes and migration for working age taxpayers -Found that taxes influence the decision to migrate, but it is a minimal effect |
| Coomes and Hoyt (2008) | -Studied taxpayer migration in metropolitan areas that are in more than one state with different income tax rates -Found movement due to tax rate differences was small, and effects could be washed out by not only income tax differences, but also sales taxes |
| Conway and Rork (2006) | -Studied whether elderly taxpayers make migration decisions based upon estate, inheritance, or gift taxes -Found no link between these taxes and migration decisions of elderly taxpayers, and in fact, causality might run in different direction: states with high in-migration of elderly taxpayers may be more likely to eliminate estate taxes |
| Bakija and Slemrod (2004) | -Found some tax avoidance by high-income taxpayers in response to high estate taxes, although the affect may be also driven by tax avoidance of other taxes (namely sales taxes) |
| Vedder (2003) | Examined taxpayer migration from 1990 to 1999, controlling for climate, per capita income levels, and income growth and found a positive and statistically significant effect of tax rate differentials on taxpayer migration |

For the overall population of migrants, tax burden differentials, if they are a reason for moving to another state, appear to be of only minimal consideration based upon this data. This, however, may be less true for different subsets of the taxpayer population. For example, high-income, older taxpayers may be more sensitive to tax rate differentials in Vermont. This data does not allow for analysis of subpopulations. JFO's previous Issue Brief examining migration by age and income over the same period, however, showed that Vermont's out-migrants tend to be lower- and middle-income taxpayers, rather than high-income.

Appendix

Measures of State Tax Burdens

To examine the association between state tax burdens and net migration between states, two measures of state tax burdens were used:

- *State and Local Tax Burden Rankings for FY2012 from the Tax Foundation*: This methodology relies on data from the U.S. Census Bureau’s data on State and Local revenue collections¹⁷ for each state. The tax liability is made up of 25 different tax types and assumptions were used to determine the allocable percentage of taxes paid to individuals rather than businesses. These estimates are for FY2012.
- *Institute for Taxation and Economic Policy’s (ITEP) “Who Pays?” Study for FY 2015*: This study examines the overall tax burdens for non-elderly taxpayers for various percentile groups. For this brief, the tax burdens for the middle 20th percentile of the population are used. ITEP’s estimates include individual incidence estimates for personal income taxes, consumption taxes (sales and various excise taxes), property taxes, corporate income, and other local taxes. Tax burdens are based upon policies effective end-of-2015.

Regression Results

| Table A1: Regression Results using Tax Foundation Tax Burdens | | | | |
|--|---------------------|-----------------------|---------------|----------------|
| <i>Regression Statistics</i> | | | | |
| Multiple R | 0.234 | | | |
| R Square | 0.055 | | | |
| Adjusted R Square | 0.054 | | | |
| Standard Error | 0.018 | | | |
| Observations | 2550 | | | |
| | <i>Coefficients</i> | <i>Standard Error</i> | <i>t Stat</i> | <i>P-value</i> |
| Intercept | 0.000 | 0.000 | 0.047 | 0.963 |
| Tax Foundation Tax Burden | -2.707 | 0.223 | -12.125 | 0.000 |

| Table A2: Regression Results using ITEP Tax Burdens | | | | |
|--|---------------------|-----------------------|---------------|----------------|
| <i>Regression Statistics</i> | | | | |
| Multiple R | 0.565 | | | |
| R Square | 0.319 | | | |
| Adjusted R Square | 0.319 | | | |
| Standard Error | 0.016 | | | |
| Observations | 2550 | | | |
| | <i>Coefficients</i> | <i>Standard Error</i> | <i>t Stat</i> | <i>P-value</i> |
| Intercept | 0.000 | 0.000 | 0.000 | 1.000 |
| ITEP Tax Burden | 0.470 | 0.014 | 34.569 | 0.000 |

¹⁷ <https://www.census.gov/programs-surveys/gov-finances.html>

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