STATE INCOME MIGRATION AND BORDER TAX BURDENS

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ABSTRACT

Citizens are departing high tax US states for low tax rates. These effects are particularly strong among bordering states. Each positive 1 percentage point tax burden differential between states decreases the ratio of income migration into the high tax state by 6.78 percent in a given year. This paper highlights the states which are regionally competitive (Texas and Tennessee), regionally non-competitive (California, Florida, and New Jersey), and those states on the edge of being non-competitive on all borders (Illinois and New York).

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I. Introduction

Citizens are departing from high tax US states for low tax states. Taxation through personal income taxes, property taxes, sales taxes, and excise taxes among many others create an average state and local tax burden. In the ten year timeframe from 2000 through 2009, residents have consistently left high tax, high debt states for low-tax, low-debt states. Migrating residents in the top 10 ten tax states departed taking $87.7 billion with them (chart 1). Meanwhile, the lowest 10 tax states gained $88.5 billion in new income over the course of the decade (chart 2). The debt story follows a similar storyline. During 2009, the top ten debt states lost $5.3 billion while the lowest ten debt states gained $4.6 billion. To create an economic environment conducive to wealth creation, states need to understand the dangers of certain levels of taxation and debt. The raw data narrative is also similar to a close econometric examination of bordering states; each positive 1 percentage point tax burden differential between states decreases the ratio of income migration into the high tax state by 6.78% in a given year.

Chart 1

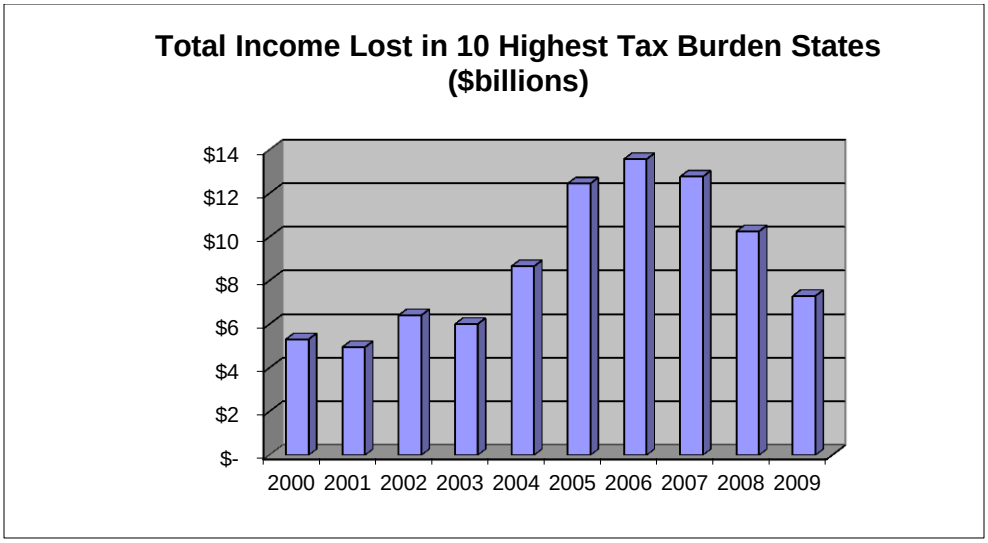
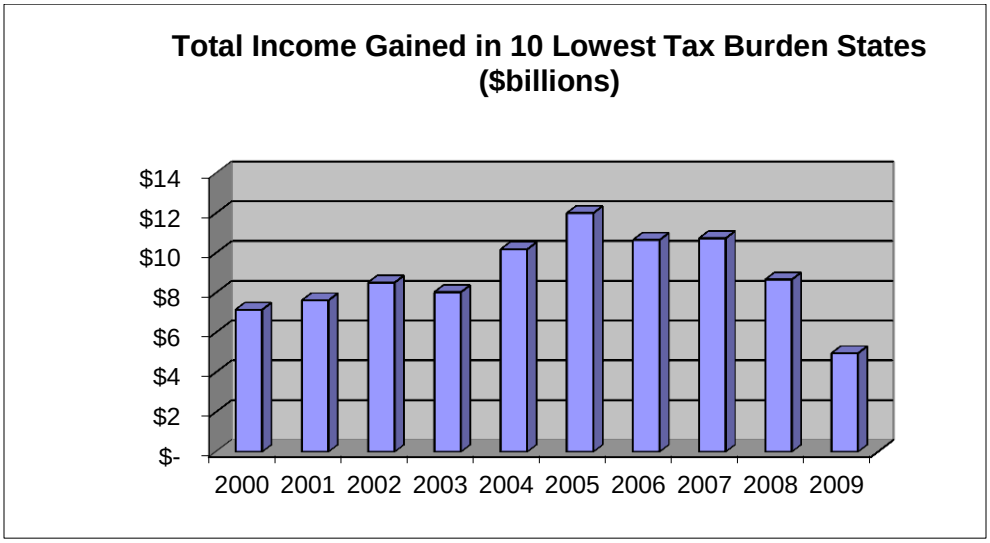


Chart 2



II. Literature Review

One of the earliest arguments about migration and the importance of differing state and local tax and expenditure packages goes back to Tiebout (1956). He argued that sufficiently motivated individuals would move to the district that best satisfied preferences. Although Tiebout's model assumed government expenditure would provide public goods (rather than

achieving income redistribution), taxation played a central role in shaping preferences. Economic intuition tells us, that all else being equal, individuals want to retain the greatest possible return on their labor. Pena (2005) found that as workers achieve higher levels of education, their sensitivity toward income migration due to higher income and sales taxes increases. This is consistent with earlier work (Borjas, 1990; Feinstein, 1994). A 2003 study by Richard Vedder found that an increase of taxes equal to one percent of personal income lowers migration by around 100,000 persons (Vedder, 2003). Additionally, strong union states led to high deterrence of migration. His model examined several factors in migration including temperatures, demographics, and wages.

In a 2011 examination of the New Jersey and New York migration relationship, Young and Varner found that New Jersey's 2.6 percentage point increases on taxation on millionaires did not lead to any notable tax flight from the state. Their methodology only examined the effect of income taxes on a particular set of income earners. It did not incorporate other taxes such as sales or property. Additionally, there are some methodological problems with the report. As Davies and Pulito (2011) point out, there are significant methodological problems in Young and Varner's use of a trinary scale where -1 indicates a household that migrated out of New Jersey, 1 indicates a household that migrated into New Jersey, and 0 indicates a household that did not migrate. As Davies and Pulito note, "it is not possible to make a statistical inference from their data." In their county-to-county migration model, they find that millionaires are responsive to tax rates. For state-to-state data, property tax differences have a significantly stronger role in inducing migration. These studies examine the decision of households to leave a state.

An October 2011 study by the New Jersey Department of the Treasury (Lai, 2011) examined income migration among the 50 states. Also in contrast to the results of Young and Varner, they found that estimated losses from New Jersey's 2004 "millionaires'" tax totaled 20,000 taxpayers and $2.5 billion income. Their dataset examines all state-to-state relationships to find the effects of a 1 percentage point increase in the average marginal income tax.

III. Methodology

This particular study is different from previous work in its emphasis on border migration (including the District of Columbia). Additionally, the migration is not in terms of households, but in terms of income transfer. Lastly, this study differentiates itself by looking at average state and local tax burdens rather than income, property, or sales taxes. The focus is upon understanding the migration of annual income as result of aggregate tax differences.

To test the empirical impact of differences in tax burdens and debt on the US movement of income, I collected publically available data from 1992 to 2009. By using cross-sectional time-series data and controlling for fixed state effects, the impact of taxes can be observed on the migration of income. Specifically, this paper focuses on the migration of income among border states (107 groups). 1,588 observations are collected for 107 border state relationships over 18 years (with data gaps in 2001 and 2003). This data is then lagged by a year to allow for the decision to migrate to take effect. This is consistent with previous work (Lai, 2011).

The data for the dependent variable is found in the IRS's "SOI Tax Stats - Statistics of Income." This data measures the movement of annual income that permanently leaves one state and registers within another, as well as the number of households.

Five independent variables were tested for their explanatory power. The model uses an OLS regression with correlated panels corrected standard errors (PCSEs) to control for any autocorrelation present in the specified model. As the model deals with cross-sectional time series data, I conclude from literature reviews on migratory behavior that the PCSE is a literature appropriate way to control for any present autocorrelation (Beck, 1995).

The first exogeneous variable is state and local tax burdens by state. This data comes from the Tax Foundation which has tracked state and local tax burdens on an annual basis from 1977 to 2009. To find the impact of tax burdens on migration, I subtract the tax burden of State A from the tax burden of State B and regress the ratio of income moving into State A (from B) divided by income moving into State B (from A). I expect to find that positive tax differences are associated with less than a 1:1 ratio in migrating state income.

The second independent variable is state and local public debt as a percentage of state income. This data comes from the U.S. Census Bureau and the Bureau of Economic Analysis. Its impact is observed by taking the difference between State A's debt as a percentage of state income and State B's debt as a percentage of state income. I expect to find that positive differences are associated with less than a 1:1 ratio in migrating state income.

The third exogenous variable considered in the model is the difference in annual unemployment rates between the two respective states. This data was collected from the Bureau of Labor Statistics. Positive differences in unemployment should be related to decreases in net migratory income. Possible reasons may include increasing economic uncertainty surrounding rising unemployment (migration of employers) or possible migration of households seeking income opportunities for a secondary earner.

The fourth exogenous variable is a single-family housing price index by state between 1992 and 2009. The Census Bureau index takes a value of 100 in the first quarter of 1991. I postulate that positive differences in the index correlate with a positive decision to migrate. Higher housing prices correlate with greater economic growth and therefore this housing price index is sometimes used as an approximate measure of state economic strength (Miller, 2009). On the other hand, higher housing prices may serve as an increased barrier to entry.

The fifth exogenous variable is differences in annual temperature. Some migratory literature accounts for warmer temperatures as a positive cause of migration (Wallace, 2002). I test the explanatory power of warmer temperatures on income migration among bordering states.

It is difficult to estimate the quantity of migrating income as each year has a different percentage of state income that migrates each year. For purposes of functionality, estimates have been produced making a couple of assumptions about the data used for calculating projections of income migration in 2012. To calculate the quantity of wealth migrating among border states as a consequence of taxation, I first calculate the historical average of the absolute value of net income that migrates into state A from state B and divide net income for each year by state A's total personal income. This figure gives me an average percentage of state income that I can multiply by projections of economic levels in 2012. However, estimates for total personal income by state in 2012 are still required. To calculate 2012 levels, I project state personal income using September 2011 data from the Bureau of Economic Analysis about total personal income by state in 2010. I multiply each state's personal income levels by 2011 and 2012 nominal growth rates for the United States found in the 2012 CBO Budget and Economic Outlook. Finally, multiplying these observations by the coefficient for the effect of a 1

percentage point difference in the state and local tax burden, a nominal amount of migrating income can be found. The formula is as follows:

$$Nominal\ Income\ Migration_{x2012} = Average\left(\frac{ABS\ |Net\ Income_{xi}|}{SPI_{xi}}\right) \times SPI_{x2010} \times 1.038_{2011} \times 1.033_{2012} \times \Delta Tax_{x2012}$$

The conversion is intended to provide a rough estimate of 2012 tax effects. This procedure of converting the effective migration ratios between states into nominal amounts has a couple assumptions: (1) future trends revert to a historical mean (this includes a historical mean of the difference between two states' tax burdens as well) and (2) national growth estimates are suitable for each state. This model does not explain why aggregate migrating income rises or falls, but how that income is distributed when it migrates. Caveats to this model are explored more in section V.

IV. Empirical Results

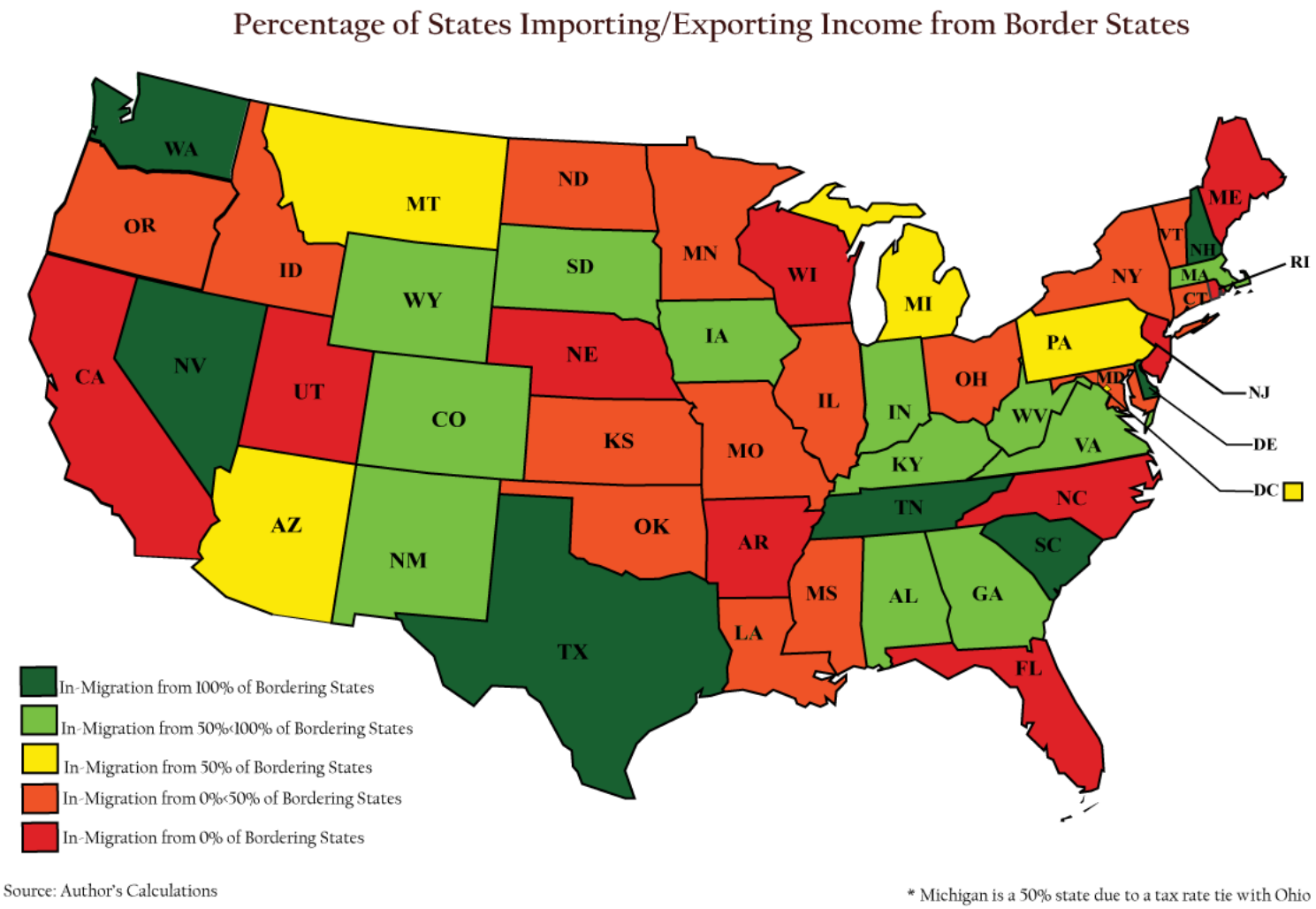
Table 1

Variable	Description	Coefficient Estimate (standard deviation)
$\Delta\ Ratio_{it}$	Ratio of Migratory Gross Income	
$\Delta\ Tax_{it}$	State and Local Tax Burden Difference	-6.783426 (.4704988)***
$\Delta\ Debt_{it}$	Debt % of State Income Difference	-0.0607275 (.1018077)
$\Delta\ Un_{it}$	Unemployment Rate Difference	-3.470395 (.7180134)***
$\Delta\ House_{it}$	Single-Family Housing Price Index Difference	-0.0002573 (.000345)
$\Delta\ Temp_{it}$	Annual Temperature Difference	-0.0036138 (.0013805)*

*** = P>0.01, ** = P>0.05, * = P>0.10

Among bordering states, each one percent point difference in state and local tax burdens between two states increases the ratio of migrating income to the lower taxed state by 6.78 percentage points. The unemployment rate plays a statistically significant role as well. A one percentage point difference in the unemployment rate increases the ratio of migrating income to

the more densely employed state by 3.47 percentage points. Last, in the defined model, temperature differences among states played a statistically significant role in determining income migration. A one Fahrenheit degree difference in temperatures among states decreased the ratio of migrating income to the warmer state by 0.0036 percentage points. Neither debt as a percent of state income nor single-family housing prices were statistically significant in explaining the model. It was anticipated that state debt levels might play a significant role in determining the migration of income because earners might anticipate adverse economic conditions resulting from debt and/or increased political pressure to reduce debt via taxes, but the differences may not have been significant enough within a border migration model. Differences in the single-family housing price index were also tested for statistical significance among bordering states. Housing prices may prompt the decision to migrate while allowing the moving household to not go too far from connections established in the out-migration state. However, the model produced a statistically insignificant relationship. This is consistent with other academic literature about the marginal role of housing on migration of individuals (Gabriel 1992; Molloy, 2010).



By examining the tax burden differences among the states, the developed model shows which states gain/lose most significantly from neighbors. The majority of states have mixed border relationships where tax-induced income in-migration occurs simultaneously with out-migration to others. States such as Nevada, New Hampshire, Texas, Tennessee, South Carolina, and Washington are regionally tax competitive with all next door neighbors. Regardless of a state's general party affiliation, having higher tax burden relative to all neighboring states (Arkansas, California, Florida, Maine, Nebraska, North Carolina, Utah, and Wisconsin) causes income to leave the state. The narratives for Illinois and New York are less clear from the above

image. Although net income may be present and losses potentially minimal, the full effects of these states' uncompetitive tax burdens are largely excused by higher taxing neighbors (Wisconsin and New Jersey, respectively (see Appendix 2)).

Although the revenue gains from taxes frequently are greater than the lost revenue due to migration, it is important to recognize the diminished economic activity as a result of migration. In the 2011 Cost of the Government Day Report, New Jersey's estimated tax increases between fiscal years 2002 and 2011 cumulated to $43 billion (Feldman, 2011). According to the developed model above and of interest to the New Jersey Treasury Department, New Jersey's border neighbors will gain an estimated $1.3 billion in former Garden State income as a result of less competitive tax policy in 2012 alone. The data suggests that foregone state income can be a significant price to pay for high tax burden differences. In addition to lost economic productivity as a result of migrating income, there are also the diminished returns for firms remaining in the state, thereby increasing deadweight losses.

V. Methodological Limitations

The first caveat is how the average migratory income for a set of years in a given state-to-state relationship is calculated. This method of averages is limited in that historical data of nominal income transfers is not necessarily reflective of 2012 levels. There is an assumed understanding that a specific amount of income will be transferred between the states in any given year. Likewise, it is assumed that the tax rate differences over this time are constant. This is not necessarily the case. The amount of wealth that was transferred due to tax differences could have been less or more than the observed amount. Some of the historical data captured by the average is the result of sustained tax differences over the 18 years examined. As a result,

multiplying historical averages by contemporary tax-induced migration ratios may only amplify effects already captured by the historical data for a particular state-to-state relationship. Second, estimations of economic growth in the 48 continuous states and the District of Columbia are calculated using national averages rather than particularly local estimates. Clearly, some states will grow faster than others. Last, the rendered nominal income migration in 2012 would be potentially different if alternatively calculated by dividing the absolute value of net income into state B from state A divided by net income for each year by state B's total personal income.

VI. Conclusion

For all states, this study highlights the importance of minimizing tax burden differences with neighboring states. Specific states such as Texas and Tennessee are well situated to attract income from bordering states. These two states have lower tax burdens than all their neighbors (four and eight, respectively). Other states such as California, Florida, and New Jersey have a regional tax problem where higher tax burdens lead wage earners and entrepreneurs to move next door on an annual basis. Certain states such as Illinois and New York with many bordering states are regionally uncompetitive with most neighbors. To remain attractive to businesses and high-skilled workers who are most sensitive to these differences, policymakers will need to reduce tax burdens. Each positive 1 percentage point difference in the tax burden increases the ratio of net income out-migration to the bordering state by 6.78%. In years where income migration levels are relatively high, this effect will be more poignant.

Appendix 1: Income Migration Ratios Resulting from Tax Differences

State A	State B	Ratio of Migration Due to Tax Differences (1:1) = 100%	Tax Difference (A-B)
ALABAMA	FLORIDA	104.75%	-0.7%
ALABAMA	GEORGIA	104.07%	-0.6%
ALABAMA	MISSISSIPPI	101.36%	-0.2%
ALABAMA	TENNESSEE	93.89%	0.9%
ARIZONA	CALIFORNIA	112.90%	-1.9%
ARIZONA	NEVADA	91.85%	1.2%
ARIZONA	NEW MEXICO	97.96%	0.3%
ARIZONA	UTAH	106.79%	-1.0%
ARKANSAS	LOUISIANA	88.46%	1.7%
ARKANSAS	MISSISSIPPI	91.85%	1.2%
ARKANSAS	MISSOURI	93.89%	0.9%
ARKANSAS	TENNESSEE	84.38%	2.3%
ARKANSAS	TEXAS	86.42%	2.0%
CALIFORNIA	NEVADA	78.95%	3.1%
CALIFORNIA	OREGON	94.57%	0.8%
COLORADO	KANSAS	107.47%	-1.1%
COLORADO	NEBRASKA	102.72%	-0.4%
COLORADO	NEW MEXICO	98.64%	0.2%
COLORADO	OKLAHOMA	100.68%	-0.1%
COLORADO	UTAH	107.47%	-1.1%
COLORADO	WYOMING	94.57%	0.8%
CONNETICUT	MASSACHUSETTS	86.42%	2.0%
CONNETICUT	NEW YORK	100.68%	-0.1%
CONNETICUT	RHODE ISLAND	91.17%	1.3%
DELAWARE	MARYLAND	102.72%	-0.4%
DELAWARE	NEW JERSEY	117.65%	-2.6%
DELAWARE	PENNSYLVANIA	103.39%	-0.5%
DISTRICT OF COLUMBIA	MARYLAND	102.72%	-0.4%
DISTRICT OF COLUMBIA	VIRGINIA	96.61%	0.5%
FLORIDA	GEORGIA	99.32%	0.1%
GEORGIA	NORTH CAROLINA	104.48%	-0.7%
GEORGIA	SOUTH CAROLINA	92.94%	1.0%
GEORGIA	TENNESSEE	89.54%	1.5%
IDAHO	MONTANA	95.25%	0.7%
IDAHO	NEVADA	85.06%	2.2%

State A	State B	Ratio of Migration Due to Tax Differences (1:1) = 100%	Tax Difference (A-B)
IDAHO	OREGON	102.72%	-0.4%
IDAHO	UTAH	102.04%	-0.3%
IDAHO	WASHINGTON	99.32%	0.1%
IDAHO	WYOMING	89.14%	1.6%
ILLINOIS	INDIANA	96.61%	0.5%
ILLINOIS	IOWA	96.61%	0.5%
ILLINOIS	KENTUCKY	95.25%	0.7%
ILLINOIS	MISSOURI	93.21%	1.0%
ILLINOIS	KENTUCKY	106.79%	-1.0%
INDIANA	WISCONSIN	98.64%	0.2%
INDIANA	MICHIGAN	101.36%	-0.2%
INDIANA	OHIO	101.36%	-0.2%
IOWA	MINNESOTA	105.43%	-0.8%
IOWA	MISSOURI	96.61%	0.5%
IOWA	NEBRASKA	102.04%	-0.3%
IOWA	SOUTH DAKOTA	87.10%	1.9%
IOWA	WISCONSIN	110.18%	-1.5%
KANSAS	MISSOURI	95.25%	0.7%
KANSAS	NEBRASKA	100.68%	-0.1%
KANSAS	OKLAHOMA	93.21%	1.0%
KENTUCKY	MISSOURI	97.96%	0.3%
KENTUCKY	OHIO	102.72%	-0.4%
KENTUCKY	TENNESSEE	88.46%	1.7%
KENTUCKY	VIRGINIA	98.64%	0.2%
KENTUCKY	WEST VIRGINIA	100.68%	-0.1%
LOUISIANA	MISSISSIPPI	103.39%	-0.5%
LOUISIANA	TEXAS	97.96%	0.3%
MAINE	NEW HAMPSHIRE	85.74%	2.1%
MARYLAND	PENNSYLVANIA	100.68%	-0.1%
MARYLAND	VIRGINIA	93.89%	0.9%
MARYLAND	WEST VIRGINIA	95.93%	0.6%
MASSACHUSETTS	NEW HAMPSHIRE	86.42%	2.0%
MASSACHUSETTS	NEW YORK	114.26%	-2.1%
MASSACHUSETTS	RHODE ISLAND	104.75%	-0.7%
MASSACHUSETTS	VERMONT	101.36%	-0.2%

State A	State B	Ratio of Migration Due to Tax Differences (1:1) = 100%	Tax Difference (A-B)
MICHIGAN	OHIO	100.00%	0.0%
MICHIGAN	WISCONSIN	108.83%	-1.3%
MINNESOTA	NORTH DAKOTA	94.57%	0.8%
MINNESOTA	SOUTH DAKOTA	81.67%	2.7%
MINNESOTA	WISCONSIN	104.75%	-0.7%
MISSISSIPPI	TENNESSEE	92.53%	1.1%
MISSOURI	NEBRASKA	105.43%	-0.8%
MISSOURI	OKLAHOMA	97.96%	0.3%
MISSOURI	TENNESSEE	90.50%	1.4%
MONTANA	NORTH DAKOTA	105.43%	-0.8%
MONTANA	SOUTH DAKOTA	92.53%	1.1%
MONTANA	WYOMING	93.89%	0.9%
NEBRASKA	SOUTH DAKOTA	85.06%	2.2%
NEBRASKA	WYOMING	86.42%	2.0%
NEVADA	OREGON	115.62%	-2.3%
NEVADA	UTAH	114.94%	-2.2%
NEW HAMPSHIRE	VERMONT	114.94%	-2.2%
NEW JERSEY	NEW YORK	99.32%	0.1%
NEW JERSEY	PENNSYLVANIA	85.74%	2.1%
NEW MEXICO	OKLAHOMA	102.04%	-0.3%
NEW MEXICO	TEXAS	96.61%	0.5%
NEW YORK	PENNSYLVANIA	86.42%	2.0%
NEW YORK	VERMONT	87.10%	1.9%
NORTH CAROLINA	SOUTH CAROLINA	88.46%	1.7%
NORTH CAROLINA	TENNESSEE	85.06%	2.2%
NORTH CAROLINA	VIRGINIA	95.25%	0.7%
NORTH DAKOTA	SOUTH DAKOTA	87.10%	1.9%
OHIO	PENNSYLVANIA	102.72%	-0.4%
OHIO	WEST VIRGINIA	97.96%	0.3%
OKLAHOMA	TEXAS	94.57%	0.8%
OREGON	WASHINGTON	96.61%	0.5%
PENNSYLVANIA	WEST VIRGINIA	95.25%	0.7%
SOUTH DAKOTA	WYOMING	101.36%	-0.2%
TENNESSEE	VIRGINIA	110.18%	-1.5%
UTAH	WYOMING	87.10%	1.9%
VIRGINIA	WEST VIRGINIA	102.04%	-0.3%

Appendix 2: Estimated Income Migration in 2012 ($millions)

- Alabama (3-1)
  - Total Net Income Migration: $78.118 Million
    - Florida: $43.324
    - Georgia: $37.316
    - Mississippi: $21.422
    - Tennessee: -$23.945
- Arizona (2-2)
  - Total Net Income Migration: $879.836 Million
    - California: $924.038
    - Nevada: -$41.82
    - New Mexico: -$39.76
    - Utah: $37.379
- Arkansas (0-5)
  - Total Net Income Migration: -$90.065 Million
    - Louisiana: -$16.581
    - Mississippi: -$8.67
    - Missouri: -$13.043
    - Oklahoma: -$14.593
    - Tennessee: -$18.357
    - Texas: -$33.415
- California (0-3)
  - Total Net Income Migration: -$2,129.128 Million
    - Arizona: -$924.038
    - Nevada: -$683.923
    - Oregon: -$512.958
- Colorado (4-2)
  - Total Net Income Migration: $45.538 Million
    - Kansas: $41.078
    - Nebraska: $25.196
    - New Mexico: -$32.044
    - Oklahoma: $14.362
    - Utah: $11.67
    - Wyoming: -$14.723
- Connecticut (1-2)
  - Total Net Income Migration: $396.403 Million
    - Massachusetts: -$77.272
    - New York: $491.446
    - Rhode Island: -$17.771
- Delaware (3-0)
  - Total Net Income Migration: $152.614 Million
    - Maryland: $49.046
    - New Jersey: $68.149
    - Pennsylvania: $35.419
- District of Columbia (1-1)
  - Total Net Income Migration: $201.982 Million
    - Maryland: $313.882
    - Virginia: -$111.899
- Florida (0-2)
  - Total Net Income Migration: -$271.408 Million
    - Alabama: -$43.324
    - Georgia: -$227.037
- Georgia (3-2)
  - Total Net Income Migration: $158.47 Million
    - Alabama: -$37.316
    - Florida: $227.037
    - North Carolina: $42.41
    - South Carolina: -$45.102
    - Tennessee: -$28.559
- Idaho (2-4)
  - Total Net Income Migration: -$37.383 Million
    - Montana: -$6.94
    - Nevada: -$14.244
    - Oregon: $18.756
    - Utah: $7.683
    - Washington: -$36.262
    - Wyoming: -$6.375

- Illinois (1-4)
    - Total Net Income Migration: -$67.145 Million
        - Indiana: -$164.942
        - Iowa: -$19.415
        - Kentucky: -$32.998
        - Missouri: -$56.684
        - Wisconsin: $206.684
- Indiana (3-1)
    - Total Net Income Migration: $231.654 Million
        - Illinois: $164.942
        - Kentucky: -$14.045
        - Michigan: $34.171
        - Ohio: $46.586
- Iowa (4-2)
    - Total Net Income Migration: $36.774 Million
        - Illinois: $19.415
        - Minnesota: $41.888
        - Missouri: -$27.565
        - Nebraska: $12.276
        - South Dakota: -$29.376
        - Wisconsin: $19.994
- Kansas (1-3)
    - Total Net Income Migration: -$69.353 Million
        - Colorado: -$41.078
        - Missouri: -$20.991
        - Nebraska: $10.895
        - Oklahoma: -$18.179
- Kentucky (4-3)
    - Total Net Income Migration: $83.667 Million
        - Illinois: $32.988
        - Indiana: $14.045
        - Missouri: -$4.538
        - Ohio: $78.171
        - Tennessee: -$38.652
        - Virginia: -$8.662
        - West Virginia: $10.314
- Louisiana (1-2)
    - Total Net Income Migration: -$214.469 Million
        - Arkansas: $16.581
        - Mississippi: $54.517
        - Texas: -$286.566
- Maine (0-1)
    - Total Net Income Migration: -$12.355 Million
        - New Hampshire: -$12.355
- Maryland (1-4)
    - Total Net Income Migration: -$449.223 Million
        - Delaware: -$49.046
        - District of Columbia: -$313.882
        - Pennsylvania: $93.483
        - Virginia: -$118.335
        - West Virginia: -$61.444
- Massachusetts (4-1)
    - Total Net Income Migration: $52.321 Million
        - Connecticut: $77.272
        - New Hampshire: -$261.259
        - New York: $145.648
        - Rhode Island: $69.675
        - Vermont: $20.968
- Michigan (1-1)
    - Total Net Income Migration: -$10.78 Million
        - Indiana: -$34.171
        - Ohio: $0 (equal tax rates)
        - Wisconsin: $23.391

- Minnesota (1-3)
  - Total Net Income Migration: -$54.236 Million
    - Iowa: -$41.888
    - North Dakota: -$36.410
    - South Dakota: -$16.678
    - Wisconsin: $40.739
- Mississippi (1-3)
  - Total Net Income Migration: -$116.443 Million
    - Alabama: -$21.422
    - Arkansas: $8.67
    - Louisiana: -$54.517
    - Tennessee: -$49.164
- Missouri (3-5)
  - Total Net Income Migration: -$61.709 Million
    - Arkansas: -$13.043
    - Iowa: $27.565
    - Illinois: -$56.684
    - Kansas: -$20.991
    - Kentucky: $4.538
    - Nebraska: $20.622
    - Oklahoma: -$16.554
    - Tennessee: -$7.162
- Montana (2-2)
  - Total Net Income Migration: $0.070 Million
    - Idaho: $6.94
    - North Dakota: $3.249
    - South Dakota: -$3.672
    - Wyoming: -$6.447
- Nebraska (0-6)
  - Total Net Income Migration: -$86.994 Million
    - Colorado: -$25.196
    - Iowa: -$12.276
    - Kansas: -$10.895
    - Missouri: -$20.622
    - South Dakota: -$9.492
    - Wyoming: -$8.513
- Nevada (5-0)
  - Total Net Income Migration: $802.885 Million
    - Arizona: $41.82
    - California: $683.923
    - Idaho: $14.244
    - Oregon: $18.394
    - Utah: $44.473
- New Hampshire (3-0)
  - Total Net Income Migration: $286.752 Million
    - Maine: $12.355
    - Massachusetts: $261.259
    - Vermont: $12.031
- New Jersey (0-3)
  - Total Net Income Migration: -$1,321.74 Million
    - Delaware: -$68.149
    - New York: -$1,063.791
    - Pennsylvania: -$189.8
- New Mexico (3-1)
  - Total Net Income Migration: $33.87 Million
    - Arizona: $39.76
    - Colorado: $32.044
    - Oklahoma: $5.868
    - Texas: -$43.802
- New York (1-4)
  - Total Net Income Migration: $158.614 Million
    - Connecticut: -$491.446
    - Massachusetts: -$145.648
    - New Jersey: $1,063.791
    - Pennsylvania: -$233.423
    - Vermont: -$34.661

- North Carolina (0-4)
  - Total Net Income Migration: -$346.342 Million
    - Georgia: -$42.41
    - South Carolina: -$81.619
    - Tennessee: -$14.611
    - Virginia: -$207.701
- North Dakota (1-2)
  - Total Net Income Migration: $28.657 Million
    - Minnesota: $36.41
    - Montana: -$3.249
    - South Dakota: -$4.504
- Ohio (1-3)
  - Total Net Income Migration: -$120.539 Million
    - Indiana: -$46.586
    - Kentucky: -$78.171
    - Michigan: $0 (equal tax rates)
    - Pennsylvania: $22.938
    - West Virginia: -$18.72
- Oklahoma (2-4)
  - Total Net Income Migration: -$104.891 Million
    - Arkansas: $14.953
    - Colorado: -$14.362
    - Kansas: $18.179
    - Missouri: $16.554
    - New Mexico: -$5.868
    - Texas: -$119.394
- Oregon (1-3)
  - Total Net Income Migration: $308.528 Million
    - California: $512.958
    - Idaho: -$18.756
    - Nevada: -$18.394
    - Washington: -$167.28
- Pennsylvania (3-3)
  - Total Net Income Migration: $264.9 Million
    - Delaware: $35.419
    - Maryland: -$93.483
    - New Jersey: $189.8
    - New York: $233.423
    - Ohio: -$22.938
    - West Virginia: -$6.482
- Rhode Island (0-2)
  - Total Net Income Migration: -$87.446 Million
    - Connecticut: -$17.771
    - Massachusetts: -$69.675
- South Carolina (2-0)
  - Total Net Income Migration: $126.721 Million
    - Georgia: $45.102
    - North Carolina: $81.619
- South Dakota (5-1)
  - Total Net Income Migration: $58.15 Million
    - Iowa: $29.376
    - Minnesota: $16.678
    - Montana: $3.672
    - Nebraska: $9.492
    - North Dakota: $4.504
    - Wyoming: -$5.572
- Tennessee (8-0)
  - Total Net Income Migration: $228.99 Million
    - Alabama: $23.945
    - Arkansas: $18.357
    - Georgia: $28.559
    - Kentucky: $38.801
    - Mississippi: $49.164
    - Missouri: $7.162
    - North Carolina: $14.611
    - Virginia: $48.54

- Texas (4-0)
  - Total Net Income Migration: $482.177 Million
    - Arkansas: $33.415
    - Louisiana: $285.566
    - New Mexico: $43.802
    - Oklahoma: $119.394
- Utah (0-5)
  - Total Net Income Migration: -$106.347 Million
    - Arizona: -$37.379
    - Colorado: -$11.67
    - Idaho: -$7.683
    - Nevada: -$44.473
    - Wyoming: -$4.732
- Vermont (1-2)
  - Total Net Income Migration: $1.644 Million
    - Massachusetts: -$20.986
    - New Hampshire: -$12.031
    - New York: $34.661
- Virginia (5-1)
  - Total Net Income Migration: $428.435 Million
    - District of Columbia: $111.889
    - Kentucky: $8.662
    - Maryland: $118.335
    - North Carolina: $207.701
    - Tennessee: -$48.54
    - West Virginia: $30.378
- Washington (2-0)
  - Total Net Income Migration: $203.541 Million
    - Idaho: $36.262
    - Oregon: $167.28
- West Virginia (3-2)
  - Total Net Income Migration: $45.954 Million
    - Kentucky: -$10.314
    - Maryland: $61.444
    - Ohio: $18.72
    - Pennsylvania: $6.482
    - Virginia: -$30.378
- Wisconsin (0-4)
  - Total Net Income Migration: -$291.008 Million
    - Illinois: -$206.884
    - Iowa: -$19.994
    - Michigan: -$23.391
    - Minnesota: -$40.739
- Wyoming (5-1)
  - Total Net Income Migration: $35.218 Million
    - Colorado: $14.723
    - Idaho: $6.375
    - Montana: $6.447
    - Nebraska: $8.513
    - South Dakota: -$5.572
    - Utah: $4.732

Bibliography

Beck, N. &. (1995, September). What to Do (And Not to Do) with Time-Series Cross-Section Data. *American Political Science Review, 89*(3), 634-647.

Borjas, G., S., B., & Trejo, S. (1990, June). Self-Selection and Internal Migration in the United States. *National Longitudinal Studies, Report: NLS 92-14*.

Davies, A., & Pulito, J. (2011, August). Tax Rates and Migration. *Mercatus Center Working Paper, Number: 11-31*.

Feldman, J. (2011, August). Cost of Government Day 2011 Report.

Feldstein, M., & Vaillant, M. (1994, June). Can State Taxes Redistribute Income? *NBER Working Paper Series, No. 4785*.

Gabriel, S., Shack-Marquez, J., & Wascher, W. (1992, September). Regional house-price dispersion and interregional migration. *Journal of Housing Economics, 2*(3), 235-256.

Lai, A., Cohen, R., & Steindel, C. (2011, October). The Effect of Marginal Tax Rates on Interstate Migration in the U.S.

Miller, N. P. (2009, July 29). House Prices and Economic Growth. *Journal of Real Estate Finance and Economics*.

Molloy, R., Smith, C., & Wozniak, A. (2010, December). Internal Migration in the US: Updated Facts and Recent Trends.

Pema, E. (2005). Do State States Affect the Migration of Human Capital?

The Tax Foundation. (2011, February). State and Local Tax Burdens: All States, One Year, 1977-2009.

Tiebout, C. (1956, October). A Pure Theory of Local Expenditures. *The Journal of Political Economy, 64*(5), 416-424.

Vedder, R. (2003). Taxation and Migration.

Wallace, S. (2002, December). The Effect of State Income Tax Structure on Interstate Migration.

Young, C., & Varner, C. (2011). Millionaire Migration and State Taxation of Top Incomes: Evidence from a Natural Experiment. *National Tax Journal, 64*(2), 255-284.